

# Hospital Preparedness Program Stories from the Field



The *Hospital Preparedness Program* establishes a nationwide healthcare emergency management system that strengthens the ability of our nation's communities to prepare for, respond to, and recover from health and medical threats - *saving lives 24/7/365.*

### Situation

At about 12:35 p.m. on Wednesday, November 14, 2018, a tour bus headed from Huntsville, AL to Tunica, MS overturned in icy conditions on Interstate 269 in DeSoto County, MS.

Authorities confirmed 46 passengers on the bus with two pronounced dead at the scene. All 44 remaining passengers were transported to area hospitals for evaluation and treatment.

Mid-South Emergency Planning Coalition hospitals receiving patients included Baptist DeSoto, Methodist Olive Branch, Baptist Collierville, and Regional One (only transfers).



### Intervention

All responding EMS agencies were from Mississippi and did not utilize the local Regional Medical Communications Center (RMCC) to arrange transportation.

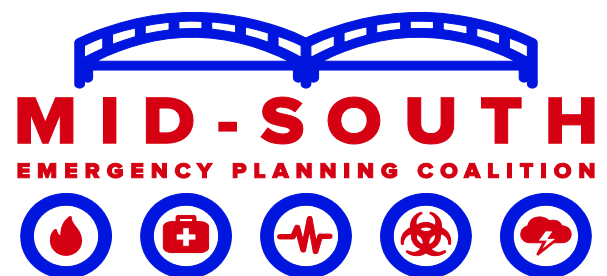
A Healthcare Resource Tracking System (HRTS) alert was issued at 2:03 p.m. asking all hospitals to update their bed status every 30 minutes and to relay acuity level of all bus crash victims when patients arrived at the facility. To ensure accountability for all bus crash victims, receiving hospitals were asked at 4:28pm to enter patient information (including a unique patient identifier into patient tracking. All patients were identified and accounted for by 10:30 p.m.



### Impact

Utilization of patient tracking allowed the Coalition to identify all bus crash victims, reunite families, and provide contact information to the Red Cross as they were able to provide assistance with lodging, clothing, food, and transportation home.

HPP funding remains essential for the success of these types of Coalition-wide responses. Continued funding for training and equipment to further support patient tracking is imperative. Support for redundant communication channels (radio, satellite phone, HAM) are also important should an event happen like this during a natural or man-made disaster that eliminates primary communication routes (phone, internet).



### Situation

The immediate responder to an event is often an untrained bystander and an underutilized resource. Stop The Bleed (STB) is a national initiative that helps train and prepare citizens for an emergency bleeding situation.

A person suffering from life-threatening blood loss can die within five minutes. 75%-90% of all trauma-related deaths occur before the victim reaches a medical treatment facility. ([www.bleedingcontrol.org](http://www.bleedingcontrol.org))



### Intervention

The *WATCH Coalition* coordinates with community partners to comprehensively address this gap, focusing on the 156 public schools and all law enforcement agencies in our 17-county region.

The goals of this initiative were to:

- Provide life-saving education and equipment to each school with bleeding control kits.
- Collaborate community-wide with local emergency partners to address planning, response, mitigation, and recovery from an event.
- Provide training/equipment to all law enforcement agencies in order to get medical support to the front lines of a large scale event.

Jackson-Madison County Health Department started by equipping all officers with the Jackson Police Department and Madison County Sheriff's Office. TN Homeland Security District 10 provided funding for kits to each officer in their region along with a ROVER in each county (Rapid Onset Violence Emergency Response) which ties law enforcement to the SMART triage system in place.

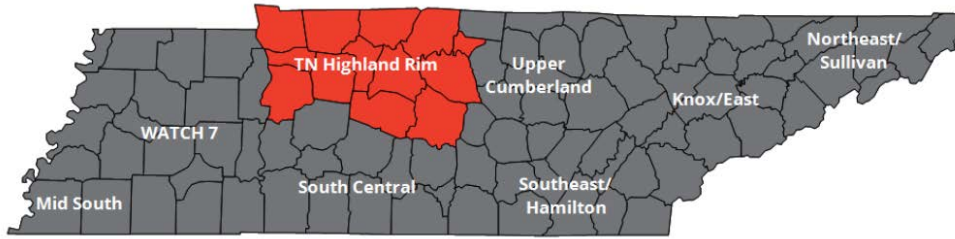
WATCH Coalition provided kits to mimic the other two projects and provide kits/training to all officers in Homeland Security District 9 (The 9 remaining counties of the WATCH coverage area not impacted by the other projects). The WATCH Coalition hosted a Train the Trainer Stop the Bleed class and has over 40 instructors in place throughout the coverage area.



