



*Photo Provided*

**Rhett Gillins, from left, Barbara Franklin, Amy Patrick and Linda Naert of the Lowcountry Senior Network assemble care packages for homeless older adults.**

## Reopening of senior centers shuttered by pandemic shows big need

By HELEN ADAMS

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When you think about homeless people in Charleston, you may picture men and women with signs asking for money at traffic lights downtown or groups gathered for free meals near the Ravenel Bridge.

But there's another side to homelessness here. People who have reached the age where they'd normally be thinking about retirement are instead focused on just getting by. They often go unnoticed by most people – but not by the area's advocates for homeless seniors.

"There are a lot from other places up North, you know, they come from all different places. Maybe something doesn't work out –they might've come for a reason, and it didn't work out," said Karen Carter, activities director for Charleston Area Senior Citizens.

The problem is growing, according to experts. One report said the number of elderly people who don't have homes may triple over the next decade, as baby boomers, who make up a disproportionate share of the homeless population, get older.

The pandemic made getting help a little more difficult, said Kelly Franklin, coordinator for the

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## MUSC board votes to acquire Providence Health, KershawHealth

*Staff Report*

During the June meeting, the MUSC and MUHA Board of Trustees voted to purchase Providence Health and KershawHealth, which are currently part of LifePoint Health. The acquisition will include three community hospitals, a freestanding emergency department (FSED) and affiliated physician practice locations serving communities in the Midlands.

Providence Health serves Columbia, S.C., and the surrounding region, with two full-service hospitals and a freestanding emergency room. KershawHealth is a full-service medical center located in Camden, S.C., which has been an affiliate of MUSC Health since 2015.

"This is an exciting day for MUSC and for the state as we continue to develop our network with the acquisition of these health care facilities and establish a larger footprint in rural and underserved counties," said David J. Cole, M.D., FACS, MUSC president. "As the state's only comprehensive academic health system, we understand that we have a responsibility to enable better access to complex, high-end care while working to facilitate the best-quality local care possible. This acquisition will broaden our ability to serve greater numbers of patients, families and communities and that is a reason to celebrate," Cole stated.

"MUSC has tremendous potential to meet the growing needs of patients and families around our state. That is why we are excited about today's announcement. As the only comprehensive health sciences facility in the state, with an unmatched record of patient care and meaningful research, MUSC has the unique capacity to improve health outcomes for those

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# What a doctor who has tested new Alzheimer's drug wants you to know

By HELEN ADAMS

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Alzheimer's specialist at MUSC involved in clinical trials testing the new Alzheimer's drug, aducanumab, said some of his patients have been really happy with it. "They felt that it worked and slowed down their decline."

But Nicholas Milano, M.D., said it needs further study. "I think it's important to confirm whether or not this really works."

The Food and Drug Administration recently gave aducanumab accelerated pathway approval. It does that when there's a potentially valuable treatment for a serious disease, giving people access to the drug while it undergoes more testing. Aducanumab will be sold under the brand name Aduhelm.

There's a huge need for treatments for people with Alzheimer's disease. It's the sixth leading cause of death in adults in the United States.

"It's a progressive disease with no

cure that eventually will cause the end of someone's life. Initially it just affects memory, but then over time it progresses to other aspects of brain function. So it can affect language, problem solving, spatial skills and then eventually it affects motor skills as well. When you get to the severe stages, people have significant issues with not just their thinking but also their mobility," Milano said.

Aduhelm is the first new treatment for Alzheimer's since 2003. It's designed to slow the progression of the disease. "This drug is exciting because it works with the mechanism that we think causes Alzheimer's, which is this buildup of amyloid plaques in the brain, and it clears them out. So it logically makes sense, and hopefully it will work," Milano said.

"On the other hand, there have been other drugs which had the same mechanism that did not show benefits."

And Aduhelm is controversial. A panel of experts recommended against FDA approval last year because they didn't think there was enough evidence that it worked.

Milano said there are also some risks for patients. "There's about a 30% chance to have some brain swelling associated with it. The good news is most cases are asymptomatic or have very mild symptoms, and you don't even need to



Milano

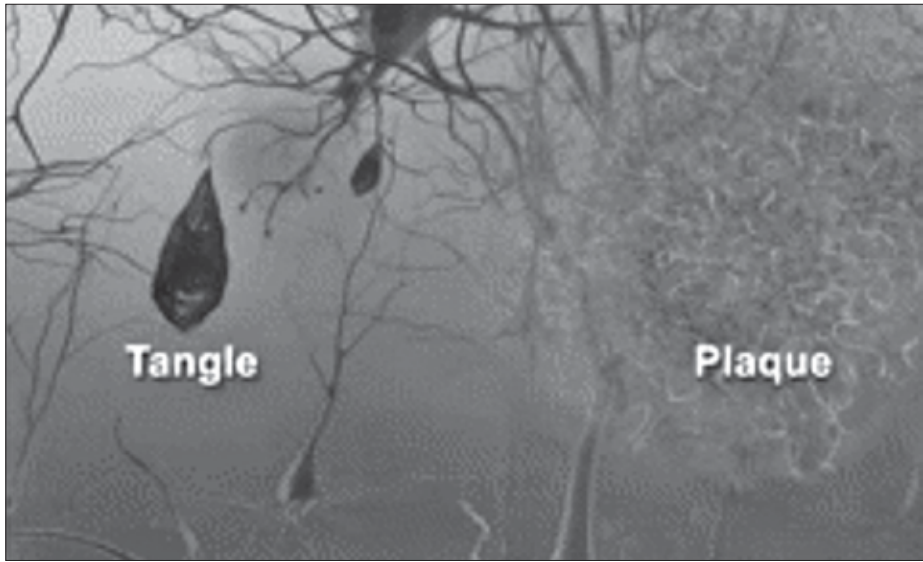


Image Provided

**Alzheimer's causes neuronal death and formation of neurofibrillary tangles and beta-amyloid plaques. Image by 7mike5000 from "Inside the Brain: Unraveling the Mystery of Alzheimer's Disease."**

stop the medication. But in some cases it can be severe."

