



Photo by Sarah Pack

In a photo from the days before social distancing, from left, nurses Alicia Amon and Heather Rodgers work with patient care technician Megan Barnes.

MUSC Health achieves renewal of highest nursing excellence honor

BY HELEN ADAMS

adamshel@musc.edu

Thanks to the coronavirus pandemic, the MUSC Health-Charleston division nurses had to sit with three chairs between them in what would normally be an event marked by hugs and high fives. But that didn't stop the celebration of their hard-won achievement: renewal of Magnet recognition, the highest honor for nursing excellence.

Chief nursing officer Patti Hart, DNP, was thrilled to share the news. "There are statistics out there that only 8% of hospitals in the world are Magnet," she said.

"And the American Nurses Credentialing Center, which operates the Magnet program, says that little over half of them don't obtain the redesignation."

MUSC Health-Charleston first achieved Magnet recognition in 2015. Hospitals have to reapply every four years, which MUSC Health did in 2019. The good news about its success in earning Magnet renewal came this week.

"To have a Magnet designation, you have to have very good patient and staff outcomes. You place patients and families at the center of everything you do," Hart said. "You drive toward evidence-

See **MAGNET** on page 2

Testing indicates low rate of antibodies among MUSC Health care workers

BY LESLIE CANTU

cantul@musc.edu

Early results from antibody testing indicate that just 2% of health care workers have antibodies to SARS-CoV-2, the novel coronavirus that causes COVID-19.

MUSC Health began offering antibody tests to its workforce on April 27. The goal is to expand testing to first responders and other health care workers and, eventually, to the broader South Carolina community.

Pamela Murphy, Ph.D., R.N., system administrator of the Pathology and Laboratory Medicine Integrated Clinical Center of Excellence at MUSC Health, said that 920 tests had been completed in the first week of testing.

"Our lab team implemented this testing so quickly; it's a real example of the collaboration and dedication to our community at large," she said.

With a wave of sometimes dubious antibody tests having hit the market in April, the Pathology and Laboratory Medicine ICCE rigorously validated the in-lab Abbott Architect COVID-19 antibody test before releasing it to be used. The test, which requires a blood draw, was made available to the MUSC Health workforce in Charleston and the regional hospitals.

At the same time, an interdisciplinary team from several Medical University of South Carolina departments has been working in parallel with teams at Clemson University and the University of South Carolina to develop a test to ensure that — even if supply chain problems cut off access to those commercially produced, like the Abbott in-lab test — South Carolinians would have access to antibody screening.

See **TESTING** on page 2

4

Lifesaving plasma
Four patients
successfully infused.

11

Accelerating therapies
Looking for the right drug
to fight COVID-19.

5
7
10

Meet Christal Lee
President Cole's letter
HEROES registry

MAGNET *Continued from Page One*

based practices to create standard work throughout your system. You pay attention not just to high quality but also the experience that you're providing for patients. That's really the hallmark of the entire Magnet model."

In addition to earning Magnet renewal, the MUSC Health-Charleston division nursing team was recognized by the ANCC for exemplary work in multiple areas. One standout was the nurses' role in getting pet therapy dogs to work with children in the MUSC Health psychiatric unit.

"We had really good outcomes from that," Hart said, meaning children were calmer and better able to receive treatment.

The ANCC also cited, among other things:

- The nursing team's success in advocating for changes in state law that expanded the scope of nursing.

- The nurses' skill at preventing body pressure injuries in bedridden patients.
- The team's excellent "door-to-balloon" time, referring to the speed with which the nurses get heart attack patients who come into the Emergency Department the life-saving treatment they need.

The Magnet renewal comes at a time when some MUSC Health nurses are elsewhere, helping places in need during the coronavirus pandemic. They're in New York and Atlanta and around South Carolina. Hart said they all came together for the Magnet celebration virtually.

"It really does help morale. It has pulled us all together during such a challenging time. I was so grateful to the chief nursing officers of the other areas where we have nurses who allowed them to break away and watch our ceremony with us. It was really nice of all of them to do," Hart said. "It's a recognition of nursing excellence. That's what the Magnet model is all about."

MUSC Health clinical unit leader Tibithia Jackson, right, escorts patient Charles Robish back to his room on ART 7East.

Photo by Sarah Pack



Photo by Sarah Pack

MUSC clinical laboratory scientist Elizabeth Champion-Lyons sets up the i2000SR Architect Plus Immunoassay machine for calibration in preparation for antibody testing.

TESTING *Continued from Page One*

What the results of the tests mean is still being determined.

Nikolina Babic, Ph.D., medical director of the Clinical Chemistry Laboratory at MUSC Health, said the team has high confidence in the positive results it reports. "Given our current antibody positivity rates, approximately 90% of positive results are likely to be true positives," she said, indicating that a person who receives a positive result does indeed have antibodies to SARS-CoV-2.

But that still leaves some people with false positives — as well as the larger question of whether the antibodies actually confer immunity. Although antibodies generally mean there is immunity, there are some viruses, like HIV, in which antibodies can't complete their task of killing the virus, and others, like dengue, in which a low level of antibodies might actually make a second infection worse than the first.

Danielle Bowen Scheurer, M.D., chief quality officer for the MUSC Health system, previously cautioned against using a positive result to make work decisions.

"It gives them some reassurance

that they probably have been exposed, and they have mounted some protective response, but we don't want them taking that leap of faith to say, 'I don't need protective equipment. I don't need a face shield or a mask when taking care of a COVID patient,' or 'I have free rein from a social distancing perspective,'" she said.

Scott Curry, M.D., associate hospital epidemiologist, said the test is most useful at the population level for scientists modeling the spread of the virus.

"By comparing antibody results over time, we can determine how much COVID-9 is occurring locally and how much mild COVID-19 has occurred among the health care workforce. Some care team members had poor access to PCR testing during March, and others were so mildly ill that they did not pursue testing. Antibody testing helps us understand the prevalence of COVID-19 among our workforce in the weeks before PCR testing was readily available at MUSC Health," he said.

It's also important to start testing and getting results now, while keeping in mind that new antibody tests will continue to be developed. These new assays will determine the extent to which those antibodies protect against infection.

MUSC CATALYST news

Editorial Office

MUSC Office of Public Affairs & Media Relations, 135 Cannon Street, Suite 403C, Charleston, SC 29425.
843-792-4107
Fax: 843-792-6723

Editor: Cindy Abole
catalyst@musc.edu

The MUSC Catalyst News is published bi-monthly. Paid advertisements, which do not represent an endorsement by MUSC or the state of South Carolina, are handled by Island Publications Inc., Moultrie News, 134 Columbus St., Charleston, S.C., 843-958-7480, 958-7384, 958-7488 or 937-7489. E-mail: advertising@moultrienews.com.

Number of pregnant women, new moms getting mental health help soars

BY HELEN ADAMS

adamshel@muscul.edu

The Women's Reproductive Behavioral Health Program at MUSC Health is seeing a surge in patients during the coronavirus pandemic. Psychiatrist Constance Guille, M.D., described the uptick. "Typically, we see about six to eight new patients in our clinic each week, pre-COVID. This week, we're seeing 20 new patients."

About half are pregnant. The rest are new moms. Guille is not surprised by the increase, which happens to be occurring, in part, during a very timely Maternal Mental Health Week, which runs from May 4 through May 8.

"Problems with mood, anxiety and substance use in pregnancy and postpartum are very common. Stressful life events increase the risk for these problems, so it's not surprising that women are struggling during this time. It's very anxiety producing to be pregnant or having a baby during this time."

Her team is seeing patients at home through online video visits during the coronavirus pandemic. Women make appointments through musculcare.com, which has an option for Women's Behavioral Health Screening.

"What we're hearing from our patients is all the things I think everyone is experiencing right now — social isolation, financial stress, health concerns, uncertainty about the future — but women's concerns are heightened and complicated by COVID-19 during pregnancy and after," Guille said.

"During pregnancy women have fears about their own health and their baby's health, since there's very little known about the virus in pregnancy. They also worry they'll be alone and without support during labor and delivery. After delivery, it only gets worse."

