Ebola Virus Disease (EVD) Infection Prevention and Control Standard Operating Procedures (SOP) for Ebola Care Centres

Keep Safe – Keep Serving
Liberia: Updated Sept 25 2014

This document is intended to inform infection prevention and control practices and supply needs in healthcare facilities. As the Ebola outbreak evolves, the document will need to be adapted accordingly.

The following guidance provides considerations for establishing Ebola Care Centres. Because needs and resources may vary in different settings, these recommendations should be adapted to the situation in each county.

Specifications of the Ebola Care Centre (ECC)

Ebola Care Centres should be established and overseen by county health officials and designated healthcare facilities across Liberia. Patients may present there directly or be referred from other health care facilities when Ebola Treatment Units (ETU) are unavailable. Centres should be strategically located to allow easy transport from major healthcare facilities. Hospitals can supervise ECCs of up to 30 patients. Health centres can supervise ECCs of up to 15 patients at one time. However, ECCs may be scaled according to the needs and resources of the county. The space for ECC should be separate from the health care facility (HCF). If pre-existing buildings are unavailable then tents may be considered.

The site should be able to provide the following:

- Secure controlled access
- Ability to withstand weather conditions (no leaking, shade from sun)
- Triage station at a single entrance
- At least 1-2 meters (3-6 feet) between patients
- Water
- Three separate areas for
    - wet patients (e.g. vomiting, diarrhoea, bleeding)
    - dry suspect patients (not confirmed, not probable)
    - family members to sleep
- Changing area allowing for disinfection
- A floor that can be cleaned

- Toilet facilities
- Waste disposal (e.g., burning where possible)
- Storage space for supplies
- Area for laundry

Staffing

Trained healthcare professionals, volunteers, family members, or both may provide care to sick patients in ECCs – community representatives, county and healthcare facility officials should discuss which model is most feasible. If a family member is involved in the care of the patient, only one family member should be designated to minimize risk of infection to multiple household members. An individual with recent Ebola infection may be immune to re-infection, and thus is a good option to provide care. However, any individuals involved in care must be instructed on appropriate use of personal protective equipment. The expectations for patient care are listed in Annex 1; if a designated family member is expected to provide such care, they should be briefed accordingly upon admission.

Whether or not family members are involved in direct patient care, trained healthcare providers should, at a minimum, provide the following support to manage the ECC:

- Staff for triage: Ideally, patients admitted to the ECC should have already gone through triage at the HCF with which the ECC is associated. However, because patients may present directly to the ECC in instances when the ECC is located distant from the referral HCF,, triage staff should be available at all times at the ECC to avoid admitting patients without proper assessment. Only patients suspected of having Ebola virus disease that have undergone proper triage, as per the case definition, should be allowed into the facility.
- Medical staff (e.g., nurses, PAs and CM) for supervising care and infection control practices. The number of medical staff will vary according to the size of ECC.
- Burial team will dispose of bodies safely.
- A mobile lab tech will attend every other day (with his/her sharps container) to collect patient samples for Ebola testing. They will take their sharps away when they leave.
- One water sanitation specialist/ cleaner should be present at all times to ensure
  - cleaning materials are available
  - common areas are cleaned
  - reusable gloves and aprons are disinfected properly.

The Role of the County and/ or Supervising Hospital or Health centre

The County and/or supervising facility will ensure that:

- The specifications of the ECC are met, including security
- Supplies are provided and maintained in the ECC (see Annex 1)
- There is always a core group of adequately trained staff
- Psychosocial support is provided where possible
- The case is reported appropriately to the local health authorities
- There are regular (e.g., twice weekly) monitoring and evaluation to ensure maintenance of standards
- Patients are receiving appropriate care, including food, oral rehydration, and **oral** medications such as anti-malarial medicines, paracetamol, and antibiotics (as needed). **No injection** or any kind of invasive procedure should be performed.
- Oversee the referral from the triage at HCFs to ECC and transfer from ECC to Ebola treatment units (ETUs)
- Safe patient transport occurs from the triage at HCFs to ECCs or from ECCs to ETUs

PPE in the ECC

- Any staff or family members allowed in the facility should use appropriate PPE (Annex 2). Only closed-toed shoes should be allowed in the facility.
- There should be a separate designated area for putting on PPE and removing PPE
- If a family member is involved in care of a patient, they must receive adequate training by healthcare staff on use of PPE.
- The following recommendations should be considered for anyone engaged in direct patient contact:
    - As much as possible, avoid touching sick people or bodily fluids ('no/minimal-touch' policy). Stay at least 1 meter (3 feet) from patients as much as possible.
    - If a designated family member is providing care, he/she should provide care to only that one patient.
    - Re-usable equipment should be removed, cleaned and disinfected every time someone leaves the patient area of the ECC. Re-usable face shield, apron, kitchen rubber gloves should be disinfected after use and allowed to dry. A water sanitation manager should supervise this disinfection. (Annex 1)
    - Gowns and other disposable equipment should be removed and disposed as contaminated waste in a pre-determined area every time staff or family leave the patient care area. Contaminated waste should be disposed and burned.
    - Core hospital staff should wear enhanced PPE whenever inside the facility. PPE should be removed after having direct patient contact, cleaning the facility, or when leaving the patient care area.

