

A Tribute to MUSC Women



Photo by Sarah Pack

Carrying her weight: Nurse Janet Byrne hauls supplies for COVID-19 patients.

Women make history during pandemic-era Women's History Month

BY HELEN ADAMS

adamshel@musc.edu

Women's History Month finds women at MUSC reflecting on the fact that they're living through history. "This is really the biggest call to duty that I've ever been involved with," said Cassy Salgado, M.D., hospital epidemiologist for MUSC.

Registered nurse Shemika Champion, the first person to get a COVID-19 vaccine at MUSC Health, agreed. "Women are true born leaders, and I continuously strive to change what's possible within the health care community."

To highlight the key role MUSC women are playing during the pandemic, we turned to employees on

the front lines. They're leaders, doctors, nurses, researchers, advocates, vaccine volunteers and laboratory whizzes. And each, in her own way, has been an important part of battling a pandemic – the likes of which we haven't seen for more than a century.

This is by no means a complete list of the women making history during the pandemic – far from it. There are many others, from the pediatricians losing sleep as they help children battling COVID complications to the dedicated Environmental Services workers who had to learn a whole new set of guidelines for cleaning during a pandemic. But it's a sample that shows just how significant the impact of women has been.

See **WOMEN** on page 6

Sense of urgency as MUSC begins sequencing for COVID-19 variants

BY HELEN ADAMS

adamshel@musc.edu

The molecular pathology lab at MUSC has begun checking COVID-19 samples for variants, including new, highly transmissible strains. It's using a process called next generation sequencing that decodes the genes in samples of the coronavirus collected from infected people. That lets researchers see how the virus is changing over time and prepare for the impact that could have on how easily it spreads, how sick it makes people and how well vaccines may work.

"It's a big deal now that we keep an eye on what's happening to the virus," said Frederick Nolte, Ph.D., vice chairman of the Department of Pathology and Laboratory Medicine and medical director for clinical laboratories and the molecular pathology lab. "We have the capacity for doing it. We have the instrumentation, we have the expertise, we have the people."

They also have a sense of urgency. In a blog for the Association for Molecular Pathology, Nolte raised the alarm, noting that the U.S. isn't testing enough coronavirus samples to give the country the ability to slow or stop the spread of mutations. He called for collaboration between public health and clinical labs and more resources to change that.

MUSC is in talks with the South Carolina Department of Health and Environmental Control to see if they can work together and share some of the federal funding designated for COVID sequencing.

"Hopefully we don't make the same mistakes we

See **VARIANTS** on page 2

4

MIS-C early success
MUSC team making
strides.

8

One dose or two?
Vaccine expert
weighs in.

2 OneMUSC

5 Meet Lizzie Francis

10 Quarterly Innovator Awards

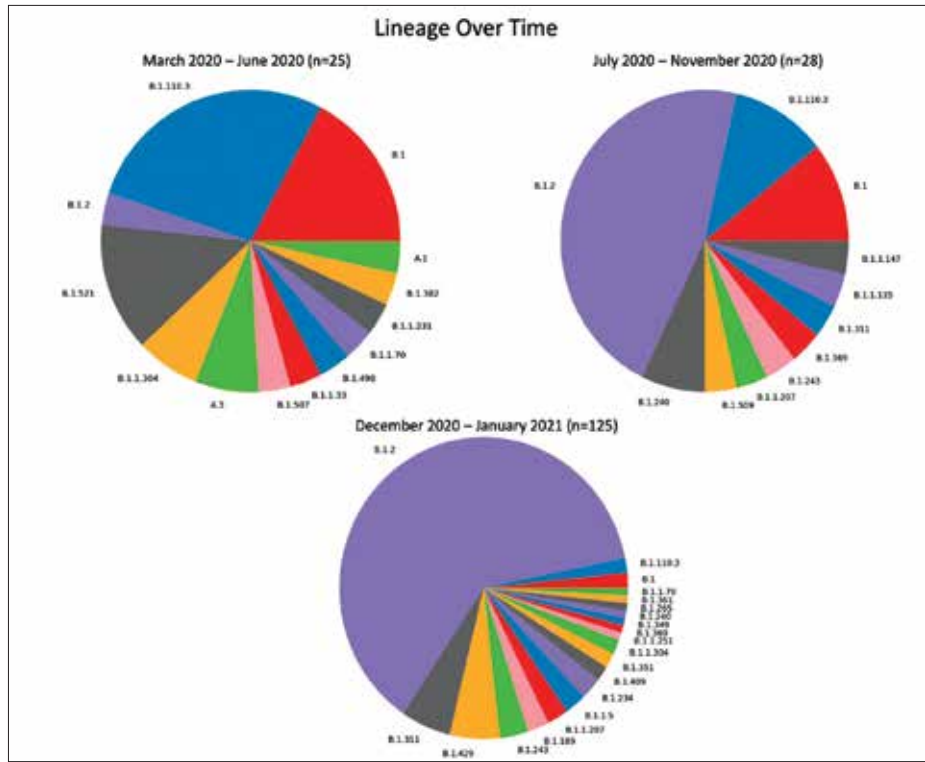


Chart Provided by Dr. Julie Hirschhorn

The number of coronavirus samples tested so far is small, but here’s what is showing up so far.

VARIANTS *Continued from Page One*

made during the diagnostic testing debacle, where every lab was trying to do the best they could without any real centralized plan or cooperation between laboratories. The CDC and the federal government are trying to foster that collaboration so more genotyping can get done,” Nolte said. “This could possibly aid in contact tracing if the results are available in real time.”

MUSC is proceeding for now with the help of the Centers for Disease Control and Prevention and Abbott Diagnostics.

Abbott makes some of the equipment MUSC uses in COVID-19 testing.

Julie Hirschhorn, Ph.D., serves as associate director of the molecular pathology laboratory and leads MUSC’s variant analysis efforts. “We’ve done two runs. We’re getting ready to do our third,” she said, referring to the practice of sequencing COVID-19 samples in batches.

The two small runs they’ve done so far, with a total of 178 coronavirus samples, give a snapshot of how the virus

See VARIANTS on page 11

Editorial Office
MUSC Office of Public Affairs
& Media Relations, 135 Cannon
Street, Suite 403C, Charleston, S.C.,
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.

ONEMUSC

March 2021

INNOVATION | IMPACT | INFLUENCE

Starting in March, you're invited to join a new series of conversations about all things OneMUSC. We're calling these fun interactive and conversational events "Strat Chats." We hope you'll grab your lunch, find a comfortable spot and log on with us. This is your chance to learn more about our new strategic direction, ask questions and join in as a participant.



