

# Knox/East Tennessee Healthcare Coalition Surge Test Functional Exercise 2018

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## After-Action Report/Improvement Plan

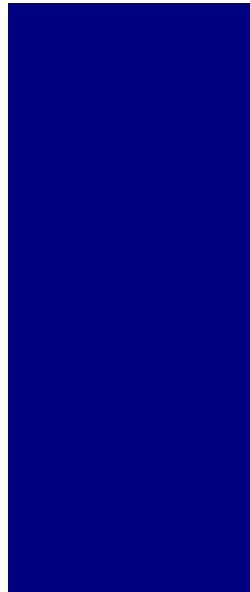
04/26/18

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Specific to this report, the exercise objectives align with ASPR's National Guidance for Healthcare Preparedness and the Hospital Preparedness Program Measures. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

## EXERCISE/INCIDENT/EVENT OVERVIEW

|   |   |
|---|---|
| <b>Exercise Name</b>                        | Knox/East Tennessee Healthcare Preparedness Coalition Surge Test Functional Exercise 2018   |
| <b>Exercise Dates</b>                       | April 26, 2018  |
| <b>Scope</b>                                | This exercise is a functional exercise, planned for 2.5 hours at 21 hospital locations, regional long term care facilities, and healthcare coalition member organizations   |
| <b>Mission Area(s)</b>                      | Prevention, Protection, Mitigation, Response, and/or Recovery   |
| <b>Healthcare Preparedness Capabilities</b> | 1: Foundation of Healthcare and Medical Readiness<br>2: Healthcare and Medical Response Coordination<br>4: Medical Surge  |
| <b>Objectives</b>                           | <ol style="list-style-type: none"><li>1. Evaluate the ability of the Healthcare Coalition to provide 20% immediate appropriate bed availability of staffed members' beds within 90 minutes</li><li>2. Evaluate the ability of the Coalition to enhance situational awareness during an event and effectively communicate through appropriate channels</li><li>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</li><li>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</li><li>5. Evaluate the ability of the Coalition to identify appropriate modes of transport for all evacuated patients'</li><li>6. Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness.</li></ol> |
| <b>Threat or Hazard</b>                     | Natural Disaster extreme heat event resulting in the total loss of chillers (and HVAC) at three KET HC hospitals, requiring the need to evacuate all three hospitals  |
| <b>Scenario</b>                             | After several weeks of extremely hot weather throughout the southeast, three area hospitals (Blount Memorial Hospital, Parkwest Medical Center, and Turkey Creek Medical Center) experience total loss of their chillers and, therefore, their HVAC capabilities. All three facilities use the same HVAC vendor, and are told it will be at least a week before replacement   |

|                                    |  |
|------------------------------------|--|
|                                    | chillers can be installed. They contact back up vendors and receive the same news. This forces the need to evacuate all three hospitals.   |
| <b>Sponsor</b>                     | Knox/ East Tennessee Healthcare Coalition (KET HCC) utilizing ASPR grant funding   |
| <b>Participating Organizations</b> | AEL<br>AMR-Knox<br>Anderson County EMS<br>Ben Atchley Veteran’s Home<br>Big South Fork Medical Center<br>Blount County AMR<br>Blount County Emergency Management Agency<br>Blount County 911 Center<br>Blount Memorial Hospital<br>Blount County School District<br>Campbell County EMS<br>Claiborne County Hospital<br>East Tennessee Children’s Hospital<br>First Call EMS<br>Fort Loudon Medical Center<br>Fort Sanders Regional Medical Center<br>Fort Sanders Regional Medical Center Transitional Care Unit<br>Fort Sanders Sevier Nursing Home<br>Grainger County EMS<br>Jefferson Memorial Hospital<br>Jellico Community Hospital<br>Knox County Health Department<br>Knox County/Area Transit<br>LaFollette Medical Center<br>Lakeway Regional Hospital<br>LeConte Medical Center<br>Lifestar<br>Methodist Medical Center<br>Monroe County EMS<br>Morgan County EMS<br>Morristown Hamblen Healthcare<br>Newport Medical Center<br>North Knox Medical Center<br>Northeast Healthcare Coalition<br>Oak Ridge National Laboratory EMS<br>Patricia Neal Rehabilitation Center<br>Physicians Regional Medical Center<br>Priority Loudon County EMS<br>Region I EMS |



