

Survey will measure COVID's spread in Charleston, including undiagnosed cases

BY HELEN ADAMS

adamshel@musc.edu

Letters are going out to thousands of people in Charleston as the city works with MUSC to measure the spread of COVID-19 and see what people think about things like masks and vaccines. The goal is to get a random sample of about 450 people to agree to take part in the study, which will involve answering questions and taking a test to see if they have COVID antibodies.

Michael Sweat, Ph.D., faculty director of the Center for Global Health at MUSC, is leading the effort. "There's a lot of people who would be happy to help in some way during the pandemic. This is a good opportunity to do that," he said.



Sweat

"In the letter, we will invite them to participate. If they consent, we'll do a survey with them to find out things like their behaviors, their demographic characteristics, socioeconomic status, where they live and also their attitudes and beliefs about COVID. For example, do they think it's a real threat? Do they think it's risky? Do they believe in mask use?"

The survey will also explore beliefs about vaccines. "It will help us in understanding who would be willing to take a vaccine, what their concerns are."

After people finish the survey, they'll take an antibody test in a specially designated area at MUSC Health and

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Photo by Kylli Kittus for Unsplash

Fewer than 50 of the country's 500-plus trauma centers address mental health needs. MUSC is one of them.

Shining a light on the darkness of abuse

BY BRYCE DONOVAN

donovanb@musc.edu

Abuse often begins in the shadows. It happens in homes, away from the vigilant eyes of the community and law enforcement. And with a country in the grip of a pandemic – where people are encouraged to stay home when they can – experts are afraid those shadows might be deepening.

Local data seems to validate those fears. Since March, visits to MUSC's trauma center have gone up by 10%. According to Tatiana Davidson, Ph.D., an associate professor in the College of Nursing and co-director of the Trauma/Telehealth Resilience and Recovery Program at MUSC, there has been an

uptick in visits related to assaults, gunshot wounds and stabbings. Conversely, there has been a decrease in the number of patients admitted after car accidents.

"We kind of thought this might happen," said trauma surgeon Ashley B. Hink, M.D., an assistant professor at MUSC's College of Medicine. "You've got a country dealing with uncertainty, economic distress, people being unemployed. This close life we're living can cause things to explode."

According to the Centers for Disease Control and Prevention, 1 in 4 women and 1 in 10 men in the United States have experienced violence from an intimate partner in their lifetimes. The same can be said for the country's older population, one that often relies heavily on help from others for their day-to-day activities. According to the National Institutes of

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As key COVID indicator goes from green to red, MUSC epidemiology team looks ahead to holidays

BY HELEN ADAMS

adamshel@musc.edu

The latest update from the MUSC COVID-19 Epidemiology Intelligence Project shows a key indicator has gone from green to red for the Tri-county area. The indicator, “sustained reduction in new cases,” notes that there has been an increase in the number of COVID cases for each of the past two weeks in Berkeley, Charleston and Dorchester counties.

But Michael Sweat, Ph.D., the project’s leader, said the number of cases is still relatively low. “A few weeks ago, we were at six cases per day for every 100,000 people. Then it went to seven to nine to 10 and now it’s up to 12.”

For comparison, COVID hotspots in the U.S. are seeing much higher numbers. “There are places in the upper Midwest where there are 240, 260 cases per 100,000.”

Sweat, who directs the Division of Global and Community Health at MUSC, said those hotspots tend to be in places where cooler weather has already set in. As the Lowcountry cools off and people spend more time indoors, Sweat worries the numbers could continue to

rise in the Charleston area, too.

“These outbreaks happen so explosively that we can’t even detect them for a week or two. It can really spread rapidly,” he said.

Case in point: North Carolina, which recently hit its highest case number since the start of the pandemic. “People shouldn’t think this is just somewhere far away. It’s not. The epidemic is changing. It’s growing, and it’s expanding. As it gets cooler, I just want people to be aware that we need to be careful.”

Sweat said a recent report by the Centers for Disease Control and Prevention analyzed about 760 COVID hotspots to see how infections spread. “The overall trend that they saw, particularly in the Southeast, was young people get infected first in the population. They don’t get that sick because they’re younger. And then that slowly starts spreading to families and other contacts. And then, people a little bit older would start getting infected, then even older people. That’s when you start to see more deaths.”

He said continued social distancing and mask wearing can help keep COVID cases down. But Sweat knows that holiday parties and big family gatherings



Photo by Sarah Pack

Nurse Destiny Smeltzer demonstrates how to give a COVID-19 test outside the MUSC Health West Ashley Medical Pavilion.

may be a temptation for people tired of pandemic precautions.

“Fatigue is continuing to be an issue,” Sweat said. “It’s going to be very, very hard for people not to visit one another. I’d say if people want to get together, they could do it outside with distancing and wearing a mask.”

He also cautioned people not to bank on herd immunity. “We’re nowhere close to herd immunity. For us to get to herd immunity naturally, without a vaccine, would lead to unacceptable mass deaths of people. We need to wait it out. There are so many positive signals on the vaccine front. If we could just wait a little longer through this difficult period, we will have saved a lot of lives and achieve what we wanted to achieve and feel good about it.”

The MUSC COVID-19 Epidemiology Intelligence Project is updated at least once a week. It uses data from the South Carolina Department of Health and Environmental Control, Cuebq and MUSC clinical data to analyze trends. Its goal is to help citizens and leaders understand how the coronavirus is affecting the community so they can make good decisions and prepare for what may lie ahead as the pandemic progresses.

SURVEY *Continued from Page One*

find out if they’ve been exposed to the coronavirus. If they don’t have a way to get there, Sweat’s team will find transportation for them – free of charge.