Goodwin



Renne

To kick things off President David J. Cole, M.D., FACS, will chat with MUSC innovator and inventor, Walter Renne, D.M.D., of the College of Dental Medicine, and Jesse Goodwin, Ph.D., chief innovation officer. Strat Chats are geared to inspire your inner innovator, encourage you to make an impact from where you are and get you excited about harnessing your own ability to be an influencer.

Tell a friend and plan to join us for our first Strat Chat on Friday, March 19 from 12 to 12:30 p.m.



Did you miss the live launch of OneMUSC? Good news – you can watch is on demand whenever its convenient for you. Scan this QR code to watch the live launch event.

Check out the strategy website.

Learn about the pillars and the seven strategic goals behind OneMUSC. Read some inspiring stories about members of the MUSC family who are digging in and making a difference. Visit web.musc.edu/onemusc.

Jump on board!

Do you have a great story to share about innovation, impact or influence? Would you like to find out how you can get involved in the OneMUSC strategic plan? Do you have an innovative idea you'd like to bring to life and need help getting started? If so, drop us a line at onemusc@musc.edu.

Doctor calls for vigilance in schools after 'explosion' in COVID-19 cases

BY HELEN ADAMS

adamshel@musc.edu

While many adults, including teachers, are now getting vaccinated, schools in Charleston County dealt with a dramatically higher number of COVID-19 cases in the first two months of the new year. That's according to an MUSC Children's Health infectious disease pediatrician who's working with the district to try to slow the virus' spread.

"The case numbers really skyrocketed across the Charleston County School District," said Allison Eckard, M.D. She's part of the MUSC Health Back2Business team, which helps organizations operate as safely as possible during the pandemic.

In January and February of 2021, Eckard said a total of about 800 students attending school in person and 360 staff members in Charleston County schools tested positive for COVID-19.

Compare that to the three-month period of Sept. 8 through Dec. 12,

when a much smaller total of about 300 students and 200 staff got COVID.

"A lot of the increase in 2021 is reflective of people's decisions to have extended family gatherings and attend parties over the holidays, because our numbers have gone down since then, but they're still very high," Eckard said.

From March 1 through March 11, about 100 in-person students and 20 staff tested positive for COVID-19. Last week, the district announced that a spike in cases will force a Mount Pleasant high school to go completely virtual for a week.

Eckard's previous research, focusing on September through December, found that in-person public school was not driving a surge in cases as many people feared. Only about 1% of students and staff in Charleston County public school tested positive during that time.

But the new year is showing the threat is far from over. "There may well be more classroom acquisition now than before, especially if people aren't being as careful



Photo Provided

Mitchell Elementary School student Eulalie Harper wears a mask as she plays with blocks.

at school as they had been, while at the same time, families are allowing their children to participate in more high-risk activities outside of school. People are tired of the pandemic. I get it," Eckard said.

"But this is not the time to back down on risk mitigation or become lax with what you're doing at home or in the classroom. People are going to end up being their own worst enemies, and they could be forced to temporarily close more schools, even if a lot of this was acquired outside of the classroom, just because of the sheer number of cases."

Eckard said it's important to try to avoid that. "Children are suffering greatly from this pandemic. They tend to have mild cases of COVID, but they're affected so negatively in other ways like social isolation and a disruption of their normal lives."

And not just in a minor, passing way. The number of kids visiting the emergency department for mental health

help at MUSC Shawn Jenkins Children's Hospital has soared during the pandemic. That's why Eckard recently launched a series of presentations, available to the public, called "COVID-19 and Collateral Damage." The focus is on issues that the pandemic has either brought to light or outright caused, from mental health problems to substance abuse to virtual learning.

Eckard encourages families, students and teachers to stick with pandemic precautions through the rest of the school year. "Everybody keeps saying, 'Oh, well, now that teachers are being vaccinated, we can relax.' But we're months away from being able to relax risk mitigation in schools. Keep in mind the teachers are the only ones being vaccinated. There are very few children who are eligible, and many high-risk individuals in our community are still waiting to be vaccinated because our current vaccine demand is far greater than our supply."

Daylight Savings Energy Tips



TURN OFF COMPUTERS, PRINTERS, MONITORS, AND OTHER DEVICES OVERNIGHT AND ON WEEKENDS



TURN OFF THE LIGHTS WHEN NOT IN USE



DURING THE SUMMER MONTHS, SET YOUR THERMOSTAT TO A NORMAL 74° F



UNPLUG APPLIANCES WHEN NOT IN USE TO AVOID PHANTOM ENERGY CONSUMPTION



GoGreen
Lights Out Campaign

MUSC.EDU/GOGREEN



Changing What's Possible MUSC.edu

MUSC team is first in nation to report early success with MIS-C therapy

By CAREN DOUEIRY

mcgheek@musc.edu

A team of MUSC Children's Health pediatricians was the first in the nation to enroll patients with multisystem inflammatory syndrome in children (MIS-C), a rare but life-threatening complication of COVID-19, in a trial of remestemcel-L. This investigational cell therapy, developed and manufactured by Mesoblast, New York, New York, had previously been shown safe and effective for other inflammatory conditions. The MUSC team reports in Pediatrics that the two children enrolled thus far showed significant improvement within 24 hours of remestemcel-L administration.

"While it appears to many people that COVID is no big deal in children, this potential complication, although rare, is very, very serious," said MUSC Children's Health pediatric infectious disease physician, Allison Eckard, M.D., who is leading the local trial. "In South Carolina, we have had over 70 cases of MIS-C and one death. That is way more than we'd like to see in children."



Eckard

Too often, MIS-C is not recognized until children are already critically ill.

"The tricky part about MIS-C is that, in many cases, the families don't know that the children ever had COVID because, in general, children have very mild symptoms," said Eckard.

MIS-C can also be missed because its symptoms are vague, and so it can easily be mistaken for other illnesses.

Although the cause of MIS-C is unknown, Eckard speculates that the body's reaction to COVID-19 likely sets off a cascade of unchecked inflammation.

"Although inflammation has a role to play in the body, excessive inflammation is bad and causes organ damage, organ failure and a lot of other complications," she said.

The current standard of care for MIS-C is nonspecific. It consists of using steroids or antibodies derived from donated plasma to turn down all aspects of the immune system.

"The novel treatment we are using is a little bit more specific," said Eckard.