Region II EMS  
Region III EMS  
Region IV EMS  
Regional Medical Communications Center Center  
Renaissance Terrace Skilled Nursing Center  
Roane Medical Center  
Sevier County EMS  
Scott County EMS  
Southeast Healthcare Coalition  
Sweetwater Hospital Association  
Tennessee Department of Health- Central Office  
Tennessee Department of Health- East Tennessee Regional Office  
Tennessee Department of Health- Upper Cumberland Region  
Turkey Creek Medical Center  
University of Tennessee Medical Center  
Vanderbilt Medical Center



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## Executive Summary

The Knoxville/East Tennessee Healthcare Preparedness Coalition began planning for the Coalition Surge Test (CST) approximately three months before the exercise. The CST is a low/no notice exercise meant to identify gaps in surge planning. The Regional Hospital Coordinators (RHCs) identified a few key personnel to discuss planning for the exercise. Coalition partners had reviewed in brief details the CST manual and tools prior to the exercise. Three facilities volunteered to serve as the evacuation hospitals in order to create a 20% surge to receiving facilities. A trusted insider at the evacuating facility was identified. The trusted insider did not disclose date, time or scenario with potential participating facilities prior to the exercise. Two weeks prior to the exercise, facilities received a notification that there would be an exercise within two weeks that was low/no notice without identifying date, time or scenario.

On the day of the exercise, a tabletop exercise initiated the exercise with a scenario of HVAC failure at the facilities during extremely high temperatures. The scenario ended in a need for evacuation. After identifying the need to evacuate, the evacuating facilities began their timed portion of the exercise for 90 minutes. Receiving facilities' were notified via Hospital Resource Tracking System (HRTS) that the exercise had begun and to assess for beds and resources at their facility. The receiving facilities also received notification via TNHAN (Tennessee Health Alert Network). The evacuating facility worked with current census of patients, including identifying types of patients and appropriate beds, number of patients that could be discharged/evacuated and appropriate modes of transport for all patients.

Following the 90 minute timed functional exercise portion of the event, facilities were asked to participate in a facilitated discussion later that afternoon. During the facilitated discussion, facilities were able to identify key areas of strengths and weaknesses during the exercise as well as some key thoughts on staffing, patient tracking and other discussion areas.

## 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  | Healthcare Preparedness Capability                          | Performed without Challenges (P) | Performed with Some Challenges (S) | Performed with Major Challenges (M) | Unable to be Performed (U) |
|--|---|----------------------------------|------------------------------------|-------------------------------------|----------------------------|
| The HCC has demonstrated its ability to provide no less than 20% immediate appropriate bed availability of staffed members' beds, within 90 minutes                        | Medical Surge, Healthcare and Medical Response Coordination |                                  | S                                  |                                     |                            |
| The HCC demonstrates the ability to enhance situational awareness for its members during an event and effectively communicate through appropriate channels.                | Healthcare and Medical Response Coordination                | P                                |                                    |                                     |                            |
| The HCC has demonstrated resource support and coordination among its member organizations under the time urgency, uncertainty, and logistical constraints of an emergency. | Healthcare and Medical Response Coordination                | P                                |                                    |                                     |                            |
| The HCC has demonstrated agencies ability to identify availability of specific type of beds, resources, and staff using Incident Command System in a timely manner         | Medical Surge   | P                                |                                    |                                     |                            |
| Evaluate the ability of the Coalition to   | Medical Surge   |                                  | S                                  |                                     |                            |

| Objective   | Healthcare Preparedness Capability                             | Performed without Challenges (P) | Performed with Some Challenges (S) | Performed with Major Challenges (M) | Unable to be Performed (U) |
|---|--|----------------------------------|------------------------------------|-------------------------------------|----------------------------|
| identify appropriate modes of transport for all evacuated patients'   |  |                                  |                                    |                                     |                            |
| Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness.  | Foundation for Healthcare and Medical Readiness, Medical Surge | P                                |                                    |                                     |                            |
| <p><b>Ratings Definitions:</b></p> <ul style="list-style-type: none"> <li>• Performed without Challenges (P): 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>• Performed with Some Challenges (S): 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>• Performed with Major Challenges (M): 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> </ul> <p>Unable to be Performed (U): The targets and critical tasks associated with the healthcare preparedness capability were not performed in a manner that achieved the objective(s).</p> |  |                                  |                                    |                                     |                            |

