

MUSC Health EVS employee praised for COVID-19 response

BY CINDY ABOLE

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On weekdays, MUSC Children’s Health employee Kaneisha Jones can be found working on the second floor Pediatric ICU (PICU) maintaining patient rooms and work spaces and supporting a safe and clean critical care environment at the MUSC Shawn Jenkins Children’s Hospital.

But when the COVID-19 crisis hit the Lowcountry in early March, Jones and other Environmental Services (EVS) associates rallied together to learn and adopt quickly COVID-19-specific cleaning protocols and guidelines for waste removal and train using required personal protective equipment (PPE).

According to EVS manager Rebecca Luffman, Jones was eager to learn these new skills and work collaboratively with the PICU clinical team and assist fellow EVS co-workers in learning the new disinfection skills and applying these protocols to practice in units throughout the children’s hospital.

And as communities were celebrating front-line medical workers and first responders for their bravery and commitment during the coronavirus, many were also praising teams of other workers.

One person who was especially

See **HERO** on page 11

How do you celebrate graduation during a pandemic? Just roll with it.



Photo by Sarah Pack

BY HELEN ADAMS

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Instead of walking across a stage to receive his diploma, Robert Cameron rolled up in an SUV. But the Medical Scientist Training Program graduate made the most of it, standing up with his arms raised through the sunroof as he arrived in the parking lot of the Wellness Center at MUSC to pick up his diploma in a drive-through ceremony.

“We’re so glad that y’all were able to do this. It meant the world to us,” Cameron said afterward.

The coronavirus pandemic forced

the cancellation of MUSC’s traditional commencement ceremony, but it couldn’t keep people from celebrating the achievements of students from MUSC’s six colleges: Dental Medicine, Graduate Studies, Health Professions, Medicine, Nursing and Pharmacy.

Some students wore regular clothes; others dressed in graduation caps and gowns. Some went all-out decorating their cars and trucks. One red convertible sported a huge mortarboard on its hood. One student peeked out of a window from the back of a Cadillac Escalade limousine so long that it couldn’t make the turn to get to the diploma pick-up — she had to get out and walk there. Another student arrived

Left photo: Robert Cameron celebrates on May 16 earning dual degrees from MUSC — an M.D. from the College of Medicine and Ph.D. from the College of Graduate Studies. Below: Pharmacy graduate Allison Kuhn and her family drive up to pick up her diploma.



Photo by Anne Thompson

on a bicycle.

College of Pharmacy graduate Travone Lumsden played it low-key, riding through in his car as he acknowledged the strangeness of the event.

“Unorthodox to say the least. Weird. But it’s nice to be able to do it. I appreciate it.”

Holland Palmgren, who earned a doctor of nursing practice degree with a family nurse practitioner concentration, arrived in an SUV with the words “corona class” written on the side. She called the ceremony a good alternative. “It’s safe and still recognizes the hard work that all of the graduates put in.”

Madeleine Lee and Haines Fleshman,

See **DRIVE UP** on page 7

3 New CON program
Training nurses to respond to
crises.

8 Fact from fiction
A virologist’s perspective on
COVID-19.

2 Boeing gift
4 Antibody testing
5 Meet Mino Kavarana, M.D.

MUSC Health to use Boeing-delivered supplies for COVID-19 testing, outreach

Staff Report

Three Boeing planes known as Dreamlifters delivered more than 150,000 protective eye goggles and face shields from China to help MUSC Health's statewide COVID-19 community testing and outreach efforts, which leaders said are critical to recovery and a staged economic revitalization.

Boeing's president and CEO was on hand to mark the occasion in North Charleston, along with MUSC's president, the governor and other state leaders.

MUSC President David Cole thanked the Boeing team. "These goggles and face shields will allow us to continue to expand our ability to test and monitor for COVID-19 as businesses and communities start to move forward. Increasing access to testing in the areas of greatest need throughout our state is an essential part of this work," Cole said.

"We must continue to protect our most vulnerable populations. Boeing and MUSC have a longstanding partnership, and this delivery is yet another example of two great South Carolina institutions coming together in support of our local community."

Boeing President and CEO Dave Calhoun said the delivery will put essential personal protective equipment

in the hands of South Carolina's frontline health care professionals. "I am incredibly proud of our Boeing team members throughout the world for their work to help stop the spread of COVID-19 and thankful for our government and industry partners that have joined us in the pandemic response."

MUSC Health, under the guidance of the state legislature and in partnership with South Carolina Department of Health and Environmental Control, has established mobile screening and collection sites in rural and underserved areas.

The mobile setup allows health care providers to rotate sites, reaching people experiencing barriers to health care access for COVID-19 screening. Rural and underserved communities have experienced disparities in access to COVID-19 screening, testing, prevention and treatment in South Carolina and across the U.S.

The MUSC Health team leading this effort was the first in the U.S. to launch a combined virtual urgent care platform and drive-through specimen collection site. Now, it's bringing a version of this successful model to the communities that need it most.

Boeing donated the cost of the mission transport, with Atlas Air operating the flights on behalf of Boeing. Boeing has



Photo by Boeing Co.