Remestemcel-L is a cellular therapy derived from a special type of cell that forms in bone marrow.

"These bone marrow cells, donated by healthy adults, are known to turn down inflammation," said Eckard. They are able to target the specific parts of the immune system that are most relevant to MIS-C.

The cells are also able to improve the inner lining of the blood vessel, targeting the most serious and



Photos Provided

Pediatric infectious disease physician Dr. Allison Eckard, who is leading the trial of the experimental MIS-C therapy, speaks with Dr. Andrew Atz, chair of the Department of Pediatrics.

"People are always very hesitant to try new things if they think the current therapy is working. But what I say to that is we do not know the long-term effects of MIS-C."

Allison Eckard, M.D.

potentially long-term effects of MIS-C: cardiac and cardiovascular involvement. Remestemcel-L improves blood pressure and the flow of blood to where it needs to be.

"We rely on the heart to pump blood adequately to all the other organs," said Eckard. "The same applies to blood vessels and the cardiovascular system. When they don't work properly, your body can't pump blood effectively to vital organs."

Nationwide studies have already been conducted on the use of remestemcel-L to treat graft-vs-host disease in children, a condition that can develop after receiving a bone marrow transplant, and MUSC participated in some of them. Other studies have also assessed its

usefulness for treating cardiac complications in adults. However, MUSC is the only institution thus far to use remestemcel-L for the purpose of MIS-C.

"We always worry in pediatrics about the safety of new therapies. But because of our experience here at MUSC with hundreds of children enrolled in a remestemcel-L trial for graft-vs. host disease, we felt really good about its safety profile," said Eckard.

Thus far, two children have been enrolled in the trial and treated with remestemcel-L. They were chosen because they still had underlying inflammation and cardiac dysfunction despite having received standard-of-care therapy. Eckard hopes that the investigational therapy will help to protect these children from long-term cardiovascular complications.

"People are always very hesitant to try new things if they think the current therapy is working. But what I say to that is we do not know the long-term effects of MIS-C," said Eckard.

Although it is too early to know if the novel therapy will protect against long-term complications, Eckard is heartened by the therapy's short-term effects, which were reported in the Pediatrics article.

"There were some dramatic improvements within 24 hours of giving the treatment in both of the children, and that is what compelled us to publish those two cases," said Eckard.

MEET LIZZIE



Lizzie Francis

College; Years at MUSC

College of Medicine — Class of 2021; 4 years

How are you changing what's possible at MUSC

By contributing to a culture that is supportive and collaborative. I have been so grateful for all the advice I've gotten over the years and tried to pay it forward.

A favorite MUSC medical school memory

I recently finished the Wilderness Medicine rotation, and it was a blast! Not only did we learn a lot of useful skills, but we got to go on some fun day trips. My favorite was taking a ferry out to Bulls Island, where we explored hiking trails and saw lots of wildlife.

An inspiring woman who has been supportive to your goals

Dr. Karynn Messer was my Internal Medicine attending at the VA hospital during my first rotation of medical school. She helped me decide that Internal Medicine was the perfect choice for me. I hope to emulate her and have the chance to work with medical students in my career.

Something special for Match Day

I just read the book "The Princess Bride," and I plan to dress up as Buttercup for the event.

Self Care

Living Your Best Work Life 2021 Self-Care Support Sessions Monthly with Tenelle Jones For All MUSC Care Team Members Every 4th Wednesday of the Month at 12 p.m. MUSC COVID-19 Resiliency Program

Responding to the COVID-19 pandemic has had a significant impact on stress and mental health well-being of our MUSC care team members. These effects will continue far after vaccines and treatments are in place. Self-care monthly support sessions will teach you how to care for yourself 24/7 with practical tools, discussions, guidance and support.

To join the sessions

1. Go to Microsoft Teams and Click the Teams icon (on left hand side)
2. Then click Join or Create Team in top right corner
3. Enter Code: [distur](#)
4. Click on Living Your Best Work Life 2021 channel
5. Click on the self-care support session to access the link and click add to calendar

For more information or questions contact:
Tenelle G. Jones LMFT, LAC
tenellenj@musc.edu
843-364-7798

Changing What's Possible

MUSC Health **REDUX**
Medical University of South Carolina Contemporary Art Center

Arts in Healing
Redux Workshop

Join Redux Contemporary Art Center's resident artist, Todd Anderson (Charlottesville Prints), to work through the screenprinting process—printing and even making your own design!

Redux is offering all MUSC employees a discounted price of \$20 for the 3 hour workshop - all materials included. Spaces are limited!

SAT, MARCH 27 • 1 PM TO 4 PM

TO ENROLL CONTACT KATIE HINSON
HINSONKA@MUSC.EDU

Now accepting spring consignments, right from the comfort of your front porch.

We're offering porch pick-up to keep everyone safe and healthy! Check out the consignment policies on our website: ConsigningWomenSC.com, and when you're ready, text **843.597.3850** to schedule your pick up. So easy...just dial!

CONSIGNING WOMEN & MEN
Reduce. Rense. Restyle!

MT. PLEASANT // CRICKENTREE VILLAGE: 1055 Johnnie Dodds Boulevard
843.216.9993 | ConsigningWomenSC.com | M-F: 10am-6pm / Sat: 10am-5pm

FOR RENT NEW Townhouses

19 & 23 Dereef Court

- 1/2 Month Free Move-In Allowance!
- 4 Bedroom, 4 Bath, 2 Car Garage & 2 Street Parking Pass
- Washer/Dryer & Security Included
- Open View on Dereef Park
- 6 & 12 Month Lease

IP00-1927384-1

WOMEN *Continued from Page One*

LEADING THE WAY

About 100 years ago, another pandemic swept the globe – a flu outbreak estimated to have killed between 50 and 100 million people. Women were highly visible in the battle to beat it back – but not necessarily recognized as leaders.

Almost all doctors at that time, 1918, were men. Women were “unsung heroes” – nurses and other caregivers who risked their lives to help patients infected with a flu that killed an estimated 675,000 Americans.

During the current pandemic, women are once again serving in highly visible roles. But this time, they’re taking the lead on multiple fronts.

MUSC Health chief quality officer Danielle Scheurer, M.D., is leading the distribution of vaccines. “Women have been instrumental in the response to this pandemic. From the politicians, administrators, epidemiologists, researchers, laboratory personnel and bedside clinicians, women have been leading the way in all aspects, and in lockstep with each other, to get us to the other side of this pandemic.”