**Table 1. Summary of Healthcare Preparedness Capability 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.

### *Objectives:*

Objective 1: The HCC has demonstrated its ability to provide no less than 20% immediate appropriate bed availability of staffed members' beds, within 90 minutes

Objective 2: The HCC demonstrates the ability to enhance situational awareness for its members during an event and effectively communicate through appropriate channels.

Objective 3: The HCC has demonstrated resource support and coordination among its member organizations under the time urgency, uncertainty, and logistical constraints of an emergency.

Objective 4: The HCC has demonstrated agencies ability to identify availability of specific type of beds, resources, and staff using Incident Command System in a timely manner

Objective 5: Evaluate the ability of the Coalition to identify appropriate modes of transport for all evacuated patients'

Objective 6: Demonstrate the capability of redundant means of communication for achieving and sustaining situational awareness.

## **Strengths**

The capability level can be attributed to the following strengths:

**Strength 1:** Johnson Control provides HVAC services to an estimated 80% of our hospital facilities in the Knox/East Region. By including them in the exercise event within the IC of an evacuating hospital, they were able to identify gaps and needs that would arise with their own planning and have since updated their processes to mitigate those potential areas of need.

**Strength 2:** The HRTS system was able to enhance situational awareness for coalition facilities during exercise.

**Strength 3:** The Facilities were able to identify beds, resources and transport in a timely manner, identifying appropriate discharge, beds and transport for 776 patients

**Strength 4:** Hospital executive participation enhanced the exercise.

**Strength 5:** Long Term Care partners had been included in HRTS and added to the local resources available for the event.

**Strength 6:** The RMCC was able to quickly coordinate between EMS consultant and RHCs to facility event needs.

**Strength 7:** The coalition partners were able to demonstrate redundant means of communication during exercise including effective communication via HRTs system and radio.

**Strength 8:** Regional systems (RMCC, EMS and RHC) were utilized for resource identification and allocation, expediting patient movement.



## Areas for Improvement

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** The Hospital Resource Tracking System (HRTS) is an excellent means to provide real time data to a large number of users expeditiously; however, more personnel need to be trained on the use.

**Analysis:** Staff who input daily bed availability numbers in the HRTS system are very familiar with portions of the site, however, incident command staff need to be trained on the system, with priority given to event information (message boards, posting).

**Area for Improvement 2:** EMTALA guidelines for facilities required to quickly evacuate was unclear.

**Analysis:** The evacuating facility has no clear guidance on dealing with the EMTALA issues of the scenario.

**Area for Improvement 3:** Incident Command numbers for facilities were difficult to find in a timely manner.

**Analysis:** Although it was requested numbers be posted on a message thread in HRTS, there was confusion on where to post the numbers.

**Area for Improvement 4:** Triage training needs to be provided to hospitals and EMS to ensure appropriate coordination of patient needs.

**Analysis:** Initial evacuation information provided on patients for evacuation did not provide enough information for EMS to determine appropriate transport needs.