MUSC President David Cole says the Boeing deliveries will help MUSC Health reach people in underserved communities.

scheduled additional flights to deliver a total of 400,000 units of personal protective equipment to MUSC in the near future.

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MUSC employee/visitor parking updates effective May 28

MUSC Office of Parking Management has announced changes to patient/visitor parking effective Thursday, May 28. Parking Management will resume control of the Ashley-Rutledge patient-visitor parking garage on May 28. All employees who have been parking in the Ashley-Rutledge parking garage and are registered with parking

access on-campus, are asked to return to their assigned locations.

Park & Ride system employees will be authorized to park in the following employee garages: President Street garage, Bee Street garage, Rutledge Tower garage and M-Lot (enter from Courtney Drive). For information, call 843-792-3665 or email parkit@muscd.edu.

Preparing nursing students for pandemics, crises through Global Initiatives

BY HELEN ADAMS

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Intensive care unit nurse Caroline Wright, a 2018 graduate of MUSC's College of Nursing's accelerated bachelor of science in nursing program, temporarily left her job at MUSC Health to work in a COVID-19 unit at New York's Long Island Jewish Medical Center. It's been an eye-opener.

"This is nursing unlike anything I learned in school or learned working," Wright said.

She's had to reuse protective gowns and masks. And difficult decisions have to be made on a routine basis. "These patients are so sick. It's like triaging, in a sense. Just discerning how you're going to prioritize care. It's rewarding, but it has also been the hardest and most harrowing time of my career."

As Wright can tell you, nursing in a pandemic requires not only compassion and nursing knowledge, but also creativity, flexibility, teamwork and the ability to think critically and make decisions quickly.

The College of Nursing recognized the need for students to hone those skills, aware that a global health crisis might be on the horizon. Nurses need to be able to respond to crises and provide care when resources are scarce.

So the College of Nursing secured two philanthropic gifts, the Falk-Griffin Global Initiatives Endowment and the Mary Swain Global Initiatives Endowment, to fund student global health experiences. Students will learn about clinical care in countries where needs are high and resources are limited.

Suparna Qanungo, Ph.D., associate professor and director of the College of Nursing's Global Health Initiatives Program, piloted the program in India in 2015. The experience changed students' perspectives dramatically.

For example, when her students entered a cancer center and saw what she described as tons of people waiting in line, they were overwhelmed by the need for care and services. "They were like, 'My gosh, this many patients here? How are they going to be seen in a day?'"

The students found out by watching the Indian doctors and nurses, who made sure every patient was taken care of. "The physicians were so calm and the patients were happy," Qanungo said. "The students learned how, in an adverse situation with a lot of patients waiting, you can still deliver the quality of care you need."

When it came time for the nursing students to observe a surgical procedure, they didn't get the protective gear they had learned about and were expecting. "All we got for gowning up was a green gown that was sterilized. It was reusable. And we had no covered shoes. That was the strangest one. And a few reusable gloves. Most of the PPE, personal



Photo Provided

MUSC nursing students in India learning how to deliver care under challenging circumstances.

protective equipment, was reusable. Our students, I still remember, were a little hesitant."

An Indian doctor reassured them. "We are used to working with limited resources, and this is how we do it," he told them.

In addition to spending time with doctors and nurses, the MUSC students worked in what Qanungo described as underserved areas where they learned how to treat patients with limited supplies and get creative with what they had.

The Global Initiatives program will build on what she learned from that experience. While Qanungo chose India for her first foray because she grew up there and was familiar with it, the program will include visits to other countries as well.

COVID-19 is a stark reminder of how important these kinds of experiences can be, Qanungo said. "There are a lot of parallels between what they learn in other countries and what some nurses are facing now in the U.S. during the novel coronavirus pandemic."

Cathy Durham can attest to that. She has a doctorate of nursing practice degree and is director of the College of Nursing's DNP Program. She's also a U.S. Navy Reserve captain. Durham was deployed to New York City in mid-March as the number of COVID-19 cases soared. She's supervising more than 130 nurse reservists.

"Most of our team here has deployed to Iraq or Afghanistan or Haiti or Djibouti. When you're in environments that are medically austere, you often have

to go without significant technology. You may not have all the bells and whistles or the newest medications but you still have to respond," she said.

She said the College of Nursing's Global Initiatives program will give students a taste of that.

"Students having that opportunity in a somewhat controlled environment will absolutely help them in providing care, and if we were ever confronted with a pandemic again, being able to triage really quickly and be able to respond calmly will be essential. There is no other experience that will provide you with that."

Wright, the MUSC Health nurse at Long Island Jewish Medical Center, said crisis care can be challenging, and occasionally, amazing.

"I had a mother who had just given birth. She was COVID-19 positive, and the baby was positive. The mother was on a ventilator. They put her on ECMO (extracorporeal membrane oxygenation). They put her on continuous dialysis. She was going downhill fast," Wright said.

"I didn't really see her after that. I just figured — you don't really ask when you don't see a patient, because you don't want to hear what happened. But as I was leaving the hospital after a long shift one day, I heard all this commotion in the lobby. I looked over, and that same patient was being wheeled out of the hospital with her baby in her arms. That moment right there — I needed that. It made it all worth it, really and truly."

Wright decided to sign up for another four weeks on the pandemic's front line.

