#NHCPC24

NATIONAL HEALTHCARE COALITION PREPAREDNESS CONFERENCE

Visions of Progress: Sustainable Strategies for Emergency Preparedness & Resilience

Presented By:

MESH

Achieving Healthcare Resilience Through Interoperability and Data Driven Insights

Tennessee Department of Health's Healthcare Resource Tracking System (HRTS)

Presenters:

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Learning Objectives

1. Describe how HCC and state leaders can utilize insights from HRTS data to make informed decisions regarding resource allocation and prioritize initiatives according to community needs.
2. Identify best practices for assessing coalition sustainability (e.g., resources, funding, partnerships).
3. Develop strategies for long-term sustainability, funding, and community support.
4. Define the collaborative impact on patient care delivery through Health Care Coalition use of HRTS.

Introduction to HRTS

Tennessee's Healthcare Resource Tracking System (HRTS):

- Enhances real-time healthcare delivery by optimizing resources, managing crises, and supporting coalitions.
- Connects healthcare facilities, Regional Healthcare Coordinators, EMS, and other state and local emergency responders.
- Supports patient routing daily and during emergencies.
- Tracks facility bed, service, and asset availability.
- Enables event activation and management at local, regional, or statewide levels.
- Enhances situational awareness and communication.

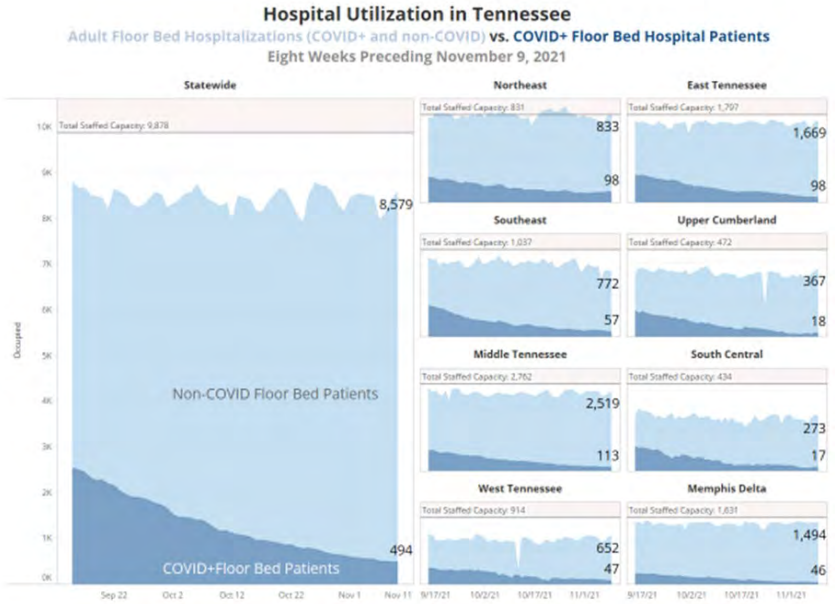
HRTS Background

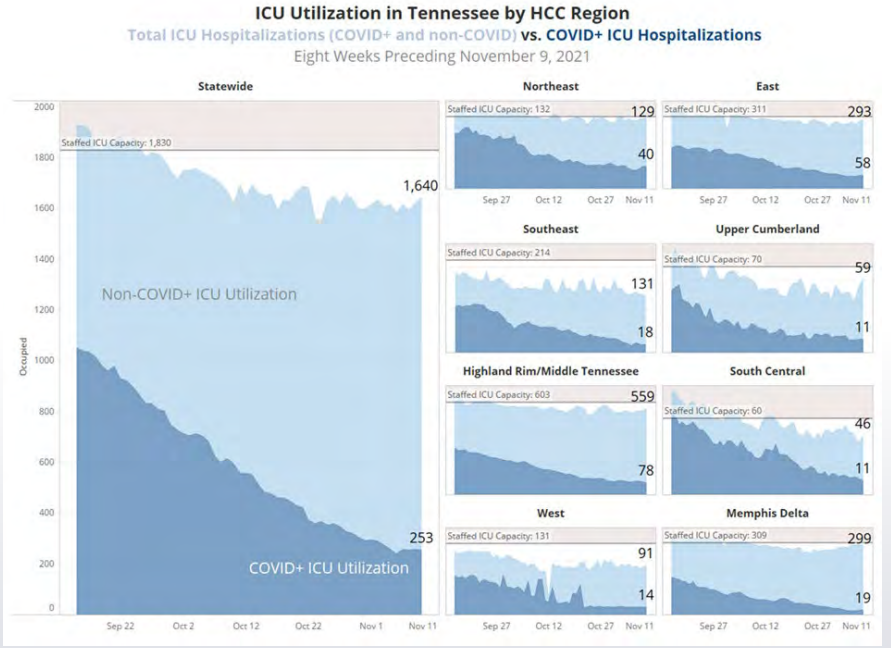
- Implemented in 2007.
- Developed with in put from all stakeholders including the Tennessee Hospital Association and healthcare facilities etc.
- Maintained in-house by the Tennessee Department of Health.
- Currently in its 3rd version.
- A secure login to the portal is required.
- Data is maintained securely and is encrypted.

- Authorized statewide reporting system for all Federal Data during COVID-19 response.
- Recent additional functionality:
  - Long-Term Care Facilities
  - Patient Bed Matching (PBM)
  - Resource management

Use of HRTS During COVID

Tennessee
COVID-19 Hospital Utilization Update
November 9, 2021





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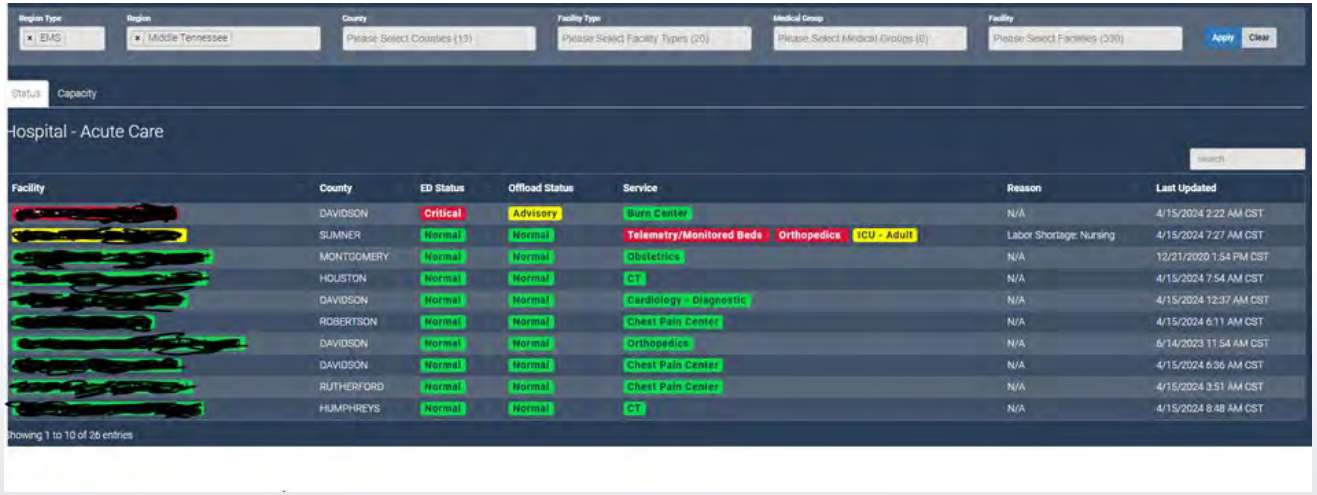
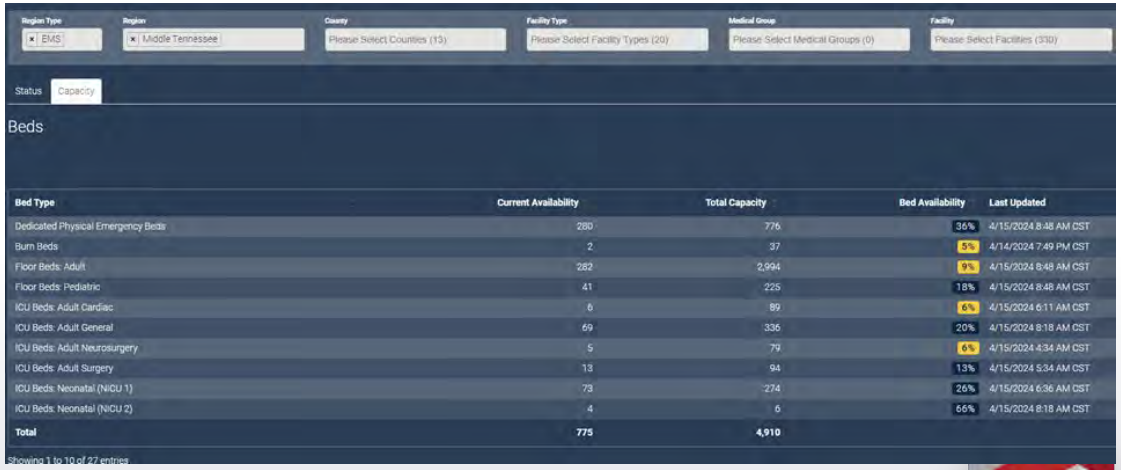
Public View of Data During Covid

