

UNC Special Pathogens Response Center (SPARC)

Region 4 Emerging Special Pathogens Treatment Center (RESPTC)

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Regional Emerging Special Pathogens Treatment Centers (RESPTC)

- United States divided into 10 Regions with 13 RESPTCs
- UNC and Emory are 2 RESPTCs in Region 4
- Receive patients from Front Line and Assessment Centers in any of these states
- Offer equitable, patient-centered care for all
- Keep the patient throughout illness until discharge



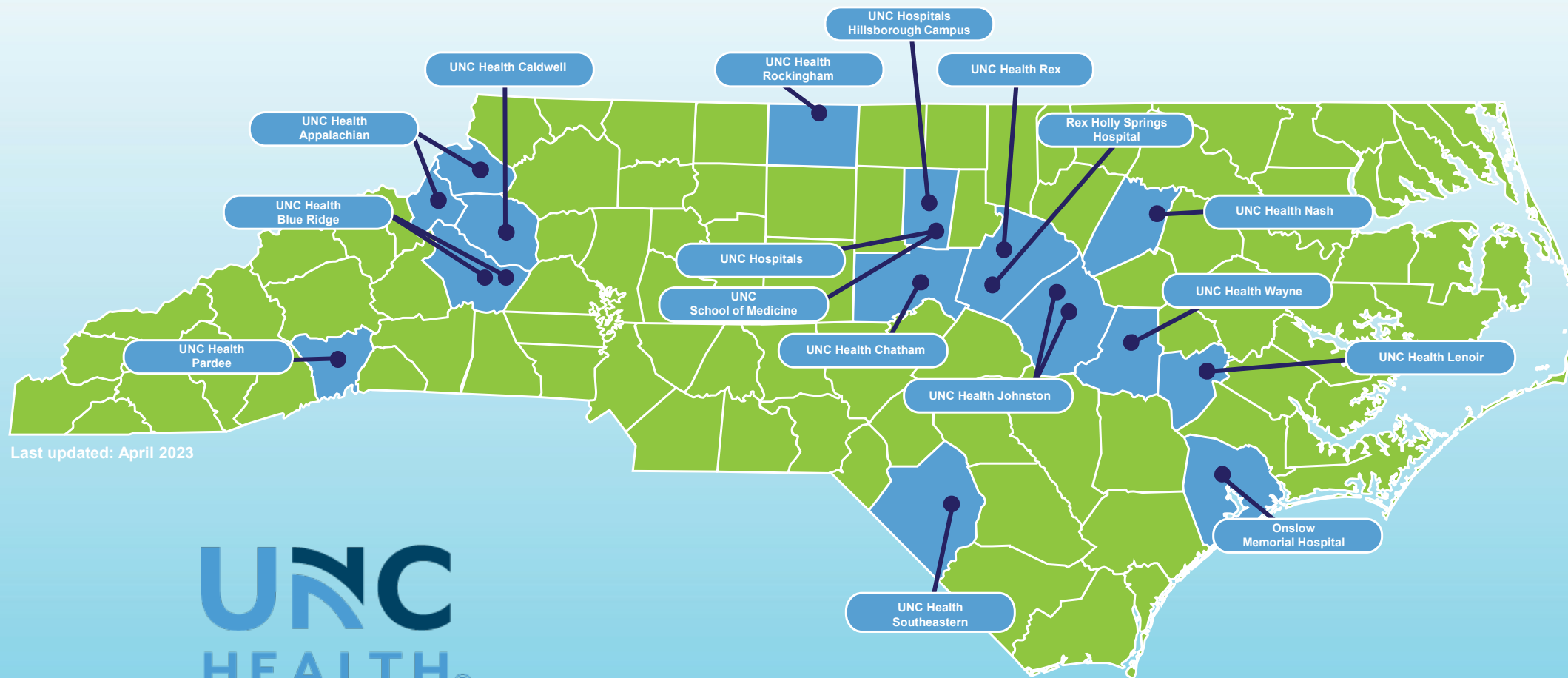
Administration for Strategic
Preparedness and Response



