

Mission Critical: Leading a Healthcare System Through Concurrent Disasters

In late September 2024, Hurricane Helene made landfall in Florida (FL), then moved inland and north, bringing with it record-breaking rainfall and damage to areas of North Carolina (NC), many of them rural and mountainous. Just two weeks later, Hurricane Milton also made landfall in FL, accompanied by tornadoes that contributed to significant power outages in FL and other states and compounding damage caused by Helene. HCA Healthcare is comprised of nearly 200 acute care hospitals in 23 states—from FL to Virginia on the east coast, and throughout the U.S., including Alaska—and the United Kingdom. To better understand how the system managed these concurrent disasters, ASPR TRACIE hosted the webinar Mission Critical-How One Hospital Maintained Operations and Protected Patients and Staff After Hurricane Helene featuring Melissa Cole Harvey (RN, BSN, MSPH), the Assistant Vice President for HCA Healthcare's Enterprise Emergency Operations, and Wyatt Chocklett (MS, MA), who was the Chief Operating Officer for Mission Hospital, in Asheville, NC when Hurricane Helene struck. His case study detailing actions taken and lessons learned from a hospital perspective during Helene follow Melissa's overview on how HCA's divisions and corporate enterprise worked with state and federal resources to support these very different, very complex responses to both storms.

Related ASPR TRACIE Resources

Mission Critical-How One Hospital
Maintained Operations and Protected
Patients and Staff After Hurricane
Helene (Webinar)

Mission Accomplished: How a Hospital Sheltered in Place, Kept Patients and Staff Safe, and Maintained Operations After Hurricane Helene

<u>Healthcare Facility Evacuation/</u> <u>Sheltering</u> Topic Collection

Hurricanes Resource Page

Melissa Cole Harvey (MCH): In addition to the 190 hospitals, HCA Healthcare oversees clinics, urgent care centers, and freestanding emergency departments across the country and abroad. The system is comprised of 15 divisions with offices throughout the U.S.; each division includes up to 15 hospitals. Each Division has its own division emergency operation centers. There is an emergency manager or responsible executive of emergency management in every facility. This structure allows us to both develop local relationships (e.g., with healthcare coalitions and vendors) and to facilitate support between divisions as needed.

Our headquarters are in Nashville, where our Enterprise Emergency Operations Center (EEOC) is located. To manage incidents, we use a functional area command structure (versus the more traditional Hospital Incident Command System), which allows us to act in our day-to-day roles, tapping into the breadth of HCA to address challenges that cannot be



solved at the facility or division level, such as Hurricanes Helene and Milton. The timeline in Figure 1 illustrates the EEOC's preparedness, response, and recovery steps. Since October 2024, HCA Healthcare has contributed millions of dollars through community organizations and colleague matching to support recovery efforts in FL, GA, and NC.

Figure 1. Timeline of Events

SEPT 23

EEOC activated for Disturbance 35 in the Caribbean with the potential to strengthen into a major hurricane over the next 72 hours.

West and North FL Divisions began de-risking critical patients, evacuating hospitals, and preparing facilities to shelter-in-place.

SEPT 24

Tropical Storm Helene formed in the Gulf of Mexico.

Incident Response Teams deployed to FL.

SEPT 26

Hurricane Helene made landfall in Florida's Big Bend as a powerful Category 4 storm, accompanied by record-breaking storm surge.

Incident Response Teams deployed to NC.

SEPT 27

Helene moved north through Georgia (GA), NC, and Tennessee (TN), bringing powerful winds and flooding to some communities.

In GA, Memorial Satilla Health, Memorial Health Meadows Hospital and Doctors Hospital of Augusta lost access to city water and/or communications.

Western NC, the home of Mission Health, was hit especially hard with catastrophic flooding.

SEPT 28 - OCT 5

EEOC continued to support Helene response efforts by mobilizing resources to deploy to impacted facilities and assessing the needs of the impacted communities.

OCT 1

HCA Healthcare announced that the organization will contribute \$1 million through community organizations to aid Hurricane Helene relief in NC.

OCT 6

Amid Hurricane Helene support, the EEOC also began preparations for Tropical Storm Milton, projected to become a hurricane and travel across FL peninsula.

Incident Response Teams deployed to FL.

OCT 7

Milton rapidly intensified to a Category 5 storm with winds at 160 mph.

Patient de-risking and hospital evacuations began from West FL Division facilities.

