DECEMBER 17, 2021 MEDICAL UNIVERSITY OF SOUTH CAROLINA SPECIAL: A LOOK BACK AT 2021 VOL. 37, NO. 26





Just a pinch! 2021: Year of the Vaccine

Photos by Sarah Pack

Clockwise from left: Jaimi Ingram, 8, after her first shot; Jessica Tarleton, M.D., gets a booster shot while pregnant; clinical pharmacist Michael (Sahand) Askarian reconstitutes vaccine; R.B. Stall High School student Sebastien Gutierrez receives his first shot; and Alice Zwolak gets a shot as part of the Moderna pediatric trial.



Omicron in SC

Scientists identify first cases of variant in Lowcountry.

Good night kids First responders say good night.

- 5 Meet Rachel Barber
- 8 Year In Review
- **10** Chronic disease & COVID

MUSC scientists identify first Omicron cases in SC

By HELEN ADAMS

adamshel@musc.edu

Scientists at MUSC have identified the first cases of the Omicron variant in the state. Julie Hirschhorn, Ph.D., directs the molecular pathology lab that found them. "It is three cases, all of them in the Lowcountry. Two out of the three were fully vaccinated, but not boosted. And one had only one dose of the vaccine."

One is in Charleston, another in North Charleston and the third on Johns Island.

Hirschhorn's lab sequences all COVID cases that come through MUSC for testing. Sequencing involves looking at the virus's genome to check for variants. The scientists sequence in batches they call runs.

"Since the identification of Omicron in Africa, we've been trying to do a run each week to make sure that we're sequencing as real time as possible. The more real time you do sequencing, the better handle you have on what's going on in the population," she said.

The first Omicron case in South Carolina involved a COVID sample collected for testing on Dec. 4. That means the fastspreading variant has been here for at least a couple of weeks.

Based on Omicron's track record elsewhere, the numbers could rise quickly. "When a new variant is identified, the first thing that we can really get a good handle on is transmission, because we watch the number of cases and how quickly that increases. And Omicron is pretty prevalent right now over in the U.K. The U.K. seems to be doubling Omicron cases about every day," Hirschhorn said.

"So it does seem to be more transmissible

than Delta. There's not a whole lot of evidence about severity of disease yet, because we're just starting to see the hospitalizations. In Australia, hospitalizations are pretty low. The hospitalizations in the U.K. also appear to, in early terms, suggest that it's maybe more mild disease. That's great, except that if you have COVID circulating in large quantities, then you always have that ability for more mutations to happen. And so I think it's pretty critical that people try and protect themselves in any way that they can."

She encouraged people to get booster shots. "All three of our Omicron cases were in people at least six months out from their latest shot. The data supports that if you're six months out, you should probably get boosted," Hirschhorn said.

Her team will continue to look for Omicron and keep the public informed about its findings. "Now, for our lab, the most important thing is to continue sequencing to look at our transmission rate in South Carolina. We've been very fortunate with the CARES Act dollars and the support from the state to do consistent testing across the state and surveillance," she said.

"And so, because the state has supported us, we really feel the need to support the state back. Being one of the leading medical centers in South Carolina, it's very important to us that we inform our population; that we stay on top of their health and any issues that might arise. And so I plan on continuing to sequence as much, and as often as we can, because I do feel like this knowledge really empowers people to make decisions that will impact them."

The molecular pathology team at MUSC has played a leading role in providing that



iStock Image

The Omicron variant was first reported to the World Health Organization less than a month ago. It has since spread to countries around the world.

kind of knowledge since the early days of the pandemic. When the coronavirus arrived, the lab quickly ramped up for COVID testing, working with sites across the state. It began sequencing for variants last spring and sharing its findings with the public. Along the way, it identified mutations of the Delta variant, including one so prevalent that it may get its own name.

Now, as we head into the winter holidays, COVID cases are on the rise in South Carolina. Most involve the Delta variant. While knowing which variants are circulating is important because it tells us how the virus is changing and spreading, Hirschhorn said it's less valuable for individuals to know which variant they were infected with because it won't change the treatment they get. COVID is COVID. And it's still here as we head into another holiday season.

"I encourage people to consider risk stratification going into the holiday season and just being cognizant of what you want to do and finding a way to do it that's safer," Hirschhorn said.

MUSC news

Editorial Office

MUSC Office of PublicAffairs & Media Relations, 135 Cannon Street, Suite403C, 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*.

Holiday Break

The MUSC Catalyst News will not be published Dec. 24 and Dec. 31 and will resume its bi–monthly publication schedule on January 14, 2022.

For information, call Cindy Abole, editor, at 843-792-4107 or email catalyst@musc.edu.

For advertising information, call the Moultrie News at 843 958-7480 or email sales@moultrienews.com.

'Very strong probability a wave is starting'

By Helen Adams

adamshel@musc.edu

The leader of MUSC's COVID-19 Epidemiology Intelligence Project predicts that in two to three weeks, we'll start seeing what he called

big case numbers.

"The trend on the map is moving in our direction. So it's starting to look like there's a very, very strong probability a wave is starting," said Michael Sweat, Ph.D.



The national map shows virus hotspots getting

closer and closer to South Carolina as case numbers here rise. Sweat, a professor in MUSC's College of Medicine, an adjunct professor at the Johns Hopkins Bloomberg School of Public Health and a former research scientist with the Centers for Disease Control and Prevention, said we may be at the start of a new two-month cycle. "I just feel

Sweat

and stronger." Sweat's COVID-19 team tracks four parts of the state, all of which have MUSC Health hospitals. In the Charleston Tri-county area, MUSC's home base, cases were up 188% compared with the previous week in the team's most recent update. In the Florence area, cases were up 102%. In the Lancaster area, they were up 44%. And in the Midlands, they were up 148%.

like it's coming. Seems the signal is stronger

While the numbers are still relatively low, Sweat said this is an important window of time. "Now is when you ought to be most careful, from a public health perspective, if we want to stop this and keep lots of people from getting infected. And it's paradoxical, because right now is when it's least likely people are going to do it, because numbers have been low and most people aren't aware this is likely to happen."

To avoid getting COVID, the Centers for Disease Control and Prevention recommends getting vaccinated and wearing a mask indoors if you aren't fully vaccinated. If you live somewhere with a lot of COVID cases, the CDC suggests that you also wear a mask outdoors if you're in a crowd and/or around people who aren't fully vaccinated.

