



ASPR

Tools to Improve Special Pathogens Readiness

March 27, 2019
3:30-5:00 PM

PREPAREDNESS
SUMMIT
March 26-29 | St. Louis, MO
2019

THE
Evolving Threat
Environment



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Speakers

- Shayne Brannman, MS, MA, ASPR TRACIE Program Director
- Syra Madad, DHSc, MSc, New York City Health + Hospitals
- Mary Ellen Bennett, MPH, RN, CIC, Minnesota Department of Health
- Shelly Schwedhelm, MSN, RN, NEA-BC, Nebraska Medicine

Why ASPR TRACIE?

ASPR TRACIE was developed as a healthcare emergency preparedness information gateway to address the need for:

- Enhanced technical assistance
- A comprehensive, one-stop, national knowledge center for healthcare system preparedness
- Multiple ways to efficiently share and receive information between various entities, including peer-to-peer
- A way to leverage and better integrate support (force multiplier)



ASPR TRACIE: Three Domains



- Self-service collection of audience-tailored materials
- Subject-specific, SME-reviewed “Topic Collections”
- Unpublished and SME peer-reviewed materials highlighting real-life tools and experiences



- Personalized support and responses to requests for information and technical assistance
- Accessible by toll-free number (1844-5-TRACIE), email (askasprtracie@hhs.gov), or web form (ASPRtracie.hhs.gov)



- Area for password-protected discussion among vetted users in near real-time
- Ability to support chats and the peer-to-peer exchange of user-developed templates, plans, and other materials



asprtracie.hhs.gov



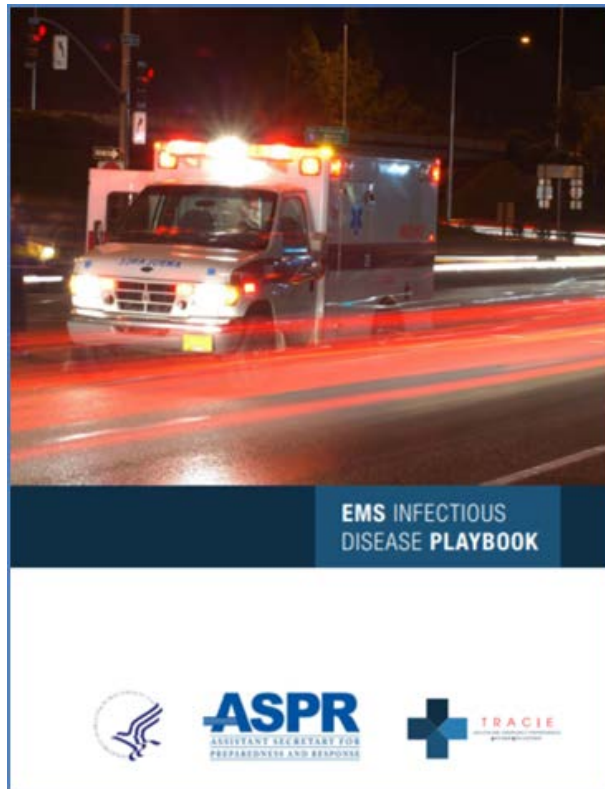
1-844-5-TRACIE



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Infectious Disease Resource Examples

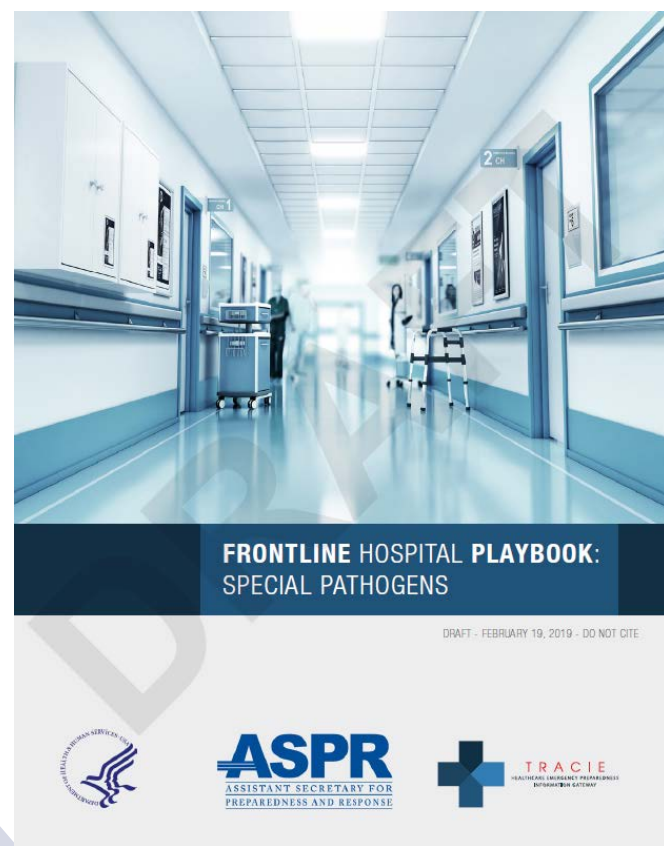
- Considerations for the Use of Temporary Care Locations for Managing Seasonal Patient Surge
- EMS Infectious Disease Playbook
- Hospital Personal Protective Equipment Planning Tool
- Joint Webinars with NETEC
- Resources at Your Fingertips:
 - Avian Influenza, Zika
- Topic Collections:
 - Bioterrorism & High Consequence Biological Threats, Epidemic/Pandemic Influenza, SARS/MERS, VHF/Ebola, Zika
- Select Infectious Disease Resources Page:
<https://asprtracie.hhs.gov/infectious-disease>



Syra Madad, DHSc, MSc
Senior Director
System-wide Special Pathogens Program
New York City Health + Hospitals

Frontline Hospital Playbook: Special Pathogens

- Planning resource for multidisciplinary hospital team
- Focus is viral hemorrhagic fever (e.g., Ebola) and special respiratory pathogens (e.g., MERS, novel influenza)
- User-friendly format with “need to know” information and extensive hyperlinks to source documents for additional details





Frontline Healthcare Facility



Quickly identifies and isolates patients with possible Ebola



Notifies facility infection control and state and local public health officials



Has enough Ebola personal protective 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 96 hours (including evaluation and management of alternative diagnoses) until Ebola diagnosis is confirmed or ruled out



Has enough Ebola PPE for up to 96 hours 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 sustainable staffing plan to manage several weeks of care



CDC experts 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

- » 1 PLANNING
- » 12 SCREENING
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- » 62 CHECKLISTS



Frontline Hospital Playbook: Organization

- Contents page
- Sections
- Interactive

Frontline Hospital Playbook: Interactive Features

- Navigable contents page
- Section tabs across the top of each page
- Back to contents button at the bottom of each page
- Active hyperlinks to external sources throughout

Planning Considerations and Assumptions

- Assumptions
- PPE assumptions
- Planning/policy/resources
- Safe systems of work

Figure 1. PPE Use When a Patient with Suspected Special Pathogen is Identified.