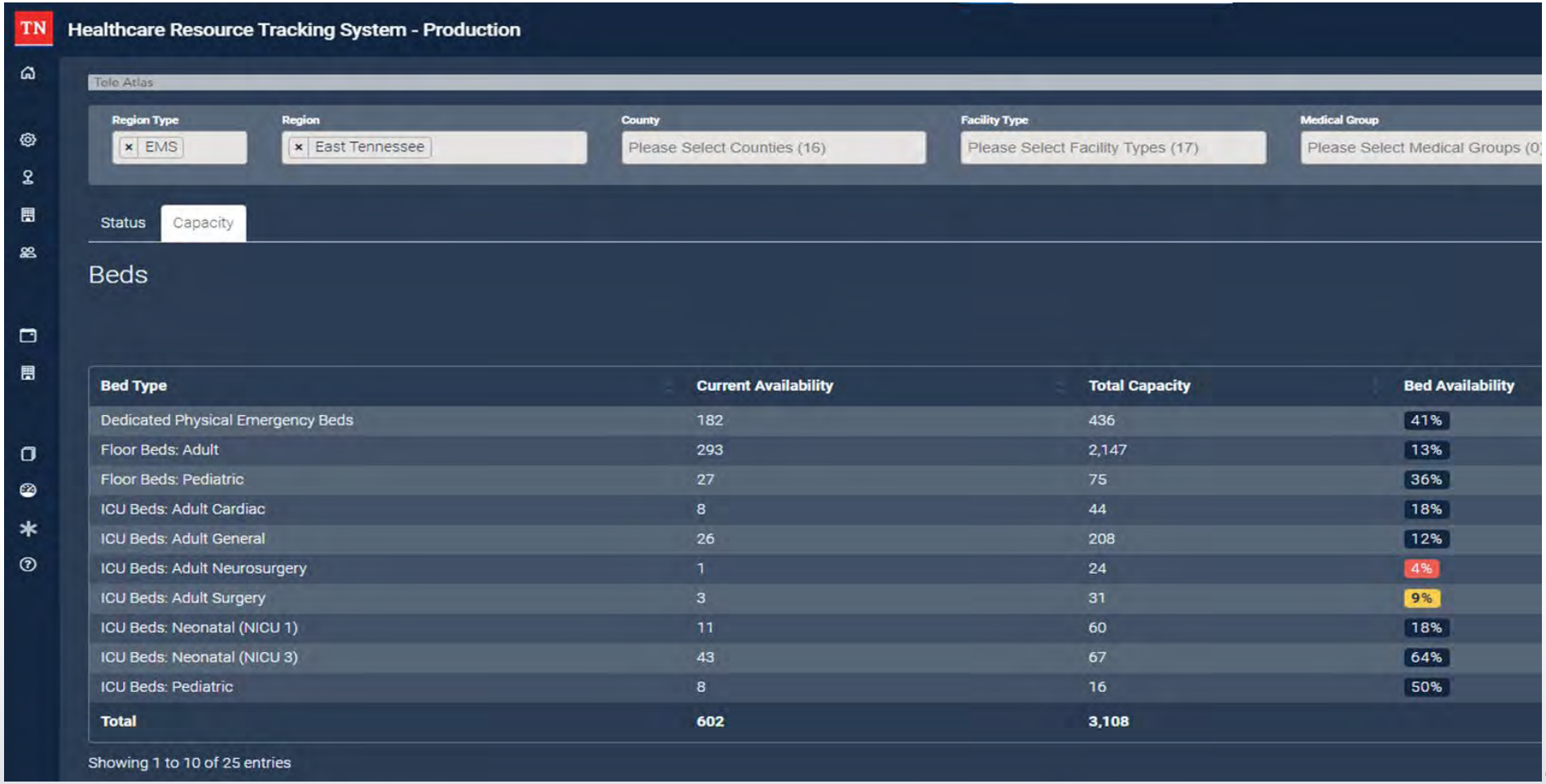
Daily Operational View





Daily Operational View

Capacity Tab



Color Codes for Status

Emergency Department

Facility Status Type	Status Color	Status Description
Emergency Department	Normal (Green)	All ED Operations are Normal
	Advisory (Yellow)	ED is experiencing a high volume of patients; EMS should anticipate some offload Delays.
	Severe (Orange)	ED is experiencing severe overcrowding in the waiting room area, limited bed availability and EMS offload delays.
	Critical (Red)	ED is experiencing critical overcrowding, holding admissions in ED with a full lobby and extended EMS offload delays **or** a critical failure in service/operations in the ED. Redirect EMS patients as appropriate if possible.
	Divert (Black)	ED has loss services/operations due to an internal disaster. **HICS has been activated.** HRTS updated as dictated on HRTS event board or every 2 hours if HRTS event not active. Unable to accept patients, EMS should divert patients.