Region IV RESPTCs- Emory University Medical Center







Last updated: April 2023





A patient

- **September 25 – a 42yo man presented to the Emergency Department**
 - Symptoms: dizziness, abdominal pain, nausea, headache, rhinorrhea
 - V/S temperature: 100.1F → 103 → 101.2; HR 90 → 104
 - Labs reveal low WBC and TCP, increased creatinine, and elevated LFTs; CT head/Abd unremarkable
 - SIRs score of 3
 - Treated with IVFs and acetaminophen
 - Discharged with a diagnosis of sinusitis



Human Errors, Systems Failures, & Lack of Preparedness

- **September 25, 2014** – a 42yo man presented to the Emergency Department
 - Symptoms: dizziness, abdominal pain, nausea, headache, rhinorrhea
 - **Reported travel from country in an active outbreak of Ebola virus disease**
 - V/S temperature: 100.1F → 103 → 101.2; HR 90 → 104
 - Labs reveal low WBC and TCRP and elevated LFTs; CT head/Abd unremarkable
 - SIRs Score of 3
 - Treated with IVFs and acetaminophen
 - ~~Discharged with a diagnosis of sinusitis~~

Timeline

- Sept. 28 – EMS transported pt to ED
- EVD suspected within 14 minutes of arrival
- Kept in open ED x 14 hours
- Sept. 30 - EBOV PCR+
- Oct. 8 - pt dies
- 2 nurses infected
- Hospital occupancy falls <50%
- Revenue loss > \$30M in next two months



<https://www.nytimes.com/2014/10/16/us/infamy-for-dallas-hospital-where-virus-spread.html>



Dr. David Weber

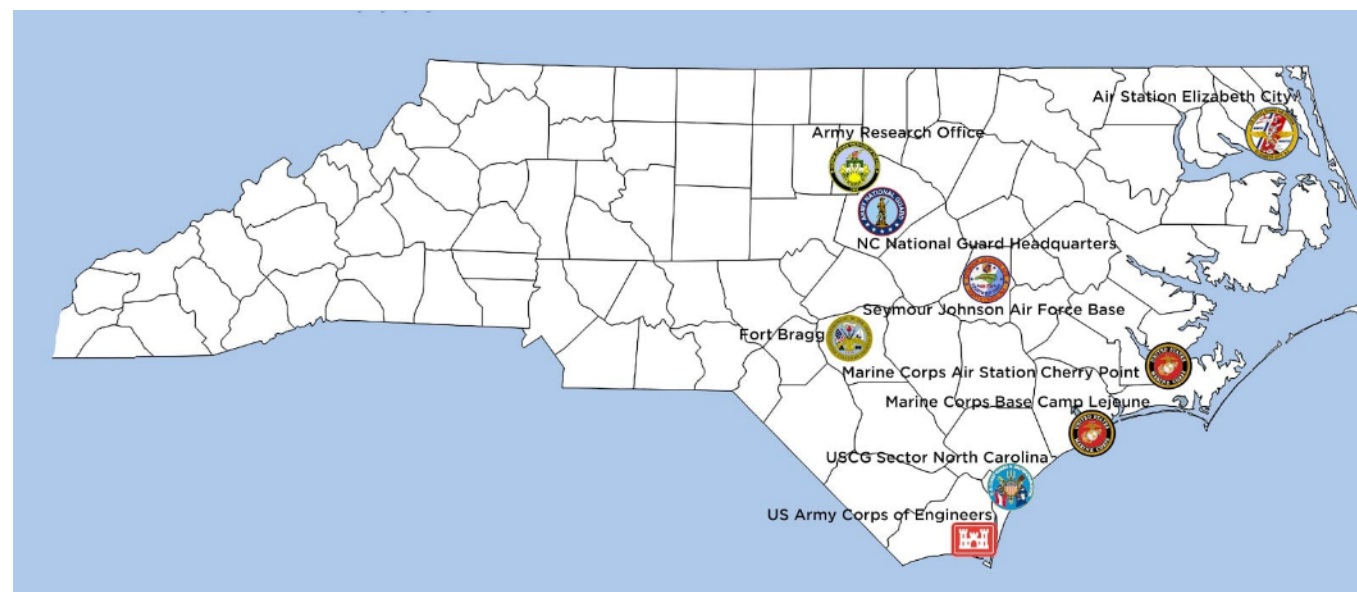
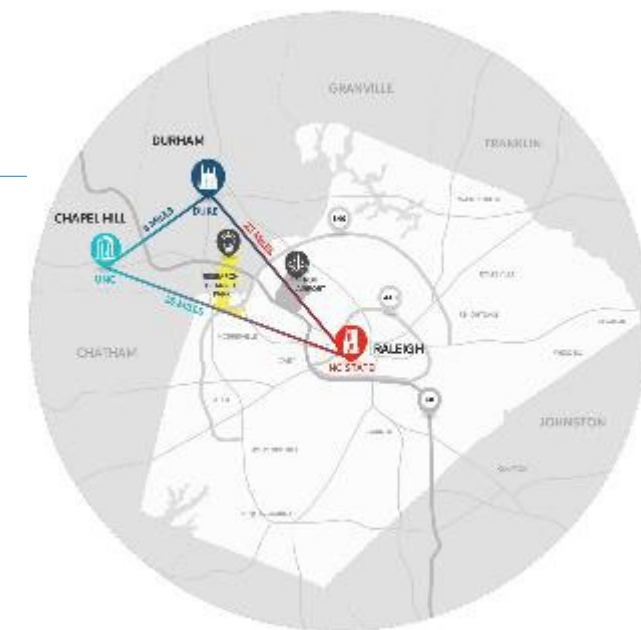
Medical Director of Infection Prevention, UNC Hospitals