Salgado is MUSC Health’s chief disease detective, analyzing who’s at risk, deciding how to control the spread of COVID-19 and determining how to prevent such outbreaks in the future.

“You feel capable to step up and help in the health system and the hospital. From a professional standpoint, that’s really rewarding – that you can be in the right place at the right time to step up and respond.”

Krutika Kuppalli, M.D., an infectious disease leader with a background in emerging infections, global health and pandemic response, put women’s role in global perspective. “Women comprise 70% of the world’s health care workforce and have made significant personal sacrifices to care for those with COVID-19 over the past year,” she said.

“I have personally been inspired and motivated by all the women who have come out to lead in an unprecedented way during this pandemic. The silver lining is that I have developed friendships and collaborations with amazing women from all over the

world, which wouldn’t have otherwise happened.”

Elizabeth Mack, M.D., a leader for quality improvement and patient safety in the Shawn Jenkins Children’s Hospital, described what she’s seen closer to home. “I’m so inspired by the many roles our female colleagues and patients so effectively play in their lives – saving lives and creating and raising tiny humans.”

GETTING AND VETTING VACCINES

Women are also leading by example during the pandemic when it comes to vaccinations. Champion, the nurse who became the first MUSC Health employee to get a vaccine, wanted patients to see that the shot was safe. She also thought of her three sons. “I told my kids I was getting the vaccine today, and they were really excited about mommy being the start of a new beginning.”

Kelly Warren, a manager with MUSC’s Enterprise Campaigns and University Communications, came at vaccines from a different angle. She decided to volunteer to be a participant in the MUSC/AstraZeneca COVID-19 vaccine trial and shared her experiences in a series of reports.

When asked about Women’s History Month, she described her personal pandemic journey. “The past year taught me that my younger self, who loved reading stories of people living through history-making times, would be disappointed that often it sounds much cooler to live through history than it actually is,” Warren said.

“However, a highlight of my COVID-19 experience has been participating in the AstraZeneca vaccine trial. I was largely motivated to sign up because I know vaccine approval and distribution can only happen with trials, and trials require a large number of participants. I was also impatient to receive the vaccine. However, I’d be lying to say a bit of my reasoning wasn’t also to feel like I was making history, and in this context, my childhood assumptions were spot on.”

ADVOCATING FOR ALL

Women have also served as powerful

See **WOMEN** on page 7



Photo by Sarah Pack

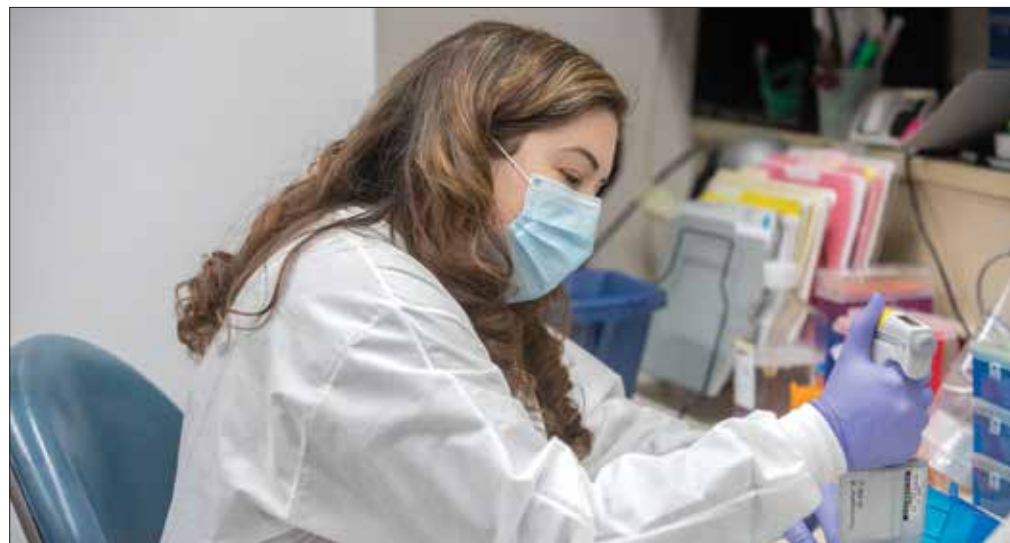
Nurse Shemika Champion becomes the first person at MUSC Health to get a COVID-19 vaccine.

**Right photo:
A nurse works
in the flu ward
during the 1918
pandemic.
Below photo:
Vaccine trial
volunteer
Kelly Warren
chronicled her
experiences,
knowing she was
part of history in
the making.**



Photos Provided





Photos by Sarah Pack

Left photo: Dr. Marvella Ford has been working to reassure people who are wary of the vaccine. Above photo: Dr. Julie Hirschhorn works on sequencing coronavirus samples.

WOMEN *Continued from Page Six*

advocates during the pandemic, speaking up to ensure that no one suffers in silence. Marvella Ford, Ph.D., a public health sciences professor, associate director of Population Sciences and Cancer Disparities with the MUSC Hollings Cancer Center and leads the MUSC Black Faculty Group.

“Blacks and Hispanic/Latinx communities are disproportionately negatively impacted by COVID-19. However, the COVID-19 vaccination rates in these communities are low. A number of factors contribute to these lower rates of vaccination, including having less access to nearby COVID-19 vaccination sites and vaccine hesitancy,” Ford said.

“While MUSC continues to expand access to vaccination sites, the MUSC Black Faculty Group has published talking points, in plain language, for our faculty to share with community members. They cover the development of the two currently-used COVID-19 vaccines, by Pfizer and Moderna, and the inclusion of tens of thousands of people of color in the clinical trials that led to the vaccines’ widespread use.”

Kelsey Allen, M.D., a pediatric emergency medicine fellow, focused on advocacy for kids. She noted a sharp increase in the percentage of children

coming to the hospital with mental health issues and started keeping track. She found it jumped from 2.5% in November of 2019 to 12% in November of 2020. Her research, along with the observations of colleagues at MUSC Shawn Jenkins Children’s Hospital, helped raise the alarm in the community about the need for vigilance and care for kids struggling during the pandemic.

TALENT FOR TESTING

Vigilance has been key in another area during the pandemic, too: the labs where technicians have carried out the painstaking process of testing samples for COVID-19.

When MUSC Health became the first hospital and medical center in South Carolina to do its own COVID-19 testing, a behind-the-scenes look showed many of the people wearing lab coats and purple safety gloves had something else in common – and that characteristic continued through the management chain.

