Hope Is Not a Plan

Angela Hewlett, MD
Associate Professor, UNMC Division of Infectious Diseases
Medical Director, Nebraska Biocontainment Unit

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 PUIs
- 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 (eg, 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 (e.g., 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 (eg, 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

CVC placement

Drill with portable x-ray machine

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: External Communication

- Possible Transport of Ebola Patient to The Nebraska Biocontainment Patient Care Unit Located Inside The Nebraska Medical Center
- \[ \text{READ RELEASE} \]

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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

Routine environmental cleaning

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

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

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 here for more information on our travel notice program.

For country-specific information about vaccines, visit the US Department of State Traveler’s Assistance page.

For country-specific information about weather conditions, visit the National Oceanic and Atmospheric Administration’s (NOAA) WeatherNet website.

For a list of all the mentioned notices by region visit CDC’s Traveler Information.
### Screening Tools for PUls: 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”
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

- Crises and Emergency Risk Communication (CERC). Centers for Disease Control and Prevention. emergency.cdc.gov/cerc/index.asp
- Donning and Doffing PPE Competency Validation Checklist. Association for Professionals in Infection Control and Epidemiology. apic.org/Resource_/TinyMceFileManager/Topic-specific/Donning_and_Doffing_PPE_COMPETENCY_VALIDATION_CHECKLIST.pdf
ABBREVIATIONS/ACRONYMS
Hope Is Not a Plan

ASPR = Assistant Secretary for Preparedness and Response
CDC = Centers for Disease Control and Prevention
CEO = chief executive officer
CMO = chief medical officer
CP-CRE = carbapenemase-producing Enterobacteriaceae
CVC = central venous catheter
ED = emergency department
EHR = electronic health record
EOC = Emergency Operations Center
EMS = emergency medical services
ETC = Ebola treatment center
FDA = Food and Drug Administration
HCW = healthcare worker
HICS = Hospital Incident Command System
HHS = United States Department of Health and Human Services
IRB = institutional review board
L&D = labor & delivery
MDRO = multi-drug resistant organism
NETEC = National Ebola Training and Education Center
OB = obstetrics
OR = operating room
PIO = public information officer
PPE = personal protective equipment
PUI = patient under investigation
RT = respiratory therapy
SCDU = Serious Communicable Disease Unit
US = United States
WHO = World Health Organization