“The next pandemic is a plane ride away”



Why UNC Hospitals?

- Large academic medical center located in central North Carolina
 - Approximately 1,000 licensed beds
- Level 1 Trauma Center (Adult and Pediatrics)
- Adult, pediatric, and neonatal care
- Large military presence
- Major highways that transverse the state
- Charities, NGOs, several universities
- Strong state public health
- Expertise in special pathogen care



Special Pathogen Care History





Our Responsibilities at UNC SPARC

- Create unit and processes to support care of 2 people with a special pathogen safely within 8 hours of notice
- Train and educate an internal response team (Currently ~70 members)
- Train and educate regional healthcare workers to enhance preparedness
- Provide material support during an outbreak
- Provide community education and awareness during and in between outbreak events





NETEC, NSPS, RESPTCs, and YOU: a partnership in the making



NSPS

PREPARE.
PROTECT.
RESPOND.



A Partnership for Preparedness

The National Emerging Special Pathogens Training & Education Center (NETEC) offers innovative special pathogens education and training programs, robust consultation and program assessment, and special pathogens research support to health care agencies throughout the U.S., and across the world.

In partnership with the 13 Regional Emerging Special Pathogen Treatment Centers (RESPTCs), NETEC provides health care workers with the tools and experience they need to integrate special pathogens preparedness into the fabric of their day-to-day activities, helping to safeguard the lives and well-being of millions of Americans every day.

Mission

NETEC's mission is to set the gold standard for special pathogen preparedness and response across health systems in the U.S. with the goals of driving best practices, closing knowledge gaps, and developing innovative resources.

Vision

Our vision is a sustainable infrastructure and culture of readiness for managing suspected and confirmed special pathogen incidents across the United States public health and health care delivery systems.

NETEC BY THE NUMBERS (FY23)

14,780+

HOURS OF SPECIALIZED
TRAINING LOGGED

by 4,500+ health care workers via
online courses and live webinars

9,460

REFERENCE GUIDES,
CHECKLISTS & OTHER
RESOURCES DOWNLOADED

by 23,000+ users from all 50 states
and 153 countries

351

REQUESTS FOR EXPERT
TECHNICAL ASSISTANCE MET

from all 10 HHS Regions and
3 international sites

185

GLOBAL EXPERTS FROM 19
COUNTRIES PARTICIPATED

in international networking and
collaboration activities to advance
special pathogens preparedness

100+

SUBJECT MATTER EXPERTS,
CLINICIANS & PUBLIC
HEALTH REPRESENTATIVES
CONTRIBUTED

to 15 national NETEC workgroups





The Tools You Need to Prepare for What's Next

NETEC and partners work to increase the capability of the U.S. public health and health care systems to safely and effectively manage special pathogens.