Milano, an associate professor in the College of Medicine, is involved in ongoing research in MUSC Health's Memory Disorders Clinic, testing Aduhelm to see if it's safe in the long term and works as well as some of his patients believe.

But the Alzheimer's Association isn't waiting to celebrate. It called the drug's FDA approval "a victory for people living with Alzheimer's and their families."

That enthusiasm highlights the fact that it's been really tough to find good treatments for Alzheimer's. Why is that the case? "That's a difficult question. There are a lot of different theories as to why that could be. One theory is that we're too late. By the time we start using

these drugs on patients, the disease is already too progressed for it to make a difference," Milano said.

"Another theory is that we've been going after the wrong targets, so that's why we haven't been successful. Then there's a theory that it will be more like HIV, where it requires multiple different types of drugs at the same time."

For now, he said Aduhelm gives patients and their families hope. "It's exciting news because it's the first time in a long time we've had an approval. We know the drug pretty well, but it's not going to be something we prescribe to everyone. I think we're going to have to look closely at the data and talk to patients to figure out who will be the right group of patients to get this medication."



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**Editor's note:** The MUSC Catalyst News is back on campus. The Office of Public Affairs and Media Relations staff has consulted with MUSC Infectious Disease and Safety and Quality experts and industry studies to confirm that paper products such as newsprint are safe and low-risk in surface-based transmission of the coronavirus.

Copies of the newspaper will be distributed bimonthly to racks around

campus, as well as via the MUSC Mailroom's zoned mailbox system on campus and at various MUSC satellite medical offices and clinics in the Tri-county, and will begin distribution in MUSC's regional hospitals, Upstate.

For information about delivery or advertising in The Catalyst News, contact Cindy Abole, print editor, at [catalyst@musc.edu](mailto:catalyst@musc.edu) or 792-4107. Remember to recycle!



# Studying summer heat in Charleston, discover state via SC7 Expedition

July in Charleston is HOT. We all know that to be true and most of us find ways to cool off – either by staying indoors in the AC or if outdoors, finding a place to cool off in the shade, in water. However, many do not have the luxury of making those choices and due either to work or living environments are vulnerable to excessive heat and related health issues.

In 2020, the city of Charleston released an All Hazards Vulnerability and Risk Assessment report, which identified populations and assets throughout the city that are vulnerable to various physical threats. Among the threats identified in the report was extreme heat. While the report identifies extreme heat as a pressing public health risk – particularly for low-income and elderly communities living in developed areas with low tree canopy cover – more data is needed to understand urban heat and its impacts and the concerns of compound risks associated with extreme heat, humidity and flooding.

The city of Charleston has been selected to

participate in HeatWatch, an urban heat island mapping campaign, initiated by the National Oceanic and Atmospheric Administration's National Integrated Heat Health Information System. HeatWatch is a national effort to record the heat index throughout participating cities on a single day to see how the heat index varies from one area of a city to the next. The HeatWatch event will provide the city better data on urban heat islands and areas of concern, helping to focus efforts to reduce the risk of heat illness in the community to the areas that need it most. This data can be integrated into city planning decisions and used to engage citizens on extreme heat risks and mitigation strategies in urban areas.

We need your help – join the HeatWatch as a citizen scientist. Using heat sensors mounted on their own cars or bikes, community volunteers will traverse their neighborhoods on a morning, afternoon or evening on one of the hottest days of the year. The sensors will record temperature, humidity, time and the volunteers'

## MUSC Health & Well-Being

By Susan L. Johnson, Ph.D.,  
MUSC Office of Health  
Promotion



location every second. Volunteers are needed to collect data at three times throughout the designated campaign day, which is tentatively scheduled for July 31, weather permitting. Drivers and navigators (to help to steer drivers) will be assigned to a planned route or "traverse." Data collection times are typically 6 to 7 a.m., 3 to 4 p.m. and 7 to 8 p.m., though this may vary by region. Drivers will ideally drive the same route for all three shifts, though they may also switch off with navigators. For more information or to volunteer, email Janice Barnes at [Janice@climateadaptationpartners.com](mailto:Janice@climateadaptationpartners.com).

Looking for a fun way to beat the heat? How about hitting a cool trail and taking in one of South Carolina's natural wonders? MUSC is proud to serve as a sponsor of the 2021 South Carolina 7 Expedition, led by S.C. Floodwater Commissioner Tom Mullikin. Following the Palmetto Trail as the guiding pathway from the mountains to the sea, the expedition will highlight the "South Carolina 7," named for the seven geographic wonders unique to the Palmetto State.