Color Codes for Status

Facility

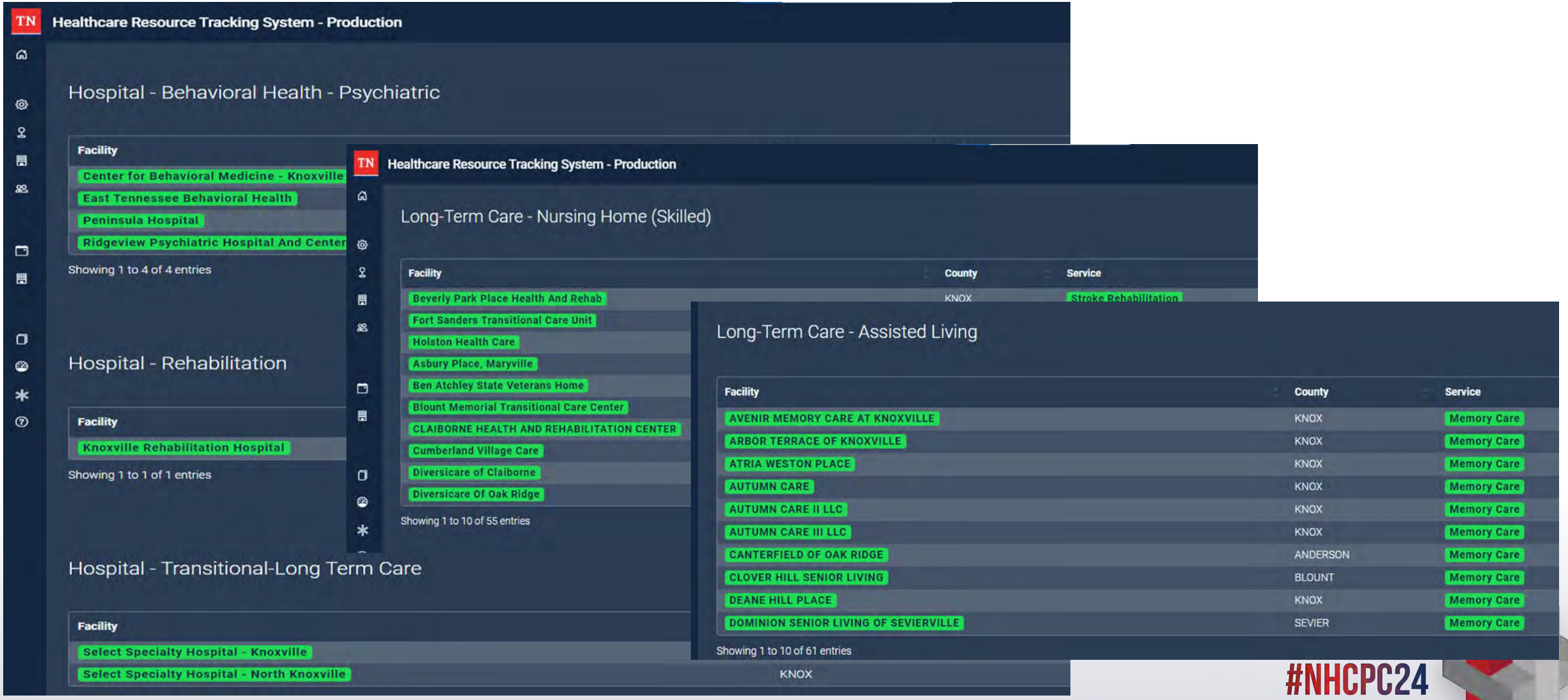
Facility Status Type	Status Color	Status Description
Facility	Normal (Green)	All Operations are Normal
	Advisory (Yellow)	Facility is experiencing a high volume of patients cause delay in services.
	Severe (Orange)	Facility is experiencing overcrowding in patient care areas with limited bed availability resulting in delays of patient movement.
	Critical (Red)	Facility has no beds available; admissions being held in ED **or** a critical failure in service/operations within facility. Redirect EMS patients as appropriate and if possible.
	Divert	Facility has loss services/operations due to an internal disaster. **HICS has been activated**. Unable to accept patients, EMS should divert patients.

Color Codes for Status

Services

Facility Status Type	Status Color	Status Description
Services (i.e. MRI, CT, Cath Lab, L&D, Behavioral Health…)	Normal (Green)	All Operations are Normal
	Advisory (Yellow)	Limited access/use available. Update service status in HRTS. EMS should have early notification to facility to check availability.
	Severe (Orange)	Delay in service availability due to overcrowding or service disruptions
	Critical (Red)	Critical system failure and service is not available. Update service status in HRTS. EMS should redirect patient as appropriate.
	Divert	Facility has loss services/operations due to an internal disaster or system outage. Unable to accept patients, EMS should divert patients.

Beyond Acute Care Hospitals



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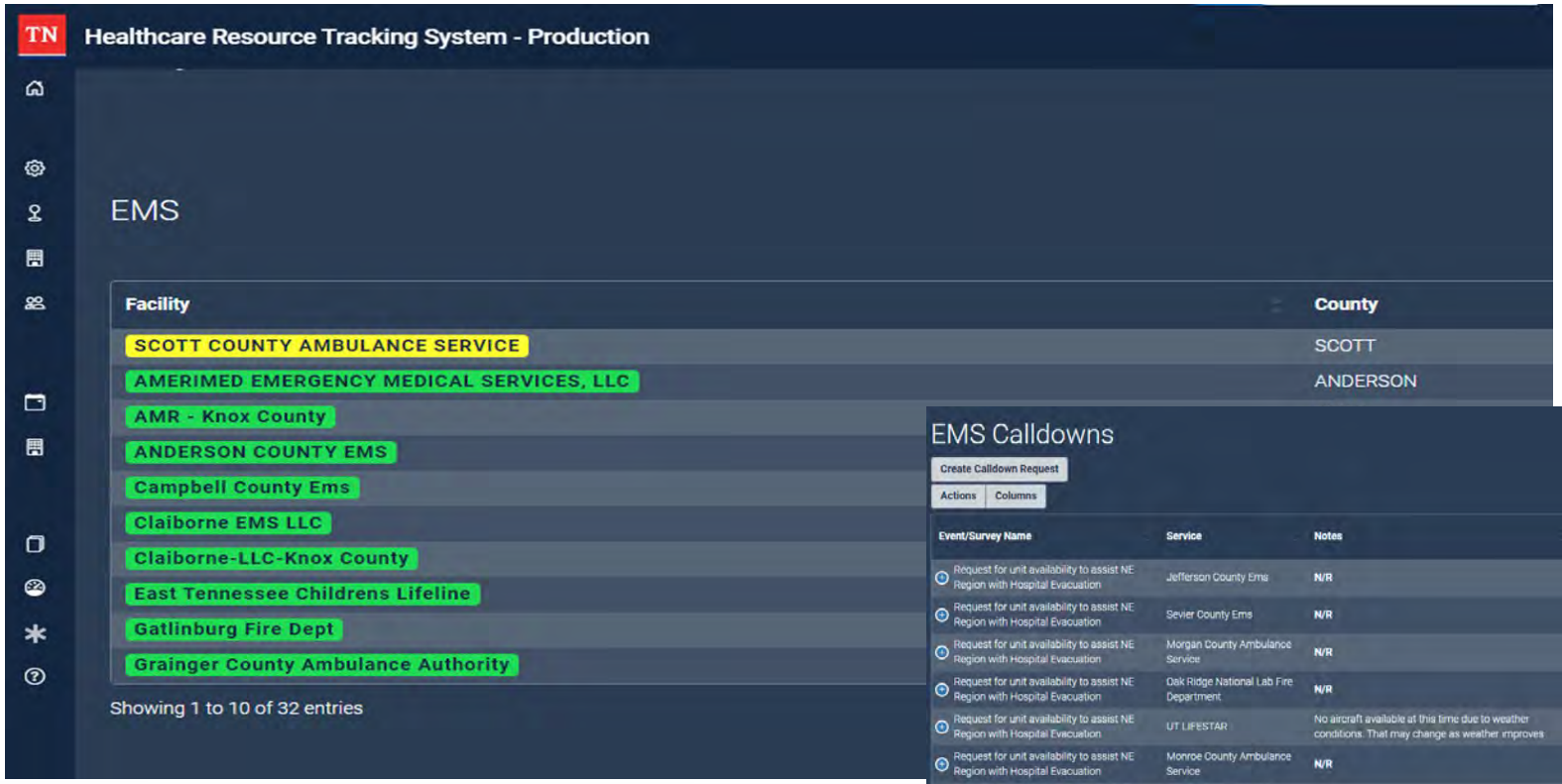
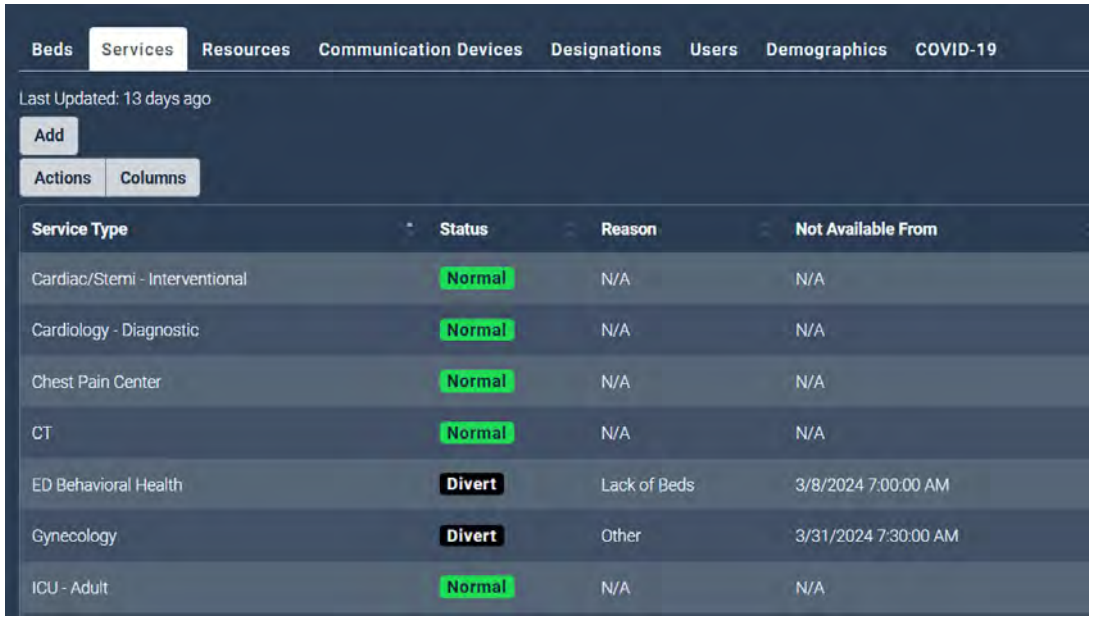
Emergency Medical Services



