Hope Is Not a Plan

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Financial Disclosures

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I have no disclosures relevant to this presentation.
Learning Objectives

- Describe the key steps involved in preparing your facility for the next high-consequence pathogen infection
- Describe screening and travel screening tools for each location/risk assessment; MDROs
- Recognize important facilitators and barriers for preparing for emerging infections
Outline

- Part I: Preparing your facility
- Part II: Screening tools for PUls
- Part III: Preparedness challenges
Part I: Preparing Your Facility
Preparing Your Facility: Leadership

- Identify physician, nurse, and administrative leaders
  - Infectious disease and critical care
  - Infection control
  - Hospital administration
  - Emergency management
  - Industrial and environmental hygiene
  - Laboratory
  - Research
  - Public affairs

- HICS

Preparing Your Facility: External Resources

- Identify points of contact in your state and local health departments
  - Ensure you have on-call phone numbers
  - Designate who is responsible for notification
- Determine individuals who need to be notified of the situation
  - Hospital leadership (e.g., CEO, CMO, chancellor)
  - Government officials
- Establish contact with your Regional Treatment Center
- Establish contact with the CDC
  - EOC
Preparing Your Facility: Location

- Identify a patient-care location
  - Ideally, this location is separate from other patient areas
- Perform necessary modifications
  - Engineering (negative air pressure, communication system)
  - Space (eg, designated donning and doffing areas, storage of PPE)
- Determine equipment and supply needs
  - Create an “activation checklist” for just-in-time supplies
Preparing Your Facility: Staffing

- Recruit nurses, physicians, and other care providers and support staff
  - Volunteer staffing is ideal when feasible
  - Robust recruiting process
    - Discuss application with manager in home unit
    - Interview
  - Ensure coverage of all clinical needs
    - Infectious disease and critical care physicians
    - Critical care nurses
    - Special populations (pediatrics, OB)
    - Others (RT, physician specialties)
    - Consider procedural needs (CVC placement, intubation)
Preparing Your Facility: Staffing (cont.)

- Identify staffing matrix and on-call schedule
  - Consider nurse-to-patient ratio, time in PPE
  - Ensure adequate rest between shifts
  - Discuss feasibility with nurse managers in home units
  - Physicians need to create an on-call schedule
    - Attempt to use physicians without other inpatient responsibilities

- Not all HCWs need to enter the patient room
  - Use video conferencing
Preparing Your Facility: Staffing (cont.)

- Ensure coverage of nonclinical responsibilities
  - Donning/doffing partner, waste management, administrative
  - Consider cross-training staff
    - Cleaning, phlebotomy

Staff training session

Cross-trained staff member performs cleaning tasks
Preparing Your Facility: Policy Development

- Develop policies for protocols and procedures using a multidisciplinary, team-based approach
  - Staff training and skill maintenance, waste management, transportation, HCW monitoring/occupational health
- Use PPE appropriately
  - Disease-specific protocols
  - Donning and doffing
  - Decontamination or disposal of PPE
- Always include bedside providers in decision making
  - Culture of safety
Preparing Your Facility: Transport

- **Internal transport**
  - Work with ED
  - Consider the route, patient transport mechanism, PPE, spill clean-up, and security needs
  - Plan for patient arrival at several possible entry points (e.g., ED, clinics, L&D)

- **External transport**
  - Work closely with EMS
    - Need to identify the route, PPE, location for patient hand-off, and doffing area for EMS
    - Ensure emergency vehicles are decontaminated
    - Control visibility

Preparing Your Facility: Clinical Care

- Laboratory support is critical
- Work with laboratory leadership to establish a testing menu
- Consider the location where testing will be performed
- Performing point-of-care testing is important but not comprehensive
- Develop protocols to send specimens for confirmation testing

Laboratory testing menu

Preparing Your Facility: Clinical Care (cont.)

- Be prepared to provide all levels of care
  - Invasive procedures
  - Diagnostic equipment needs
  - Care of the deceased
- Input from ancillary services is crucial
  - Radiology, dialysis, RT, nutrition, physical therapy, blood bank

Preparing Your Facility: Communication

- Designate a point person to handle all communications
  - PIO

- Internal communications
  - Employees, hospitalized patients, clinic patients

- External communications
  - Local media (TV and print), social media
  - Be prepared for national media attention

- Always:
  - Be proactive, open, and honest
  - Protect patient privacy
  - Provide frequent updates
Preparing Your Facility: Internal Communication

Dear Emory University Hospital Patients,

You may hear in the media that Emory University Hospital plans to receive a patient with Ebola virus infection in the next several days. We do not know at this time when the patient will arrive. Please be assured that our hospital is prepared and ready. We have a highly specialized, isolated unit in the hospital that was set up in collaboration with the CDC to treat patients who are exposed to certain serious infectious diseases. This unit is physically separate from other patient areas and has unique equipment and infrastructure that provide an extraordinarily high level of clinical isolation. In fact, Emory University Hospital is one of just four facilities in the entire country with such a specialized unit.