OCT 9

Milton made landfall south of Tampa Bay as a Category 3 storm, spawning numerous tornadoes in southern and central FL.

During the storm, patients were transferred from HCA Florida Highlands Hospital.

OCT 10

Once Hurricane Milton exited FL early morning, HCA Florida Largo Hospital transferred 239 patients due to flooding in the basement that caused a loss of primary and generator power to 75% of the hospital.

OCT 11

Established a modular, free-standing emergency department at HCA Florida Largo Hospital.

We have very robust Enterprise Response Teams comprised of leaders, clinicians, and operators from many of our HCA facilities who have key skills including nursing/medicine, security, emergency management, human resources, and operational leadership who we have trained in emergency response and incident management. We pre-deploy them where we believe emergencies are going to happen, so that they can help set up incident management from the moment they hit the ground, supporting facility leaders as needed during a storm or any other type of incident, and permitting our clinical and operational colleagues to take care of their own families and homes following an emergency. All of this said, we know that all disaster responses are local responses, and this includes healthcare.

We could not have achieved successful de-risking and evacuation had it not been for our phenomenal partnerships and pre-existing contracts with air and ground mass transport vendors.

HCA Healthcare's Response to Hurricane Helene in Florida and Georgia

There are 48 HCA Healthcare hospitals in FL alone; 27 of them were in the direct path of Hurricane Helene. Four of our hospitals in GA were also in the path. We invested time before the storm evacuating entire facilities and "de-risking" or moving some of the most vulnerable patients who would be more challenging to move immediately after the storm (e.g., ICU or behavioral health patients) to sister hospitals to ensure they could remain safe. A total of 74 HCA Florida West Tampa Hospital and HCA Florida Pasadena Hospital patients were transferred to sister hospitals before the storm hit.



We also deployed our flood mitigation system (6,500 feet of dam materials) at HCA Florida Pasadena (one of our hospitals that is prone to flooding) (Figure 2).

Local hospitals typically experience patient surge when a community loses power or water. In GA, many residents, businesses, and healthcare facilities lost access to water and communications when Helene hit, leading us to deploy generators to city water plants to help them get back online. This helped ease pressure and facilitate recovery for both our healthcare facilities and the community at large.

Resources Deployed

Figure 3 illustrates the resources the Enterprise Emergency Operations Center (EEOC) deployed in response to Hurricane Helene in FL and GA). We predeployed 11 generators across both states, despite all of our hospitals having back-up generators. We do this in case either the on-site generator fails, or we need additional coverage in humid, post-storm weather to keep hospitals, and particularly operating rooms, within certain humidity ranges. We pre-deployed fuel trucks to support our colleagues, making sure they could report to work and weren't waiting in long lines at gas stations. These fuel trucks also supported the ambulances and the first responders as they transported for many hours on end. We also deployed eight 6,000-gallon tanker trucks to provide potable water to our hospitals, and one 20,000-gallon tanker truck and pump to maintain hospital operations at one site. We also pre-deployed eight Enterprise Response Team members to FL and GA who helped with the de-risking, evacuations, and setting up the flood mitigation system.



Figure 2: Flood barrier placed around hospital. Photo courtesy of HCA Healthcare.

As updates came in from our team deployed to NC, we began to realize how significantly the flooding caused by Helene had unanticipatedly affected local infrastructure, particularly in Asheville, where Mission Hospital is located. Refer to the case study in this article for more information.

11

Generators for hospital operations

9 ■

Fuel trucks to support colleagues, first responders and generators

8 (

6k gallon tanker trucks to provide portable water into hospitals

8 දුම්දු

Incident Response Team members deployed

9 🚇

Tiger Dam flood mitigation system (6,500 feet) deployed at HCA Florida Pasadena Hospital

8 (2)

20k gallon tanker truck to pump large amounts of portable water to maintain hospital operations

Figure 3. Resources Deployed to FL and GA to Support Helene Response



Hurricane Milton

While we deployed staff and resources to several states to respond to Hurricane Helene, we learned that Hurricane Milton had formed and was following a similar initial path. We found ourselves de-risking and evacuating again, focusing on our facilities in our West FL Division. We pre-positioned 27 generators and deployed 13 Incident Support Team members and three dam systems to FL before the storm hit. Close to 40 fuel trucks and 11 water trucks were sent ahead of and after the storm.

