



# Knox/East Tennessee Healthcare Coalition 2018 Full Scale Exercise: Emerging Infectious Disease Outbreak: Zombie Flu

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After-Action Report/Improvement Plan  
12/26/18

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## EXERCISE OVERVIEW

Exercise Name	Knoxville/East Tennessee Healthcare Coalition (KETHC) 2018 Full Scale Exercise (FSE): Emerging Infectious Disease
Exercise Dates	October 19, 2018 – November 8, 2018
Scope	This exercise is a full-scale exercise planned for 21 days at various locations within the Knoxville/East Tennessee Healthcare Coalition’s jurisdiction. Exercise play is limited to the parameters set forth within each participating organization.
Mission Area(s)	Prevention, Protection, Mitigation, Response, and Recovery
Healthcare Preparedness Capabilities	Hospital Preparedness Program (HPP) Capabilities: 1 Foundation for Health Care and Medical Readiness 2 Health Care and Medical Response Coordination 3 Continuity of Health Care Service Delivery 4 Medical Surge
Objectives	<ul style="list-style-type: none"><li>• Evaluate internal organizational plans ability to identify and respond to an emerging infectious disease outbreak.</li><li>• Assess the internal and external communications systems utilized during such events, to include surveillance, resource monitoring, patient tracking, and management of infectious disease patients.</li><li>• Evaluate the resource needs and methods for requesting additional support with a specific focus on specifying and typing resource requests (to include equipment and medical supplies).</li><li>• Assess the organization’s ability to coordinate with outside agencies to include public health and other KETHC members.</li><li>• Evaluate how to manage and recover from an emerging infectious disease outbreak within the coalition’s jurisdiction.</li></ul>
Threat or Hazard	Emerging Infectious Disease Outbreak
Scenario	Centers for Disease Control (CDC) and the World Health Organization (WHO) authorities have identified multiple cases of suspected viral encephalitis in cities across the U.S. Symptoms include fever, confusion, and violent behavior mimicking rabies, but patients also have severe respiratory symptoms such as coughing and pneumonia. Healthcare facilities recommend patients exhibiting similar symptoms isolate the patient and

	contact public health immediately. Because this is an emerging event, the scenario will evolve as information becomes available.		
Sponsor	Knox/East Tennessee Healthcare Coalition		
Participating Organizations	Knoxville/East Tennessee (KET) Coalition Members (Public Health, Hospital, Emergency Medical Services (EMS), Emergency Management Agency (EMA), Medic Blood Center, Regional Forensic Center, Regional Medical Communication Center (RMCC)  Long Term Care, Home Health, Hospice, Ancillary/Outpatient Clinics, Dialysis Partners  Knox/Regional County Schools		
Point of Contact	<table border="0"><tr><td>Charity Menefee Knox County Health Department 140 Dameron Avenue Knoxville, TN 37917 (865) 215-5098 Charity.menefee@knoxcounty.org</td><td>Wanda Roberts East TN Regional Health Office 2101 Medical Center Way Knoxville, TN 37920 (865) 549-5294 Etrhc.health@tn.gov</td></tr></table>	Charity Menefee Knox County Health Department 140 Dameron Avenue Knoxville, TN 37917 (865) 215-5098 Charity.menefee@knoxcounty.org	Wanda Roberts East TN Regional Health Office 2101 Medical Center Way Knoxville, TN 37920 (865) 549-5294 Etrhc.health@tn.gov
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## EXECUTIVE SUMMARY

Infectious Disease/Epidemic has consistently ranked as a top potential hazard since 2011 on the KETHC regional Hazard Vulnerability Assessment (HVA). Through real events and previous exercises, gaps were noted in training, supplies and fatality management. In 2017, the KETHC, along with its community partners, prioritized emerging infectious disease as an area of concern. With this as a priority, planning processes for training, grant expenditures, and exercises were developed.

Exercise planning was done to ensure that requirements were met for both Joint Commission and CMS (Centers for Medicare and Medicaid Services) with the passing of the 2016 CMS Emergency Preparedness Rule. The scope of this exercise involved our traditional Coalition partners, (hospitals, EMS, EMA, Public Health (PH), and also our community partners, and CMS17 facilities (long term care, home health/hospice, ancillary/outpatient clinics, rural health clinics, and dialysis).

The exercise began on October 19, 2018 and continued with a culmination surge event on November 08, 2018. The synopsis mimicked, as closely as possible, the unfolding events/actions that could take place if an emerging infectious disease outbreak occurred. Initially, little information was provided to participants as the disease affected large metropolitan areas across the United States. As the situation evolved, breaking news stories, public health advisories, and clinical updates were provided with recommended action steps. This provided facilities the opportunity to test internal plans and adjust as needed with the escalation of the event. This also provided an opportunity to test our communication systems in place to provide situational awareness to all parties.

October 19, 2018, our region received our first patient. This inject also served as our Highly Infectious Disease exercise. The patient presented at a front line facility and was then transported to our area Assessment hospital (University of Tennessee Medical Center).

November 08, 2018, each participating facility/agency saw an influx of infected patients. The scenario did not allow for transfers, and transport was unavailable, so facilities had to treat patients with available resources, and with the expectation they would be treating for up to 72 additional hours.

The scope of this exercise allowed realistic play for the diverse members registered for the exercise. Patient scenarios were provided, with each agency choosing how many to include and under what circumstances. A Simulation Cell (Simcell) was available for facilities to contact outside organizations, without causing undue stress on those representative agencies. Resource allocation processes were tested with both supplies and staff. The Regional Forensic Center participated to test large scale fatality management. Throughout the exercise, documentation processes were periodically required and were used to assess resources/needs, provide exercise participation updates, and allow feedback.

In total:

- 144 facilities/agencies registered for the exercise
- 3,144 participants
- 131 completed the Exercise Acknowledgement Form (on-line) (91%)
- 122 completed the Exercise Resource Assessment Form (85%)
- 108 completed the Post-Exercise Assessment Form (75%)
- The simcell received 117 calls (within the four-hour exercise timeframe)
- The Regional Forensic Center received 77 calls (within the four-hour exercise time frame)

## GENERAL INFORMATION

### EXERCISE OBJECTIVES AND CORE CAPABILITIES

The following exercise objectives in Table 1 describe the expected outcomes for the exercise. The objectives are linked to core capabilities, which are distinct critical elements necessary to achieve the specific mission area(s). The objectives and aligned core capabilities are guided by elected and appointed officials and selected by the Exercise Planning Team.

Exercise Objective	Core Capability
Evaluate internal organizational plans ability to identify and respond to an emerging infectious disease outbreak.	Capability 1: Foundation for Healthcare and Medical Readiness (HPP) Capability 4: Medical Surge (HPP) <i>Domain 1: Community Resilience (PHEP)</i>
Assess the internal and external communications systems utilized during such events, to include surveillance, resource monitoring, patient tracking, and management of infectious disease patients.	Capability 2: Health Care and Medical Response Coordination (HPP)  <i>Domain 3: Information Management (PHEP)</i>
Evaluate the resource needs and methods for requesting additional support with a specific focus on specifying and typing resource requests (to include equipment and medical supplies).	Capability 1: Foundation for Healthcare and Medical Readiness (HPP) Capability 2: Healthcare and Medical Response Coordination (HPP) <i>Domain 2: Incident Management (PHEP)</i> <i>Domain 3: Information Management (PHEP)</i>
Assess the organization’s ability to coordinate with outside agencies to include public health and other KETHC members.	Capability 2: Healthcare and Medical Response Coordination (HPP) Capability 4: Medical Surge (HPP) <i>Doman 2: Incident Management (PHEP)</i>
Evaluate how to manage and recover from an emerging infectious disease outbreak within the coalition’s jurisdiction.	Capability 4: Medical Surge (HPP) <i>Domain 2: Incident Management (PHEP)</i>

**Table 1**  
**Exercise Objectives and Associated Core Capabilities**

## ANALYSIS OF HEALTHCARE PREPAREDNESS CAPABILITIES

Aligning exercise objectives and healthcare preparedness capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team.

Objective	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Evaluate internal organizational plans ability to identify and respond to an emerging infectious disease outbreak.		S		
Assess the internal and external communications systems utilized during such events, to include surveillance, resource monitoring, patient tracking, and management of infectious disease patients.		S		
Evaluate the resource needs and methods for requesting additional support with a specific focus on specifying and typing resource requests (to include equipment and medical supplies).		P		
Assess the organization’s ability to coordinate with outside agencies to include public health and other KETHC members.	P			
Evaluate how to manage and recover from an emerging infectious disease outbreak within the coalition’s jurisdiction.		S		

Objective	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
<p><b>Ratings Definitions:</b></p> <ul style="list-style-type: none"> <li>• <b>Performed without Challenges (P):</b> The targets and critical tasks associated with the healthcare preparedness capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>• <b>Performed with Some Challenges (S):</b> The targets and critical tasks associated with the healthcare preparedness capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.</li> <li>• <b>Performed with Major Challenges (M):</b> The targets and critical tasks associated with the healthcare preparedness capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>• <b>Unable to be Performed (U):</b> The targets and critical tasks associated with the healthcare preparedness capability were not performed in a manner that achieved the objective(s).</li> </ul>				

**Table 1**  
**Summary of Healthcare Preparedness Capability Performance**

## OBJECTIVES/CORE CAPABILITIES/PERFORMANCE

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

### Exercise Objective 1:

Evaluate internal organizational plans ability to identify and respond to an emerging infectious disease outbreak.

<b>Capability 1</b>	Foundation of Healthcare and Medical Readiness	
Objective 4	Train and Prepare the Healthcare and Medical Workforce	
	Activity 2	Educate and Train on Identified Preparedness and Response Gaps
	Activity 3	Plan and Conduct Coordinated Exercises with Health Care Coalition Members and Other Response Organizations
	Strengths	<ol style="list-style-type: none"> <li>1. The KETHC and its supporting membership guide expenditures, training and exercises based on annual HVA reviews, identified gaps, real world events and lessons learned. This focus emphasizes consistency, engagement and demonstrates regional coordination to prepare for a healthcare emergency.</li> <li>2. 100% of the hospitals within the KETHC jurisdiction participate in the annual regional exercises. Facility participation includes: administrative, clinical, support, community (schools, colleges, EMA, EMS), giving the exercise a broad evaluative scope.</li> <li>3. Due to the scope of the exercise, facilities implemented their infectious disease plans as exercise information was provided, allowing them to practice/adjust their plans before the surge event 11/19/18. Many also included a facility specific tabletop exercise.</li> </ol>
	Areas for Improvement	<ol style="list-style-type: none"> <li>1. Newer staff and new coalition members are unpracticed in ICS.</li> <li>2. PPE equipment used for training and exercises is not the same equipment that would be used during an actual event. This causes confusion on appropriate levels of PPE to use.</li> </ol>
<b>Capability 4</b>	Medical Surge	
Objective 2	Respond to a Medical Surge	
	Activity 1	Implement Emergency Department and Inpatient Medical Surge Response
	Activity 2	Implement Out of Hospital Medical Surge Response
	Activity 9	Enhance Infectious Disease Preparedness and Surge Response
	Strengths	<ol style="list-style-type: none"> <li>1. The Regional Forensic Center role provided a learning opportunity for facilities and generated a regional view of a simulated mass fatality event.</li> </ol>
	Areas for Improvement	<ol style="list-style-type: none"> <li>1. Available isolation rooms were quickly exhausted leaving a region-wide gap for appropriate patient placement.</li> </ol>

**Exercise Objective 2:**

Assess the internal and external communications systems utilized during such events, to include surveillance, resource monitoring, patient tracking, and management of infectious disease patients.