“Our supervisors are women. Our coordinators are women. It’s very impressive,” said Julie Hirschhorn, Ph.D., associate director of the molecular pathology laboratory.

WILL HISTORIC ERA CHANGE FUTURE FOR WOMEN?

The female heroes of this pandemic

“Not much good has been wrought from the hardships of the past year, but I hope an enduring change is the acceptance that health care professionals are multifaceted people who need the same kind of support they so frequently offer their patients.”

Cassy Salgado, M.D.

will be remembered for taking the lead on many fronts. Unlike some of their counterparts in the 1918 pandemic, who stepped up to help and then bowed out gracefully when the crisis abated, they will continue to serve in important health care roles.

Will those roles change at all as a result of the pandemic? It’s unclear, but several of the women in this story commented on how working during the coronavirus pandemic has affected their lives.

Salgado, the epidemiologist, said it has taken a physical and emotional toll. “Just the hours worked on this pandemic

and the sacrifice in many aspects of your personal life, trying to find time while juggling all of the other needs and events is difficult.”

Allen, the emergency medicine fellow who tracked kids with mental health issues, said something similar. “I feel as though the pandemic has forced a light to be shed on the division women often maintained between their work and home lives. In health care, there is an unspoken culture of ‘leaving home life at home’ that makes striking a balance between two very demanding spheres of life all the more difficult. COVID-19 forced people to abandon their offices for kitchen tables, demanded sometimes longer work hours and changed the landscape of ‘home life’ for so many.”

She hopes that will help bring about change. “Health care professionals are often granted unparalleled access to the private lives of their patients, but remain relatively anonymous themselves. During this past year, though, we’ve gotten to know our colleagues in new ways, leaned on each other for moral, professional and sometimes familial support.

“Not much good has been wrought from the hardships of the past year, but I hope an enduring change is the acceptance that health care professionals are multifaceted people who need the same kind of support they so frequently offer their patients.”

COVID-19 Vaccines

One dose vs. two, social gatherings and other things you need to know

By **BRYCE DONOVAN**

donovanb@musc.edu

Let the hugging begin.
On March 10, the U.S. Centers for Disease Control and Prevention (CDC) released new guidelines for people who are vaccinated, and it includes inoculated grandparents being able to spend time with their grandkids. Of course, as with all things pandemic, the guidelines come with strings attached and lots of fine print.

According to the new rules, people who are fully vaccinated against COVID-19 can safely visit with other vaccinated people and small groups of unvaccinated people in some circumstances – and here’s where it gets nuanced – if the unvaccinated people are at low risk for severe disease (provided they have a pet iguana and are left-handed.)

But the best part? All of this can be done without masks.

This is not to be confused with the

actions of states like Texas and South Carolina, where restrictions are being lifted across the board for vaccinated and unvaccinated alike.

“It’s not party time yet,” said Danielle Scheurer, M.D., MUSC Health System chief quality officer. “There will be a time and a place for relaxing broader restrictions, but we just need to tough it out for a few more months. Look, I get it, social distancing can be hard sometimes. But wearing a mask is not.”

With the vaccine landscape changing almost daily, each week we are checking in with Scheurer to ask her the most pertinent questions that are hanging in the balance.



Scheurer



Photo by Ekaterina Shakharova for Unsplash

Hugging season is now officially open. For vaccinated people. With relatives. Who aren’t in COVID high-risk categories. It’s all very straightforward.

See VACCINE Q&As on page 9



INNOVATION WEEK AT MUSC

There’s something for everyone!
Interactive panels | Podcasts & interviews | Practical tips | Competitions
Fun demos | Live & recorded sessions

Tracks include:
Transformational Technology | Learning Reimagined | Science Never Sleeps
Pitch Sessions | Innovators Toolbox | Health & Wellness

Don’t miss these signature events:
Poster session, Tuesday, 4/27, all day
Shark Tank competition, Thursday, 4/29, 2:00 p.m.

musc.edu/innovationweek





celebrate Certified Nurses March 19, 2021

The Certified Nurse of the Year Ceremony will take place in the Horseshoe outside of the Colbert Library at 11 AM on Friday, March, 19th

The Structural Empowerment Council will be rounding on units Friday, March 19th to celebrate our Certified Nurses, deliver candy, and answer any questions you may have about becoming certified.

Certified Nurses Day honors nurses worldwide who contribute to better patient outcomes through national board certification in their specialty.



What you need to know about the COVID-19 vaccine – Part 4

Danielle Scheurer, M.D., MUSC Health System's chief quality officer, weighs in on the most pressing issues related to COVID-19 and vaccination. The following is a condensed compilation from recent articles that can be found in their entirety on the MUSC Catalyst News digital platform at web.musc.edu/about/news-center.

Q. First off, how were things last week?

A. Not great. We got a small amount of vaccine. Around 8,000 doses. And I was really hopeful we were going to get a lot more this week, but, sadly, it's not looking like that will be the case.

Q. How close is MUSC to opening things back up to first dosers?

A. We really can only go as fast as supply will allow. I'd love to say close, but honestly, we just don't know week to week. By the end of last week, because we had so few second-dose appointments, we were able to start vaccinating people who had signed up for the first dose but had been temporarily put on a wait list. We are now chipping away at that, but, even still, we're looking at around 50,000 who still need to be taken care of.

Q. Not to pile on, but now South Carolina is adding 55-year-olds to those who are eligible under Phase 1b. That's 2.7 million more people. How do you approach that?

A. The demand is so high right now. It's just so out of proportion to what any facility or state can manage. I get it; they needed to start somewhere because we are starting to approach the point where most of the eligible 1a people who actually want the vaccine are being taken care of. But to open it up to that much more volume is a bit overwhelming.

Q. Because viruses change constantly and these genetic variations can lead to new variants, scientists are working to decode the genes, in a process called sequencing, to learn more about the differences in the variants. With that in mind, how important do you think it is for us as a state or country to begin sequencing as many samples as possible or should that be left to other bigger entities?

A. Good question. Right now, we are sending any post-fully-vaccinated, COVID-positive samples to the South Carolina Department of Health and Environmental Control for sequencing. MUSC Health also has the capability to do some sequencing. That is in addition to the random sampling that DHEC is doing weekly. Right now, it's a race between the vaccine and the variants. We need to focus on getting the vaccine to the finish line first.

