High Consequence Infectious Disease/Ebola Preparedness for Hospitals

Update for Texas LRN
January 2016
Rahsaan Drumgoole
Texas Preparedness Strategy PURPOSE

To provide a Texas strategy for preparing for and responding to high consequence infectious diseases posing a threat to people and communities.
Stakeholder Input

• Informed by and with input from:
  • Strengths and gaps identified in the 2014 Texas Ebola incident
  • DSHS Health Service Regional Offices
  • Local Health Departments
  • Texas Disaster Medical Services (TDMS)
  • Preparedness Coordinating Council (PCC)
  • Public Health and Healthcare System providers
HCID Activities

- Texas Preparedness Strategy for HCID
- Regional public health and healthcare system driven activities
- Allocate funding to fill preparedness gaps
- Regional HCID Workshops
- HCID Collaborative Website
- Infectious Disease Response Units
- Work with HHS and HHS Region VI states to coordinate HCID preparedness
Regional Workshops

Target Audience
• Public Health and Healthcare Leaders
• Emergency Management
• First Responders
• Elected Officials
• Disaster Behavioral Health Professionals
• Other Stakeholders
# Regional Workshops

<table>
<thead>
<tr>
<th>Region Location</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Region 1 – Lubbock</td>
<td>March 29-31, 2016</td>
</tr>
<tr>
<td>Region 2/3 – Dallas</td>
<td>May 3-5, 2016</td>
</tr>
<tr>
<td>Region 4/5 North – Tyler</td>
<td>March 1-3, 2016</td>
</tr>
<tr>
<td>Region 6/5 South – Houston</td>
<td>February 2-4, 2016</td>
</tr>
<tr>
<td>Region 7 – Austin</td>
<td>February 16-18, 2016</td>
</tr>
<tr>
<td>Region 8 – New Braunfels</td>
<td>January 20-22, 2016</td>
</tr>
<tr>
<td>Region 9/10 – El Paso</td>
<td>June 7-9, 2016</td>
</tr>
<tr>
<td>Region 11 – McAllen</td>
<td>December 8-10, 2015</td>
</tr>
</tbody>
</table>
Objectives

At the end of today’s presentation, you should understand:

1. Expectations for frontline hospitals, assessment hospitals, and Ebola treatment centers.
2. The onsite assessment process, expectations during and after the assessment, and the lessons learned to date from completed assessments.
3. The need for differential diagnostic testing at assessment facilities and other laboratory issues.
Objective 1:
Understand expectations for frontline hospitals, assessment hospitals, and Ebola treatment centers.
Frontline Hospital Role

• Do you have an emergency department?
• Identify and isolate
• Notifications
• Care for up to 24 hours*
“Every hospital or critical access hospital with a dedicated emergency department (ED) is required to conduct an appropriate medical screening examination of all individuals who come to the ED, including individuals who are suspected of having been exposed to Ebola, and regardless of whether they arrive by ambulance or are walk-ins.”

“Emergency Medical Treatment and Labor Act (EMTALA) Requirements and Implications Related to Ebola Virus Disease”
Frontline Hospitals

• How do I get my patient tested?
ALL ROADS LEAD THROUGH EPIDEMIOLOGY
How Do I Get My Patient Tested?

• Epidemiologists: case definitions and patient history
• Local health department epis will consult with state health department epis, who will consult with Centers for Disease Control and Prevention (CDC) epis
• If testing is approved, requestor will receive sample submission instructions and shipping guidance
• Test results 4-6 hours after arrival at lab
Ebola Assessment Hospital (EAH) Role

- Receive and isolate a patient under investigation (PUI) for EVD
- Work with epidemiologists to assess patient for testing
- Care for up to 96 hours* until an Ebola diagnosis can be confirmed or ruled out and until discharge or transfer is completed
Ebola Treatment Center (ETC) Role

- Receipt of patients with **CONFIRMED** EVD only
- Treatment
Ebola Treatment Centers in Texas

University of Texas Medical Branch (UTMB) – Galveston
- 2 beds (6 after rebuild)
- Adult/pediatric
- HHS Region 6 ETC