<b>Capability 2</b>	Healthcare and Medical Response Coordination	
Objective 2	Utilize Information Sharing Procedures and Platforms	
	Activity 1	Develop Information Sharing Procedures
	Activity 2	Identify Information Access and Data Protection Procedures
	Activity 3	Utilize Communications Systems and Platforms
	Strengths	<p>1. Current state systems are routinely used regionally by healthcare facilities. (HRTS, TNHAN) During an event, basic system usage is done with ease and provides quick information to multiple facilities/agencies with a need to know.</p> <p>2. KETHC website can be used to receive information during an event, as a backup for HRTS, or for those facilities not on the HRTS system.</p>
	Areas for Improvement	<p>1. HRTS System: updated applications are used incorrectly and are limited on mobile devices. Newer Coalition members (long term care) need to be trained on the system.</p> <p>2. Coalition website is difficult to navigate.</p> <p>3. Back up communications method needs to be identified in the event on-line systems are unavailable.</p> <p>4. Regional amateur radio systems need to be tested to determine operability. If inoperable, measures need to be taken to restore function.</p>
Objective 3	Coordinate Response Strategy, Resources, and Communications	
	Activity 1	Identify and Coordinate Resource Needs During an Event
	Activity 3	Communicate with Health Care Providers, Non-Clinical Staff, Patients, and Visitors During an Emergency
	Strengths	<p>1. The KETHC region has access to multiple systems to quickly gather information. The HRTS system tracks bed availability by type as well as specialty services. Additional resource requests can be added if needed. This system is used routinely by regional facilities and trained staff are familiar with the process. The KETHC website utilizes resource allocation forms and facility assessment forms during exercises, in preparation for use during an event, if needed.</p> <p>2. The Regional Medical Communications Center (RMCC) and the Regional Hospital Coordinators (RHCs) are excellent tools to quickly identify resource avenues during an event. The healthcare community is familiar with this avenue to secure resources, saving time during an event by following processes in place.</p> <p>3. The scope of the exercise provided the opportunity for hospitals, outpatient clinics, Long Term Care (LTC) facilities,</p>

Areas for  
Improvement

dialysis, and home health providers, although diverse in their clinical settings, to implement their plans for an infectious disease event.

1. Messaging provided during the event did not filter down from management areas to clinical, front line personnel causing confusion when patients presented for treatment.
2. Resource identification method currently used does not provide details that would easily specify exactly what resources/staff are needed or available.
3. New Coalition partners are unfamiliar with the role of the RMCC and RHC during an event.



**Exercise Objective 3:**

Evaluate the resource needs and methods for requesting additional support with a specific focus on specifying and typing resource requests (to include equipment and medical supplies).

<b>Capability 1</b>	Foundation of Healthcare and Medical Readiness	
Objective 2	Identify Risk and Needs	
Activity 1	Assess Hazard Vulnerabilities and Risks	
Activity 2	Assess Regional Health Care Resources	
Activity 3	Prioritize Gaps and Mitigation Strategies	
Strengths	<ol style="list-style-type: none"> <li>1. The KETHC and its supporting membership guide expenditures, training and exercises based on annual HVA reviews, identified gaps, real world events and lessons learned. This focus emphasizes consistency, engagement and demonstrates regional coordination to prepare for a healthcare emergency.</li> <li>2. Administrative processes guide the KETHC to ensure that risk assessments, resources, gaps, and mitigation strategies are prioritized.</li> </ol>	
Areas for Improvement	<ol style="list-style-type: none"> <li>1. Available isolation rooms were quickly exhausted leaving a region-wide gap for appropriate patient placement.</li> <li>2. PPE equipment used for training and exercises is not the same equipment that would be used during an actual event. This causes confusion on appropriate levels of PPE to use.</li> </ol>	
<b>Capability 2</b>	Healthcare and Medical Response Coordination	
Objective 3	Coordinate Response Strategy, Resources, and Communications	
Activity 1	Identify and Coordinate Resource Needs During An Emergency	
Strengths	<ol style="list-style-type: none"> <li>1. Resource availability/needs form is available to use on the KETHC website.</li> <li>2. The Regional Medical Communications Center (RMCC) and the Regional Hospital Coordinators (RHCs) are excellent tools to quickly identify resource avenues during an event. The healthcare community is familiar with this avenue to secure resources, saving time during an event by following processes in place.</li> <li>3. The scope of the exercise provided the opportunity for hospitals, outpatient clinics, LTC facilities, dialysis, and home health providers, although diverse in their clinical settings, to implement their plans for an infectious disease event.</li> </ol>	
Areas for Improvement	<ol style="list-style-type: none"> <li>1. Resource identification method currently used does not provide details that would easily specify exactly what resources/staff are needed or available.</li> </ol>	

### Exercise Objective 4:

Assess the organization’s ability to coordinate with outside agencies to include public health and other KETHC members.

<b>Capability 1</b>	Foundation of Healthcare and Medical Readiness	
Objective 4	Train and Prepare the Health Care and Medical Work Force	
	Activity 1	Promote Role-Appropriate National Incident Management System Implementation
	Activity 2	Educate and Train on Identified Preparedness and Response Gaps
	Activity 3	Plan and Conduct Coordinated Exercises with Health Care Coalition Members and Other Response Organizations
	Activity 4	Align Exercises with Federal Standards and Facility Regulatory and Accreditation Requirements
	Activity 5	Evaluate Exercises and Response to Emergencies
	Activity 6	Share Leading Practices and Lessons Learned
	Strengths	<ol style="list-style-type: none"> <li>1. Exercises are planned to meet Joint Commission and the 2016 CMS Emergency Preparedness Rule requirements, as well as state and Federal ASPR (Assistant Secretary for Preparedness and Response) requirements.</li> <li>2. After Action Improvement Plan items are discussed post-exercise and evaluated again on an annual basis to ensure identified gaps are being addressed.</li> <li>3. Exercise planning teams offer diverse representation when planning annual exercises. Subject matter experts are involved as needed and suggestions are presented to the coalition for approval before implementation.</li> <li>4. The long standing partnership between the school systems (Knox and regional) and the healthcare facilities is beneficial to all involved, allowing healthcare students to be involved in the process and allowing hospitals the benefit of expressive volunteer patients.</li> </ol>
	Areas for Improvement	<ol style="list-style-type: none"> <li>1. PPE equipment used for training and exercises is not the same equipment that would be used during an actual event. This causes confusion on appropriate levels of PPE to use.</li> <li>2. Newer staff and new coalition members are unpracticed in ICS.</li> </ol>
Objective 3	Develop a Health Care Coalition Preparedness Plan	
	Strengths	1. The KETHC has completed the Preparedness Plan and it has been reviewed, updated and approved by the coalition.
	Areas for Improvement	1. Coalition organizations, outside of core members, may be unfamiliar with the KET Preparedness Plan.
<b>Capability 4</b>	Medical Surge	
Objective 2	Respond to a Medical Surge	
	Activity 2	Implement Out of Hospital Medical Surge Response
	Activity 9	Enhance Infectious Disease Preparedness and Surge Response

Strengths	1. The simcell provided diverse community representation by staffing subject matter experts who were able to provide information and education without overly taxing the community agencies.
Areas for Improvement	1. New CMS partners have not been identified for the resources, staff, or services they could offer as a tertiary/ alternate care site during a disaster.

**Exercise Objective 5:**

Evaluate how to manage and recover from an emerging infectious disease outbreak within the coalition’s jurisdiction.

<b>Capability 4</b>	Medical Surge	
Objective 2	Respond to a Medical Surge	
Activity 1	Implement Emergency Department and Inpatient Medical Surge Response	
Activity 2	Implement Out of Hospital Medical Surge Response	
Activity 9	Enhance Infectious Disease Preparedness and Surge Response	
	Strengths	1. KETHC has the ability to provide and receive real-time information through current systems (HRTS, website). 2. Staff quickly screened and isolated infected patients and wore appropriate PPE, according to recommendations provided by PH.
	Areas for Improvement	1. New CMS partners have not been identified for the resources, staff, or services they could offer as a tertiary/ alternate care site during a disaster. 2. Available isolation rooms were quickly exhausted leaving a region-wide gap for appropriate patient placement. Alternate avenues need to be considered.



## CORE CAPABILITIES/OBJECTIVES/ACTIVITIES

### Capability 1: Foundation of Healthcare and Medical Readiness

Optimal emergency medical care relies on intact infrastructure, functioning communications and information systems, and support services. The ability to deliver health care services is likely to be interrupted when internal or external systems such as utilities, electronic health records (EHRs), and supply chains are compromised. Disruptions may occur during a sudden or slow-onset emergency or in the context of daily operations. Historically, continuity of operations planning has focused on business continuity and ensuring information technology (IT) redundancies. However, health care organizations and health care coalitions (HCCs) should take a broader view and address all risks that could compromise continuity of health care service delivery. Continuity disruptions may range from an isolated cyberattack on a single hospital's IT system to a long-term, widespread infrastructure disruption impacting the entire community and all of its health care organizations.

#### Goal of Capability 1:

The community's health care organizations and other stakeholders- coordinated through a sustainable HCC- have strong relationships, identify hazards and risks, and prioritize and address gaps through planning, training, exercising, and managing resources.

- **Objective 2: Identify Risk and Needs**

The HCC should identify and plan for risks, in collaboration with the ESF-8 lead agency, by conducting assessments or using and modifying data from existing assessments for health care readiness purposes. These assessments can determine resource needs and gaps, identify individuals who may require additional assistance before, during, and after an emergency, and highlight applicable regulatory and compliance issues. The HCC and its members may use the information about these risks and needs to inform training and exercises and prioritize strategies to address preparedness and response gaps in the region.