Q. Speaking of variants, are any scarier than the others? How are they different?

A. The South African variant appears to render the Pfizer vaccine less effective, so that's a little alarming. But the fact that none of these have been proven to render vaccines completely ineffective is what really matters to me. When it comes to variants, I'm less concerned with transmissibility and more focused on whether vaccines still prevent severe disease and deaths from COVID variants.

Q. Have you heard of any people who were vaccinated getting COVID?

A. I can't speak to the broader population, but just amongst our MUSC Health team members, we've had seven of our own who were fully vaccinated and got COVID, though none got really sick. That said, I think it's important to remember that just because we have the vaccine doesn't mean we can't get infected; but there is good evidence that we likely won't get a severe infection or die from COVID after being fully vaccinated.

Q. President Biden is saying that by the end of May there will be enough vaccine for all U.S. adults (but it will take longer to administer all those doses). If that's the case, what sort of dose deliveries per week would that mean? And could we handle that?

A. I think we've had enough time to get enough organizations that are willing and able to vaccinate up to speed that I can't imagine us as a state getting overwhelmed. In particular the pharmacies. They have been pumping out such a tremendous volume. Which makes sense, since most Americans live within a couple of miles of at least one pharmacy.

Q. The European Union is now toying with the idea of the "Green Pass," like we discussed with Israel, where vaccinated people get special privileges. Do you think we're headed there any time soon?

A. I do. In some ways, I think it's already started. For instance, a friend of mine has been trying to volunteer for an organization, and they said they weren't accepting new volunteers, but when she told them she was totally vaccinated, they changed their tune and signed her up. So it's coming. The question that remains is how it will be addressed, specifically.

Q. Speaking of special privileges, how do you handle people who have had COVID? Shouldn't they be treated similarly to vaccinated folks? And how do we as a nation verify that status in a way that mirrors a vaccination card?

A. Right now, the CDC is saying anybody who is 14 days post-symptoms of a confirmed case of COVID is considered "immune" for 90 days. So, for instance, to fly internationally, you have to show you're either vaccinated or had a negative COVID test in the past three days. Maybe they'll start to include those with a former positive test and a negative test in that window – more than 14 days but less than 90. It's tricky, but I think we can come up with a way to cover those people.

Q. Any updates on Moderna or J&J? Are we getting any of either?

A. In reference to Johnson & Johnson, the only thing I know is the state got a bulk shipment of 41,000 doses and is in the process of sending those to small independent pharmacies. So for now, MUSC Health probably won't see any of it. As for Moderna, they have been doling out doses with a focus on counties in greater need, so occasionally we get some doses of Moderna, but they are specifically targeted to given in certain counties.

Q. Will we be making any changes to where we offer the vaccine or the scale of the operation?

A. Assuming that, finally, we do start to see an uptick in the number of doses we receive in the coming weeks, I expect we'll do more rural community pop-up events. Of course, we'll still have the fixed sites. But some of them might be rolled into others or moved altogether. For instance, we secured the old Department of Motor Vehicles building on Lockwood Boulevard, and we are slated to start vaccinating there on March 15. So we'll probably consolidate some of the fixed sites to there. And we have another site, the Verizon building in North Charleston – that one was ours already. Originally, when we took ownership of

Quarterly MUSC Innovator Awards applauds recipients

Staff Report

The Office of Innovation is proud to recognize the following individuals and teams as the March 2021 recipients of the “I am an MUSC Innovator” award.

Brielle Smith, College of Medicine student; **Alan Snyder**, College of Medicine student; **Manuel Valdebran, M.D.**, assistant professor, Department of Dermatology and Dermatologic Surgery.

Problem — When the coronavirus pandemic struck, there was confluence of a medical personnel staff shortage, increased availability of students motivated to engage in primary prevention meaningfully and a growing need to help community members assess the accuracy and trustworthiness of new information being distributed through various news outlets and social media.

Impact — Our team recognized these opportunities to intervene and facilitated a philanthropic partnership with a predictive analytics health care artificial intelligence company to identify high-risk patients for severe COVID-19 outcomes. We recruited 150 students across South Carolina and joined forces with the MUSC Biomedical Informatics Center (BMIC) and MUSC social work group, Coastal Connection, under the common belief that community engagement, education, screening and targeted social work referrals would save lives. Assembling and deploying this team led to over 28,000 patients contacted to address our nation’s crisis of misinformation. Additionally, the team created the ‘COVID-19 Community Outreach and Resource Awareness’ YouTube channel designed to house subject matter expert interviews with MUSC physicians and health care personnel. These short videos allowed free access to helpful information on a range of topics regarding the pandemic. A benefit of interviewing MUSC professionals for these videos was the established reputation and trust of countless individuals across the entire state of South Carolina. The YouTube channel currently houses eight videos. With the assistance of grant funding, we hope to convert to a paid volunteer model for identifying the reasons underlying vaccine hesitancy in Phase 1a-c patients and connecting them with vaccine scheduling resources. We also plan to augment the YouTube channel with interviews of subject matter experts on COVID-19 vaccine.

Acknowledgements — Deborah Reynolds; Courtney Wagoner; Mary Mauldin, Ed.D.; Loretta Lynch-Reichert; Danielle Scheurer, M.D.; Lancer Scott, M.D.; John Plante; Jordan Chamberlin; Dirk Elston, M.D.; Les Lenert, M.D.; Jesse Goodwin, Ph.D.; and Katie Kirchoff.

Jessica Barley, Ph.D., Intraoperative Neuromonitoring (IOM) program coordinator; Jonathan Edwards, M.D., medical director, Clinical Neurophysiology Services and director, Comprehensive Epilepsy Center.

Problem — The equipment that is typically used in IOM — approximately 45 uncapped subdermal needles — to keep the patient safe from harm introduces a significant risk of harm to the care team. After witnessing several unwanted needle sticks, we recognized that the equipment needed to be redesigned to protect everyone in the room, not just the patient.

Impact — We designed a subdermal needle electrode encased in a hard-plastic sheath surrounded by bandage-like adhesive. This allows the needle electrode to be exposed only when activated for safe insertion into a patient. Once it is accurately placed, the attached sterile adhesive holds it in place. When the electrode is removed, the needle automatically retracts into the plastic hub for safe removal.

Acknowledgements — The ZIAN team members, Jesse Goodwin, Ph.D.; Marti Lau; and Lindsey Akers. Additionally, the industry partner that now produces, markets and sells the new device.

Cristine Candland, R.N., MUSC Health Transplant Program manager for the pre-kidney and living donor transplant programs.