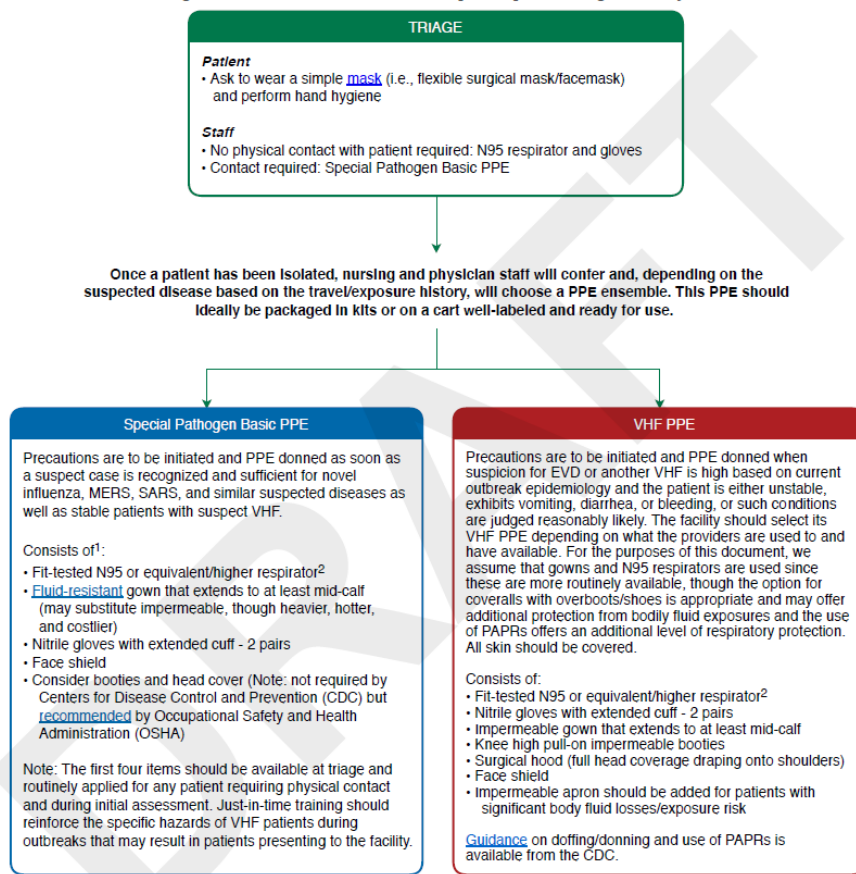
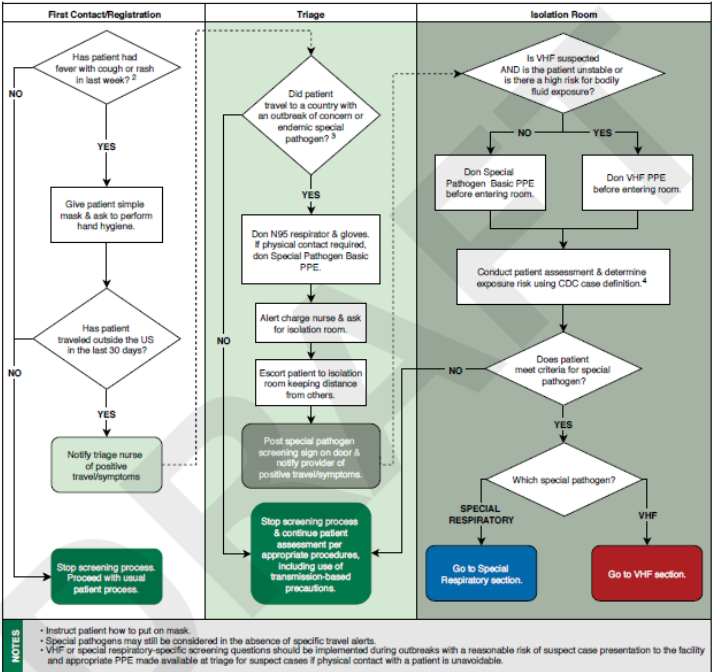


Figure 2. Sample Daily Screening and Triage Process - No Significant Risk of a Special Pathogen Patient Presenting.¹



Screening & Electronic Health Record Considerations

- Baseline screening/no current outbreak
- Outbreak-specific changes to screening
- Algorithms
 - Daily screening & triage process
 - Screening & triage for VHF
 - Screening & triage for Special Respiratory

Special Pathogen Sections

- VHF and Special Respiratory
 - Example diseases
 - Identify, Isolate, Inform
 - PPE
 - Initial clinical care
 - Patient movement
 - Waste management

The image displays two screenshots from the 'Frontline Hospital Playbook: Special Pathogens' document. The top screenshot is titled 'Special Respiratory' and includes a navigation bar with 'Special Respiratory' highlighted. Below the title, it lists 'EXAMPLE DISEASES' (MERS, SARS, novel influenza strains) and an 'IDENTIFY' section with detailed exposure criteria. The bottom screenshot is titled 'Viral Hemorrhagic Fever' and lists 'EXAMPLE DISEASES' (Ebola, Marburg, Lassa, etc.) and an 'IDENTIFY' section with exposure criteria. Both sections include an 'ISOLATE' section with instructions on patient movement and care. A 'Yellow Book' link is visible at the bottom of the VHF section.

Special Respiratory

EXAMPLE DISEASES
MERS, SARS, novel influenza strains (e.g., H1N1, H5N1, H7N9)

IDENTIFY

- Obtain relevant exposure history:
 - International travel in past 14 days to an area with active transmission of and/or
 - Had contact with an individual with a special respiratory disease within 7 period may be as long as 14 days).
- Question patients who meet the exposure criteria signs or symptoms consistent with disease. Signs and symptoms vary by disease and may be nonspecific, but cough, sore throat, shortness of breath, muscle aches, vomiting, diarrhea, potentially severe respiratory failure.
- If the patient is unable to provide exposure history due to their clinical condition, elicit history from the next most reliable source (e.g., family, friend, if in addition to countries visited, timeframe, and contact with ill persons, provide the following information:
 - Date of onset of symptoms.
 - Close contact with anyone known to have a respiratory disease and, if applicable, close contact with an ill traveler from the Arabian Peninsula (MERS).
 - Visitation or work at a healthcare facility on the Arabian Peninsula (MERS).
 - Recent close contact with camels (MERS) or other species linked to no employment as a HCW.
 - Underlying medical conditions.

ISOLATE

- If a relevant exposure history is reported and signs or symptoms consistent with disease are present, immediately move the patient to an AIRP or, if no AIRP available, room via a pre-designated route to limit exposures to other staff, patients, and visitors.

*An AIRP is a single patient room at negative pressure relative to the surrounding areas and with 12 air changes per hour recommended for new construction or renovation. Air from the room is filtered through a high-efficiency particulate air filter before recirculation. Rooms doors should be closed and the room, which should be minimized. Facilities should monitor and document the room. Taken from [Influenza Prevention and Control Recommendations for Hospital Outpatient Settings](#), CDC-2010.

Viral Hemorrhagic Fever

EXAMPLE DISEASES
Ebola virus disease (EVD), Marburg, Lassa, Lujo, South American hemorrhagic fevers.

IDENTIFY

- Obtain exposure history:
 - International travel in past 21 days to an area with active transmission of a VHF or
 - Had contact with an individual with a VHF disease within the previous month (longest incubation timeframe for most VHF is 21 days).
- Question patients who meet the exposure criteria about signs or symptoms compatible with VHF. Signs and symptoms vary by disease and may be nonspecific, but in general abrupt onset of fever, myalgias, and prostration. GI symptoms (diarrhea, vomiting, abdominal pain) are common.¹
 - GI symptoms (diarrhea, vomiting, abdominal pain) are common.¹
 - Followed in severe forms by coagulopathy with a petechial rash or ecchymoses and sometimes overt bleeding from mucous membranes, GI tract, or urinary tract.
- If the patient is unable to provide exposure history due to their clinical condition or other communication barriers, elicit history from the next most reliable source (e.g., family, friend, EMS provider).
- In addition, providers should ask about:
 - Date of onset of symptoms.
 - Contact with body fluids (blood, saliva, sweat, nasal secretions, urine, tears, stool) or laboratory specimens related to a person suspected of or diagnosed with a VHF.
 - Participation in any funeral preparations, burial services, or funeral rites for a deceased person.
 - Any contact with animals while traveling internationally.
 - Visitation at any healthcare facilities while traveling internationally.
 - Family members or other close contacts that are ill.
 - Whether the patient is taking malaria prophylaxis and, if so, what kind and for how long.

ISOLATE

- If a relevant exposure history is reported and signs or symptoms consistent with a VHF are present, immediately move the patient to the isolation room via a pre-designated route to limit exposures to other staff, patients, and visitors.
 - Do not delay patient placement, but remove unnecessary equipment and supplies from the designated isolation room as possible.
 - The patient should perform hand hygiene and wear a simple mask.

¹Yellow Book

Special Considerations

- Healthcare worker
- Pediatric
- Visitor/family
- Public relations/information
- Security
- Deteriorating patients
- Interfacility transfer



SECURITY CONSIDERATIONS

- Security personnel have many potential roles during a special pathogen response:
 - Securing the area around the Isolation room.
 - Addressing family member and visitor concerns regarding their limited access to other areas of the hospital.
 - Preventing media from accessing the facility.
 - Securing elevators and cordoning off hallways, ambulance driveway, and other interior and exterior areas to enable safe patient movement.
- Security personnel must understand and be trained for any anticipated roles during a special pathogen response including safe use of PPE and providing services in PPE if required.
- The role of security in providing patient restraint should be agreed upon prior to any incident and specific training with the care teams is critical to the safety of the staff and patient.
- Frontline hospitals may require additional security personnel due to the multiple roles above. Supplemental or contract staff will not be trained in use of PPE and patient care techniques but can provide access controls and other services.