Status of Services and Resources



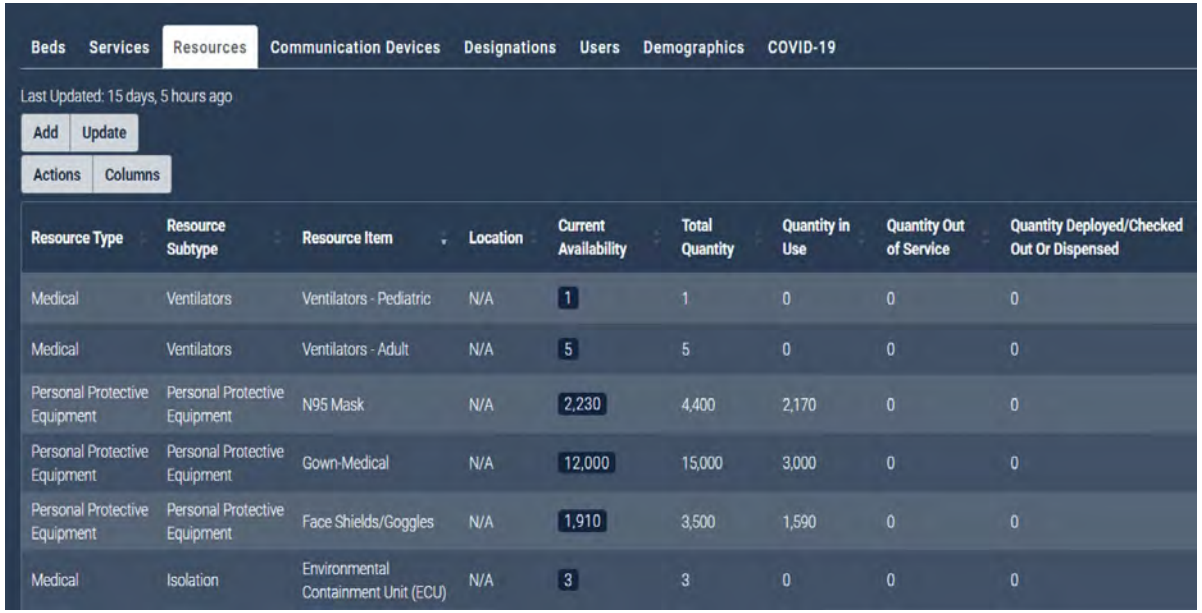
Beds | Services | Resources | Communication Devices | Designations | Users | Demographics | COVID-19

Last Updated: 13 days ago

Add

Actions | Columns

Service Type	Status	Reason	Not Available From
Cardiac/Stemi - Interventional	Normal	N/A	N/A
Cardiology - Diagnostic	Normal	N/A	N/A
Chest Pain Center	Normal	N/A	N/A
CT	Normal	N/A	N/A
ED Behavioral Health	Divert	Lack of Beds	3/8/2024 7:00:00 AM
Gynecology	Divert	Other	3/31/2024 7:30:00 AM
ICU - Adult	Normal	N/A	N/A



Beds | Services | Resources | Communication Devices | Designations | Users | Demographics | COVID-19

Last Updated: 15 days, 5 hours ago

Add | Update

Actions | Columns

Resource Type	Resource Subtype	Resource Item	Location	Current Availability	Total Quantity	Quantity in Use	Quantity Out of Service	Quantity Deployed/Checked Out Or Dispensed
Medical	Ventilators	Ventilators - Pediatric	N/A	1	1	0	0	0
Medical	Ventilators	Ventilators - Adult	N/A	5	5	0	0	0
Personal Protective Equipment	Personal Protective Equipment	N95 Mask	N/A	2,230	4,400	2,170	0	0
Personal Protective Equipment	Personal Protective Equipment	Gown-Medical	N/A	12,000	15,000	3,000	0	0
Personal Protective Equipment	Personal Protective Equipment	Face Shields/Goggles	N/A	1,910	3,500	1,590	0	0
Medical	Isolation	Environmental Containment Unit (ECU)	N/A	3	3	0	0	0