The current case increases Sweat's team is tracking are Delta-driven. The Omicron variant, first identified in Africa last month, is a new factor. Its remarkable ability to spread already has health authorities in Europe warning that it will soon dominate Denmark and Norway. Omicron has showed up in the U.S., too, and it's starting to surge in Washington state.

Sweat said an analysis out of South Africa found Omicron was 2 1/2 times more transmissible than the Delta variant. "That puts its R naught, a measure of transmissibility, at something similar to measles, which is one of the most contagious things out there."

"So the news with Omicron is, it transmits fast. That's pretty solid. But the severity seems to be lower. That's not certain, but it's leaning that way. So what does that mean?" Sweat asked.

"Over the long haul, Omicron could take over from Delta as a less severe illness. You could think of it as all these people who've not been vaccinated are going to get vaccinated through the infection and could suppress things down on the other side too. But it could still overrun the health system. It's not clear what Omicron's going to do. It could be good, it could be bad."

What is clearly good is the fact that the hospitalization rate for COVID is much lower than in the early days of the pandemic. Vaccines and booster shots are making a big difference, Sweat said. And a lot of people have already had COVID, which may reduce their risk of getting really sick. MUSHROOM • COMPOST • TOPSOI

MULCH •

Sweat was also encouraged by news about Pfizer's new antiviral pill, Paxlovid. "It was 89% effective at stopping hospitalization and death among high-risk people. I think by the end of January, we'll probably see that approved. That'll be a huge game changer. It'll lower infection rates. Hopefully people won't be as infectious and it'll make people not go in the hospital. It'll be a big, big thing. So that's very reassuring."

As a lot of people prepare to visit family



Graphic Provided **Look to the far right of the graph to see the beginning of what could become a new surge.**

and friends over the winter holidays, Sweat had some advice. "Don't wait for a winter wave to happen. Be aware that we're on that path. It's going to get amplified by Christmas and Kwanzaa, right? There's a lot of parties and getting together and going out and traveling and that's like shaking a snow globe. It will mix people up and a lot of transmission can happen."



PINE STRAW • ROCK

MUSC president David Cole honored with Joseph P. Riley Leadership Award

By Leslie Cantu

cantul@musc.edu

For his service to the greater Charleston community during the COVID-19 pandemic, MUSC President David J. Cole, M.D., FACS, was honored with the 2021 Joseph P. Riley Leadership Award by the Charleston Metro Chamber of Commerce on Dec. 3.

Family and community leaders lauded his honesty, work ethic and vision for excellence, particularly as Charleston confronted the pandemic.

"Dr. Cole has and continues to provide compassionate, medically advanced and public health savvy leadership in a once-ina-century global pandemic. He 'willingly stepped into the gap' to be the clear signal

we all needed to navigate one of the most pressing crises in our region's history," said Bryan Derreberry, president and CEO of the Charleston Metro Chamber.

Cole said that nothing of significance can be accomplished without community, and he thanked the MUSC family for being that community.

"Talented, dedicated faculty, educators, researchers, students, clinicians and staff work daily to make a difference, a positive impact, on individuals' lives," he said. "This has shone through over the past two years in the midst of 'all things COVID.' As the president of MUSC, it is a privilege to have the opportunity to lead such a group and, on occasion, be the one that intersects with our community and state in a meaningful



Dear MUSC family,

This holiday season we are especially thankful for the things that add meaning to our lives- family, community, wellness, and purpose. For us, recognizing your hard work, skill, passion, perseverance and commitment to serving others is at the top of our list. YOU are what makes this organization special and successful.

As 2022 quickly approaches, we wish you and your loved ones a safe, healthy and happy holiday season



Photo by Anne Thompson

Dr. David Cole was lauded during a Charleston Metro Chamber of Commerce event on Dec. 3.

manner."

That interaction could be the three times per week 7 a.m. phone call with Charleston Mayor John Tecklenburg that the pair initiated at the beginning of the pandemic.

"He's a compassionate man, and he has such a high level of intellect. When you combine the two, it really makes for a powerhouse of an individual," Tecklenburg said.

Cole immediately saw the risks of the pandemic to the Charleston region and beyond, said Jim Newsome, president and CEO of the South Carolina Ports Authority.

"He felt that MUSC needed to be a leader," Newsome said.

Cole leads not merely through his authority but by influencing through his example, said Prabhakar Baliga, M.D., chairman of the Department of Surgery.

Under his leadership, the use of telehealth



"Through telehealth, this community has been a role model for the entire country," said Anita Zucker, chairwoman and CEO of the InterTech Group.

Cole's wife, Kathy, and their children, Paige Randolph, Andy Cole and Bryan Cole, also offered accolades.

Randolph noted that Cole made it a point always to be present for his children's games, concerts and awards shows, and Andy Cole said that Cole set an expectation for his children to always strive for excellence.

"He's always strived to be the best person he can be," Kathy Cole said.

There is no pretense with him - he is genuinely a caring person, Bryan Cole said.

"You are most deserving," Zucker said. "Thank you for your incredible service to our community."



ACTIV-6

WORKING TOGETHER TO **HELP PEOPLE WITH COVID-19** FEEL BETTER FASTER.

activ6study.org 💓 #feelbetterfaster

MEET RACHEL



Rachel Barber

Department and how long at MUSC *MUSC Health Enterprise Brand*

Development & Strategy; 5 months

How are you changing what's possible at MUSC

In this newly created role, I will be building the presence of MUSC Research in the digital sphere, working to elevate awareness, build equity and establish MUSC as a top tier research institution through our social media presence.

Family and Pets

Husband, Josh; dogs Sheila, an Australian shepherd and Stella, a corgi; and Molly, cat

Favorite Christmas holiday memory

My extended family took an amazing trip to Australia over Christmas and on Christmas Day we climbed the Sydney Harbor bridge!

Favorite Christmas carol or song *I play the Charlie Brown Christmas album (Vince Guaraldi) on repeat every year.*

A vacation you're looking forward to Visiting Scotland with my extended family!



PURPOSE

ELIGIBILITY

Junior-level M.D. or M.D./Ph.D.s active in cancer-related research.

To foster junior Hollings Clinical Scholars physician-scientist careers will receive 20% salary and enable breakthrough support for up to two discoveries that directly years, and an additional improve the clinical care \$5,000 for researchof cancer patients, related purposes.