Special Pathogens Education & Training



Preparing health care workers for special pathogen events through specialized education, training, and resources

Consultation & Program Assessment



Assessing and advancing special pathogens readiness with free, expert consulting

Special Pathogens Research Network (SPRN)



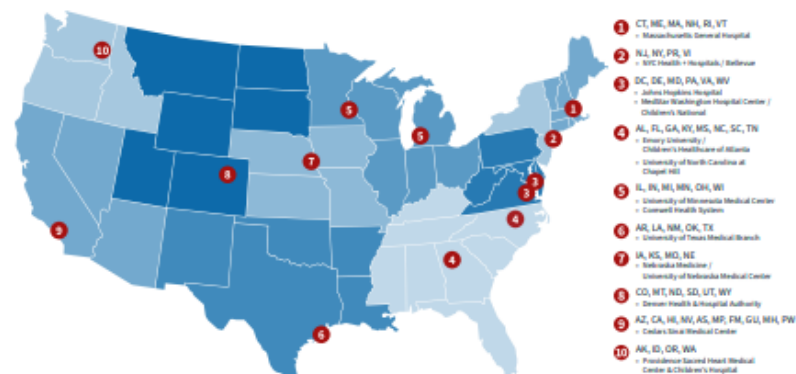
Creating an infrastructure to improve readiness for conducting rapid clinical research related to special pathogens in the U.S.

International Partnerships & Programs



Strengthening collaboration and knowledge-sharing among international special pathogens programs

REGIONAL EMERGING SPECIAL PATHOGEN TREATMENT CENTERS (RESPTCs)





What is the NSPS?

The National Special Pathogen System (NSPS) is a tiered System of Care with four facility levels (e.g., Level 1, Level 2, Level 3, Level 4) that have increasing capabilities to care for suspected or confirmed patients with High Consequence Infectious Diseases (HCIDs).

NSPS Vision, Mission, & Goals



Mission

To develop a coordinated network of high-quality special pathogen care dedicated to protecting patients, communities, and the health care workforce in the United States.

Vision

To save lives and protect the health care workforce through an agile and comprehensive special pathogen system of care.

ASPIRATIONAL GOALS



Zero

Preventable Deaths

after special pathogen infection



2 hours

Network Mobilization

after suspected special pathogen infection



100%

Have Access

to high-quality special pathogen care for all of the U.S. population

Tiered System of Care



Level 1

Level 1 facilities, or Regional Emerging Special Pathogen Treatment Centers (RESPTCs), are regional resources hubs which provide highly specialized care. *Level 1s care for patients for their duration of illness.*

Level 2

Level 2 facilities, or Special Pathogen Treatment Centers (SPTCs), have the capacity to deliver specialized care to clusters of patients and serve as primary patient care delivery centers. *Level 2s can care for patients for their duration of illness.*

Level 3

Level 3 facilities, or Assessment Centers, are widely accessible care delivery facilities, able to conduct limited basic laboratory testing, stabilize patients, and coordinate rapid patient transfer. *Level 3s can care for patients for 12-36 hours.*

Level 4

Level 4 facilities, or All Other Healthcare Facilities, can identify, isolate, inform, & initiate stabilizing medical care; protect staff; and arrange timely patient transport to minimize impact to normal facility operations.

Foundational Challenges To Special Pathogens Response





1. Communication

- **Our mission is to respond when needed, but the community may not always feel same**
- **Consistent, clear messaging starting with our own teams and extends to our patients**
- **Communication requires a significant portion of time**





2. Capacity

- **Hospital Capacity is more than just beds...**
- **Diversity + Teamwork = Competency**
- **Culture of Safety**



3. Waste

- There is a LOT of it!
- Methods and protocols for safe waste disposal (both solid and liquid) is critical
- Category A Waste