Reports –PDF or Excel

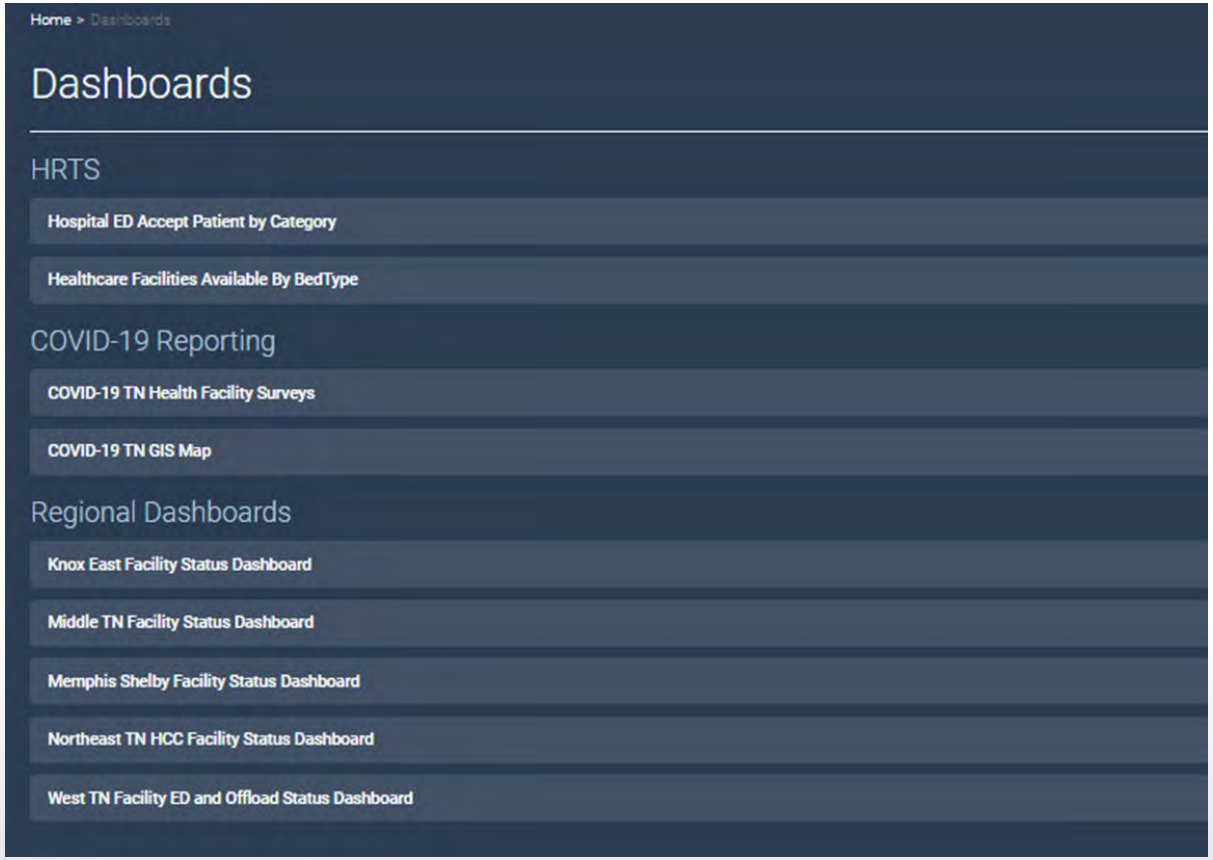
Parkwest Medical Center - Services

Service Type	Status	Reason	Not Available From	Not Available To
Cardiac/Stemi - Interventional	Normal	N/A	N/A	N/A
Cardiology - Diagnostic	Normal	N/A	N/A	N/A
Chest Pain Center	Normal	N/A	N/A	N/A
ED Behavioral Health	Critical	Patient Overcrowding	2/23/2024 8:32:00 AM	2/26/2024 8:32:00 AM
ICU - Adult	Normal	N/A	N/A	N/A
Interventional Radiology	Normal	N/A	N/A	N/A
Labor and Delivery	Normal	N/A	N/A	N/A
MRI	Normal	N/A	N/A	N/A
Neurology	Normal	N/A	N/A	N/A
Obstetrics	Normal	N/A	N/A	N/A
Ophthalmology	Normal	N/A	N/A	N/A
Orthopedics	Normal	N/A	N/A	N/A
Telemetry/Monitored Beds	Normal	N/A	N/A	N/A

Parkwest Medical Center - Services

Service Type	Status	Reason	Not Available From	Not Available To
Cardiac/Stemi - Interventional	Normal	N/A	N/A	N/A
Cardiology - Diagnostic	Normal	N/A	N/A	N/A
Chest Pain Center	Normal	N/A	N/A	N/A
ED Behavioral Health	Critical	Patient Overcrowding	2/23/2024 8:32:00 AM	2/26/2024 8:32:00 AM
ICU - Adult	Normal	N/A	N/A	N/A
Interventional Radiology	Normal	N/A	N/A	N/A
Labor and Delivery	Normal	N/A	N/A	N/A
MRI	Normal	N/A	N/A	N/A
Neurology	Normal	N/A	N/A	N/A
Obstetrics	Normal	N/A	N/A	N/A
Ophthalmology	Normal	N/A	N/A	N/A
Orthopedics	Normal	N/A	N/A	N/A
Telemetry/Monitored Beds	Normal	N/A	N/A	N/A

Dashboards and Reports

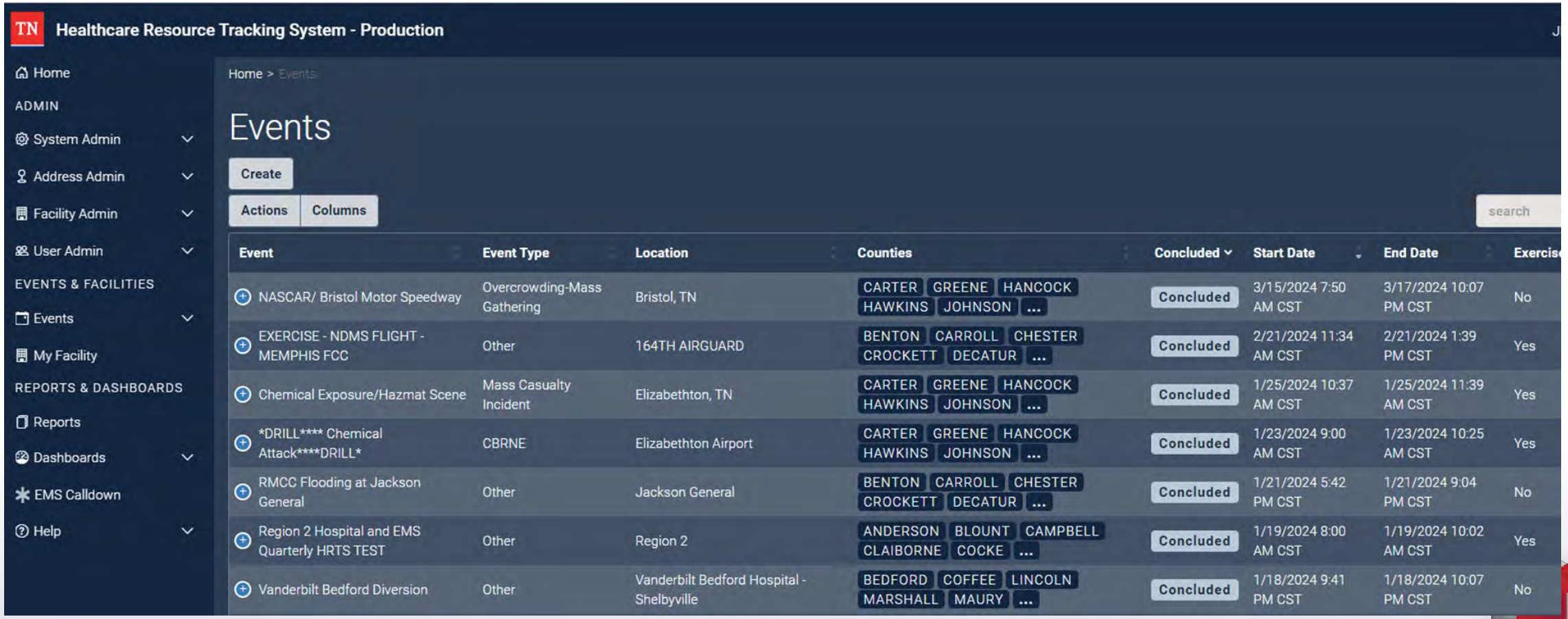


Facility Bed Availability Report

	Region	FacilityTyp	SubType	BedType	BedUpd	CurrentCapac	TotalCapaci	Occupi
dical Center	East Tenness	Hospital	Acute Ca	Dedicated Physical Emergency	3/12/20	0	8	1
dical Center	East Tenness	Hospital	Acute Ca	Floor Beds: Adult	3/12/20	5	12	7
lospital	East Tenness	Hospital	Acute Ca	Dedicated Physical Emergency	3/12/20	0	35	35
lospital	East Tenness	Hospital	Acute Ca	Floor Beds: Adult	3/12/20	18	130	109
lospital	East Tenness	Hospital	Acute Ca	ICU Beds: Adult Cardiac	3/12/20	0	8	8
lospital	East Tenness	Hospital	Acute Ca	ICU Beds: Adult Surgery	3/12/20	2	8	6
lospital	East Tenness	Hospital	Acute Ca	Operating Pre/Post Beds	3/12/20	4	8	4
Center	East Tenness	Hospital	Acute Ca	Dedicated Physical Emergency	3/12/20	4	10	6
Center	East Tenness	Hospital	Acute Ca	Floor Beds: Adult	3/12/20	9	21	12
Center	East Tenness	Hospital	Acute Ca	ICU Beds: Adult General	3/12/20	1	5	4
Center	East Tenness	Hospital	Acute Ca	Operating Pre/Post Beds	3/12/20	3	3	0
ildrens Hospital	East Tenness	Hospital	Acute Ca	Floor Beds: Pediatric	3/12/20	14	75	61
ildrens Hospital	East Tenness	Hospital	Acute Ca	Operating Pre/Post Beds	3/12/20	25	25	0