MUSC tests Blood Connection donors for coronavirus antibodies, explains testing process

By LESLIE CANTU

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As MUSC opens up COVID-19 antibody testing to all of its employees and first responders in the Charleston, Florence and Lancaster areas, in addition to antibody testing for all The Blood Connection blood donors, many are still wondering what this test is and how confident they can be in the results.

Satish Nadig, M.D., D.Phil., medical director for the MUSC Center for Cellular Therapy, organized an interdisciplinary group of MUSC researchers that developed an antibody test using plasmid from Mount Sinai Laboratory.

He said MUSC is highly confident in the testing done here because of the two-step process and because of the extensive validation done before it began offering the tests. The antibody tests here show whether people have long-term antibodies to COVID-19, meaning they were exposed to the novel coronavirus and their bodies mounted an immune response. So far, researchers believe it takes about three weeks after someone first becomes ill for these long-term antibodies to show up in the blood. What constitutes “long-term” for COVID-19 is still unknown, however. Long-term antibodies for other viruses can last a few months or decades.

Nonetheless, many are curious about whether they have antibodies. Was that horrible nagging cough and tight chest back in February just a run-of-the-mill virus or was it COVID-19? Because of the scarcity of diagnostic tests early in the pandemic, many people couldn’t get tested.

Now, MUSC is offering antibody testing to all of its employees and to first responders in the regions where it has hospitals.

In addition, it’s running antibody tests for anyone who donates blood through The Blood Connection, a blood bank that provides blood to hospitals in North and South Carolina. During the first week that

MUSC began offering this service, The Blood Connection sent between 1,000 and 1,400 samples each day, collected from donors across both states.

Nadig explained how the test works.

The novel coronavirus, or SARS-CoV-2, that causes COVID-19 is one of a family of seven coronaviruses that can infect humans, he said. Three have caused serious outbreaks – SARS coronavirus in 2002, MERS coronavirus beginning in 2012 and now SARS-CoV-2, while the other four cause common colds.

This new coronavirus shares 88% of its genetic sequence with SARS coronavirus, Nadig said, which is why it was given the derivative name SARS-CoV-2.

Coronaviruses get their name from their crown-like spikes, and these spikes are a key part of the testing. Using blood serum, the first part of the antibody test looks for a reaction to the receptor binding domain portion of the spike. This is the area that allows the virus to bind itself to human cells. Both SARS coronavirus and SARS-CoV-2 bind to the same area, but MERS coronavirus binds to a different area.

A blood sample that tests positive in this first part of the test is considered presumptive positive, Nadig said. That’s because it’s possible the test is actually picking up antibodies to a different coronavirus. Thus, blood samples are subjected to the second part of the test, the confirmatory test, which looks for a reaction to the entire spike protein.

Nadig said the Center for Cellular Therapy validated the test first with commercial proteins and then with three sets of patient samples. The first set of patient samples was collected before COVID-19 jumped to humans, so the team knew those samples would definitely be negative for antibodies. It also validated the test using samples from patients who had tested negative during COVID-19 diagnostic testing and from patients who had tested positive for COVID-19.

The center’s results were then further



Researchers Eleanor Hilliard, left, and Dr. Paramita Chakraborty, take samples from blood to be tested for antibodies for the novel coronavirus.



Vials of blood await coronavirus antibody testing at MUSC.

Photos by Sarah Pack

vetted by the Clinical Chemistry Laboratory at MUSC Health.

People who take an antibody test will get either a positive result, indicating they have antibodies, or a negative result, indicating no antibodies.

However, MUSC cautions that people shouldn’t make decisions about going to work or crowded places based on the results of one positive antibody test. Researchers are still determining what antibodies mean for the strength of immunity to COVID-19 or how long such immunity might last.

The test is useful at the population level, though, to show how much COVID-19 is circulating in the community. It will also help researchers in

understanding whether people who have been exposed to COVID-19 are at risk of reinfection. And as tests continue to improve and scientists learn more about SARS-CoV-2, individuals will be better able to make informed decisions about work and community events.

MUSC employees and first responders who want an antibody test should go to musc.care and choose the “COVID-19” button, answer all questions, then select “yes” on the additional information question and enter #covidimmunity in the comments section.

People who are interested in donating blood and getting an antibody test can learn more and make an appointment on The Blood Connection website.

MEET MINOO



Minoo N. Kavarana, M.D.

Department; How long at MUSC
 Department of Surgery — Pediatric
 Cardiothoracic Surgery; 10 years

How do you feel you're making a difference during this time of COVID

By meeting the challenges we face in children with complex congenital heart disease with innovation, skill and perseverance

Family and pets

Wife, Zarin; son, Sam (20); daughters, Simone (18) and Natasha (13); and a dog, Oliver

Last book read

"Outliers: The Story of Success" by Malcolm Gladwell

Best thing about living in Charleston

The weather, the ocean and the slow-paced yet big city feel of Charleston

Favorite quote

"I am the master of my fate: I am the captain of my soul."

— William Ernest Henley from "Invictus"

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Food service workers keep staff, patients fed through pandemic

BY LESLIE CANTU

cantul@musc.edu

Cheerfully greeting one and all as she zips past them, Clarissa Dwight expertly navigates the back elevators and hallways of University Hospital on MUSC Charleston's campus.