AWARD

Applications are due January 28, 2022 Visit musc.co/clinical-scholars for more details



The new and improved MUSC Brand Boutique is the one-stop shop for everything MUSC branded. This easy-to-use online store is opened to all MUSC students, staff and the public for personal or gift orders and offers a wide variety of merchandise and apparel with the MUSC, MUSC Health, MUSC Children's Health and MUSC Shawn Jenkins Hospital brands. You can select items for yourself, family, friends or teammates. Faculty, students and staff can also purchase branded white coats and scrubs.

Shop today at MUSC Brand Boutique: muscbrandboutique.com







MUSC INNOVATION GATEWAY



VISIT THE MUSC INNOVATION GATEWAY! THE GATEWAY SERVES AS THE VIRTUAL FRONT DOOR TO MUSC'S INNOVATION COMMUNITY, ALLOWING USERS TO SUBMIT IDEAS AND BE AUTOMATICALLY CONNECTED TO RESOURCES AND TEAMS THROUGHOUT OUR ORGANIZATION.

MUSC adopts more than half of Salvation Army's local 'angels'

By HELEN ADAMS

adamshel@musc.edu

Amelia Slane, philanthropy chair for the pharmacy residency program at MUSC, dropped off big bags of gifts for two babies she'll never meet — but has thought a lot about.

"I think it's awesome," she said of the Salvation Army's Angel Tree program. MUSC is its biggest participant in the Charleston area, with employees buying gifts for 1,200 boys and girls this year.

"It feels like a special gift we can give somebody else, when we maybe already have a lot of the things we want. It's just so touching to see some of the things that they ask for. So it was really exciting to go shopping for them and try to come up with things that I think they would like," Slane said.

She had plenty of company. "Chief Elf" Melissa Kubu, leader of MUSC's Angel Tree effort, said donations were up this year percentage-wise. "We really knocked it out of the park."

Kubu got emotional describing what it was like to see all of the gifts piled up in MUSC's Horseshoe, ready to be delivered to the North Charleston Coliseum for sorting. "MUSC is a really big family that cares so much about our community no matter what the circumstances, and even in a pandemic we can come together and provide for our children and the community that are in so much need. Our children really need some happiness and some love. So MUSC is able to provide that and really just be there for those who need us most," Kubu said.

Mike and Cathy Michels, captains with the Salvation Army, were on hand at MUSC for delivery day. "It just warms my heart to see the gifts being given even by people who are having a hard time but are willing to step up and give. That means a lot to us. It really does," Cathy Michels said.

Her husband and fellow captain said this year has been easier than last year was. The second winter holiday season of the pandemic finds people functioning more normally. "Our volunteer kettle workers are back in force and our volunteers here at MUSC and at the convention center; we're getting a lot more volunteers this year and yes, we see people adopting kids. We're really excited."

Delivery day involved the help of people from multiple departments at MUSC, including Public Safety and Facilities. Emergency Management coordinator Bryan Wood said they look forward to it. "We love this time of year. Usually we have the Angel Tree parade and we love it."



Photos by Carter Coyle

Pharmacy resident Amelia Slane drops off gifts for two babies that her group picked from the Salvation Army's Angel Tree program.

No parade was held this year because of the pandemic. Wood hopes it will be back in 2022.

Kubu does, too. But she's glad the most important part of the Angel Tree program, collecting gifts for children whose families are struggling, is still taking place. "This is the largest project MUSC does for the outside community. So to be able to do that and see the sea of love and happiness here is amazing."



A tiny tricycle sits atop a pile of bagged gifts.



Volunteers and employees of MUSC and the Salvation Army gather behind a pile of donated gifts

First responders say good night to children's hospital patients

By Leslie Cantu

cantul@musc.edu

First responders from throughout the Lowcountry are coming together to light up the winter sky and say "good night" to patients at the MUSC Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion. The opening festivities kicked off on Dec. 2 and will be repeated on the next three Thursdays of December.

It's an effort that began last December as a socially distanced way to be supportive and is continuing this year, to the delight of patients, staff and the first responders.

Charleston Police Department Sgt. Sean Engles, inspired by the Good Night Lights tradition at Hasbro Children's Hospital in Providence, Rhode Island, organized the event.

"I just thought it would be such a nice thing for the children who are going through such a rough time and their families," he said.

The first responders – fire, police and EMS departments and sheriffs' offices – gather in parking areas across the street from the children's hospital. When the command is given, they all turn on their emergency lights, lighting up the night sky.

Engles said that more than 30 departments and more than 100 vehicles participated in the first night, Dec. 2. Singers

See LIGHTS on page 15



Photo by Sarah Pack

Nolan Moore and mother Julie Ann Morre watch the lights out of an MUSC Shawn Jenkins Children's Hospital window during the Good Night Lights event. Patients in the hospital were given flashlights to flash down at the first responders.

BUY SMARTER - KNOW FOR SURE



Experience Matters Our Company Never Represents

The Seller - We're Always On The Side Of The Buyer.

David Kent 26 years 843.606.0824 David@BuyersAgent.Net www.DavidKent.Net

Charlotte Lemon 23 years 843.900.1322 Charlotte@BuyersAgent.Net www.CharlotteLemon.Net



Representing Buyers Exclusively for over 49 years

Buyer's Agent Home Buyer's Choice, Inc.

The Rea

Year in Review – 2021



Photo by Alan Hawes A team of nurses, patient care technicians and a respiratory therapist prepare to return a COVID patient to his back after being pronated for 24 hours.



Photo by Kathryn Van Aernum Dr. Patrick J. Cawley speaks at one of four events Aug. 2 to celebrate the addition of four facilities in the Midlands to the MUSC Health System.

MUSC student Cortney Gensemer right, watches as Miss America 2020, Camille Schrier, pipettes a sample to sequence it for the hEDS gene in the Norris lab at MUSC.

Photo by Sarah Pack





Photo by Sarah Pack

MUSC staff members line the halls of the 4th floor of Ashley River Tower to cheer as Ryan Nacovitch prepares to leave the hospital after his lung transplant due to COVID-19.



Photo by Marquel Coaxum Dr. Raymond N. DuBois leads U.S. first lady Jill Biden on a tour of Hollings research labs during her visit in October to promote breast cancer awareness.