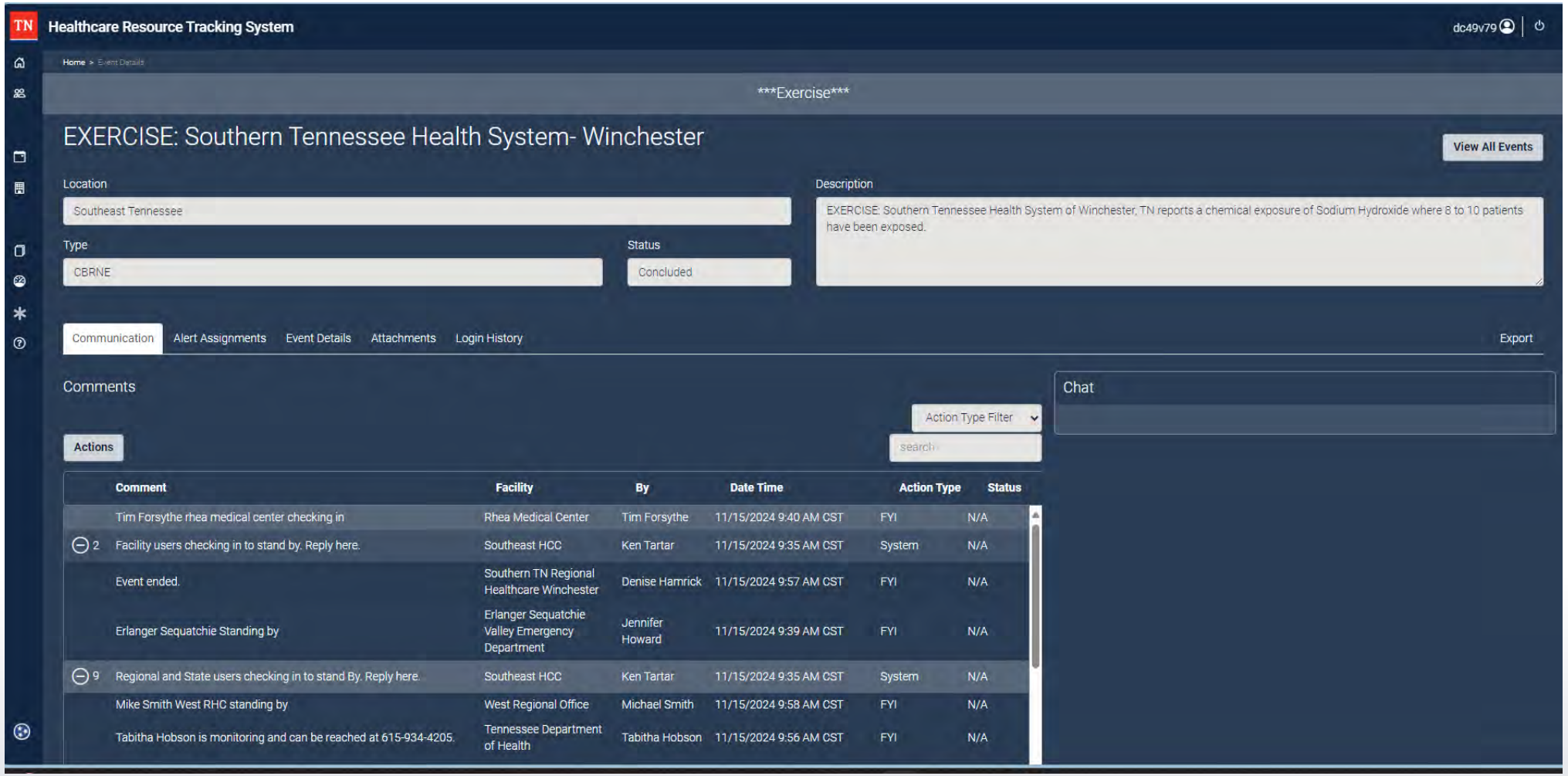
Use of HRTS Beyond Daily Operations

Planned and Unplanned Events

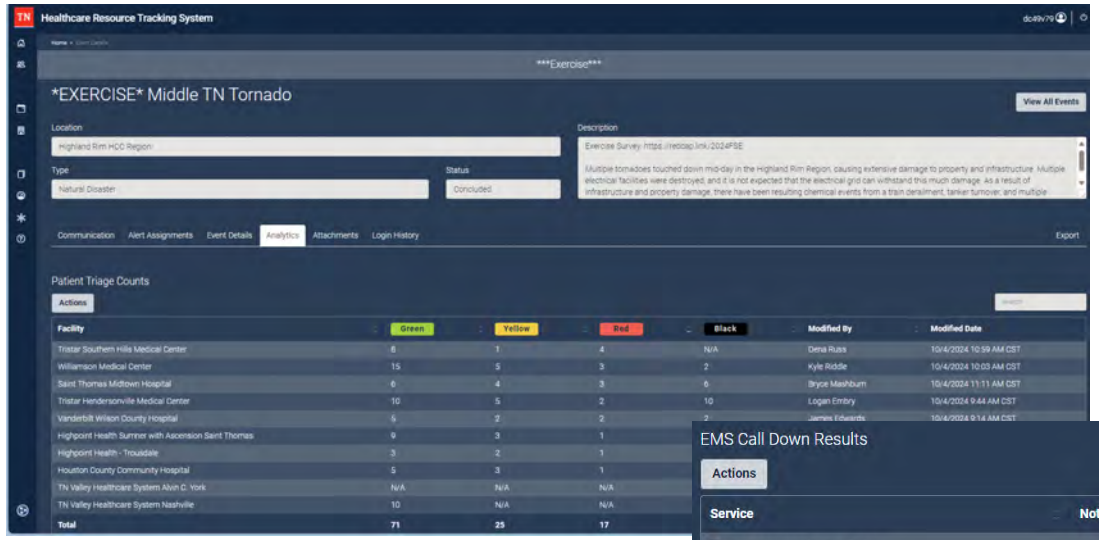


Event	Event Type	Location	Counties	Concluded	Start Date	End Date	Exercis
NASCAR/ Bristol Motor Speedway	Overcrowding-Mass Gathering	Bristol, TN	CARTER GREENE HANCOCK HAWKINS JOHNSON ...	Concluded	3/15/2024 7:50 AM CST	3/17/2024 10:07 PM CST	No
EXERCISE - NDMS FLIGHT - MEMPHIS FCC	Other	164TH AIRGUARD	BENTON CARROLL CHESTER CROCKETT DECATUR ...	Concluded	2/21/2024 11:34 AM CST	2/21/2024 1:39 PM CST	Yes
Chemical Exposure/Hazmat Scene	Mass Casualty Incident	Elizabethton, TN	CARTER GREENE HANCOCK HAWKINS JOHNSON ...	Concluded	1/25/2024 10:37 AM CST	1/25/2024 11:39 AM CST	Yes
*DRILL**** Chemical Attack****DRILL*	CBRNE	Elizabethton Airport	CARTER GREENE HANCOCK HAWKINS JOHNSON ...	Concluded	1/23/2024 9:00 AM CST	1/23/2024 10:25 AM CST	Yes
RMCC Flooding at Jackson General	Other	Jackson General	BENTON CARROLL CHESTER CROCKETT DECATUR ...	Concluded	1/21/2024 5:42 PM CST	1/21/2024 9:04 PM CST	No
Region 2 Hospital and EMS Quarterly HRTS TEST	Other	Region 2	ANDERSON BLOUNT CAMPBELL CLAIBORNE COCKE ...	Concluded	1/19/2024 8:00 AM CST	1/19/2024 10:02 AM CST	Yes
Vanderbilt Bedford Diversion	Other	Vanderbilt Bedford Hospital - Shelbyville	BEDFORD COFFEE LINCOLN MARSHALL MAURY ...	Concluded	1/18/2024 9:41 PM CST	1/18/2024 10:07 PM CST	No