Guille said family and friends who would normally help new mothers,

giving them breaks for naps and showers and helping with household duties, are staying away to try to keep from passing along the new coronavirus.

"New mothers are really on their own right now. That's a major problem, given that social support is one of the most important factors during this time," Guille said.

"Being isolated without support with a newborn, or any young children, can be overwhelming. Normally we have family members, friends, neighbors, daycare and school to help support families. That's definitely not the case during COVID-19. And that's compounding the stressors of having children during this time."

When should women seek professional health? When they feel overwhelmed, Guille said. "If you feel like you're not managing your stress well, and it's negatively impacting the way you're caring for yourself, your newborn, your other children or your adult relationships."

She tries to help her patients regain a sense of control. "There's a lot of uncertainty right now in people's lives and that's a struggle for everyone. But there are things we can control, and a lot of great tools we can use to better manage our stress, depression, anxiety and relationships."

"There are also some fundamental things that make us more resilient and feel better, like exercise, eating well, drinking water, getting as much rest and sleep as possible, limiting media intake and avoiding the use of alcohol or drugs."

As Guille works with her patients, she's finding that video visits are at least as good as in-person visits in most cases. "I really like them, because I have a window into someone's life via a virtual visit. Not only can we see into people's homes and surroundings, but people are more comfortable and more likely to be who they really are. That's



Photo from Pixabay

Pregnancy during the pandemic can be fraught with anxiety and depression due to the medical, financial and emotional uncertainty of this time. So can life at home with a new baby.



Dr. Constance Guille is a psychiatrist specializing in women's health in the Departments of Psychiatry and Behavioral Sciences and Obstetrics and Gynecology at MUSC.

Photo by Sarah Pack

so helpful. It gives you a better sense of where that person is emotionally and psychologically, which enhances our ability to help people."

She worries that after the COVID crisis, insurance will stop covering home video visits. "I think the increase in women we are seeing is, in part, due to increased stress. But I also think it's due to the fact that home video visits remove all the common barriers to care for these women. I hope we can continue to provide this care in women's homes so they can receive the support they need during this critical time."

In the meantime, Guille wants pregnant women and new mothers to know they're not alone. "When we tell women that we can see them in their homes, it's a huge relief. They're like, 'I can just do this from home and I can see you tomorrow?' You can feel their anxiety

decreasing in that moment."

How to access reproductive behavioral health services at MUSC Health

Women can access services through MUSC's virtual care platform.

- ☐ Go to musculcare.com
- ☐ Select Get Care Now
- ☐ Simply create an account or log on and complete a free Women's Behavioral Health Screening

Upon completion of the screening, a care coordinator will contact you Monday through Friday between 8 a.m. and 5 p.m. and connect you to needed resources and schedule you for a home video appointment with providers who specialize in the treatment of perinatal mental health and substance use disorders.

MUSC Health provides plasma transfusions to COVID-19 patients, participates in program

Editor's Note: This story first posted online in The MUSC Catalyst News webpage on April 24, 2020.

BY CINDY ABOLE

aboleca@musc.edu

By mid-April, four critically ill COVID-19 patients were successfully infused with convalescent plasma by MUSC Health physicians as part of an investigational treatment to improve their symptoms and help them to recover after contacting the deadly coronavirus. Three patients at MUSC Health University Medical Center in Charleston and one patient at MUSC Health Lancaster Medical Center are the latest patients to participate in this FDA-sponsored program, which involves MUSC physicians and investigators and support from blood centers to collect and distribute plasma from compatible donors who have fully recovered from COVID-19.

COVID-19 is the illness caused by the coronavirus, known as SARS-CoV-2. With vaccines and therapies still being tested to fight the virus, convalescent plasma has gained new prominence as a promising therapy especially in treating patients suffering from complications of the virus. In announcing this program, MUSC physicians encouraged people who have recovered from COVID-19 to donate plasma. This includes those who were previously diagnosed and confirmed with a test through MUSC Virtual Urgent Care and are now 28 days symptom-free. These recovered patients have developed antibodies against the virus, and their plasma donation can potentially save the lives of up to four patients.

Plasma is the liquid in blood that contains antibodies made by the body's immune system to attack viruses. A recovered COVID-19 patient's plasma can be transfused into a current COVID-19 patient and might provide some relief for the patient during

the course of the disease or reduce complications.

In an effort to approach this most methodically, MUSC has joined Mayo Clinic's Expanded Access Program (EAP) to provide convalescent plasma to patients who are severely suffering from COVID-19. The protocol requires patients to consent to receiving convalescent plasma from a donor who has recovered from COVID-19. Working under Mayo Clinic's industrial review board protocol, only hospitalized COVID-19 patients who are referred by a health care provider and meet certain criteria can participate in this program.

In South Carolina, MUSC joined Prisma Health, Tidelands Health and Roper-St. Francis as participants in this plasma treatment program. MUSC's involvement is part of a multidisciplinary effort led by John Wrangle, M.D., assistant professor in the Department of Medicine's Division of Hematology and Oncology. Wrangle has worked closely with pulmonologists and those physicians on the frontline of care, researchers and regulatory experts, telemedicine staff and other specialists to establish this program quickly.

"By joining in Mayo Clinic's Expanded Access Protocol (EAP), MUSC is responding to the national challenge of fighting COVID-19 by facilitating access to convalescent plasma treatment to make this potential disease-modifying therapy available to physicians and South Carolina's most vulnerable COVID-19 patients in need," said Kathleen Brady, M.D., Ph.D., vice president for research and director of the South Carolina Clinical & Translational Research Institute and Distinguished University Professor. "I'm proud of the quick response and dedication provided by our research and regulatory teams who are working collaboratively with clinicians, specialists and other experts who are leading this effort."

Wrangle is also working with Robert



Photo by Brennan Wesley

Dr. John Wrangle is working with a team of pulmonologists, blood and infectious disease experts, regulatory experts and investigators to provide plasma therapy to COVID-19 patients.



Photo by Sarah Pack

The investigational treatment involves the collection of plasma from documented recovered COVID-19 donors. Plasma is a part of blood that contains proteins or antibodies that are integral in the body's fight against the coronavirus.

Rainer, M.D., medical director of the Blood Connection and a blood bank pathologist at Prisma Health, to help to organize and collect plasma products and bring convalescent plasma therapy to South Carolina communities. The Lowcountry American Red Cross is also assisting in blood plasma collections for this FDA-authorized treatment.

MUSC, participating EAP hospitals and blood centers are in a race against time to identify, collect and store convalescent plasma from recovered coronavirus patients from around the Palmetto state.

The epicenter of the coronavirus

infection in South Carolina was identified in Kershaw County around mid-March. Since that time, MUSC has been at the forefront of numerous efforts to combat the virus, including gearing up to deploy convalescent plasma. As of April 17, Rainer had identified 80 COVID-19 recovered patients and recruited 10 people to donate plasma for this protocol. Both Wrangle and Rainer expect these donor numbers to grow as more patients recover from COVID-19 around the state — making them eligible to donate their antibody-rich plasma.

See PLASMA on page 13

MEET CHRISTAL LEE



Christal Lee

Department and how long at MUSC
MUSC Women's Health; 10 1/2 years

How are you changing what's possible at MUSC

I like being the "go-to" person and got glove dispensers set up at the MUSC Women's Health office.

Family, pets and their names

Sons, Anthony and Michael; mom, Margaret White; and pet dogs, Roxie and Cady

Who inspired you to go into health care

My late husband, David Lee

Favorite spring/May activity
Gardening

Nurse or co-worker that inspires you
Co-worker Anna Kerr, R.N., She's always willing to help.

First thing you'll do once Lowcountry COVID-19 restrictions are lifted
Take my mom (who is blind) out to dinner

These are unprecedented times for our MUSC Employees & community...

Are you concerned about feeding your child in the weeks to come as we navigate the COVID-19 outbreak?

The MUSC Pantry Project

Free pre-packaged shelf-stable food for your children*

When:

Tuesday
 • 6:30 am – 8:00 am

Thursday
 • 6:30 pm – 8:00 pm

*Available on a first-come, first serve basis while supplies last.

Where to pick up:

Drive through in front of MUSC Dental Clinic
 • 29 Bee St., Charleston, SC 29401

Who is eligible?