It’s well worth the effort, he said. “We have a very high-quality test. It’s 98% sensitive and 98% specific, with very few false negatives or positives.”

Sweat said determining how many people have been exposed to the coronavirus is important. “If you don’t know how many people are exposed, you can’t calculate the mortality rate. This study will also tell us a lot about who has been exposed – the characteristics of people exposed.”

That second part, knowing the demographics of who’s been exposed, will help public health experts get ready for when a vaccine or vaccines become available. “We’re definitely going to have to triage at first. We’re going to have to pick people who are high risk – not just based on age and comorbidity but also infection rates. The survey will be a lot of help preparing the city for vaccine strategies.”

Participants will get a \$25 Amazon gift card. But Sweat said more importantly, they’ll have the satisfaction of knowing they’re helping their community during a crisis. “It’s a great way to do your civic duty.”

MUSC CATALYST news

Editorial Office

MUSC Office of Public Affairs & Media Relations, 135 Cannon Street, Suite 403C, Charleston, SC 29425.

843-792-4107

Fax: 843-792-6723

Editor: Cindy Abole

catalyst@musc.edu

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Photo by cottonbro via Pexels

Kids don't always realize the consequences of playing with real guns, which is why the pediatrics team is promoting safe firearm storage.

Pediatricians ask parents to 'Be SMART' about storing firearms safely

BY LESLIE CANTU

cantul@musc.edu

It's the rare month when doctors and nurses at MUSC Shawn Jenkins Children's Hospital aren't called upon to treat a child with gunshot wounds.

Nationwide, firearm injuries are the second-leading cause of death for children, ranking after car crashes. For all ages, South Carolina ranks 12th among the states for firearm death rates.

Realizing that educating patient families about safe firearm storage is just as important as talking about placing newborns on their backs to sleep, fencing off pools and keeping medications out of children's reach, a group of pediatricians started working with the Be SMART campaign to talk to parents about how guns are secured in their homes and vehicles. For parents who are interested, they offer free gun locks that have been donated by local police departments.

"We're really the first to join forces between a children's hospital, pediatrics residency and the Be SMART program and really focus on doing this during well-child checks," said Annie Andrews, M.D., director of the advocacy curriculum within MUSC's pediatrics residency.

Be SMART stands for secure all guns, model responsible behavior around guns, ask about the presence of unsecured guns in other homes,



Andrews

See **FIREARMS** on page 11

MUSC brand guidelines revised to include preferred pronouns option in email signatures

BY WILLETTE BURNHAM-WILLIAMS

burnham@musc.edu

MUSC is committed to enhancing best practices and revising policies that demonstrate how we create inclusive experiences for the lives we touch. Increasing opportunities for self-expression and self-identification is one way to achieve this goal. To that end, I am proud to inform the MUSC family that President's Council has unanimously approved the revision of the MUSC brand standards to adopt the use of personal pronouns in email signatures.

Sharing personal gender pronouns is one of many ways individuals can express their gender identities. At MUSC, we want individuals to feel free to be themselves, and to be acknowledged respectfully for their identities. As your chief equity officer, I am personally committed to finding ways to build an organizational culture where making presumptions and passing judgment on each other is eliminated.

When people choose to tell you their pronouns, in their signature lines or elsewhere, they are letting you know how to refer to them, without you having to ask or make assumptions.

This adopted practice will help to minimize misgendering. It is an important strategy and action toward honoring our LGBTQ+ community members and standing as their allies.

MUSC will continue to demonstrate a commitment to modeling inclusivity and the right of every individual to embrace their identity with respect and confidence and without fear. Including gender pronouns in email signature lines is not required by any individual nor can it be prohibited. For those who choose to include pronouns in signature lines, please refer to the approved guidelines, which can be found on the MUSC Brand Center, under Resources. You can log into the Brand Center at <https://musc.monigle.net/site/login>.

Editor's note: Willette Burnham-Williams, Ph.D., is the chief equity officer and Title IX coordinator at MUSC.

It's time for an Epic upgrade

Epic, MUSC's electronic health record, will soon undergo an upgrade. Always improving, Epic will offer a new look and valuable new features that will go live on Dec. 13. In preparation, I invite you to take a few minutes to watch a fun video that provides useful info you will want to know.

Be sure to click on Dr. Storyboard toward the end of the video to learn more about the Storyboard feature — it's a change that will affect all users. Instead of seeing the patient header at the top of the patient's chart,

that information — plus more — will be on the left-hand side in what's called "Storyboard." As a result, the "Activity" buttons will move to the top.

Watch the video, which works best in Chrome or Firefox, to see what's in store and be on the lookout in the coming weeks for more learning opportunities. <https://portal.musc.edu/is/tice/epicupdates/Pages/Epic-Upgrade-12.13.20-Intro-Video-Page.aspx>

Call the IS Help Desk at 843-792-9700 for any training related questions or inquiries.

Woman's difficult final days inspire trial testing CBD, THC as end-of-life treatment

BY HELEN ADAMS

adamshel@musc.edu

Ellen Steinberg thinks her mother would be smiling if she knew something good might come from her difficult final days of life. "My mother was this incredibly wonderful, strong character. She would be thrilled."

Libby Soffar, 89, was suffering from terminal blood cancer when she began receiving hospice care to try to help her transition from life to death as comfortably as possible. "We had someone with her all the time, but the only thing they could do to try to help her feel better was to give her more morphine," Steinberg said.

"But it had side effects and caused other issues. I mean, the last thing anyone wants to see is somebody struggling with the disease and being given more and more medication that's doing nothing but making them more uncomfortable."

Family friends Olga Brawman-Mintzer and her husband, Jacobo Mintzer, medical doctors who also conduct research at MUSC, saw what was happening.