Events Page - Communication



Events Page – Patient Triage and EMS Call Down Analytics



EMS Call Down Results

*Times displayed in CST

Actions

search

Service	Notes	ALS Qty	ALS ETA (Immediate) In Mins	BLS Qty	BLS ETA (Immediate) In Mins	Contact	Phone	Created	
Montgomery County Ems	N/R	1	50	N/R	0	Chris Proctor	(931) 320-1624	09:34 10/04/2024	Edit
Williamson Health EMS	N/R	3	N/R	N/R	N/R	Mark King	(615) 585-8895	09:31 10/04/2024	Edit
Wilson County Emergency Management Agenc	N/R	2	20	0	0	Brian Newberry	6152184127	09:15 10/04/2024	Edit
Vanderbilt Lifeflight #1 - Sumner	N/R	N/R	0	N/R	0	Kevin Nooner	6153359547	09:12 10/04/2024	Edit
Vanderbilt Lifeflight #10 - Wilson County	N/R	N/R	0	N/R	0	Kevin Nooner	6153359547	09:10 10/04/2024	Edit
Vanderbilt Lifeflight # 3 Clarksville	N/R	N/R	0	N/R	0	Kevin Nooner	6153359547	09:10 10/04/2024	Edit
TriStar Skylife Mobile Care	N/R	3	6	N/R	0	Rod Dawson	(706) 260-6267	09:09 10/04/2024	Edit
Vanderbilt Critical Care Ground Transport	N/R	4	20	2	20	Michael Clements	(931) 212-9969	09:09 10/04/2024	Edit
Houston County Ambulance Service	N/R	0	0	0	0	Beth Fialkowski	(607) 316-6751	09:09 10/04/2024	Edit
Sumner County Ambulance Service	N/R	3	0	2	0	Jay Austin	(615) 715-1220	09:09 10/04/2024	Edit

Events Page Record Management

Downloadable Reports

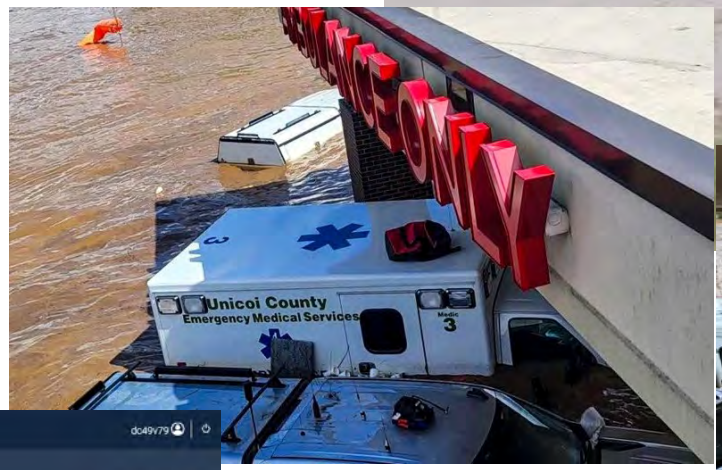
- Communications Log
- EMS Response Report
- Hospital Triage Records
- Any relevant attachments or additional documents.

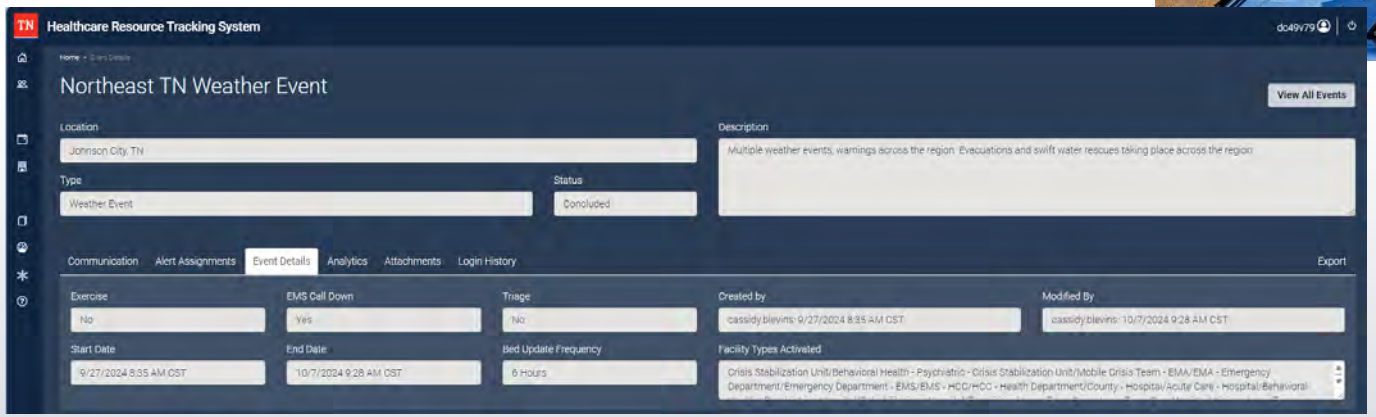
Comment	Facility	By	Date Time	Action Type	Status
We will conclude this event as we are more into recovery and rebuilding phases now. Thank you so much to all the love and relief sent to Northeast TN. We appreciate you!	RMCC		10/7/2024 9:27 AM CST	FYI	N/A
FLIGHT CENTERS BE ADVISED- multiple private aircrafts, TVA, THP, Coast Guard, National Guard, H.E.A.R.T. and Med-Flight II VSP operating in this region of the state and North Carolina area. Please be vigilant with communications. Permissions to operate in Unicoi Co,TN need to be cleared bty "Air Boss" (national guard)	RMCC		10/4/2024 10:22 AM CST	FYI	N/A
Our Region is still experiencing widespread spotty outage in cell and internet service. Also some radio infrastructure issues on Holston Mountain.	RMCC		10/4/2024 9:48 AM CST	FYI	N/A
IV fluid shortages across the system. Seeking additional resources through local healthcare coalition team.	RMCC		10/4/2024 9:17 AM CST	FYI	N/A
Updates: Operational Northeast Tennessee Facilites under this thread	RMCC		10/4/2024 8:47 AM	FYI	N/A

HRTS Event Northeast – Hurricane Helene 9/27/2024 – 10/7/2024

Timeline

- Event activated in HRTS at 8:35 AM on 9/27/2024.
- Unicoi Medical Center (Erwin, TN)
  - Decision to evacuate at 9:48am ET
  - Evacuation complete by 4:45pm ET
- 4 Helicopters (2 TNNG and 2 VA Police)
- 54 Lives Saved
- Activation concluded at 9:27 AM on10/7/2024.