### Impact

1,600 kits and training have been provided to all sworn officers in the 17 county coverage area of the WATCH coalition. To date, 156 public schools have been equipped with kits/training. Bottom right picture is a scene where an officer was shot during a training mission. Due to the quick thinking of the other officers on the scene, along with the kits that were available to them, they used their training to render aid until medical assistance could arrive. This quick response led to a positive outcome for this officer and he is now back on duty as a result. The Regional Hospital Coordinator in the region received a phone call the very next morning from the Chief of Police for this department thanking him for the kits that were instrumental in assisting his officer. The Chief is pictured in the middle photo along with the officer that was shot in the far right of that same photo. This picture was taken the day the kits were delivered. Little did everyone know that a kit would be used on this officer such a short time later.





Tennessee  
Highland Rim  
Health Care  
Coalition

### Situation

The Nashville Metropolitan Service Area is growing rapidly in population, with an average of 100 new residents added every day!

There are many high profile mass gathering events that occur in the area including the recent NFL Draft, NHL playoff games, the Country Music Association Awards, Rock and Roll Marathon, and 4<sup>th</sup> of July and New Years' Eve celebrations.



600,000 additional people in downtown Nashville

### Intervention

In order to be prepared to respond to mass casualty incidents, Nashville Fire Department (through its partnership with the Tennessee Highland Rim Healthcare Coalition) built an Ambubus.

The process to build the bus was extremely thorough, to ensure that it would be able to meet the needs of the fire department and coalition. This process including multiple site visits to other locations with Ambubuses and consulting with equipment owners for best practice ideas.



With the full support of Nashville Mayor David Briley on April 25, 2019 the NFD introduced the bus into the fleet receiving attention from a number of local media outlets.



### Impact

Less than 24 hours after its unveiling the bus was called into action to assist with a mass casualty incident that required multiple victims to be transported. The bus was used to triage, treat, and house patients before transporting to local hospital.

The Ambubus is now part of the EMS response plan on large-scale incidents and will be deployed in advanced for planned events.

Not only did this project result in the acquisition of a much needed asset, but the relationship between the partners involved (Office of the Mayor David Briley, Nashville Fire Department, Metro Health Department, Mid Cumberland Regional Health Office, and the Tennessee Highland Rim Healthcare Coalition) was strengthened as well.



### Situation

- The opportunity for SCRHCC, Inc. to partner with our Comprehensive Regional Pediatric Center (CRPC) Outreach Coordinator Jennifer Dindo, Monroe Carell Jr. Children's Hospital at Vanderbilt, in a statewide project to improve the systems, processes and conditions to increase the odds of success and limit error potential in adult and pediatric dosing.
- After the October 28, 2017 White Lives Matter Counter protests and presence of Antifa in Shelbyville, Tennessee, Region 6 Emergency Medical Services began looking at a train the trainer course offering designed to strengthen responder capabilities in mass casualty incident events with medical patients and improve overall medical response, readiness and planning to active shooter events.
- Healthcare Facilities are required by the Tennessee Department of Health, Board for Licensing of Healthcare Facilities, to have Emergency Operations Plans for managing facilities and sustaining patient care during times of disaster. These plans are required by TDH's Chapter "1200-08 Disaster Preparedness" regulations to address these matters for a variety of emergency situations, including fires, weather related emergencies, earthquakes and bomb threats. In addition to managing incidents internally, the regulations call for plans to interact with outside response agencies, including local Emergency Management (EMA) and Tennessee Emergency Management Agency. A main component to interaction is use of Incident Command System.



### Intervention

- LeeAnne Boeringer, Emergency Medical Service (EMS) Consultant, brought to the South Central EMS Directors Association the opportunity, with funding provided by the SCRHCC, Inc. from HPP funding, for implementing a statewide adult and pediatric dosing project in Region Six. Training (Train the Trainer) and guides provided by RightDose™ October 30, 2018.
- LeeAnne Boeringer, Emergency Medical Service Consultant, brought information to Roy Griggs, Giles County EMS Director and local EMS representative of SCRHCC, Inc. about NAEMT's Tactical Emergency Casualty Care (TECC). Prepared Medical Response has provided, with HPP funding, three courses, with the last having twenty seven students, in Region 6 as of December 5th, 2018.
- ICS/EOC for Healthcare is a course taught by local EMA designed to provide them with foundational information that administrators and managers need related to Incident Command. Two courses offered in 2018-2019.