- **Activity 1: Assess Hazard Vulnerabilities and Risks**

A hazard vulnerability analysis (HVA) is a systematic approach to identifying hazards or risks that are most likely to have an impact on the demand for health care services or the health care delivery system's ability to provide these services. This assessment may also include estimates of potential injured or ill survivors, fatalities, and post-emergency community needs based on the identified risks. General principles for the HVA process include but are not limited to the following:

- HCC members should participate in the HVA process, using a variety of HVA tools
- The HVA process should be coordinated with state and local emergency management organization assessments. The intent is to ensure completion, share risk assessment results, and minimize duplication of effort
- Health care facilities, EMS, and other health care organizations should provide input into the development of the regional HVA based on their facilities' or organizations' HVAs
- The assessment components should include regional characteristics, such as risks for natural or man-made disasters, geography, and critical infrastructure
- The assessment components should address population characteristics (including demographics), and consider those individuals who might require additional help in an

emergency, such as children; pregnant women; seniors; individuals with access and functional needs, including people with disabilities; and others with unique needs

- The HCC should regularly review and share the HVA with all members

○ **Activity 2:** Assess Regional Health Care Resources

HCC members should perform an assessment to identify the health care resources and services that are vital for continuity of health care delivery during and after an emergency. The HCC should then use this information to identify resources that could be coordinated and shared. This information is critical to uncovering resource vulnerabilities relative to the HVA that could impede the delivery of medical care and health care services during an emergency. The resource assessment will be different for various HCC member types, but should address resources required to care for all populations during an emergency. The resource assessment should include but is not limited to the following:

- Clinical services – inpatient hospitals, outpatient clinics, emergency departments, private practices, skilled nursing facilities, long-term care facilities, behavioral health services, and support services
- Critical infrastructure supporting health care (e.g., utilities, water, power, fuel, information technology [IT] services, communications, transportation networks)
- Caches (e.g., pharmaceuticals and durable medical equipment)
- Hospital building integrity
- Health care facility, EMS, corporate health system, and HCC information and communications systems and platforms (e.g., electronic health records [EHRs], bed and patient tracking systems) and communication modalities (e.g., telephone, 800 MHz radio, satellite telephone)
- Alternate care sites
- Home health agencies (including home and community-based services)
- Health care workforce
- Health care supply chain
- Food supply
- Medical and non-medical transportation system
- Private sector assets that can support emergency operations

○ **Activity 3:** Prioritize Resource Gaps and Mitigation Strategies

A comparison between available resources and current HVA(s) will identify gaps and help prioritize HCC and HCC member activities. Gaps may include a lack of, or inadequate, plans or procedures, staff, equipment and supplies, skills and expertise, services, or any other resources required to respond to an emergency. Just as the resource assessment will be different for different member types, so will efforts to prioritize identified gaps. HCC members should prioritize gaps based on consensus and determine 2017-2022 Health Care Preparedness and Response Capabilities | ASPR Foundation for Health Care and Medical Readiness 15 mitigation strategies based on the time, materials, and resources necessary to address and close gaps. Gaps may be addressed through coordination, planning, training, or resource acquisition. Ultimately, the HCC should focus its time and resource investments on closing those gaps that affect the care of acutely ill and injured patients. Certain response activities may require external support or intervention, as emergencies may exceed the preparedness thresholds the HCC, its members, and the community have deemed reasonable. Thus, during the prioritization process, planning to access and

integrate external partners and resources (i.e., federal, state, and/or local) is a key part of gap closure.

- **Objective 3:** Develop a Health Care Coalition Preparedness Plan

The HCC preparedness plan enhances preparedness and risk mitigation through cooperative activities based on common priorities and objectives. In collaboration with the ESF-8 lead agency, the HCC should develop a preparedness plan that includes information collected on hazard vulnerabilities and risks, resources, gaps, needs, and legal and regulatory considerations (as collected in Capability 1, Objective 2, Activities 1-5 above). The HCC preparedness plan should emphasize strategies and tactics that promote communications, information sharing, resource coordination, and operational response planning with HCC members and other stakeholders. The HCC should develop its preparedness plan to include core HCC members and additional HCC members so that, at a minimum, hospitals, EMS, emergency management organizations, and public health agencies are represented. The plan can be presented in various formats (e.g., a subset of strategic documents, annexes, or a portion of the HCC's concept of operations plans [CONOPS]). The HCC preparedness plan should:

- Incorporate the HCC's and its members' priorities for planning and coordination based on regional needs and gaps
  - Priorities will depend on multiple factors, including perceived risk, emergencies occurring in the region, available funds, applicable laws and regulations, supporting personnel, HCC member facilities and organizations involved, and time constraints
- Draw from and address gaps identified in HCC members' existing preparedness plans as required by CMS-3178-F Medicare and Medicaid Programs; Emergency Preparedness Requirements for Medicare and Medicaid Participating Providers and Suppliers
- Be developed by HCC leadership with broad input from HCC members and other stakeholders
- Outline strategic and operational objectives for the HCC as a whole and for each HCC member
- Include short-term (e.g., within the year) and longer-term (e.g., three- to five-year) objectives
- Include a recurring objective to develop and review the HCC response plan, which details the responsibilities and roles of the HCC and its members, including how they share information, coordinate activities and resources during an emergency, and plan for recovery (see Capability 2 – Health Care and Medical Response Coordination)
- Include and inform training, exercise, and resource and supply management activities during the year
- Include a checklist of each HCC member's proposed activities, methods for members to report progress to the HCC, and processes to promote accountability and completion.

HCC members should approve the initial plan and maintain involvement in regular reviews. Following reviews, the HCC should update the plan as necessary after exercises and real-world events. The review should include identifying gaps in the preparedness plan and working with HCC members to define strategies to address the gaps. The HCC should also develop a complementary HCC response plan in collaboration with the ESF-8 lead agency

- **Objective 4:** Train and Prepare the Healthcare and Medical Workforce

Training, drills, and exercises help identify and assess how well a health care delivery system or region is prepared to respond to an emergency. These activities also develop the necessary knowledge, skills, and abilities of an HCC member's workforce. Trainings can cover a wide range of topics including clinical subject matter, incident management, safety and protective equipment, workplace violence, psychological first aid, or planning workshops. The HCC should promote

these activities and participate in training and exercises with its members, and in coordination with the ESF-8 lead agency, emphasizing consistency, engagement, and demonstration of regional coordination.

- **Activity 1:** Promote Role-Appropriate National Incident Management System Implementation  
The HCC should assist its health care organization members and other HCC members with National Incident Management System (NIMS) “NIMS Implementation for Healthcare Organizations Guidance.”

The HCC should:

- Ensure HCC leadership receives NIMS training
  - Promote NIMS implementation, including training and exercises, among HCC members to facilitate operational coordination with public safety and emergency management organizations during an emergency using an incident command system (ICS)
  - Assist HCC members with incorporating NIMS components into their EOPs
  - For those members not bound by NIMS implementation, the HCC should consider training on response planning techniques, organizational structure, and other incident management practices that will prepare members for their roles during a response
- **Activity 2:** Educate and Train on Identified Preparedness and Response Gaps  
HCC members should support education and training to address health care preparedness and response gaps identified through strategic planning, development of the HCC preparedness and response plans, or other assessments. Whenever possible, training should be standardized at the HCC level to ensure efficiency and consistency.
  - **Activity 3:** Plan and Conduct Coordinated Exercises with Health Care Coalition Members and Other Response Organizations

The HCC, in collaboration with its members, should plan and conduct coordinated exercises to assess the health care delivery system’s readiness. The HCC should focus exercises on the outcomes of HVAs and other assessments that identify resource needs and gaps, identify individuals who may require additional assistance before, during, and after an emergency, and highlight applicable regulatory and compliance issues. The HCC should:

- Plan and conduct health care delivery system-wide exercises that incorporate hospitals, EMS, emergency management organizations, public health agencies, and additional HCC member participation
- Base exercises on specific gaps and needs identified by HCC members, including emerging infectious diseases and CBRNE threats
- Update an exercise schedule annually or in accordance with jurisdictional needs
- Provide opportunities for clinical laboratory participation
- Assess readiness to support emergencies involving children across the age and developmental trajectory; children represent nearly 25 percent of the population and have unique response needs during emergencies, including special medical equipment and treatment needs and family reunification considerations
- Assess readiness to support other individuals who have special health needs and may require additional assistance before, during, and after an emergency (e.g., pregnant women, seniors, individuals who depend on electricity-dependent medical and assistive equipment, etc.)
- Exercise Continuity of Operations (COOP) plans

- Assess the mobilization of beds, personnel, and key resources, including equipment, supplies, and pharmaceuticals
- Coordinate exercises with other response organizations (e.g., Federal Emergency Management Agency [FEMA], National Guard, etc.)
- When appropriate, include federal, state, and local response resources in exercises
- **Activity 4:** Align Exercises with Federal Standards and Facility Regulatory and Accreditation Requirements

The HCC should consider the following when developing and executing exercises:

  - Apply Homeland Security Exercise and Evaluation Program (HSEEP) fundamentals “Homeland Security Exercise and Evaluation Program (HSEEP).” to both the exercise program and the execution of individual exercises
  - Integrate current health care accreditation requirements such as the Joint Commission Emergency Management Standards, and health care regulatory requirements such as CMS3178-F Medicare and Medicaid Programs; Emergency Preparedness Requirements for Medicare and Medicaid Participating Providers and Suppliers
  - Use a stepwise progression of exercise complexity for a variety of emergency response scenarios (e.g., workshop to tabletop to functional to full-scale exercises)
- **Activity 5:** Evaluate Exercises and Response to Emergencies

The HCC should coordinate with its members and other response organizations to complete an AAR and an IP after exercises and real-world events. The same exercise or response may generate facility, member type, HCC, and community AAR/IPs – each with a somewhat different focus and level of detail. The AAR should document gaps in HCC member composition, planning, resources, or skills revealed during the exercise and response evaluation processes. The IP should detail a plan for addressing the identified gaps, including responsible entities and the required time and resources to address the gaps. The IP should also recommend processes to retest the revised plans and capabilities. Facility and organization evaluations should follow a similar process. AARs may also reveal leading practices that can be shared with HCC members and other HCCs. Successful HCC maturation depends on integrating AAR/IP findings into the next planning, training, exercise, and resource allocation cycle.
- **Activity 6:** Share Leading Practices and Lessons Learned

The HCC should coordinate with its members, government partners, and other HCCs to share leading practices and lessons learned. Sharing information between HCCs will improve cross-HCC coordination during an emergency and will help further improve coordination efforts. The HCC should employ the following principles when sharing leading practices and lessons learned:

  - Ensure information is shared among HCCs after real-world events and exercises to identify gaps, leading practices, and lessons learned
  - Incorporate lessons learned from real-world events and exercises into HCC plans, training, and exercises
  - Utilize mechanisms to rapidly acquire and share new clinical knowledge for a wide range of hazards and threats during exercise scenarios and real-world events. Examples include:
    - Utilizing the Office of the Assistant Secretary for Preparedness and Response (ASPR) Technical Resources, Assistance Center, and Information Exchange (TRACIE) “ASPR TRACIE Evaluation of Hazard Vulnerability Assessment Tools.”
    - Sharing hazardous material (HAZMAT) information from poison control centers

- Using virtual telemedicine platforms (e.g., Project ECHO49 49 “Project ECHO.” UNM School of Medicine, 2016. Web. 19 Jul. 2016. echo.unm.edu/. )
  - Obtaining information from federal alert systems (e.g., Centers for Disease Control and Prevention [CDC], FDA, FEMA)
  - Coordinating clinical treatment information on conference calls or webinars
- **Objective 3: Coordinate Response Strategy, Resources, and Communications**

The HCC should coordinate its response strategies, track its members’ resource availability and needs, and clearly communicate this information to all HCC members, other stakeholders, and the ESF-8 lead agency. In addition, the HCC, in collaboration with its members, should provide coordinated, accurate, and timely information to health care providers and the public in order to ensure a successful emergency response.