She doesn't have time to dilly-dally. She's bringing food — and a smile — to patients, just as she has since 1981. Through hurricanes, floods and now a pandemic, Dwight has shown up to work as a hostess, one of the people who delivers food from the kitchen to patient rooms on demand.

"I love my job. I'm a people person. I love my patients," she says.

Dwight is just one of the many Sodexo food service workers who have continued to work during the coronavirus pandemic, showing up at a hospital — a place that many would avoid at all costs during these times — to ensure that both patients and staff are fed.

"They knock it down every day," says Jolene Love-Hubbard, MUSC Health-Sodexo general manager, of her staff. She oversees food service in University Hospital, Rutledge Tower, Hollings Cancer Center and the Institute of Psychiatry.

Love-Hubbard came to MUSC Health a year ago after a career serving meals to Marines. She loves the challenge of working in a new food service environment.

Food is central to someone's impression of a place, and that's even truer in a hospital, where food is one of the few things that patients can control, she said. They can't control disease or trauma or how their body



Photos by Sarah Pack

Clarissa Dwight delivers food to patients in University Hospital. Throughout the pandemic, Sodexo workers have come to the hospital to ensure everyone is fed.

responds to medicine, but they can pick up the phone and order off the hospital's room service style menu — and the coffee had better be hot and the bacon just the right amount of crispy.

In February, before children's and maternity services

moved to the MUSC Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion and before the pandemic, her crew served an average of 700 patient meals each day. Now the average is slightly less than 400.

That meal count doesn't include food served to staff and visitors in the cafeterias. Separate lines within the kitchen prepare food for the two realms.

Franklin Seabrook, patient line executive chef, said his main focus is on supporting the team and keeping up morale. Luckily, the kitchen stocked up early and hasn't had a problem with food shortages so far, said Seabrook, who got his start as an intern through Trident Technical College's culinary program.

There have been changes, though, particularly in the public cafeteria. Tables are pulled apart to discourage group seating. The self-serve salad bar is gone, replaced by a salad station where the customer requests ingredients while a food service employee assembles them. A new Groceries 2 Go feature allows employees to pick up common grocery items, like milk, bread, eggs and — yes — toilet paper, at a reduced price.

Executive chef Frederick Bennett said the hourly staff, like Dwight and cashier Francena Bell, are critical to the kitchen's ability to respond to customer desires. They're



Octavia Wilson, left, and Stevechia Williams, right, prepare food for patients in University Hospital.

See FOOD on page 12



Photo by Sarah Pack

Brittney Parsons has a van full of enthusiastic supporters on hand as she gets ready to receive her doctor of nursing practice diploma.

DRIVE UP *Continued from Page One*

who arrived together to pick up their diplomas for health care administration, got a little emotional. “I think we’re just so happy that they’ve done this for us,” Lee said.

Fleshman agreed. “It’s nice to feel appreciated when a bunch of us don’t know what’s going on with our career and it’s nice to still feel like we’re getting a reward even though there’s a lot of uncertainty.”

The uncertainty that has come with the coronavirus pandemic affected other students as well, including College of Dental Medicine graduate Felicia Bragg. “It makes me a little nervous. I know dentists are No. 1 for being exposed to the coronavirus, but I think all of us are taking our time and giving us the proper safety precautions to help with patients.”

Safety precautions were on the minds of organizers of the diploma drive-through ceremony. When registrar Melissa Freeland realized the coronavirus meant that MUSC couldn’t hold its traditional commencement, which would have meant large crowds, hugs and handshakes, she started brainstorming. “To not be able to do something would be heartbreaking to me.”

They came up with the idea for the drive-through ceremony. Patrick Cassano, director of records and registration in the Office of Enrollment Management, described the precautions

they took. “We had very little contact with all the materials. We had gloves and masks and we took all precautions to make today safe. We’re trying to do social distancing as much as we can. We wanted to make sure we can do something for the graduates but still have a safe environment for them.”

Some family members came to celebrate in a designated area of the parking lot. Mandy and John Elmore, along with Mary and Wayne Hinson, came from Anderson, South Carolina, to surprise College of Medicine graduate J.C. Elmore. “Yesterday, we were like, ‘Let’s all pile in and go,’” said Mandy Elmore. They brought cowbells to shake not only for her nephew but for all of the graduates who passed by.

It was a memorable event, if a little bittersweet for some students such as College of Medicine graduate Margaret Ball-Dayson. “I appreciate it for what it is. I understand, but I’m still kind of bummed that I don’t really get to celebrate this moment,” she said, wishing for a traditional ceremony full of pomp and circumstance to mark the students’ years of hard work.

It’s unclear what lies ahead as the world navigates the pandemic. But in the meantime, College of Graduate Studies Dean Paula Traktman said it’s important to celebrate accomplishments in whatever way is possible. “Anything we do to celebrate the students is great.”



Photos by Anne Thompson

Enrollment Services’ Patrick Cassano hands Dental Medicine graduate Amanda Ho Van Garrett her diploma while Dean Sarandeep Huja and other dental faculty congratulate her and others at the May 16 event.