Waste from a 4-hour drill at Emory



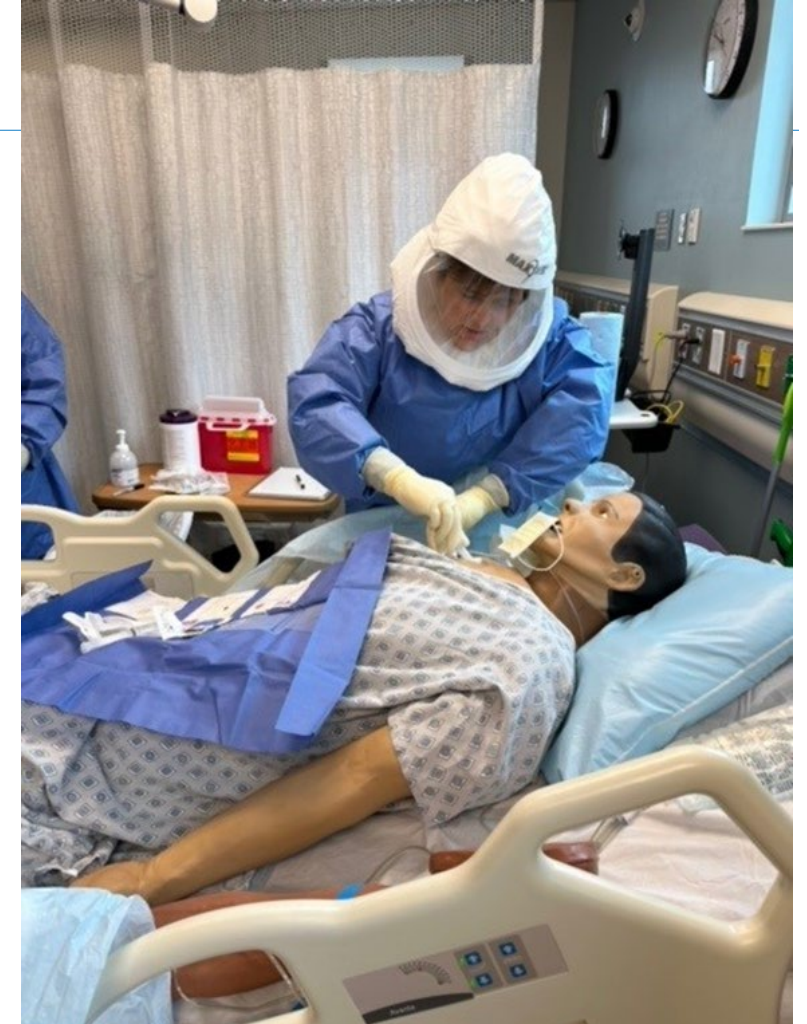
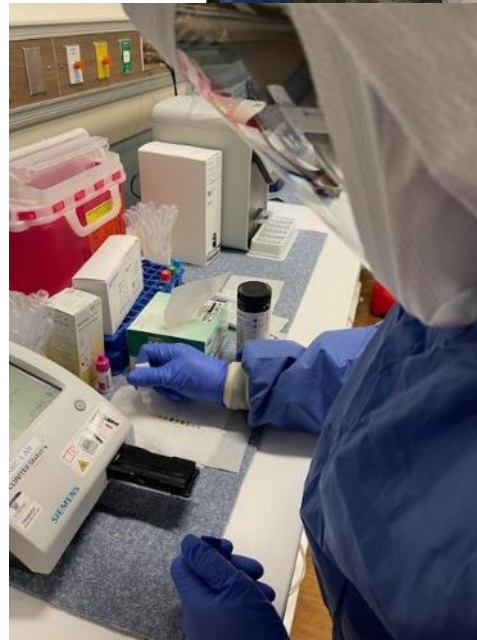
4. Personal Protective Equipment (PPE)

- **PPE is NOT intuitive**
- **PPE may be different depending on the pathogen, the patient, the ability of the provider**
- **PPE is designed to plug the holes in the body**



5. Maintain Preparedness

- **Trainings, drills, exercises**
- **Identify and involve all stakeholders**
- **Assess and adapt PPE and specialized procedures and abilities**



Training



What makes a pathogen “special”?

What's in a Name?