## 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 04/26/18.

| Issue/Area for Improvement   | Corrective Action  | Capability Element <sup>1</sup>                             | Start Date   | Completion Date |
|--|--|---|--------------|-----------------|
| 1. The Hospital Resource Tracking System (HRTS) is an excellent means to provide real time data to a large number of users expeditiously; however, more personnel need to be trained on the use. | Additional training needs to be provided on event usage of the HRTS system. The Regional Hospital Coordinators will work with RMCC on regularly scheduled HRTS activations (minimally bi-annual) to increase familiarity.  | Healthcare and Medical Response Coordination, Medical Surge | July 1, 2018 | June 30, 2019   |
| 2. No clear guidance for EMTALA issues during an evacuation  | Coalition partners will obtain guidance on EMTALA issues during an emergency response  | Foundation for Healthcare and Medical Readiness             | July 1, 2018 | June 30, 2019   |
| 3. Incident Command numbers for facilities were difficult to find in a timely manner.  | Additional training needs to be provided on event usage of the HRTS message board system. This is the quickest way to update current incident command numbers for the region during an event and should be utilized. The Regional Hospital Coordinators will work with RMCC on regularly scheduled HRTS activations (minimally bi-annual) to increase familiarity. | Healthcare and Medical Response Coordination, Medical Surge | July 1, 2018 | June 30, 2019   |
| Triage training needs to be provided to hospitals and EMS to   | Inclusive triage training should be prioritized for healthcare centers and   | Medical Surge, Healthcare and Medical Response              | July 1, 2018 | June 30, 2019   |

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

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| ensure appropriate coordination of patient needs. | EMS. The KET Coalition Planning/Training Sub-Committee should ensure this is a priority for the 2018/2019 fiscal year. | Coordination |  |  |
|---|--|--------------|--|--|

## APPENDIX B: EXERCISE PARTICIPANTS

| Participating Organizations                                 |  |
|---|--|
| <b>Coalition Member Type</b>                                |  |
| <b>Federal</b>  |  |
| Oak Ridge National Laboratory EMS                           |  |
|   |  |
| <b>State</b>  |  |
| Tennessee Department of Health- Central Office              |  |
| Tennessee Department of Health- East Region                 |  |
| Tennessee Department of Health- Upper Cumberland Region     |  |
| Far Southwest Virginia Coalition                            |  |
|   |  |
| <b>County</b>   |  |
| Blount County Emergency Management Agency                   |  |
| Blount County 911 Center                                    |  |
| Blount County School District                               |  |
| Knox County Health Department                               |  |
|   |  |
| <b>Healthcare Facility</b>                                  |  |
| Ben Atchley Veterans Home                                   |  |
| Big South Fork Medical Center                               |  |
| Blount Memorial Hospital                                    |  |
| Claiborne County Hospital                                   |  |
| East Tennessee Children's Hospital                          |  |
| Fort Loudon Medical Center                                  |  |
| Fort Sanders Regional Medical Center                        |  |
| Fort Sanders Regional Medical Center Transitional Care Unit |  |
| Fort Sanders Sevier Nursing Home                            |  |
| Jefferson Memorial Hospital                                 |  |
| Jellico Community Hospital                                  |  |
| LaFollette Medical Center                                   |  |
| Lakeway Regional Hospital                                   |  |
| LeConte Medical Center                                      |  |
| Methodist Medical Center                                    |  |
| Morristown Hamblen Healthcare                               |  |
| Newport Medical Center                                      |  |
| North Knoxville Medical Center                              |  |
| Patricia Neal Rehabilitation Center                         |  |
| Physicians Regional Medical Center                          |  |

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| Renaissance Terrace Skilled Nursing Center |
| Roane County Medical Center                |
| Sweetwater Hospital Association            |
| Turkey Creek Medical Center                |
| University of Tennessee Medical Center     |
|  |
| <b>EMS/Medical Transport</b>               |
| AEL  |
| AMR- Knox County                           |
| AMR- Blount County                         |
| Anderson County EMS                        |
| Campbell County EMS                        |
| First Call EMS                             |
| Grainger County EMS                        |
| Lifestar                                   |
| Monroe County EMS                          |
| Morgan County EMS                          |
| Priority Loudon County EMS                 |
| Region I EMS                               |
| Region II EMS                              |
| Region III EMS                             |
| Region IV EMS                              |
| Sevier County EMS                          |
| Scott County EMS                           |
|  |
| <b>Other Coalition Partners</b>            |
| Regional Medical Communications Center     |
|  |
| <b>Other Partners</b>                      |
| Knox County Area Transit                   |
| Northeast Healthcare Coalition             |
| Southeast Healthcare Coalition             |
| Vanderbilt Medical Center                  |
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