  - **Activity 1: Identify and Coordinate Resource Needs During an Emergency**

The HCC and all of its members—particularly emergency management organizations and public health agencies —should have visibility into member resources and resource needs (e.g., personnel, teams, facilities, equipment, and supplies) to meet the community’s clinical care needs during an emergency. Outlined below are the general principles when coordinating resource needs during emergencies: 2017-2022 Health Care Preparedness and Response Capabilities | ASPR Health Care and Medical Response Coordination 30

    - HCC members should inform the HCC of their operational status, actions taken, and resource needs. The HCC should relay this information to the jurisdiction’s EOC and the ESF-8 lead agency
    - Resource management should include logging, tracking, and vetting resource requests across the HCC and in coordination with the ESF-8 lead agency
    - Ideally, systems should track beds available by bed type<sup>57</sup> 57 Bed types include but are not limited to: adult ICU, adult medical/surgical, burn, pediatric ICU, pediatric medical/surgical, psychiatric, airborne infection isolation, operating rooms (ideally, common bed types are defined across the jurisdiction), resource requests, and resources shared between HCC members, from HCC-controlled or other resource caches
    - The HCC should work with distributors to understand and communicate which health care organizations and facilities should receive prioritized deliveries of supplies and equipment (e.g., personal protective equipment [PPE]) depending on their role in the emergency. HCC members should collectively determine the prioritization of limited resources provided by distributors; reflecting needs at the time of the emergency (see Capability 3, Objective 3, Activity 1 – Assess Supply Chain Integrity)

## Capability 2: Health Care and Medical Response Coordination

Health care and medical response coordination enables the health care delivery system and other organizations to share information, manage and share resources, and integrate their activities with their jurisdictions’ Emergency Support Function-8 (ESF-8, Public Health and Medical Services) lead agency and ESF-6 (Mass Care, Emergency Assistance, Housing, and Human Services) lead agency at both the federal and state levels. Private health care organizations and government agencies, including those serving as ESF-8 lead agencies, have shared authority and accountability for health care delivery system readiness, along with specific roles. In this context, health care coalitions (HCCs) serve a communication

and coordination role within their respective jurisdiction(s). This coordination ensures the integration of health care delivery into the broader community's incident planning objectives and strategy development. It also ensures that resource needs that cannot be managed within the HCC itself are rapidly communicated to the ESF8 lead agency. HCC coordination may occur at its own coordination center, the local Emergency Operations Center (EOC), or by virtual means – all of which are intended to interface with the ESF-8 lead agency. Coordination between the HCC and the ESF-8 lead agency can occur in a number of ways. Some HCCs serve as the ESF-8 lead agency for their jurisdiction(s). Others integrate with their ESF-8 lead agency through an identified designee at the jurisdiction's EOC who represents HCC issues and needs and provides timely, efficient, and bi-directional information flow to support situational awareness. Regardless, HCCs connect the elements of medical response and provide the coordination mechanism among health care organizations—including hospitals and emergency medical services (EMS)— emergency management organizations, and public health agencies.

#### Goal of Capability 2:

Health care organizations, the HCC, their jurisdiction(s), and the ESF-8 lead agency plan and collaborate to share and analyze information, manage and share resources, and coordinate strategies to deliver medical care to all populations during emergencies and planned events.

- **Objective 2:** Utilize Information Sharing Procedures and Platforms

Effective response coordination relies on information sharing to establish a common operating picture. Information sharing is the ability to share real-time information related to the emergency, the current state of the health care delivery system, and situational awareness across the various response organizations and levels of government (federal, state, local). The HCC's development of information sharing procedures and use of interoperable and redundant platforms is critical to successful response.

- **Activity 1:** Develop Information Sharing Procedures

Individual HCC members should be able to easily access and collect timely, relevant, and actionable information about their own organizations and share it with the HCC, other members, and additional stakeholders according to established procedures and predefined triggers and in accordance with applicable laws and regulations. HCC information sharing procedures, as documented in the HCC response plan, should:

- Define communication methods, frequency of information sharing, and the communication systems and platforms available to share information during an emergency response and steady state
- Identify triggers that activate alert and notification processes
- Define the EEIs that HCC members should report to the HCC, and coordinate with other HCC members and with federal, state, local, and tribal response partners during an emergency (e.g., number of patients, severity and types of illnesses or injuries, operating status, resource needs and requests, bed availability)
- Identify the platform and format for sharing each EEI
- Describe a process to validate health care organization status and requests during an emergency, including in situations where reports are received outside of HCC communications systems and platforms (e.g., media reports, no report when expected, rumors of distress, etc.)
- Define processes for functioning without electronic health records (EHRs) and document issues related to interoperability

- **Activity 2:** Identify Information Access and Data Protection Procedures

The HCC may coordinate with state and local authorities to identify information access and data protection procedures, including:

- Access to public or private systems
- Authorization to receive and share data
- Types of information that can and will be shared (e.g., EEIs)
- Data use and re-release parameters for sensitive information
- Data protections
- Legal, statutory, privacy, and intellectual property issues, as appropriate

○ **Activity 3; Utilize Communication Systems and Platforms**

The HCC should utilize existing primary and redundant communications systems and platforms—often provided by state government agencies—capable of sending EEIs to maintain situational awareness. The HCC should:

- Identify reliable, resilient, interoperable, and redundant information and communication systems and platforms (e.g., incident management software; bed and patient tracking systems and naming conventions; EMS information systems; municipal, hospital, and amateur radio systems; satellite telephones; etc.), and provide access to HCC members and other stakeholders
  - Use these systems to effectively coordinate information during emergencies and planned events, as well as on a regular basis to ensure familiarity with these tools
  - Maintain ability to communicate among all HCC members, health care organizations, and the public (e.g., among hospitals, EMS, public safety answering points, emergency managers, public health agencies, skilled nursing facilities, and long-term care facilities)
  - Restore emergency communications quickly during disruptions through alternate communications methods
  - Leverage communications abilities of health information exchanges (HIEs) and capabilities of EHR vendors where they exist

• **Objective 3: Coordinate Response Strategy, Resources, and Communications**

The HCC should utilize existing primary and redundant communications systems and platforms—often provided by state government agencies—capable of sending EEIs to maintain situational awareness. The HCC should:

- Identify reliable, resilient, interoperable, and redundant information and communication systems and platforms (e.g., incident management software; bed and patient tracking systems and naming conventions; EMS information systems; municipal, hospital, and amateur radio systems; satellite telephones; etc.), and provide access to HCC members and other stakeholders
  - Use these systems to effectively coordinate information during emergencies and planned events, as well as on a regular basis to ensure familiarity with these tools
  - Maintain ability to communicate among all HCC members, health care organizations, and the public (e.g., among hospitals, EMS, public safety answering points, emergency managers, public health agencies, skilled nursing facilities, and long-term care facilities)
  - Restore emergency communications quickly during disruptions through alternate communications methods
  - Leverage communications abilities of health information exchanges (HIEs) and capabilities of EHR vendors where they exist

○ **Activity 1: Identify and Coordinate Resource Needs during an Emergency**

The HCC and all of its members—particularly emergency management organizations and public health agencies—should have visibility into member resources and resource needs (e.g., personnel, teams, facilities, equipment, and supplies) to meet the community’s clinical care needs during an emergency. Outlined below are the general principles when coordinating resource needs during emergencies: 2017-2022 Health Care Preparedness and Response Capabilities | ASPR Health Care and Medical Response Coordination 30

- HCC members should inform the HCC of their operational status, actions taken, and resource needs. The HCC should relay this information to the jurisdiction’s EOC and the ESF-8 lead agency
  - Resource management should include logging, tracking, and vetting resource requests across the HCC and in coordination with the ESF-8 lead agency
  - Ideally, systems should track beds available by bed type. Bed types include but are not limited to: adult ICU, adult medical/surgical, burn, pediatric ICU, pediatric medical/surgical, psychiatric, airborne infection isolation, operating rooms (ideally, common bed types are defined across the jurisdiction), resource requests, and resources shared between HCC members, from HCC-controlled or other resource caches
  - The HCC should work with distributors to understand and communicate which health care organizations and facilities should receive prioritized deliveries of supplies and equipment (e.g., personal protective equipment [PPE]) depending on their role in the emergency. HCC members should collectively determine the prioritization of limited resources provided by distributors, reflecting needs at the time of the emergency
- **Activity 3:** Communicate with Health Care Providers, Non-Clinical Staff, Patients, and Visitors during an Emergency

Sharing accurate and timely information is critical during an emergency. Health care organizations should have the ability to rapidly alert and notify their employees, patients, and visitors to update them on the situation, protect their health and safety (see Capability 3, Objective 5 – Protect Responders’ Safety and Health), and facilitate provider-to-provider communication. The HCC, in coordination with its public health agency members, should develop processes and procedures to rapidly acquire and share clinical knowledge among health care providers and among health care organizations during responses to a variety of emergencies (e.g., chemical, biological, radiological, nuclear or explosive [CBRNE], trauma, burn, pediatrics, or highly infectious disease) in order to improve patient management, particularly at facilities that may not care for these patients regularly.

## Capability 4: Medical Surge

Medical surge is the ability to evaluate and care for a markedly increased volume of patients that exceeds normal operating capacity. Providing an effective medical surge response is dependent on the planning and response capabilities developed in Capability 1 – Foundation for Health Care and Medical Readiness, Capability 2 – Health Care and Medical Response Coordination, and Capability 3 – Continuity of Health Care Service Delivery. Developing health care coalitions (HCCs) is especially important to support the coordination of the medical response across health care organizations. Medical surge requires building capacity and capability:

- Surge capacity is the ability to manage a sudden influx of patients. It is dependent on a well-functioning Incident Command System and the variables of space, supplies, and staff. The surge

requirements may extend beyond placing patients into beds, and should include all aspects related to clinical services (e.g., laboratory studies, radiology exams, operating rooms)

- Surge capability is the ability to manage patients requiring very specialized medical care. Surge requirements span a range of medical and health care services (e.g., expertise, information, procedures, or personnel) that are not normally available at the location where they are needed (e.g., pediatric care provided at non-pediatric facilities or burn care services at a non-burn center). Surge capability also includes special interventions in response to uncommon and resource intensive patient diagnoses (e.g., Ebola, radiation sickness) to protect medical providers, other patients, and the integrity of the medical care facility.

Although these terms are not mutually exclusive (e.g., an emergency with large numbers of burn patients results in a need for both capacity and capability), they provide context for medical surge planning and can assist the HCC in developing regional approaches to providing care to patients with specific illnesses or injuries resulting from a wide variety of emergencies (e.g., regional viral hemorrhagic fever plan, regional mass burn plan, and regional mass pediatric plan). HCCs and their members that coordinate during a medical surge response are more likely to be able to manage the emergency without state or federal assets or employing crisis care strategies. However, it is not possible to plan for all worst case scenarios, and there may be times when the health care delivery system is stressed beyond its maximum surge capacity. For those scenarios, crisis care strategies may be employed and planned well in advance. Planning for medical surge should follow the Medical Surge Capacity and Capability (MSCC) tiered approach, where successive levels of assistance are activated as the emergency evolves.

#### Goal of Capability 4:

Health care organizations—including hospitals, emergency medical services (EMS), and out-of-hospital providers—deliver timely and efficient care to their patients even when the demand for health care services exceeds available supply. The HCC, in collaboration with the Emergency Support Function-8 (ESF-8) lead agency, coordinates information and available resources for its members to maintain conventional surge response. When an emergency overwhelms the HCC's collective resources, the HCC supports the health care delivery system's transition to contingency and crisis surge response and promotes a timely return to conventional standards of care as soon as possible.

- **Objective 2: Respond to a Medical Surge**

Health care organizations and the HCC will need to respond to a surge in demand for health care services as a result of an emergency. This will require a coordinated approach to share information and resources, including staff, and ensure the stewardship of beds, medical equipment, supplies, pharmaceuticals, and other key items to provide the best possible care under such conditions. Certain emergencies require a specialized response, either because of the type of event or specific vulnerabilities of different patient populations. The HCC facilitates these responses through timely information and resource sharing (e.g., Essential Elements of Information (EIs), expertise that exists within the HCC, etc.).

