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.

Please visit us at www.netec.org or email us at info@netec.org
### Preparedness

#### 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
  - Develop customizable **Exercise Templates** 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
Through the 5 year project period and in collaboration with ASPR, CDC and other stakeholders, the NETEC will:

- Create readiness metrics
- Conduct peer review readiness consultations of regional and state ETCs as well as assessment centers as requested by facilities and state health departments
146 metrics in 11 domains, including Physical Infrastructure, Infection Control, Training and Exercises, Pre-hospital, Intake and Transport, Personnel Mgt, Treatment and Care

Regional treatment centers (RESPTC), state designated treatment centers and assessment facilities; consultative, non-punitive and non-regulatory
Preparedness - Frontline

- IDENTIFY
- ISOLATE
- INFORM
- TREATMENT & CARE
- TESTING & TRANSPORT
Finding Gaps

Respiratory Pathogens preparedness, surge capability; availability of AIIR at points of entry

Laboratory capabilities, in-house, ongoing treatment and the ability to transport (CDC)

Over 40% of facilities assessed need to develop plans to identify and treat ‘special populations’ – neonate, pediatric, obstetric, and geriatric
PPE is not intuitive. We make dangerous errors every day.
PPE, at least for high-risk pathogens, is NOT something we do every day.
How we **behave** in PPE and how we **remove** PPE, is more important than what our chosen ensemble looks like.
Protection Questions

Surface Tension
PSI
1670/1671
Re-aerosolization
Gowns
Coveralls
Tape
N95
PAPR
Masks
Zippers
Cuffs
Seams
Doffing Order
ABHR
## Protection - ANSI/AAMI Standards

<table>
<thead>
<tr>
<th>Level</th>
<th>Test Methods Used</th>
<th>Expected Barrier Effectiveness</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Impact Penetration</td>
<td>Minimal water resistance</td>
</tr>
<tr>
<td>2</td>
<td>Impact Penetration &amp; Hydrostatic Pressure</td>
<td>Low water resistance</td>
</tr>
<tr>
<td>3</td>
<td>Impact Penetration &amp; Hydrostatic Pressure</td>
<td>Moderate water resistance</td>
</tr>
<tr>
<td>4</td>
<td>ASTM F1670 Synthetic Blood &amp; ASTM F1671 Viral Penetration Test</td>
<td>Blood and viral penetration resistance</td>
</tr>
</tbody>
</table>
Training in PPE for many HCW’s has consisted of donning and doffing only.

Further PPE education, including clinical skills in PPE, remains a most requested educational topic (58%).

Participants cite lack of opportunity to practice and a need for further training (31-38%).
Figure 3. Contamination of Personnel During Removal of Fluorescent Lotion-Contaminated Gloves Before and After an Intervention

A By Provider Type

Frequency of fluorescent lotion contamination before and immediately after an educational intervention and overall frequency of contamination for all personnel types before, immediately after, and 1 and 3 months after the intervention.

P < .001 compared with before the intervention
PPE Behavior

Doff meticulously

Reduce environmental bioburden

Avoid contamination of PPE

Avoid touching skin, hair, eyewear

Do not adjust mask, respirator or face shield

Use additional barriers as needed

Know breach protocol

Clean, disinfect and/or change outer gloves

Be aware of your own condition

Check PPE before doffing
Progress - Research

- Gown textiles, penetration of body fluid simulant
- Glove-Gown interface and the use of tape
- Re-aerosolization, contamination during doffing
- Human factors and the build environment
- PAPR use by HCW’s
- Glove hygiene

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Inside NIOSH: Robotic Arm Tests Glove-Gown Protection in Healthcare

A novel test method using a special chamber, left, and a robotic arm, right, could help PPE manufacturers test new products for leakages at the glove-gown interface. Photos by NIOSH.
Progress

📍 HCW monitoring
📍 Drills & Exercises, including Mystery Patient Drills
📍 Identify - Isolate – Inform
📍 Public Health, CDC, ASPR guidance on what preparedness looks like
📍 PPE training for