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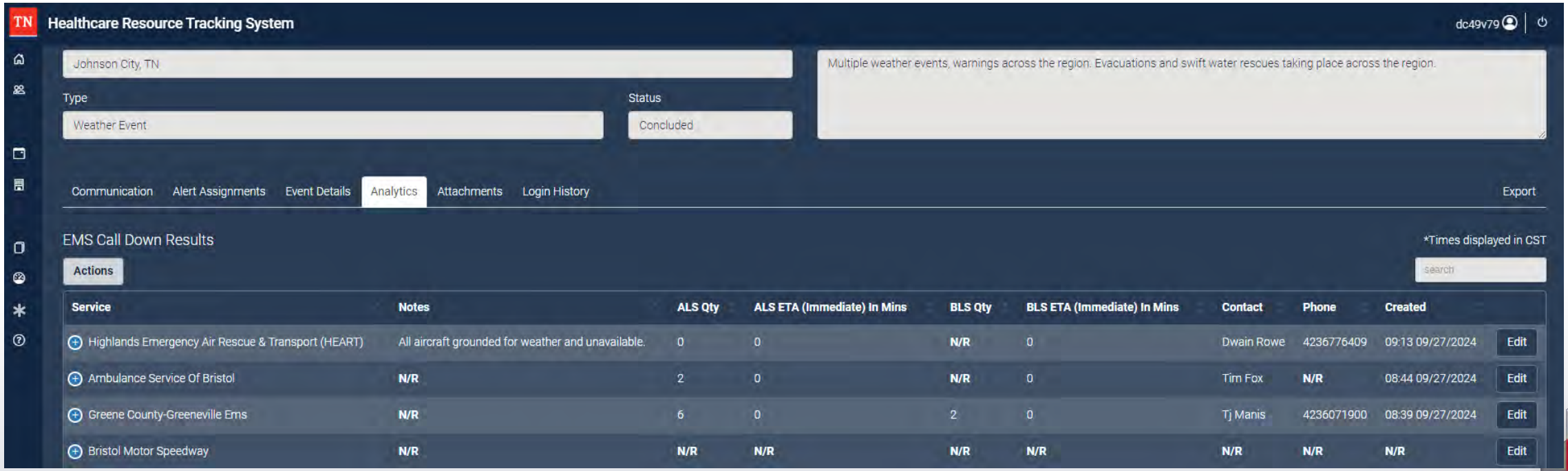
HRTS Event Northeast – Hurricane Helene
9/27/2024

HRTS Event Northeast – Hurricane Helene
9/27/2024 – 10/7/2024

EMS Call Down Results



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HRTS Event Northeast – Hurricane Helene 9/27/2024 – 10/7/2024

Communication

ESF-8 in coordination with EMS is working the situation and will be in contact with the RHC/ ERC/RMCC.	Tennessee Department of Health	9/27/2024 12:42 PM CST	FYI	N/A
Sycamore Shoals Hosptial is now evacuating their hospital as well.	RMCC - Ballad Health	9/27/2024 12:30 PM CST	FYI	N/A
2 Ambu buses have been deployed to SSH	RMCC - Ballad Health	9/27/2024 1:46 PM CST	FYI	N/A
10 ambulances are needed to stage at Elizabethton High School	RMCC - Ballad Health	9/27/2024 12:37 PM CST	FYI	N/A
SSH Hospital is currently evacuating.		9/27/2024 12:19 PM CST	FYI	N/A
HCMH 7 ER beds available. M/S full at this time.	Hawkins County Memorial Hospital	9/27/2024 11:45 AM CST	FYI	N/A
Carter Co, Johnson Co and Unicoi Co have all declared states of emergency.	RMCC - Ballad Health	9/27/2024 11:30 AM CST	FYI	N/A
Niswonger Children's hospital 1 and 2 Conference Rooms will be reunification points for UCH hospital staff.	RMCC - Ballad Health	9/27/2024 11:07 AM CST	FYI	N/A

HRTS Event Northeast – Hurricane Helene
9/27/2024 – 10/7/2024

Facility Status

Healthcare Resource Tracking System

dc49v79

Status | Capacity

Hospital - Acute Care

Facility	County	ED Status	Offload Status	Service	Reason	Last Updated
Unicoi County Hospital	UNICOI	Divert	Divert	CT MRI Telemetry/Monitored Beds	Other	9/27/2024 8:21 PM EST
[redacted] Medical Center	SULLIVAN	Advisory	Advisory	Surgery: Adult General	N/A	12/3/2024 5:49 AM EST
[redacted] Hospital	CARTER	Normal	Normal	Telemetry/Monitored Beds	Lack of Beds	12/3/2024 2:57 AM EST
[redacted] Hospital East	GREENE	Normal	Normal	Surgery: Adult General	N/A	12/3/2024 5:16 AM EST
[redacted] Medical Center	SULLIVAN	Normal	Normal	Surgery: Adult General	N/A	12/3/2024 7:31 AM EST
[redacted] Hospital	Dickenson	Normal	Normal	CT	N/A	12/3/2024 6:04 AM EST
[redacted] Hospital	HANCOCK	Normal	Normal	CT	N/A	12/3/2024 8:23 AM EST
[redacted] Hospital	HAWKINS	Normal	Normal	CT	N/A	12/3/2024 8:36 AM EST
[redacted] Hospital	SULLIVAN	Normal	Normal	Surgery: Adult General	N/A	12/3/2024 3:25 AM EST
[redacted] Hospital	JOHNSON	Normal	Normal	CT	N/A	12/2/2024 12:31 AM EST
[redacted] Hospital	Lee	Normal	Normal	CT	N/A	12/3/2024 6:04 AM EST
[redacted] Hospital	Smyth	Normal	Normal	Cardiology - Diagnostic	N/A	12/3/2024 6:07 AM EST
[redacted] Hospital	Russell	Normal	Normal	CT	N/A	12/3/2024 6:31 AM EST
[redacted] Hospital	Smyth	Normal	Normal	Surgery: Adult General	N/A	12/2/2024 5:01 PM EST

Showing 1 to 14 of 14 entries

Show [redacted] entries

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HRTS Metrics-Northeast

"Northeast TN Weather" Event Metrics

- 111 facilities alerted -Hospitals, LTC, EMS, Public Health
- 15 Counties reporting in TN and VA
- 1328 system users visited the Event page while it was active (some are duplicates)
- 166 comments were posted by 46 individuals

Best Practices

- Assisted in sustaining a common operating picture and needs assessments through Event Comments.
- Recognizes the ability of the RMCCs to maintain and provide updates of regional data such as essential elements of information, EMS availability, status updates.
- RMCC was able to communicate with other RMCCs to provide additional ambulances if needed.
- RMCC was able to provide updates to ambulance availability within their region.
- Event chat allowed rapid technical changes to be made between RMCC and HRTS System Admins to correct an upload problem.

Lessons Learned

- EMAs were not included in event notification.
- Skilled Nursing and Assisted Living had a low response rate.
- Non-Acute Care Hospitals were non-responsive.
- EMS Call down was successfully completed by 3 of 14 EMS agencies (21%).

HRTS Metrics - East

“City of Newport Evacuation and Inclement Weather” Event Metrics

- 67 facilities alerted -Hospitals, LTC, EMS, Public Health
- 16 Counties reporting in TN
- 407 system users visited the Event page while it was active (some are duplicates)
- 51 comments were posted by 36 individuals

Best Practices

- Assisted in providing resources needed within shelters.
- Recognizes the ability of regional staff to maintain and provide updates of regional data and status updates.
- Hospitals were fantastic in ensuring beds were updated in a timely manner.

Lessons Learned

- Portable O2 should be put in as Resource Needed instead of FYI so the request can be closed upon fulfillment.
- No further updates on City of Newport before event closed.

Conclusion

- HRTS is essential for effective healthcare management and resilience, ensuring patient needs are met through coordinated resources.
- Sustainability insights from HRTS support coalition efforts and strategic planning for future resilience.
- HRTS enables data-driven collaboration, sharing best practices, and avoiding overload in crises.
- Centralized data and real-time visibility optimize healthcare delivery, enhancing coalition effectiveness in crises.

Questions