Emory University Hospital physicians, nurses and staff are highly trained in the specific and unique protocols and procedures necessary to treat and care for this type of patient. For this specially trained staff, these procedures are practiced on a regular basis throughout the year, so we are fully prepared for this type of situation.

We are committed to providing a safe, secure environment for each of our patients. If you have any concerns or questions, please do not hesitate to speak with your caregiver.

Thank you,

Ira Horovitz, M.D.
Chief Medical Officer
Emory University Hospital

Nancye Feinman
Chief Nursing Officer
Emory University Hospital

Dear Bellevue Hospital staff,

As the Ebola Virus Disease (EVD) continues to make headlines, it is important that we, as healthcare and hospital employees, stay informed and understand the facts about the disease that the federal government has deemed a public health and national security priority. Speaking last week, President Obama said, “I want people to understand that the dangers of you contracting Ebola, the dangers of a serious outbreak are extraordinarily low. But we are taking this very seriously at the highest levels of government.”

The Centers for Disease Control and Prevention (CDC) is taking active steps related to hospital preparedness. Monday it issued new guidelines, strengthening requirements for Personal Protective Equipment (PPE) for healthcare personnel working with potential EVD patients. It also lowered the temperature threshold for Ebola patient testing.

You are already aware we at Bellevue Hospital Center have been undertaking a series of active measures in the event that New York City has a case of EVD. Over the past several weeks, front line caregivers who would be the ones in direct contact with a person under investigation (PUI) have been undergoing extensive training in the donning and doffing putting on and taking off of PPE and learning what protective measures need to be taken for themselves and patients when caring for a PUI. We are confident that the protocols we have in place have been enacted with the utmost attention to the safety of our staff and patients. This has been a priority. Importantly, if you are not being trained in PPE protocol, you will not be involved in the care of a PUI and should not come into contact with such a patient.

Providing Bellevue staff with accurate information is our top priority. We’ve already held several face-to-face Town Hall meetings hosted by me and other senior leadership to give you the opportunity to ask questions and get answers. We are prepared to hold these meetings as long as the EVD public health issue continues. Look for communications from me, HCPC Chief Medical Officer Dr. Rosa Wilson, and HHC President & CEO Dr. Eric Ryan in your inboxes. Visit the internet at our external website and check out our new Ebola readiness tools, which include resources such as: staff training tools, patient education materials, policies and protocols, and useful external links. We aim to keep it robust and fresh, and arm you with knowledge.

Here are some links to get you started

Bellevue website: https://share.yvdhp.org/online/bellevue/Papers/Default.aspx
Preparing Your Facility: External Communication

For Release: September 4, 2014
Contact: Taylor Wilson (402) 873-8338
swilson@nebraskamed.com

**NEWS RELEASE**

**Possible Transport of Ebola Patient to The Nebraska Biocontainment Patient Care Unit Located Inside The Nebraska Medical Center**

**Biocontainment Leaders to Discuss Latest Developments**

Omaha, Neb. – Please join us as infectious disease specialists and officials from our Biocontainment Unit discuss the possibility of an American patient with the Ebola virus being brought to The Nebraska Medical Center for treatment.

WHAT: News conference regarding possible treatment of patient with Ebola virus

WHEN: Thursday, September 4, 4:45 p.m.

WHERE: Nebraska Eye Institute, 3902 Lancerworth St., Omaha, NE, park on east side of 40th St. on hill leading to area where road is closed. Enter front of Nebraska, take elevator to 3rd floor room 3001 Bruce Heiken Auditorium

OTHER: If you plan to attend please contact Taylor Wilson at twilson@nebraskamed.com or (402) 873-8338

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For Release: October 5, 2014
Contact: Taylor Wilson (402) 873-8338
swilson@nebraskamed.com

**UPDATE:**

**Ebola Patient Scheduled To Arrive Early Monday Morning – Landing At Omaha’s Eppley Airfield**

Omaha, Neb. - The second Ebola patient to be treated at The Nebraska Medical Center will arrive in Omaha Monday morning at 8:30 a.m. The patient will arrive at Omaha’s Eppley Airfield and will be immediately transported to an ambulance in a remote area of the airport and not within the terminal or public areas. The patient will then be taken to The Nebraska Medical Center, which is about a 15-minute drive from Eppley.