Problem — The scheduling process for potential kidney transplant patients is complicated and involves multiple team members and many different departments. Multiple virtual visits, testing and a final visit in person are required.

Impact — We incorporated system improvements to scheduling, primarily converting all first visits to virtual. While this required enhanced collaboration with our Patient Access Center colleagues and weekly huddles, we’ve been able to make the process smoother for our patients and prevent downtime by ensuring that any empty slots are filled quickly.

Acknowledgements — Charece Grizzard, Nikki Dagostino and Missy Nelson

Colleen Cotton, M.D., assistant professor, Pediatric Dermatology, Department of Dermatology and Dermatologic Surgery and the Department of Pediatrics.

Problem — Members of the surgical team had been relying on a 15-year-old database to keep track of surgeries, closures, surgical notes and consult reports. Administrative staff spent hours every day creating PDFs and photo files of these reports and scanning them into EPIC.

Impact — As a certified EPIC physician builder, I designed and created a similar database within EPIC itself, using flowsheets to recreate the database as close as possible. The expectation is a significant time savings for our administrative staff.

Acknowledgements — Dirk Elston, M.D.; Joel Cook, M.D.; Teri Johnson; and the entire physician builder group led by David McSwain, M.D., chief medical information officer, MUSC Information Solutions.

Shannon Phillips, R.N., Ph.D., associate professor, College of Nursing.

Problem — Sickle cell disease is an inherited condition with complex treatment regimens that require home management. Interventions to facilitate self-management in the home or community setting were needed.

Impact — With an end user-based approach, our team developed a web-based app that is an mHealth self-management intervention, Voice Crisis Alert V2, for children and adolescents with sickle cell disease. Our innovation has multiple components for self-management:

- ❑ Educational information on sickle cell disease topics.
- ❑ Pain and other symptom entry using a customizable avatar.
- ❑ Pain tracking using a graph that illustrates pain entries.
- ❑ Health history documentation that also includes the capability to enter routine home medications with medication reminders.
- ❑ Secure within-app messaging with a sickle cell provider. Voice Crisis Alert V2 is freely available on the Apple and Google Play stores.

We have conducted one round of feasibility testing and are completing a second round of testing. Preliminary results are promising and suggest improvement in nearly all symptoms and quality of life outcomes for children ages 8 through 17.

Acknowledgements — Julie Kanter, M.D.; Ken Ruggiero, Ph.D.; Teresa Kelechi, Ph.D., R.N.; Martina Mueller, Ph.D.; Mary Johnson, R.N.; Margie Prentice; and the amazing children, adolescents and caregivers who participated in the project.

M. Kinon Lecholop, D.M.D., associate professor/residency program director, Department of Oral and Maxillofacial Surgery.

Problem — The pandemic has had a disproportionate and negative impact on dentistry. COVID-19’s potential to spread via asymptomatic carriers and via

See **INNOVATORS** on page 11

VACCINES *Continued from Page Nine*

it, pre-pandemic, it was going to be a workspace for off-campus workers, but soon it's going to be another vaccine site.

Q. The Johnson & Johnson vaccine uses something called a viral vector to get the job done versus messenger RNA in Pfizer and Moderna. Is one way better than the other? Why do they only need one dose? I hear side effects aren't as likely because it's a one-dose vaccine.

A. Yeah, one isn't better than the other. It just boils down to the fact that there's more than one way to skin a cat. The method of how it gets into the body doesn't really matter. As for why it's one dose, that's just the way they studied it. Pfizer and Moderna split theirs into two doses. Because all these manufacturers are administering and studying them differently, it's really comparing apples to oranges. All these vaccines could all work just as well as the other; and we know they are all extremely effective at preventing severe disease and deaths. As for why you don't get as sick with the Johnson & Johnson vaccine, it's the same reason most people don't show major

symptoms after the first dose of the others. It's because the body hasn't had a chance to build up a defense yet.

Q. Do you think we should be able to mandate that everyone in the country gets vaccinated?

A. That's so tricky. I don't really know how I feel about that. But I will say a couple of things: No one — not even the countries that mandate getting vaccinated — has enforced those rules. Second, yes, these vaccines are amazing, but they're still here through emergency use authorization, so they haven't been reviewed as rigorously as vaccines of old. So I think we need to know more before we start saying people have to get them. But as for us at MUSC Health, I think we as a health care provider — specifically, the ones who are in contact with our patients — we owe it to our patients to get vaccinated. People look to us to guide what they're going to do. If they see some of us who are not getting the vaccine, how can we hold them to a different standard?

***Have a question you'd like answered? Email it to donovanb@musc.edu with the subject line "Vaccine Q."*

VARIANTS *Continued from Page Two*

has been evolving in South Carolina. In samples collected at the start of the pandemic, from March to June of 2020, the two major lineages were B.1, a largely European lineage that corresponds to the Italian outbreak, and B.1.110.3, a U.S. lineage linked to Florida. From July through November, the B.1.2 lineage, a U.S. strain, expanded to be the most prominent lineage. The B.1.2 lineage continued to expand its reach between December of 2020 and January of 2021.

What does it all mean? Since the number of samples was so small, not a lot — yet. But there are a couple of takeaways from the sequencing so far. Bailey Glen, Ph.D., a specialist in pathology and laboratory medicine, pointed to one of them. "The biggest difference between what we've seen at MUSC and what we're seeing across the U.S. is the absence, at the moment, of the U.K. strain. I believe at the moment that's No. 2 in the U.S. and



Glen

I didn't see it here."

On the other hand, they did see some South African variants, including B.1.351, in the most recent samples at MUSC.

Both observations square with what SCDHEC has reported: only 23 people are known to have had the U.K. variant in South Carolina. The number of people with the South African variant B.1.351 is higher, 43.

But all of that is based on samples from the past. Hirschhorn said the next run, should give experts a better idea of what the state is dealing with now.

What's happening elsewhere serves as a warning. In Brazil, a variant has been infecting people who had already bounced back from COVID-19.

Nolte said more sequencing is crucial, and his team at MUSC is ready to be a part of that. "Who knows what a lot of the minor variants are going to mean. If they become more widespread or they morph into something else all depends upon where those mutations are located, what kind of effect they might have on transmission, diagnosis, immunity — either natural or vaccine-induced immunity. Without a lot more surveillance, we're not going to have the full picture until it becomes a major problem."

