



Knox/East Tennessee Healthcare Coalition 2019 Full Scale Exercise and Evacuation Drill: The Great Quake of 2019 (Earthquake) Peninsula Hospital Evacuation

After-Action Report/Improvement Plan
10June2019

EXERCISE OVERVIEW

Exercise Name	KET HC 2019FSE: The Great Shake of 2019: Peninsula Hospital Evacuation
Exercise Dates	May 10, 2019
Scope	This exercise is a full-scale exercise planned for healthcare facilities and community partners/organizations within the Knox/East Tennessee Healthcare Coalition’s jurisdiction. Exercise play is limited to the parameters set forth within each participating organization.
Mission Area(s)	Response and Recovery
Core Capabilities	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	<p>Evacuation Objectives:</p> <ol style="list-style-type: none"> 1. Evaluate the ability of the Healthcare Coalition to provide appropriate placement within 90 minutes of evacuation notification. 2. Evaluate the ability of the Coalition to enhance situational awareness during an event and effectively communicate through appropriate channels. 3. Evaluate the ability of the coalition to demonstrate resource support and coordination among members under time urgency, uncertainty, and logistical constraints of an emergency. 4. Evaluate all the participating agencies ability to identify availability of specific type of beds, resources, and staff using Incident Command System in a timely manner. 5. Evaluate the ability of the Coalition to identify appropriate modes of transport for all evacuated patients. 6. Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness.
Threat or Hazard	Natural Disaster – Earthquake along the East Tennessee Seismic Zone requiring evacuation of Peninsula Hospital.

Exercise Name	KET HC 2019FSE: The Great Shake of 2019: Peninsula Hospital Evacuation	
Scenario	<p>On May 10, 2019, approximately 8:45 a.m., an earthquake occurs along the East Tennessee Seismic Zone. Modified Mercalli intensity scale (MM Scale) VIII or greater intensity ground shaking extends throughout large sections of the area East Tennessee, greatly impacting the region. The area within 25 miles of the fault is subjected to shaking of MM intensity VIII or greater, strong enough to cause considerable damage to ordinary buildings and great damage to poorly built structures. Soil liquefaction occurs in some areas and adds to the destruction, since even earthquake resistant structures may fail when liquefaction occurs.</p> <p>At 9:00 a.m., Peninsula Hospital issues notification of forced evacuation due to extensive structural damage.</p> <p>At 10:15 a.m., the initial shock is followed by a 3.2 magnitude earthquake that causes further damage.</p>	
Sponsor	Knox/East Tennessee Healthcare Coalition	
Participating Organizations	Region-wide hospitals, long term care, dialysis clinics, healthcare clinics, public health, RMCC (Regional Medical Communication Center), EMS, EMA, Forensic Center, Blood Bank and other appropriate partners	
Point of Contact	<p>John Brinkley Knox County Health Department 140 Dameron Avenue Knoxville, TN 37917 (865) 215-5456 John.brinkley@knoxcounty.org</p>	<p>Wanda Roberts East TN Regional Health Office 2101 Medical Center Way Knoxville, TN 37920 (865) 549-5294 Etrhc.health@tn.gov</p>

ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core 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.

Exercise Objective	HPP Core Capability	Objective	Activity (If Applicable)	Perform without Challenges (P)	Perform with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Evaluate the ability of the Coalition to provide appropriate placement within 90 minutes of evacuation notification.	3 Continuity of Health Care Service Delivery	6 Plan for and Coordinate Health Care Evacuation and Relocation	1 Develop and Implement Evacuation and Relocation Plans		S		
	4 Medical Surge	2 Respond to a Medical Surge	3 Develop an Alternate Care System		S		
Evaluate the ability of the Coalition to enhance situational awareness during an event and effectively communicate through	1 Foundation for Health Care and Medical Readiness	1 Establish and Operationalize the Health Care Coalition		P			

Exercise Objective	HPP Core Capability	Objective	Activity (If Applicable)	Perform without Challenges (P)	Perform with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
appropriate channels.	2 Health Care and Medical Response Coordination	2 Utilize Information Sharing Procedures and Platforms		P			
Evaluate the ability of the Coalition to demonstrate resource support and coordination among members under time urgency, uncertainty, and logistical constraints of an emergency.	1 Foundation for Health Care and Medical Readiness	2 Identify Risk and Needs	4 Assess Community Planning for Children, Pregnant Women, Seniors, Individuals with Access and Functional Needs, Including People with Disabilities, and Others with Unique Needs	P			