The best area on campus to get video and photos of the ambulance arriving will again be the intersection of 42nd and Emile Streets. The ambulance will proceed up a ramp adjacent to Bennett Hall and then to an interior portion of the campus where the patient will be taken to the Biocontainment Unit.

We are planning on a press conference later in the morning, but will have more details on that tomorrow.
Preparing Your Facility: Waste Management

- Create a comprehensive waste management plan
  - Consider plans for solid and liquid waste
  - Waste may be considered a Category A Infectious Substance (eg, Ebola, Lassa)
    - Category A Infectious Substances require special packaging and transport
    - Materials that are sterilized by autoclave or incineration are not required to be packaged and shipped as Category A Infectious Substances

Preparing Your Facility: Management of the Environment

- Environmental cleaning protocols
  - Ensure daily and terminal cleaning
  - Maintain the highest infection control standards

- Consider:
  - Who will perform the cleaning?
  - Monitoring and documentation of cleaning
  - Disinfection of equipment

Preparing Your Facility: Support

- Behavioral health
  - Staff and family
  - Patient and family

- Additional support for the patient and his or her family
  - Use video communication
  - Assign a concierge nurse or advocate
    - Arrange services such as airport transportation, accommodations, and meals
    - Serve as the family liaison and arrange meetings with the medical team

- Pastoral care
Preparing Your Facility: Maintenance of Preparedness

- Ongoing education and training
  - Team meetings
  - PPE practice
  - Educational sessions

- Drills
  - Run multiple patient-care scenarios
  - Use equipment and perform procedures in PPE
  - Evaluate methods of communication
  - Involve internal and external partners
    - Pediatrics, OB, laboratory
    - Health department, EMS

Pediatric patient drill
Operating room drill
Part II: Screening Tools for PUIs
Screening Tools for PUIs

- PUIs may present anywhere and at any stage of illness
  - All facilities must be able to “identify, isolate, and inform”
- Identify strategies that work for your facility
- Partner with your local health department

Screening Tools for PUIs: Identify, Isolate, and Inform

- **Identify:**
  - Disease-specific signs and symptoms of concern
  - Exposure history
    - Travel, sick contacts, healthcare contacts
- **Isolate:**
  - Ideally, the patient’s room should be located in the isolation zone and separate from other patient-care areas
    - Bathroom adjacency is critical
    - An extra room should be located in isolation zone for trash staging or family needs
    - Remove unnecessary equipment from the room
    - Identify a space for donning and doffing
- **Inform:**
  - Use a clearly documented system of notification
  - Keep contact numbers up-to-date

Screening Tools for PUIs: Protocol and Process Map

- Step-by-step process
- Consider notifying appropriate personnel
  - Physicians, infection control, health department, laboratory
- Ensure care of the patient
  - Evaluate for alternative or additional diagnoses
  - Plan for patient procedures in radiology, laboratory, or OR
- Consider special populations in your protocols
- Maintain the safety of HCWs
  - Use appropriate PPE
  - Carefully handle specimens
Screening Tools for PUIs: Travel and Symptom Triage Tools

- Use EHR
- Set EHR alerts
  - These appear within the EHR and notify caregivers of additional required precautions
    - Ex: give the patient a mask to wear, send to the ED, isolate the patient in a negative pressure room, notify the appropriate care team
- Assess symptoms
  - Can be correlated with CDC case definitions
- Assess travel history
- Use decision-support tools

Screening Tools for PUIs: Decision Support

Travelers' Health

Travel Health Notices

Types of Notices

- Warning Level 3, Avoid Nonessential Travel
- Alert Level 2, Practice Enhanced Precautions
- Watch Level 1, Practice Usual Precautions

Current Notices

Travel notices are designed to inform travelers and clinicians about current health issues related to specific destinations. These issues may arise from disease outbreaks, special events or gatherings, natural disasters, or other conditions that may affect travelers’ health. See below for more information on our travel notice categories.

For country-specific information about Safety and Security, visit the US Department of State Travel Alerts and Warnings of page.

For country-specific information about weather conditions, visit the National Oceanic and Atmospheric Administration (NOAA) International Weather Selector of webpage.

