

Section 9

Make Advance Preparations to Use VHF Isolation Precautions



This section describes how to:

- Identify health facility staff person to coordinate VHF activities.
- Assess current readiness for VHF Isolation Precautions.
- Identify and train key staff who will work with VHF cases.
- Plan for community mobilization.
- Assess current supplies and obtain what is needed for VHF Isolation Precautions.
- Use substitutions when supplies are limited or not available.



Section 9

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When a VHF case is suspected, VHF Isolation Precautions must begin immediately. All efforts must be focused on meeting patients' needs. There is no time to give initial training in VHF Isolation Precautions.

Being prepared for an emergency can ultimately save lives. Health care workers will know how to use VHF Isolation Precautions, and adequate supplies will already be available. Disease prevention in the health facility setting will be more effective.

This section describes how to prepare for VHF Isolation Precautions.

9.1 Identify a VHF Coordinator to Oversee Preparations

Someone in the health facility may already serve as a coordinator for emergency situations. This person can also serve as the VHF Coordinator. If the emergency coordinator cannot assume the VHF activities, select a staff person with authority who can serve as VHF Coordinator. Discuss the tasks the coordinator will need to do for VHF activities:

- Oversee all the preparations for VHF Isolation Precautions.
- Serve as the focal point for information and leadership when a VHF case is suspected.
- Inform all health facility staff about VHF and the risks associated with them.
- Organize training in VHF Isolation Precautions for medical, nursing, and laboratory staff who will work directly with VHF patients or infectious body fluids.
- Assign responsibility to medical, laboratory, and cleaning staff for ensuring that all the necessary precautions, treatment protocols and cleanup procedures are carried out within their areas.



- Hire or reassign and train additional cleaning staff for work with disinfection of waste, clothing, and equipment.
- Make sure that teams are trained to prepare and transport bodies for burial.

9.2 Assess Current Readiness for VHF Isolation Precautions

Be prepared to use VHF Isolation Precautions by identifying problems and actions to solve them. Make sure relevant staff know how to suspect a VHF, especially those who:

- See patients when they arrive at the health facility and decide where they are next seen
- Work in the outpatient department
- Work in the emergency room.

9.2.1 Monitor Routine Handwashing Practices

Routine handwashing practices should be part of the minimum level of Standard Precautions used with all patients in the health facility.

To reinforce consistent handwashing practices, regularly monitor the practices and improve them as needed. For example:

- Has handwashing been identified as a routine practice in the health facility?
- Do all staff wash their hands after contact with each patient, especially new patients with fever?
- Are there reliable supplies of soap and running water or buckets with clean water available in areas where health workers should use them?
- Are posters reminding health workers to wash their hands placed in areas where health workers can see them?

9.2.2 Assess Readiness for Identifying Suspected VHF Cases

Assess the need for training your health staff to suspect a VHF. For example:

- Do health care workers know the case definition for identifying VHF cases that have occurred in your area?
- Do health care workers know the procedure for informing the emergency or VHF Coordinator when a VHF is suspected?
- Do health care workers in the relevant areas know the level of Standard Precautions identified for the health facility? Do they use them all the time to prevent health facility transmission of VHFs and other contagious diseases such as HIV and hepatitis B?

9.2.3 Assess Readiness for Setting Up a VHF Isolation Area

- Has an area been selected for VHF isolation that meets the criteria described in Section 3.1?
- Has a map been drawn showing where to locate the changing room, the patient room, the changing room for the cleaning staff, and a changing room for family members (if needed)?

A map that is prepared in advance can be used as a reference for setting up a VHF isolation area in an urgent situation.

9.2.4 Assess Readiness of Medical, Laboratory, and Cleaning Staff

Key staff should be identified and informed about what will be expected of them when a VHF case is suspected. For example:

- Is there a family liaison officer who will:
 - Provide information and help families to care for the patient
 - Help families find a place near the hospital where cooking, sleeping, and sanitary facilities are available
 - Talk with family members about their concerns?



