TEAM RESPONSE

Boone Hospital Center upholds its mission during the COVID-19 pandemic.

In 1918, an influenza pandemic affected nearly a third of the world's population and left few communities unaffected, including Boone County, Missouri. This pandemic also changed approaches to public health. Where infectious disease was once viewed as an individual problem, the emerging science of epidemiology considered infectious disease to be a social issue. Preventing disease became as important as treating the sick.

The lessons of the 1918 pandemic were foremost in the minds of Boone County leaders when they built the county's first community hospital, which opened its doors in December 1921.

Nearly a century later, in the face of a new global pandemic, Boone Hospital Center stood prepared to fulfill its mission to protect the health of the people and the communities it serves. The hospital's response to novel coronavirus, or COVID-19, would challenge Boone Hospital employees and physicians to step up in new ways to curb the spread of the virus and to be ready to treat anyone who needed advanced care.

For Infection Prevention Coordinator Cassie Mueller, MSN, CIC, CNL, stepping up started early. She says, "COVID-19 has taken priority in our daily work since the end of January. We were trying to learn everything about the epidemiology of the virus, how it was being primarily spread,

Chief Nursing Officer Monica Smith (left) and Infection Prevention Specialist Cassie Mueller, MSN (right) round on patient care units to answer questions.

how to protect employees and patients and how to prepare to safely care for COVID-19 patients."

Hospitals often have vulnerable populations, including patients who have chronic illnesses, patients recovering from surgery, patients who take immunosuppressant medications, elder patients, children and infants. Starting in January, the Infection Prevention team participated in daily calls with BJC HealthCare in Saint Louis to monitor the spread and plan the hospital's response. Boone Hospital Center also worked with local partners, including the University Hospital, the Truman VA Hospital, and the Columbia/Boone County Department of Health to monitor cases, develop guidelines, and provide support.

A serious concern was that a large influx of COVID-19 patients, known as a surge, could strain resources – including beds, supplies and clinical staff – and limit access to critical care for the extremely ill, including patients who need a ventilator to help them breathe. A surge uses more medical supplies and personal protective equipment, or PPE, like gloves and surgical masks. More nurses and techs would need to be available, and a surge in one unit could strain another's ability to care for patients.

As the first COVID-19 cases appeared in Missouri, taking action was critical. On Monday, March 16, the hospital expanded its COVID-19 Incident Command Center. Incident command centers are opened to respond to an emergency situation, such as a power outage or extreme weather conditions. Led by the Incident Commander, the Command Center leads efforts and collaboration between different departments to fully assess and address an emergency. For weeks, Infection Prevention had participated in a virtual incident command center with BJC HealthCare, but as each hospital prepared to receive COVID patients, the response would require support from more areas.

"I have participated in many simulations, but preparing during a real crisis has tapped every ounce of training, experience, leadership skill and energy that I'd never imagined I had," says Monica Smith, MSN, RN, NE-BC, FACHE. In addition to being Boone Hospital's Chief Nursing Officer and Vice-President of Patient Care Services, Monica served as our lead COVID-19 Incident Commander.

"As incident commander, I became a sponge for information," Monica continues. "I quickly identified our priorities and delegated activities appropriately, including timeframes for completion. Our incident command center has been successful due to the teamwork, cooperation, and execution of key priorities. There were times early on where large changes in our systems had to be made and at a rapid pace. We learned to evolve, make changes, and pivot to each new challenge."

To help employees keep up with these changes, Incident Command started a daily housewide newsletter with updates about the hospital's COVID-19 response. In addition to new patient care guidelines and instructions, these e-mails included patient compliments and profiles of Boone teammates who shared how COVID-19 had impacted their roles.

The week of March 16, 2020 would be a long one as employees adjusted to many drastic changes, but Monica was encouraging. In a staff message on Friday, March 20, she wrote, "We will be successful at defeating this virus while keeping our Boone teammates safe and providing excellent care to our patients. We must all remember that we are a team that pulls together during the good and the bad times. Each one of you is capable of what will be asked of you, and you will have the full support of the Boone Team."