- **Activity 1: Implement Emergency Department and Inpatient Medical Surge Response**

Hospitals should activate their EOP to rapidly develop a medical surge response proportionate to the emergency. While the goal of immediate bed availability (IBA) is to create capacity within hospitals, other health care organization partners (e.g., home care, skilled nursing facilities, long-term care facilities, clinics, and community and tribal health centers) can meet the needs of patients who are discharged early as part of the surge response. Hospitals should engage HCC members with the end goal of returning to normal

operations as quickly as possible by either acquiring additional resources or sharing the patient load. Hospitals should develop medical surge capacity and capability for all populations across a number of areas (as described in Table 2 below).

Area	Description
Emergency Department	Make beds and surge spaces rapidly available for initial triage and stabilization, and obtain additional staff, equipment, and supplies
General Medical and Surgical, Monitored Beds	Ensure IBA (at least 20 percent additional acute hospital inpatient capacity within the first four hours following an emergency) by rapidly prioritizing patients for discharge, maximizing the use of staffed beds, and using non-traditional spaces (e.g., observation areas)
Critical Care	<ul style="list-style-type: none"> <li>• Rapidly expand capacity (for those facilities that provide it) by adapting procedural, pre- and post-operative, and other areas for critical care</li> <li>• Assess staff, equipment, and supply needs for these spaces to facilitate requests</li> </ul>
Surgical Intervention	Secure resources, such as operating rooms, surgeons, anesthesiologists, operating room nurses, and surgical equipment and supplies to provide time-sensitive, immediate surgical interventions to patients with life threatening injuries
Clinical Laboratory and Radiology	<ul style="list-style-type: none"> <li>• Rapidly expand basic laboratory services (e.g., hematology, chemistries, Gram stain, blood cultures), including mechanisms for staff augmentation and rapid reporting</li> <li>• Consider use of point-of-care testing</li> <li>• Rapidly expand radiology services (e.g., diagnostic radiology, ultrasound, computed tomography [CT]), including mechanisms for staff augmentation and rapid reporting</li> </ul>
Staffing	<ul style="list-style-type: none"> <li>• Call back clinical and non-clinical staff; utilize staff in non-traditional roles</li> <li>• Adjust staffing ratios and shifts as required, and implement HCC member staff sharing plans Health care volunteer management</li> </ul>
Health Care Volunteer Management	<ul style="list-style-type: none"> <li>• Identify situations that would necessitate the need for volunteers in hospitals</li> <li>• Identify processes to assist with volunteer coordination</li> <li>• Estimate the anticipated number of volunteers and health professional roles based on identified</li> </ul>

	<p>situations and resource needs of the facility</p> <ul style="list-style-type: none"> <li>• Identify and address volunteer liability issues, scope of practice issues, and third party reimbursement issues that may deter volunteer use</li> <li>• Leverage existing government and non-governmental volunteer registration programs</li> <li>• Develop rapid credential verification processes to facilitate emergency response</li> </ul>
Equipment and Supplies	Implement emergency equipment, supplies and stocking strategies, and HCC resource sharing agreements

- **Activity 2:** Implement Out-Of-Hospital Medical Surge Response
 

Patient care settings outside of hospitals may be impacted during an emergency. For example, structural impacts from natural disasters or increased demand during epidemics may compromise an outpatient. If not adequately addressed, the demand for out-of-hospital care will usually fall on hospitals and EMS, further overloading an already burdened system. Safe, continued operations of a community’s out-of-hospital care resources are critical to an effective medical surge response. Therefore, HCC out-of-hospital members should share staff and resources and fully integrate with the region’s surge response activities. Out-of-hospital members include but are not limited to, ambulatory care (including primary care providers), Federally Qualified Health Centers (FQHCs), and tribal health centers, stand-alone surgical and specialty centers, skilled nursing facilities, long-term care facilities, clinics, private practitioners, and home care.
- **Activity 9:** Enhance Infectious Disease Preparedness and Surge Response
- Both health care organizations and the HCC have roles in planning for and responding to infectious disease outbreaks that stress either the capacity and/or capability of the health care delivery system. Health care organizations should:
  - Screen patients for signs, symptoms, and relevant travel and exposure history
  - Support treatment protocol and algorithm use in clinical care by deploying clinical decision support (CDS) where electronic health records (EHRs) are in use
  - Document exposure information in EHRs, and ensure it is communicated to the entire care team and state and local health departments (by electronic means, if available)
  - Rapidly isolate patients
  - Provide personal protective equipment (PPE) and prophylaxis to their employees and visitors while awaiting either comprehensive evaluation, definitive diagnosis, or transfer
  - Utilize tertiary care facilities, when possible, or designated facilities to assess, manage, and treat patients with suspected highly pathogenic transmissible infections (e.g., severe acute respiratory syndrome [SARS]/Middle East respiratory syndrome [MERS]) or non-transmissible infections (e.g., anthrax)
  - Define and implement visitor policies for infectious disease emergencies, in collaboration with the HCC, to ensure uniformity

The HCC, in collaboration with the ESF-8 lead agency, should:

- Expand existing Ebola concept of operations plans (CONOPs) to enhance preparedness and response for all infectious disease emergencies that stress the health care delivery system
- Ensure jurisdictional public health infection control and prevention programs (including healthcare-associated infections [HAI] programs) participate in developing infectious disease 2017-2022 Health Care Preparedness and Response Capabilities | ASPR Medical Surge 54 response plans, and include HCC members for management of individual cases and larger emerging infectious disease outbreaks
- Develop HCC and regional trainings and strategies for the consistent use of PPE Manage PPE resources; including stockpiling considerations, vendor managed inventory, and the potential reuse of equipment. This includes consistent policies regarding the type of PPE necessary for various infectious pathogens and sharing information about PPE supplies across HCCs, EMS, public health agencies, and other HCC members
- Include HAI coordinators and quality improvement professionals at the facility and jurisdiction levels in HCC activities, including planning, training, and exercises/drills; include HCC leaders in state HAI coordination work groups
- Develop and/or integrate a uniform process of continuous screening, integrated with EHRs where possible, throughout HCC member facilities and organizations
- Coordinate patient distribution for highly pathogenic respiratory viruses and other highly transmissible infections when tertiary care facilities or designated facilities are not available
- Provide real-time information through coordinated HCC and jurisdictional public health information sharing systems (see Capability 2, Objective 3, Activity 4 – Communicate with the Public during an Emergency)
- Partner with relevant public health and health care delivery system informatics initiatives, including electronic laboratory reporting, electronic test ordering, electronic death reporting, and syndromic surveillance as it relates to the submission of emergency department visit data to the public health agency
- Identify, utilize, and share leading practices to optimize infectious disease preparedness and response; support the use of these practices with CDS in EHRs whenever possible

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the Knox/East TN (KETHC) Healthcare Coalition as a result of Knox/East Tennessee Full Scale Emerging Infectious Disease Exercise, October 19-November 8, 2018.

Issue/Area for Improvement	Corrective Action	Capability Element <sup>1</sup>	Start Date	Completion Date
<b>Core Capability 1: Foundation of Healthcare and Medical Readiness</b>				
Available isolation rooms were quickly exhausted leaving a region wide gap for appropriate patient placement.	KETHC should prioritize funding towards infection prevention equipment to ensure regional capability for a surge event.	Equipment	12/01/18	06/31/19
PPE equipment used for training and exercises is not the same equipment that would be used during an actual event. This causes confusion on appropriate levels of PPE to use.	<p>Training equipment needs to be consistent with what would be used during an actual event so that realistic performance can be measured.</p> <ul style="list-style-type: none"> <li>• KETHC will supply additional PPE training supplies to the Assessment Hospital and EMS.</li> <li>• A training kit will be purchased that can be checked out by front line facilities.</li> <li>• Training will be provided by facilities as needed.</li> </ul>	Equipment  Training	12/01/19	06/31/19

<sup>1</sup> Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

<p>Newer staff and new coalition members are unpracticed in ICS.</p>	<p>KETHC will continue to provide NIMS/HICS training with consideration specifically given to executive staff training needs, new hires, and small facility's new to the coalition.</p>	<p>Training</p>	<p>07/01/18</p>	<p>06/31/19</p>
<p>Coalition organizations, outside of core members, may be unfamiliar with the KET Preparedness Plan.</p>	<p>Plan will be discussed at upcoming CMS17 quarterly meeting with instructions on where to access on the KETHC website.</p>	<p>Training</p>	<p>07/01/18</p>	<p>06/31/19</p>
<p><b>Core Capability 2: Healthcare and Medical Response Coordination</b></p>				
<p>Resource identification method currently used does not provide details that would easily specify exactly what resources/staff are needed or available.</p>	<p>Planning needs to continue to include specifications so that quick resource identification and allocation can be done with accurate information without the need for multiple follow up requests. Quick vetting and coordination across the region and with ESF-8 should be a priority.</p> <p>KET planning committee will update current resource allocation form, with feedback from this exercise.</p> <p>KETHC Advisory Board will work</p>	<p>Planning</p>	<p>07/01/18</p>	<p>06/31/19</p>

	with possible website options.			
<p>HRTS System: updated applications are unclear when posting messages, leading to errors. Emailing, resource request and response request options are not clearly defined when users post comments in the HRTS system. This delays message viewing and sends unnecessary emails to users.</p> <p>Newer Coalition members (long term care) need to be trained on the system.</p>	<p>Additional HRTS training needs to be provided for</p> <ul style="list-style-type: none"> <li>• Newer applications</li> <li>• New facilities (specifically Long Term Care)</li> </ul> <p>The State of Tennessee needs to consider changes to the HRTS system. Emailing, resource request and response request option should be more easily defined within the system so they are not routinely used incorrectly.</p>	Training	12/17/18	06/31/19
<p>Some applications on the coalition website need to be updated/ revised.</p>	<p>Currently, the form that is used for resource assessment doesn't allow for specifications that would readily identify the item across different facilities. (For example; requirements for a ventilator should include manufacturer, type, age, etc.). Without providing that information initially, the process is slowed down.</p> <p>The website and additional apps could be used to improve processes, such as resource assessment, especially for the many facilities that aren't in the HRTS system. KETHC website capabilities needs to be explored/updated to meet growing</p>	Planning Equipment	07/01/18	06/31/19

	needs of newer facilities and expanded membership base.			
Messaging provided during the event did not filter down from management areas to clinical, front line personnel causing confusion when patients presented for treatment.	Facilities should update current communication plans and consider redundant methods when time sensitive or vital information needs to be shared.	Planning	12/17/18	06/31/19
New Coalition partners are unfamiliar with the role of the RMCC and RHC during an event.	<ul style="list-style-type: none"> <li>• Additional training will be provided</li> <li>• The website will add a 'new members' section that will detail the roles of both the RMCC and the RHC</li> </ul>	Planning Training Equipment	07/01/18	06/31/19
Manual back up processes should be identified in the event on-line resources are not available.	An information sheet and an identified fax number accessible by the RMCC and/or RHCs, should be distributed to facilities using HRTS. The form should be consistent with information typically gathered by HRTS during an event.	Planning	01/01/19	06/31/19
Not every facility has demonstrated operational Amateur Radio capability or identified operators to use the systems in place, including the Winlink system.	Regional amateur radio systems need to be tested to determine operability. If inoperable, measures need to be taken to restore function. The Coalition will provide funding until 03/15/19 to achieve operability. Facilities will be responsible for any costs past that date.  The Coalition should provide additional training opportunities for	Equipment	12/15/18	06/30/19

	the healthcare community.			
<b>Core Capability 4: Medical Surge</b>				
Available isolation rooms were quickly exhausted leaving a region wide gap for appropriate patient placement.	KETHC should prioritize funding towards infection prevention equipment to ensure regional capability for a surge event.	Equipment	12/01/18	06/31/19
New CMS partners have not been identified for the resources, staff, or services they could offer as a tertiary/ alternate care site during a disaster.	Designations for the partnering CMS facilities should be listed as a resource, with specifications on staffing, equipment, and services that can be provided. This list should be updated annually.	Planning Organization	12/17/18	06/31/19

- The KET HCC accepts responsibility for assuring that the improvement plan issues identified will be integrated into an exercise in this or the next budget period.

