

# Hope Is Not a Plan

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## Financial Disclosures

Angela Hewlett, MD, MS

- ▶ I have no disclosures relevant to this presentation.



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## 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



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## 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

Smith PW, et al. *Am J Infect Control*. 2015;43:441-6.



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## 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 (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)

Hewlett AL, et al. *Curr Opin Infect Dis.* 2015;28:343-8.



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## 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



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## 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



Emory SCU PPE



# 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



Isolation chamber for patient transport



External transport

Isakov A, et al. *Ann Emerg Med.* 2015;66:297-305; Lowe JJ, et al. *Prehosp Emerg Care.* 2015;19:179-83.



# 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

NPHL High-Consequence Blood Borne Pathogens (Hemorrhagic Viral Fevers) Pediatric Specific				
Test	Order Code	Tube type	Processed at (In-house)	DPHHS
Blood culture	BLOCC	Plastic Aerobic Bactec bottle	NPH Lab	No
Blood cell count	POCBC	Preseparated blood in tube	BCU Lab (PHU)	No
Blood Gas venous	POCBA	PST	BCU Lab (PHU)	No
Blood smear	ADPH	Microtainer (2 ml EDTA) lavender top	BCU Lab (PHU) (PHU)	No
CD4 with automated diff	CD4P	Microtainer (2 ml EDTA) lavender top	Hospital Core Lab (PHU)	No
CD8 with manual diff	CD8M	Microtainer (2 ml EDTA) lavender top	Hospital Core Lab (PHU)	No
CRP (normal range noted below)		Microtainer (2 ml EDTA) lavender top	Hospital Core Lab (PHU)	No
<b>NOTE: Lab will provide platelet count and examination of peripheral smear for schistocytes to be used in conjunction with strip results from BCU.</b>				
Drug Study (premarket)	No test code	ESG	BCU Lab or NPH Lab	Yes (PHU)
Glucose, Ionized Calcium, Potassium, Sodium, TCOL, Hematology and extended chemistry	POCCM	Microtainer green top heparinized or 4.5 ml green top PST	BCU Lab (PHU)	No
Level Panel Plus - Albumin, Aspartate Phosphate, ALT, Amylase, AST, Total Bilirubin, SWT, and Total Magna	LIVERP	Microtainer green top heparinized or 4.5 ml green top PST	BCU Lab (PHU)	No
Metabolic Panel - Albumin, BUN, Calcium, Chloride, Creatinine, Glucose, Lactate, Magnesium, Phosphorus, Potassium, Sodium, Total CO2	METLAC	Microtainer green top heparinized or 4.5 ml green top PST	BCU Lab (PHU)	No
Metabolic Panel CRP - BUN, CRP, Glucose, Cl, Creatinine, Glucose, Potassium, Sodium, Total CO2	METLVT	Microtainer green top heparinized or 4.5 ml green top PST	BCU Lab (PHU)	No
Microbial Acid	SHPPB	Microtainer (2 ml EDTA) lavender top	NPH Lab	No
Prothrombin	PTAB	Microtainer green top heparinized or 4.5 ml green top PST	Hospital Core Lab	Yes
PT/PTT	Coagulation Panel (for Reversal) (M) (M)	3.8 ml citrate blue top	BCU Lab (PHU)	No
Radiology Count	RETCT	Microtainer (2 ml EDTA) lavender top	Hospital Core Lab (PHU)	No
Sputum Culture	SPKCU	Streak Container	NPH Lab	No
Urine Culture	URMCU	Streak Container	NPH Lab	No
Urine micrographs	URM, URMCALS	BD Urinology Plus sputum tube	BCU Lab	No

Laboratory testing menu

Iwen PC, et al. *Am J Clin Pathol.* 2015;143:4-5.



## 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

Uyeki TM, et al. *N Engl J Med.* 2016;374:636-46; Connor MJ, et al. *J Am Soc Nephrol.* 2015;26:31-7; Johnson DW, et al. *Crit Care Med.* 2015;43:1157-64.



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## 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



Nebraska Medicine press conference



Media at Emory University Hospital



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# Preparing Your Facility: Internal Communication

**EMORY**  
HEALTHCARE

1364 Clifton Road, NE  
Atlanta, GA 30322

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 Horowitz, M.D.  
Chief Medical Officer  
Emory University Hospital

Nancy Feintz  
Chief Nursing Officer  
Emory University Hospital

**HHC** NEW YORK CITY  
HEALTH AND  
HOSPITALS  
CORPORATION

**Bellevue**  
SOUTH MANHATTAN HEALTHCARE NETWORK

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 undertaken 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 created 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 attend, listen, 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, HHC Chief Medical Officer Dr. Ross Wilson, and HHC President & CEO Dr. Ram Raju in your inboxes. Visit the internet and 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 are you with knowledge.