Special pathogen

Containment pathogen

Emerging pathogen

Emerging infectious disease

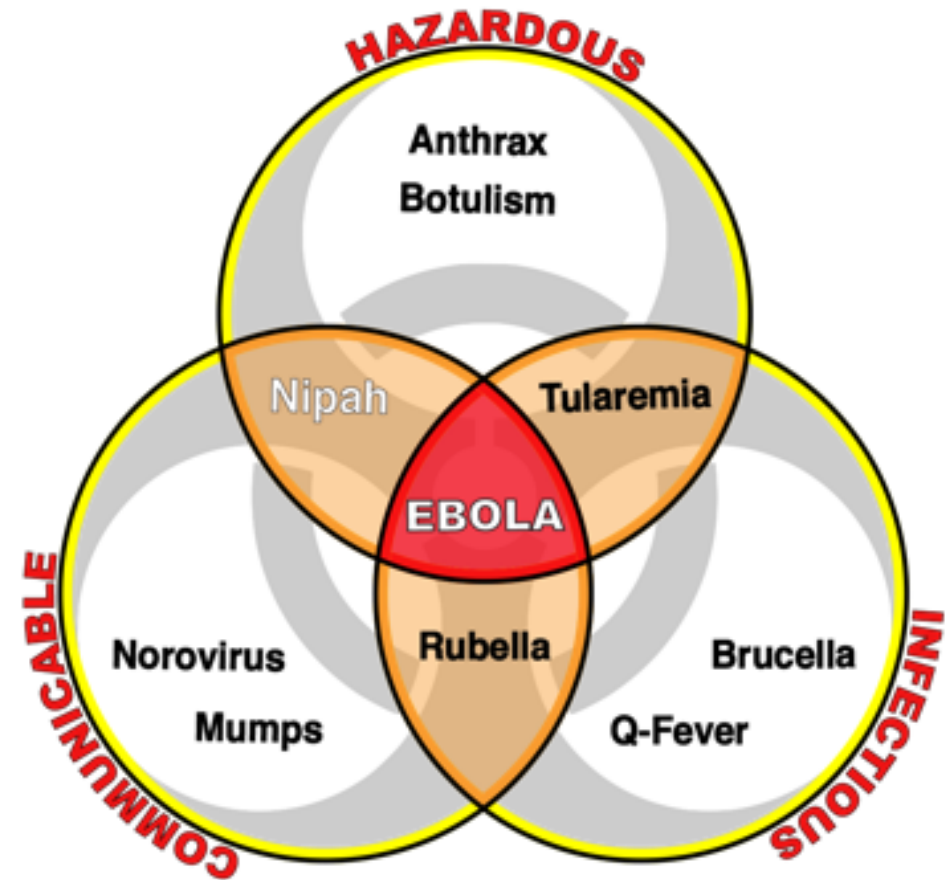
High-consequence infectious disease

High-consequence pathogen

BSL-4 pathogen

What is a Special Pathogen?

- **Highly contagious (communicable)**
- **Highly hazardous**
- **Highly infectious**
- **Very few pathogens have all 3 characteristics!**



Cieslak TJ, Herstein JJ, Kortepeter MG, Hewlett AL. A Methodology for Determining Which Diseases Warrant Care in a High-Level Containment Care Unit. *Viruses*. 2019;11(9):773. Published 2019 Aug 22. doi:10.3390/v11090773

Principles of Identify, Isolate, & Inform

3-I Model



The Joint Commission

- **New requirements as of *July 1, 2024***

New and Revised Joint Commission Standards IC.07.01.01

This standard requires processes to support preparedness for high consequence infectious diseases (HCIDs) or special pathogens.

- Early recognition of a patient with symptomology suggestive of a special pathogen
 - **Identify:** Procedures for screening at points of entry
 - **Isolate:** Procedures for transmission-based precautions
 - **Inform:** Procedures for informing public health and key hospital staff
- Infection control procedures to support continued and safe provision of care while the patient is in isolation and to reduce exposure among staff, patients, and visitors using hierarchy of controls.
- Education and training programs to assess competencies for staff who will implement these protocols.
 - Assessments are facility dependent and based on a facility's definition of competent.





3 Steps to Safety Success: Identify, Isolate, Inform

Identify:

- Recent travel and exposure history
- Symptoms



Isolate:

- Based on symptoms
- With appropriate PPE for you and for the patient



Inform:

- The appropriate persons based on your entity's workflow
- The patient of the plan of care



Identify: Early Recognition is KEY

If a patient looks sick...

Take steps to protect yourself and others

- **Implement standard precautions**
- **Consider routes of transmission**
- **Put on PPE**

Identify: What do you see?