MUSC Health Regional Round up **Health Network**

MUSC Health Midlands



Dear Midlands care team members,

As we get deeper into the holiday season, I want to encourage you to find ways to rest and recharge, whether it is connecting with friends and family or spending

some time alone to reflect on this challenging year. Health care continues to be a very demanding field, and it is so important to make time for yourself and to ensure you protect your own physical and emotional health. In order to take care of others, we must first take care of ourselves. While we know this is important, we also know how important it is to provide exceptional care to our patients and to keep our hospitals and clinics staffed.

That is why I am happy to welcome Carolyn English as the new Midlands Division Social Work director for our Employee Assistance Program. In this role, Carolyn will work with care team members across our division to support them in mental health and assist them in identifying and resolving personal and occupational concerns. MUSC Health has an expansive EAP program, and we are excited to bring this service here to the Midlands. Call Carolyn at 803-865-4519 to set-up an appointment if needed.

So whether it's a long walk with a loved one or a stop into Carolyn's office for a chat, please make sure to take care of yourself this holiday season. Remember, we are one MUSC Health family, and we are all here to support one another in times of need. Terry Gunn

Chief Executive Officer, MUSC Health Midlands Division

MUSC Health Lancaster/Chester Division

Dear MUSC Health care team,

It is hard to believe that we are now in full swing of the holiday season with Thanksgiving and Hanukkah behind us and Christmas, Kwanzaa and a new year ahead. During this time of year, I especially enjoy

holiday activities in the community and this special opportunity to spend time with friends and family.

As I reflect on where we were one year ago, I am thankful we can engage socially much more this year than last. In fact, very nearly one year ago, we were just beginning with first waves of vaccine administration. Now, more than 50% of South Carolinians are vaccinated. The vaccine is approved for children 5 to 11 years of age. And we are administering boosters. While we continue to see ebbs and flows with prevalence and incidence of COVID-19, we have come a long way in knowledge and preparedness over the last year.

Health care

involves watching



Broome

Christmas movies with my children. We have seen most of these movies so many times that we have the key lines memorized, but the time spent with family is so special. I also look forward to college football bowl games this time of year. Few of them have any meaning in terms of building a program's national stature, but they are always festive! Whatever the activity, I find this time helps me rest, relax and better serve our division.

However you celebrate the holidays and whatever your chosen actives are, I sincerely wish you all a happy and healthy holiday season. I encourage you to find time for whatever is relaxing for you and make time to rest, recharge and reconnect.

As always, thank you for all you do every day for our patients and communities. I am honored to serve you as your chief executive officer.

I. Scott Broome

Chief Executive Officer, MUSC Health Lancaster Division

Little Cindy Flu Who

December 5 through 11 is designated

National Influenza Vaccination Week by the Centers for Disease Control and Prevention (CDC). Nearly everyone at MUSC Health reading this message has already received their flu vaccinations for the year - thank you! But getting your own flu shot is only the beginning. Today, I am asking each of you to be flu vaccine ambassadors to your family, friends and neighbors.

Over the

seasonal flu has

61.000 Americans

annually. While

the 2020-21 flu

less severe than

average, due to

social distancing,

masking and

season was much

killed between

12,000 and

past 10 years,



McCutcheon

and was also overshadowed by COVID-19, the flu remains a significant preventable cause of morbidity and mortality in the United States. And as each of you knows, the flu vaccine is one of the most important flu prevention strategies.

As you gather with family and friends throughout this holiday season, please take an active role in promoting the flu vaccine. Advice from medical providers is consistently cited as one of the most important aids to decision making among folks considering vaccination, whether against flu, COVID-19 or other infectious diseases. Just like your care for our patients has an enormous impact inside MUSC, your advocacy for the flu vaccine among friends and family can have an enormous impact outside MUSC. Information for patients regarding the flu vaccine can be found at https://muschealth. org/medical-services/primary-care/flu-shots. Thank you in advance for being a flu vaccine champion this holiday season! Edward McCutcheon, M.D.,

Chief Medical Officer, MUSC Health Lancaster Division

MUSC Health Florence Division

Winter Is Coming - Are We Ready?

Thank you, Florence Division physicians and APPs, for your continued leadership and dedication to our patients, communities



and fellow care team members, especially during the most recent COVID-19 surge. We have seen a lot of communication and questions about the Omicron variant; however, we are still closely monitoring the

Zebian

impact of the Delta variant. Based on current data, we are expecting a COVID-19 surge in January 2022. For information, visit the MUSC COVID-19 Epidemiology Intelligence Project site at https://web.musc.edu/ coronavirus-updates/epidemiology-projectflorence.

You may ask, "Are we ready for another surge?" and the answer is yes. This short reprieve from COVID-19 has given us time to plan and prepare for future surges; however, we will need help from all areas. We will continue to focus on quality and length of stay initiatives ahead of and during any future surges, as success in these areas will be vital to managing influxes of patients. Throughput and capacity remain top focuses. Additionally, a few ways you, as a provider, can help us prepare for future COVID-19 increases are listed here.

As with all surges so far, our systems may be stretched, and we may face challenges; however, we will keep the lines of communication open and update you frequently. Please remember that as with all previous surges, there will be an end in sight. All surges have a peak and downward slope, and we will persevere and survive this together.

Rami Zebian, M.D.

Chief Medical Officer, MUSC Health Florence Division

MUSC Health Florence Division

Dear MUSC Health care team,

As the holiday season continues, we will continue to celebrate Florence Division care team members! I am thrilled to announce that we will give a voucher for a free ham or

Chronic disease through the lens of COVID-19

By KIMBERLY MCGHEE

mcgheek@musc.edu

Gayenell Magwood, Ph.D., a professor in the MUSC College of Nursing, has received more than \$3.4 million in funding from the National Institute of Nursing Research (NINR) to investigate how COVID-19 has affected the health and quality of life of Black South Carolinians with preexisting chronic conditions and their caregivers. The funded research will also explore whether stressors related to structural inequities and racial discrimination affect COVID-19 and chronic disease outcomes.

"We want to explore what happens in a pandemic with people of color and their chronic conditions and what role economic and societal stressors and structural racial inequities play," said Magwood.

COVID-19 AND CHRONIC DISEASE It has long been known that chronic conditions, such as high blood pressure, diabetes and obesity, increase the risk of stroke, heart disease and cancer. But fear of a consequence in the distant future often did not bring about needed behavior and lifestyle changes.

COVID-19 changed that time frame. It preyed preferentially on people with some of these chronic diseases, increasing their risks of developing and/or dying from severe COVID-19.