Texas Children’s Hospital – West Campus (Houston)
- 8 beds
- Pediatric only
Objective 2:
Understand the onsite assessment process, expectations during and after the assessment, and the lessons learned to date from completed assessments.
• Division of Disease Control and Prevention Services
  • Infectious Disease Prevention Section
    • Infectious Disease Control Unit
      • Emerging and Acute Infectious Disease Branch
Texas Hospitals

• Approximately 25 13 facilities
  • Identified to public health for the purpose of patient evaluation and care

• Purpose of designation
  • Effective referral process of potentially infected persons for plan of care evaluation
Hospital Visit

• **Goal of the visit**
  - To provide technical assistance to facilities to apply the standards of the CDC assessment tool
  - Enhance understanding of facility readiness activities and approaches to gap mitigation
  - Develop repository of knowledge related to high consequence infectious diseases
Team Members

• Facility team
  • C-suite
  • Facility Management
  • Quality/Safety officer
  • Facility Infection Preventionist

• DSHS team
  • HAI Epidemiologist (Team Lead)
  • Second Infection Preventionist
  • Laboratory Biosafety Officer
  • Hospital Preparedness
Other Attendee Requests

- Other common attendees (at the discretion of the facility)
  - Regional Health Department
  - Local Health Department
  - Laboratory Response Network Representative
### Day of the Visit

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00-11:30</td>
<td><strong>Introduction</strong>&lt;br&gt;Discuss agenda for the visit&lt;br&gt;Group facility walk-through</td>
</tr>
<tr>
<td>11:30-12:30</td>
<td>Break off into 3 site visit teams for individual discussion:&lt;br&gt;&lt;br&gt;1) Preparedness: Domains A, C, I, J, K&lt;br&gt;2) Laboratory: Domain G&lt;br&gt;3) Infection Control: Domains B, D, E, F, H, L</td>
</tr>
<tr>
<td>12:30-1:30</td>
<td>Lunch&lt;br&gt;Individual lunch</td>
</tr>
<tr>
<td>1:30-3:30</td>
<td>DSHS review of observations and ask any questions necessary to clarify items not yet answered</td>
</tr>
<tr>
<td>3:30-4:00</td>
<td>Executive session&lt;br&gt;Team to convene and prep for closing session</td>
</tr>
<tr>
<td>4:00-4:30</td>
<td>Closing&lt;br&gt;HAI epidemiologist provides a summary and describes the follow-up process, for mitigating any identified gaps</td>
</tr>
</tbody>
</table>
Post Visit

- HAI Epidemiologist ongoing partnership
  - Gap mitigation strategies - knowing what works vs what doesn’t
  - Lessons learned - shared across facilities
  - Preparation for other high consequence infectious disease.
- Aggregate information from all visits into a statewide view of capacity related to high consequence infectious disease readiness.
Most Common Gaps

• Laboratory (65%)
• Staff Training (second most common)
  • Inadequately number of trained staff for 96 hours of patient care
  • Expected shift durations had not been practiced
  • Maintaining competency in defined roles is labor intensive
  • Defining frequency of training activities (recommended quarterly)
  • Problematic adoption of HAZMAT principles and ongoing training needs
Other Gaps

- PPE
  - Inter-facility variability in protocols due to supply chains, preference and experience.
  - Limitation of the number of expert trainers
  - Inadequate space for Donning and Doffing

- Clinical Management
  - Protocols for special populations such as children
  - Intervention protocols for critically ill patients

- Waste management
  - Local regulation with solid waste and sewage
  - Workable solutions are expensive and cumbersome
Other Gaps (cont)

• Worker safety
  • Healthcare worker monitoring
  • Coordination of monitoring with health department

• Environmental
  • Overuse of bleach
  • Lack of terminal cleaning protocols
Common FAQs

• What is the involvement of DSHS Regulatory?
  • There is no direct involvement in this process

• How does a facility “qualify” to be a CDC designated assessment facility?
  • Texas is evolving its readiness strategy to focus on providing technical assistance to all facilities with respect to their capacity to diagnosis and/or provide treatment of persons potentially infected with a high consequence infectious disease.
Objective 3:

Understand the need for differential diagnostic testing at assessment facilities and other laboratory issues.
Information for Laboratories

• Managing and testing routine clinical specimens
  • Specimen collection, transport, and submission
  • Packing and shipping
  • Decontamination and waste management
Diagnostic Testing