Exercise Objective	HPP Core Capability	Objective	Activity (If Applicable)	Perform without Challenges (P)	Perform with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
		4 Train and Prepare the Healthcare and Medical Workforce	2 Educate and Train on Identified Preparedness and Response Gaps 3 Plan and Conduct Coordinated Exercise with Healthcare Coalition Members and Other Response Organizations		S		
	3 Continuity of Healthcare Service Delivery	1 Identify Essential Functions for Health Care Delivery		P			
	4 Medical Surge	2 Respond to a Medical Surge	8 Respond to Behavioral Health Needs During a Medical Surge Response	P			

Exercise Objective	HPP Core Capability	Objective	Activity (If Applicable)	Perform without Challenges (P)	Perform with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Evaluate the ability of the Coalition to identify appropriate modes of transport for all evacuated patients.	3 Continuity of Healthcare Service Delivery	6 Plan and Coordinate Health Care Evacuation and Relocation	1 Develop and Implement Evacuation and Relocation Plans 2 Develop and Implement Evacuation Transportation Plans	P			
Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness for Coalition and participating organizations	2 Health Care and Medical Response Coordination	2 Utilize Information Sharing Procedures and Platforms			S		
Evaluate participating organizations ability to identify availability of specific type of beds, resources, and staff using Incident	1 Foundation for Health Care and Medical Readiness	4 Train and Prepare the Healthcare and Medical Workforce	1 Promote Role Appropriate National Incident Management System Implementation	P			

Exercise Objective	HPP Core Capability	Objective	Activity (If Applicable)	Perform without Challenges (P)	Perform with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Command System in a timely manner.	4 Medical Surge	2 Respond to a Medical Surge					
Demonstrate participating organizations ability to coordinate with outside agencies.	1 Foundation for Health Care and Medical Readiness	4 Train and Prepare the Healthcare and Medical Workforce	3 Plan and Conduct Coordinated Exercise with Healthcare Coalition Members and Other Response Organizations	P			
<p>Ratings Definitions:</p> <ul style="list-style-type: none"> • Performed without Challenges (P): The targets and critical tasks associated with the core 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. • Performed with Some Challenges (S): The targets and critical tasks associated with the core 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. • Performed with Major Challenges (M): The targets and critical tasks associated with the core 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. • Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s). 							
<p>Table 1. Summary of Core Capability Performance</p>							

EXERCISE OBJECTIVE

1. Evaluate the ability of the Coalition to provide appropriate placement within 90 minutes of evacuation notification.
2. Evaluate the ability of the Coalition to enhance situational awareness during an event and effectively communicate through appropriate channels.
3. Evaluate the ability of the Coalition to demonstrate resource support and coordination among members under time urgency, uncertainty, and logistical constraints of an emergency.
4. Evaluate the ability of the Coalition to identify appropriate modes of transport for all evacuated patients.
5. Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness for Coalition and participating organizations
6. Evaluate participating organizations ability to identify availability of specific type of beds, resources, and staff using Incident Command System in a timely manner.
7. Demonstrate participating organizations ability to coordinate with outside agencies.

STRENGTHS:

1. First time a Mental Health Hospital (Peninsula) participated as an evacuation facility.
2. “Eye-opening experience” for staff at Peninsula which has instigated employees to think more about possible events to their facility.
3. RMCC and RHC were able to reach outside region to identify additional mental health resources.
4. Peninsula and EMS worked together to coordinate appropriate transportation for patients.
5. Peninsula able to place some patient on their own prior to outside assistance.
6. Law Enforcement was available as an outside resource if needed.
7. Communication between Peninsula incident command and the regional operations center was effective in completing the objectives.

Areas for Improvement

1. Education and practice on patient tracking system for all participating facilities in the region.
 - a. Possible Solution – A Patient Tracking administrator for the KETHC has been identified and is working with KETHC members on processes for utilizing the patient tracking system. This process needs to be formalized, adopted, and included in administrative plan. Additional training is needed and an implementation of regular use such as a monthly patient tracking day for hospitals to practice using actual patients into their ER.
2. Need for Law Enforcement/Security for transport of patients during an evacuation.
 - a. Possible Solution - Peninsula will consult with law enforcement and evaluate the needs and requirements for Law Enforcement/Security involvement in transportation of patients due to an evacuation.
3. Limited access to Peninsula hospital. Actual event could leave facility “choked off” by land with only one road into and out of the facility.
 - a. Possible Solution – Peninsula will look at other means of ingress and egress during a disaster. Peninsula consult with other agencies to determine identify other means of ingress and egress to included use of the waterways and/or construction of addition roadway.
4. Redundant means of communications are currently unavailable at Peninsula. Facility does not currently have an operational amateur radio station or operator.