The purpose of the expedition is to bring attention to the natural marvels that need our protection and outdoor adventures that await us from our own backyards and beyond. Along the route will be opportunities to discuss topics such as conservation, resilience, adult and childhood fitness, outdoor therapy, floodwater-mitigation issues and more. These discussions will take place through a series of fireside chats led by key partners in the outdoor and conservation industries. The goal of the fireside chats is to stimulate action that will take place long after the expedition ends. Videos of these chats will be posted daily on the SC7 Facebook page.

You're invited. The SC7 expedition team invites you to join them on the expedition. For itinerary and event details, download the field guide at [www.southcarolina7.com](http://www.southcarolina7.com). Become a virtual team member. Follow the SC7 Facebook page and view live chats and videos showcasing amazing scenery along the route. Plan your own expedition. Hike a trail, explore waterfalls, paddle a river, view spectacular wildlife or camp out under the stars. Create your own pathway and let your adventure begin. Share your adventures by using the following hashtags: #SC7wonders and #30days1epicadventure.

## Summer program puts smiles on faces and food in bellies

By BRYCE DONOVAN

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### Kids Eat Free.

Don't you love it when the names of things are that straightforward? No "Feed a Child" or "Kidz Kutz" here. ("So ... are we supposed to be feeding the kids by hand or cutting their hair?") Nope. The folks at MUSC and the United States Department of Agriculture (USDA) have forgone the cutesy, confusing program names in favor of something that says exactly what it is: free food for kids.

In fact, this marks the sixth year that MUSC and the USDA have partnered together for Kids Eat Free, a program that provides summer meals – both breakfast and lunch – to any child age 18 or younger, no matter where they live.

"It's a 'no questions asked' kind of thing," said Susan Johnson, director of the Office of Health Promotion at MUSC. "They walk in and get food."

Children who participate – there is no paperwork, no fine print – simply show up, get two meals (they are provided with lunch for that day and breakfast for the next morning) and can either sit down and eat in the Summey Medical

Pavilion cafeteria or take it with them to go.

In the United States, one child in every five struggles with hunger, lacking consistent access to enough food to ensure healthy development. Young children who are screened and considered at risk for food insecurity are:

- 56% more likely to be in fair or poor health.
- 17% more likely to have been hospitalized.
- 60% more likely to be at risk for developmental delays.

The mission of Kids Eat Free is to optimize health by providing adequate nutrition to children when school is out for summer break. Sponsored by the USDA and supported locally by the Lowcountry Food Bank (which makes all the meals), the program ensures that children have access to nutritious meals at no cost when school is not in session.

Since 2015, more than 25,000 meals have been served through the program. This summer, kids can take advantage of the offer every weekday through Friday, Aug. 13, at the Summey Medical Pavilion in North Charleston, from 10 a.m. to 1 p.m. Charleston County schools start back on Monday, Aug. 16.

The menu offers breakfasts like a whole grain

See **MEALS** on page 11

# Case of Lambda variant shows up in MUSC's COVID testing

By HELEN ADAMS

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The COVID-19 variant known as lambda has arrived in the U.S., scientists at MUSC report. They recently found it in a virus sample taken in April from a patient in the Greenville area.

While lambda's presence in the U.S. hasn't received much attention, a public database for scientists shows there have actually been more than 600 cases of lambda across the country, including six in South Carolina.

Julie Hirschhorn, Ph.D., director of Molecular Pathology at MUSC, said there's a likely reason lambda's arrival hasn't been talked about more. "I think it's fair to say that's because it's not classified as a variant of interest or variant of concern by the CDC. So even though these may be sequenced, they're probably being lumped into an 'other' category."

Brannon Traxler, M.D., public health director at the South Carolina Department of Health and Environmental Control, confirmed that. "While this is something to monitor, the lambda variant is not as worrisome as others at this time. The CDC, and therefore DHEC, does not report on cases of the variant because the CDC does not classify it as a variant of interest or a variant of concern," she said.

"The variant result remains reportable to DHEC through the standard reporting channels and mechanisms, and we will continue to monitor this variant and the others."

While, as she noted, the Centers for Disease Control and Prevention hasn't raised an alert about lambda, the World Health Organization has. It calls lambda a variant of interest, meaning genetic changes may help it spread more easily and make people sicker.

Lambda has certainly shown it can cover plenty of ground. The variant, first spotted in Peru last year, quickly made its way to other countries in South America — and now, North America.

Scott Curry, M.D., an infectious disease specialist at MUSC Health and an assistant professor in the College of Medicine, said lambda may be even more prevalent than it seems. "I would

be surprised if it hasn't been all over the place for a long time."

But to put things in perspective, while lambda is here, it's far from the dominant COVID strain. It's not even close.

Hirschhorn's lab tests, or sequences, every positive case of COVID-19 collected by MUSC Health. And in its latest test run, it found the alpha variant — formerly known as the U.K. variant — is responsible for almost 80% of all COVID infections.

She's also keeping an eye on another variant that's been in the news lately: delta. It's been described as incredibly contagious. And it's showing up here, too. "For now, what we sequenced from the end of May and June, 4% of those cases were the delta variant," Hirschhorn said.

Curry said anyone who gets COVID at this point should assume they have a variant. "There's almost no plain COVID left. According to our most recent test, almost 97% of cases have a variant of interest or variant of concern."