Flow of patients

- There should be 2 patient care areas
    - "Wet area": area for suspect patients with 'wet' symptoms OR probable cases OR patients with confirmed Ebola after testing.
    - "Dry area": area for suspect patients without 'wet' symptoms (dry suspect patients).
    - Rationale: patients with 'wet' symptoms are more infectious.
- A patient in the dry area who becomes "wet" should be promptly moved to the wet area.
- Patients can be discharged if
    - They recover promptly (<48 hours after treatment for malaria or other illnesses), but should be followed for 21 days for any EVD symptoms.
    - They have recovered from EVD and have been without fever for 3 days and no more wet symptoms.)
    - Men who recover from Ebola should avoid sex or use condoms for all sexual relations for 90 days after recovery to avoid transmitting Ebola to their partner.
    - Patient care area should be thoroughly cleaned and disinfected regularly (e.g., 1-2 times/day and spills to be cleaned as soon as possible).
- If a death occurs
    - Call the Ebola burial team to come and remove the body and disinfect the space occupied by the patient.
    - If the burial team cannot come right away, the body should be covered with a sheet and left in place until the burial team arrives or a trained staff member can move the body to a secured designated room for pick up later. This should be done as safely as possible. Enhanced PPE should be worn while moving the body.
    - The patient care area should be thoroughly cleaned and disinfected once the body is removed.

Annex 1: Expectations and training needs for patient care

- Cleaning and disinfection: Appropriate PPE should be worn during the cleaning phase (initial chlorine soak followed by soap and water) as materials are still infectious. After the final chlorine soak the materials are no longer infectious and can be handled safely.
- Wash clothes and bedding under the supervision and instruction of the water sanitation manager. The caregiver should not touch patient's clothes with bare hands. Ask the patient to undress and leave the clothes in the bleach or chlorine water bucket (0.5% chlorine). After 30 minutes, the clothing can be removed, rinsed, washed in soap and water and then placed in a container of 0.05% chlorine water for at least 30 min (caregiver to use PPE for these steps). After staying in 0.05% chlorine water for at least 30 min the clothes are disinfected and can be handled safely; rinse thoroughly and dry on line in the sun.
- The bedding, clothing and bednet of any patient who recovers from or dies from Ebola should be burned and the patient area thoroughly disinfected.
- Re-usable equipment (heavy duty household gloves, aprons, re-usable face shields) should be removed, disinfected for 30 minutes in 0.05% chlorine every time someone leaves the patient area of the ECC. If the items are soiled they should be carefully wiped with a rag soaked in 0.5% chlorine, cleaned with soap and water and the disinfected for 30 minutes in 0.05% chlorine for 30 minutes and allowed to dry. A water sanitation manager should supervise this disinfection.
- Disinfect spills of body fluids: try to clean without touching. Cover completely with 0.5% chlorine solution made available by the water sanitation manager. Let stand for 15 minutes. Remove with rag or paper towels. Discard rag in plastic bag for infected waste. Wash area with soap and water, and cover again with 0.5% chlorine solution for 15 min.
- Cleaning the patient room: Disinfect all surfaces with 0.5% bleach or chlorine water.
- After the patient does poo-poo or pee-pee in the chamber/bucket, follow our cleaning protocols under the supervision of the water sanitation manager.
    - Add 0.5% bleach water/chlorine water to the container to cover contents, put lid on container and discard in latrine.
    - Wash container with soapy water and discard in latrine.
    - Rinse container with 0.5% bleach water/chlorine water (container may then be re-used).
- Washing plates and utensils
    - Throw away left over food in trash bin dedicated to food and other waste that cannot be burned.
    - Leave plate and utensils in 0.05% chlorine or bleach water for 30 minutes
    - Wash plate and utensils with soap and water

        - Leave plate and utensils in 0.05% chlorine or bleach water for 30 minutes
        - Rinse plate and utensils with clean water
        - Let dry in the sunlight
- Food:
    - Provide the patient and the family member with his or her own plate, cup, and utensils (spoon, fork), toothbrush, etc. No item should be shared with others. Always try to avoid any touching.
    - Encourage increase fluid intake- “drink plenty water”, give oral rehydration fluids if necessary, fruit and vegetables and soup.