DETERIORATING PATIENTS

- Frontline hospitals should plan to handle a wide range of severity of illness including patient deterioration during care.
- Delirium is a potential condition that can arise and requires special consideration and planning to avoid exposure. Delirium can cause the patient to become agitated and combative, possibly compromising provider PPE. Chemical and physical restraint policies should be in place and adequate staff should always be available in PPE to be able to immediately control behavior.
- Have a plan in place to safely manage the patient while in a potentially highly infectious environment and maintain safety in PPE. Key principles include:
 - Prevent cross contamination.
 - Increase distance from the patient.
 - Always face patient and never turn your back on a combative or agitated patient.
 - Maintain effective communication with staff outside room if assistance is needed to manage a combative patient.
 - Exercise extreme caution when administering medications to an uncooperative patient, particularly via the intramuscular route.
 - Anticipate potential interventions and have supplies in the room and ready to minimize potential delays and mitigate hazards.
 - Keep emergency medication readily accessible, if needed.



Exercises and Maintaining Readiness

- Updated plans
- Training and education
- Drills and exercises
- Improvement planning
- Restocking

References and Resources

- Annotated references
- Index of abbreviations
- Sample electronic health record screening questions
- Isolation room supply list
- Signs
 - Universal screening
 - Isolation room door signs



Disposable Medical Supplies Cart
Steroscope
Thermometer
Blood pressure cuff (range of sizes)
Emesis bags (preferred to basin)
Absorbent pads/Chux
Gauze sponges
Basins
Bedside commode
Respiratory supplies – oxygen mask, cannula, tubing, suction
Infusion supplies – IV drip tubing, IV fluids
Phlebotomy supplies – including blood draw and IV start
Specimen transport boxes from lab (i.e., triple packing system)
Spill Kit
Absorbent pad with fluid-resistant backing/Chux
Absorbent pads
Bleach 1:10 solution or other EPA-registered hospital disinfectant
Bleach wipes or other EPA-registered hospital disinfectant
Mop bucket
Mop pole
Clean mop head
Broom with removable handle
Long handled dust pan with removable handle
Cut resistant gloves

ELECTRONIC HEALTH RECORD SCREENING SAMPLE QUESTIONS

Symptom Screening

Has the patient had any of the following symptoms in the last week? (select fever, cough or respiratory symptoms, rash)

Travel Screening

Has the patient traveled outside of the U.S. in the last month? (select yes/no)

If yes, which regions were visited? (select from list from multiple)

African countries (select from list)

South Asian countries (select from list)

Central American countries (select from list)

North American countries (select from list)

South American countries (select from list)

European countries (select from list)

Middle Eastern countries (select from list)

Australian and Oceanic countries (select from list)

Caribbean countries (select from list)

Asian countries (select from list)

Exposure Screening

Has the patient been in close contact with someone with a known communicable disease in the last month? (select yes/no)

If yes, what disease? (select from list)

When was the exposure date? (select from list)

Special Pathogen Basic Personal Protective Equipment Donning Checklist

DATE: FEBRUARY 19, 2019 - 00:00:00

Step #	Task	Criteria	Completed
1	Gather PPE in separate area	<ul style="list-style-type: none"> Fluid resistant gown N95 respirator Stable gloves, extended cuff (2 pairs - inner and outer) Face shield Boots (optional) Head cover (optional) 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2	Prepare to don PPE	<ul style="list-style-type: none"> Trained observer present with checklist OUTSIDE of the patient's room in designated dressing area Remove watches, jewelry, and dangling items that could interfere with integrity of PPE Secure equipment with a tie Hydrate and attend to personal hygiene Consider medical assessment if entering for shift per facility policy 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	Inspect PPE	Inspect PPE for serviceability (e.g., not torn or expired and proper size)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4	Perform hand hygiene	Perform hand hygiene with alcohol-based hand sanitizer	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	Don outer gloves	Don inner gloves and exited cuffs up arms	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	Don hood, if wearing	<ul style="list-style-type: none"> Sit down and pull on hoodies Fully cover straps from neck to knees and arms to end of wrists; do not exposed Fasten at the back of neck, far at least Do not tie inside hair Ensures no trip hazard exists 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
7	Don fluid resistant gown	<ul style="list-style-type: none"> Fully cover torso from neck to knees and arms to end of wrists; do not exposed Fasten at the back of neck, far at least Do not tie inside hair Ensures no trip hazard exists 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8	Don N95 respirator	Don N95 respirator and check for seal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9	Don head cover, if wearing	Certain hair and cover ears	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Color key includes location: in patient room in designated decontamination area in addition area outside decontamination area
 Reference: [PPE Use, Handling, Storing, Training and Donning Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Guidance for Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC

VHF Personal Protective Equipment Doffing Checklist

DATE: FEBRUARY 19, 2019 - 00:00:00

Step #	Task	Criteria	Completed
10	Don face shield	<ul style="list-style-type: none"> Position shield above eyebrows and end forward to cover eyes 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
11	Don outer gloves	<ul style="list-style-type: none"> Don outer gloves Extend to cover the sleeves or cuffs of the gown Touch exterior material at sleeve cuff 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
12	Inspection	<ul style="list-style-type: none"> Extend arms and verify integrity of PPE with observer Stand at waist Shake turn to circle for final inspection Observer marks and with observer's voice and time doored 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13	Reminder	<ul style="list-style-type: none"> Keep hands away from all mucous membrane Remove hand signals for "OK," "not OK" and "waiting out" 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



Color key includes location: in patient room in designated decontamination area in addition area outside decontamination area
 Reference: [PPE Use, Handling, Storing, Training and Donning Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Guidance for Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC

VHF Personal Protective Equipment Doffing Checklist

DATE: FEBRUARY 19, 2019 - 00:00:00

Step #	Task	Criteria	Completed
1	Trained Observer	<ul style="list-style-type: none"> Engage the trained observer outside patient room with the checklist Ensure contact time requirement for disinfectant wipe per product label 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2	Inspect PPE	<ul style="list-style-type: none"> In patient room Inspect PPE for soiling or breaches Inspect PPE for serviceability (disinfect by using an EPA-registered disinfectant wipe follow contact time per product label) 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3	Perform hand hygiene	Perform hand hygiene by using an EPA-registered disinfectant wipe follow contact time per product label or with alcohol-based hand sanitizer	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
4	Doff apron (if wearing)	<ul style="list-style-type: none"> the case not to spread contamination if apron is soiled Remove (e.g., by breaking or untying neck strap and releasing waist fast) touch inside of apron only to remove by holding and rolling into a bundle and discard into an infectious waste container do inspect PPE that was under apron and doffed with apron as needed 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
5	Doff outer gloves	<ul style="list-style-type: none"> Disinfect outer-gloved hands with either an EPA-registered disinfectant wipe follow contact time per product label or alcohol-based hand sanitizer Using gloved hand, grasp the palm area of the other gloved hand and peel off first glove Hold the removed glove in the opposite gloved hand Slide fingers of the ungloved hand under the remaining glove at the wrist and peel off the remaining outer glove over the first glove Discard both outer gloves in the infectious waste container 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
6	Disinfect inner gloves	<ul style="list-style-type: none"> Washed the inner glove/ outer surfaces for visible contamination, rubs, or tears If no visible contamination is identified on the inner glove Disinfect the inner-gloved hands with either an EPA-registered disinfectant wipe follow contact time per product label or alcohol-based hand sanitizer If an inner glove is visibly soiled Disinfect the glove with an EPA-registered disinfectant wipe follow contact time per product label Remove the inner glove Using gloved hand, grasp the palm area of the other gloved hand and peel off first glove 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Color key includes location: in patient room in designated decontamination area in addition area outside decontamination area
 Reference: [PPE Use, Handling, Storing, Training and Donning Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Guidance for Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC

VHF Personal Protective Equipment Doffing Checklist

DATE: FEBRUARY 19, 2019 - 00:00:00

Step #	Task	Criteria	Completed
14	Perform hand hygiene	Disinfect inner-gloved hands with alcohol-based hand sanitizer	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
15	Doff inner gloves	<ul style="list-style-type: none"> Using gloved hand, grasp the palm area of the other gloved hand and peel off first glove Hold the removed glove in the opposite gloved hand Slide fingers of the ungloved hand under the remaining glove at the wrist and peel off the remaining outer glove over the first glove Discard both inner gloves in the infectious waste container 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
16	Perform hand hygiene	Perform hand hygiene and doffed inner-gloved hands with alcohol-based hand sanitizer	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
17	Don one pair of gloves	Don two hand bands with alcohol-based hand sanitizer	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
18	Remove N95 respirator	Remove N95 respirator from the back to front and doffed in the infectious waste container	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
19	Perform hand hygiene and doff final gloves	<ul style="list-style-type: none"> Disinfect gloved hands with alcohol-based hand sanitizer Remove gloves using same procedure as first two pairs 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
20	Perform hand hygiene	<ul style="list-style-type: none"> Clean bare hands with alcohol-based hand sanitizer Ensure hands are completely dry before exiting the area 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
21	Inspect	<ul style="list-style-type: none"> Perform a final inspection for contamination of the surgical scrub or disposable garments If contamination is identified, carefully remove the garments and observe immediately 	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
22	Follow Up	Perform staff health, medical monitoring, documentation, and behavioral wellness check as indicated	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Color key includes location: in patient room in designated decontamination area in addition area outside decontamination area
 Reference: [PPE Use, Handling, Storing, Training and Donning Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Guidance for Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC, [Donning, Doffing, and Storing Personal Protective Equipment \(PPE\) for Healthcare Personnel](#), CDC

PPE Donning and Doffing Checklists

Frontline Facility Special Pathogens Training Course

- Identify/Isolate/Inform of suspected special pathogen disease cases
 - Viral Hemorrhagic Fevers (e.g., Ebola, Lassa Fever)
 - Severe Respiratory Special Pathogens (e.g., MERS-CoV, SARS-CoV)
- Live donning and doffing Special Pathogen Level 1 & Special Pathogen Level 2 VHF with considerations for airborne and non-airborne special pathogens
- Hands-on clinical simulations with focus on safety precautions while in PPE
- Special considerations for pediatric, geriatric, behavioral health

Attendance

The course is open to all frontline healthcare workers/covered personnel in frontline hospitals, ambulatory/outpatient care sites and long-term facilities in NY, NJ, PR, VI (Region 2)

Registration

There is no cost for this course. Please register for the course date that suits your schedule. Do not book travel until a registration confirmation email is received

Course Materials

All course materials will be provided on the day of the course

Course Type

Didactic, immersive simulation with equipment, live donning/doffing technique and exercise on patient transfer and transport scenarios

Course Location: TBD

Course Time: 8am - 4pm



***Note: Students will be in PPE for a minimum of 4 hours during the course.**

Course Agenda

<i>Time</i>	<i>Duration</i>	<i>Topic</i>
8:00 AM	0:10	Welcome and Introductions
8:10 - 9:10 AM	1:00	Module 1: Identify/Isolate/Inform & Infection Control 101
9:10 – 9:20 AM	0:10	Break
9:20 – 10:05 AM	0:45	Module 2: PPE Donning Technique for SP Level 1 PPE Ensemble
10:05 – 10:50 AM	0:45	Clinical Simulation 1: MERS Work Up
10:50 – 11:35 AM	0:45	Module 2: PPE Doffing Technique for SP Level 1 PPE Ensemble
11:35 – 12:20 PM	0:45	Lunch
12:20 – 1:20 PM	1:00	Module 3: PPE Donning Technique for SP Level 2 VHF PPE Ensemble
1:20 – 2:20 PM	1:00	Clinical Simulations 2 & 3: Spill Remediation, Patient Transfer
2:20 – 3:20 PM	1:00	Module 3: PPE Doffing Technique for SP Level 2 VHF PPE Ensemble
3:20 – 3:30 PM	0:10	Break
3:30 – 4:00 PM	0:30	Course Debrief and Evaluations

Course Description

The didactic portion of the course will be a guided discussion of best practices/core principles on identification, isolation, internal/external notification and preliminarily managing persons with suspected ebola or other special pathogens from initial presentation through patient transport to a specialty hospital for definitive treatment. Special considerations for behavioral support, pediatric and geriatric patients will be discussed. Live donning and doffing technique will be demonstrated with NYC Health + Hospitals Special Pathogens Level 1 PPE Ensemble and Special Pathogens Level 2 VHF PPE Ensemble. The immersive simulation will be with the use of a simulation mannequin on MERS laboratory specimen collection and immediate spill remediation. The exercise portion of this course will include a series of patient transfer scenarios using enhanced infection control precautions/procedures.

Course in Action



Mary Ellen Bennett, MPH, RN, CIC
Nurse Specialist
Minnesota Department of Health

High Consequence Infectious Disease Toolbox for Frontline Health Care Facilities

The screenshot shows the Minnesota Department of Health website. The main heading is "High Consequence Infectious Disease (HCID) Toolbox for Frontline Health Care Facilities". Below the heading, there is a "Purpose of toolbox" section with an "Executive Summary (PDF)" link. A list of bullet points describes the toolbox's purpose: providing ready-to-use tools for frontline facilities, helping meet CMS emergency preparedness requirements, and incorporating standard infection prevention concepts into training. Below this is a "How to use the toolbox" section with bullet points on using planning and exercise templates, incorporating PPE videos, and using sample exercises. A "Planning tools" section lists links for a "Ready" Frontline Facility PDF and a Sample Needs Assessment Questionnaire Word document. On the right side, there is an "ICAR" spotlight section with links for "Hand Hygiene" information, "Antimicrobial Susceptibilities of Selected Pathogens (MDH AntibioGram)", and "Making Health Care Safer CDC Vital Signs".

- An additional program to help frontline facilities and can be complementary to the Playbook
- Grab and Go tools make it easy!
- Bolsters routine infection prevention
- Suggested standard for Minnesota hospitals

<https://www.health.state.mn.us/diseases/hcid/index.html>

Goal of the Toolbox

- To help hospitals prepare to **Identify, Isolate, and Inform** regarding a person with a High Consequence Infectious Disease (HCID).
- To incorporate **basic infection prevention principles** of standard precautions, transmission based isolation, respiratory etiquette, personal protective equipment, hand hygiene, and health care provider safety into the preparedness efforts.

High Consequence Infectious Diseases (HCIDs)

- Highly fatal
- Highly infectious
- May require activation of a biocontainment unit



High Consequence Infectious Diseases (HCIDs)

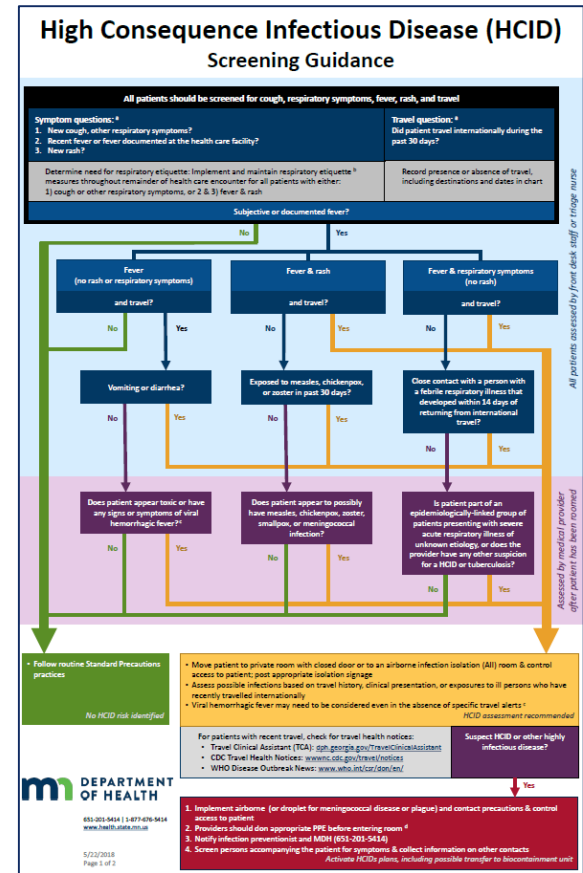
Defined by the Minnesota HCID Collaborative* as a disease for which:

1. All forms of **medical waste are classified as Category A** infectious substances (UN2814) by the U.S. Department of Transportation **or a disease that:**
2. Has **potential to cause a high mortality** among otherwise healthy people, and...
 - **no routine vaccine** exists, and...
 - ✓ some types of direct clinical **specimens pose generalized risks** to laboratory personnel
or
 - ✓ risk of **secondary airborne spread or unknown mode of transmission**

** MN HCID Collaborative: MN Department of Health, Mayo Clinic, University of Minnesota Medical Center, Minnesota Hospital Association, Minnesota Healthcare Coalitions, Minnesota HCID-Ready EMS services*

HCID Screening Guidance

- Suggested framework to aid with the **Identify, Isolate and Inform** components of HCID preparedness
- Impact not limited to HCIDs; designed to prevent spread of both common and rare infections
- 4 short questions for all patients
 - ✓ Fever
 - ✓ Respiratory symptoms
 - ✓ Rash
 - ✓ Travel



Big Picture Concept

- Make HCID preparedness business as usual...
 - Applicable to mundane as well as the exotic infections
 - Integrated in routine workflows across the continuum of care
 - Incorporated into regular infection prevention training
- Cannot plan for every rare event, so focus on infection control principles.

Pathogens That Meet MN HCID definition

Syndrome	HCID Pathogen Examples (viruses)
Unknown highly fatal disease with evidence of person-to-person spread	To be determined
Hemorrhagic fever	Ebola, Marburg, Lassa, Crimean-Congo, Guanarito, Machupo, Junin, Sabia, Lujo, Chapare, Kayasnur Forest Disease, Omsk Hemorrhagic Fever, Hantaviruses causing HFRS
Poxvirus diseases	Monkeypox, Smallpox
Febrile respiratory illness	MERS-CoV, SARS-CoV, Pandemic Influenza

Pathogens That are Everyday Threats

Syndrome	Fever	Respiratory Symptoms	Rash
Influenza	+	+	
Measles	+	+	+
Chickenpox	+		+
Tuberculosis	+	+	
Pertussis – whooping cough	+	+	
Meningitis	+		+

HCID Toolbox for Frontline Health Care Facilities

The screenshot shows the website for the High Consequence Infectious Disease (HCID) Toolbox for Frontline Health Care Facilities. The header includes the Minnesota Department of Health logo and navigation links for HOME, TOPICS, and ABOUT US. The main content area is titled "High Consequence Infectious Disease (HCID) Toolbox for Frontline Health Care Facilities" and features an ICAR logo. The page is organized into sections: "Purpose of the toolbox", "Executive Summary (PDF)", "How to use the toolbox", and "Planning tools". The "How to use the toolbox" section contains a bulleted list of instructions for using the provided templates and exercises. The "Planning tools" section lists downloadable PDF and Word documents. A sidebar on the left provides navigation for related topics, and a right sidebar includes a "Spotlight" section with links to subscribe to updates and access hand hygiene information.

HCID Toolbox
HCID Toolbox Home
Donning and Doffing Videos
Exercise Templates
HCID Binder

Related Topics
ICAR Home
Infection Control
Healthcare-Associated Infections
Antimicrobial Resistance
Hand Hygiene
Cover Your Cough
Injection Safety
Infectious Disease Reporting
Infectious Diseases A-Z
Infectious Diseases by Category

High Consequence Infectious Disease (HCID) Toolbox for Frontline Health Care Facilities

Share This

ICAR

Spotlight
Subscribe to MN Healthcare Associated Infections Updates
Hand Hygiene Information about washing/cleaning your hands.
Antimicrobial Susceptibilities of Selected Pathogens (MDH Antibigram)
Making Health Care Safer CDC Vital Signs. Attention: Non-MDH link.
If you have questions or comments about this page, use our [IDEP Comment Form](#) or call 651-201-5414 for the MDH Infectious Disease Epidemiology, Prevention and Control Division.

Purpose of the toolbox

[Executive Summary \(PDF\)](#)

- Provides ready-to-use tools for frontline facilities to prepare to respond to patients who may have a high consequence infectious disease (HCID).
- Helps facilities meet CMS emergency preparedness regulatory requirements for training and testing programs.
- Helps facilities develop a multi-year plan for HCID education and exercises.
- Incorporates standard infection prevention concepts into training and exercises.

How to use the toolbox

- Use sample multi-year planning, training and exercise plan templates to lay out preparedness activities over multiple years.
- Incorporate readymade slides and personal protective equipment (PPE) videos into facility infection prevention and emergency preparedness training.
- Use or modify sample exercises (seminar, workshop, table top, mini-exercise, game) and templates for the exercises (Planning Tool, After Action Report).
- Use components to make a binder for staff to use at point of care.

Planning tools

- [Components Necessary for a "Ready" Frontline Facility \(PDF\)](#)
- [Sample Needs Assessment Questionnaire \(Word\)](#)

- All hospitals are unique, so implementation of the tools will vary
- Tools are editable and can be tailored to the hospital

Four Components of Toolbox

- Planning tools
- Training tools
- Exercise tools
- Readiness binder



Start with the PLANNING Tools

Sample Needs Assessment Questionnaire



- Sample intended to stimulate some assessment ideas
- Answering “no” to any of these questions could indicate an area in your plan that needs to be exercised

Needs Assessment Questionnaire

SAMPLE

(Sample only intended to stimulate some assessment ideas.)

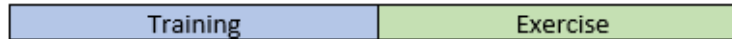
Yes/No	Sample Questions
	Is the emergency operations plan (EOP) up-to-date and includes section on infectious agent emergencies?
	Has the section of the EOP for infectious agents been executed in the past year? (either in an actual occurrence or an exercise)
	Are all policies and guidelines for response to an infectious emergency been spelled out clearly in the EOP? (e.g., mutual aid agreements, etc.)
	Has the Hospital ICS (HICS) been activated in the past year for an infectious situation?
	Has infectious agent screening at point of entry to the facility been tested in the past year? (either in an actual occurrence or an exercise)
	Are all appropriate personnel (including new staff, leadership, etc.) familiar with the EOP (and the defined authorities) for responding to an infectious emergency?
	Are identified personnel familiar with their role in infectious agent emergency operations? Do employees know where to get current information?
	Do current personnel possess the knowledge and skills necessary to respond as indicated for an infectious agent emergency in the EOP?

Planning Tool - Training and Exercise Plan

- Create multiyear training and exercise plan
- Incorporate into hospital's emergency plan

SAMPLE

Training and Exercise Schedule 2019											
Quarter 1			Quarter 2			Quarter 3			Quarter 4		
J	F	M	A	M	J	J	A	S	O	N	D
Annual Required Training in LMS re: HCID		HCID presents to the ED		Donning & Doffing PPE – All patient care staff			ED Staff & MD Training HCID			EMS Education HCID	
		Lab HCID specimen management									



Be sure to insert any real life scenarios that will count as exercises or drills!