That's a problem in what Curry called a highly unvaccinated state. "Charleston County is the best of all South Carolina's counties in terms of vaccination, but that's only six in 10 eligible persons. If you factor the kids back into the equation, which I think really you should, if you're looking at how much herd immunity we have, it's just 50/50, even in the best-vaccinated county in the state."

Traxler said it's a reminder of the importance of getting everyone who's eligible vaccinated. "Vaccinations are the number one way to protect ourselves from these variants and to end this pandemic."

Right now, kids 11 and under aren't eligible to get vaccinated, although Curry predicted that will change in September or October as clinical trials testing the vaccines' safety in kids wrap up.

"I'm worried about the fall, because we've got every 11-year-old and younger kid, all going to be clustered in schools without masks. That's going to be a big risk," Curry said.

"One kid who brings one of these variant infections into the classroom can cause more kids to be infected than we would have seen with that same scenario last year," he said, since schools and students will be much less likely to take



Image by iStock

**Health experts are watching lambda's progress but not sounding an alarm in the U.S.**

pandemic precautions than they did earlier in the pandemic.

But there are a couple of key factors in our favor. COVID case numbers are relatively low these days. And the vaccines appear to work against the variants so far.

"COVID has mutated, but it hasn't evolved to the point where it's escaping vaccine protection. That's good. But it's also evolved to the point where those who are unvaccinated to get it are going to transmit it more, and possibly get sicker,"

Curry said.

Knowing about that possibility gives doctors' offices and hospitals a heads-up about what may lie ahead. In the meantime, Hirschhorn's lab will keep sequencing and letting the public know what it finds.

"We'll continue to try and monitor this the best that we can. I feel very fortunate that we're in an academic medical center that is supportive of this sequencing effort," she said.

**You're fully vaccinated, but**

**YOU CAN STILL GET IT.**

**YOU CAN STILL SPREAD IT.**

**WEAR A MASK!**

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## MEET AMY



Amy Knox

**Department; Years at MUSC MUHA**  
Human Resources Talent Acquisition; Three years

**Family**  
Husband, Knox; children, Lindsey, Mary and Johnny

**First thing you notice about a person**  
Their smile

**Someone you admire and why**  
My mom — she's amazing

**What food is a must-have in the fridge**  
Brie and salami

**Summer recipe you like to cook**  
Pasta salad

**Favortie TV or cable series to binge watch**  
HGTV

**Something you've accomplished that you're proud of**  
Raising three awesome kids

**Favorite quote**  
"You never fail until you stop trying."  
— Albert Einstein

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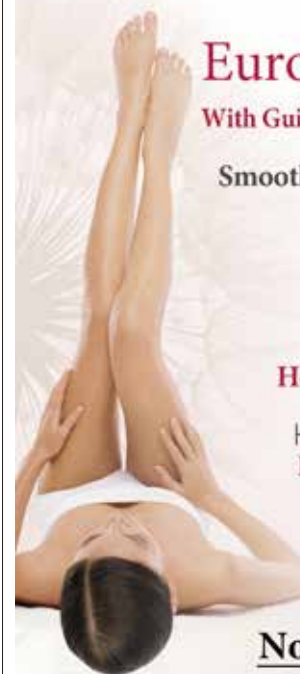
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# MUSC docs share COVID knowledge with overseas counterparts

By LESLIE CANTU  
cantul@musc.edu

Faculty and staff at MUSC are sharing their hard-won knowledge about COVID-19 with colleagues across the globe who are fighting new waves in infections.

From Charleston, Lacey MenkinSmith, M.D., director of the Global Emergency Medicine fellowship at MUSC, is leading an effort to get practical information to doctors at OneWorld Health's Masindi Kitara Medical Center in Uganda, one of a number of sites around the world that the MUSC Center for Global Health works with.

And infectious disease specialist Krutika Kuppalli, M.D., co-founded a nonprofit group, India COVID SOS, that worked to get information to both the public and medical professionals as India was hit hard and is now broadening its attention to Africa and other areas of Asia as COVID circles the globe.

June has seen a record number of cases and deaths for Uganda. And with less than 1% of the population vaccinated, on June 18, Ugandan President Yoweri Museveni imposed a strict 42-day lockdown.

Only a week prior, MenkinSmith had returned to Charleston from Masindi Kitara Medical Center. She was there to work on a Centers for Disease Control and Prevention grant evaluating the effectiveness of a health care worker online training program in high-risk infectious disease.

But with COVID cases already rising, she and the team used their spare time to help their Ugandan colleagues set up an isolation ward and update protocols to deal with suspected or probable COVID-19 cases.

Just as she was set to leave Uganda, she learned the MUSC Center for Global Health had awarded her team a virtual exchange grant to facilitate the creation of continuing medical education for Masindi Kitara Medical Center and its three outlying clinics. When her team originally applied for the grant, the idea

had been to create educational modules on a variety of emergency medicine topics. But with COVID spiking, the medical director of the Ugandan health system asked her instead to focus on COVID – and to get the modules done ASAP.

Back in the States, MenkinSmith sent out a call to her MUSC colleagues – who, she asked, would be willing to record a helpful lecture on a COVID topic? Already, MenkinSmith and hospital epidemiologist Cassandra Salgado, M.D., have recorded and sent lectures on hospital protocols and the clinical presentation of COVID. Infection preventionist Kristen Stoltz and Ryan Taylor, R.N., are putting together a lecture on infection prevention and transmission while infectious disease specialist Scott Curry, M.D., is working on a diagnosis lecture.