• Timely lab testing prior to availability of Ebola test results is crucial to maintain a standard of patient care
  • Malaria smear
  • Complete Blood Count (CBC)
  • Clinical Chemistry
  • Liver enzymes
Performing Laboratory Testing

- It is strongly recommended to work inside a certified Class I or certified Class II biosafety cabinet (BSC) when handling or manipulating patient specimens.
  - When all proper procedures are strictly followed, a Class I BSC will protect the worker, and a Class II BSC will protect the worker and the sample from contamination.
  - Limit access to laboratory while testing is in progress.
Performing Laboratory Testing

• When manipulating clinical specimens when EVD is a concern, staff should use a combination of engineering controls, work practices and PPE to protect their mouth, nose, eyes and bare skin from coming into contact with patient specimens, including:
  • Disposable gloves
  • Solid-front wrap around gowns
  • Face protection
  • Eye protection
PPE

• Have clearly labeled areas for donning and doffing
  • A chair made of impermeable material that can be decontaminated makes it easier to sit down while donning and doffing

• Laboratory staff must be trained in the proper donning and doffing of PPE. The proper donning and doffing of PPE is critical for worker safety, and strict adherence to protocols is essential.
Information for Laboratories

• Managing and testing routine clinical specimens
• Specimen collection, transport, and submission
• Packing and shipping
• Decontamination and waste management
Specimen Collection

• If it is determined that testing for Ebola virus is indicated…
  • At least 4 mL of whole blood collected in a plastic tube
  • Preserved with EDTA
  • Specimens should be shipped with refrigerant to maintain 2°–8°C to the designated LRN laboratory.
Ebola Testing Regions

Texas Department of State Health Services - Austin
(512) 776-7185
24/7 Emergency: (512) 689-5537

Dallas County Health and Human Services
(214) 819-2840
24/7 Emergency: (254) 977-2395

Houston Health and Human Services Department
(832) 393-3975
24/7 Emergency: (713) 376-0484

Public Health Laboratory of East Texas - Tyler
(903) 877-5071
24/7 Emergency: (903) 312-3537

TIEHH Bioterrorism Response Laboratory
(806) 885-0232
24/7 Emergency: (806) 885-0235
Information for Laboratories

• Managing and testing routine clinical specimens
• Specimen collection, transport, and submission
• Packing and shipping
• Decontamination and waste management
• Ebola virus is classified as a Category A infectious substance by the Department of Transportation (DOT) and transport of samples from PUIs or patients confirmed or suspected of having EVD is regulated by DOT’s Hazardous Materials Regulations (HMR) 49 CFR 171-180.
Information for Laboratories

- Managing and testing routine clinical specimens
- Specimen collection, transport, and submission
- Packing and shipping
- Decontamination and waste management
Decontamination of Equipment

- For decontamination of laboratory instruments and equipment, use of an EPA-registered hospital disinfectant with label claims for non-enveloped viruses (e.g., norovirus, rotavirus, adenovirus, and poliovirus) is recommended.
- The laboratory should consult in advance with the manufacturer to ensure the most appropriate selection and their use on the equipment.
- Some disinfectants can be detrimental (i.e., corrosive) to the instrument’s surface.
Laboratory Waste Management

• For solid waste generated during laboratory testing, OSHA Bloodborne Pathogen Standard (29 CFR § 1910.1030) specifies that:
  • Potentially infectious materials shall be placed in a primary container which prevents leakage during collection, handling, processing, storage, transport, or shipping
  • The primary container shall be placed within a second container which is puncture-resistant and prevents leakage

• Steam sterilization (autoclaving) as a waste treatment process will inactivate the virus.
  • After waste from PUIs or confirmed for EVD has been autoclaved, it can be combined with the laboratory waste stream as regulated (non-class A) medical waste.
Laboratory Waste Management

• If an autoclave is not available, other arrangements must be made with a licensed external waste contractor to transport, treat, and dispose of the waste.
  • Permits are required and other restrictions may apply based on state or local regulations.
• The regulations associated with disposal of biohazards are complex, and vary by state and local requirements.
EAH Site Visits 2016 (so far…)

- Feb 10: University Medical Center in Lubbock
- Feb 12: Hendrick Medical Center in Abilene
- May 17: Clements University Hospital in Dallas

* LRN Coordinators are welcome to attend EAH site visits in their region. Contact Natalie Peréz for more information.