Anyone with an MUSC Badge
 • These provisions are for MUSC health care team members' children only
 • Please present your MUSC employee badge upon pick-up
 • * Child does not have to be present



DREAM

Disparities Research and Methods Seminar Series presents
MOTIVATING MONDAY

Monday, May 11, 2020, 11:00 AM (EST)

ZOOM CONFERENCING

Topic: "Immuno-Oncology Targets in African American Prostate and Breast Cancer Patients"



Presenter

Clayton Yates, PhD
Tuskegee University
Professor

Department of Biology and Center for Cancer Research
Director of Center for Biomedical Research

Register in advance:

<https://tinyurl.com/DREAM051120>

Suspension of print version of The MUSC Catalyst News during COVID-19 pandemic

The MUSC Office of Public Affairs and Media Relations has temporarily suspended the printing, delivery and distribution of its bimonthly publication, The MUSC Catalyst News, during the COVID-19 pandemic. Your safety and that of our MUSC employees, students and delivery carriers is critically important. We are committed to keeping our readers informed about the latest novel coronavirus news and other important information that affects the MUSC community. We will continue to rely solely on the online version of our publication. Visit "MUSC Catalyst News in Print" at <https://web.musc.edu/about/news-center>.

MUSC prepares biorepository of COVID-19 samples for research

By LESLIE CANTU

cantul@musc.edu

Doctors and researchers are faced with innumerable questions about the novel coronavirus. As a novel, or new, virus to humans, SARS-CoV-2 is still mysterious. How exactly is it attacking? Why do some people get mild, barely noticeable cases while other previously healthy people end up intubated in intensive care units? How does the immune system respond to this virus, and how does it exacerbate existing health conditions?

“The only way you could answer these questions is to have biospecimens from people who were exposed or known to have COVID,” said Patrick Flume, M.D., a pulmonologist and co-principal investigator of the South Carolina Clinical & Translational Research (SCTR) Institute, who is heading up a project to develop a biorepository of COVID-19 samples for research.

The samples will be housed at the SCTR Nexus Laboratory and available to researchers at institutions across the state.

Currently, the team has access to the nasopharyngeal swabs that have been used to test people for COVID-19. Flume hopes to be able to collect other types of samples, including urine, saliva and blood,



Photo by Sarah Pack

Dr. Patrick Flume is heading up an effort to develop a biorepository of COVID-19 samples.

and to collect them at different points throughout the infection timeline.

“For some questions, you might want to have a blood sample from someone who was just recently infected, whereas some information is more interesting after they’ve recovered from the infection to see what their response is,” Flume said.

Amy Gandy is the research laboratory manager. She’s been preparing at breakneck speed to begin receiving and handling samples in a safe manner, noting that workers in the lab will need additional personal protective equipment.

The Epic Research team can help identify potential donors to the biorepository and assist with pulling details from the medical record while maintaining patients’ anonymity so that researchers can delve into questions of risk factors, potential protective factors, or the length of time that passes between diagnosis and onset of symptoms, for starters, Flume said.

“We need to be better prepared for how to manage pandemic infections like this,” Flume said. “We need the testing available to know how these infections spread, how we can protect our patients better and to do it in a way that doesn’t require we shut down our entire economy.”

Building this biorepository is important for dealing with COVID-19, but it’s also about building an infrastructure to help us respond appropriately to the next epidemic or pandemic.

“The smarter we are with this now, hopefully the better prepared we could be with this the next time around,” Flume said.

Diversity and Inclusion Education - Online Curriculum

Office of Training and Intercultural Education

The following modules are offered via MUSC's learning management system (MyQuest). Learning opportunities are organized by content area. To enroll, please click on the title of the module. The Office of Training and Intercultural Education continues to offer opportunities for live, virtual trainings. Visit the [Diversity and Inclusion learning catalog](#) on MyQuest for a full listing of education opportunities.

Leadership in Diversity, Equity and Inclusion: View keynote addresses from DEI leaders on achieving inclusive excellence.

MUSC Inclusion to Innovation Summit : Dr. Damon Williams (1.0 D&I hour)
MUSC Inclusion to Innovation Summit : Jerrell Moore (1.0 D&I hour)
MUSC Inclusion to Innovation Summit : Michelle Espino, Ph.D. (1.0 D&I hour)

Diversity and Inclusion:

How Purpose Changes the Way We Look at Diversity and Inclusion – Imperative (1.0 D&I hour)
How to Manage Diversity in a Workplace (0.5 D&I hours)
TED x UGA: Practical Diversity: Taking Inclusion From Theory To Practice (0.1 D&I hours)
TED x Fort Wayne : Let's Talk Diversity and Inclusion (0.2 D&I hours)

TED Talks on Diversity, Equity and Inclusion:

TED: From Menos To Emojis: How Being Together Builds Bridges In The New Workforce (0.25 D&I hours)
TED: Living Without Shame: How We Can Empower Ourselves (0.25 D&I hours)
TED Talk : Humanize Diversity (0.3 D&I hours)
TED x University of Nevada : What Makes You Special? (0.2 D&I hours)
TED x Chilliwack : Embracing Inclusion: The Richness of Diversity (0.2 D&I hours)

Accessibility :

(ADA) American with Disabilities Act Overview (0.25 D&I hours)
What is ADA?: Disability Awareness Training (1.0 D&I hour)
What is Human-Centered Design? (0.5 D&I hours)

MUSC

Medical University of South Carolina

Creating an inclusive experience for the lives we touch.

Changing What's Possible

MUSC Health

Medical University of South Carolina

Changing What's Possible

YEAR OF THE NURSE 2020

EXCEL · LEAD · INNOVATE

ANA ENTERPRISE

Nurses Week 2020 Activities Calendar

Charleston Division

Wednesday, May 6

Hawaiian Shirt Day

Leadership Rounding 7a-11a, 7p-11p

Thursday, May 7

Crazy Sock Day

Friday, May 8

Mask Decorating Day

Saturday & Sunday, May 9-10

Fun Scrubs Day

Monday, May 11

Favorite Nationality Day

Tuesday, May 12

Celebrate Florence Nightingale's Birthday

Perks & Discounts

Dunkin' Donuts – Free med. coffee & donut on May 6 (View flyer)

Excellence

CELEBRATING A TRADITION OF EXCELLENCE SINCE 1873

Letter from the Office of the PRESIDENT

Dear MUSC family,

As we move into the recovery phase of the COVID-19 crisis, I want to touch base with you concerning important collaborations and our organization's emerging role in the ongoing revitalization of our local and statewide communities.

Given the reopening of some initial aspects of our local and statewide economies, it's important that you understand MUSC's presence and voice in helping businesses, communities, governments and others have an informed, safe and smart blueprint to move forward. Our imperative: We must safely transition from "isolate and quarantine" to "monitor and respond" as our next step. I will continue to beat this drum: Monitoring for the virus throughout our communities and then responding appropriately to mitigate new infections are the keys to transitioning to a more normal way of life – for everyone. Our mantra: Together we must be able to keep the incidence of new infections low and maintain our health systems' capability to care for our community. Every local leader, business and individual has a role to play.

So, what are we working on right now? I want to highlight what we've been doing with the Charleston Regional Development Alliance and the Charleston Metro Chamber of Commerce and a partnership they have called One Region. Under the auspices of this partnership, MUSC is working closely with leaders from Berkeley, Charleston and Dorchester counties to establish a consistent blueprint for employers and residents that inspires confidence as we safely reopen.

The strategy, named re|IGNITE, leverages expertise from business, health care, nonprofit and government sectors to create a coordinated evidence-based plan to restore the local economy. MUSC is participating as part of our leadership role to protect public health and ensure that reopening does not set back progress made from current social distancing practices and stay-at-home orders.

Please take a look at this brief video announcement about this forward-thinking effort to get an idea of what we are aiming to achieve.

These individuals have a firm understanding that our hospital systems need to maintain the capacity to take care of our community and respond appropriately as a community to mitigate any future COVID-19 hot spots. It is a delicate balance to "keep the genie in the bottle" as we strive to move the economy forward, but we must do so to regain the confidence and momentum needed to succeed.