FLATTENING THE CURVE

While there is still more to learn about COVID-19, epidemiologists do know it's spread primarily by close contact with infected people. Like the flu, people infected with COVID-19 can spread the virus to others before they feel sick – including to people at higher risk of severe illness or death. Some people who get the flu or COVID-19 may have no symptoms but can still spread it to others.

Unlike the flu, COVID-19 had been previously unidentified. This meant there were no vaccines and no herd immunity – an effect that occurs when enough people in a community have immunity to a virus, either from vaccination or exposure, that the spread is slowed, and others are indirectly protected.

You may have heard the phrase "flatten the curve" used to describe the desired outcomes of stay-at-home or shelter-in-place measures. Such measures help reduce the spread of COVID-19 so that fewer people at a time are sick, which makes it easier for hospitals to treat the seriously ill.

For many people, flattening the curve meant working from home, but most patient care jobs can't be done remotely. With safety as our #1 priority, it was important to ensure patients were safe and as few health care professionals as possible became sick while caring for patients. To follow social distancing guidelines, meetings and events were postponed, canceled, or moved online. Dining areas and waiting rooms were closed.

Visitor restrictions, while understandably difficult for patients, their families and our caregivers, became necessary to limit the number of people entering the hospital. To further limit visitors and to conserve resources for a possible patient surge, the decision was made to reschedule certain procedures and tests. It was a large, difficult task, but with the cooperation of our medical staff and Admissions teams, not an impossible one.

"I was honestly like, 'Let's do this,'" says Hannah Loesing, a Patient Access Rep in the Centralized Scheduling department. "We have a responsibility to adapt to change and do our part to help. I was more than happy to do whatever was asked of me."

Centralized Scheduling worked diligently to help patients reschedule weeks of testing and imaging appointments in 19 different departments. Over 1,000 tests and procedures had to be rescheduled. Hannah says, "Rescheduling eased stress on the departments and allowed them to

hold their resources for any COVID-19 cases that came into the hospital. I feel that our department did an awesome job at educating patients so that they understood."

Another key measure to reduce the spread of COVID-19 in the hospital was to screen everyone who entered, including employees, visitors, patients, physicians and vendors. Starting in late March, designated entrances were set up. Staff screeners equipped with thermometers asked everyone about common COVID-19 symptoms and their risk of exposure before doing an on-the-spot temperature check.

Hannah Loesing was among these screeners. When Centralized Scheduling became temporarily quiet, she joined other Boone staff in the hospital's labor pool to step in where help was needed. She says, "I just come into work with the understanding that each day is different. You have to be able to adapt quickly and continue to serve our community the best way we can."

Testing more people for COVID-19 was also a priority. On Wednesday, March 18, the bright blue BHC Mobile Health Unit, which usually hits the road each spring to bring free health care screenings to mid-Missouri, was transformed into a mobile testing site that allowed people with a physician's order to be tested without leaving their car. Between mid-March and late June, Boone Hospital conducted over 5,000 mobile tests.

A SAFE ENVIRONMENT

"What additional supplies do we need to have available and stocked to take care of our patients and staff?" was the first thought Shelly Berg, Supervisor of Distribution and Linen Services, had as the hospital prepared to respond to COVID-19. Already, there were nationwide shortages of PPE and cleaning products. In addition to monitoring and maintaining levels of critical supplies, such as gloves, surgical masks, hand sanitizers, disinfecting wipes, N95 respirators, swabs for COVID-19 testing and parts for ventilators, Shelly researched additional resources and approved alternatives in case they ran out anything. Distribution also took in donated supplies from local organizations and generous citizens.