INNOVATORS *Continued from Page Ten*

aerosols — ubiquitous in dentistry — caused widespread practice closures for months in 2020, in the U.S. and around the world. Some dental practices will not reopen. For surviving U.S. practices, volumes are still down entering 2021, as much as 20% or more from pre-pandemic levels, and practices remain vulnerable to more COVID-19 "waves" and to future pandemics. Additionally, dental professionals routinely risk exposure to other infections and diseases, like flu, strep, tuberculosis and future coronaviruses, which spread via aerosols or spatter.

Impact — To address this need, Walter Renne, D.M.D., and Lecholop partnered with MUSC's Foundation for Research Development and with

the Zucker Institute of Applied Neurosciences (ZIAN) — MUSC's medical device accelerator — to fund, develop, patent and commercialize the Aerosol Containment Hood. When used in combination with standard instruments, the Aerosol Containment Hood is designed to protect patients and caregivers from 100% of spatter and aerosols produced during treatment while still allowing unrestricted access to the patient.

Acknowledgements — Walter Renee, D.M.D.; Troy Huth, MUSC Foundation for Research Development; and the ZIAN team of Mark Semler, Paul Asper and Joe Ruscito.

Stephanie Kapets, director of operations and project management, MUSC Health **Problem** — There were numerous

initiatives and projects connected to the coronavirus pandemic in place, which required oversight, problem-solving and leadership to be managed effectively.

Impact — Kapets was able to ensure that the MUSC antibody test, developed by Satish Nadig, M.D., D.Phil., became a reality with the digitalization of our testing registration process and through working with Information Solutions and others to develop a QR code tool that made the process seamless for our patients. In conjunction, Kapets oversees project management for the partnerships with Siemens and Medtronic and ensures progress on key initiatives despite all the challenges the pandemic has brought.

The Institutional Advancement team Problem — The team faced many

challenges, both in daily activity and on fundraising in general, brought about by the coronavirus pandemic.

Impact — With a focus on the OneMUSC theme, the team created a single COVID Emergency Response Fund. Specifically, they developed and executed a plan for all 50+ staff members to work 100% remotely in less than two weeks. Along with support from Gravyty, an artificial intelligence fundraising campaign management platform, they were able to achieve shifts in database algorithms to work more efficiently with deliberate segments of their database. An added benefit was that team members reached out to contacts to check in and let them know how they could access resources get answers to questions in the pandemic, rather than just asking for donations.

Time of transition in pandemic

By HELEN ADAMS

adamshel@musc.edu

As the number of new COVID-19 cases continues to drop, both nationally and in the Charleston Tri-county area, the leader of the MUSC COVID-19 Epidemiology Intelligence Project said it's time to start talking about transition. "We have to be careful in this. We have to be patient."

When he brings up the subject of transition, Michael Sweat, Ph.D., isn't implying COVID is kaput. There's still the threat of another surge due to variants.

It's also hay fever season, so people may mistake COVID symptoms for seasonal allergy issues, leading to undiagnosed infections that help the virus spread.

Meanwhile, Sweat estimates the



Sweat

percentage of Charleston County residents who have immunity either from having been infected during the past three months or from vaccination is only around 40%. Statewide, it's 37%.

But by early May, depending on supply, all South Carolinians age 16 and up will be able to get a vaccine. "The worst is behind us, I think, in the realm of deaths and hospitalizations," Sweat said. "We now need to think about the issue of transitioning, and that transition process is complicated and scary in some ways."

For one thing, the coronavirus has lingering effects in some people. They may suffer from fatigue, shortness of breath, coughing, joint pain, chest pain, "brain fog," depression, muscle pain, headaches and/or fevers. And in rarer cases, the coronavirus causes heart, lung, kidney, skin, neurological and serious psychiatric problems.

"That's something we are going to have to deal with as a society – there's going to be prolonged care needs and suffering," Sweat said. "It has a lot

of systemic problems that are really troubling."

Another consideration: Not everyone who can get a vaccine will choose to get one. "We'll have to navigate issues with people who are vaccinated versus those who aren't vaccinated and what that's going to mean for all kinds of things," Sweat said.

"It's already starting to be talked about a lot. There's talk about vaccination passports. Should you be able to travel or not? Can the workplace mandate a vaccine? Say you could have this one person who's a nonbeliever who could be walking around the office without a mask. How do we handle that?"

Sweat predicts legal challenges. "The Equal Employment Opportunity Commission has said that employers are allowed to mandate a vaccine. So as that starts happening, people will say they're being discriminated against because of their anti-vaccine beliefs. It's really pushing something in public health that's been there from the beginning, which is this tension between individual and community rights."

Society also will have to figure out how to balance our increased reliance on technology, for everything from

work to shopping, with how we used to function in the Before Times. "There's the question of how much we now do on video, versus live. It impacts all kinds of industries. It's accelerated a lot of social forces that were already happening to some degree, the decline of brick and mortar stores with the ascendance of online shopping and grocery delivery, video conferencing, working at home."

Sweat said we'll also have to think globally. Just because we're able to talk about transition here, thanks to vaccines, doesn't mean that's happening around the world. "There are these things we've got to do as a human race. We need to set up really good genomic surveillance around the world so we can keep track of the variants. We're also going to need booster shots that are adapted to the variants. You need to get global vaccination, which is a huge thing, to keep more variants from spreading."

For now, he encourages people to keep following COVID-19 guidelines, such as mask wearing and social distancing, to get us to the point where we can really ease up. "The policymakers are dying to loosen things up, but it's maybe just a little too early."



ALICE'S CLUBHOUSE
◇ MEMORY CARE DAY CENTER ◇



Caring for someone with memory loss is hard. We can help.

The first medical model memory day center in the Lowcountry. We provide unrivaled private care for those affected by memory loss.

Better for your loved one. Better for you.

1156 Bowman Rd., Suite 105 Mt. Pleasant, SC 29464
843-284-8367 | diane@alicesclubhouse.com
alicesclubhouse.com

SAND • PLAY GROUND MULCH



Proudly Serving East Cooper and the Islands for 15 Years

1135 Hwy. 41
Mt. Pleasant, SC
www.lowcountrymulch.com
971-7010

PINE STRAW • ROCK

MULCH • MUSHROOM • COMPOST • TOPSOIL

PICK-UPS • DELIVERY • BARK BLOWING AVAILABLE

50% OFF!

22 WESTEDGE STREET

SCAN HERE FOR MENU!



RUSH BOWLS

SHOW YOUR MUSC ID AND RECEIVE 50% OFF ANY BOWL OR SMOOTHIE

MUST MENTION "THE CATALYST"




THANK YOU BUILDER & GROWING MULCH