The lectures are simple PowerPoint-type presentations. MenkinSmith said they're more focused on getting the information to Uganda quickly than making Hollywood-worthy videos.

"Perfect presentations that get there three months from now aren't going to make the difference," she said.

She is also acutely aware of the differences in resources between the U.S. and Uganda, and she and Taylor, who has also worked at Masindi Kitara Medical Center, are coordinating with the other MUSC presenters to ensure the information can actually be used by the Ugandan team.

As an example, COVID tests remain a scarce resource in Uganda. At MUSC Health, by last winter the Emergency Department could test a patient and get the results within an hour or two, MenkinSmith said. At Masindi Kitara Medical Center, doctors must send PCR tests to the capital and won't get results for a week. A nearby hospital sometimes has "rapid" tests, which return results in about three days.

As a result, the Ugandan doctors must rely on clinical diagnosis. These are the protocols that MenkinSmith's team worked with their Ugandan colleagues to develop, which classify patients as



*Photos Provided*

**From left, Lacey MenkinSmith, M.D., lab tech Asimwe Annet, senior nurse manager Sr. Prisca Akullo and Ryan Taylor, R.N. at the Masindi Kitara Medical Center in Uganda.**



**Ugandan health care workers participate in the simulation training as part of the CDC grant that MenkinSmith was implementing.**

"probable" or "suspect" cases based on a combination of symptoms.

"By the time the diagnostics come

back, it could be a week that they've been in the hospital. If we haven't been using the right infection prevention strategies with them, then we would have risked transmission," she said. "At the same time, if we make the criteria too loose, and everyone becomes a probable case, there's not enough PPE to last."

She also helped to develop protocols for who should be wearing what personal protective equipment in which areas of the hospital and how to reuse N95 masks safely for a week at a time.

Because internet connections can be spotty in Uganda, MenkinSmith sends the lectures to the in-country director, who then downloads and takes them to the hospital for viewing at morning staff meetings.

Meanwhile, infectious disease expert Kuppalli has been focusing on the pandemic in India. India's surge, which peaked in May, overwhelmed its health system. India now has the second greatest number of cases and third greatest number of deaths in the world, according to the Johns Hopkins Coronavirus Resource Center.

*See UGANDA on page 11*



# Compassion over conflict helps public safety officers save lives, help people

BY HELEN ADAMS

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Lt. Patrick Kelly, a former Bronx policeman now serving in what's normally a much less stressful role as a public safety officer at MUSC, got the call at home as he was settling in for the evening.

"Chief Kerley said he was notified of a man that was barricaded on the roof of one of the garages threatening to kill himself. So I headed in. The chief called again and said, 'He's barricaded with a gun, and he's set a deadline of midnight.'"

The man, Kelly learned, was terrified that a loved one in the hospital who needed an organ transplant wouldn't get it in time and die. So the man decided to donate the organ himself – by taking his own life or getting police to shoot him.

Everyone on the scene was on edge. "The guy's got a weapon, you know, so the officers there were wary of that, and they were in a defensive position, behind pillars, just making sure," Kelly said.

"He was in his truck in the back corner. He came out, briefly, and went back in. So I got a little closer. I asked if anyone had tried to talk to him yet. And nobody was sure if there had been much of a dialogue."

The man was yelling about his loved one, Kelly said. "I tried to engage him in conversation, calm him down a little bit. And I got the story that he'd been researching what might happen to his family member if they didn't get a transplant immediately, and what he saw online made him panic. He was afraid they would die without his help."

Kelly urged the man to talk to the doctors and not believe everything he saw on the internet.

"He said, 'I can't watch my loved one die.' I said, 'I understand that. I lost my wife to cancer. I lost a son.' As I was saying it to him, I choked up, and then he started crying. I think that connection helped him – that somebody understood what his pain was."

Another family member called and urged the man not to hurt himself, pointing out that he didn't even know if his organ would be a match for the patient. And Kelly kept talking.

"I said, 'There's still time for a miracle here. Let's see what the doctors have to say. Your family needs you. This isn't going to help.'"

The man finally gave up his gun, and Kelly walked



*Photo By Sarah Pack*

**Lt. Patrick Kelly stands on the top deck of the parking garage where he talked a man out of doing something desperate.**



*Photo Provided*

**Lt. Patrick Kelly holds his award with MUSC Public Safety's Maj. Dorothy Simmons and Chief Kevin Kerley.**

with him to the hospital to get mental health help. And the man's family member did get an organ transplant – from someone else.

It was a relief and another success for a public safety

team that made a choice a couple of years ago to shift its focus, said Chief Kevin Kerley. "We do fight crime, and we will put people in jail, and we do the regular police work. But we took a look at what we were doing and realized that we're here to help people."

MUSC, an academic medical center, has a lot of public spaces. Anyone can walk around the campus. It also has a lot of visitors who have friends or family in the hospital.

A few face mental health crises, like the distraught man in the parking garage. There are also homeless people and people with chronic psychological problems who need to be supported, not arrested, Kerley said.

Kelly is in charge of getting himself and his fellow officers the training they need to help them. So he's brought in experts such as Shayna Epstein, a clinical operations manager at MUSC who specializes in helping people facing mental health crises. She held three training sessions to make sure she reached every officer.