Conserving PPE became everyone's responsibility. Infection Prevention rounded to departments to answer questions and make sure staff understood the requirements, which were based on CDC recommendations. While wearing a full suite of PPE all the time might sound like a good idea, depending on how a disease is transmitted, extra PPE offers no additional protection and uses up supplies necessary to safely care for other patients. Cassie Mueller notes that Boone Hospital's PPE strategies have been effective at protecting patients and staff; and Boone teammates have overwhelmingly agreed that they had a good supply of PPE.

"When I first heard of all the changes that were being made to prepare us for COVID-19, I knew that I would be able to handle whatever came my way," says Lead Environmental Services Tech Jessica Parker. "Ensuring the patient's environment is clean can make all the difference in their stay."

Infection prevention not only guides Boone Hospital's patient care practices, it also affects the hospital building itself. The 2011 opening of our south tower allowed more Boone patients to stay in private rooms – a move intended not solely for comfort but for infection prevention. Proactively preventing the spread of COVID-19 required the hospital's Support Services team to act quickly.

"I knew right away I would have a lot of unique requests coming in and that I would have to be flexible," says Plant Operations Coordinator William Moore. In less than two weeks, his team set up over 70 additional negative pressure rooms.

Hospitals use negative pressure rooms for patients with infectious diseases that can be passed by droplets. Air from outside flows into the patient's room whenever the door is opened, keeping airborne particles contained in the room. The air inside the negative pressure room then vents outside the building, to keep others in the hospital safe.

"We continually monitor our air handling equipment to ensure that everyone in our buildings is receiving as much clean, fresh air as possible. We have been able to test and develop procedures for operating our HVAC systems in unique ways, enabling us to temporarily convert typically positive procedure and operating rooms to negative pressure in the event a COVID-positive patient needs a procedure or operation," William explains.

Plant Operations also helped set up the mobile testing site and installed sneeze shields in the cafeteria, café and pharmacy.

William is quick to credit his coworkers. He says, "I've leaned heavily on this bunch. They've accomplished everything that has been asked of them and more. From checking and rechecking negative pressure rooms to filling up the heaters with fuel in the drive-through testing area, they have risen to the occasion, made quality suggestions and done a wonderful job keeping everyone safe and comfortable."

PUTTING PATIENTS FIRST

During Boone Hospital's COVID-19 response, patients remained at the center of Boone Hospital's decisions. This priority was abundantly evident when, in April, the hospital had its first COVID-positive inpatient.

"I didn't feel worried, I felt prepared," says Sammi Casteel, RN, a staff nurse on the Cardiology unit, who helped admit the patient. She was later complimented for her calm demeanor and positive attitude, but Sammi didn't find it hard to stay calm and positive.

"When I arrived to take care of the patient, I was impressed with the support that was immediately available," Sammi says. "Velvet Meers from Training and Development, Monica Smith, and House Supervisor Addison Watson all came by to make sure Amanda – the other nurse who was with me – and I felt as ready and comfortable as possible! Monica even helped set up the room for me. They all made sure PPE and education was available."

"When I heard we were admitting our first COVID-positive inpatient, my first thought was 'I need to be there.' I immediately came in to support the team," Monica says about the experience. "The nursing staff showed me that we

As part of the hospital's COVID-19 response, BHC's Support Services team set up over 70 new negative pressure rooms.

were highly prepared, and their confidence was calming and appreciated."

Monica was calmed, but not surprised. She says, "We had the opportunity to prepare for these patients well in advance. We learned from hospitals across the nation that cared for a lot of positive patients. We learned from our local experts in infection prevention. We learned from our partners at BJC. We learned from the CDC. With all of our learning, we made solid plans to prepare for PPE, staffing, screening and visitor management, to create a safe environment for our teammates and patients."

House Supervisor, Addison Watson, MSN, RN, CCRN, CEN, EMT-P, agrees: "A positive COVID result provides clarity, but we know how to protect ourselves and what exactly needs to be treated. Boone has been very responsive and supportive throughout this event."

House Supervisors are registered nurses who lead and support all other hospital nurses. When the Incident Command Center is closed, House Supervisors help staff with COVID-19 issues or questions.