"We were visiting Libby pretty much daily throughout the process of the end of life," Brawman-Mintzer said. "We saw the extreme degree of suffering she was experiencing. The medications she received are used, with very good intentions, to help with symptoms that people experience at the end of life – primarily pain, agitation and a lack of sleep. The current clinical practice is to use medications such as the antipsychotic haloperidol, morphine and benzodiazepines.



Brawman-Mintzer

"But the side effects associated with these medications are often quite severe. They can cause significant constipation, confusion, itching and really distressing neurological side effects like muscle spasms, tremors, incredible restlessness. Toward the end of her life, Libby begged to die because she was so uncomfortable."

Steinberg and the rest of her family were heartbroken. "This was my first personal experience with somebody getting sick, going through hospice and dying. So it was all very new and really overwhelming for me and my family. We had no idea. Every single step was something new and awful, to tell you the truth."

There had to be a better way, they all thought, as they said goodbye to Soffar. Then, something clicked for Brawman-Mintzer. She remembered that when she was in medical school in Israel, doctors used cannabis to ease cancer patients' suffering. "They were calmer, they were not anxious. They slept better. The pain was improved, and the suffering overall was improved. And that's how our thinking process started."

Mintzer knew his wife might be onto something. While there has been scientific discussion about the use of medical cannabis to ease end-of-life suffering in adults, and plenty of people have already tried it with or without a doctor's approval, it hasn't been put to the test in rigorous clinical trials.

Soffar's experience will help change that. Mintzer and Brawman-Mintzer and are getting ready to launch a large national study in her name: Life's end Benefits of Cannabidiol and Tetrahydrocannabinol, or more simply, the LiBBY trial.

The National Institutes of Health has



Mintzer



Photo Provided

Libby Soffar with her children Ellen Steinberg, Adam Soffar and Cindy Jacobs.

awarded MUSC a \$16 million grant to lead the study, testing a combination of tetrahydrocannabinol, or THC, and cannabidiol, or CBD, as a possible treatment for people in their final days.

THC and CBD are compounds found in the cannabis sativa plant. THC is famous for its mind-altering effects, but people also use it to try to ease pain, insomnia, anxiety, nausea and other medical problems. CBD, on the other hand, doesn't cause euphoria. But it has been approved by the U.S. Food and Drug Administration to treat seizures, and people also use it for everything from pain to migraines to inflammatory bowel disease.

Mintzer will lead the 15-site clinical trial testing the cannabis compounds in people with Alzheimer's disease. Alzheimer's is a good fit for the study because the disease affects a huge number of people - about 5.8 million Americans - and causes distress and agitation later in life in about a third of all cases.

The trial will include Charleston-based Roper St. Frances Healthcare and the Ralph H. Johnson VA Medical Center as leading sites. Brawman-Mintzer will lead the laboratory core and oversee the Charleston sites.

"It was an issue that was so close to everybody's heart that every institution was willing to play along and work hard to try to make it real. It's a locally led effort by these three institutions that will bring together the best minds from all around the country," Mintzer said.

Preparation for the national study has involved multiple programs at MUSC, including the Department of Psychiatry and Behavioral Sciences in the College of Medicine and the College of Health Professions. The researchers have worked with colleagues to figure out everything from where to get the medications to how to make sure the patients are getting them to what technology is needed for the large trial.

Mintzer said they won't be able to get people into the study until late next year at the earliest. "The reason is that this is the first study ever done in this population. There's never been a study on Alzheimer's patients in the late stages of life. It's also one of the few randomized, double blind, placebo-controlled trials ever done in people who are eligible for hospice care."

But it's past time, he said, for science to tackle this issue. "It's a moment in the

MEET MARK



J. Mark Harris, M.D.

Department; Years at MUSC

Department of Surgery, MUSC Health Florence–Floyd Medical Group; 15 years

How are you changing what’s possible at MUSC

By striving to provide comprehensive general surgical care to the best of our ability to Florence and surrounding areas.

Family and their names

Daughters, Tatum, Alexis and Ella; and son, Cooper

Branch of military/rank and service years

U.S. Army, Lt. Colonel, 21.5 years (13 active)

Posts and countires you’ve lived in

Germany, Korea, Afghanistan, Iraq, Fort Gordon, Fort Benning, Fort Bragg, Fort Campbell and Walter Reed Hospital

Favorite place in the world

My farm on the Pee Dee River

Famous quote

“Duty is the sublimest word in the language; you can never do more than your duty; you shall never wish to do less.”

— Robert E. Lee

VETERANS DAY CELEBRATION
 3:00 PM - 4:00 PM | NOVEMBER 10, 2020
 MUSC VETS invites all MUSC employees, students, faculty and staff to the Veterans Day Celebration!
 Guest Speaker Chaplain (COL)
 Monica R. Lawson
 US ARMY
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ANGEL TREE KICK-OFF
 HOLIDAY TREE LIGHTING CEREMONY
You're Invited...
 Date: Thursday, November 5, 2020
 Time: 5:30 pm
 Location: MUSC Shawn Jenkins Children’s Hospital & Pearl Tourville Women’s Pavilion (garden facing Calhoun Street)
 For social distance measures, watch live here:
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 *To adopt an Angel, contact Melissa Kubu at fullerme@musc.edu
 MUSC Health
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 Changing What's Possible

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 Pitch in individually or with your coworkers to help contribute food items or funds to fill baskets.
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IP02-1902410-1

Dancer kicking up her heels after hip surgery

BY LESLIE CANTU

cantul@musc.edu

It's hard for Lily Pace to express in words how much dance means to her. But two years ago, as she and her mom drove away from yet another doctor, while searching for an answer to Lily's searing hip pain, Marijon Clarke glanced in the rearview mirror and saw tears streaming down her daughter's face. Lily didn't know if she would be able to keep dancing.