"We discussed various mental health diagnoses and strategies that work to de-escalate and strategies to avoid. Law enforcement does not have required training specifically in mental health de-escalation, but it's a skill that is utilized often in their career field," Epstein said.

She also enrolled officers in Crisis Intervention Training, a week-long program put on by the National Institute of Mental Health specifically for law enforcement and security to learn about mental health and mental health treatment.

For help in working with homeless people, Kelly asked Charleston's homeless outreach coordinator to

*See HERO on page 10*





ALICE'S

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# Diverse perspectives: Immigrants improve the environment, quality of scientific research

By MATTHEW GRESETH

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What would the world look like without alternating current, a system designed for long-distance, high-voltage power transmission? Without nuclear reactors? Without the theories of relativity and quantum mechanics? Thanks to decades of hard work by scientists such as Nikola Tesla, Enrico Fermi and Albert Einstein, all of whom were immigrants, we don't have to imagine such a world because ours enjoys all of these advances.

Our world would certainly be a different place without the development of a safe and effective SARS-CoV-2 vaccine. Hungarian-born scientist Katalin Kariko, Ph.D., and Pennsylvania University's Drew Weissman, M.D., Ph.D., helped to develop the technology used to make these lifesaving vaccines.

America's robust research enterprise has attracted international scientists such as these. The U.S. has been the scientific leader for more than a century, and, in fact, outspends all other countries — including those of the European Union combined — in funding scientific research. It also publishes the highest number of scientific articles, and U.S. scientists have received 342 Noble Prizes in Chemistry, Medicine or Physics. Of those awardees, more than one-third (117) were immigrants.

A recent article published in the Journal of Clinical Investigation by Hollings Cancer Center researcher Sophie Paczesny, M.D., Ph.D., highlights the importance of diverse representation in STEM (science, technology, engineering and math) careers. Over the past decade, the percentage of immigrants in the biomedical workforce has increased from 8% to 18%. Furthermore, of the nearly 80,000 postdoctoral scholars in the U.S., nearly 66% are international scholars.

While these statistics highlight the growing contributions of immigrants to STEM, they belie the fact that significant barriers exist to immigrants' ability to study and train in the U.S. Despite these barriers, researchers at MUSC exemplify the cultural, intellectual and scientific benefits that a diverse research community bring.

## INVESTMENT IN A DIVERSE FUTURE

Paczesny has extensive experience with the immigration system. She completed her medical degree at the University of Strasbourg in France, where she studied pediatric hematology and oncology. She then immigrated to the U.S. in 2000 to pursue a Ph.D. in immunology. Upon completion of her doctoral degree,



*Photo by Marquel Coaxum*

## Dr. Sophie Paczesny is chair of the Department of Microbiology and Immunology.

she returned to France to be a physician-scientist.

But she soon missed the intensive research she did during her Ph.D. work. She came back to the U.S. and completed a second postdoctoral fellowship, studying graft-versus-host disease. In 2012, she joined MUSC as chair of the Department of Microbiology and Immunology and co-leader of the Cancer Immunology Program at Hollings Cancer Center. These experiences and positions have led to a broad understanding of why diverse work environments are important and how to navigate the complex immigration system.

"The reason the U.S. still has so many immigrants is that it is the best place to learn and do research," said Paczesny.

Immigrants are a good investment for the U.S., according to Paczesny. Immigrants who pursue STEM careers are often highly educated and represent the best of their countries. Following the completion of their rigorous curriculums, these trainees continue to invest in the U.S. and work in industry and academic settings.

In her commentary, Paczesny points to recent changes that threaten the continuation of the U.S.'s preeminence in research. These include changes in immigration policy, reduced total federal research dollars and even COVID-19. The good news is that each of these hurdles can be cleared in the near future.

Paczesny's vast career in oncology, immunology, stem cell transplantation and T-cell therapy has put her at the forefront of using the body's own immune system to target and kill cancer cells. As a physician-scientist, her

work straddles both the bench and the bedside.

"Contact with patients is gratifying, but you're applying what other people discover. That's not very satisfying when you enjoy thinking," said Paczesny. "In research, you actually bring the new treatment, and that's really satisfying. When you have a breakthrough, that's exhilarating; when you see the possibilities for patients, it's awesome."

## AMBASSADORS FOR BETTER RELATIONSHIPS

The U.S. offers scientists, and all citizens, access to a tremendous amount of information. This enables people to connect, exchange ideas and share different points of view more easily. It's a level of freedom that not many other countries share and one that also enables rigorous and prestigious scientific training.

That training led Betty Tsao, Ph.D., professor and the Richard M. Silver Endowed Chair for Inflammation Research in the Division of Rheumatology and Immunology, to come to the U.S. many years ago for graduate school, where she studied biochemistry.

One of her biggest hurdles in coming to the U.S. was the language, a common experience for many immigrants. She grew up speaking Chinese and found it challenging to write effectively in English. But that has not stopped her from running a successful lab that studies the underlying genetic components of lupus. By studying the molecular and cellular pathways of these genetic differences, her lab hopes to identify novel

SENIORS *Continued from Page One*

Center on Aging at MUSC. “The senior centers have just reopened and we’re already noticing that after the first week of being open here downtown, people are already starting to show up at the doors. I think that can be attributed to the lack of low-income housing that’s available for seniors in our area.”