According to a study by the Centers for Disease Control and Prevention (CDC), more than a half million patients were hospitalized with COVID-19 between March of 2020 and March of 2021. Of those patients, 95% had at least one underlying medical condition, roughly half had either high blood pressure or disorders of lipid metabolism and a third were obese. The study found a strong association between obesity and diabetes, both of which are widespread in the U.S., and severe COVID-19 disease. The study also found that having more than one underlying condition increased the likelihood of developing severe COVID-19.

CHRONIC DISEASE IN SOUTH CAROLINA South Carolina is certainly no stranger





Photo by Marquel Coaxum

Dr. Gayenell Magwood, professor in the College of Nursing, has received \$3.4 million in funding to study the interplay between chronic disease and COVID-19 in underserved communities.

to chronic disease. The South Carolina Department of Public Health and Environmental Control (SCDHEC) estimates that six in 10 South Carolinians have a chronic illness and four in ten have two or more. According to the CDC, more than one in three South Carolinians (36%) identified as obese in 2020, and the state ranked sixth for highest percentage of adults with diabetes in 2019.

Although South Carolinians of every race are affected by chronic disease, Black communities are hit particularly hard. Non-Hispanic Black adults have twice the death rate and higher rates of obesity than non-Hispanic white adults (43.9% versus 32.4%), according to 2018-2020 SCDHEC data. This higher burden of chronic disease was one factor that caused Black people to be more vulnerable to developing severe COVID-19.

ENGAGING THE COMMUNITY

But were other factors also responsible for the toll COVID-19 took on Black communities? Did structural inequities in access to information and care and chronic stress due to racial discrimination also play a role? And how did the pandemic affect the management of existing chronic disease in underserved communities?

With the funding from NINR, Magwood will engage underserved communities in answering these questions using a community-engaged approach. She and her team previously used a community-based participatory approach to encourage diverse participation in an earlier WISSDOM (Wide Spectrum Investigation of Stroke Outcome Disparities on Multiple Levels) stroke trial. In a recent article in Contemporary Clinical Trial Communications, she outlined this high-tech, high-touch approach to recruiting diverse clinical trial participants.

While technology, whether in the form of the electronic health record or a stroke registry, helped to identify potential clinical trial participants, it was the human touch that mattered in the end. Stroke patients were more likely to participate in trials or adhere to stroke management guidelines when the study team took the time to listen to them and learn about their concerns through focus groups and interviews.

For the NINR project, Magwood will again turn to focus groups and interviews to learn whether societal inequities and racial

MUSC Board of Trustees Meeting

Update

MUSC and MUHA Board of Trustees held their regularly scheduled committee sessions and board meeting on Thursday and Friday, Dec. 9-10, respectively. Due to the ongoing COVID-19 pandemic, many attended the meeting via video conference. The meetings were held in the MUSC board room with a limited number of attendees physically present in keeping with COVID-19 protocols. Several other participants joined the meetings via video conference.

On the education front, the board voted to approve the launch of a major capital project, fundraising for a new MUSC College of Medicine (COM) academic building. The proposed building will be located at the corner of President and Bee Streets, on the site of the existing Vince Moselev building. Although full design and construction costs for the new building are not final, it is anticipated that a portion of the funding will be obtained through philanthropy and college reserves set aside for this purpose.

"The new MUSC College of Medicine building will provide an academic home for the college in addition to much-needed offices and educational space," said MUSC President David J. Cole, M.D., FACS. After its most recent LCME accreditation visit, the college received full accreditation for the maximum eight-year term.

"Achieving this level of accreditation takes years of work by a team of dedicated professionals," Cole stated. LCME stands for Liaison Committee on Medical Education. The group is recognized by the U.S. Department of Education as the accrediting body for medical education programs leading to the M.D. degree in the United States or Canada.

Among other matters reviewed, the trustees voted to approve the plan for MUSC Health leaders to submit two certificate of need (CON) applications to the South Carolina Department of Health and Environmental Control (DHEC). DHEC must issue a CON before certain types of health care acquisitions, expansions and creation of new facilities are allowed.

"We continually track and assess the needs of the communities we serve, reconfiguring our resources to meet those changing needs

and demands," said MUSC Health CEO Patrick J. Cawley, who also serves as vice president for Health Affairs, University.

In one CON, the request is to relocate 42 rehabilitation beds from MUSC Health Florence Rehabilitation Hospital Medical Center-Cedar Tower to MUSC Health Florence Medical Center. This will place more resources in the location with consistently higher community needs.

If permitted by DHEC, the second CON will allow MUSC to purchase and situate the first PET/MRI scanner in the Charleston area. This scanner is the imaging modality of choice for certain types of cancers. If approved by DHEC, it will be located at MUSC Health Elms Center in North Charleston. The facility provides lung cancer screening as well as other specialized oncology services. Imaging can provide early detection and opportunities to closely evaluate the impact of cancer treatments.

In other business, the 16-member MUSC/ MUHA board also voted to approve the following items:

Adoption of Notable, the leading

FITNESS

TRAINING STUDIO

IP03-1976270-1

intelligent automation company for health care. The business partnership will create a seamless digital experience for patients throughout their care journey, plus design and enable AI automation of clinical trials activities. To learn more, visit https://web.musc.edu/about/leadership/ institutional-offices/communications/ pamr/news-releases/2021/musc-and-notablepartner-to-transform-patient-and-familyexperience-through-intelligent-automation □ Negotiate the sale of an MUSC-owned parcel of property on Fort Johnson Road, Johns Island. The property has remained unoccupied since late 2014 due to building conditions. The property includes a main house, garage, storage building and cistern, all of which are uninhabitable and dilapidated. The property is to be sold for an amount no less than the appraised value satisfactory to the state and any offer is contingent on the approval of the State Fiscal Accountability Authority.

□ Renewal of the lease for 54,804 square

See **Update** on page 15



NMLS # 1367562; Licensed in FL, NJ, NC, SC

BRIAN MAC FITNESS TRAINING STUDIO A Great Holiday Gift Idea! Weight & Strength Training Mention this Wedding Preparation ad for special Over 30 Fitness and Health pricing! Geriatric Fitness: Strength, Balance and Mobility Neuro/Muscular Disease BRIAN MAC Control & Mobility TRAINING STUDIO Body Transformation and Conditioning Healthy Lifestyle Modification Busy Workday? No Problem! Flexible hours! Early morning, evening & weekend availability. 1 Gym • 1 Trainer • 1 Client • Zero Covid! 2357 N. Hwy. 17 Suite 101





www.brianmacfitness.com

MUSC students take home state innovation awards



The S.C. Innovates Student Pitch competition challenges in-state students to help solve some of our state's bigger problems.