A van’s decor depicts a sign of the times, but doesn’t dampen the spirits of one graduate’s celebration of achieving their graduation milestone at the diploma pick-up event.



College of Health Professions DHA graduate Mildred Scott arrives in style with family to collect her diploma.

Noted MUSC virologist helps separate COVID-19 fact from fiction

By CATHERINE MILLS

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As South Carolina enters the next phase in the COVID-19 crisis – reopening – many people have concerns about trying to integrate their pre-COVID-19 way of life with the new guidelines implemented by government and health officials.

The public, too, might find it difficult to separate COVID-19 fact from fiction due to the constant barrage of rapidly evolving news headlines and the misinformation that too often spreads through social media. For instance, the Centers for Disease Control and Prevention (CDC) currently recommends that people adopt 6 feet of spacing between one another, but a recent study in the news reported that respiratory droplets and aerosols can travel up to 27 feet.

Noted virologist Paula Traktman, Ph.D., dean of the College of Graduate Studies and Hirschmann Endowed Professor, was pleased to answer questions about and provide perspective on the virus at the heart of this crisis to help to clarify the science behind circulating headlines.

In addition to her leadership role at MUSC, Traktman heads a research lab that is investigating vaccinia, a close relative of the smallpox virus. She has served on editorial boards of virology journals and on National Institutes of Health grant review panels.



Photo by Sarah Pack

Dr. Paula Traktman is a noted virologist and dean of the College of Graduate Studies at MUSC.

She also served as president of the American Society of Virology. Her active engagement in the virology

community well qualifies her to provide insight on questions surrounding the COVID-19 virus.

COVID-19 Q&A with Dr. Traktman

❑ A recent article about respiratory pathogen emissions in the *Journal of the American Medical Association (JAMA)* has been referenced in 451 news stories because it suggests that the virus can travel as far as 27 feet. That finding seems to contradict current CDC guidance that people maintain a “social distance” of 6 feet. What is your take on this?

There is a difference between real-world transmission and transmission studies in the lab under a controlled setting. I have no doubt that there are conditions where explosive release, like a sneeze, can cause aerosols to go a long distance. However, I think all the data still strongly support that, in typical social situations, the virus will be largely in droplets that will go no more than 6 feet.

There are two guidelines to keep people safe. First, keep a social distance of 6 feet when out in public or at the supermarket. That is really to stop you from transmitting or receiving larger droplets that could

contain virus. Second, restrict people to no more than three or four in a room to reduce the exposure to any aerosols that may accumulate over time. I think the *JAMA* article is interesting, but I do not think it really addresses how we should be social distancing.

❑ Should people be wearing masks in public?

There is a lot of controversy with masks. We want to make sure N95 masks are available to the people who need them. Homemade masks are not going to be as efficient as an N95 mask, but N95s are in shortage and belong with the health care workers.

A mask, even if it is homemade with a four-ply T-shirt, makes a big difference because it’s going to capture wet droplets and make it much more difficult for the virus to get through. Even if homemade masks cut transmission by two-thirds, that is a lot.

I am surprised by how few people have been wearing masks. I put on two masks to go into the grocery store the other day. There is no way I would be in a confined space with other people without a mask.

❑ Why do some people who are positive for COVID-19 have symptoms while others do not? Are people who don’t have symptoms as infectious as those

who do?

That is an incredibly important question for public health. There is no doubt that health care workers who are testing and treating seriously ill people who are coughing and have fever are susceptible to being infected. We understand transmission in those cases. That does not explain the number of people who are being infected without being exposed to a seriously ill individual. As with all viral diseases, when people are sick at a hospital or at home, they are not going out to the beach or making a shopping trip to the grocery store and infecting lots of people in public.

❑ So, what is the spectrum of mild symptoms that make people think that they might be infectious, and do we understand that range of symptoms?

In truth, we do not have a great idea of how many people without symptoms are infected because we are not doing that kind of testing. In other words, if I had a mobile testing van where I could drive through a neighborhood and randomly test two people from every household, we’d have an idea of what percentage of people without symptoms

See COVID on page 10

Unlikely partners come together to document, share how MUSC Health developed COVID-19 specimen collection site

BY LESLIE CANTU

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In medicine and emergency operations alike, experienced practitioners pass down knowledge in a way that expands upon classroom learning. The established surgeon teaches the young resident who in turn teaches the fresh-faced medical student. Experienced firefighters show new fire academy graduates how to deal with real-world situations. There's a well-worn schedule for bringing the novice up to speed and giving him or her more responsibility.

But how do you widely disseminate knowledge when you're in the middle of creating something new?

Normally you wouldn't. In the midst of a pandemic, though, it becomes important to share innovations as they occur. That's not so easy, but it became a lot easier for MUSC Health's ambulatory safety and emergency manager when two locals from the National Park Service and Clemson University School of Architecture raised their hands and said they wanted to help.

In his role as ambulatory safety and emergency manager, Erik Modrzynski handles everything from water leaks to hurricane prep to the occasional wayward car crashing through a clinic. He began thinking about how to create a mass testing site for COVID-19 in January, when it began to look possible that the novel coronavirus could affect the U.S. When MUSC Health leaders decided the time had come to set up such a site, he was told on a Sunday in March to have everything ready to go by Wednesday.