Thinking about how to solve such problems can seem overwhelming. But right now, the MUSC Center on Aging and the Lowcountry Senior Network have a relatively simple way for you to contribute. They’ve organized a supply drive and are asking the public to donate items that can make life a little easier for men and women in the later years of their lives.

Carter said socks, for example, can make a big difference in someone’s day-to-day life. “People who are able to walk, that’s their only mode of transportation. They’re constantly walking. They don’t have any other socks, so that might be the only pair they get.”

But some homeless seniors can’t walk, or they may have other issues. They need not only supplies but also the knowledge that people care about them. “I’ve got some in wheelchairs. I’ve seen people on the street that have lost hands due to diabetes. They’re in a wheelchair, homeless. They find any nook and cranny they can to stay in, stay out of the weather, stay safe. They’re scared. They feel alone,” Carter said.

Franklin said they don’t have to be alone. There are people who want to help. “We’ve just been utilizing the Lowcountry Senior Network volunteers to put together the bags and collect

MUSC Center on Aging and Lowcountry Senior Network

*To fill the senior homeless supply kits, they need:*

- ❑ Canned chicken, tuna, fruit and vegetables in containers with pop tops
- ❑ Peanut butter, granola bars and peanut butter crackers
- ❑ Toothpaste and toothbrushes
- ❑ Nail clippers
- ❑ Deodorant
- ❑ Hand sanitizer
- ❑ Wet wipes
- ❑ Toilet paper

items, but we’re always happy to have more help if people want to come out to the senior centers and help out with distribution.”

The 50 kits they’ve given out so far have been well received. “They’ve had some very good responses from people. They thought they were going to show up and maybe get one meal but walked away with something that would help sustain them for a much longer period. They were very happy,” Franklin said.

“And we’re hoping that as the word spreads, we’ll get more and more people that can take advantage of these bags. We’re hoping that this will help a lot of people that may not be seen out in the public from day to day that may have been forgotten. And we want them to know that we still are trying to help them.”

If you’d like to contribute, you can drop off items at the Trident Area Agency on Aging in North Charleston. You can also contact Kelly Franklin at [dillonk@musc.edu](mailto:dillonk@musc.edu).

people, trying to help people. That’s really what he does on a day-in, day-out basis. Whether it’s another cop, whether it’s a nurse, whether it’s a homeless person, whether it’s anybody – he views his role here is to try and help them.”

Kelly is glad he was able to help on a night when things could have turned out very differently. “I had a sense of just very calm going upstairs. I’m just going to talk to this man. No apprehension, no nothing. I have somebody in my life now, and she’s convinced that’s the hand of God.”

MIDLANDS *Continued from Page One*

it serves,” said James Lemon, D.M.D., chairman of the MUSC board.

“We are excited about the prospect of joining MUSC Health,” said Terry Gunn, market chief executive officer of Providence Health and KershawHealth. “Our objective is and has always been positioning our facilities for success so that we can fulfill our purpose of delivering high-quality care close to home. Aligning Providence and Kershaw with a preeminent regional academic health system will benefit our employees, providers and community, giving us new opportunities to change what’s possible in health care for our region.”

“This acquisition has the potential to be transformative for the Midlands and state,” said Patrick J. Cawley, M.D., MUSC Health CEO and vice president for Health Affairs, University. “Our team looks forward to welcoming the patients, families and employees of Providence Health and KershawHealth to the MUSC Health network. We cannot wait to move forward, connecting our education, research and comprehensive health care mission to the three hospitals in Columbia and Camden as well as the freestanding emergency department in Winnsboro and the affiliated practice locations across the Midlands.”

MUSC Health anticipates hiring all active employees in good standing at compensation levels generally consistent with current rates and fair

market value. MUSC team members will meet with the administrators at each of the facilities to determine staffing and needs, with the intent to make operations as efficient and successful as possible, maximizing value to patients, families and their respective communities.

“MUSC Health has existing relationships with several of these facilities through our longstanding affiliate network,” Cawley explained. “Incorporating them into our regional hospital network is another step toward fulfilling MUSC’s charge: to provide the right care in the right place at the right time to every patient and family that we encounter. This acquisition supports these efforts by increasing the reach of our network, enhancing our ability to deliver the highest-quality care at maximum efficiency as well as greater value for more communities statewide. We are excited to be fully integrated now with KershawHealth and will continue to work with our present partners and affiliates in the Midlands region to increase health care access and improve health outcomes.”

Terms of the transaction have not yet been disclosed. The transaction can only be finalized after review and approval by the State Fiscal Accountability Authority, which provides fiscal oversight for the state and meets the public sector needs by delivering quality, cost-effective insurance, procurement and engineering services. In addition, other customary regulatory reviews must also be completed.

HERO *Continued from Page Seven*

speak to his team. “He gave training to everybody here, all the cops, all the supervisors, on what resources are available and who to contact.”

Normally, the officers use their training outside of the spotlight. But Kelly’s work in helping the man in the parking garage caught the attention of his colleagues, earning him the Life-Saving Award. His chief said it was well-deserved.