- Have the health care workers who will have access to the isolation area if a VHF case is suspected been identified? While all health facility staff should know and use Standard Precautions consistently, identify the health care workers who must also know how and when to use VHF Isolation Precautions.
- Have laboratory staff been designated to work with VHF samples? Laboratory staff are at particular risk of disease transmission because they handle biological samples. They do not see the patients and cannot know if the sample is infected with a dangerous disease. When a VHF case occurs, limit work on VHF samples to one laboratory staff person who will do all testing of body fluids from VHF patients. Make sure the designated person knows when and how to use protective clothing and safely disinfect spills and waste.
- Have cleaning staff been selected and trained to use VHF Isolation Precautions? Cleaning staff have close contact with infectious spills and equipment. They are at high risk of transmission if VHF Isolation Precautions are not used. Select the cleaning staff who will be responsible for cleaning in VHF isolation areas, laundry areas, and the body preparation area.
- Have body disposal teams been identified and trained to use VHF Isolation Precautions? The health facility staff or Red Cross volunteers who prepare corpses before families claim them are at risk for VHF. The VHF patient is still contagious for several days after death.

The VHF Coordinator should also meet with each group to explain the risk of health facility transmission and the training schedules and to answer any questions they have.

9.3 Train Health Facility Staff in VHF Isolation Precautions

Learning to use a new skill takes time and practice. Health facility staff who do not know how to use VHF Isolation Precautions will need information about the new tasks, see them demonstrated and practice doing them. Staff who are not familiar with protective clothing should practice putting them on and working in them before a VHF case presents.

Include information about VHFs and using VHF Isolation Precautions during in-service training.¹¹ Discuss topics such as:

General information about VHFs:

- A VHF can be caused by several different viruses, which are transmitted to humans by animals or arthropods.
- Each virus causes a different disease, but all attack the small blood vessels that carry blood through the body.
- The virus is usually in all organs and can cause bleeding from the nose, mouth, and intestine, as well as under the skin.
- Common presenting complaints are fever, body aches, weakness persisting after rehydration, diarrhoea, muscle pain and back pain.
- Clinical examination may reveal only conjunctival injection (red eyes), mild hypotension (low blood pressure), flushing, and haemorrhages.
- The course of VHF leads to shock, generalized mucous membrane bleeding, reduced sensitivity to pain, and signs involving the nervous system.

- Examples of VHFs include:

Africa: Lassa fever, Rift Valley fever, Marburg and Ebola haemorrhagic fevers, Crimean-Congo haemorrhagic fever, and yellow fever.

South America: Argentine haemorrhagic fever, Bolivian haemorrhagic fever, Venezuelan haemorrhagic fever, haemorrhagic fever with renal syndrome (rare), yellow fever, and dengue haemorrhagic fever.

Asia: Haemorrhagic fever with renal syndrome and dengue haemorrhagic fever.¹²

11 Annex 14 contains a suggested agenda for training during in-service meetings. It can be adapted by individual health facilities.

12 See Annex 2 for more information about VHFs reported in your area.



VHF Transmission Risk in the Health Facility:

Give information about VHF, its transmission, and previous outbreaks in the area listed in the Introduction and Section 2 of this manual. Explain that:

- The virus is present in the patient's body fluids.
- It is transmitted through unprotected contact between an infectious patient or their body fluids and a non-infected person.
- While VHF is not a common diagnosis, it is a dangerous disease and poses significant risks in the health care setting.

VHF Isolation Precautions:

When a VHF case is suspected, the health facility will immediately take steps to limit its transmission. These include steps to:

- Create an isolation room for VHF patients.
- Limit contact with VHF patients to a small number of specially trained staff and, in some areas, a family member who has received information and training in VHF Isolation Precautions.
- Limit the use of invasive procedures as much as possible in treatment of VHF patients.
- Use protective clothing for all staff who have contact with VHF patients or their body fluids.
- Use safe disinfection and waste-disposal methods.

Procedures for Accidental Exposures:

Provide information about how to respond when accidental exposures occur. These procedures are detailed in Section 5.13 of this manual.

9.4 Plan for Community Mobilization

Section 8 describes how to mobilize the community in an urgent situation. However, community mobilization will be easier and occur quickly if it is planned in advance.