Addison's experience both as an Emergency Department nurse and an EMT have helped him remain calm and support others during unpredictable situations. He says, "Our knowledge of the virus continues to develop rapidly and therefore our organization must adapt just as quickly. Like any change, the initial implementation is challenging. However, as we've developed a better understanding of the virus and its transmission, things are running smoother. The entire BHC staff has rallied together to adapt and overcome."

Rallying together to care for COVID-19 patients is a must. ICU nurse Erica Rideout, BSN, RN, says, "It is nearly impossible to care for a COVID-positive patient single-handedly. It takes an entire team working together to provide optimal care for the patient, even with only one person in the room. COVID-positive patients can deteriorate rapidly, so continuous monitoring is essential."

Negative pressure rooms work best when the door is opened infrequently, so being prepared with supplies and medications before entering a patient's room helps. Erica also found it useful to write messages to fellow nurses on the sliding glass door of the ICU room, to reduce how many times she had to leave and re-enter.

New infection prevention practices to prevent the spread of COVID-19 impacted all hospital areas and staff, including our mobile testing lab, Boone Plaza Pharmacy and patient care areas.

"From the time that I wanted to be a nurse, I knew I'd be responsible for the care of sick individuals and patients who need me to care for them. But in the big picture, it's the same as any other day. It is a sick patient and they need our care to get them better," says Sadie Brimer, BSN, RN. Sadie works on Surgical Specialties, but when her home unit was temporarily closed after elective surgeries were postponed, she began caring for suspected and COVID-positive patients.

"Yes, the isolation gear is hot and irritating, and a mask makes it difficult to hold a conversation," Sadie says. "But when I was able to just sit and talk to my patient, it brought me back to why I'm a nurse."

Respiratory Therapist Jeanna Sanders, RRT, says, "I know it sounds like a cliché, but I was just doing my job. I had the right PPE and felt very confident and prepared. We have such a strong team of therapists, nurses and physicians. We all work so well together; we look out for each other as well as our patients."

When reflecting on what's changed, Float Nurse Brandon Walsh, BSN, RN says, "I've been sporting a beard for the last 3 years, that had to go." Because certain facial hairstyles can cause an N95 respirator to fit improperly, many male employees in patient care areas chose to shave to conserve PPE for staff who can't wear an N95.

Beard aside, Brandon remains focused on his patients' wellbeing. He says, "Being a patient in the hospital can be very isolating. I try to make my time at the bedside count."

While visitor restrictions have decreased the risk of spreading COVID-19, they've also presented challenges for patients and staff. Employees on patient care units recognize that isolation precautions, while necessary to prevent infection, can be difficult for patients, especially when no familiar faces are present.

"Empathy and caring are so important for the patient and their families at this time. I have been able to care for several patients during their isolation and afterwards. Reassuring them that they are not alone is so important," says Float Nurse Randa McEuen, BSN, RN.

"COVID-19 has redefined how we communicate with patients and families because of the restrictions. It has greatly impacted and increased the need for advocacy on behalf of the patient and their families," says Emergency Department Nurse Jesse Godec, RN.

Social Worker Megan Widmer, MSW says, "I've made a lot of phone calls to family members to involve them in the discharge

planning process. I have had to have some difficult conversations over the phone that usually would take place face-to-face. I try to keep open communication with our patients' caregivers and give them a chance to vent their frustrations with missing their loved ones and not being able to physically be present for them."

Megan says a flexible mindset has helped her adapt to rapid changes. She adds, "Understanding that all these changes are not necessarily permanent has been helpful to get through stressful situations."

One common refrain among Boone Hospital nurses, therapists, and technicians who've cared for COVID-positive patients is that they have the same needs and feelings as any other patient.

"I do what I was trained to do and what I enjoy doing, which is providing care to this patient to the best of my ability, just as I did for every patient in the ICU before COVID-19," says Acute Care Nurse Practitioner Michelle Gay, MSN, APRN, AGACNP-BC.