## APPENDIX B: EXERCISE MATRIX

<b>Coalition/Region:</b> Knoxville/East Tennessee Healthcare Coalition Knox County East Tennessee Region	<b>Event: Exercise:</b> Knoxville/East Tennessee Healthcare Coalition Full Scale Emerging Infectious Disease Exercise  <b>Date:</b> 10/19/18-11/08/18
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		#	#	%	#	%		
<b>HRTS</b>	Total Number of Hospitals	21	Updated bed w/in 30 min	4	19	Updated w/in 8 hrs	21	100
	(EEI)	Total # HRTS Comments	139	Total posts properly recorded in correct place		116	83%	
		Posts requiring a <b>response</b> - posted correctly	3	Posts appropriately followed up on		3	100	
		Posts requiring a response- posted incorrectly	9					
		Posts requiring a <b>resource</b> - posted correctly	2	Posts appropriately followed up on		2	100	
		Posts requiring a resource- posted incorrectly	0					
		Emails incorrectly sent statewide when posting a comment				1959	N/A	
<b>TNHAN</b>	<b>11/08/18</b>	<b>Knox County PHIT/Extended PHIT Activation</b>						
	Total # Alerts Sent	184	Total # Alerts Sent			32		
	Total # Alerts Acknowledged	105	Total # Alerts Acknowledged			31		
	Total # Acknowledged W/In Timeframe	99	Total # Alerts Acknowledged Within Timeframe			31		
	Total # Alerts Unconfirmed	79	Total # Alerts Unconfirmed			0		
	Total # Alerts Undeliverable	0	Total # Alerts Undeliverable			1		
	% Alerts Confirmed Within Timeframe	57%	% Alerts Confirmed Within Timeframe			97%		
<b>Patient Tracking</b>	Total Patients	N/A	Total Patients entered into system			N/A		

\* If applicable, include chart from Patient Tracking system indicating how many patients were checked into each hospital

<b>EEI (Essential Elements of Information)</b>	Total EEI Requests	14	
	Total Posted Correctly as Request	5	36%
	Total Posted Incorrectly as Request	9	64%

**For each EEI requested and posted correctly:**

EEI Request 1: Regional and State users checking in to Stand By, reply here Request method: HRTS						
Timeframe Given:	None	#	#	#	%	Barriers For Not Reporting Within Given Timeframe
Communication method used by partners to report:	HRTS	Received EEI Request	Responded to EEI request	Reported Within Requested Timeframe	Reported Within Timeframe	
Hospitals		0	N/A	N/A	N/A	
Long Term Care Facilities		0	N/A	N/A	N/A	
Community Health Centers		0	N/A	N/A	N/A	

Healthcare Organizations (HCOs)	0	N/A	N/A	N/A
PH entities	2	2	N/A	100
Other Partners	1	1	N/A	100

EEI Request 2: Facility users checking in to Stand By, reply here Request Method: HRTS						
Timeframe given	None	#	#	#	%	Barriers For Not Reporting Within Given Timeframe
Communication method used by partners to report:	HRTS	Received EEI Request	Responded to EEI request	Reported Within Requested Timeframe	Reported Within Timeframe	
Hospitals		22	16		73%	
Long Term Care Facilities		0	3	N/A	N/A	
Community Health Centers		0	N/A	N/A	N/A	
Healthcare Organizations (HCOs)		0	N/A	N/A	N/A	
PH entities		2	N/A	N/A	N/A	
Other Partners		1	N/A	N/A	N/A	

EEI Request 3: Participating organizations. Please post the phone number for your command center under this thread. Be sure to hit reply and do not start a new thread. Request Method: HRTS						
Timeframe given	None	#	#	#	%	Barriers For Not Reporting Within Given Timeframe
Communication method used by partners to report:	HRTS	Received EEI Request	Responded to EEI request	Reported Within Requested Timeframe	Reported Within Timeframe	
Hospitals		22	11		50%	
Long Term Care Facilities		0	2	N/A	N/A	
Community Health Centers		0	0	N/A	N/A	
Healthcare Organizations (HCOs)		0	0	N/A	N/A	
PH entities		4	N/A	N/A	N/A	
Other Partners		1	1	1	100%	

EEI Request 4: This is a drill: Turkey Creek Medical Center is needing surgical mask. Approximately 120 mask Request Method: HRTS						
Timeframe given	None	#	#	#	%	Barriers For Not Reporting Within Given Timeframe
Communication method used by partners to report:	HRTS	Received EEI Request	Responded to EEI request	Reported Within Requested Timeframe	Reported Within Timeframe	
Hospitals		22	1		4%	RHC responded w/in 2 minutes to this request, so there was no need for facilities to reply.
Long Term Care Facilities		0	0	0	0	
Community Health Centers		0	N/A	N/A	N/A	
Healthcare Organizations (HCOs)		0	N/A	N/A	N/A	

PH entities	1	1	N/A	100
Other Partners	0	N/A	N/A	N/A

EEI Request 5: Turkey Creek Medical Center needs 75 mg Tamiflu. we only have 17 doses.  
Request Method: HRTS

Timeframe given	None	# Received EEI Request	# Responded to EEI request	# Reported Within Requested Timeframe	% Reported Within Timeframe	Barriers For Not Reporting Within Given Timeframe
Communication method used by partners to report:	HRTS					
Hospitals		22	0	0	N/A	No time frame given. Hospital's felt bed update was sufficient for checking in.
Long Term Care Facilities		0	0	0	0	
Community Health Centers		0	N/A	N/A	N/A	
Healthcare Organizations (HCOs)		0	N/A	N/A	N/A	
PH entities		4	1	N/A	N/A	State responded 1 minute later with follow-up question.
Other Partners		1	N/A	N/A	N/A	

**Were corrective actions/improvement plan items from prior responses (including exercises, drills, events, etc.) related to information sharing incorporated into planning and/or response procedures before this incident/exercise/planned event took place?**

Corrective Action/ Improvement Plan Item	From What Drill, Exercise, Event (name, date)	How did it impact this exercise/event?
Resource request process needs to be clearly defined so that initial request includes all needed information to find specified resource. Delays occur when pertinent information (model number, manufacturer, number needed, etc.) is not included.	Event- Facility supply shortage during a winter storm December 2017	Became an objective for this exercise and a template for resource request was created to be used for this exercise.

**Have corrective actions/improvement plan items related to information sharing been identified as a result of this incident/exercise/planned event?**

- HRTS System:
  - Updated applications are used incorrectly on the message board, particularly when comments are incorrectly posted as a request or response needed. The system prioritizes requests and responses at the top of the message board so that other comments may be missed.
  - When making a comment, emailing should not be an option for users. It is routinely used when not needed, sending out a significant number of unnecessary emails to everyone in the state.

- Newer Coalition members (long term care) need to be trained on the system.
- Some applications on the coalition website need to be updated/ revised. The website and additional apps could be used to improve processes, such as resource assessment, especially for the many facilities that aren't in the HRTS system. Currently, the form that is used doesn't allow for specifications that would readily identify the item across different facilities. (For example; requirements for a ventilator should include manufacturer, type, age, etc.). Without providing that information initially, the process is slowed down.
- Messaging provided during the event did not filter down from management areas to clinical, front line personnel causing confusion when patients presented for treatment.
- New Coalition partners are unfamiliar with the role of the RMCC and RHC during an event.

## APPENDIX C: EXERCISE PARTICIPANTS

Participating Organizations					
Coalition Member Type	# Facilities/ Agencies in Coalition	% Coalition Member Facility/ Agency Participation	Additional Participating Facilities/ Agencies (Non Coalition Members)	Total Participating Facilities	Number of Individual Participants
<b>Federal Government</b>					
<b>State &amp; Local Government</b>					
Local Health Department	1	100	0	1	7
Regional Health Department	1	100	0	1	13
EMS	32	3	0	0	1
Emergency Management	2	100	1	1	3
<b>Non-government Coalition Members and Partners</b>					
Hospital	21	100	0	21	460
Mental Health	1	100	0	1	5
Long Term Care Facilities	58	71	0	41	1201
Dialysis Centers	40	70	0	28	251
Community Health Center	7	100	0	7	16
Public Utilities	0	0	0	0	0
Medic	1	100	0	1	
Fire	0	0	0	0	0
Other	2	100	0	2	10
Regional Forensic Center	1	100	0	1	10
Outpatient/Surgical Centers	32	50	0	16	299
Home Health/Hospice	39	79	0	31	62
Regional Medical Communication Center	1	100	1	2	3
Schools	0	N/A	10	10	220
	239 Facilities/Agencies in Coalition	88% Average Member Participation Percentage	12 Additional participating facilities	164 Agencies/ Facilities	2561 Individuals

## APPENDIX D: EXERCISE PARTICIPANTS DETAILED

Hospitals	Big South Fork Medical Center
	Blount Memorial Hospital
	Claiborne County Hospital
	East Tennessee Children's Hospital
	Fort Loudoun Medical Center
	Fort Sanders Regional Medical Center
	Jefferson Memorial Hospital
	Jellico Community Hospital
	LaFollette Medical Center
	Lakeway Regional Hospital
	LeConte Medical Center
	Methodist Medical Center of Oak Ridge
	Morristown Hamblen Healthcare
	Newport Medical Center
	North Knoxville Medical Center
	Parkwest Medical Center
	Peninsula Hospital
	Physicians Regional Medical Center
	Roane Medical Center
	Sweetwater Hospital Association
Turkey Creek Medical Center	
University of Tennessee Medical Center	
County	Claiborne County EMA
	Knox County EMA
	Knox County Health Department
	Knox County Regional Forensic Center
Regional	East Tennessee Regional Health Office
	Regional Medical Communications Center
EMS	American Medical Response (AMR) EMS Knox County
Long Term Care	Beech Tree Manor
	Ben Atchley State Veterans Home
	Beverly Park Place Health and Rehab
	Blount Memorial Transitional Care Center
	Claiborne Health and Rehab Center
	Cumberland Village Center
Diversicare of Claiborne	