BY BRYCE DONOVAN

donovanb@musc.edu

As most of us were polishing off Thanksgiving leftovers (for the third straight day), some of MUSC's best and brightest students got some delicious news of their own. Out of more than 60 from across the state, three MUSC teams that entered the second annual S.C. Innovates Student Pitch competition finished in the top 15. In fact, first and second place came home to the Charleston-based medical college.

The event, which was the brainchild of Laura Corder, managing director of the S.C. Department of Commerce Office of Innovation and Bryan Davis, managing director of Furman University's Innovation and Entrepreneurship Institute, offered the simple challenge: "Hey! Young minds. Help solve some of our bigger problems."

The result was a massive submission of entries, which were painstakingly whittled down to a final group of 16. Via Zoom, the teams made their five-slide, 90-second virtual pitches to a group who judged them based on how well they articulated the problem, how well they posed to solve it and – it wouldn't be entrepreneurial without this last component – how successfully they could monetize their invention or solution.

In the end, MUSC students Subina Saini and Alan Snyder took home the top prize – a lion's share of the more than \$10,000 in prize money to help to make their idea a reality. Their idea, GlowDot, is a patented microencapsulated fluorescent ink that serves as an alternative to traditional carbon ink, which is used to mark lesions during colonoscopies.

According to Saini, with the current method, "up to 15% of tattooed tumor locations are incorrectly identified or wholly missed by the time of surgery." Her team's solution would dramatically reduce those numbers as well as lower the overall costs to hospitals.

Second place went to students Marissa Brock and Chase Walton for their idea, Cancer Connect, a high-tech/high-touch solution to reduce the anxiety felt by cancer patients navigating treatment.

"Our solution is a bridge between technology and humanity," Brock said. "If we can improve the cancer patient's experience while reducing the cost to them, as well as the hospital, everybody is a winner."

MUSC student Jordan Byrne's idea, MedSafe E-Caddy, a more robust solution for medication compliance for transplant patients, placed 15th.

And for these students, whose ideas are now a step closer to becoming a reality through either funding or awareness, they are winners as well.

"We couldn't be prouder of our student teams," said Jesse Goodwin, MUSC Health chief innovation officer. "To take home the top two spots, and three of the top 15, is a real achievement."

MUSC communications and marketing professionals take a bow

By Shawn Oberrath

oberath@musc.edu

The members of MUSC's Office of Communications and Marketing represent the voice of the enterprise and carol the messages and stories of MUSC to many different audiences. From health care workers in the MUSC Health network and beyond to members of the news media as well as patients and the public, there are many audiences to sing to.

In a recent crescendo of accolades, multiple prestigious awards groups recognized members of the OCM choir for their contributions to the overall medley.

In mid-November the Digital Health Awards honored the MUSC Enterprise Brand Development and Strategy team for its work on content to entertain and inform health professionals.

The Digital Health Awards program was established by the Health Information Resource Center to recognize high-quality digital health resources for consumers and health professionals and has been going strong for the last 24 years.

The Brand group received the Silver Award for two pieces – Connecting the Dots in Pediatric Research and Artificial Iris Implant Restores Visual Function – and it earned a Merit Award for Islet Cell Transplant Option for Chronic Pancreatitis Relief.

eHealthcare

LEADERSHIP

AWARDS 2021

WINNER

The Brand group also garnered an eHealthcare Leadership Awards Gold Medal for Best Health Care Content for the compelling and exclusive visual content on the MUSC Medical Video Center. This honor called out the MUSC team among the likes of large academic medical centers such as John Hopkins Medicine, Mount Sinai, Penn Medicine and Yale Medicine.

In another arena, the members of the MUSC Health Marketing team blended their voices to reach a broad consumer audience, especially for outreach about COVID-19 vaccination to citizens across South Carolina.

The team was honored in mid-November by the Carolinas Healthcare Public Relations and Marketing Society (CHPRMS) during its annual Wallies and Golden Tusk Awards. These awards shine a light on the best creative, strategic, and measurable outreach efforts created by the Southeast's top marketing and public relations professionals.

The Marketing team received awards for the VaccinateSC campaign for both COVID-19 Vaccine Print Advertising and COVID-19 Vaccine Television Advertising. They also won an award for COVID-19

Vaccine Graphics and Illustration for their COVID Vaccine Toolkit as well as a photography award. And impressively, the team was awarded the distinction of Best in Show for the VaccinateSC campaign.



The Marketing

team also earned several MarCom awards from the Association of Marketing and Communication Professionals (AMCP), including platinum honors for the Changing What's Possible Together campaign and gold honors for Improving LGBTQ+ Lives and Health Outcomes, VaccinateSC and other marketing materials.

The members of these teams and all of the OCM teams work year-round to share the efforts of MUSC health care leaders and researchers as MUSC leads the way for health innovation in South Carolina and beyond. Hearing external groups chime in with praise makes that work all the more gratifying indeed.

COVID-19 vaccine proves effective against hospitalization in children age 12-18

BY CAREN DOUEIRY

mcgheek@musc.edu

A team of researchers at the MUSC Shawn Jenkins Children's Hospital contributed to a nationwide study on the effectiveness of Pfizer-BioNTech's COVID-19 vaccine against hospitalization in children age 12-18. The study was conducted by 19 hospitals in 16 states. The results of the study, published in the Centers for Disease Control and Prevention's Morbidity and Mortality Weekly Report, show that the vaccine is effective against hospitalization in that population.

"People assume that children have a much milder COVID-19 course. But the Delta variant is different," said Elizabeth Mack, M.D., pediatric critical care physician and principal investigator for the MUSC study site.

Mack explained that 100% of COVID-19 pediatric patients hospitalized at the MUSC Shawn Jenkins Children's Hospital since the beginning of the pandemic have been unvaccinated.

Mack also emphasized that children infected with the Delta variant were more likely to have disease similar to the adult phenotype. In other words, all of their organs are at risk of damage, not exclusively the lungs. Children in the South were at an especially high risk due to low vaccination rates and a high number of comorbidities, including obesity and asthma.