Here are some links to get you started:

HHC Bellevue website: <http://www.nyc.gov/html/hhc/bellevue.html>  
Bellevue internet: <http://www.nyc.gov/html/hhc/bellevue/Pages/Default.aspx>



# Preparing Your Facility: External Communication

**NEWS RELEASE**

For Release:  
September 4, 2014

Contact:  
Taylor Wilson (402) 971-8338  
[twilson@nebrskamed.com](mailto:twilson@nebrskamed.com)

**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, 4:15 p.m.

**WHERE:** Tjebkjen Eye Institute, 3902 Leavenworth St., Omaha, NE, park on east side of 40<sup>th</sup> St. on hill leading to area where road is closed. Enter front of Tjebkjen, take elevator to 3<sup>rd</sup> floor room 3001 Bruce Tjebkjen Auditorium

**OTHER:** If you plan to attend please contact Taylor Wilson at [twilson@nebrskamed.com](mailto:twilson@nebrskamed.com) or (402) 971-8338

**Nebraska Medical Center**

**THE NEBRASKA MEDICAL CENTER**

**NEWS RELEASE**

For Release:  
October 5, 2014

Contact: Taylor Wilson  
(402) 971-8338  
[twilson@nebrskamed.com](mailto:twilson@nebrskamed.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 42<sup>nd</sup> and Eppley 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.

**Nebraska Medical Center**

**THE NEBRASKA MEDICAL CENTER**



## 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



Waste disposal

Lowe JJ, et al. *Am J Infect Control*. 2014;42:1256-7; US DOT. [www.phmsa.dot.gov](http://www.phmsa.dot.gov).



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## 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

CDC. [www.cdc.gov](http://www.cdc.gov); Lowe JJ, et al. *Am J Infect Control*. 2015;43:747-9.



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## 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



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### 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

Koenig KL. *Disaster Med Public Health Prep.* 2015;9:86-7.



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# Screening Tools for PUIs: Identify, Isolate, and Inform

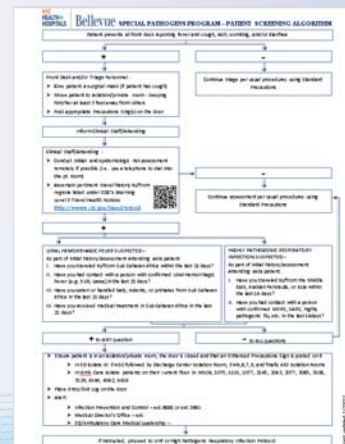
- ▶ **Identify:**
  - ▶ Disease-specific signs and symptoms of concern
  - ▶ Exposure history
    - ▶ Travel, sick contacts, healthcare contacts
- ▶ **Isolate:**
  - ▶ Ideally, the patient's room should be located in the isolation zone and separate from other patient-care areas
    - ▶ Bathroom adjacency 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

Koenig KL. *Disaster Med Public Health Prep.* 2015;9:86-7.



# 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



**PUI screening algorithm**



# 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

Wadman MC, et al. *Ann Emerg Med.* 2015;66:306-14; Fairley JK, et al. *Open Forum Infect Dis.* 2015;3:ofw005.



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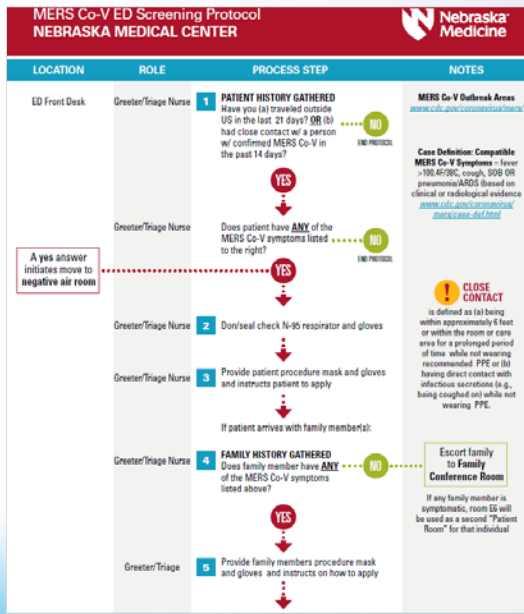
# Screening Tools for PUIs: Decision Support

The screenshot displays the CDC Travelers' Health website interface. On the left is a navigation menu with items: Home, Destinations, Travel Notices, Zika Travel Information, Find a Clinic, Disease Directory, Resources, Yellow Book, Partners, Mobile Apps, and RSS Feeds. The main content area is titled 'Travel Health Notices' and includes social media icons for Facebook, Twitter, and a plus sign. Below this is a section for 'Types of Notices' with three colored bars: a red bar for 'Warning Level 3, Avoid Nonessential Travel', a yellow bar for 'Alert Level 2, Practice Enhanced Precautions', and a green bar for 'Watch Level 1, Practice Usual Precautions'. A 'Read More' link is provided. The 'Current Notices' section contains explanatory text about travel notices and links to external resources like the US Department of State's Travel Alerts and Warnings page and NOAA's International Weather Selector webpage. A link to Zika virus travel notices is also present.