	Diversicare of Oak Ridge
	Fort Sanders Sevier Nursing Home
	Harriman Care & Rehabilitation Center
	Heritage Center
	Hillcrest HealthCare
	Holston Health Care
	Huntsville Manor
	Island Home Park Health and Rehabilitation
	Jefferson City Health and Rehabilitation Center
	Jefferson County Nursing Home
	Life Care Center of Jefferson City
	Madisonville Health and Rehab
	NHC Fort Sanders
	NHC HealthCare Knoxville
	NHC Oak Ridge
	NHC Place Farragut
	Norris Health and Rehabilitation Center
	Oneida Nursing and Rehab Center
	Open Arms Care Corporation
	Pigeon Forge Care & Rehabilitation Center
	Renaissance Terrace
	Serene Manor Medical Center
	Sevierville Health and Rehabilitation Center
	Shannondale of Knoxville
	Shannondale of Maryville
	Smoky Mountain Home Health and Hospice
	Summit View of Rocky Top
	Summitview of Farragut
	Tennova LaFollette Health and Rehab Center
	Tri State Health & Rehabilitation Center
	Trinity Health and Rehabilitation Center
	West Hills Health and Rehab
	Westmoreland Health & Rehab
	Willow Ridge Center
Home Health	Amedisys Home Health
Hospice	Amedisys Home Health: Harriman
	Amedisys Home Health: Morristown
PACE	Amedisys Home Health: Newport
	Amedisys Home Health: Jefferson City
	Amedisys Home Health: Lafollette
	Amedisys Home Health: Sevierville
	Amedisys Home Health: Knoxville

	Amedisys Hospice: Knoxville
	Amedisys Hospice: Morristown
	Amedisys Hospice: Sweetwater
	Amedisys: Oak Ridge
	Amedisys: Tazewell
	Avalon Hospice
	Blount Memorial Hospital Home Health
	Camellia Home Health/ Encompass Health
	Clinch River Home Health
	Covenant HomeCare
	Interim Home Health of East TN
	Intrepid Home Health
	JW Carell Enterprises, LLC d/b/a CareAll Homecare Services
	Kindred at Home
	Morristown Amedisys Home Health
	NHC Home Care Knoxville
	SunCrest Home Health Morristown Hamblen
	Sweetwater Hospital Home Health
	Tennova Hospice
	The University of Tennessee Medical Center Hospice Services
	University of Tennessee Home Care
	UT Home Care - LHC Group
	UT Hospice Knoxville
Federally Qualified Health Centers	Chota Community Health Services
Rural Health Clinics	Community Health of East Tennessee, Inc
	Kingston Family Practice, CMG
	Rural Medical Services, Inc.
	Tennova LaFollette Medical Center Clinic
	Tennova LaFollette Medical Center Clinic, South
	UT Primary Care Heartland
Ambulatory Surgical Center	Children’s West Surgery Center
	Knoxville Orthopaedic Surgery Center
	Parkwest Surgery Center
	Physicians Surgery Center of Knoxville
	Smoky Mountain Ambulatory Surgery Center, LLC
	Southeast Eye Surgery Center
	Tennessee Endoscopy Center
	Tennessee Valley Eye Center

	The Endoscopy Center, Main
	The Endoscopy Center, North
	The Endoscopy Center, West
	Tennessee Valley Eye Center
	The Eye Surgery Center of East Tennessee
	The Eye Surgery Center of Knoxville
	The Eye Surgery Center of Oak Ridge, LLC
	Wartburg Surgery Center
Rehabilitation agency, clinics, and public health agencies as providers of outpatient physical therapy and speech language pathology services	Agility PT Solutions
	Brookdale Therapy
Dialysis/ End stage renal disease facilities	Davita Appalachian Dialysis
	DaVita Campbell Station Dialysis
	Davita Clinch River Dialysis
	Davita Knoxville Central Dialysis
	DaVita Knoxville Dialysis
	Davita Morristown Dialysis
	Davita Rocky Top Dialysis
	Dialysis Clinic Inc : Holston River
	Dialysis Clinic Inc: Maryville
	Dialysis Clinic Inc: Sevierville
	Dialysis Clinic Inc: Knoxville
	Dialysis Clinic Inc: Caryville
	Fresenius Kidney Care : Cedar Bluff
	Fresenius Kidney Care: Fort Sanders
	Fresenius Kidney Care: Loudon
	Fresenius Kidney Care: Morristown
	Fresenius Kidney Care: New Market
	Fresenius Kidney Care: Newport
	Fresenius Kidney Care: North Knoxville
	Fresenius Kidney Care: Oak Ridge
	Fresenius Kidney Care: Powell
	Fresenius Kidney Care: Roane County
	Fresenius Kidney Care: Sevierville
	Fresenius Kidney Care: Skyway
	Fresenius Kidney Care: West
	Fresenius Medical Care: East Knoxville
	Fresenius Medical Care: Lafollette
	Fresenius Medical Care: Knoxville Home Dialysis

Schools	Bearden High School HOSA
	Carter High School HOSA
	Central High School HOSA
	Farragut High School HOSA
	Fulton High School HOSA
	Gibbs High School HOSA
	Karns High School HOSA
	North Knoxville/Halls High School HOSA
	Powell High School HOSA
	South Doyle High School HOSA

## APPENDIX E: ACRONYMS

Acronym	Term
AAR	After Action Report
ASPR	Assistant Secretary for Preparedness and Response
CBRNE	Chemical, Biological, Radiological or Nuclear Defense
CDC	Centers for Disease Control
CDS	Clinical Decision Support
CMS	Centers for Medicare and Medicaid Services
CONOPS	Concepts of Operations Plan
COOP	Continuity of Operations
CT	Computed Tomography
EEI	Essential Elements of Information
EMA	Emergency Management Agency
EMS	Emergency Management Services
EOC	Emergency Operation Center
ESF-8	Emergency Support Function 8
ETRO	East Tennessee Regional Health Office
FDA	Food and Drug Administration
FEMA	Federal Emergency Management Agency
FQHC	Federally Qualified Health Centers
HAI	Healthcare Associated Infections
HAZMAT	Hazardous Material
HCC	Health Care Coalitions
HER	Electronic Health Records
HICS	Hospital Incident Command System
HPP	Hospital Preparedness Program
HRTS	Healthcare Resource Tracking System
HSEEP	Homeland Security Exercise and Evaluation Program
HVA	Hazard Vulnerability Assessment
ICU	Intensive Care Unit
IP	Improvement Plan
IT	Information Technology

KCHD	Knox County Health Department
KET	Knoxville/East Tennessee
KETHC	Knoxville/East Tennessee Healthcare Coalition
LTC	Long Term Care
MERS	Middle East Respiratory Syndrome
NIMS	National Incident Management System
NIMS	National Incident Management System
PH	Public Health
PHEP	Public Health Emergency Preparedness
PPE	Personal Protective Equipment
RHC	Regional Hospital Coordinator
RMCC	Regional Medical Communication Center
SARS	Severe Acute Respiratory Syndrome
Simcell	Simulation Cell
TNHAN	Tennessee Health Alert Network
TRACIE	Technical Resources, Assistance Center, and Information Exchange
WHO	World Health Organization

## ATTACHMENT 1: EXERCISE NEWS ADVISORIES

Advisory 1:

**THIS IS AN EXERCISE**

### Atypical Viral Encephalitis Health Alert

**For Immediate Release  
October 15, 2018**

**Health Alert:** Atypical viral encephalitis has been reported in cities across the country during the last 36 hours. No cases have been identified in Tennessee at this time. However, medical providers should be vigilant in screening for patients entering their healthcare facilities exhibiting the following symptoms: fever, confusion, aggressive behavior, and respiratory symptoms such as cough or signs of pneumonia. These patients should be provided facemasks, encouraged to use cough/sneeze etiquette, and immediately triaged to reduce potential spread within waiting areas. Facilities are asked to immediately notify local public health with suspected cases. Proper precautions should be adhered to with the patient being transferred to a negative pressure airborne infection isolation room (AIIR) and placed on airborne precautions until further notice. If an AIIR is not available, patient should be placed in a single patient room maintaining a closed door. These patients should be provided facemasks, encouraged to use cough/sneeze etiquette, and immediately triaged to reduce potential spread within waiting areas. Facilities are asked to immediately notify local public health with suspected cases.

Healthcare personnel should take caution including the wearing of fit-tested disposable N95 respirators or alternative yet more protective options such as powered air-purifying respirators (PAPRs) when treating these patients exhibiting these symptoms. If PPE is not available or in limited supply, utilization priority should be given when performing medically necessary aerosol-generating procedures (e.g. intubation, suctioning of airways, or sputum induction) These procedures should be performed within an AIIR when feasible. Personnel entering the rooms of patients in isolation should be restricted to those performing patient care activities.

###

**THIS IS AN EXERCISE**

Advisory 2:

**THIS IS AN EXERCISE**

## Atypical Viral Encephalitis Suspect in East Tennessee

**For Immediate Release**  
**October 19, 2018**

**Health Alert:** Atypical viral encephalitis suspect has been reported in our region. Public Health authorities are still investigating the cause and source of this illness.

Medical providers should be vigilant in screening for patients entering their healthcare facility exhibiting the following symptoms: fever, confusion, aggressive behavior, and respiratory symptoms such as cough or signs of pneumonia. These patients should be provided facemasks, encouraged to use cough/sneeze etiquette, and immediately triaged to reduce potential spread within waiting areas. Facilities are asked to immediately notify local public health with suspected cases. Proper precautions should be adhered to with the patient being transferred to a negative pressure airborne infection isolation room (AIIR) and placed on airborne precautions until further notice. If an AIIR is not available, patient should be placed in a single patient room maintaining a closed door. Priority for AIIRs should be given to those earlier in the course of their illness.

Healthcare personnel should take caution including the wearing of fit-tested disposable N95 respirators or alternative yet more protective options such as powered air-purifying respirators (PAPRs) when treating these patients exhibiting these symptoms. Healthcare personnel should take caution when performing medically necessary aerosol-generating procedures. These procedures should be performed within an AIIR when feasible. Personnel entering the rooms of patients in isolation should be restricted to those performing patient care activities.

Patients should remain in isolation for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer, while the patient is in a healthcare facility. Clinical judgement should be used to determine the need for continued isolation precautions for those typically shedding virus longer (e.g. children, immunocompromised).

Visitors to these patients should be limited to persons who are necessary for the patient's emotional well-being and care. Patient transport and movement outside of patient room should be limited to necessity with emphasis on interfacility communication to other departments regarding enhanced infection control requirements for these patients. Patients should be provided facemasks before transport.

**THIS IS AN EXERCISE**

Advisory 3:

**THIS IS AN EXERCISE**

## Atypical Viral Encephalitis Identified as Genetically Modified H1N1

**For Immediate Release**  
**November 1, 2018**

**Health Alert:** Public health authorities have identified the atypical viral encephalitis that has been circulating throughout the country as a genetically modified H1N1 influenza virus that results in increased likelihood of the development of encephalitic symptoms and increased mortality. Providers should continue to be vigilant in screening patients, staff, and visitors entering healthcare facilities showing signs consistent with this novel illness.

While negative pressure airborne infection isolation rooms (AIIR) are no longer required for patient isolation, single-patient rooms should continue to be used for these patients. Droplet precautions should be enforced, and any necessary aerosol-generating procedures should be performed within an AIIR. For added precautions, CDC continues to recommend that healthcare personnel should take caution when performing medically necessary aerosol-generating procedures (e.g. intubation, suctioning of airways, or sputum induction) including the wearing of fit-tested disposable N95 respirators or alternative yet more protective options such as powered air-purifying respirators (PAPRs).