For a list of all Zika virus travel notices by region, visit Zika travel information.
# MERS Co-V ED Screening Protocol

## NEBRASKA MEDICAL CENTER

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>ROLE</th>
<th>PROCESS STEP</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED Front Desk</td>
<td>GREETER/TRIAGE NURSE</td>
<td>1. <strong>PATIENT HISTORY GATHERED</strong></td>
<td><strong>YES</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have you (a) traveled outside US in the last 21 days? (or 60) had close contact w/ a person w/ confirmed MERS Co-V in the last 14 days?</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>GREETER/TRIAGE NURSE</td>
<td>Does patient have ANY of the MERS Co-V symptoms listed below?</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>GREETER/TRIAGE NURSE</td>
<td>Don/seed check N-95 respirator and gloves</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>GREETER/TRIAGE NURSE</td>
<td>Provide patient procedure mask and gloves and instruct patient to apply</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>GREETER/TRIAGE NURSE</td>
<td>Family history gathered</td>
<td><strong>NO</strong></td>
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<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td>GREETER/TRIAGE NURSE</td>
<td>Provide family members procedure mask and gloves and instructs on how to apply</td>
<td><strong>NO</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>YES</strong></td>
<td><strong>NO</strong></td>
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</tbody>
</table>

**MERS Co-V Outbreak Areas**

- [www.cdc.gov/mmwr/重要指示/](www.cdc.gov/mmwr/).../np לנשון/ outreach/)

- [www.cdc.gov/mmwr/](www.cdc.gov/mmwr/).../np

**Close Contact**

- Is defined as either being within approximately 6 feet or within the room or care area for a prolonged period of time while not wearing recommended PPE or (b) having direct contact with infectious secretions. E.g., having coughed or sneezed while not wearing PPE.

**Emergency Slide**

- Escort family to Family Conference Room

- If any family member is symptomatic, room ED will be used as a second "Patient Room" for that individual.
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</thead>
<tbody>
<tr>
<td>Greater/Triage</td>
<td>Lead Nurse</td>
<td>Room E6/E8 Available?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NO → Clear and disinfect rooms</td>
</tr>
<tr>
<td>Rooms E6-E8</td>
<td>Lead Nurse</td>
<td>Establish who will serve in each of the following roles: (1) Primary Nurse, (2) Task Nurse</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(1) Tape “Do Not Enter” sign to patient room</td>
</tr>
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<td></td>
<td>(2) Tape “Room Entry Log” sign to patient room</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(3) Tape “Isolation” sign to appropriate room</td>
</tr>
<tr>
<td>ED Manager On Call</td>
<td></td>
<td>Notify ED manager on call of possible MERS-CoV patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notify ED manager on call of possible MERS-CoV patient</td>
</tr>
<tr>
<td></td>
<td>Primary Nurse</td>
<td>Notify ED manager on call of possible MERS-CoV patient</td>
</tr>
<tr>
<td>Isolation Room</td>
<td>Primary Nurse/Primary Nurse/Task Nurse/Lead Nurse</td>
<td>Notify ED manager on call of possible MERS-CoV patient</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Notify infection control director of possible MERS-CoV patient</td>
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<td>Notify infection control director of possible MERS-CoV patient</td>
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<td>Notify infection control director of possible MERS-CoV patient</td>
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</table>

See ED 24 Hour Sheet for full list of contact information

Security to monitor entry to isolation area round the clock

MERS-CoV PPE and LabCo kits are located in Triage C

Yellow isolation gown

Face shield/looks

2 pair gloves (nitrile gloves on base glove, regular patient care gloves over the nitrile)

Ir-irritator for general care

PPR when performing aerosol generating procedures
<table>
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<tbody>
<tr>
<td>Isolation Room</td>
<td>Primary Nurse</td>
<td>13 Gather full set of vital and any additional pertinent information</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ER Attending</td>
<td>14戴 MERS Co-V PPE戴防病毒处理过程</td>
<td></td>
</tr>
<tr>
<td>Isolation Room</td>
<td>ER Attending</td>
<td>15 Examine/assess patient</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID MD</td>
<td>16 Call ID Attending MD for academic general ID service on call for consult (ID MD)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID MD</td>
<td>16a Notifies NIB Medical Director</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID MD</td>
<td>17 Arrange for lab testing</td>
<td></td>
</tr>
<tr>
<td>Isolation Room</td>
<td>Primary Nurse</td>
<td>18 Collect specimen/draw blood to send to NPHL per MERS Co-V protocol</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ID MD</td>
<td>18a Enter orders for Lab in OneChart: “Special Procedure: Other”</td>
<td></td>
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<tr>
<td></td>
<td>Lab</td>
<td>18b Call and fax results to ED MD, ID MD</td>
<td></td>
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<tr>
<td></td>
<td>ID MD</td>
<td>19 MERS Co-V PCR test presumptive positive?</td>
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</table>

Logs are located in the MERS Book. All people entering room must use the temp and sign in on “Room Gate Log” before each entry into the isolation room.