"Every doctor said something different," she recalled recently.

A fluke of insurance coverage brought them to MUSC Children's Health and Sara Van Nortwick, M.D., a pediatric orthopedic surgeon. That turned out to be a blessing in disguise, Clarke said.

"Dr. Van Nortwick seemed very positive. She said, 'I'm going to give you the best outcome that's possible.' And she did. Lily's back," Clarke said.

Now, almost two years after a periacetabular osteotomy surgery, or PAO, Lily is rehearsing for the role of Sugar Plum Fairy in "The Nutcracker."

Van Nortwick said the PAO surgery corrects the hip dysplasia that causes pain for patients like Lily by restoring normal anatomy. Not only does this alleviate existing pain, but it prevents the hip joint from developing arthritis.

"Unfortunately, hip dysplasia in teens and young adults too often goes undiagnosed, and patients aren't referred to a surgeon specialized in hip preservation. Hip dysplasia can't be cured or treated if it's not recognized. The findings can be subtle to someone who doesn't look at hips all day," Van Nortwick said.

"Physical therapy, injections and hip arthroscopy can't cure hip dysplasia, so patients often deal with symptoms for years before finding a hip preservation specialist," she added.

Those treatments don't work because the problem lies in the anatomy. The top of the thigh bone, or femoral head, is supposed to fit neatly into the acetabulum of the pelvis, forming a ball-and-socket joint. When someone has hip dysplasia, the socket doesn't adequately cover the ball. Activity causes the femoral head to load the socket inappropriately, producing pain, tears in the cartilage called the labrum, and early arthritis.

Pediatricians look for hip dysplasia in newborns. But more subtle hip dysplasia can occur later in development and cause problems in teenagers and young adults.

That was the case for Lily, who was 13 when she had the surgery. She had been dealing with pain for some time but had initially downplayed it to her mother, for



Photo by Sarah Pack

Two years after Dr. Sara Van Nortwick operated on her hip, Lily Pace is dancing up a storm.

fear she would make her stop dancing.

"Finally, at a competition, her friends were like, 'She's not telling you, but she's in a lot of pain,'" Clarke said.

They tried physical therapy, a chiropractor and a variety of doctors before meeting with Van Nortwick. Although the labral tear could be tended to with a minimally invasive surgery, Van Nortwick explained that it would be inappropriate to fix the labral tear without addressing the underlying anatomical problem.

"A lot of people think, 'That sounds like a big procedure. I'd rather just have a hip scope,'" Van Nortwick said. And the PAO is a big procedure. The surgeon cuts through the pelvis to reposition the acetabulum correctly. It's held in place with screws, but the bone quickly heals. With the corrected anatomy, patients regain full range of motion and can return to the sports and activities they love without pain.

"Many hip replacements done in adults less than 50 years old are the result of undiagnosed hip dysplasia. The PAO was first done in Switzerland about 20 years ago and is relatively new," said Van Nortwick, who has special training in hip preservation, including completing a fellowship in pediatric orthopedic surgery.

"I love this operation, as it gives patients their lives back," Van Nortwick said. "Lily is obviously a very

"The results of PAO (periacetabular osteotomy) surgery are very durable in young people like Lily; catching her hip dysplasia early has prevented her from developing arthritis and the need for a hip replacement at an early age."

Sara Van Nortwick, M.D.

talented young lady, and I'm thrilled she has been able to return to her high level of function pain-free. The results of PAO surgery are very durable in young people like Lily; catching her hip dysplasia early has prevented her from developing arthritis and the need for a hip replacement at an early age.

"Saving the hip is far more satisfying than replacing the hip. My PAO patients are some of my happiest patients, as they generally come to me with significant pain and truly feel the operation is life changing."

ABUSE *Continued from Page One*

Health, an estimated 1 in 10 older adults — defined as 60 years and older — experience elder abuse annually in the U.S. This includes physical, sexual or psychological abuse as well as financial exploitation or neglect by caregivers. Even in the best of times, elder abuse cases are rarely detected, with only 1 in 24 identified and reported to the appropriate authorities.

These numbers are sobering, and they don't even factor in the challenges introduced by COVID-19.

But for shadows to exist, there has to be light. And MUSC Health provides it in the form of a comprehensive array of abuse services, catering to all ages and all matters of abuse or trauma, immediately after an event as well as beyond. These services include the TRRP; the MUSC Advocacy Program (MAP); Elder/Vulnerable Adult Abuse Services, under the Clinical Forensics Program; Child Abuse Pediatrics; Pediatric Sexual Assault Nurse Examiners; and the National Crime Victims Research and Treatment Center. These programs offer an array of treatment options, counseling, therapy and support group services.

"We don't want just to fix them up physically and send them on their way," explained Ken Ruggiero, Ph.D., TRRP co-director and a professor in the College of Nursing. "We are there with our patients long afterward, checking in on them daily to see how they are doing emotionally after their traumatic events."

"We're the only full-scope forensic nursing program in the state," said Julie Watson, R.N., a forensic nurse examiner and the elder and vulnerable adult abuse specialist at MUSC. "We have lots of great pieces in place, and we keep trying to get better. Most people think we only care for sexual assault victims, but we also provide care for victims of intimate partner violence, strangulation, human trafficking as well as elder and vulnerable adult abuse."

Less than 10% of the country's 500-plus trauma centers address mental health needs — something incredibly important to patients dealing with depression, anxiety or post-traumatic stress disorder — after their life-altering



experiences.