Now is the best time to establish a Mobilization Committee. The following steps can be done in advance.

- Identify key community resources.
 - Identify key organizations and record them on the Community Information Sheet (page 105).
 - Identify the representative or leader for each organization.
 - Contact the representative or leader for an initial meeting.
- Meet with identified community leaders.
 - Give information and educate them on VHF.
 - Explain the purpose for a Mobilization Committee.
 - Discuss and clarify each organization's expertise.
 - Discuss and clarify the human resources available from each organization.
 - Discuss and clarify equipment available from each organization.
 - Establish methods for communicating between the Mobilization Committee and the VHF Coordinator.
 - Record the relevant information on the Community Information Sheet.
- Annually update the information on the Community Information Sheet.

Then, when a VHF case is suspected, the committee can meet and take action to mobilize resources and carry out community education.



9.5 Assess Current Supplies and Equipment

Use the checklist at the end of this section to assess which supplies are already available in the health facility. If these supplies are available, can they be set aside for use when VHF Isolation Precautions are needed? If they are not available, could they be borrowed from another service if an outbreak occurred?

If the supply is limited or unavailable, identify practical, low-cost substitute items. When an item or equipment is not available, consider what could be used in its place that will serve the same function. Obtain the substitute item now. Set it aside for use when VHF Isolation Precautions are needed.

For example, assess the present system for waste disposal. Find out what is needed to carry out safe waste disposal when a VHF case is suspected. Ask health facility staff to prepare an incinerator (if none is available) so it is ready in advance. Let health facility staff practice using it before cases occur.

The checklist that starts on the next page lists the necessary items and recommended quantities. Use it to assess whether an item is available. Also list what needs to be done to be prepared for VHF Isolation Precautions.

9.6 Periodically Reassess Supplies

Periodically, for example, every 4 months, make sure the supplies are dry, clean, and ready to be used.

VHF Isolation Precautions Supplies: Standard Precautions
 Recommendations for handwashing and safe disposal of sharps*

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Source of clean water	prepared as needed				
Container for daily supply of water for handwashing (if running water is not available)	1 or 2 large containers				
Ladle	several				
Bucket or pan for use with handwashing	1 for each location in the health facility where handwashing is required				
Pieces of soap	several bars cut in pieces				
Soap dishes	1 for each handwashing station				
One-use towels	1 roll per health worker per week				
Sharps containers	1 for each location where sharp instruments are used				
Pans with soapy water to collect needles and syringes to be cleaned and disinfected for reuse	1 for each location where sharp instruments are used				
Pans with full-strength bleach	1 for cleaning area				
Supply of clean water for rinsing needles and syringes	1 - 5 litres				
Clean and disinfected jar for storing disinfected needles and syringes	1 for each patient isolation area				

* This is a recommended minimum level of Standard Precautions for use with all patients regardless of their infectious status.

VHF Isolation Precautions Supplies: Patient Isolation

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Bed	1 per patient				
Mattress or sleeping mat	1 per patient				
Plastic sheet to cover mattress	1 per bed				
Bedding: bottom sheet and blanket	1 each per patient				
Thermometer	1 per patient isolation area (1 per patient if available)				
Stethoscope	1 per patient isolation area				
Blood pressure cuff	1 per patient isolation area				
Covered container for alcohol or bleach solution used to disinfect thermometer and stethoscope after use with each patient	1 per patient isolation area				
Sharps container or plastic pan with bleach solution in it for disposal of used needles and syringes	1 per patient isolation area				
Bedside table or shelf	1 per patient				
Large wall clock with a second hand	1 per patient isolation room				

VHF Isolation Precautions Supplies: Patient Isolation

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
One-use towels	1 roll per patient per week or stay				
Bed pan	1 per patient				
Screens (or sheets hung from ropes or lines) placed between VHF patients' beds	enough length to go around isolation area				
Signs saying "Isolation Area: No Access"	10				
Poster describing Isolation Precautions	1				