- a. Possible Solution – although the facility has an HF antenna and cable it does not have a base unit or winlink capability. Peninsula will work in identifying the needed equipment and training to provide a redundant means of communications for the facility.

5. Identification of mental health beds outside of KETHC region. Limited mental health beds within the coalition area were identified during the exercise. Mental Health Hospitals outside the region did not initially update the HRTS mental health board which prompted additional calls for resources from RMCC and RHC.

- a. Possible Solution – Increase involvement of mental health hospitals throughout the state in coalitions, exercises/drills and HRTS participation.

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Knox/East Tennessee Healthcare Coalition as a result of the Coalition Surge Test conducted on 05/10/19

Issue/Area for Improvement	Corrective Action	Capability Element ¹	Start Date	Completion Date
1. Education and practice on patient tracking system for all participating facilities in the region.	Develop guidelines for users and administrators. Conduct training on Patient Tracking system. Create a patient tracking day for users to practice once a month.	Planning, Training and Exercise	July 2019	June 2020

¹ Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

<p>2. Need for Law Enforcement/Security for transport of patients during an evacuation.</p>	<p>Consult with law enforcement and evaluate the needs and requirements for Law Enforcement/Security involvement in transportation of patients due to an evacuation. Facility should assess security needs for transports and</p>	<p>Planning</p>	<p>July 2019</p>	<p>June 2020</p>
<p>3. Limited Ingress and Egress to facility</p>	<p>Consult with other agencies to determine identify other means of ingress and egress to included use of the waterways and/or construction of addition roadway.</p>	<p>Planning and Organization</p>	<p>July 2019</p>	<p>June 2020</p>
<p>4. Redundant means of communications</p>	<p>Identify needed equipment for amateur radio system, install equipment and conduct training on system.</p>	<p>Organization, Equipment and Training</p>	<p>July 2019</p>	<p>Dec 2019</p>
<p>5. Identification of mental health beds</p>	<p>Engage Mental Health Facilities within our region and encourage participation in HRTS with education on system.</p>	<p>Planning, Organization and Training.</p>	<p>July 2019</p>	<p>June 2020</p>

APPENDIX A Exercise Participants

Participating Organizations	
Coalition Member Type	
Federal	
Oak Ridge National Laboratory EMS	
State	
Tennessee Department of Health- Central Office	
Tennessee Department of Health- East Region	
Tennessee Department of Health EMS Division Region 2 Consultant	
County	
Knox County Health Department	
Blount County Emergency Management Agency	
Knox County Sheriff Department	
Healthcare Facility- Hospital	
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
LaFollette Medical Center
LeConte Medical Center
Methodist Medical Center
Morristown Hamblen Healthcare
Newport Medical Center
North Knoxville Medical Center
Parkwest Medical Center
Peninsula Psychiatric Hospital
Roane Medical Center
Sweetwater Hospital Association
Turkey Creek Medical Center
University of Tennessee Medical Center
Other Coalition Partners
Regional Medical Communications Center
Medic Blood Bank
Regional Forensic Center
Other Partners
Wonder Works “Earthquake Café”

Appendix A: Acronyms

Acronym	Term
AAR	After Action Report
ALT	Assisted Living Facility
ASC	Ambulatory Surgical Center
ASPR	Assistant Secretary for Preparedness and Response
DHS	U.S. Department of Homeland Security
EMA	Emergency Management Agency
EMS	Emergency Medical Services
ETRO	East TN Regional Office (Tennessee Department of Health)
FQHC	Federally Qualified Health Center
FSE	Full Scale Exercise
HHA	Home Health
HICS	Hospital Incident Command System
HPP	Hospital Preparedness Program
HSEEP	Homeland Security Exercise and Evaluation Program
IAP	Incident Action Plan
ICF/IID	Intermediate Care Facilities for Individuals with Intellectual Disability
ICS	Incident Command System
IP	Improvement Plan
KCHD	Knox County Health Department
KETHC	Knox/East TN Healthcare Coalition
LTC	Long Term Care
OPT-SLP	Rehabilitation Agencies, Clinics and Public Health Agencies as Providers of Outpatient Physical Therapy and Speech-Language Pathology Services
PHEP	Public Health Emergency Preparedness
POC	Point of Contact
SIMCELL	Simulation Cell
SME	Subject Matter Expert
SNF	Skilled Nursing Facility
SNF/LTC	Skilled Nursing Facility/Long Term Care