Identify: Early Recognition is KEY

What are we going to ask?

- Do you have any signs of infection?
- Have you traveled lately?
- Is there a difference in treatment?



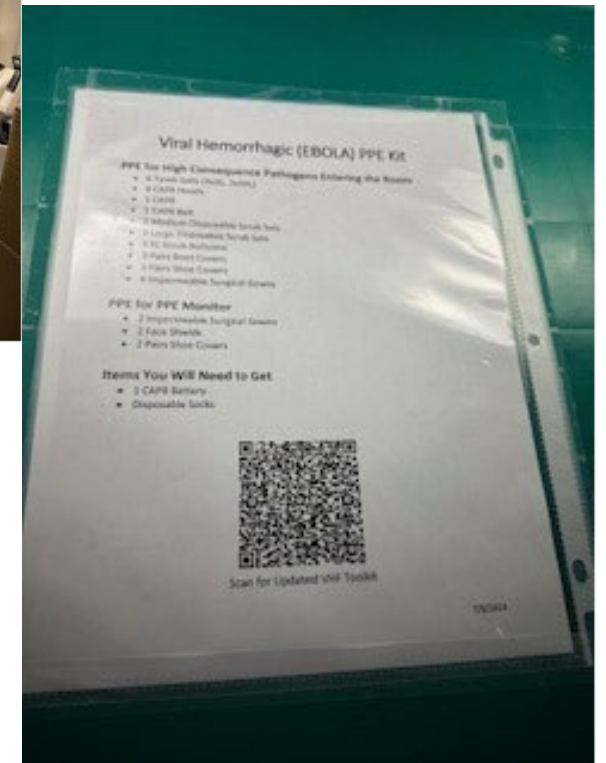
Isolate

- **What PPE to use for what pathogen of concern**
 - Generally, airborne + contact + eye protection PPE (or higher)
- **Where to place the patient (and how to get them there)**
 - Which route?
 - Room preparation
- **Who has interacted with the patient?**
- **Review Infection Prevention protocols**
- **Waste management**
 - What are we doing with all the PPE and used supplies?



Isolate: Be prepared to respond quickly

- Have a plan & know how you will transfer the patient to the designated room
- Retrieve your PPE box
 - Know the location
 - Should be accessible
 - Review contents and how to use
 - QR Code on box with additional information
- Remove extra equipment from the room
- Consider how you'll manage waste
- Consider how you'll communicate