Then Move to the TRAINING Tools

- HCID screening tool
- Slide sets readymade for facility training
 - Toolbox components
 - Disease specific slides
- Fun PPE video vignettes – for use in HCID training and general PPE training



CDC Developed 2 Levels of PPE for Ebola

Clinically stable with no bleeding, vomiting, diarrhea (“Dry” patient)

- *Fluid resistant gown (ANSI/AAMI level 3)*
- *2 pairs of gloves*
- *Full face shield*
- *Face mask*

Clinically unstable with bleeding, vomiting, diarrhea, or aerosol-generating procedures (“Wet” patient)

- *Impermeable gown (ANSI/AAMI level 4)*
- *2-3 pairs of gloves*
- *PAPR or N95*
- *Boot covers to mid-calf*
- *Cover all skin completely*

We Can Apply Ebola PPE Levels for other HCID

HCID Full Barrier Level 1:

for suspected viral respiratory pathogens and “dry” viral hemorrhagic fevers (VHF)

- *Fluid resistant gown (ANSI/AAMI level 3)*
- *2 pairs of gloves (for suspected VHF), 1 pair for viral respiratory pathogens*
- *Full face shield and head cover*
- *Booties*
- *N95 or PAPR preferred. Use regular face mask if no access to respirators*

HCID Full Barrier Level 2:

for “wet” VHF or pox virus

- *Impermeable gown (ANSI/AAMI level 4)*
- *2-3 pairs of gloves*
- *PAPR or N95*
- *Boot covers to mid-calf*
- *Cover all skin completely*

Level One & Level Two Full Barrier Isolation



Level One




Full Barrier Isolation


Essential Personnel Only
Negative Pressure Room Preferred

- Respirator (fit-tested N95 or PAPR)
- Hair cover
- Face shield (or comparable eye protection)
- ANSI/AAMI level 3 gown
- Gloves - extend over the gown cuff
- Booties (optional)







LEVEL TWO



Full Barrier Isolation

Essential Personnel Only
Negative Pressure Room Preferred

- Respirator (fit-tested N95 or PAPR)
- Head cover – covers all skin
- Face shield
- ANSI/AAMI level 4 gown that extends below the knee and completely around back plus apron if needed
- 2-3 pairs gloves - extend over the gown cuff
- Impervious boots extending to below knee



Then Move to Exercise Tools - Use One Page Simple Form

- Use for mini-drill
- Use for real life occurrence – just fill in what happened
- Use prepared exercises provided online, modify the prepared exercises or make your own with the blank template



Exercise Plan - Frontline Facilities for HCID

Date: _____ Time: _____ Type of Exercise (circle one): mini-drill | table top | game

Purpose: _____

Scenario: _____

Objective (SMART): _____

Location in Facility: Circle one: Emergency Department | Urgent Care | Clinic | Procedure Area

Participants & Agencies involved: _____

Exercise Director: _____

Evaluator: _____

Actor: _____

Participants: _____

Master Scenario Events List (MSEL)

Inject #	Inject Time	Inject Description	Expected Action	Outcome - Evaluator Notes

Hotwash Notes:
Director, Evaluator, Actor, Participants

After Action Report

Strengths:

Opportunity for Improvement: (Ask the 5 Why's)

Improvement/Corrective Action:	Assigned to:	Due by:
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

High Consequence Infectious Disease Readiness Binder



- Binder should be kept on unit – assessible to staff at point of care
- Put the tools in plastic sleeves so can be taken out and used
- Regularly update binders with current versions of document from MDH website



www.health.state.mn.us/divs/idepc/dtopics/hcid/index.html

High Consequence Infectious Disease Isolation Grid

Intended for frontline hospitals, urgent care clinics, and outpatient clinics

	Standard Precautions	Droplet Isolation	Contact Isolation	Airborne Isolation	Airborne & Contact Isolation	Level 1 HCID PPE	Level 2 HCID PPE
Suspected infections	For all patients	e.g. Influenza, Pertussis, meningococcal meningitis	e.g. MRSA, CDI, MDRO, Lice, Scabies	Measles, Tuberculosis,	Chickenpox, disseminated zoster	Monkeypox, smallpox, Respiratory diseases (like MERS, SARS, pandemic influenza), dry viral hemorrhagic fevers (no vomiting, diarrhea, bleeding and clinically stable)	Wet viral hemorrhagic fevers (wet is defined as vomiting, diarrhea, bleeding, in need of intubation or suctioning, or otherwise clinically unstable)
PPE	Standard Precaution definition	Simple face mask	Gown and gloves	Respirator – fit-tested N95 or PAPR	Gown, gloves, respiratory (fit-tested N95 or PAPR)	Hair cover, face shield (or comparable eye protection), gloves, ANSI/AAMI level 3 gown that extends up over the gown cuff, respirator, (fit-tested N95 or PAPR), booties.	All skin covered. Head/neck/face cover, 2-3 sets of gloves that extends up over the gown cuff, respirator (fit-tested N95 or PAPR), ANSI/AAMI level 4 gown that extends all around the wearer and comes down below the knees, knee high boots.
Isolation Room Type	Regular room No special ventilation needed.	Regular room No special ventilation needed	Regular room No special ventilation needed	Prefer negative pressure room with exhaust to the outside	Prefer negative pressure room with exhaust to the outside	Prefer negative pressure room with exhaust to the outside	Prefer negative pressure room with exhaust to the outside

Checklist for Patient with a HCID

This is a sample list. Steps may vary for each facility.

✓	Action	Comments
	1. Place mask on suspected HCID patient (with respiratory illness, travel, and/or rash).	
	2. Explain process to the patient.	
	3. Prepare room for patient if possible. Remove unnecessary equipment from room. If patient is clinically stable (no bleeding, diarrhea, vomiting), remove large objects. If patient is clinically unstable (bleeding, having diarrhea and vomiting), remove as much as possible.	
	4. Escort patient to the room as soon as possible. Negative pressure room is preferred.	
	5. Locate HCID Management Binder with reference materials.	
	6. Close door and hang appropriate signage visible to staff.	
	7. Hang the list to document persons entering the room who are potentially exposed.	
	8. Notify Charge Nurse.	
	9. Evaluate people arriving with patient for illness. Isolate or direct to another room to wait as indicated.	
	10. Dedicate a person to stay outside the door of the room to: <ul style="list-style-type: none"> • monitor personnel entering the room • help with donning and doffing PPE • communicate • obtain supplies needed in the room 	

MDH Posters for Donning / Doffing Level 1 PPE








STOP

Essential Personnel Only!

Full Barrier Isolation Required




Personal Protective Equipment (PPE) Placement

Before ENTERING Negative Air Space

<p>STEP 1 <u>Put on fluid-resistant gown</u></p> <p>Insert thumb into thumb hole, if present. Tie securely in back.</p> 	<p>STEP 4 <u>Fit-check/seal-check respirator</u></p> <p>Place both hands over respirator. Exhale sharply. If air-leaks are detected, re-adjust respirator; exhale sharply again. If leak still present, seek assistance.</p> 	<p>STEP 6 <u>Put on face shield</u></p> <p>Fully cover the face and forehead.</p> 
<p>STEP 2 <u>Put on shoe covers</u></p> 	<p>STEP 5 <u>Put on headcover</u></p> <p>Contain hair and cover ears.</p> 	<p>STEP 7 <u>Put on gloves</u></p> <p>Pull gloves over sleeves to cover wrist.</p> <p>Change gloves:</p> <ul style="list-style-type: none"> • when damaged or heavily contaminated • between procedures 
<p>STEP 3 <u>Put on N95 respirator</u></p> <p>Shape nosepiece to the nose with both index fingers. Place top band on top of head. Place lower band just above neck.</p> 	<div style="border: 1px solid black; padding: 5px; margin: 0 auto; width: 80%;"> <p>After ENTERING Negative Air Space</p> <p>After entering patient room, keep gloved hands away from face and avoid unnecessary touching of objects or surfaces.</p> </div>	


Personal Protective Equipment (PPE) Removal

Before LEAVING Negative Air Space

<p>STEP 1 <u>Face shield</u></p> <p>Remove and discard.</p> 	<p>STEP 4 <u>Gown & gloves</u></p> <p>Grasp shoulders of gown and pull forward. Roll outside of gown inward, tucking contaminated outside layer away from your body.</p> 	<p>STEP 6 <u>N95 respirator</u></p> <p>Front of respirator is contaminated. Handle only the bands. To remove, pull lower band over the head first, then remove upper band. Discard.</p> 
--	--	--

LEAVE Negative Air Space, CLOSE Door

Note: Discard used items in red bag.



Saving Lives. Protecting Americans.

