



National Ebola Training
& Education Center

Hospital Preparation and Team Development

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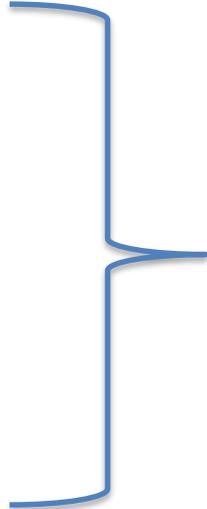


Nebraska
Medicine



Funded by ASPR & CDC

Ebola Identified Gaps in the U.S. Health Care System

- Aug. 2014: First American patient with Ebola flown to the U.S. for treatment.
 - Additional patients later medically-evacuated to the U.S.
 - Confirmed positive cases occurred in Dallas and New York, including patients who had recently returned from West Africa and two secondary infections among health care workers.
- 
- Dec. 2014: Congress appropriated emergency supplemental funding to build a health care system adequately prepared to respond to future patients with Ebola.

In response to Ebola, HHS was directed to develop a *regional strategy* to caring for future patients with Ebola.

Tiered Approach

Networked strategy

- A coordinated, networked strategy to help healthcare facilities and state health departments prepare for patients with possible or confirmed Ebola

Preparedness

- All U.S. acute healthcare facilities have an important role in Ebola preparedness

Roles and responsibilities

- Ebola preparedness roles and responsibilities will differ by facility

Acute healthcare facilities can serve one of three roles:

- Frontline healthcare facilities
- Ebola assessment hospitals
- Ebola treatment centers

Three Tiers

Preparing U.S. Hospitals for Ebola

CDC has developed a strategy to help healthcare facilities and state health officials prepare for patients with possible or confirmed Ebola. This strategy identifies which hospitals will provide different levels of care for patients being assessed and treated for Ebola.

Frontline Healthcare Facility

- Quickly identifies and isolates patients with possible Ebola
- Facilitate facility admission control and state and local public health officials
- Has enough Ebola personal protection equipment (PPE) for at least 12-24 hours of care
- Prepares for patient transfer if needed

Ebola Assessment Hospital

- Safely receives and isolates a patient with possible Ebola
- Provides immediate laboratory evaluation and coordinates Ebola testing
- Cares for a patient for up to 5 days (including evaluation and management of alternative diagnoses) until Ebola diagnosis is confirmed or ruled out
- Has enough Ebola PPE for up to 5 days of care
- Transfers a patient with confirmed Ebola to an Ebola treatment center in consultation with public health officials

Ebola Treatment Center

- Safely receives and isolates a patient with confirmed Ebola
- Cares for patients with Ebola for duration of illness
- Has enough Ebola PPE for at least 7 days of care (will restock as needed)
- Has a workable staffing plan to manage several weeks of care
- CDC Ebola Response Teams (CERTs) are ready to deploy to provide assistance as needed

All of the hospitals will be prepared to do the following:

- Ensure staff are appropriately trained and have documented competency in safe PPE practices
- Have systems in place to safely manage waste disposal, cleaning and disinfection
- Adhere to infection control protocols

In some cases, a hospital should be prepared to serve in more than one role. Hospitals may serve simultaneously as an Ebola assessment hospital and an Ebola treatment center. Patients may be transferred between facilities based on the state's plan.

*See Interim Guidance at <http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html>

Interim Guidance for U.S. Hospital Preparedness for Patients Under Investigation (PUIs) or with Confirmed Ebola Virus Disease (EVD): A Framework for a Tiered Approach: <http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html>

Frontline Healthcare Facilities

Includes most U.S. acute care facilities with emergency care departments, including:

- Acute care hospitals, other emergency care settings including urgent care clinics, and critical access hospitals

Capabilities (Identify, Isolate, and Inform)

- **Identify** possible patient with Ebola
- **Isolate** patient and take appropriate steps to adequately protect staff
- **Inform** their hospital infection control and health officials
- Transfer the patient to an Ebola assessment hospital or Ebola treatment center

PPE

- Have enough Ebola PPE for at least 12-24 hours of care

Frontline Healthcare Facilities

A **frontline hospital** will need to safely manage this patient for 12-24 hours in the emergency department. (ED). The focus on preparation will be:

- To have policies in place for screening all patients for travel histories and risk factors.
- To identify a suitable space within the ED for isolation
- To procure PPE and train ED staff for its use to provide a 24/7 capability for short term care of such a patient
- To implement procedures for prompt notification of health department officials for safe transfer of the patient to an assessment or treatment hospital.