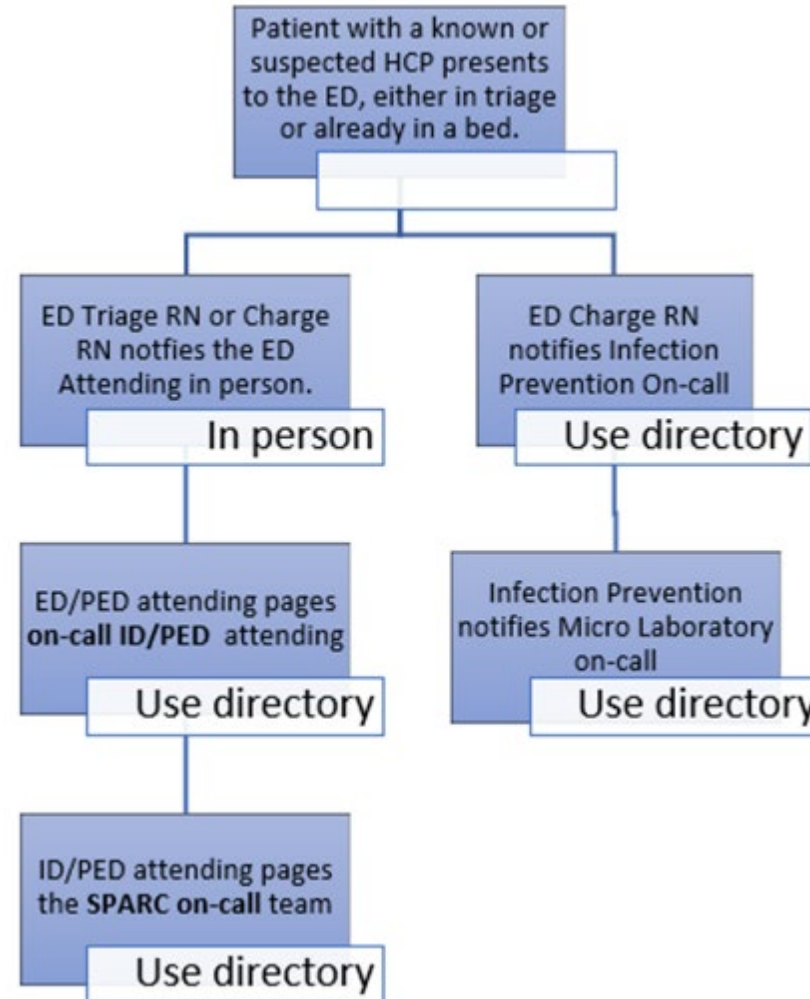
Inform

- **Regulatory policies & incident command structure**
- **Notification pathway**
 - Make sure you are contacting a ***position*** not necessarily a person since people change
- **Details are important!**
 - The health department will want to know extensive details regarding travel history, symptom onset, contacts
 - Move forward & have information prepared, not backward (i.e., "I have to find out and call you back")





Inform: Notification Tree



Waste Management

Waste

Category A Waste

“An infectious substance in a form capable of causing permanent disability or life-threatening or fatal disease in otherwise healthy humans or animals when exposure to the substance occurs.”

Red bag trash + advanced inactivation



Disposal barrels are stationed outside the apartment of a healthcare worker, who treated Ebola patient Thomas Eric Duncan and tested positive for the disease, Monday, Oct. 13, 2014, in Dallas. (AP Photo/Brandon Wade)

Category B Waste

Regulated Medical Waste

“An infectious substance that is not in a form generally capable of causing permanent disability or fatal disease in otherwise healthy humans or animals when exposure to the substance occurs.”

Red bag trash



Have a plan for HCID waste!

Sequester all waste until the patient's test result is known

- Have a **plan** for sequestering the waste

Packaging of waste

- Primary watertight receptacle (red trash bag)
- Secondary watertight receptacle (another red trash bag)
- Rigid outer packaging

Patient confirmed positive?

- Work with your facility's waste vendor on transport for offsite inactivation
- Keep waste sequestered until plan is worked out and permits are granted





How much waste?

Ebola Activation	Containers (3-4 bags in each)	Weight in LBS.
1	101	1011.5
2	88	1806.5
3	34	880.2



Shawn Gibbs and John Lowe manually decontaminating the ambulance in 2016 after confirmed Ebola patient transport
(photo courtesy of Shawn Gibbs)



Disposal barrels are stationed outside the apartment of a healthcare worker, who treated Ebola patient Thomas Eric Duncan and tested positive for the disease, Monday, Oct. 13, 2014, in Dallas. (AP Photo/Brandon Wade)

Upcoming Training Opportunities

April 25, 2025 8am-5pm

Special Pathogens Training Course

New Hanover County Emergency Operations Center
230 Government Drive
Wilmington, NC 28403

***Tentative:* May 22, 2025 8am-5pm**

Special Pathogens Training Course

Location: TBD
Greenville, NC

SPECIAL PATHOGENS TRAINING COURSE

April 25, 2025
0800-1700



- TOPICS COVERED:
- WHAT IS A SPECIAL PATHOGEN?
- WHAT FRONTLINE HOSPITALS NEED TO KNOW
- WASTE MANAGEMENT
- CASE STUDIES
- PPE REVIEW AND PRACTICE
- SKILLS STATIONS



- WHERE: NEW HANOVER COUNTY GOVERNMENT CENTER, WILMINGTON, NC
- COST: FREE
- BREAKFAST AND LUNCH PROVIDED!
- CONTACT HOURS WILL BE PROVIDED
- SPONSORED BY UNC HOSPITALS' SPECIAL PATHOGENS RESPONSE CENTER (SPARC) TEAM

"BRING PPE YOU WOULD USE IN YOUR FACILITY WITH YOU"



REGISTRATION LINK



uncsparc@unchealth.unc.edu

984-974-7630



Exercise 11/2024





Thank You!

Questions?

Contact us at:

uncsparc@unchealth.unc.edu