Routine labs may be drawn at any point during encounter but must be processed for transport per MERS Co-V lab protocol.

ID attending MD will notify:
1. Douglas County Health Dept.
2. NE Public Health Lab (NPHL)
3. NIB Medical Director
   - Angels Hendel, MD
   - Lu Gustafson, MU
   or
   - Associate Medical Director
   - Dan Johnson, MD, NIB

MERS Co-V specimens for NPHL analysis must be processed per MERS Co-V lab draw protocol.

If specimen negative NPHL will reflex appropriate specimen to core lab for NP. Patient is admitted or discharged dependent on clinical picture.
MERS Co-V ED Screening Protocol
NEBRASKA MEDICAL CENTER

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<tbody>
<tr>
<td>ID MD</td>
<td></td>
<td>19a Notify NBU medical director of presumptive</td>
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<tr>
<td></td>
<td></td>
<td>positive result</td>
<td></td>
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<tr>
<td></td>
<td>ED Lead</td>
<td>19b Notify ED manager of presumptive positive</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>result</td>
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<td></td>
<td>ED Attending</td>
<td>20 PUI refuses care: ED MD to call Douglas</td>
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<td></td>
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<td>County Health Dept.</td>
<td></td>
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<td></td>
<td>ED Manager On</td>
<td>21 Notify Public Information Officer (PIO)</td>
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<tr>
<td></td>
<td>Call</td>
<td></td>
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Screening Tools for PUIs: MDRO Screening

- **Domestic**
  - Lack of facility-to-facility EHR interface
  - Rely on communication from the facility

- **International**
  - Lack of screening tool for MDROs in travelers
  - Many laboratories are not capable of testing

- **CDC recommendation:**
  - “Facilities should consider performing surveillance cultures to rule out CP-CRE in patients admitted following an overnight stay within the last 6 to 12 months in a healthcare facility outside the US or in an area within the US known to have a higher prevalence of CP-CRE”

CDC. www.cdc.gov
Screening Tools for PUIs: MDRO Screening (cont.)

- Potential solutions to modify transmission risk
  - Initiate syndromic isolation
    - Cough = droplet
    - Diarrhea = enteric
    - Wound = contact
  - Place emphasis on standard precautions, horizontal measures
  - Communicate
  - Consider active surveillance
Part III: Preparedness Challenges
Preparedness Challenges

- **Laboratory**
  - Patients require intense laboratory monitoring
  - Establish protocols for the availability of a full complement of laboratory tests
  - Transport of specimens

- **Environmental infection control**
  - Need evidence-based guidelines on decontamination methods, especially for medical equipment
  - Significant amount of waste is generated for a single patient
  - Transport of waste
Preparedness Challenges (cont.)

- **PPE**
  - Utilizing research on donning and doffing protocols
  - Functionality

- **Staffing**
  - The administrative portion of caring for a patient with a high-consequence pathogen requires a significant amount of time
    - Frequent calls with the CDC, WHO, White House, and many others
  - Difficult to maintain “day jobs”
Preparedness Challenges (cont.)

- **Clinical**
  - Frequently, clinical treatment options are limited, unknown, or unavailable
    - Assistance is provided by the CDC and FDA
  - Need additional research on investigational therapeutics, vaccines
  - IRB approval process
- **Transport**
  - Feasibility of ground transport, especially across state lines
  - Air transport
  - Screening (911 calls)
Preparedness Challenges (cont.)

- **Screening**
  - EHR
  - Travel screening: cast a wide net or narrow the focus?
  - Decision support
  - Adaptability to changing situations, emerging pathogens
  - Training of ED/clinic staff

- **Maintenance of preparedness**
  - Funding
  - Staff engagement
  - Maintaining relationships and communication with external partners
National Ebola Training and Education Center (NETEC)

- **Roles of NETEC**
  - Support the training of healthcare providers and facilities on strategies to manage highly contagious hazardous pathogens
  - Conduct peer review readiness assessments
  - Develop a repository for educational resources, including exercise templates
  - Create a research infrastructure across the 10 regional ETCs
NETEC (cont.)

- Partnership with the HHS Office of the Assistant Secretary for Preparedness and Response (ASPR) and the CDC
  - Emory, UNMC, NYC Health + Hospitals/Bellevue
  - Total of 10 regional centers
Additional References

Thank You

Nebraska Biocontainment Unit Team: 2014