43

Toolbox Roll Out

- State coalition meetings
- Conferences – speaking and posters
 - National Health Care Coalitions Conference – New Orleans
 - National Preparedness Conference (poster and panel)
 - USPHS Scientific & Training Symposium in May, 2019
 - APIC
 - Idaho – September
- Webinar for MN hospitals



Next Steps

- Revise and enhance the toolbox by June 2019
 - New - more comprehensive self assessment
 - PPE donning and doffing
- Developing similar toolbox for EMS
 - Compendium list of ambulance services
 - Developing a general infection prevention assessment tool



Conclusion

- **Toolbox and Playbook can complement each other:**
 - Playbook has much detail for planning a program to identify and manage special pathogens. It also has terrific donning and doffing materials.
 - HCID Toolbox offers simple, adaptable tools to aid in preparedness and covers a broad array of high consequence respiratory, VHF, and pox diseases as well as everyday threats like measles.
- **Toolbox is a work in progress and feedback is welcomed!**

Shelly Schwedhelm, MSN, RN, NEA-BC
Executive Director, Emergency Management and
Biopreparedness
Nebraska Medicine



National Ebola Training and Education Center Mission

To increase the capability of the United States public health and health care systems to safely and effectively manage individuals with suspected and confirmed special pathogens

Assessment

Empower hospitals to gauge their readiness using

Self-Assessment

Measure facility and healthcare worker readiness using

Metrics

Provide direct feedback to hospitals via

On-Site Assessment

Education

Provide self-paced education through

Online Trainings

Deliver didactic and hands-on simulation training via

In-Person Courses

Technical Assistance

Onsite & Remote Guidance

Compile

Online Repository

of tools and resources

Exercise Templates

Develop customizable based on the HSEEP model

Provide

Emergency On-Call Mobilization

Research Network

Online Repository

Built for rapid implementation of clinical research protocols

Develop Policies, Procedures and Data Capture Tools

to facilitate research

Create infrastructure for a Specimen Biorepository

Cross-Cutting, Supportive Activities

Assessment

Empower hospitals to gauge their readiness using **Self-Assessment**

Measure facility and healthcare worker readiness using **Metrics**

Provide direct feedback to hospitals via **On-Site Assessment**



Education

Provide self-paced education through **Online Trainings**

Deliver didactic and hands-on simulation training via **In-Person Courses**



57 facility readiness consultation visits

46 states, the District of Columbia and five U.S. territories represented at in-person trainings

79

educational activities held, including didactic and skills training courses, simulation courses, webinars, technical assistance sessions and conference presentations

8,286

healthcare professionals have participated in NETEC educational activities



59%

of in-person course participants were RNs. Other participant credentials included MPH, MD, Paramedic, and EMT.



84,634

NETEC.org page views



44

exercise templates to test healthcare readiness

1,281

technical assistance requests were answered by NETEC on topics such as staffing, patient transport, personal protective equipment and environmental hygiene.



1ST Special Pathogens Research Network simulation of an emergency clinical trial for the treatment of patients with Ebolavirus infection



17

countries convened for the International Workshop on High-Level Isolation Units



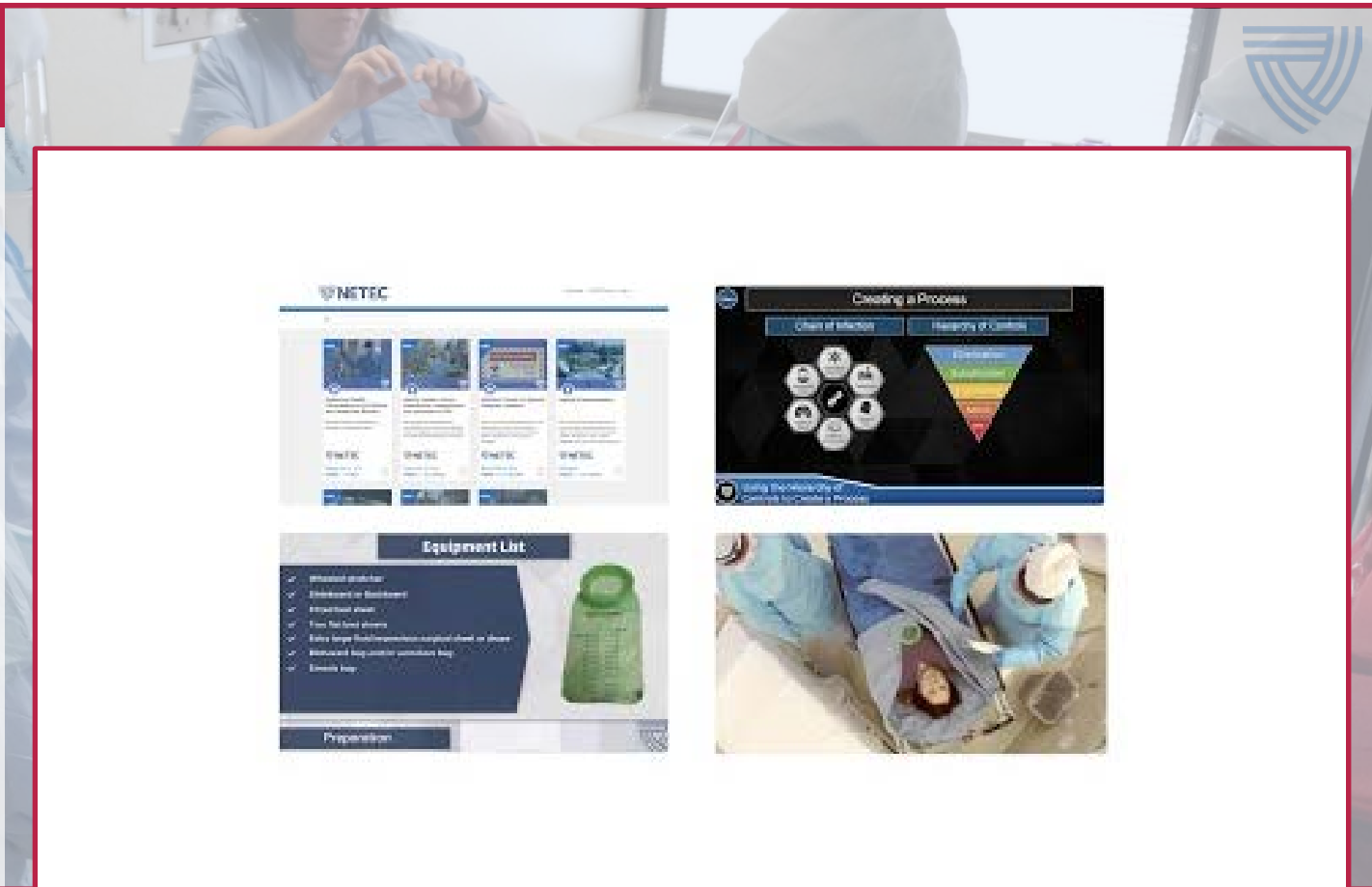
24 | 7 | 365

phone line established for emergency consultation with federal partners and healthcare facilities requiring assistance with patients suspected of or proven to have infections with special pathogens

Education

Provide self-paced education through **Online Trainings**

Deliver didactic and hands-on simulation training via **In-Person Courses**



Technical Assistance

Onsite & Remote Guidance

Compile

Online Repository of tools and resources

Develop customizable

Exercise Templates based on the HSEEP model

Provide

Emergency On-Call Mobilization



Technical Assistance

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Exercise Templates
based on the HSEEP model

Provide
**Emergency On-Call
Mobilization**

repository.netecweb.org

NETEC

REPOSITORY HOME DISCOVER DEVELOP IMPLEMENT EXPLORE

Search the repository... Advanced Search

EXERCISE TEMPLATES

NETEC Exercise Templates

A suite of exercise templates including all content and materials related to identifying, assessing, treating, managing, transporting and transferring high risk patients, which are fully customizable, approved by ASPR and the CDC, and based on the HSEEP model.

These templates should be customized to meet each end user's requirements. The templates contain exercise content and material based on the HSEEP model and related to assessing, treating and managing Ebola virus disease and other special pathogen patients for Frontline Facilities, Assessment Hospitals, State-Designated Ebola Treatment Centers, Regional Ebola and Special Pathogen Treatment Centers & Regional Partners, and Health Care Coalitions.

See the Beginners Guide to the right to get started or choose your templates below. This document is a guide for individuals who are new to exercise development and evaluation or those who need a refresher on exercise basics.

The NETEC Exercise Design Templates directly map to and support the ASPR Ebola Preparedness 2017 Hospital Preparedness Program Measurement Implementation Guidance.