The following is a more in-depth look at several of these services.

VULNERABLE ADULTS

According to the state of South Carolina, vulnerable adults are those age 18 years or older who have physical or mental conditions that make it difficult for them to care for themselves safely.

"Say there is a patient that staff members are worried may be the victim of abuse or neglect, they could call me, and I would come in and do a consult," Watson said. "It's totally comprehensive. I'll talk to the patient, complete an assessment based on the type of abuse suspected, complete forensic photography if needed for physical injuries. I work very closely with the MAP team to identify suspicions of abuse, in order to help determine if reports and/or referrals need to be made."

Watson and the forensic nursing team are the experts who know how to identify the signs or symptoms as well as risk factors associated with abuse or neglect. Just like with domestic violence, according to the National Council on Aging, in almost 60% of elder abuse and neglect incidents, the perpetrator is a family member.

Watson's team has access to and relationships with a multitude of resource providers, including social workers, doctors and counselors, not to mention countless local organizations dedicated to helping protect the abused. Unfortunately, there are so many barriers involved.

"We can do great work within these walls, and we do, but we are so often

limited in the resources beyond those walls," she said. "There are no emergency shelters for a vulnerable adult that has been abused. Many times, we get stuck here, especially when financial or caregiver options are limited. It's a huge problem that has needed the spotlight for a long time."

The factors that are often present in elder abuse — isolation, frustration, stress — have been at all-time highs during this pandemic, meaning one would expect to see higher instances of elder abuse. However, while the data doesn't support that expectation, that might not be the full picture.

"We all suspected abuse would increase, but our numbers haven't reflected that. We have a strong feeling it is worse; it's just that these people have a harder time getting out of their abusive environments to come to see us," she said.

In pre-COVID times, many older adults previously turned to their health care providers for help, but with the cancellations of face-to-face visits and their unfamiliarity with the technologies needed to conduct remote health care visits, Watson and national experts fear things like these might be preventing older adults from receiving the care they need.

"That occasional visit to a doctor or ED might be the only opportunity for social interaction or a chance to get help," she said. "Those face-to-face encounters are so important."

Though the numbers aren't necessarily higher these days, Watson said the presentation of symptoms she has seen are different because of COVID. For example, a woman was admitted to the

Older people are even more vulnerable to abuse.

Photo by Julie Watson

hospital with what appeared to be signs of neglect, but as it turned out, she was getting fewer home visits by friends and church members due to the pandemic, and as a result, her health declined dramatically. Another concerning situation is the opportunity for abuse in skilled nursing facilities. When family members are only able to visit their loved one through a window or by phone — not getting an up-close look — any manner of abuse could be happening inside the facility without a family's knowledge.

"This virus has changed how everybody does business," Watson said. "It's made an already complicated issue so much more complicated."

But Watson and her team are still as busy as ever, trying to make a difference one patient at a time.

"We just keep trying to work our hardest to identify and serve these vulnerable populations, and especially during this most challenging of times," she said.

MUSC'S ADVOCACY PROGRAM

If you think of Watson as the one who gets the ball rolling, then Abby Steere-Williams with MAP takes that ball and runs with it. MAP's mission is to provide direct support and interventions to patients and their families when there is a suspicion of abuse or neglect of a child or vulnerable adult, intimate partner violence, sexual abuse or assault or human trafficking.

Five years ago, MAP — the vision of trauma surgeon Hink and many other colleagues — came to be. The idea was to provide a dedicated staff that comprises clinicians and social workers for these victims.

"These cases require a lot of time, so this allows us to focus on them and give them the time they deserve," Steere-Williams said.

MAP provides education, counseling, safety plans, lethality assessments and referrals for the patients.

"Abuse is such a scary thing," she said. "For some people, it's so ingrained, so much a part of their daily lives, they don't even know that what's happening to them is abuse," she said.

For most of these people — even

See ABUSE on page 11

Novel adoptive cell transfer method shortens timeline for T-cell manufacture

BY CAROLINE WALLACE

brazell@musc.edu

Adoptively transferred T-cells can prolong survival and sometimes cure patients with advanced solid tumors. While promising, it can take months to generate the necessary T-cells to help these patients. Such slow speed makes this therapy impractical for most patients who need immediate treatment.

In the September issue of *Cancer Research*, Hannah Knochelmann, a student in the Medical Scientist Training Program at MUSC and researcher in Chrystal Paulos' laboratory, teamed up with investigators at three NCI-designated cancer centers – MUSC Hollings Cancer Center, Winship Cancer Institute at Emory University and The James at The Ohio State University – to report a new approach to generate T-cells faster for patients in the near future.

The human immune system contains two main types of T-cells: CD4 and CD8. This team cut down the time needed to manufacture T-cells from several months to less than one week by using a remarkably potent CD4 T-cell subset, called Th17 cells.

“In fact,” Knochelmann explained, “very few Th17 cells were needed to eradicate multiple different types of tumors effectively. This new milestone could widen inclusion criteria to promote access to T-cell therapy for more patients with metastatic disease.”

Adoptive T-cell transfer therapy, which is the transfer of therapeutic T-cells into a patient, is used in only a handful of institutions around the world. This makes a potent therapy inaccessible for the general population. These protocols often use billions of CD8 T-cells, which have cytotoxic properties that allow them to kill cancerous cells. However, it takes weeks of growth in cell culture to grow enough CD8 T-cells to be used in a single treatment. Paulos, who is Knochelmann's mentor and director of Translational Research for Cutaneous Malignancies at Emory University, said, “What is most remarkable about this finding is that we can build on this platform to bring T-cells to patients all over the world.”