MUSC is providing expertise and guidance for monitoring, testing and tracing efforts as part of this work and maintaining alignment with the Centers for Disease Control and Prevention, S.C. Department of Health and Environmental Control and accelerateSC, the Governor's task force established to revitalize the state's economy safely.

Speaking of accelerateSC, you may have seen some recent news coverage related to our Protection Subcommittee meeting held on Tuesday of this week. The Governor's office has launched a very helpful website where anyone can learn more about the subcommittee's work related to citizen information, governance, protection, response and access to helpful resources for the statewide community. This recently launched one-stop-shop is continually updated and will soon include social media engagement opportunities, online inquiry forms and access to a call center. For more specific information about MUSC's involvement with the Protection Subcommittee, please visit <https://accelerate.sc.gov/#50>.

As you can see, MUSC continues to push hard to develop the appropriate



Cole



Brief summary for communication

Normally MUSC (MUSC Health System-Wide & University) mandatories are completed by June 30, 2020. Due to COVID-19, executive leadership extended the completion date (this one time only) to September 30, 2020. Those care team members/employees on approved leave/temporary workforce reduction will have until September 30, 2020 or 14 days after they return (whichever is later). Please direct all mandatory questions to myquesthelp@musc.edu.

Detailed summary communication (read more details)

We understand both the personal and professional impact of COVID-19 on our care team members, providers, employees, faculty, and staff. In light of these circumstances, MUSC and MUSC Health leadership proactively extended the completion date for annual mandatories from June 30 to September 30. Mandatories are vital, our focus at this time is providing innovative and life-saving care to our patients and protecting and nurturing our families. This additional time to complete mandatories supports our entire workforce - those on duty currently and those impacted by the temporary workforce reduction.

We thank you and appreciate you every day for changing what's possible. This one significant change enables you to focus on patient and family care during these challenging times.

If you have questions, contact myquesthelp@musc.edu. Most Role Specific (Clinical, Non-Clinical MSO, Conflict of Interest, Research and Leadership Education Requirement) mandatory dates were extended to September 30, 2020. POCT cannot extend the mandatory deadline due to the lab's accrediting regulations (CAP), which must remain in compliance, annual competencies must be completed within each 12-month period and will maintain a due date of June 30, 2020.

MUSC and MUSC Health Leadership

capability to monitor and respond to potential changes in community prevalence of the virus around the state. Likewise, MUSC and MUSC Health leaders continue to finalize and implement our coordinated enterprisewide efforts to create our own new normal. As part of that process, I have an ask of you. Please, continue to make smart decisions in your work environments, use common sense to make good social distancing decisions for yourself and your team members, continue to work remotely when possible and follow the guidance issued by university and health system leaders as it continues to roll out in real time.

Finally, this time in May provides us the annual opportunity to recognize formally the skilled, tireless and excellent work of our university public servant and state employees, our hospital care team members and our incredible nurses (for whom congratulations are in order for their recent Magnet redesignation!). It's your dedication, ingenuity and appreciation for our role as a state institution that enable all of us to give our best to those we serve –and not just during times of community crisis.

On behalf of the board of trustees and our entire MUSC leadership team, we commend you all for your incredible efforts and sacrifices and your commitment to innovation and our MUSC values. We stand on your shoulders, and we thank YOU for enabling us to position and move MUSC forward into the future.

Yours in service,

David J. Cole, M.D., FACS
MUSC president



MUSC Health nurse Louis D'Eugenio wears a bandage on his nose due to irritation from wearing personal protective equipment during 12-hour shifts in Yonkers, New York.

Photos Provided



D'Eugenio took this photo of the hospital in Yonkers, New York, where he's working during the coronavirus pandemic.

MUSC Health nurses head to pandemic hotspots

Here's one nurse's firsthand account

Editor's Note: Nurse Louis D'Eugenio, temporarily working at St. Joseph's Medical Center in Yonkers, New York, offered this firsthand account. At one point, a doctor there described the COVID-19 situation as a nightmare, with an unprecedented volume of patients and dozens of staff members testing positive for the new coronavirus.

D'Eugenio, a married father of two teenagers, arrived about two weeks ago to help. In a phone interview, he described how he came to be there, what it has been like and what he wants South Carolinians to know.

Here's Louis D'Eugenio in his own words. This interview has been condensed for clarity.

BY HELEN ADAMS

adamshel@musc.edu

I was working in the ER one day in Charleston, and it had gotten to the point where things were kind of slow. That's when my phone rang. Usually I have my phone on silent, but for some reason I didn't that day. So I grabbed it out of my pocket to try to silence it quickly and realized it was a call from New York.

I answered it, and it was the vice president of human relations for this hospital who wanted to know if I wanted to take a position up there at St. Joseph's. I told him I was at work and I would get back to him and call him tomorrow when I was off. He was pretty adamant that I call that evening.

I called him back, and he said, 'We're a small community hospital in Yonkers. We need the help. We can make this happen very, very quickly.' And he just needed some paperwork and discussed contractual issues and wanted me for four to six weeks.

MUSC had asked us earlier if we wanted to make ourselves available to help in COVID hotspots and shared our information with hospitals that needed help. I just kind of saw this as an opportunity to jump in and do my part. My wife was on board, and my kids were on board. The only person I think wasn't on board was my mother. She's actually a nurse and was on board, but she was just about as frightened as I would be if it was one of my kids.

I was very excited at the prospect of being able to help. It was sort of a fast decision I had to make.

Within a couple of days, I was driving up to New York. It wasn't till I had 12 hours in the car to drive that it really started to sink in. I remember seeing the New York City skyline and being really frightened — thinking, not only is this a new hospital and there are all these people I don't know, but a lot of people are dying all over the place up here. I'd seen refrigerated cars outside with bodies in them on the news. So it was kind of a wake-up call. I was still very glad I was doing it, but I'm not going to lie and say I wasn't afraid.

When I got there, the hospital's human resources people set things up for me. They used a corporate credit card to pay for me to stay in a hotel for a month. So I checked in.

I knew I had orientation the next day, so I mapped out my route to the hospital and took a little drive through the area. It's just north of the Bronx. It is very old. It's outside of the whole skyscraper area — not a ton of giant buildings. It's pretty obvious there's a lot of poverty. Then I went back to the hotel room and crashed because I was exhausted.

The next day was orientation. When I walked into the ER for the first day, there

See HOTSPOT on page 14

From 9/11 to a global pandemic, one man has seen more than most

Editor's Note: This is the first in a series of profile stories on the brave men and women who work at the respiratory specimen collection site in West Ashley.

BY BRYCE DONOVAN

donovanb@musc.edu

The first day was tough.

Before it began, around 7 a.m., Johan Zamosciany and a team of about 20 others walked the maze of cones and tents in the parking lot of the West Ashley Medical Pavilion at Citadel Mall. They needed to know everything in a situation where no one knew anything. MUSC Health had just announced it would be the first in the state – and likely one of the first handful in the country – to set up a drive-through respiratory specimen collection site so that people could be tested for the novel coronavirus.

Zamosciany's job was straightforward but extremely important. As nurses and nurse technicians exited the "red zone," where patients were being swabbed and the virus could potentially reside, he would decontaminate them while still in their suits, using a bleach solution. Once clean, he would help them shed their equipment, with the peace of mind they were safe. It was up to him to make sure COVID-19 didn't leave the contained area.

No pressure, he told himself.

As he looked around that morning, he noticed that the team appeared confident. But when you're in health care, that armor is second nature. The truth was they all had to be a little scared. And for Zamosciany, he couldn't shake that nagging feeling of *deja vu*.

THE FALL OF 2001

Zamosciany had just sat down for breakfast when the call came in.

As an EMT for the New York Fire Department, his job was to head toward danger when others headed away from it. But the truth was, this wasn't just another call. A plane had flown into the World Trade Center. And he and his crew would be part of the first wave of responders on the scene that fateful morning of September 11, 2001.

Before leaving the station, he called his wife to let her know what he was going to be doing, and to say it might be a few days before he was able to check back in.

"She was just crying," he said of that phone call. "She didn't want me to go. But it was my job. I wasn't going to turn away from what I do."