Annex 2: Equipment and supplies

- Basic facility supplies:
    a. Beds/mattresses or cots
    b. Linen
    c. Mosquito net
    d. Utensils
    e. Buckets
    f. Body bags

- IPC equipment:
    a. PPE
        - Hoods
        - Gloves (examination and heavy duty household)
        - Face shields
        - Masks
        - Gowns
        - Boots (or closed-toed shoes and shoe covers)
        - Aprons
    b. Hand hygiene supplies:
        - Soap & clean water
        - Alcohol based hand sanitizer
        - Chlorine water

- Environmental cleaning and management of linen
    a. Heavy duty/rubber gloves
    b. Detergent
    c. Chlorine

    d. Cleaning tools
    e. Bags for waste disposal
    f. Rags and paper towels

- Basic Medical Kit
    a. Thermometer
    b. Oral Rehydration Solution
    c. Paracetamol
    d. Antimalarials and antibiotics

Annex 3: Appropriate use of enhanced personal protective equipment

a) Equipment:

- Gloves
  - Wear two pairs of gloves (outer pair can be heavy duty rubber gloves)
  - Use new gloves for every patient.
  - Wash hands with soap and water, or use alcohol-based hand sanitizer, or use 0.05% chlorine BEFORE putting gloves on, and again AFTER taking gloves off.
  - Do not touch your face, mouth, eyes and skin with gloves.
- Face Shield
  - Wear a face shield while working with patients to protect the eyes.
  - Re-usable face shields should be cleaned or disposed of at the end of the shift or when soiled.
- Face Mask
  - Wear a face mask to protect the nose and mouth.
  - Face mask should fully cover nose and mouth.
- Impermeable Gown
  - Wear an impermeable gown to protect the skin and clothes.
  - The gown should give maximum coverage of the upper body.
- Apron
  - Wear a plastic apron to provide maximal protection against contaminated fluids.
- Head cover
  - Wear a head cover(i.e., hood type, covering shoulders) to protect the head from contamination when untying the mask or removing the face shield
- Gum Boots or Shoe Covers
  - Wear gum boots or shoe covers to protect feet and legs.

b) How to wear PPE:

Put on PPE in the following sequence:

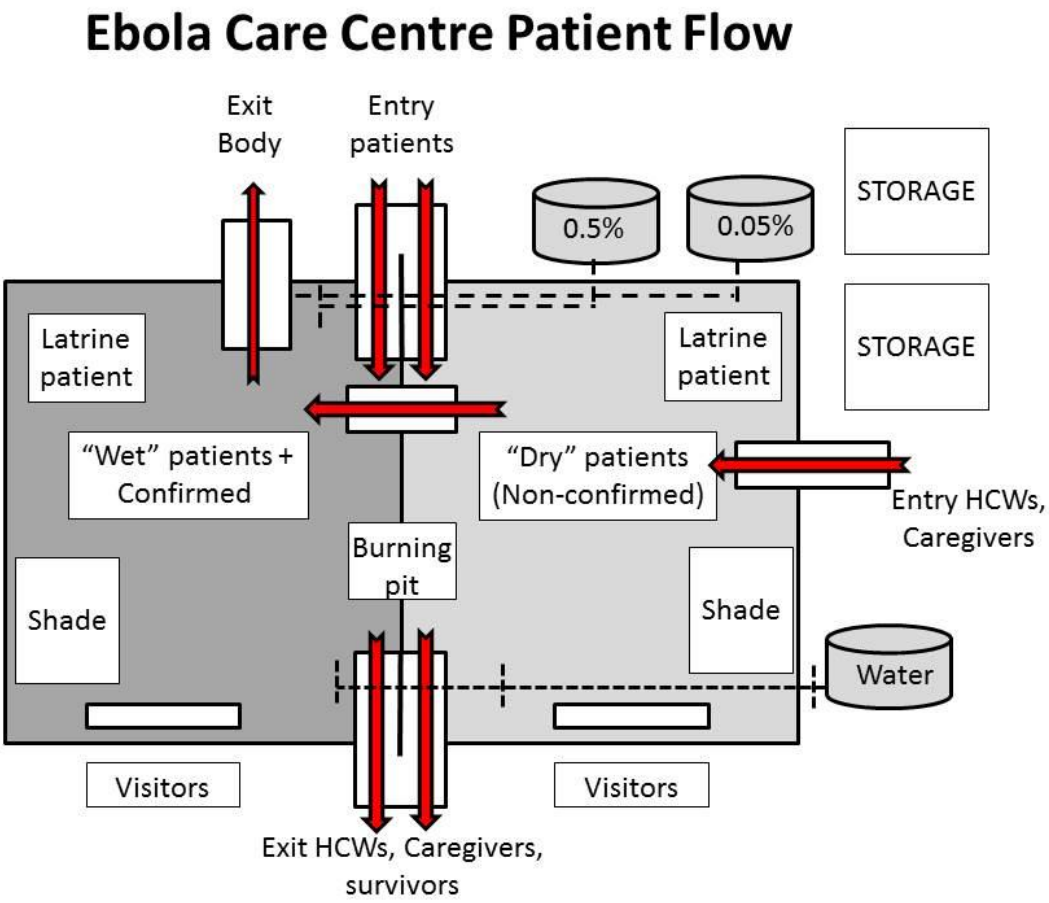
1. Take off jewellery,
2. Put on rain boots or shoe covers,
3. Wash hands with soap/water OR 0.05% chlorine OR alcohol-based hand sanitizer,
4. Put on first pair of gloves,
5. Put on gown,
6. Put on head cover ((i.e., hood type, covering shoulders),
7. Put on face mask,
8. Put on face shield,
9. Put on outer pair of gloves,
10. Put on apron.