"We have seen children with COVID-19 in the ICU with horrendous respiratory failure, kidney failure, liver failure, cardiovascular failure, and we've unfortunately seen deaths as well," said Mack.

The nationwide study included 464 hospitalized children age 12-18. Some of these children were hospitalized for COVID-19. Other children in the study were enrolled as controls hospitalized with syndromes similar to COVID-19, like pneumonia, or with syndromes unrelated to COVID-19, like a broken leg. Vaccination and exposure history were then studied for COVID-19 patients and control patients. The MUSC Shawn Jenkins Children's Hospital continues to add hospitalized COVID-19 patients to the study.

"The point of this study was to look at the Pfizer-BioNTech vaccine effectiveness in children in the 12- to 18-year-old age group after receiving two shots," said Mack. "The results showed that the vaccine was extremely effective, and that some of the hospitalized COVID-19 patients who were not protected with the vaccine had some pretty severe courses."

Mack also explained that there was a high frequency of cardiac muscle inflammation due to either COVID-19 or multisystem inflammatory syndrome in children, distinct from the very low risk of myocarditis related to the vaccine.

"We only had one or two cases of cardiac muscle inflammation due to the vaccine, and those patients had



Photos by Sarah Pack

PICU nurse Alexandra

Elizabeth Mack, right,

discussing a patient.

Rosol, left, and Dr.

Dr. Elizabeth Mack, left, and pediatric intensive care unit nurse Alexandra Rosol care for an unvaccinated patient in the PICU.



normal cardiac function and required only ibuprofen. They were discharged home in a day or two," explained Mack.

In South Carolina, 66% of children age 12-19 are still unvaccinated.

"The low vaccination rates in the pediatric population at this point are not likely primarily related to vaccine access," said Mack, as she explained some parents are hesitant to get their children vaccinated. "Fertility and puberty are the top concerns parents have, but thankfully the data supports vaccination of adolescents and women without negative impact on these issues."

Mack explained that studies looking at the long-term effects of the vaccine are ongoing. However, the long-term effects of

COVID-19 have already been devastating. Some children have needed intense inpatient rehabilitation, others have required tracheostomy placement, and still others have had lasting kidney or cardiac disease.

"In the ICU, we see a lot of parents wishing their children were vaccinated," said Mack. "Those children have multisystem organ failures, months in the ICU, lots of procedures, financial devastation and loss of school time."

The study showed that the Pfizer-BioNtech vaccine was effective against hospitalization in patients age 12-18, during the period when the Delta variant was predominant.

"COVID-19 and its effects are all 'vaccine-preventable," emphasized Mack. "The vaccine works for children!"

Getting childhood obesity initiatives across the finish line

By KIMBERLY MCGHEE

mcgheek@musc.edu

MUSC researchers describe the development of a school-based wellness initiative for combating childhood obesity by the MUSC Boeing Center for Children's Wellness (BCCW) in the November issue of the Journal of School Health. Launched in 2007, the program is now available in 200 schools in 20 school districts across South Carolina, thanks to its flexible implementation model. Schools select from a menu of intervention options to tailor a wellness approach that is right for them.

It was South Carolina's ranking in 2005 as eighth worst in the nation for childhood obesity that brought the urgency of the problem into focus and galvanized action around the issue, said BCCW director Janice Key, M.D., lead author of the article.

According to Key, it became clear early on that schools were the setting where obesity could best be addressed.

"Children are there for a large part of each day, and so they eat there, and they have an opportunity for exercise while they're in school," said Key. "It's particularly important for anything to do with healthy lifestyles to include schools."

For those reasons, the state mandated school health advisory councils to oversee wellness policy and initiatives at the school district level. However, most of those initiatives were never implemented by schools.

The problem was not a lack of evidencebased strategies to reduce obesity and improve wellness. Over the years, many strategies had been tested in small studies and recommended by public health authorities. The challenge was getting schools to implement them.

"Unfortunately, the recommendations would be published and sit on a shelf somewhere and never be implemented," said Key. "There was a disconnect between all of these proven things and what was being done out in the real world."

To address that disconnect, the BCCW shifted its focus in 2011 from direct provision of wellness interventions to an implementation strategy that encouraged schools to take more ownership.

The BCCW team consulted with Cathy Melvin, Ph.D., an implementation scientist who is now director of the Community Engagement Core, which supports the Community-Engaged Scholars Program (CES-P) at the South Carolina Clinical & Translational Research (SCTR) Institute. As an implementation scientist, she studies ways to get evidence-based strategies into the real world. Key and Melvin have spent the ensuing decade perfecting the implementation model for the program.

"Dr. Key and I agreed to use the RE-AIM (Reach, Effectiveness, Adoption, Implementation, and Maintenance) model as the guiding framework for measuring the implementation of BCCW program," said Melvin, who is senior author of the article. "RE-AIM allows us to focus on understanding how to prompt "real world" change at both the individual and organizational levels in our state's schools."

All of the participating schools now have their own wellness committees, most of which include a health care professional. Key and her team found that including health professionals leads to schools implementing 25% more wellness initiatives. These committees take ownership of wellness initiatives, choosing those best suited for their schools from a menu of evidence-based options on a school wellness checklist. These can include changes to policy, such as choosing an exercise-based instead of food-based reward; changes to systems, such as having health professionals on the school wellness committee; and changes to the environment, such as removing vending machines selling sugary drinks. In addition to students, teachers and staff are also invited to participate in the wellness initiatives.

"The staff and the teachers are all excited about it and getting healthier," said Key. "I love the fact that it's truly a culture change."

Schools are awarded points based on the number, impact and difficulty of the interventions they institute. They compete with other schools to see which can get the most points. Winners are awarded funds that can be used for a future wellness intervention of their choice.

Also important to achieving buy-in from school administrators was identifying metrics of success that would be meaningful for them. To find out which measures would resonate



Photos by Sarah Pack



Children doing yoga at the MUSC Urban Farm.