In the meantime, Simeon Warren had come to Charleston on March 9 to give a lecture and found himself ordered to remain in place indefinitely as cities and states began to shut down. Warren wasn't new to Charleston – he's the

founding dean of the American College of the Building Arts, and the lecture he was giving was about an ongoing program to document gravesites at the Circular Congregational Church. But in February, he had started a new job in Louisiana at the National Center for Preservation Technology and Training, part of the National Park Service, and he was in the process of moving from Charleston to Natchitoches when he returned for what he thought would be a quick trip for the lecture.

Stuck working from home, Warren wondered if MUSC needed help constructing temporary buildings for treatment purposes. He thought his background, plus that of colleagues at the Clemson Architecture Center in Charleston, could prove useful.

"I decided to reach out to all three organizations just to ask the simple question, 'Is there anything we can do to help support MUSC in regard to developing COVID protocols?'" he said.

Warren emailed Mary Mauldin, Ed.D., executive director of the MUSC Office of Instructional Technology and Faculty Resources. Mauldin had worked with ACBA in the past to help its professors, who are first and foremost practitioners of their crafts, to hone their teaching skills. Mauldin, in turn, connected Warren to Modrzynski.

Modrzynski welcomed Warren to the parking lot of the former Citadel Mall, now called Epic Center, where MUSC Health had just opened its specimen collection site. The almost 94,000-square-foot site allows people who have obtained a doctor's order for COVID-19 testing to drive in and get tested while remaining in their cars. MUSC Health was the first facility on the East Coast to offer drive-up testing and the first in the nation to combine a telehealth screening to qualify patients for the testing with the drive-up specimen collection.



Photo by Sarah Pack

Erik Modrzynski, left, addresses MUSC Health employees at the specimen collection site in West Ashley.

"One of the things that Simeon asked was, 'Has this ever been done before, and where did you get the plans for this?' And I think I put it bluntly: 'Simeon, we're flying by the seat of our pants here, making sure that not only is our care team safe but our patients are safe,'" Modrzynski said.

Warren realized that what MUSC Health needed help with wasn't construction but documentation of how it had created a specimen collection site.

He reached out to David Pastre, a senior lecturer at the Clemson University School of Architecture who coordinates the Architecture + Community Build program in Charleston. Pastre and Warren had known each other for years because their programs used to be housed in the same building. Pastre's students – six in graduate architecture, four in undergraduate landscape architecture and two in undergraduate architecture – had spent the first part of the semester working with the Charleston Parks Conservancy and neighborhood groups to develop plans for improvements to the West Ashley Greenway, including resting points and signage. They were supposed to get to work on building the improvements after they returned from spring break on March 23, but the pandemic forced a halt to all in-person classes and projects.

Pastre wasn't sure how he was going to structure the remainder of the course

when Warren called to recruit him into helping with documentation of the specimen collection site.

"I knew I would have a number of disappointed students who had spent several weeks designing and being excited to build something," Pastre said. "But to be able to have that opportunity to work on something that was so critical and timely was a real gift. The students were able to accept the changes, know they were working on something that was critical and they felt they had something to offer."

Pastre and Warren met with Modrzynski on site to take photos and drone footage that was then relayed to the students, who were tasked with collaborating virtually to develop a document that could be shared.

Modrzynski had already started such a document, but his was geared toward fellow emergency management professionals. It was very thorough in documenting safety procedures but didn't give a sense of how the site worked as a whole, Pastre said. That was where his students would step in, along with some help from graphic designer Will Bullock.

"My hope is that the outcome of this project is there's a document that can be shared," Pastre said. "By sharing it, you're going to make testing facilities safer and

See SITE on page 10

COVID *Continued from Page Eight*

are infected. We really don't have a great number, but we are getting numbers from places that are doing some testing, and I would bet that we have more cases where people aren't showing symptoms than cases where they are.

We also know that people are infectious before they start showing symptoms. The virus is probably present in the nasal pharyngeal and back-of-throat area, and that's not where symptoms are present in those with serious disease. Instead, their symptoms come from lung infection and the immune response, like the aches and fever you experience with the flu. It looks as if there are quite a lot of people who either show no symptoms or have only a mild illness. We do not yet know the variables that make the difference between somebody having mild fever for a few days and someone progressing to major infection.

❑ There had been much discussion in the press that African Americans are at greater risk for coronavirus? Why is this?

African Americans are at a greater risk for coronavirus, but not because they are African American. There's not a racial predilection. Upper middle-class African Americans are not at greater risk for coronavirus. Low socioeconomic status, more than race, is a risk variable. People who live in large family groups in close proximity, are still working, have less access to health care and have preexisting conditions are at greater risk.

❑ Many scientists, yourself included, have spoken out against theories that COVID-19 is man-made. Can you explain why this virus is not bioengineered?

RNA viruses, such as hepatitis C, HIV and influenza, have a very high error rate during replication of their genome and consequently change quite frequently. Unlike other RNA

viruses, coronaviruses have implemented a mechanism to proofread their genome during replication, greatly reducing their error rate. This lower error rate makes it much easier to track changes in the virus's genome.