Hurricane Milton was responsible for more than 24 deaths, over 125 tornado warnings (some tornadoes touched down in hospital parking lots), nearly 20 inches of rain in St. Petersburg, a five-foot storm surge, and for leaving more than 2 million residents without power. Overall, 18 HCA hospitals across 3 divisions prepared for the storm;



Figure 4. Photo of flood damage in basement of HCA Florida Largo Hospital. Courtesy of HCA Healthcare.

660 patients were transferred before, during, and after the storm; and more than 225 colleagues were deployed to assist Hurricane Milton-affected facilities.

While many of our resources were deployed in NC (including staff, who had been working 24/7 for nearly two weeks), Milton was wreaking havoc on another one of our hospitals. HCA Florida Largo Hospital is a major cardiovascular center that also includes heart, kidney, and liver transplant programs. It is not situated on a floodplain, nor has it historically fared too poorly in past storms. That hospital received so much rain and flash flooding from Hurricane Milton that the entire basement and portions of the first floor flooded in just 30 minutes, and the building lost all primary power and back-up generator power supplying more than 70% of the facility (Figure 4).

We conducted an emergent evacuation of 239 patients from HCA Florida Largo Hospital, many who were critically ill; this alone was a tremendous challenge. We also quickly created a freestanding, modular emergency department in the parking lot of HCA Florida Largo Hospital to ensure that we could continue to care for the community, which is accustomed to relying on HCA Florida Largo Hospital to treat cardiac and other critical illnesses.

Disaster Response from a System Perspective: Lessons Learned

There was a tremendous amount of activity happening concurrently across our divisions and the entire system. Resources were pre-deployed and relocated as necessary. Staff were being deployed from HCA facilities across the country to support two hurricanes that left significant destruction in their wake. We were relying on HCA's scale, and the expertise and experience of our divisions and teams to manage logistics and track staff and supplies.

One of the main lessons we learned is how important it is decentralize the incident command structure, especially for a large corporate system such as HCA Healthcare. For us, allowing teams to manage separate events, but also having one larger coordination call where we discussed overarching resources that needed to be deployed, provided a broad understanding across the board of what needed to be done, by whom, and when.

Another lesson we learned is that while it may be challenging to figure out ways to support your colleagues during emergency responses, going through these incidents built goodwill, bolstered connectivity, and made our colleagues feel like they were part of something bigger than the unit or even the hospital they work for.



Figure 5. Support dogs on duty at Transylvania Regional Hospital, part of the family of Mission Health Hospitals. Courtesy of HCA Heatlhcare



Nothing feels as familial as seeing colleagues arrive from across the country to help you manage a disaster of this magnitude.

HCA Healthcare is extremely proud of our responses to and recovery from both hurricanes. I am particularly proud of the fact that after each of these incidents, my office gets inundated by emails from others who want to join our Enterprise Response Teams and help our facilities and colleagues in need the next time a disaster strikes.

Hurricane Helene Case Study: North Carolina/Mission Hospital

Wyatt Chocklett was the Chief Operating Officer for HCA Healthcare's Mission Hospital in Asheville, NC when Hurricane Helene struck. In this webinar, he shared how flooding from Hurricane Helene significantly damaged roads and cut off communications and access to community water for long periods of time, affecting HCA Healthcare hospitals across NC.

Staff did not anticipate the true impact of the storm, but three days before the storm, they:

- Called in all staff, conducting a well-organized check-in and lodging process
- Pre-staged water, food, and generator fuel on-site and in Asheville
- Limited visitor access and hospital entry points
- Established regular cadence of updates from key hospital officers

In the 24 hours after the storm hit, Mission staff quickly:

- Ensured the safety of patients, staff, and providers
- Established what critical infrastructure systems were/not functioning
- · Monitored food supply for patients and staff
- Established which outside communication channels had been disrupted
- Conducted incident command meetings, limiting attendance and managing report outs to maximize productivity and minimize prolonged report outs.
- Assigned a liaison to manage vertical communication
- Got creative with problem solving (e.g., used bucket brigade and duct tape in a pinch)

One thing Mission Health discovered is that hospitals will experience a surge in patients after a storm, particularly one of this magnitude. Levels at Mission were unprecedented, with 275 seeking care from the Mission emergency room over just a few days after the storm. Morgue capacity was also a challenge, with facilities reaching or surpassing their maximum. Within 48 hours, they:

- Approached the response in terms of Maslow's Hierarchy of Needs (addressing basic needs first)
- Established open lines of communication to stakeholders (e.g., city and county governments, state and federal agencies, and network and non-affiliated hospitals)
- · Rounded on staff to help close gaps in their knowledge
- Ensured our staff had somewhere to shower and rest

Check out the ASPR
TRACIE article Mission
Accomplished: How a
Hospital Sheltered in Place,
Kept Patients and Staff Safe,
and Maintained Operations
after Hurricane Helene for
more information on the
Mission Hospital experience
during the Hurricane
Helene response.