The best effector Th17 cells are grown in cell culture for only four days before being infused into the host. Any shorter or any longer in culture reduced



Through her research, Hannah Knochelmann discovered a way to speed up T-cell therapy that makes this potent treatment broadly accessible for cancer patients.

Photo Provided

the efficacy of the treatment. While the team could generate more Th17 cells over several weeks, more cells were actually equally or less effective compared with fewer Th17 cells expanded only four days. This finding highlights the potential that T-cell therapy can be administered to patients sooner, a discovery that has

immediate clinical implications.

Another limitation of conventional T-cell therapy is that patients can relapse – cancer can return even after seemingly successful treatment. Therefore,

See **RESEARCH** on page 10

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Seeing a doctor without leaving home gets a lot more popular during pandemic

By HELEN ADAMS

adamshel@musc.edu

Columbia lawyer Byron Gipson gave telehealth a try for the first time because of the coronavirus pandemic. He needed hernia surgery. The surgeon he chose works almost two hours away at MUSC Health in Charleston, South Carolina.

Gipson would need to be in Charleston for the actual procedure, of course. But because of the pandemic, his preop meetings with his surgeon became virtual visits instead of in-person consultations. Gipson used his iPad to meet with Heather Evans, M.D., via video.

“There’s a little trepidation that you feel, that you’d like to see her face to face here or there, but she was reassuring,” Gipson said. “After meeting with her the first time, it was clear that she is obviously at the top of the profession. She knows what she’s doing. She’s just got a really good bedside manner. Well, video-side manner,” he joked. “She’d be great on Netflix.”

Telehealth was new to Evans, too. “I learned, along with everybody else in the midst of the crisis, trying to find a way to care for patients. My experience this summer was I switched to entirely video-based clinics for probably two or three months. During that time, I figured it out as we went along.”

She liked what she saw. “We really have made things work for patients in this unprecedented time. We took advantage of a crisis to be able to follow through on something that needed our attention at the time. I really think this opens us up to a whole new way of taking care of patients.”

As the South Carolina Telehealth Alliance marks telehealth awareness week, it does so at a time when more people than ever have actually used

telehealth. The SCTA is a statewide initiative created by the state legislature in 2013 to expand telehealth. MUSC, which has its own Center for Telehealth, serves as the SCTA’s headquarters.

While it’s not clear yet how many people have tried telehealth in 2020, a report from the Department of Health and Human Services noted that the number of Medicare primary visits jumped from less than 1% in February to 43.5% in April as the coronavirus forced people to stay home.

Doctors across the state and across a range of specialties are adjusting. Gregory Perron, M.D., a family care doctor at MUSC Health, had never used telehealth before the pandemic. “I see patients from the child-adolescent years on up but the majority of my patients are adults. During the pandemic, I’ve done video visits for patients as young as 6 and as old as 95.”

That works for a majority of the problems he treats. “We can really provide very good care via telehealth. I have some people who drive from Myrtle Beach and Florence where taking a half day off or a whole day off to drive to my office to have a brief office visit — if a physical exam isn’t needed — is not a good use of the patient’s time. I think there will definitely be a role for continuing telehealth visits after the pandemic.”

When Perron needs to see patients in person, he arranges that at the end of the video visit. “For example, if a patient brings up a rash, back pain or joint pain, I may arrange for an in-person exam.”

MUSC Health psychologist Eva Serber, Ph.D., has seen advantages and drawbacks to telehealth during the pandemic. “My behavioral medicine clinic works solely with medical patients — people who are medically ill. That includes patients who come from all around South Carolina to the state’s



Photo by Sarah Pack

Dr. Heather Evans recently operated on a man she hadn’t met in person until the day of his surgery. Their previous meetings were via video.

“Telehealth lets them (patients) stay safe in their homes and to continue to get the treatment they need.”

Eva Serber, Ph.D.

only organ transplant center at MUSC.”

Telehealth allows them to get mental health care at home. “People sometimes have to travel anywhere from two to four hours for an appointment with us. Add sickness to it, and that makes it very difficult. Telehealth lets them stay safe in their homes and to continue to get the treatment they need.”

But there are cons, too, Serber said. “There’s a variety of barriers that are widening our health care disparities. Some patients don’t have smart phones or any device that’s capable of video. Some might have video capability but they don’t have good internet service. And some patients just don’t like the video or aren’t comfortable using technology. I have patients who are like,

‘When do I get to see you in person?’”

It’s a reminder that just having technology doesn’t ensure that it works for everyone and every situation. The pandemic has given telehealth a growth spurt with a few growing pains as well.

Gipson, the lawyer who needed hernia surgery, liked that it allowed him to see Evans without leaving Columbia. “That really made it convenient. If I’d come down, I’d have been on the road for an hour and 45 minutes both ways for an appointment that may last a half hour. It’s an important half hour, but she was able to convey all of those things through telehealth.”

Evans said telehealth made sense for her, too. “I reviewed his CT scan, which he got in Columbia, before our video visit. I was able to share my screen and go over it and explain how I was making decisions about planning his operation. We talked about the risks and benefits. He wanted to move forward even though we’d never met in person.”

The surgery was a success. And so was Gipson’s experience with telehealth. “Especially in these times when you have concerns with COVID, it’s a reassuring way to be able to do it.”

Managing your mental health, well-being throughout the holidays

People experience a wide range of emotions during the holidays. For some, it's a time of joy, celebration, family and warmth. For others, however, it's a time of remembering loved ones they have lost, struggles with addiction, financial worry and other holiday stressors. And let's not forget that this year, we are approaching the holidays during a pandemic. For many, the holidays may look very different than in the past, which is proving to be an additional challenge for the many who are already feeling stressed, as a result of the pandemic.