COVID-19 is very clearly derived from a bat coronavirus, and we know this because sequencing of it has been very thorough and done by many different groups. Bats are unusual because they act as a reservoir for tons and tons of viruses, but they do not get sick from them. While this is a bat virus, it has undergone specific changes. One of those changes is the ability of the viral spike proteins, which are the little knobs extending from the virus surface, to attach to ACE 2 receptors on target cells.

The viruses that cause severe acute respiratory syndrome, or SARS, and Middle East respiratory syndrome, or MERS, originated in bats, but only SARS also invades the target cell through ACE 2 receptors. Even if scientists had wanted to design a coronavirus to target the ACE 2 receptor with high affinity, they would not have designed the spike in the way that it has evolved in SARS-CoV-2.

Also, when scientists are working to develop drugs for viruses, during the screening process they will use a clone of an infectious virus. The sequence for COVID-19 does not look like any of the clones that are used in the laboratory.

Finally, if bad actors were trying to create a virus with the intent of it being a major health threat, they would have done it in a different way. They would have chosen a virus that was more virulent and more often lethal.

❑ Many have speculated that the heat and humidity in the coming summer months could slow the spread of COVID-19. What are your thoughts on this?

There are certainly seasonal viruses, like seasonal coronavirus or seasonal flu, that don't like warm climates for the same reasons they don't like replicating in people who have a fever. We have no idea if that is going to happen with this virus. This virus spread in Australia during Australia's peak summer months. The virus has also spread across Southeast Asia where it is warm. So, I

think the jury is still out on that.

❑ How can people protect themselves from infection as we move forward in reopening?

Avoiding groups is important. The greater the number of people in a group, the greater the chance that there is a person present in that group who is infected but not showing symptoms. Good hygiene – wash those hands, do not touch your face, wear a mask out in public – is very important.

There's a lot of work being done to develop a vaccine, and I hope we get one in a year. We still do not know for sure how effective a vaccine against coronavirus will be, as it's still unknown

whether we can establish long-term immunity against this virus. Screening for anti-viral drugs is also important. As soon as you test positive, you need to be able to have a drug that stops viral replication.

❑ Would you consider working toward developing anti-viral agents against COVID-19 here at MUSC?

MUSC would need a Biosafety Level 3 lab in order to work with COVID-19. If we had such a lab, there would be many of us in there combining virology and drug discovery to do the work. Unfortunately, right now we don't have a Biosafety Level 3 lab.

SITE *Continued from Page Nine*

easier and less expensive to build and manage so that testing can reach further into communities that need it.”

The resulting document, which is currently in version 1.5, showcases the thought that Modrzynski and AJ Kean of Belfor, a disaster recovery company that works with MUSC, put into the site.

Early on, it was agreed that people potentially infected with the novel coronavirus should be directed away from MUSC Health's clinics and emergency rooms so as to avoid infecting staff and other patients. Even a dedicated clinic space – for example, the old Children's Hospital Emergency Department, which had recently been vacated – wasn't practical, Modrzynski explained. Each exam room would have to be thoroughly decontaminated after every patient, a labor intensive and risky task. Instead, a drive-thru operation, in which patients remained in their own cars, would allow the staff to test more people.

That left the question of where to send them. One of the ideas floated involved erecting a tent on the Horseshoe, a gathering spot in the middle of MUSC's downtown Charleston campus. But Modrzynski had been asked to create a site that could test anywhere from 50 to 600 people per day – and there was simply no way the streets around MUSC could handle an additional 600 cars each day.

Instead, MUSC Health partnered with mall owners, Richard and Ginger Davis, to take over a portion of the parking lot. Modrzynski used his background in firefighting to design the green, orange and red zones within the site that would indicate where personal protective equipment must be worn. But as he designed the traffic flow, Modrzynski turned to two icons of American culture – Chick-fil-A and NASCAR.

He said he was out with a friend and thinking about how to get cars through the registration process quickly, safely and efficiently when they passed a Chick-fil-A. A light bulb went off in his head.

“They spent millions of dollars trying to figure it out, and we got it for free just by going by and getting a chicken sandwich,” he jokes now.

See SITES on page 11

SITE *Continued from Page Nine*

Here, Modrzynski thought about how racers come in for pit stops. A racer doesn't have to wait for the car in front of him to finish before he can re-enter the race. Similarly, at the testing site, there is a drive lane and six "pit stops" at testing pods. A patient is directed to a specific pod and can leave once the specimen collection is complete by re-entering the drive lane without waiting for other patients to finish.

On its busiest day so far, the site handled 475 patients in their cars, Modrzynski said.

Pastre's students have documented all of these details. From the placement of stop signs and security personnel to the procedure if someone should faint while wearing personal protective equipment, the document is a thorough look at how the site runs.

Warren said he hopes the document can be disseminated to share what MUSC Health has done as well as to gather feedback from what other institutions have done that could be incorporated into the document.

"By documenting this moment in time, it allows us to come to learn this process of how we deal with testing," he said.

But the students have even gone beyond documenting the original drive-thru testing site.

"From that, the students started to see opportunities to improve the process of testing and to spread it into different areas, whether it is walk-up testing or other methods of drive-thru," Pastre said.