VHF Isolation Precautions Supplies: Protective Clothing*

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Scrub suits	1 - 2 reusable scrub suits per health staff				
Surgical gowns	3 reusable gowns per health staff 4 disposable gowns per health staff per week				
Plastic aprons	1 reusable apron for each health staff who needs one 3 disposable aprons per health staff per week				
Thin gloves	3 dozen disposable pairs per health staff per week				
Thick or heavy-duty kitchen gloves	2 pairs per health staff				
HEPA-filter or other bio-safety mask	1 - 2 per health staff who needs one				
Cotton mask	3 - 4 per health staff				
Rubber boots	1 pair per health staff				
Headcovering	1 - 2 per health staff who needs one				
Eyewear	1 pair of goggles or clear spectacles per health staff in isolation area				
Shelf or cabinet with lock	1 outside the changing room				

VHF Isolation Precautions Supplies: Protective Clothing*

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Covered shelf for storing disinfected boots	1 outside the changing room				
Hooks, nails or hangers for hanging reusable gowns and scrub suits	1 for each health staff				
Boot remover	1 per changing room				
Rolls of plastic tape	1 per changing room				
Extra supply of clean protective clothing (for patient isolation area)	1 - 3 sets (depending on staffing)				
Extra supply of clean protective clothing (for the changing room)	1 - 3 sets				

* All health facility staff – including cleaning, waste disposal, and laundry staff – who handle, disinfect or clean VHF-contaminated supplies and equipment should **wear the same protective clothing as health care workers who provide direct patient care.**

VHF Isolation Precautions Supplies: Disinfection

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Supplies for preparing disinfectants					
Plastic bucket with lid or cover for preparing 1:10 bleach solution	1				
Containers for preparing 1:100 bleach solution	1 large container or several small ones				
Measuring cup	1 with measurements marked on it				
Bleach	1 litre bleach yields 100 litres of 1:100 bleach solution				
Supplies for disinfection station (changing room and patient room)					
Pan or bucket with 1:10 bleach solution	1 per each disinfection station				
Pan or bucket with 1:100 bleach solution	1 per each disinfection station				
Pan or bucket with 1:100 bleach solution for collecting reusable gloves	1 per changing room				
Bucket or bag for collecting contaminated, reusable protective clothing	1 per changing room				
Bucket or bag for collecting patient's contaminated laundry	1 per patient isolation area				
Pan with soapy water for collecting used needles and syringes	1 per patient isolation area				

VHF Isolation Precautions Supplies: Disinfection

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Sprayer, bucket or shallow pan with 1:100 bleach solution for disinfecting boots	1 for the disinfection station in patient room				
Sprayer, 1:100 bleach solution, clean water for disinfecting spills on floor or wall	1 per each disinfection station				
Mop	1 per each disinfection station				
Supplies for laundry					
Bucket with 1:10 bleach solution					
Buckets with 1:100 bleach solution	2 - 3 (10 - 30 litres of bleach solution is needed daily)				
Buckets with soapy water	2 - 3 (10 - 30 litres of soapy water is needed daily)				
Source of clean water for rinsing the laundry	10 - 30 litres/day				
Needles and thread for repairing holes in protective clothing	5 spools and 5 needles				
Talcum powder to put in washed gloves	1 tin				
Line to air-dry reusable clothes					

VHF Isolation Precautions Supplies: Waste Disposal

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Containers with 1:100 bleach solution for collecting infectious waste	1 per patient isolation area				
Pit or incinerator for burning infectious waste*	1 per facility, pit should be 2 meters deep				
Kerosene or petrol	1 litre per week				
Wood for burning					
Rope to make barrier around the waste disposal site	enough length to go around the waste disposal site				

* If no incinerator is available, make one from an empty 220-litre (55-gallon) oil or fuel drum.

VHF Isolation Precautions Supplies: Safe Burial Practices

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Supply of 1:10 bleach solution	prepared as needed				
Sprayer	1				
Body bags (cotton cloth, plastic sheeting, plastic tape)	as needed				

VHF Infection Control Supplies: Others

Recommended Item	Recommended Amount	Amount Available	Amount to Obtain	Local Adaptations	Tick if Item is Ready for Use
Supply checklist	as needed				
Patient record forms	as needed				
Accidental exposure record forms	as needed				
Training materials for staff training in VHF Isolation Precautions	as needed				