It is important to note just how much damage the area experienced. Specifically:

- Road damage cut off Blue
 Ridge Hospital from ground
 access, forcing resources to be
 delivered via HCA-contracted
 cargo helicopters.
- Communications services were cut off for days. Fewer than 10% of all cellphone services were fully functioning three days after the storm.
- The EEOC set up satellite kits to restore connectivity at hospitals completely cut off from communication.
- Five HCA hospitals in NC lost access to community water.
 More than 8 weeks after Helene, Asheville still did not have utilityprovided potable water.



While Wyatt and his team managed the hospital/local response, to help maintain Mission Hospital operations, HCA Healthcare's EEOC deployed:

- Tanker trucks to provide water to Mission and area hospitals.
- Engineers from HCA facilities across the country to develop innovative solutions to allow water to travel from tanker trucks through facilities' faucets.
- Portable showers and laundry units for colleagues without access to water (Figure 5).
- Generators and water tanker trucks for hotels throughout Asheville to house colleagues supporting Mission Health and local colleagues and their families displaced during the storm.

Up to 96 hours after the storm struck, Wyatt and his team learned how important it was to have a deep understanding of staffing levels for the next several days. Securing the hospital at all times was also key to a successful response. Mission Hospital worked hard to:

- Engage infection preventionists to determine gaps/deficiencies
- Determine if the hospital needed to enact a de-risking plan
- Develop a specific team and resources for colleague support
- Consider a colleague redeployment plan, based on hospital needs
- Establish a system for families of staff to obtain necessities

Within a week after the storm hit, Mission Health had:

- Established A/B teams for leaders to rest, shower, and simply have a moment
- Arranged transport for teams coming to assist (e.g., FEMA, DMORT)
- Secured creative housing options (e.g., local hotels, bed and breakfasts)
- Developed a sequential way to restart surgical operations

The "By the Numbers" graphic (Figure 7) illustrates how HCA Healthcare supported colleagues in a variety of ways. Wyatt also listed steps other facilities can consider while preparing for disasters, including:

- Prepare for the worst, but be ready to demobilize quickly
- Basic needs must be met before re-establishing any sort of operations
- Have a clearly established "battle rhythm" for ICC and standard scripting to ensure the same type of information is captured during every meeting as necessary
- Test communications repeatedly to ensure they are dependable; this is the most vital link to recovery
- Allow leaders to have autonomy, but be rigid about status updates
- Leverage relationships with vendors, civic organizations, and others; they want to help
- Establish plans to endure prolonged outages
- Non-clinical departments are a recovery accelerator harness their power
- Give yourself and your team grace

HCA Healthcare, with assistance from the state, transferred patients who were able to be discharged from Mission Hospital but did not have a safe location in the immediate area to skilled nursing facilities and medical shelters outside the areas hardest hit by the disaster. This allowed Mission Hospital to free up resources to address the most urgent medical needs of the community.



Figure 6. Portable showers lined up outside Mission Hospital in Asheville. Courtesy of HCA Healthcare.

BY THE NUMBERS HCA Healthcare HURRICANE HELENE COLLEAGUE RECOVERY SUPPORT Colleague Supplies wells Caring in initial Helene aftermath 400K bottles of water heavy-lift helicopters dug to transporting regional supplies 95K gallons of fuel 3,500+ operate patients 75K meals therapy chillers dogs 168 mobile laundry and shower units **HCA** Healthcare 1,210+ mini-marts grants approved 70+ to date mega mart babies \$918,000 delivered colleague hotels approved for colleagues 200K+ **GALLONS OF** 5,000+ TANKER WATER HCA Healthcare nurses, physicians, and clinic visits other colleague support traveled from colleague support sessions DAILY sister hospitals to relieve caregivers by Optum Wellbeing

Figure 7. HCA Healthcare Support to Colleagues by the Numbers