This will be phase two of the documentation process, which will delve into walk-up sites, for people without cars, and adaptive reuse of existing infrastructure, whether it be parking garages, schools or other facilities, Modrzynski said.

While the original task was to set up testing as quickly as possible in a way accessible to most in the Charleston area, MUSC Health is acutely aware of disparities that exist – such as lack of transportation or living in rural areas – that challenge access to this testing.

"We're actually putting some access measures in place now with the pop-up testing MUSC is doing throughout the

state," he said.

MUSC Health has begun offering pop-up testing in smaller communities in the Charleston area as well as rural areas like Mayesville, Hartsville and Santee.

It's been an exciting collaboration that shows how designers, builders and architects can support health care facilities in emergency situations, Warren said.

"We design and build buildings, but what happens when you have to design something that happens within two weeks? And how do you create with no materials? Design in the moment?"

"The most important thing in this process was the realization that as a community, we can work together. Even in times when you're stuck in a house and being told to stay, we can actively do something to help support people who are in the midst of an emergency," Warren said.

Modrzynski said he would like to share this hard-won knowledge and the process behind it. Ultimately, he said, he hopes that the pandemic shakes people loose from ingrained ideas and prompts more innovation.

"How do we get out of that 'normal' thinking and come up with something that is as normal as possible?" he said. "I don't think we know, truly, what the new normal is going to be. And I think we'll find out over the next months, years, of what that new normal is going to be, not only for health care but for society in general."

MUSC employee, student parking operations update

There will be a delay in the reopening of the Park & Ride system until absolutely required. Park & Ride includes the Harborview Tower Garage, 99 West Edge and the Hagood surface lots. All employees with registered parking access on campus are asked to return to their assigned locations on June 1. Park & Ride system employees will be authorized to park in the following employee garages: President Street Garage – (a booth attendant will let you in); Bee Street Garage; M-Lot (enter from Courtenay Drive).

HERO *Continued from Page One*

thankful was U.S. Sen. Tim Scott of South Carolina. Scott had learned about Jones and her dedication at MUSC Children's Health and reached out to recognize her as a workplace "hero" in a video he posted on May 26 on Instagram.

"Today we're celebrating front-line workers – health care workers, truck drivers, grocery store workers, stockers and EVS workers, especially one person at MUSC, Kaneisha Jones, who works

at the MUSC Shawn Jenkins Children's Hospital. She is our hero today," said Scott.

"I want to take time out to recognize MUSC Shawn Jenkins Children's Hospital's Kaneisha Jones and all other EVS workers; thank you for all you do. So often we talk about the front-line health care workers and so often, we forget about other important people behind the scenes – cleaning and making sure rooms and areas are ready

See **HERO** on page 12



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U.S. Sen. Tim Scott joined MUSC Children's Health EVS employee Kaneisha Jones, center, and EVS director Rebecca Luffman, at a May 27 luncheon honoring Jones.



HERO *Continued from Page Eleven*

to go. Thank you Kaneisha for the great things you've done. You are our hero. We're so thankful for the hard work and dedication that you do. You bring a smile to people's faces. Not only do you do a great job but you have a fantastic attitude," he said.

Sen. Scott visited MUSC on May 27 to meet Jones, her EVS co-workers and other staff for a congratulatory luncheon.

"I am very surprised by the luncheon and especially to see the Senator and Dr. Cole," said the North Charleston native and mother of two, with tears in her eyes. "I am very thankful and appreciative of this recognition. It was very thoughtful that he took time out of his busy schedule to recognize myself and my EVS co-workers. This recognition has brought me so much joy and happiness. I am very blessed to work with such great people at MUSC."

FOOD *Continued from Page Six*

the ones who hear customer requests and opinions – like the recent positive response to Taco Tuesday – and pass the information along to the kitchen staff.

Bell was working the cash register in the main cafeteria on a recent slow-ish Wednesday morning. She's worked throughout the pandemic, though her kids didn't want her to go into the hospital.

"I just trust God," she said. Her sentiment echoes that of Dwight's, whose son also protested that she shouldn't work in the hospital.

"God's got my back, sweetie. It's OK," she told him. Besides, she added, "I've got to pay my bills."

Retail operations manager Caroline Williams said she has only two cashiers per shift now, down from the usual six. The staff has been affected by temporary layoffs enacted in April in response to financial deficits caused by the pandemic, and the cafeteria just isn't as busy as it would be during

normal times. There are few visitors, no students, no faculty on exchange from other institutions. Those who can are working from home. Those who are working in the hospital are in and out. Williams said her team is doing its best under difficult circumstances.

"I've got a really hardworking team right now," she said.

Love-Hubbard concurred. Hospital operations are a far cry from a Marine mess hall, but the staff has kept her straight as she's adjusted.

"It's a blessing to inherit a tenured staff," she said.

Virtual MUSC Innovation Week kicks off June 1

In response to COVID-19, Innovation Week 2020 has pivoted to being fully virtual, June 15–19. Check out the recorded and live sessions, plan to vote on your favorite ideas in the poster session, cheer for colleagues in the Shark Tank competition and more. Visit the full week line-up and check back for updates: muscd.edu/innovationweek.

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