Remove PPE in the following sequence:

1. Wash gloved hands with 0.05% chlorine.
2. With gloved hands, carefully remove the apron, ensuring that the outside of the apron does not touch your body.

3. Wash gloved hands with 0.05% chlorine.
4. Take off the outer pair of gloves.
5. Wash gloved hands with 0.05% chlorine.
6. With gloved hands, carefully remove the gown, ensuring that the outside of the gown does not touch your body.
7. Wash gloved hands with 0.05% chlorine.
8. Inspect and disinfect the boots.
9. Wash gloved hands with 0.05% chlorine.
10. Remove the face shield by grabbing the side of the head band and moving the shield downwards and away from the face.
11. Wash gloved hands with 0.05% chlorine,
12. Take off face mask by grabbing behind the ears and moving the face mask away from the face.
13. Wash gloved hands with 0.05% chlorine,
14. Take off head cover
15. Wash gloved hands with 0.05% chlorine
16. Take off the inside gloves (2nd pair), without touching the outside of the gloves with bare hands.
17. Immediately after removing equipment, wash hands with soap/water OR 0.05% chlorine OR alcohol-based hand sanitizer.

Annex 4: Schematic of an example Ebola Care Centre



Annex 5 - Waste management in health care settings

General Considerations

- Waste classification is key to ensure it is handled correctly and disposed of down the appropriate channel.
- Health-care workers should wear PPE whenever handling waste and should perform hand hygiene immediately after removing PPE.
- Health-care workers should take care to avoid aerosolization of matter whenever handling and disposing of the waste. This is especially important for faeces.
- Waste bags and bins should never be carried against the body (e.g., on the shoulder).
- The area designated for the final treatment and disposal of waste should have controlled access to prevent entry by animals, untrained personnel or children.

Waste classification:

- General waste – such as leftover meals, administrative rubbish
- Solid (infectious) clinical waste WITHOUT sharp objects - such as material used during wound care, disposable PPE items (e.g., mask, medical gloves, disposable gown)
- Solid (infectious) clinical waste WITH sharps objects - such as, needles, syringes, bistouries' blades, glass articles AND tubing that has been in contact with blood or body fluids
- Anatomic pieces - such as placenta

Collection of waste: (each type of waste should be in a separate waste bag or bin)

- General waste – collected in a waste bag or bin.
- Solid (infectious) clinical waste WITHOUT sharp objects - leak-proof waste bags and covered bins.
- Solid (infectious) clinical waste WITH sharp objects - placed inside puncture resistant waste containers.
- Anatomic pieces – collected in a covered bucket.

Waste Disposal:

- General waste - should be placed in a designated pit of appropriate depth (e.g., 2 m or about 7 feet) and filled to a depth of 1–1.5 m (or about 3–5 feet). After each waste load, the waste should be covered with a layer of soil 10 –15 cm deep
- Solid (infectious) clinical waste (non-sharp and sharp) should preferably be **burned**. An incinerator may be used for short periods during an outbreak to destroy solid (infectious) clinical waste. However, it is essential to ensure that total incineration has taken place. It is therefore imperative that only solid (infectious) clinical waste (see waste classification above) is put into the incinerator (e.g., food leftover will not burn and hamper the entire incineration process). Caution is also required when handling flammable material and when wearing gloves due to the risk of burn injuries if gloves are ignited.
- Placenta and anatomical samples should be buried in a separate pit.