Ebola Assessment Hospitals

**An Assessment Hospital should be competent in the management of a PUI.
The institution must be able to...**

- Receive and isolate a person under investigation for possible EVD.
- Manage the clinical care of the patient until the diagnosis of EVD is ruled in or out.
- Coordinate Ebola testing in collaboration with public health officials
 - This may involve transferring specimens to a Laboratory Response Network (LRN) laboratory capable of Ebola testing
- Effect discharge or transfer of the patient when the assessment is complete

Ebola Assessment Hospitals

Clinical management of a PUI has several important components:

- Clinical capability to manage an ill patient (from EVD or malaria or any other alternate diagnosis) while employing full EVD precautions. *Some PUIs may be quite ill from their underlying illness.*
- Ongoing assessment of EVD risk based on clinical and epidemiologic criteria to permit effective decision making for ruling out the disease, recognizing that a negative Ebola PCR does not reliably rule out disease in the first 72 hours following onset of symptoms.
- Laboratory testing capability to manage an ill patient, regardless of diagnosis, and to explore alternative diagnoses such as malaria or other infectious agents. The identification of an alternate diagnosis may permit the removal of the patient from EVD precautions even before the EVD PCR can reliably rule out the disease.

Designated by state and local health authorities as an Ebola Treatment Center

- CDC Rapid Ebola Preparedness Team has visited the facility
- Admission of a confirmed Ebola patient is made in collaboration with public health and referring physicians

Capabilities

- Safely receive and isolate a patient with confirmed Ebola
- Care for patients with Ebola for duration of illness

PPE

- Has enough Ebola PPE for at least 7 days of care (at time of assessment)
- If additional products are needed, facility is aware of how to contact state/federal partners for assistance

A Treatment Center should be competent in the management of a patient with EVD. The institution must be able to...

- Receive and isolate a person with EVD.
- Safely manage the clinical care of the patient throughout the duration of illness
- Provide experimental therapies as indicated
- Have capability of managing advanced stages of disease with ventilator support and dialysis, if necessary
- Monitor progress of treatment through daily laboratory testing

Assessment Hospitals and Treatment Centers

Capabilities required for both Assessment Hospitals and Treatment Centers:

- **Facility Infrastructure:** a private room with in-room dedicated bathroom or commode with separate adjacent areas for donning and doffing PPE
- **Interfacility Transport Plan:** collaboration with health authorities and transport providers to implement procedures for safe transport and handoff, including training in PPE for transport staff, and safe movement of the patient within the facility
- **Laboratory Testing:** a plan for safe transport and testing of specimens for EVD and other tests required for clinical management – including point-of-care testing in dedicated laboratory space

Assessment Hospitals and Treatment Centers

Capabilities required for both Assessment Hospitals and Treatment Centers:

- **Staffing:** Dedicated team of nurses, physicians, environmental staff, laboratory staff, and infection control specialists available 24/7
- **Training:** A program of ongoing training for the dedicated team – in donning and doffing, infection control, waste handling, and clinical care
- **Personal protective equipment:** Sufficient supplies on hand to permit management of the patient for the duration required
- **Waste management:** Procedures for in-hospital handling of waste, and arrangements in place for transport of category A waste for an EVD patient.

<http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/treatment-centers.html>

Assessment Hospitals and Treatment Centers

Capabilities required for both Assessment Hospitals and Treatment Centers:

- **Worker Safety:** a plan is in place minimizing risk to workers and monitoring their health for 21 days following the last exposure
- **Environmental Services:** a program is in place to clean and disinfect patient care areas and to train environmental services staff in use of PPE and implementation of procedures
- **Operations Coordination:** an emergency management structure and plan for coordination of the institutional response and timely communications to all relevant parties including health authorities

<http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/treatment-centers.html>



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Assessment Hospitals and Treatment Centers

Note: the infrastructure and capabilities for Assessment Hospitals and Treatment Centers are very similar. In both cases, hospitals must have dedicated teams able to provide a full range of care for patients subject to full EVD precautions in secure locations.