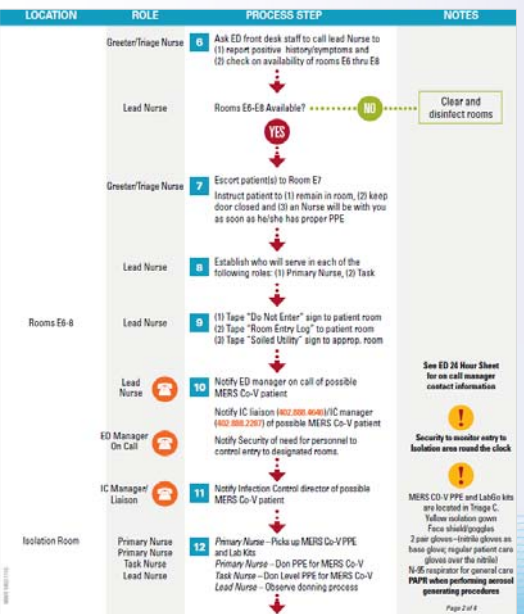
CDC. [www.cdc.gov](http://www.cdc.gov).



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NETEC. www.netec.org



NETEC. www.netec.org



LOCATION	ROLE	PROCESS STEP	NOTES
Isolation Room	Primary Nurse	13 Gather full set of vitals and any additional pertinent information	<p><b>!</b></p> <p>Logs are located in the MERS Book.</p> <p>All people entering room must write temp and sign in on "Room Entry Log" before each entry into the isolation room</p> <p>Routine labs may be drawn at any point during encounter but must be processed for transport per MERS Co-V lab protocol.</p> <p>ID attending MD will notify:</p> <ul style="list-style-type: none"> <li>1) Douglas County Health Dept</li> <li>2) NE Public Health Lab (NPHL)</li> <li>3) NBU Medical Directors Angela Hewitt, MD Ted Czechak, MD or Associate Medical Director Dan Johnson, MD, NBU</li> </ul> <p>MERS Co-V specimens for NPHL analysis must be processed per MERS Co-V lab/draw protocol</p> <p><b>!</b> If specimen negative NPHL will reflex appropriate specimen to core lab for RPP. Patient is admitted or discharged dependent on clinical picture.</p>
	ER Attending Task Nurse	14 Don MERS Co-V PPE Observe donning process	
Isolation Room	ER Attending	15 Examine/assess patient Patient (1) asymptomatic and (2) meets CDC case definition?	
	ER Attending ID MD	16 Call ID attending MD for academic general ID service on call for consult (ID MD) Suspected MERS Co-V patient meets PUI criteria?	
	ID MD	16a Notifies NBU Medical Director	
	ID MD	17 Arrange for lab testing	
Isolation Room	Primary Nurse	18 Collect specimen/draw blood to send to NPHL per MERS Co-V protocol	
	ID MD	Enter orders for Lab in OneChart: "Special Procedure: Other"	
	Lab	18b Call and fax results to ED MD, ID MD	
		19 MERS Co-V PCR test presumptive positive?	
		19a YES	
		19b NO	
		19c YES	

**24/7 contact numbers**

NETEC. www.netec.org



**MERS Co-V ED Screening Protocol**  
**NEBRASKA MEDICAL CENTER**

LOCATION	ROLE	PROCESS STEP	NOTES
	ID MD	19a Notify NBU medical director of presumptive positive result	
	ED Lead	19b Notify ED manager of presumptive positive result	
	ED Attending	20 PUI refuses care: ED MD to call Douglas County Health Dept.	
	ED Manager On Call	21 Notify Public Information Officer (PIO)	

NETEC. www.netec.org





## 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. [www.cdc.gov](http://www.cdc.gov).



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## Screening Tools for PUIs: MDRO Screening

- ▶ **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”
- ▶ **A question for the audience:**
  - ▶ How many of your facilities are screening for CP-CRE in travelers?



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## 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”



**PPE donning and doffing**



**Press conference**



## 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)



Patient transport



## 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



PPE training



# 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 training course

NETEC. [www.netec.org](http://www.netec.org).



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## 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



NETEC. [www.netec.org](http://www.netec.org).



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## Additional References

- ▶ Crises and Emergency Risk Communication (CERC). Centers for Disease Control and Prevention. [emergency.cdc.gov/cerc/index.asp](http://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](http://apic.org/Resource_/TinyMceFileManager/Topic-specific/Donning_and_Doffing_PPE_COMPETENCY_VALIDATION_CHECKLIST.pdf)
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## Thank You



Nebraska Biocontainment Unit Team: 2014