A study from the National Alliance on Mental Illness shows that even in pre-pandemic times, 64% of individuals with a mental health diagnosis believed that the holidays worsened their conditions. Furthermore, experts suggest that these symptoms may worsen during the 2020 holidays due to the current coronavirus pandemic and increased isolation on top of the usual holiday stress.

While there are many factors that can contribute to increased levels of stress and anxiety throughout the 2020 holiday season, it is clear that we must prioritize our mental and physical well-being

during this time. In order to do so, it is critical to strategize ways you can cope with challenges and reduce levels of anxiety and stress in the months ahead.

MUSC's employee well-being program, Imagine U, offers a wide variety of resources and challenges designed to promote psychosocial well-being. The following are several strategies and associated Imagine U challenges that you can place in your mental and emotional well-being toolbox as you move through the busy and often stressful weeks ahead.

PRACTICE MINDFULNESS

In addition to professional mental health care, mindfulness can be an extremely valuable mental wellness tool. Certain practices can be particularly helpful if you are traveling or running on an unusual schedule, particularly app- or mobile-based platforms that you can utilize on the go during the busy holiday season.

Participate in the "Try a Daily Wellness App" Imagine U challenge and earn points for engaging with an app that promotes mindfulness and provides brief guided meditations, such as the Headspace app, which is currently

offering free memberships to all clinicians during the COVID-19 pandemic. <https://www.headspace.com/covid-19>

Avoid using alcohol and food for comfort

While using food and alcohol for comfort or an escape can seem appealing, particularly during the holiday season where social gatherings are frequent and sometimes stressful, substance use or emotional eating can ultimately worsen your issues. Studies have indicated that there is a 20% overlap between people with anxiety or mood disorders and substance use disorders, and substances can exacerbate symptoms. When you feel you need a relaxation aid, you can instead turn to a mindfulness tactic or other healthy coping mechanism.

Participate in the "Avoid Stress Eating" and the "Alcohol Risk Reduction" Imagine U challenges to identify health-promoting ways to manage stress and avoid stress-related consumption. www.musc.edu/iu

GET MOVING OUTDOORS

Many individuals struggle with

within a few days," Knochelmann said, "so these therapies can help all patients in need, especially those needing treatment quickly."

TRIAL *Continued from Page Four*

person's life that we share a lot of ignorance and very little knowledge about. We need to obtain scientific knowledge, because dying is a condition that we all will confront sooner or later."

Steinberg said the LIBBY trial is a fitting legacy for a mother who loved people. "She was everyone's best friend. She loved to gossip. She wanted to know everything. She had this incredible energy and joy for life, which is why end of life was really difficult. I keep thinking how proud she would be seeing her name as the title of this project."

MUSC Health & Well-Being

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



depression during the winter months because of the lack of exposure to bright lights as well as decreased physical activity due to colder temps, less daylight and busy calendars. Numerous studies have pointed to the mental health benefits of spending time in nature, including stress relief, better concentration and improved energy in addition to the highly correlational relationship between physical activity and mental health. There is no doubt that physical activity, particularly in nature, can be highly beneficial for both physical and mental well-being.

Participate in the "Volunteer at the Urban Farm," "Bike to Work" or "Involve the Whole Family in Moving More" challenges to boost your vitamin D and your mood this holiday season while remaining safe and socially distant in an outdoor setting. <https://www.facebook.com/events/1028131170966501/>

Additionally, you and your family or co-workers could participate in the Adventure Out yoga series. Adventure Out is a joint effort, led by the MUSC Office of Health Promotion and the Charleston Healthy Business Challenge, through which all levels of yoga classes are held monthly in Hampton Park at no cost. Come practice your yoga in a safe and socially distant manner. Not only do participants enjoy the meditative benefits of yoga, but they are also able to experience the health benefits of "green exercise" in one of Charleston's most beautiful parks. <https://www.facebook.com/events/1028131170966501/>

For more information on MUSC's employee well-being program, Imagine U, and to access the entire catalog of challenges on your desktop or mobile device, visit www.musc.edu/iu.

RESEARCH *Continued from Page Eight*

Knochelmann and the team sought to develop a therapy that was long-lived while understanding factors that can prevent relapse. They found that day-our Th17 cell therapy provides a long-lasting response. Interestingly, IL-6 was a key cytokine in fueling these T-cells to prevent relapse after treatment. This cytokine destabilized the regulatory T-cells, the brakes of the immune system, which empowered the Th17 cells to kill cancer cells.

Paulos said the researchers want this data to inspire physicians with a new way of thinking about immunotherapy. "This treatment has the potential to be very versatile. If the tumor can be targeted, meaning that a unique identifier for the tumor is known, this treatment can be effective. Thus, this therapy can be used

to treat patients with either liquid or solid tumors."

Knochelmann said the core facilities and research environment at MUSC were a critical piece for the success of this work. "Many colleagues gave me key advice on this discovery. In fact, this work is a great example of what can be accomplished when different minds come together. It has been inspiring and rewarding to work on improving medicine for the future."

This work was funded by the National Institutes of Health and the Melanoma Research Foundation, as independent grants were awarded to both Knochelmann and Paulos. The research team is now collaborating with surgeons and medical oncologists to develop their findings into applicable treatments for patients. "Our vision is that T-cell products will be generated for patients

FIREARMS *Continued from Page Three*

recognize the role of guns in suicide and tell your peers to be SMART.

The MUSC Children’s Health program started in June 2018 with residents at the pediatrics primary care clinic in Rutledge Tower asking whether there were firearms in the home and, if so, how they were stored. At the time, just 3% of well-child visits included a discussion of safe firearm storage, according to documentation in doctors’ notes. Now, more than 75% of patients are counseled about gun safety, and the program has moved beyond well-child visits to include the Emergency Department and newborn nursery, with plans to expand into other areas of the hospital.