Assessment Hospitals and Treatment Centers

The main differences are:

- Assessment Hospitals must be able to clinically manage PUIs while Treatment Centers must be able to manage PUIs and EVD patients.
- Assessment Hospitals must be able to maintain care for up to 4 days while Treatment Centers must be able to do so for the full duration of illness.
- Treatment Centers must be prepared for all the clinical challenges of Ebola care, including provision of experimental therapies and management of multi-organ failure, under intense public scrutiny.

Assessment Hospitals and Treatment Centers

Preparation tips:

- Start with the leadership infrastructure. Identify physician, nurse, and administrative leaders who direct the planning process and oversee the unit functions.
- Specify reporting relationships to the organizational hierarchy and the emergency management structure.
- Identify a physical space for EVD-related patient care. Perform modifications necessary to achieve the requirements, including doffing and donning areas and the laboratory testing space.

Assessment Hospitals and Treatment Centers

Preparation tips:

- Develop policies and procedures to meet all elements of the recommended requirements, including handoffs, PPE choreography, staff training, waste management, environmental care, and health worker monitoring.
- Collaborate with health authorities and transport vendors to develop the transportation protocols.
- Identify responsible parties who will carry out the standard work identified in the procedures – set deadlines and monitor progress

Assessment Hospitals and Treatment Centers

Preparation tips:

- Identify the dedicated staff who will provide patient care and implement the protocol for their training.
- Create call schedules for physicians, nurses, and site managers so that everyone knows in advance who will be immediately assigned to the unit should a patient arrive.
- Continue to update policies and procedures, monitor progress against deadlines, and maintain frequent communication with all parties.
- Assess readiness with drills and practice.



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Pre-Hospital Transport Plans

Hospitals should prepare a Standard Operating Procedure (SOP) for the handoff process and identify staff to meet the EMS provider on arrival to the hospital to:

- Assume care of the patient
- Assist EMS personnel with doffing PPE, if needed

The hospital should designate secure areas where:

- EMS personnel can doff their PPE
- EMS personnel can park their ambulance to perform decontamination

Patient Transport from Points of Entry to Designated Ebola Treatment Area

Point(s) of entry into hospital should be:

- Pre-identified and communicated with EMS
- Secured and free of other traffic during patient entry and transport

Transportation routes from entry point to designated Ebola patient care area should be:

- Pre-identified
- Secured and free of other traffic during patient entry and transport

For entry and for transport:

- Control visibility to limit anxiety of other patients and the public

Patient Transport from Points of Entry to Designated Ebola Treatment Area

SOPs should be in place for:

- Transport personnel to wear appropriate PPE
- Transport of patient in appropriate protective equipment to prevent leak or spill of body fluids
- Security escort
- Managing blood or body fluid spills during transport
- Managing cleaning and disinfection of transportation equipment or contaminated areas
- Safe emergency evacuation of patient and staff

Patient Care Team

Designate site managers to be responsible for overseeing precautions for healthcare workers and patient safety.

- At least one manager should be on-site at all times in the Ebola treatment unit.
- Manager's sole responsibility is to ensure safe, effective treatment.

Put protocols and policies in place for the following:

- Only direct patient care staff, wearing appropriate PPE, should deliver meals, supplies, etc. to patients.
- Healthcare personnel movement, monitoring, and non-Ebola patient care responsibilities while serving on an Ebola patient care unit.
- Ensure compliance with federal and state regulations on reducing employee exposure to Ebola.
- Ongoing support and evaluation of team members, including a process for feedback to leadership.
- Engaging occupational health to define a clear and practiced plan for responding to a recognized exposure of a staff member.

Patient Care Team

A trained Ebola Patient Care Team should be pre-identified



*Know and utilize the skill mix
within your team*

Team members should receive training and demonstrate competency on an ongoing basis

Patient Care Team Roles

Determine the roles/ tasks that will be required for your unit to operate:

Primary RN
RN's
Doffing Partner
Donning Partner
Tasker
Autoclaver



Encourage team work by having everyone work together and rotate through the roles within their scope of practice during the shift.