Minutes later, he and his team arrived at the base of the north tower.

Almost immediately they heard a loud rumble and felt the ground shaking as the south tower collapsed. Instinctively, they ran as debris and dust rained down



Photo by Sarah Pack

Johan Zamosciany speaks to team members at the respiratory specimen collection site in West Ashley the very first morning, right before it opened.



Photo by Leone Pieters on Unsplash

Two beams of light illuminate the night sky, symbolic of the fallen Twin Towers.

around them.

"People everywhere were just covered in dust. It was surreal," he said.

The next three days were a blur of destruction, despair and terror. Finally, Zamosciany rotated out and met back up with his wife. She was relieved to have him out of harm's way, but the truth was a part of him never left those towers.

ANOTHER ATTACK

Some people are charmed, others cursed. Most of us fall somewhere in between.

For Zamosciany, there's more nuance to it. It's almost as if he's charmed – by curse.

His very first day of work for the NYFD was February 26, 1993. Though he'd like to say he remembers the date because it's written at the bottom of his employment physical, the reality is it was the day a truck bomb detonated below the north tower of the World Trade Center.

Over 1,300 pounds of urea nitrate-hydrogen gas exploded beneath the twin towers with the intent of taking them both down. Fortunately, it failed to do so. Still, six people died and more than a thousand were injured in the process.

And that was the world in which Zamosciany's career began – with all hell breaking loose.

In the years that followed, there were the burning

See PANDEMIC on page 15

Heroes of pandemic get chance to register their thoughts

By HELEN ADAMS

adamshel@musc.edu

For pediatric critical care specialist Elizabeth Mack, M.D., part of working in a hospital during the coronavirus pandemic means making sure she doesn't unwittingly bring the virus home to her husband.

"I go into work with regular street clothes," the MUSC Children's Health division chief of Pediatric Critical Care Medicine said. "I remove my jewelry before I go to work. I go to the scrub machine, I put on hospital scrubs. I put my hair up and take my makeup off so I don't get any on my mask. Then when I'm ready to leave, I take a shower at work, change out of the scrubs, change into my street clothes, go home and take another shower."



Mack

She's also living with more unknowns. "Does infection confer immunity? We don't know. When will there be a vaccine? Will people get the vaccine? How soon will the virus mutate? Will reentry into society cause another wave of infections?"

Mack would never call herself a hero. But her patients' families might. So would the people behind the new national HERO Registry for health care workers. It's funded by the Patient-Centered Outcomes Research Institute, a nonprofit authorized by Congress to improve the quality and relevance of health information to help people make better choices.

HERO stands for Healthcare Worker Exposure Response and Outcomes. The HERO Registry asks health care workers to share their experiences from the COVID-19 front lines. MUSC and MUSC Health are encouraging employees to take part.

"Our hope is to get as many health care workers as possible to sign up," said Elizabeth Szwest, a program coordinator with the South Carolina Clinical & Translational Research Institute at MUSC.

"We'll be able to use the information that's in the registry to do pragmatic clinical trials and observational research and obtain real-world evidence, now, while the pandemic is ongoing, but also afterward, to provide the best care for our health care workers who are tirelessly taking care of our patients to put them first."

Karen Packard is not on the front lines of the pandemic but signed up out of curiosity in her role as a clinical nurse manager for SCTR. "They send



Photo by Sarah Pack

MUSC Health employees at the COVID-19 drive-through specimen collection site in West Ashley. For information, visit <https://heroesresearch.org/>.

you some general surveys. It's asking about exposure to COVID-19, but it's also asking about your overall well-being. The survey questions were like, 'How often over the last couple of days have you felt depressed and frustrated and angry?' That, I thought, was really good."

Questions like that reflect the potential stress some health care workers may be feeling right now. Signe Denmark, associate director of Research Opportunities and Collaborations in the MUSC Office of Clinical Research, said the registry will try to tap into that.

"What is the mental and physical toll on our health care workers? How do we measure stress? How do we measure burnout? How do we gather the evidence we need to keep our health care workers safe, learning more about how we can better protect them and those they love?"

It takes about 10 minutes to sign up for the registry, Denmark said. "They will periodically add different surveys to the registry. Participants can choose to complete none of them or as many as they want. It's completely optional. Health care workers who register can have as little or much engagement in this process as they'd like."

For the registry's purposes, "health care workers"

means more than people who directly take care of patients. "They're also wanting to include other folks who are just as important in the whole health care infrastructure," Denmark said.

"So our environmental service workers, interpreters, folks who work in food service — anybody who works in a setting where our patients receive health care. It's really meant to be inclusive so we're measuring stressors and response and risk in the overall health setting as a whole."

Szwest said the information gathered by the registry can help guide important decisions. "We

can try to answer questions about treatment and other health issues that may show up at the same time in people with COVID-19. We can also look at how the virus affected health care workers and maybe understand what we should do differently in the future if a situation like this occurs again."

And that's entirely possible, scientists say. The new coronavirus could cause more problems in the future, and there's also the risk that a different virus could crop up.

If that happens, health care workers will be there. Workers like Mack, the pediatric critical care specialist. "It's what we do," she said.



MUSC, HPE make innovative drug discovery software open source

Academia, industry team up in COVID-19 response

BY MIKIE HAYES

hayesmi@musc.edu

In yet another innovative partnership between academia and industry, MUSC and Hewlett Packard Enterprise (HPE) are making available to researchers worldwide an innovative new drug discovery program they co-developed, PharML.Bind, in an open-source release. Through this release, MUSC and HPE aim to accelerate the search for effective therapies against COVID-19, the disease caused by the SARS-CoV-2 virus.

The novel coronavirus pandemic has created many challenges to biomedical infrastructure, and chief among these is the need to identify effective therapies for treating COVID-19. The decision to share, rather than license and market, PharML, is in direct response to the world's immediate and increasing need for effective therapies.

"The smart move in the middle of a pandemic is to take a fast look at repurposing existing drugs, which we and many others are doing," said MUSC researcher Yuri Peterson, Ph.D. "But what we really need, and where artificial intelligence like PharML can shine, is to get ahead of COVID-19 by finding the right drug – the perfect drug, if you will – that can limit this virus' ability to survive, reproduce and continue to wreak havoc on our world."

Troy Huth, J.D., Ph.D. associate director of the MUSC Foundation for Research Development, agreed, adding that with PharML's massive scale and speed, researchers can rapidly search for drugs that target the pathogen itself, as well as processes critical to its survival and lifecycle, for vulnerabilities that could result in a treatment or cure.

"The MUSC Foundation for Research Development strongly supports making this highly valuable software open source in order to drive global innovation and positively impact drug discovery efforts aimed at solving the COVID-19 crisis," Huth said. "The open sourcing of PharML also demonstrates an important way in which universities and their

technology commercialization offices can make significant progress toward solving the challenges of our times, including this pandemic."

While PharML is in its early phase and was meant to be the core in a number of long-term drug discovery and personalized medicine applications being developed by Peterson and his team, he, along with colleagues at HPE, came to the conclusion that making the code and training files open-source was the best course of action to facilitate, most rapidly, drug development in an effort to fight COVID-19.

Jacob Balma, an artificial intelligence engineering researcher with HPE and part of the PharML team, said that by open-sourcing this work, they hope to change the types of problems people can solve at home on their laptops and open the door to a new class of problems for the scientific community to explore on supercomputers.

"Making PharML widely available is an important step toward providing the world with true high-throughput, open-therapeutics technology," said Balma. "The drug discovery pipeline, which this framework aims to accelerate, is currently the limiting factor in the time it takes to design and repurpose compounds to treat diseases. With PharML, we are making it easier for others to join the race to find treatments to address the COVID-19 pandemic."

PharML solves that. PharML can be used to predict which drugs will work if/when a virus or other pathogen mutates so researchers can try to get ahead of future outbreaks and create a pipeline of future medicines.

PharML uses neural network architecture to estimate what drugs might be effective for specific disease targets, and it does so on a massive scale. PharML was trained on an extensive real-world data set containing millions of data points. It achieved a prodigious 98.3% accuracy rate, rapidly and accurately searching known drugs to find potential candidates for treating COVID-19 and other diseases.