ASPR: Performance Measures

VOIR CETTE PAGE EN FRANÇAIS

Frontline Facilities

- Ebola Drill, Functional & Full-Scale Exercise Template
- Ebola Tabletop Exercise Template
- Frontline Facility Special Pathogen [Airborne] Tabletop Exercise Template

Access to all of our exercise templates

Technical Assistance

Onsite & Remote Guidance

Compile
Online Repository
of tools and resources

Develop customizable
Exercise Templates
based on the HSEEP model

Provide
**Emergency On-Call
Mobilization**



The screenshot shows the NETEC repository website. The header includes the NETEC logo and navigation links: REPOSITORY HOME, DISCOVER, DEVELOP, IMPLEMENT, and EXPLORE. There is a search bar with the text "Search the repository..." and an "Advanced Search" button. Below the header, there is a filter section with the text: "Filter the ENTIRE repository: Choose a Subject OR a Type of Item below from the buttons to sort all resources. OR Choose Search Items Q: to filter one collection or perform complex queries." The "Subjects" section includes buttons for: PHYSICAL INFRASTRUCTURE, INFECTION CONTROL, TRAINING AND EXERCISES, EMERGENCY MANAGEMENT, PRE-HOSPITAL, INTAKE AND INTERNAL TRANSPORT, TREATMENT & CARE, PERSONNEL MANAGEMENT, LABORATORY, WASTE MANAGEMENT, DECEDENT MANAGEMENT, RESEARCH, GENERAL, ELEMENTOS EN ESPAÑOL, and CONTENU FRANÇAIS. The "Types of Items" section includes buttons for: EXERCISE TEMPLATES, VIDEO, ONLINE COURSE, WEBINAR, PUBLICATION, CHECKLIST, GUIDE, PROTOCOL, HYPERLINK, and IN PERSON COURSE. Below this, it says "BROWSE ITEMS (378 TOTAL)" and "BROWSE ALL Browse by Tag Search Items Q". There is a pagination bar showing "1 of 38" and a "Sort by:" dropdown menu with options: Title, Creator, Subject, Date Last Updated, Date Added. The main content area displays two items:

NETEC - Online Course - Infection Control for Special Pathogen Isolation	<p>Creator: NETEC Subject: Infection Control Item Type: Online Course Date Last Updated: 2019-02-22 Description: This course will provide information on the importance of having robust infection control procedures in place to care for a patient with Ebola or other special pathogen. Some topics that will be discussed include patient placement, patient care,...</p> <p>Tags: Donning and Doffing, Infection Prevention and Control, Patient Care, Patient Support, Personal Protective Equipment (PPE), Special Pathogens, Training, Waste, Waste Management</p>
The Impact of High-Level Isolation Units Beyond High-	<p>Creator: Jennifer Andonian, Kelsie E. Galusha, Lisa L. Maragakis, and Brian T. Garibaldi. Subject: Treatment & Care Item Type: Publication</p>

Explore our repository for vital information

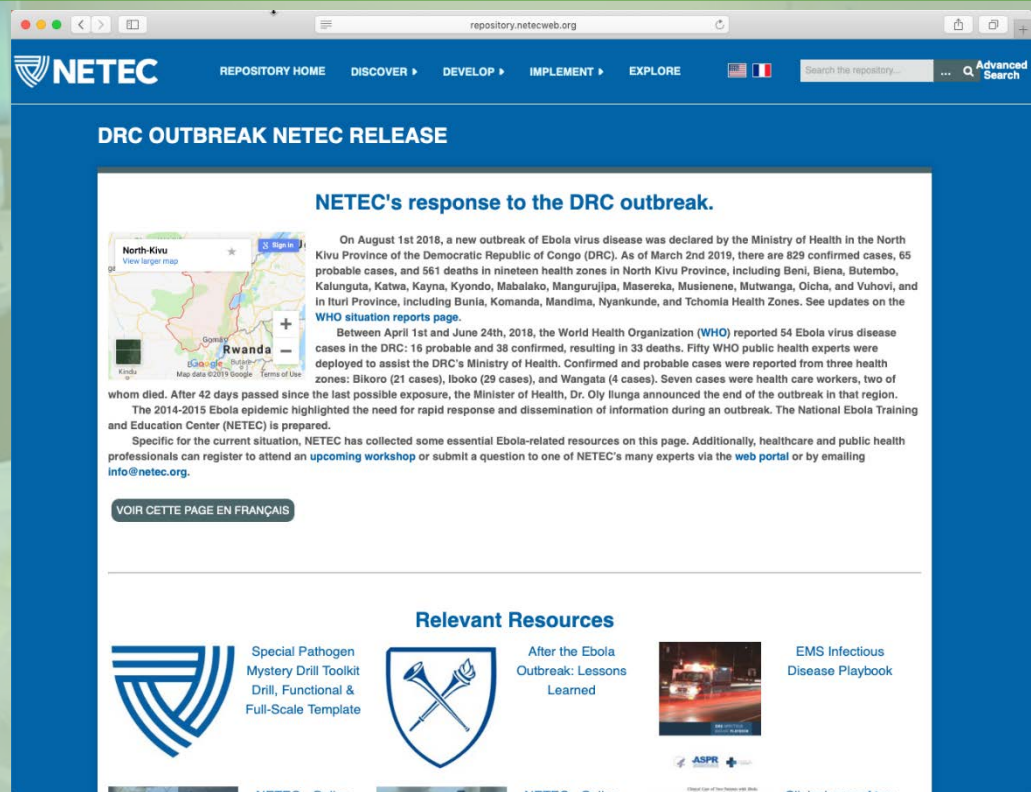
Technical Assistance

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Mobilization**



The screenshot shows the NETEC website with the following content:

- Navigation: REPOSITORY HOME, DISCOVER, DEVELOP, IMPLEMENT, EXPLORE
- Search: Search the repository... Advanced Search
- Section: DRC OUTBREAK NETEC RELEASE
- Section: NETEC's response to the DRC outbreak.
- Text: On August 1st 2018, a new outbreak of Ebola virus disease was declared by the Ministry of Health in the North Kivu Province of the Democratic Republic of Congo (DRC). As of March 2nd 2019, there are 829 confirmed cases, 65 probable cases, and 561 deaths in nineteen health zones in North Kivu Province, including Beni, Biena, Butembo, Kalunguta, Katwa, Kayna, Kyondo, Mabalako, Mangurujpa, Masereka, Musienene, Mutwanga, Olcha, and Vuhovi, and in Ituri Province, including Bunia, Komanda, Mandima, Nyankunde, and Tchomia Health Zones. See updates on the WHO situation reports page.
- Text: Between April 1st and June 24th, 2018, the World Health Organization (WHO) reported 54 Ebola virus disease cases in the DRC: 16 probable and 38 confirmed, resulting in 33 deaths. Fifty WHO public health experts were deployed to assist the DRC's Ministry of Health. Confirmed and probable cases were reported from three health zones: Bikoro (21 cases), Iboko (29 cases), and Wangata (4 cases). Seven cases were health care workers, two of whom died. After 42 days passed since the last possible exposure, the Minister of Health, Dr. Oly Ilunga announced the end of the outbreak in that region.
- Text: The 2014-2015 Ebola epidemic highlighted the need for rapid response and dissemination of information during an outbreak. The National Ebola Training and Education Center (NETEC) is prepared.
- Text: Specific for the current situation, NETEC has collected some essential Ebola-related resources on this page. Additionally, healthcare and public health professionals can register to attend an upcoming workshop or submit a question to one of NETEC's many experts via the web portal or by emailing info@netec.org.
- Button: VOIR CETTE PAGE EN FRANÇAIS
- Section: Relevant Resources
- Resources:
 - Special Pathogen Mystery Drill Toolkit Drill, Functional & Full-Scale Template
 - After the Ebola Outbreak: Lessons Learned
 - EMS Infectious Disease Playbook

Special pathogens knowledge base

Research Network

Online Repository

Built for rapid implementation of clinical research protocols

Develop Policies, Procedures and Data Capture Tools to facilitate research

Create infrastructure for a Specimen Biorepository



Contact



<https://netec.org>

info@netec.org

Join the Conversation!

Stay informed, share pictures and videos, engage with fellow colleagues!



@theNETEC



@the_NETEC



Use hashtag: **#NETEC**

Audience Discussion and Q&A