### Impact

- In February of 2016, significant safety improvements results were demonstrated in a pediatric drug research project conducted across the entire state of Tennessee which reduced error rate drastically from 65% down to 4%. The availability of the training and guides provided by RightDose™ to each ALS unit in Region 6 by the end of 2018 will improve the situation.
- Providing EMS practitioners and other prehospital providers training on how to respond to and care for patients in an active shooter and bombing incidents to decrease preventable deaths in a tactical situation.
- Improve interaction with outside response agencies and better understanding Incident Command System and how it relates to managing incidents for healthcare facilities in the SCRHCC.



TN Health Care Coalitions (HCCs) n=8

<https://www.tn.gov/health/cedep/cedep-emergency-preparedness/healthcare-coalitions.html>

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### Situation

In the middle of July 2018, two of the four compressors at Cookeville Regional Medical Center's (CRMC) Inpatient Rehab Unit failed, possibly due to a lightning strike or other power surge. Outside temperatures were in the mid-90s with normal high humidity.

Running at half capacity, the A/C unit was not able to keep up with cooling the 16,740 square foot area and the temperature quickly rose to the low/mid 80s. Census was 18 (out of 20 available) at the time of the cooling failure.

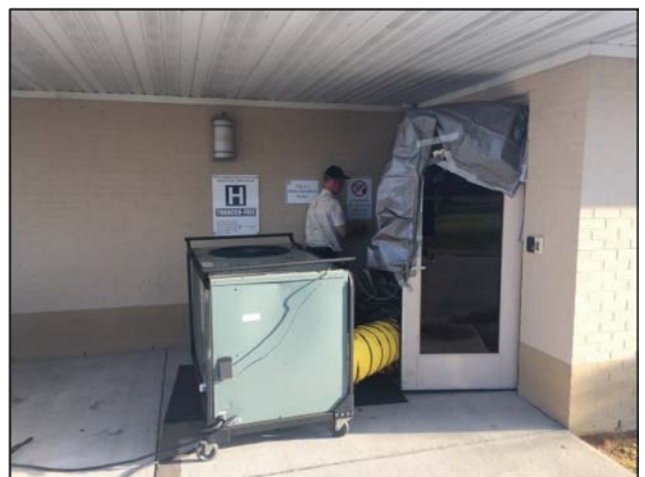
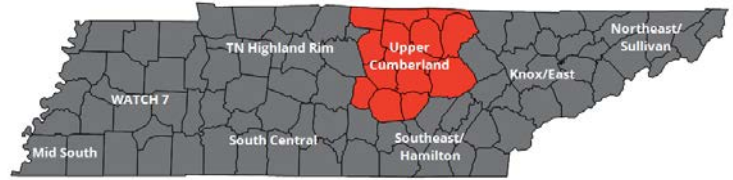
Replacement compressors had to be shipped in from Indianapolis, taking 24-36 hours to arrive. Complicating things, the first order was "lost" during transit and the compressors had to be reordered.

### Intervention

We received permission from the coalition to use the Upper Cumberland Healthcare Coalition cache containing a five ton cooling unit and pull-behind 44 kilowatt generator to power the unit. CRMC Plant Facilities staff quickly created a doorway insert to connect the supply and return ductwork from the unit. This provided additional cooling to the hallway of patient rooms.

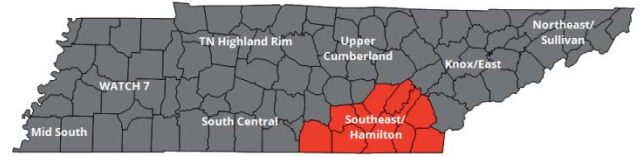
### Impact

The availability of the coalition's pull-behind 44 Kw generator allowed us to place the cooling unit where needed (close to patient rooms) rather than close to an available power source. Having these assets available in the Upper Cumberland region allowed the Rehab unit to continue operations as normal without having to relocate patients and staff. It also kept interior humidity levels low enough to prevent sweating or the growth of mildew. HPP funding was essential to the success of this response. Because of HPP, the assets were available to quickly deploy and prevent the evacuation of the facility.