Photo Provided

Dr. Yuri Peterson, center, with then first-year College of Pharmacy students. Petersen was awarded Teacher of the Year (2019) by the class.



An image of a protein interacting with DNA – a typical starting point for computer-aided drug design.

Image Provided

Peterson explained that AI in the biomedical field takes on many forms, much of it focused on improving human interactions with expansive data like medical records, scientific abstracts or medical diagnostic imaging. PharML, however, takes a chemistry-oriented approach.

"We set out to test if we could use machine learning and neural nets to predict accurately all of the characterized drug-protein interactions that can happen in a human body," Peterson said. Our testing indicates that it is very feasible to process with high accuracy millions of distinct and complex interactions while being light on computing resources," he said.

The team recognized that this provides the kernel of a much bigger project in which open therapeutics could serve to remove roadblocks in drug development and open the door to more complex problems like emerging pathogens and personalized precision medicine.

The software, an innovative drug and mechanism-of-action (MOA) evaluation graph-based deep neural network (NN) architecture, began in early 2017 as a learning and discovery project. The team is now doing hands-on testing of the feasibility, utility and accuracy of artificial intelligence in the drug development process. A preprint of the

See SOFTWARE on page 15

Center for Telehealth leading innovative responses to pandemic

By LESLIE CANTU

cantul@musc.edu

Americans have been learning a lot of new vocabulary words in the past month or so: coronavirus. Hydroxychloroquine. Asymptomatic. Serology testing. Telehealth.

And while that last one might be new to many in the U.S., it's well-established at MUSC Health, which began offering telehealth services in 2005. It launched the MUSC Center for Telehealth in 2013 and became headquarters for the newly established South Carolina Telehealth Alliance the following year; in 2017, it was designated a National Telehealth Center of Excellence, one of only two in the country.

And today, the Center for Telehealth is right in the middle of just about every initiative at MUSC Health in response to the COVID-19 pandemic, providing interventions to help patients throughout the continuum of this disease.

From COVID-19 screenings to primary care visits, both patients and doctors have adapted, and even thrived, with this new remote medicine option, said Kathryn King, M.D., associate medical director for the Center for Telehealth and Telehealth Center of Excellence associate program director. In fact, she thinks many people will want to continue using telehealth once life returns to normal.

"I don't think anyone's advocating that we don't need in-person care anymore. I think we all agree we do need in-person contact with our patients," she said. But telehealth could become a new option that enhances care by enabling more contact between doctors and patients, she said. For example, instead of scheduling an in-person follow-up visit in three months, a doctor could schedule a quick televisit in a week

to check on a patient's progress.

More immediately, King is excited about how telehealth can help lead the way back to normalcy and proud of the numerous initiatives that the Center for Telehealth has been involved in. She thinks telehealth will continue to play a pivotal role moving forward, prompting the question, "Can we use telehealth to continue this continuum of care and patient engagement at the population level so we can successfully and safely reopen our state?"

COVID-19 SCREENING

The center staff realized early on that it needed to create a means to screen people who would qualify for coronavirus tests, which were in short supply. Using the existing MUSC Health virtual urgent care platform, the team led by Tasia Walsh, director of Strategy and Virtual Solutions, and Ed O'Bryan, M.D., executive director for MUSC Health Solutions, developed a screening mechanism for people with symptoms that indicated possible coronavirus infection. Because of the highly infectious nature of this virus, it was important to keep the potentially infected away from crowded emergency rooms and urgent care clinics where they could spread the disease to other patients and to health care workers.

"As we preach social responsibility — don't shake people's hands, wash your hands frequently — this is another way to try to prevent community transmission," O'Bryan said.

REMOTE PATIENT MONITORING

For those patients who tested positive for coronavirus but didn't need to be hospitalized, the Center for Telehealth, along with Epic Research Operations and Integrations within the Biomedical Informatics Center, created a way for patients to report on their symptoms



Photo by Sarah Pack

Dr. Kathryn King is excited about how the Center for Telehealth has been able to respond to the novel coronavirus pandemic.

"We are trying to do our part, and we hope we can be helpful to the brave clinicians who are out there on the front lines."

Leslie Lenert, M.D.

from home each day, with nurses monitoring for worrisome changes.

As of April 15, with 111 patients enrolled in the voluntary program, nine had been referred to a video visit with a doctor, and one was referred to an emergency room and admitted.

"It's going well overall. The patients seem to genuinely appreciate the support," said Emily Warr, R.N., director of operations for the Center for Telehealth.

And Leslie Lenert, M.D., director of the Biomedical Informatics Center, said his group appreciated the opportunity to participate in the coronavirus response.

"It's been a good way for people to really make a difference when they might have been distracted," he said. "We are trying to do our part, and we hope we can be helpful to the brave clinicians who are out there on the front lines."

REDUCE HEALTH CARE WORKER EXPOSURE

The Center for Telehealth has been making a difference even within the hospital walls. A major concern throughout the nation has been the supply of personal protective equipment for health care workers. The center staff knew they already had a system in place that could help reduce the number of times health care workers physically needed to enter a COVID-19 patient's space, and therefore, reduce the amount of PPE used by providers.

The system was one of continuous virtual monitoring carts that were being used to keep eyes on patients who were deemed fall risks or at risk of self-harm. The carts have touch screens, cameras and speakers and are rolled to the rooms where they're needed. Typically, a remote staff watches the room through the camera and talks to the patient through the speaker if necessary — for example, to ask a patient not to attempt to get out of bed.

In the case of COVID-19 patients, the carts were repurposed to allow doctors and nurses to check on the patients through the two-way audio-visual connection without entering the room each and every time. At first, two carts

See **TELEHEALTH** on page 16

PLASMA *Continued from Page Four*

“There’s reason to believe that this may be an effective therapy for COVID-19 patients,” said Wrangle. “We feel that ensuring an opportunity for people to recover from this infection and donate is critical to creating a vast supply or inventory of plasma so that anyone in the state can draw from it when needed.”

Through its Center for Telehealth, MUSC Health quickly established a systematic process to identify the potential blood plasma donors who would be asked to consider plasma donation. Before making their decisions, patients would be able to speak directly with MUSC Health physicians who could answer their questions about the process and explain the value of donating their plasma as a way to help to treat critically ill COVID-19 patients.

Wrangle explained that key to MUSC’s process is everyone’s dedication to a patient-focused mission. To that end, Wrangle established a one-to-one outreach protocol, arranging for MUSC Health physicians to make phone calls to documented coronavirus patients. He said this level of communication has gone a long way in helping patients to understand the value of this experimental plasma treatment and how blood from COVID-19 survivors can help neutralize the virus and give patients a fighting chance against the disease.

EXPANDED ACCESS PROGRAM

The program is growing. As of mid-April, more than 1,902 hospitals, government agencies and medical institutions, which, in addition to MUSC, include Johns Hopkins University, Washington University, Einstein Medical Center, had registered as participants in the U.S. COVID-19 EAP with 2,900 physicians and almost 1,000 patients enrolled. As of April 23, the program had successfully infused 1,458 COVID-19 patients nationwide.

So far, outreach efforts have paid off. As of April 22, six patients have donated their plasma with several dozen people scheduled to donate before the end of the month.

“Working with MUSC’s team has been a great experience,” said Rainer, who

is a 1988 MUSC College of Medicine alumnus. “Dr. Wrangle, everyone, worked pretty quickly and efficiently to get the EAP program up in a timely manner. Everyone has been very professional, and we have great people involved in this effort.”

According to Rainer, collecting convalescent plasma for this study is no different than collecting blood and plasma products from donors. The plasma undergoes testing and screening for disease prior to its availability to hospitals and acute care facilities for medical therapy. One difference is that the plasma product is labeled as coming from a convalescent donor.

The process of donating plasma is similar to giving blood. First a needle is placed in the vein of a donor’s arm. Plasma is collected and cycles through a machine where the plasma, a rich, yellow liquid is separated and collected in a process called plasmapheresis. The red blood cells are returned back to the donor. The process can take up to two hours for first time plasma donors.

As with a standard blood donation, patients and donors must be matched by blood type. Plasma can be frozen and stored for a year and still be effective, according to Rainer.