“Once the residents started doing it, it really caught on, and they’ve been just outstanding,” Andrews said.

Cassie Stegall, D.O., a second-year pediatrics resident, was excited about the opportunity to get involved. She’s taken the lead on maintaining the existing program and expanding it throughout the hospital. In addition to in-person counseling, the hospital has added a Be SMART video to its interactive GetWellNetwork, the hospital’s system that offers education videos that are accessible on screens in every patient room.

She said parents are sometimes surprised by the question about guns, but she also takes the time to explain its importance. “We ask about this because we always talk about the safety of your child, and we want to talk about safe firearm storage if you have firearms.”

Firearms should be stored separately from ammunition, and both should be locked up, she said. In addition to the gun locks donated by local police



Photo by Ketut Subiyanto via Pexels

Children love to explore – but that can lead to them finding things they shouldn’t, like unsecured guns.

departments, the MUSC Department of Public Safety is obtaining gun locks through Project ChildSafe to

distribute throughout all MUSC Children’s Health clinical sites.

Stegall said she learned about screening for firearms in medical school, but she saw few gunshot wounds during her training. MUSC Children’s Health treated 17 patients ages 0 to 15 for gunshot wounds in 2017, 12 in 2018, 16 in 2019 and 14 so far in 2020, including five in September alone.

The other residents that Stegall’s talked to say this topic wasn’t discussed during their medical school training. Knowing how to have this conversation is an important tool as they prepare to practice medicine independently, she said.

Andrews said the support of hospital and department leadership has been key to raising awareness of the issue amongst faculty, residents and staff.

“I feel like we have 100% changed the culture within the MUSC Shawn Jenkins family and the Department of Pediatrics, as far as the importance of talking about firearm violence and kids amongst pediatricians. Before we started this, this wasn’t anything that ever got talked about unless a child rolled into the Pediatric Emergency Department, and we actually had a case in front of us,” she said.

Andrews said they can’t know if they’ve prevented a firearm injury that would have happened, but she hopes that the combination of parent counseling and resident education will make a difference.

“We’re teaching pediatric residents the importance of this, and I hope many of them will carry this through their entire careers and, over time, what we’re doing will impact the lives of children and will prevent firearm injuries in kids,” she said.

ABUSE *Continued from Page Seven*

though they are being abused – it’s difficult to leave the relationship.

Increased risk of abuse, combined with lower self-esteem and limited resources due to COVID-19, makes leaving even harder. But once the patient decides it’s what’s best for them, the MAP team can help patients navigate the criminal justice system, coordinating with law enforcement or lawyers – whatever help they may need to be safe and establish their independence.

Much like Watson and her team, Steere-Williams leverages the rich network of support at MUSC Health.

“Within the hospital, we work very well together. We have meetings to make sure we’re all aware of what each other has going on,” she said. “I think we provide a pretty comprehensive service for our patients. And it doesn’t just stop

with patients. Most employees don’t know this, but we also provide services to staff and students.”

TRAUMA/TELEHEALTH RESILIENCE AND RECOVERY PROGRAM

Once the violence or trauma ends, the person isn’t just magically better.

That’s where the TRRP comes into the equation. TRRP works with physical injury survivors and their families to overcome emotional challenges, like PTSD and depression, that can arise after injury.

Ruggiero and Davidson work with patients, families and trauma centers to aid with the emotional health recovery of patients after serious injuries.

“Many hospitals and trauma centers focus on survival, but very few follow up with mental health,” Davidson said. “We start at the bedside, but our real work starts once they’re discharged.”

Ruggiero and Davidson don’t only rely on face-to-face visits and phone calls to stay in touch with patients. Patients are also given the option – an option that two-thirds of them take MUSC up on – to enroll in a text messaging program that asks them about their moods and levels of anxiety.

“They get a text every day asking them how they are feeling. The texts also have helpful information about common trauma reactions as well as coping tips that they can use to manage stress. We’re just finding they’re really great for our patients in helping them to be more aware of their emotions and in keeping them engaged in services,” Davidson said.

The program has been so successful that three other hospitals in South Carolina have worked with MUSC to adopt the same programs at their facilities. Recently, trauma centers in

North Carolina, Florida, Vermont, Illinois and Georgia also have inquired about how they, too, could emulate MUSC’s system.

“We are finding that it makes it so much easier for us to stay connected to our patients,” Davidson said. “Before our program came along, there wasn’t anything like this. So to be able to see that we can meet them on the floor, and make and maintain a connection, it allows them to trust us. That’s huge. It’s been such a success because there was such a need. We are excited that we are able to help these patients who are going through so much.”

Patrick Cawley, M.D., CEO of MUSC Health added: “MUSC has long recognized the problems with abuse and instituted a variety of solutions over the years. As one can see from our recent efforts, we remain fixated on developing novel ways to address this difficult issue.”

MUSC HEALTH CONTINUES CONSTRUCTION ON NEW HOSPITAL



Progress continues at MUSC Health's newest location in the Williamsburg / Lake City region. MUSC Health recently installed a "Coming Soon" sign that highlights a rendering of the hospital. MUSC Health's targeted opening date for the new hospital is January 2023.

The facility is being built to replace two existing hospitals located in Williamsburg and Lake City, respectively, and will become part of the Florence Division of MUSC Health. This MUSC Health-owned hospital will feature 25 licensed beds, full operating and diagnostic services, a 16-bay Emergency Department, and the latest capabilities in telehealth. The project represents MUSC's ongoing effort to extend its mission to communities and citizens across the state.

Photo by John Russell

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