### Situation

One-third of the adult population in Southeast Regional Healthcare Coalition's (SERHC) region are obese.<sup>1</sup> Several hazards which may require healthcare facility evacuation are in the top five listings on the coalition's Hazard Vulnerability Index.



The biggest challenge in an emergency situation is transporting the larger, heavier patient quickly and safely. During evacuation of bariatric patients, there is an increased risk of injury to the patient and to healthcare workers.

It is recommended that 20% of evacuation equipment in a healthcare setting should address the needs of bariatric patients.<sup>2</sup> SERHC identified a gap in the availability of evacuation equipment for this vulnerable patient population.



### Intervention

In order to address this gap, the coalition first conducted a thorough review of the various types of evacuation equipment suitable for bariatric patients. The Coalition also engaged with a number of vendors to ensure understanding of equipment capability. Two Evacuation HoverJack devices were purchased and pre-positioned in an acute care hospital near the center of SERHC's region. Coalition members were trained on the use of these devices using a video and live demonstration.



### Impact

These devices have already been used in several actual situations. During the first, a 450 pound patient fell during a physical therapy appointment. During the second, a 600 pound person fell in the parking garage, breaking an ankle. On both occasions the HoverJack was used to lift and move the individuals in a safe and efficient manner.

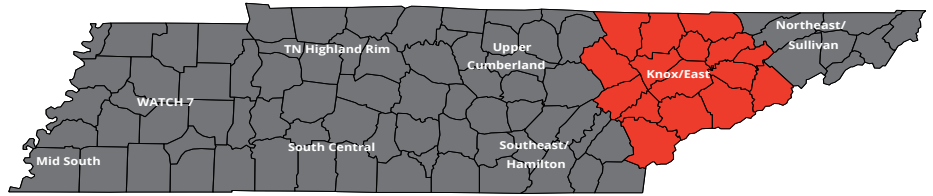
Additional training on the use of HoverJacks will be conducted at the Coalition's annual Round Robin Equipment Training Day and the at the Senior Health and Aging Committee meeting in June 2019. This capacity will continue to be expanded over the next several budget periods through the purchase of more devices for acute care hospitals and EMS vehicles.

1. BMI of 30.0 or higher - <https://www.cdc.gov/healthyweight/assessing/bmi/index.html>

2. Pandoldo, J. "Comprehensive Planning for Emergency Evacuation of Healthcare Facilities". <https://www.psqh.com/analysis/comprehensive-planning-for-emergency-evacuation-of-healthcare-facilities/#>

## Situation

- The immediate responder to an event, is often an untrained by-stander and an underutilized resource. Stop The Bleed (STB) is a national initiative that helps train and prepare citizens for an emergency bleeding situation.
- A person who is suffering from life-threatening blood loss can die within five minutes. 75%-90% of all trauma-related deaths occur before the victim reaches a medical treatment facility. ([www.bleedingcontrol.org](http://www.bleedingcontrol.org))



## Intervention

The Knoxville/East Tennessee Healthcare Coalition (KET HCC) coordinates with community partners to comprehensively address this gap, focusing on the 333 public schools in our 16-county region.

### Specifically:

- Provide life-saving education and equip each school with bleeding control kits
- Collaborate community-wide with local emergency partners to address planning, response, mitigation, and recovery from an event.
- Develop a comprehensive approach to preparedness, building resiliency with school specific education, personal empowerment, and equipment.
- Provide continual community training beyond the school system

### Partners maximizing available resources:

- University of Tennessee Medical Center Trauma Services provided 'train the trainer' classes and supported community trainings.
- TN Homeland Security District II provided \$70,000 funding for active shooter training and two training kits to remain in each county.
- KET HCC provided \$122,000 to fund (8) STB kits for each school. (2,664 kits)
- Tennessee Department of Education, School Safety Center provided oversight and guidance for training content.
- Local Emergency Management Agencies coordinated training in schools and with area emergency response organizations to ensure local support.

## Impact

- Tennessee Department of Education, School Safety Center, has endorsed this pilot program with expectations to roll it out to the rest of the state in the near future.
- This program was recognized as a statewide best practice by the Tennessee County Services Association in 2018. [2018 County Success Story Awardees](#)
- 2,664 individual STB kits (8 per school) have been distributed to 16 counties in East Tennessee with trainings on-going.
- To date, 3 school districts with over 500 school staff have been trained, including superintendents, cafeteria workers, bus drivers, teachers, and students.
- Additional community classes continue with outreach to churches, additional schools, and businesses.