MUSC Health CEO Patrick J. Cawley, M.D., praised clinicians and researchers for their efforts to work together to introduce this treatment as a clinical benefit to patients affected by this disease.

“Providing this centuries-old, yet still pioneering, treatment enables MUSC Health to treat our most critically ill COVID-19 patients with antibody-rich plasma that our recovered patients developed to fight the virus. This will allow the immune systems of our sickest patients an opportunity to ramp and fight the virus. I could not be prouder of our MUSC Health care team, in collaboration with our MUSC researchers, for working so hard to bring this and numerous other inventive options to fruition,” Cawley said. “As the state’s only academic health sciences center, we must perpetually think outside the box in terms of ways in which we can substantially and rapidly help the community and state during this unprecedented time.”

FAQs About Convalescent Plasma Therapy

❑ What is convalescent plasma therapy?

Convalescent plasma is the liquid part of blood that is collected from patients who have recovered from COVID-19. Patients who recover from infection develop antibodies or proteins that stay in the plasma that may be able to help sick patients fight the virus that causes the illness.

❑ Why is MUSC involved, and what protocols must be followed?

The U.S. Food and Drug Administration (FDA) asked Mayo Clinic to serve as the central Institutional Review Board for the U.S. Expanded Access Program (EAP). The EAP is the mechanism to access certain investigational new drugs made available outside of clinical trials. The EAP focuses on providing treatment, whereas a clinical trial is focused on research. An EAP is sometimes necessary when the presence of a disease is classified as life threatening or severe and there is no current intervention available. The FDA and Mayo Clinic have streamlined the program with participating hospitals and medical centers, to enroll patients, and agree to rely on Mayo Clinic’s IRB protocol and regulations.

❑ How does it work?

People interested in donating plasma must have been confirmed by a test that they were infected with COVID-19 and must be 28 days without symptoms. Patients meeting these criteria should obtain a copy of their test results and contact the Blood Connection – (854) 429-1700 – to schedule an appointment to donate plasma. Donors must be at least 18 years old. This plasma is then available to physicians treating patients ill with the COVID19 virus.

❑ What happens after a patient receives the plasma product?

Once the approved plasma product is administered to the patient, MUSC Health’s care team and protocol physicians will continue to monitor the patient for any serious reactions or adverse events related to the convalescent plasma infusion.

❑ Does the EAP provide antibody testing?

The Expanded Access Program is not directly involved in serologic testing to identify people with COVID-19 exposure. If you are interested in obtaining serologic testing, the test would need to be ordered by your local primary care provider when these tests become available.

❑ How can I donate convalescent plasma?

There are several local and statewide resources to donate convalescent plasma in South Carolina, including the Blood Connection North Charleston and the Lowcountry S.C. Chapter of the American Red Cross. The Blood Connection can be contacted at (854) 429-1700.

❑ Can I direct my convalescent plasma donation to a person of my choosing?

To ensure compatibility with blood type and the requirement to adhere to strict guidelines in this treatment program, directed donations are not permitted.

❑ If I am cleared to donate, what can I do prior to donating plasma?

Hydrate well before your visit. Drink water or other clear nonalcoholic fluids. This can help prevent dizziness, fainting and fatigue.

❑ When can I donate convalescent plasma?

It’s recommended that donors donate two weeks (14 days) after their original convalescent plasma donations.

People who are interested in donating plasma should check with their health care providers (physicians who ordered their COVID-19 RNA tests) who will refer them to the Blood Connection to arrange for a blood plasma donation. Every donation is

HOTSPOT *Continued from Page Eight*

were four people on ventilators, which you don't see in the ER at MUSC. When somebody gets vented in the ER at MUSC, they go straight to the intensive care unit. But in New York, the ICU was already full of other COVID patients.

I kind of knew what was I was in for. I had a couple of weeks of pretty much devouring news and knew what it was like. Plus, I have a friend who lives in Manhattan, and he'd kind of given me the heads-up of how bad things really were.

The next day, they teamed me up with one of their nurses who was a regular there for a while. That was it — I got one day of orientation. They were overwhelmed, so they were looking for somebody to hit the ground running.

I came in, and they assigned me two of the vented patients. I had to learn their pumps and learn their ventilators, make sure I understood what was going on so I could take care of them. These people were extremely ill. They essentially were in respiratory failure.

While they were really busy, by the time I got there, the peak had passed. They're anticipating another peak at some point, but for now, it's not as overwhelming as it was.

The AP did a story maybe the week before I came up here. They did a tour inside the hospital, and they interviewed a medical director. He was talking about how in one day, he pronounced six people dead. That's unheard of. Even at MUSC, where we're a Level 1 trauma center, I've never seen them pronounce more than one person in a day.

Whatever we can do to make this not happen in Charleston, that's what we need to do. It's awful. One of my co-workers up here, he got sick and brought it home to his 7-year-old child who died yesterday.

I feel like as long as I stay on my toes, I can keep myself safe. That essentially means being covered from head to toe for 12 hours. It definitely concerns me. I'm a numbers guy. I know the odds of my getting seriously sick from it aren't that bad, but I don't want to have to be quarantined in a hotel or bring it home to my family.

I miss my family a lot. But at the same time, being here to help during the pandemic is very satisfying because the staff and my manager and the physicians are all very obviously pleased to have us up here.

That's one of the great things about being a nurse. When a politician like Governor Cuomo is asking for people to help, and you have the skillset that can be useful, it gives you license to say, 'You know, I can do this.'

MUSC has been extremely supportive of my being here. I'll go back when my time in New York is up. They already have me on the schedule.

The hardest thing about being in New York has been seeing people die from this illness. Just knowing the patient you were doing chest compressions on died from



Dressed out in personal protective equipment, D'Eugenio holds his mask bag.

COVID-19. It's definitely something that will stick with me.

Another thing that really stands out is how this team has stuck together. To think what these people have been through prior to me coming up here and that they still come to work every day. That, to me, is just a very tight

"The hardest thing about being in New York has been seeing people die from this illness. Just knowing the patient you were doing chest compressions on died from COVID-19. It's definitely something that will stick with me."

Louis D'Eugenio, R.N.

team. They've been through what I can only imagine is absolute hell for the last month. Maybe longer. And the fact that they're still plugging along and coming in every day is pretty amazing.

I think when my colleagues and I come back from New York, we'll probably get grilled by our team in Charleston about what we saw and how things are managed. What to do, what to not do, that sort of thing. I definitely feel like that will be helpful.

The key point I'd want to drive home is that I hear all this information about South Carolina opening back up, and I just hope that that's not a bad decision. People are going to get this illness. It would be nice if it didn't happen with so many people getting sick at the same time.

JEEP ROUND UP JOINS HEALTH CARE CELEBRATION



Photo Provided

Members of the Lowcountry Wranglers (Jeep Wrangler owners) were part of the May 5 MUSC Health Care Heroes Appreciation event around the medical center campus. The group donated food to feed 200 frontline medical staff and joined Charleston area first responders in recognizing nurses, physicians and hospital support employees.

PANDEMIC *Continued from Page Nine*

buildings, the scrub fires, the seemingly never-ending haze in the air after 9/11. He began to have a tougher time breathing. Smoke would set him into uncontrollable coughing. Over his then 13-year career with the NYFD, he had gained lots of friends, tons of experience but sadly, a medical condition as well. He was diagnosed with chronic asthma.

For a firefighter, this was the closest thing to a career-ender.

Reluctantly, in 2006, in an effort to get away from the cold winters – something that also gave him trouble breathing – he packed up his family and moved south to Charleston, where he got a job working with MUSC as an EMT.

THE GREATEST RISK

Medical personnel put their lives on the line every time they care for a patient with COVID-19-like symptoms. Add in a condition like asthma and things get even bleaker.

According to the CDC, people with chronic lung disease or moderate to severe asthma are at a significantly higher risk of developing complications from COVID-19. Because their lung tissue may be less elastic, once infected, it can set the stage for a more severe infection because of scarring, inflammation or lung damage. As a result, this group is far more likely to die.