Patient Care Team: Training

Staff must be appropriately trained in each role and demonstrate proficiency

in:

- Donning and doffing PPE
- Proper waste management
- Infection control practices
- Specimen transport



Only qualified, trained staff should be identified for processing and testing specimens from a patient with Ebola

Ongoing training should be provided and gaps should be addressed through re-training.

Patient Care Team



Consider cross-training within the team to minimize the number of staff with direct patient care (phlebotomy, cleaning and on each role within the unit).

Only qualified, trained staff members should be identified for processing and testing specimens from a patient with Ebola.

Patient Care Team



Additional team members will be required for consultation and should be pre-identified i.e. radiology technicians, medical specialists.

They should avoid entering patient room; consider audio/video conferencing if possible.

If it is necessary for them to enter the room, take all precautions possible i.e. allow them to instruct trained staff on roles they are not required to do.

Maintain scope of practice and hospital policies.

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Patient Care Team

Communication Needs:

- During transportation
- Nurses Station to Patient Care Room
- Patient Care Room to Nurses Station
- Family to Patient Care Room

Provide Voice to Voice and Chat modes



Patient Care Team: Training/ Drills



Include communication strategies in training and drills



Patient Care Team: Training/ Drills



Multiple scenarios and age groups

Patient Care Team: Training/ Drills



Assessment Facilities: Drill on how you will provide treatment for the PUI



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Patient Care Team: Staffing Plans

Create a staffing schedule in advance so that when unit is activated, trained individuals who have demonstrated competency can be quickly assembled

Staffing plan should include a roster for up to 96 hours (4 days) of care

- At least two nursing staff should be solely dedicated to each patient's care each shift
- A trained observer should be present at all times to supervise safe infection control practices including donning and doffing of PPE

Staff should collaborate and communicate regarding a patient's care

Staffing plans should:

- Minimize number of personnel in room
- Provide for adequate time to rest between shifts
- Include on-call schedule to have key consultants available at any time

Define maximum duration

- HCW can provide direct care (e.g., 2-4 hours)
- Patient care unit shift (e.g., 8-12 hours)



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Patient Care Team: Staffing Plans

NBU Model

March		M	T	W	T	F	S	S
Name	Position	23	24	25	26	27	28	1
	RN's							
	RT's							
	PCT's							
	MD's							
	Non Clinical							
	BH							
	Days RN	0	0	0	0	0	0	0
	Days Other	0	0	0	0	0	0	0
	Days	0	0	0	0	0	0	0
	Nights RN	0	0	0	0	0	0	0
	Nights Other	0	0	0	0	0	0	0
	Total Nights	0	0	0	0	0	0	0

Staff Self-Schedule

Rules:

- Minimum 3 RN's per shift
- Enter preferred days/nights.
- Blackout dates as requested off.
- Work holidays as scheduled on primary unit.
- All blank dates are open for balancing.



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Special Populations

Have protocols, train and drill to address care needs of:

- Pregnant/ laboring women, infants and children, dialysis patients etc...

Have plans and protocols for:

Patient arrival at all entry points

- e.g., labor & delivery, outpatient clinic, dialysis unit

Delivery of care (including staff and equipment)

- Labor & delivery
- Dialysis
- Surgical intervention

Communications i.e. parent/child interaction

Family area outside Ebola unit if appropriate (consult with public health officials)

Recommendations for Safely Performing Acute Hemodialysis in Patients with Ebola Virus Disease in U.S. Hospitals at:

<http://www.cdc.gov/vhf/ebola/hcp/guidance-dialysis.html>

Guidance for Screening and Caring for Pregnant Women with Ebola Virus Disease for Healthcare Providers in U.S. Hospitals at:

<http://www.cdc.gov/vhf/ebola/hcp/guidance-maternal-health.html>



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Resources

NETEC: <http://netec.org/>

<http://www.cdc.gov/vhf/ebola/hcp/us-hospital-preparedness.html>

<http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/hospitals.html>

<http://www.cdc.gov/vhf/ebola/healthcare-us/preparing/treatment-centers.html>

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