<https://www.tn.gov/health/cedep/cedep-emergency-preparedness/healthcare->

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### Situation

East Tennessee's regional pediatric population is underrepresented in regards to bed capacity. Just 137 pediatric & 121 NICU beds are available with a regional pediatric population of approximately 250,000.

Pediatric surge capacity consistently ranks high on the coalition's Hazard Vulnerability Assessment (HVA).



### Intervention

#### Train

Training is a priority for both pre and in-hospital providers. Subject matter experts presented on a variety of pediatric specific topics and conducted hands-on trainings. A high-fidelity pediatric simulator was purchased to facilitate simulations.

#### Equip

- Pediatric evacuation supplies for neonatal units
- Pediatric trauma supply carts to treat a surge of 440 pediatric patients across 21 hospitals in both metro and rural counties
- 332 Pedi-Sleeve pediatric dosing systems (one for every ambulance in our region)
- 1200 Pediatric tourniquets (four for every ambulance in our region)
- 21 Broselow carts (1 for each hospital in our region)

#### Exercise/Evaluate

A community-wide tabletop exercise (130 participants) focused on the community's ability to manage a surge of pediatric patients without the option of transfer to a pediatric hospital or trauma center. Lessons learned were incorporated into a follow-up full scale exercise with 100% coalition hospital participation. During the exercise, the region simulated a surge of approximately 330 pediatric "victims", with 80% under the age of 8.



### Impact

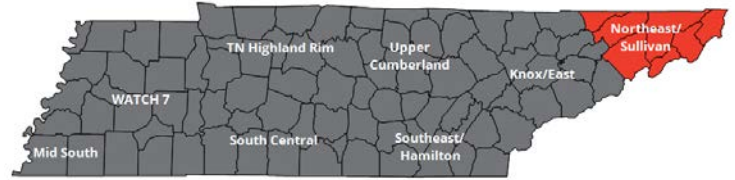
86% of affiliate hospitals and 100% of regional 911 ambulances received critical pediatric surge supplies. Additional areas for pediatric supply and surge improvement were identified and continue to be addressed through KET Coalition initiatives, including a recent project that provided 8 blood control kits to every school in the region.

Simulation training continues for both pre and in-hospital providers with excellent feedback from participants. Specific planning considerations to meet pediatric needs have improved as a result of this project, which has been shared at national and state conferences as a best practice initiative.



### Situation

- In October 2015, CDC issued a health advisory regarding high potency synthetic opioids causing outbreaks of opioid overdose and overdose related deaths.
- Northeast Tennessee sees high levels of drug abuse in the region and is vulnerable to experiencing a large opioid overdose outbreak. Between 2013-2017 Northeast Region and Sullivan County had a 38% and 19% increase, respectively, in the rate of drug overdose deaths.\*



### Interventions

- In March 2018, the Northeast Tennessee Healthcare Preparedness Coalition along with the Northeast Regional and Sullivan County Public Health Emergency Preparedness departments began to discuss how to respond to a large scale opioid overdose outbreak.
- A planning team, which included key community partners from across the region, developed an Opioid Overdose Outbreak Tabletop Exercise.
- The exercise was designed to examine and understand the relationships between numerous community partners who would be involved in response to a mass opioid overdose emergency.



### Impact

- 113 representatives from 34 organizations dedicated to an efficient and effective response gathered for the exercise.
- Attendees included many organizations that had not previously engaged on the topic of opioid response:
  - Public Health
  - Hospitals
  - Fire
  - EMS
  - Law Enforcement
  - Emergency Management
  - Forensics Center
  - State University
  - Anti-Drug Coalitions
  - Recovery Centers
  - Advocacy Centers
  - Homeless Coalitions
- The tabletop exercise received very positive feedback from evaluations and many attendees expressed interest in participating in continuing collaboration. *“The exercise was very well planned out and executed effectively. I learned more than I expected to and was glad that I attended”*
- The tabletop exercise offered an opportunity to share many initiatives that are ongoing in the community, including Narcan distribution to first responders, anti-drug coalition involvement, and Public Health syndromic surveillance.
- The planning team identified several opportunities for improvement including identifying roles and responsibilities in the response as well as establishing a reporting process that would involve the multiple organizations.
- **The tabletop exercise was identified as a best practice and will be replicated in healthcare coalitions across Tennessee.**



\*Source: <https://www.tn.gov/health/health-program-areas/pdo/pdo/data-dashboard.html>

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