Those lucky enough to escape the clutches of the virus, might then find life-saving drugs such as albuterol inhalers much more difficult to come by. According to the American College of Allergy, Asthma and Immunology, supplies are much more limited because hospitals are increasingly using the devices to help COVID-19 patients breathe better.

Zamosciany recalls when he first told his wife about MUSC Health's plan to start the drive-thru screening site. He knew it was his calling. "I had trained my entire career for hazardous situations like this, and here it was – my opportunity to help when people needed it most," he said.

The irony wasn't lost on the 54-year-old father of three girls. He knew he was once again playing with fire.

His wife pleaded for him not to

volunteer to work at the site. How many times must he tempt fate?

"But I just couldn't say no. I mean, who is better equipped to do this than me? My whole career has led to this moment."

FULL CIRCLE

They treated 17 patients that first day.

Since then, the collection site has averaged close to 200 drive-through patients a day. One day, they sampled 427 in a single 10-hour shift.

"Some people think, 'Why subject yourself to that increased risk?' Well, because that's 200 less people going downtown to our hospital. And that makes everybody safer," he said.

Though a high-pressure job, it's not without its occasional downtime. And with that comes an opportunity to think, reflect. And Zamosciany can't help but see the similarities between working at the MUSC Health collection site and being in Manhattan on 9/11.



Zamosciany readies supplies before his 10-hour shift working at the drive-through specimen collection site.

Photo by Sarah Pack

The initial fear, followed by the questions.

"How could something like this happen?" "Could we have done more to prevent it?" "What do we do next?"

But then the human spirit rallies and people come together to do amazing things.

For those on the frontlines in the battle against COVID-19, much like the first

responders at the twin towers, the pace has been frenetic. Life has been scary, but once again, there is a renewed sense of hope in humanity.

"We're seeing lots of people coming together. Restaurants are dropping off food for us. People are making us signs and dropping off gifts. The country is rallying around health care. It's people taking care of people. And it gives me

SOFTWARE *Continued from Page Eleven*

work was posted to arXiv in October of 2019 (<https://arxiv.org/abs/1911.06105>).

The team initially mapped out a strategy to consolidate more collaborators, test real-world predictions in a preclinical setting and publish in an academic journal. However, the advent of the COVID-19 pandemic accelerated this timeline, and the urgency of releasing the code and training files under an open-license became apparent.

The developers expect the code to be a huge time saver for coders, developers and researchers wanting to use artificial intelligence to find new COVID-19 therapies. The code was designed on the front end by Balma and Aaron Vose at NanoSemi to be fast, efficient and reliable in parallel processing environments, making it easy both to modify and to use. PharML can be used as a stand-alone drug discovery or evaluation program that will predict the likely target (MOA) of any drug

that has some similarity to a drug that has existed before. PharML can be integrated with more processes to do fundamental things like predict individual drug disposition, aiding in drug combination studies and in personalized medicine, both in terms of outcomes and genetic variations.

PharML allows users to explore solutions to the long-standing problem in pharmacology of drug-induced side effects that emerge from the tendency for disease-implicated proteins to become the primary focus for further study, leaving behind the potential interaction drugs might have with all of the other proteins in the body.

"Because PharML can rank-order full proteins in a compound-focused study, or just as quickly solve the inverse problem of rank-ordering compounds relative to a specific protein in a target-focused study, we can effectively see where further study is warranted from the short lists generated by PharML," Balma explained. "This quickly narrows the search space across databases containing millions of compounds and tens of thousands of

proteins down to the few which matter most ... and we can do that in minutes."

The collaboration between MUSC and HPE, Peterson said, has been a great showcase of teamwork. He stressed that both teams bring a lot to the table, and the skills of each team dovetail perfectly.

"MUSC brings to the table a strong foundation in pharmacology and therapeutics and a practical understanding of the principles of coding, software and hardware. My friends at HPE have good fundamentals in chemistry and biology and are fantastic at coding, software and hardware. By drawing on each other's strengths and staying open, we have been able to communicate effectively as a team, ask important questions, interrogate the results and make consistent and positive progress."

For more information on PharML or Peterson's work, please contact the MUSC Foundation for Research Development at frd@muscd.edu or (843) 876-1900.

MUSC HEALTH NURSES CELEBRATE MAGNET AWARD NEWS



Everyone was all smiles as on April 28 as MUSC Health Charleston celebrated news that it was awarded re-designation in the Nurse Magnet Recognition Program. Left photo: MUSC Chief Nursing Officer Patti Hart joins nursing leader Leah Ramos and other nurses after receiving MUSC's Magnet re-designation news. Below: Hart presents a bouquet of flowers thanking Robin Smith, administrative coordinator for MUSC's Magnet Department. MUSC earned six exemplars signifying high quality and patient centered care demonstrated by nurses across the organization.



TELEHEALTH *Continued from Page Twelve*

were put to use in mid-March. That quickly ramped up so that by April 6, 15 carts were in use and handling more than 1,200 calls from cart to room per week.

"That significantly cut down on health care worker exposure and PPE use. Our early results show a significant cost savings," King said.

PATIENT-FAMILY CONNECTION

The support of family, friends and community is important for anyone in the hospital, and putting patients and families first is one of MUSC's core values. Unfortunately, during a pandemic in which many contagious people are asymptomatic, that has meant severely restricting visitors to decrease the chances that a well-meaning family member or friend could spread the novel coronavirus to patients, health care workers or other visitors.

To help patients connect, the Center for Telehealth information technology team, led by Michael Haschker, reconfigured iPads in each unit that were used to assist with rounding or electronic consents to be used instead for patients to communicate with family. Patients can use FaceTime, if they have an Apple ID, or they can use an app that creates a unique "room" accessed by a link sent to family and friends.

By April 7, all nursing units in Charleston had access to the iPads. The following day, the center shipped some of the reconfigured iPads to the Lancaster and Florence divisions.

"Once this is over, it'll be interesting to see what happens," Warr said. "I would not be surprised if this

virtual visitation option becomes the new norm because it's really not a unique problem to COVID that some family members can't get in to see their loved ones while they're in the hospital."

AMBULATORY CARE

Though it might have felt like it at times, life didn't stop as the pandemic reached South Carolina. Doctors still needed to check on their patients with chronic conditions. People still needed to talk to a therapist. Children still got pink eye or into poison ivy and needed prescriptions.

"Probably the most important thing is the health care system needs to keep running. We need to be able to continue to see our patients," King said. "Our patients need the same everyday care they always needed in the ambulatory setting."

With clinics shutting down and patients canceling appointments, MUSC Health set a goal of having 80% of ambulatory visits conducted through telehealth. Results have varied by department, but King noted that some areas have actually pushed past 100% of their prepandemic activity, thanks to the leadership of James McElligott, M.D., executive medical director for the Center for Telehealth, and the hard work of the entire ambulatory care team.

"This has been a mammoth effort, and it's amazing how quickly the entire system has adopted these platforms for the good of our patients. We're giving patients the care they need while keeping them safe, and they are very appreciative. The providers and staff have had to adapt quickly and have done a great job putting on webinars for their peers and banding together as an

organization to make this happen," King added.

GROUP EFFORT

King said the center's achievements have been possible only because of the remarkable work ethic displayed by everyone from every corner of the organization.

"So many people have stepped up and done incredible jobs, working crazy hours to make this happen," she said.

She highlighted Dee Ford, M.D., project director of the Telehealth Center of Excellence, who is wearing multiple hats during this unprecedented time; Shawn Valenta, administrator for telehealth, who has facilitated communication amongst all the teams; and directors Walsh, Warr and Ellen Debenham, who have coordinated as almost everyone in the Center for Telehealth has taken on new responsibilities to address the crisis.

"From school-based health nurses who flipped to working call lines to help people without internet access to navigate the system to our South Carolina Telehealth Alliance team assisting physicians throughout the state to take on telehealth and keep their practices going, this is really a huge team effort. I have been continuously impressed by the work ethic and commitment to our patients that everyone has displayed during this difficult time," King said.

She is also encouraged by how well the entire health care ecosystem adapted to telehealth, including payers who have agreed to cover telehealth visits. The center is already working with payers to determine what data they will want to review to decide whether to continue to cover such visits in the future.