“He views his job as caring about

How to enjoy the sun safely

**Find shade**  
Take a break under trees, umbrellas or head indoors

**Cover up**  
Wear a loose, long-sleeved top with a hat and sunglasses

**Use sunscreen**  
On bits that aren't covered up. Use plenty with at least SPF 15 and a 4 or 5 star rating

Together we will beat cancer

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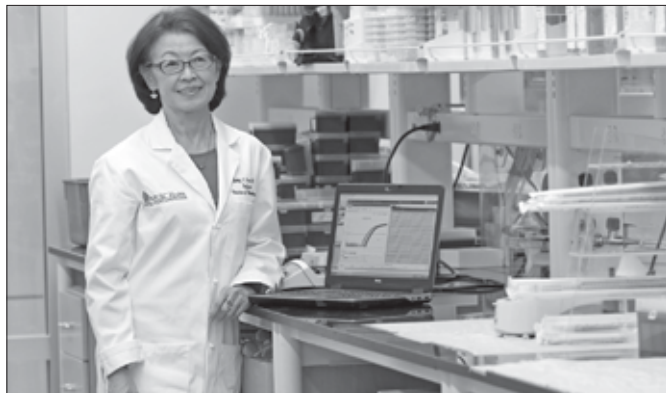
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**Dr. Betty Tsao is professor and the Richard M. Silver Endowed Chair for Inflammation Research.**

*Photo by Sarah Pack*



**Kids Eat Free is a collaboration between MUSC, the USDA and Lowcountry Food Bank.**

*Photo by iStock*



## IMMIGRANTS *Continued from Page Nine*

therapies for lupus.

“That’s a great feeling, charting new territory where no one has been before and gaining new knowledge,” said Tsao. “Those are things we treasure.”

As a scientist, Tsao also treasures diversity and the accompanying benefits that an international team brings. Her international trainees are often impressed by the hospitality of their neighbors. And as trainees make decisions about their futures, Tsao believes these positive experiences will reinforce the image that the U.S. is an open and welcoming place. If some trainees decide to return to their home countries, they will be poised to be goodwill ambassadors and strive to continue positive partnerships with the U.S.

But not every trainee has those same positive experiences.

“Recently, Asian Americans have been experiencing a wave of hate crimes,” said Tsao. “They are now more wary of strangers getting too close if they don’t know their intentions.”

While these negative interactions may

not have many short-term consequences, being that the U.S. is the preeminent country for scientific research, it is unknown whether there could be long-term consequences.

**SCIENCE AS A MINI-UNITED NATIONS**  
Emigrating from Ankara, Turkey, in 1989, Besim Ogretmen, Ph.D., professor and the SmartState Endowed Chair in Lipidomics and Drug Discovery, arrived in America at a time when recruiting foreign scholars was less complicated.

“When I first came, it was much easier to recruit students and postdocs from other countries,” said Ogretmen, who is also director of the Lipidomics Shared Resource at Hollings Cancer Center and leader of the Hollings Developmental Cancer Therapeutics Research Program. “Things have changed, and I think the world has changed.”

These hurdles and barriers to immigration have led many international students to consider positions in Europe and other places, rather than coming to the U.S., according to Ogretmen. This decrease in the pool of talented applicants makes it difficult to continue the cutting-edge research for which the

## MEALS *Continued from Page Three*

blueberry muffin and apple with milk or lunches consisting of turkey roll-ups, carrots and milk.

“I think one of the best things about the program is the inclusivity. It’s kind of like how school was this year. Everybody can have a free meal, so there’s no stigma attached to it. If you want it, it’s yours.”

Those running the program are

always looking for new ways to move the program forward. Right now, it’s free meals, but down the road, there are plans to start providing meal kits so that kids and their parents can take it home, make it together and hopefully learn a little more about how to eat healthily.

“This program has been so incredible,” Johnson said. “To see the smiles on the kids’ and parents’ faces is what makes this program so rewarding.”

## UGANDA *Continued from Page Six*

In April, Kuppalli and a couple of other doctors developed an infographic with simple, straightforward instructions on how to treat COVID-19 at home when hospital care is inaccessible. Importantly, the infographic also included a list of treatments that were no longer considered effective.

The infographic filled a void, for it quickly went viral and was picked up by the Indian government, World Health Organization and others. Kuppalli and the others then created India COVID SOS, a coalition of doctors,

researchers, engineers and community partners working to share evidence-based solutions. The group has created additional educational resources for the public, which have been translated into dozens of languages, as well as launching fundraising and equipment donation drives and providing educational resources for health care professionals, mental health assistance for health care professionals and creative engineering to conserve oxygen.

Now, the group is broadening its efforts, as much of the work is applicable to Southeast Asia, where cases are rising.

**Dr. Besim Ogretmen is professor and the SmartState Endowed Chair in Lipidomics and Drug Discovery.**

*Photo Provided*



U.S. is known.

“My lab is like the United Nations,” said Ogretmen. “In science, different points of view are critical to understand alternative ideas and hypotheses. The U.S. is built on immigrants and a combination of different ideas. We shouldn’t lose track of that.”

Ogretmen has led a successful laboratory for decades. His lab studies the intersection of lipid metabolism and cancer biology, tackling questions such as how cancer cells control their growth and how they communicate with surrounding cells, especially immune cells. The ultimate goal is to improve cancer outcomes for patients.

“I don’t consider it a job; it is a lifestyle – how to ask questions and find interesting results. At the end, can we take these results and improve somebody’s life and maybe cure cancer one day,” said Ogretmen. “I still have that fire in my belly to wake up in the morning and come back to work.”

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