Patients should remain in isolation and on droplet precautions for 7 days after illness onset or until 24 hours after the resolution of fever and respiratory symptoms, whichever is longer, while the patient is in a healthcare facility. Clinical judgement should be used to determine the need for continued precautions for those typically shedding virus longer (e.g. children, immunocompromised).

###

**THIS IS AN EXERCISE**



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
			Knox Facility <b>865)549-5323</b> Region Facility (865) <b>549-5343</b>	Will Be Posted On Exercise Day.	Will Be Posted on 08/09/18
Ageility PT solutions	X	X			
Amedisys Home Health	X	X	X	X	X
Amedisys Home Health- Harriman	X	X	X	X	X
Amedisys Home Health Morristown			X		X
Amedisys Home Health Newport	X	X	X	X	X
Amedisys Home Health of Jefferson City	X		X	X	X
Amedisys Home Health of LaFollette	X		X		
Amedisys Home Health Sevierville	X	X	X		X
Amedisys Home Health/Knoxville	X	X	X	X	X
Amedisys Hospice Knoxville	X	X	X	X	X
Amedisys Hospice Morristown			X	X	
Amedisys Hospice Sweetwater	X	X	X	X	X
Amedisys Oak Ridge	X	X	X	X	X
Amedisys Tazewell			X		
American Medical Response (AMR) EMS Knox County	X	X			
Avalon Hospice	X	X	X	X	X
Beech Tree Manor	X	X		X	X
Ben Atchley State Veterans Home	X	X	X	X	X
Beverly Park Place Health and Rehab	X	X	X	X	X
Blount Memorial Hospital	X	X		X	X
Blount Memorial Hospital Home Health	X	X	X		



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
Blount Memorial Transitional Care Center	X	X	X	X	X
Brookdale Therapy	X	X	X	X	X
Camellia Home Health/Encompass Health	X	X	X	X	X
Children's West Surgery Center	X	X	X	X	X
Chota Community Health Services	X				
Claiborne Medical Center	X	X	X	X	X
Claiborne Health and Rehab Center	X	X			X
Clinch River Home Health	X	X	X	X	X
Community Health of East Tennessee, Inc.	X	X	X	X	X
Covenant HomeCare	X	X		X	X
Cumberland Village Center	X	X	X	X	X
Davita Appalachian Dialysis	X				
DaVita Campbell Station Dialysis	X	X	X	X	X
Davita Clinch River Dialysis	X	X	X	X	X
Davita Knoxville Central Dialysis	X	X	X	X	X
DaVita Knoxville Dialysis	X	X	X	X	X
Davita Morristown Dialysis	X		X		
Davita Rocky Top Dialysis	X	X	X	X	X
Dialysis Clinic Inc - Holston River	X	X	X	X	X
Dialysis Clinic Inc - Maryville	X	X	X	X	X
Dialysis Clinic Inc - Sevierville	X	X	X	X	
Dialysis Clinic Inc. Knoxville	X	X	X	X	X
Dialysis Clinic Inc--Caryville	X	X	X	X	X



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
Diversicare of Claiborne	X	X	X	X	X
Diversicare of Oak Ridge	X	X	X	X	X
East Tennessee Children's Hospital	X	X	X	X	
East Tennessee Regional Health Office	X	X	N/A		
Fort Loudoun Medical Center	X	X			X
Fort Sanders Regional Medical Center			X		
Fort Sanders Sevier Nursing Home	X	X		X	X
Fresenius Dialysis- West	X	X	X	X	X
Fresenius Kidney Care - Cedar Bluff	X	X	X	X	X
Fresenius Medical Care- East Knoxville	X	X	X	X	X
Fresenius Kidney Care- Fort Sanders	X	X	X	X	X
Fresenius Kidney Care- Loudon	X	X	X	X	X
Fresenius Kidney Care- Morristown	X	X	X	X	X
Fresenius Kidney Care- New Market	X				
Fresenius Kidney Care-Newport	X	X	X		X
Fresenius Kidney Care- North Knoxville	X	X	X	X	X
Fresenius Kidney Care- Oak Ridge	X	X	X	X	
Fresenius Kidney Care- Powell	X	X	X		X
Fresenius Kidney Care- Roane County	X		X		X
Fresenius Kidney Care- Sevierville	X	X	X	X	X
Fresenius Kidney Care- Skyway	X	X	X	X	X
Fresenius Medical Care- Lafollette	X	X		X	X



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
Fresenius Medical: Knoxville Home Dialysis	X	X	X	X	X
Harriman Care & Rehabilitation Center	X	X	X	X	X
Heritage Center	X	X	X	X	X
Hillcrest HealthCare	X	X			
Holston Health Care	X	X	X	X	X
Huntsville Manor	X	X	X	X	X
Interim Home Health of East TN	X	X		X	
Intrepid Home Health	X			X	
Island Home Park Health and Rehabilitation	X	X	X	X	X
Jefferson City Health and Rehabilitation Center	X	X		X	X
Jefferson County Nursing Home	X	X	X	X	X
Jefferson Memorial Hospital	X	X	X		
Jellico Community Hospital	X	X	X	X	X
JW Carell Enterprises, LLC d/b/a CareAll Homecare Services	X	X			
Kindred at Home	X				
Kingston Family Practice,CMG	X				
Knox County Health Department	X	X	N/A		
Knox County Regional Forensic Center	X	X		X	X
Knoxville Orthopedic Surgery Center	X	X	X	X	X
LaFollette Medical Center	X	X	X	X	
Lakeway Regional Hospital	X				



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
LeConte Medical Center	X	X	X	X	X
Life Care Center of Jefferson City	X				
Madisonville Health and Rehab	X	X	X	X	X
Methodist Medical Center of Oak Ridge	X	X	X		X
Newport Medical Center	X	X	X	X	X
NHC Fort Sanders	X	X	X	X	X
NHC HealthCare Knoxville	X	X	X	X	X
NHC Home Care Knoxville	X	X	X	X	X
NHC Oak Ridge	X	X	X	X	X
NHC Place Farragut	X	X	X	X	X
Norris Health and Rehabilitation Center	X	X	X	X	X
North Knoxville Medical Center	X	X	X	X	X
Oneida Nursing and Rehab Center	X	X	X	X	X
Open Arms Care Corporation	X	X		X	X
Parkwest Medical Center	X	X	X	X	X
Parkwest Surgery Center	X	X	X		X
Peninsula Hospital	X			X	
Physicians Regional Medical Center	X	X		X	
Physicians Surgery Center of Knoxville	X	X	X	X	X
Pigeon Forge Care & Rehabilitation Center	X	X			
Regional Forensic Center			X	X	
Renaissance Terrace	X				
Roane Medical Center	X	X	X	X	X
Rural Medical Services, Inc.	X	X		X	X



Pre Surge

Surge Day

Post Exercise

11/08/19 (9:00)

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
Serene Manor Medical Center	X	X	X	X	X
<del>Seymourville Health and Rehabilitation Center</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>	<del>X</del>
Shannondale of Knoxville	X	X	X	X	X
Shannondale of Maryville	X	X	X	X	X
Smoky Mountain Ambulatory Surgery Center, LLC	X	X	X	X	X
Smoky Mountain Home Health and Hospice	X	X	X	X	X
Southeast Eye Surgery Center	X		X	X	X
Summit View of Rocky Top	X	X		X	X
Summitview of Farragut	X	X		X	
SunCrest Home Health	X	X	X	X	X
Sweetwater Hospital Association	X	X	X	X	X
Sweetwater Hospital Home Health	X	X	X	X	X
Tennessee Endoscopy Center	X	X	X	X	X
Tennessee Valley Eye Center	X				
Tennova Healthcare	X			X	X
Tennova Hospice	X	X	X	X	
Tennova LaFollette Health and Rehab Center	X	X	X		X
Tennova LaFollette Medical Center Clinic	X	X	X		
Tennova LaFollette Medical Center Clinic, South	X	X	X		



Pre Surge

Surge Day

Post Exercise

11/08/19

(9:00

Facilities	Registration 10/15/18- 10/19/18	Exercise Acknowledgement Online Form 10/19/18-11/01/18	Call To Sim Cell 11/08/18 (call either number if your designated line is busy)	Resource Assessment Online Form 11/08/18	Post Exercise Assessment Online Form 11/16/18
The Endoscopy Center, Main	X	X	X	X	X
The Endoscopy Center North	X	X	X	X	X
The Endoscopy Center West	X	X	X	X	X
The Eye Surgery Center of East Tennessee	X	X	X	X	X
The Eye Surgery Center of Knoxville	X		X		
The Eye Surgery Center of Oak Ridge, LLC	X	X	X	X	X
The University of Tennessee Medical Center Hospice Services	X	X		X	X
Tri State Health & Rehabilitation Center	X	X	X	X	X
Trinity Health and Rehabilitation Center	X	X	X	X	X
University of Tennessee Home Care	X	X	X		
University of Tennessee Medical Center	X	X	X	X	X
UT Home Care - LHC Group	X		X	X	X
UT Hospice Knoxville	X	X	X	X	X
UT Primary Care Heartland	X	X	X	X	X
Wartburg Surgery Center	X	X	X		X
West Hills Health and Rehab	X	X	X	X	X
Westmoreland Health & Rehab	X	X	X	X	X
Willow Ridge Center	X	X	X		X

Note: This is a simple form preview. This form may display differently when added to your page based on normal inheritance from parent theme styles.

## Resource Assessment 110818 FSE

Name (Contact for any resource/staffing information) \*

First

Last

Email \*

Please select your agency/facility from the list below: \*

Does your facility have any staffing or supply needs for this (exercise) event? \*

Does your facility have any resources available to share with other facilities (staff or PPE supplies)? \*

If you have no resource/staffing needs or the ability to share what you have on hand, you can skip to end of survey and hit submit.

**If you are able to share, please list below staff or resources available: (provide as much detail as possible including (for staff) number available, certifications, time needed for deployment, (for supplies) number available, manufacturer, manufacturer number, product ID, size, UPC, time needed to deploy, etc.**

### Staffing Needs

Viewport ( Width : 1903px , Height :969px )

**Nursing Support staff: if needed, what type?**

**Number of staff needed:**

**If you need additional Nursing Support staff, list type and number in the area provided below:**

**Medical Provider support: if needed, what type?**

**Number of staff needed:**

**If you need additional Medical Provider support staff, list below along with number of staff needed for each specialty.**

**Non-Medical support: if needed, what type?**

**Number of staff needed:**

**If you need additional Non-Medical support, list below along with number of staff needed for each specialty.**

Viewport ( Width : 1903px , Height :969px )

## Supply Needs

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**For this emerging infectious disease event, do you have any supply needs?**

PAPR Batteries ▼

**Have you contacted your vendor? (If no, please contact your vendor).**

- Yes
- No

If your vendor does not have readily available supplies, check when they expect to have those supplies.

**How quickly do you need these supplies**

- Immediately (No supply on hand)
- Within 12 hours
- Within 24 hours
- Longer

**List any resource needs below, with as much of the following information you have available: manufacturer, manufacturer number ,UPC code, product ID, size, etc.**

Submit

Viewport ( Width : 1903px , Height :969px )