"As a nurse, my job is to care for a patient regardless of their diagnosis. I always make sure the proper safety precautions are in place for my safety and theirs, just like any other patient," says Randa.

Remembering this important point helped Sammi stay calm while she helped admit her first COVID-positive patient. She says, "They're a patient just like any other!"

COMMUNITY SUPPORT

When mid-Missouri is hit by a crisis, Boone Hospital Center often provides support and supplies. This time, as health care workers prepared to care for COVID-19 patients, mid-Missouri came together to help Boone.

In March, 8-year-old Adam Mohamad donated $45 of loose change that he'd been saving to help support Boone Hospital Center nurses. Due to the visitor restrictions, he had to wait outside for Boone Hospital Foundation's Executive Director Barb Danuser to collect his donation. Adam's single act of kindness and generosity sparked an online fundraising challenge that has raised almost $13,000 for the Foundation.

"Fairly quickly our wonderful community began asking how they could help, so my role changed into the Donation Coordinator. For the first few weeks, pretty much all of my time was devoted to managing calls and emails from people and businesses who wanted to donate food, masks, hand sanitizer, face shields, and more," says Yvonne Gibson.

As a coordinator for both the Foundation and the hospital's Support Services department, Yvonne is no stranger to juggling responsibilities. She also arranged internal deliveries of donated meals from local restaurants, including 3,900 staff meals provided by Veterans United, and gifts to Boone staff, including 1,800 colorful fused glass hearts, handmade by Midway Mercantile Co. (See a list of community donors on page 8).

Boone Hospital Center has given donated cloth masks to patients, visitors and employees who don't work directly with patients, to help everyone follow universal masking requirements while conserving our supply of surgical masks.

Boone Hospital also helped solicit community donations when one critical supply ran low: blood.

"Since the American Red Cross supports hospitals all over the country, people may not understand that our blood supply here, locally, decreases when other blood drives across the nation do not occur," explains Lab Tech Peggy Martin.

Boone Hospital Center hosts several Red Cross blood drives a year in its conference center, but with social distancing requirements and visitor restrictions in place, Red Cross needed space to hold a large drive that was open to the public. Boone collaborated with its neighbor, Stephens College, to promote and host a community blood drive on the Stephens campus that lasted several days in April and collected 132 units of blood.

"The Boone team always comes together, and this is no different," Peggy says.

A MISSION FULFILLED

There is much that Dr. Frank Nifong and his colleagues could not have envisioned for the future of Boone County Hospital back in 1921, but they knew their community's health would depend on a quality community hospital. While mid-Missouri hospitals didn't see a surge of COVID-19 patients in spring 2020 – thanks in part to proactive measures to reduce the spread – they provided testing and care for many affected people from across the region.

Cassie Mueller says, "Community members can be certain that there are many people working behind the scenes to ensure Boone Hospital is doing everything possible to protect those that we serve."

In a short time, Boone Hospital Center's processes, procedures and responsibilities had significantly changed. These changes could not have been accomplished without the expertise, teamwork and positive attitudes of nearly 1,800 individuals.

"I knew I was about to witness a life-changing event that was going to affect every single one of us, and that I'd see the absolute best in people I'd already considered the best," says Security Officer Mark Moses. "And that's exactly how I saw it play out, a smooth-running machine with care, compassion and cheerful personalities everywhere I look. In every single department, it was an attitude or mood that you could feel wherever you went. It's the reason I came to work here."

Megan Widmer, who had helped answer calls in the Incident Command Center says, "It was amazing to see our leadership hard at work handling multiple situations and scenarios in a calm but decisive manner. I realize more than ever that leadership has the wellbeing of our patients and staff at heart."

Monica says, "I have learned that the Boone Team can handle anything that we're faced with. We continue to be resilient, face challenges directly, and provide excellent, high quality care. We have amazing teammates who have exemplified the Boone Touch and strengthened our community's belief in Boone." *By Jessica Park*