Children playing at the MUSC Urban Farm.

with them, in 2013, Key partnered with Robert Stevens, Ph.D., then of the Charleston County School District, on a research study funded by SCTR's CES-P. In the content of the Charleston County School District, on a research study funded by SCTR's CES-P. In the content of the Charleston County School District, on a research study funded by SCTR's CES-P. In the content of the Charleston County School District, on a research study funded by SCTR's CES-P. In the content of the Charleston County School District, on a research study funded by School District, on a research study funded by SCTR's CES-P. In the content of the Charleston County School District, on a research study funded by School District, on a research study fu

Key credits this collaboration with Stevens as being crucial to the success of the program. Stevens continues to work with SCTR as a member of both the CES-P review team and the SCTR Translational Research Community Advisory Board

Recent research shows that school administrators are interested not only in health but also in educational outcomes, such as graduation rates. According to the program's 2020 impact statement, obesity among fifthgraders in Charleston County schools has decreased by 38% since 2008. Educational outcomes have also improved: Attendance is higher, and suspension and expulsion are lower in schools that have participated

longer. For every four years of participation, attendance rates increased by a half percent. That translates to an additional 33 student days for a school with a student body of 200. For every 50 points a school achieved on the school wellness checklist, graduation rates increased by 1.5%. That would translate to an additional 10 students graduating from a high school with a graduating class of 300.

What story does this data tell?

For Key, that's easy. "A healthy kid is a better learner," she said.

Key thinks that the model the BCCW has developed over the years is easy to implement and would like to see it expand to more schools across the state.

"Greater funding would allow us to go to all districts and have an even greater impact," said Key.

ROUND UP Continued from Page Nine

turkey from a local Piggly Wiggly to MUSC Health Florence Division care team members. You will receive a voucher from your manager in the coming days, and you can redeem your voucher at the Piggly Wiggly locations listed below.



Piggly Wiggly Florence Shopping Mall 1945 West Palmetto Street Florence, SC 29501

Piggly Wiggly 208 East McIntyre Street Mullins, SC 29574

Hinesley

Vouchers will be provided to MUSC Health Florence Division care team members, which includes those who are employed by MUHA and MUSCP as well as providers who are employed by

MUSC. Please note you must show your MUSC Health ID badge with your voucher when picking up this gift in store. You will be able to pick up your ham or turkey through January 8, 2022.

I am very excited because this allows us to provide a gift that can be enjoyed by care team members and their loved ones this holiday season, and it allows us to support a local business within our communities. Please accept this gift as a small token of our appreciation. I know this year has been a challenging one, but I am so appreciative of each and every one of you and your constant efforts to provide exceptional care for our patients and communities. Thank you for all you do to change what's possible! Happy holidays!

Jay Hinesley, MHA, FACHE Chief Executive Officer MUSC Health Florence Division

The MUSC COVID-19 Archive: DOCUMENTING LIFE DURING THE COVID-19 PANDEMIC

The Waring Historical Library invites you to participate.

SHARE YOUR STORIES IN ANY WAY YOU SEE FIT, BY WRITTEN NARRATIVE, THE SPOKEN WORD, THROUGH IMAGES, ETC.

UPDATE Continued from Page Eleven

feet of office and warehouse space on Albemarle Road in Charleston, where the health system's supply chain, pharmacy and mailroom teams are housed.

Lease renewal for 39,375 square feet of warehouse space on Deming Way in Summerville for storage.

□ A new lease for approximately 2,800 square feet of clinical space located in the May River Crossing Shopping Center in Bluffton. At this location, MUSC Health will offer a range of services that include primary care, cardiology, general surgery, orthopedics and vascular surgery.

The MUSC/MUHA Board of Trustees serves as separate bodies to govern the university and hospital, normally holding two days of committee and board meetings six times a year. For more information about the MUSC Board of Trustees, visit http://academicdepartments.musc.edu/ leadership/board/index.html.

Research Continued from Page Ten

discrimination have affected chronic disease and COVID-19 outcomes in Black adults in South Carolina. And she will bring to the new project insights gained from the previous trial.

"It's important that we show cultural humility, that we take the time to understand what a community's priorities may be instead of coming in as if we already know what is best for them," said Magwood.

Armed with the information gained from focus groups, Magwood's team will then tailor strategies to address the concerns of underserved communities to ensure that they are better prepared to weather future pandemics.

TAKING A FAMILY APPROACH Magwood believes that too many interventions meant to improve chronic disease management have focused too narrowly on the individual patient and ignored the role played by, and the pressures put upon, the family.

"Over the years of experience that I've had working with chronic disease prevention and management and with communities, I've been told over and over again by caregivers, 'I wish I could help my brother,' or 'I wish I could help my husband/wife more, but I have my own health problems," said Magwood. "So we're bringing people – the patients and their care partners - together to help them to co-manage

LIGHTS Continued from Page Seven

from the College of Charleston caroled to the first responders, and patients in the hospital used flashlights provided by the Charleston Police Department to signal back to the first responders on the ground.

Because of the ongoing pandemic, the public is asked not to view the event in person but to tune into the @musckids Facebook page livestream each Thursday beginning shortly before 7:45 p.m.

The next event are scheduled for Dec. 23., and rumor has it that – if his busy schedule allows – there might be a special guest at the Dec. 23 event.

Holiday sale ongoing at MUSC **Innovation Station**

Check out the Holiday Sale going on at the Innovation Station. Sale includes Apple AirPods (1st gen.), Beats headphones, HP laptops and Bluetooth speakers. First come, first serve. Call 843-792-5312 or visit their shop at 135 Cannon Street.

their chronic illnesses."

Her team will try to find the best approach for improving quality-of-life and health outcomes for both patients and their care partners. They will examine whether coaching alone, using the tailored educational models, or coaching plus nurse guidance in navigating the health care system results in the best outcomes.



atc., please go to the Facilities customer request portal at fixit.musc.edu



fixit.musc.edu

LISTENUP!

The MUSC Catalyst News is the BEST and MOST EFFECTIVE way to reach students, faculty, staff, patients, AND patient visitors in the MUSC community!





Promote your message in the Catalyst News today!

The MUSC Catalyst News is an award-winning newspaper, delivered bi-monthly (every two weeks.) The Catalyst News was recognized in 2008 as **best newspaper-newsletter by the SC-PRSA**. The Catalyst News serves an **audience of more than 17,000** MUSC students, faculty, researchers, hospital patients, their families and patient visitors. MUSC is among the top three employers in the Tri-county area.

The Catalyst News is available (readable) in a PDF online version, which means that each advertisers' message is also promoted electronically. https://web.musc.edu/about/news-center



Contact us today! 843-958-7489 • advertising@moultrienews.com

Island Publications, Inc.'s acceptance of an advertisement(s) for publication in the MUSC Catalyst is conditioned upon MUSC's acceptance of said advertisement(s).