

MUSC INTERNATIONAL BAZAAR



Kaitlyn Heyward dances to the rhythms of drummers Patrice Camara, Stacia Counsel and Rhonda Richardson of Nia Productions as they performed at the April 5th MUSC International Bazaar. The group was among six cultural dance groups who entertained the crowd.

Chief peds resident receives patient safety award

Staff Report

MUSC Children's Health is proud to honor Sarah Yale, M.D., pediatric chief resident, for receiving the Lewis Blackman Patient Safety Champion Caregiver Award for her work to improve patient safety and health care quality in South Carolina.

Yale was recognized not only for her individual efforts to champion patient safety, but also for her work to integrate patient safety closer to the core of physician training at MUSC. As a resident, she worked on adverse event reporting, and as chief resident, she led the charge to select event reporting as a residencywide improvement project. As a member of the adverse drug events committee, she reviews trends in drug errors and near misses and helps develop potential systemwide fixes for those issues. Yale's colleagues report she consistently ensures that all trainees coming through her program recognize the gravity and importance of preventing medical errors.

Each year, the Lewis Blackman Patient Safety Champion Awards program celebrates the medical caregivers, leaders, researchers, advocates and students who are making health care better and safer for South Carolina patients. The awards are named in memory of Lewis Wardlaw Blackman, a bright and gifted 15-year-old who died following an elective surgical procedure in 2000 due to a preventable medical error. Lewis' mother, Helen Haskell, founder and president of Mothers Against Medical Error (MAME) and a member of the Institute for Healthcare Improvement board of directors, continues to provide inspiration for the awards through her exceptional work in patient safety and quality improvement.

The Lewis Blackman Patient Safety Champion Awards were established in 2008 by the founding partners of the South Carolina Transforming Health Symposium, including MAME; Health Sciences South Carolina; PHT Services Ltd.; and the South

MUSC's premier hearing scientist honored for world-class research

Staff Report

On April 11, Gov. Henry D. McMaster presented Judy R. Dubno, Ph.D., the state's highest honor: the Governor's Award for Excellence in Science.

Dubno is considered one of the premier scientists in the country who studies hearing loss and aging. She is a professor in the MUSC Department of Otolaryngology-Head and Neck Surgery and serves as the director of the hearing research program.



Dubno

Kathleen Brady, M.D., Ph.D., vice president for

research, said, "Dr. Dubno is a brilliant scientist and one of the most productive and collaborative individuals I have ever had the pleasure of working with. She is always generous in providing service to the academic community at MUSC through her mentoring and committee work. She is truly deserving of this honor."

This prestigious award is presented to a scientist whose contributions to scientific discovery merit special recognition and have affected the respective discipline on a national and international basis.

The quality of Dubno's work is demonstrated by the continuous funding she has received for more than 30 years. She's the primary investigator on a coveted National Institutes of Health Research Project Grant, now in its 37th consecutive year of support. Hers is

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MUSC launches chronic pain rehab program.

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DENTAL MEDICINE STAFF AWARDS



James B. Edwards College of Dental Medicine Dean Dr. Sarandeep Huja, center, recognizes Lisa Fowler (Clinical Yearly Award), left, a dental assistant in the Dental Faculty Practice, and Angela Stevens (Non-Clinical Yearly Award), an administrative assistant in Oral Rehabilitation, as recipients of Dental Medicine's Yearly Staff Recognition Awards.

Dean Huja also honored Jaclyn Barron, right, with Dental Medicine's Staff Clinical 4th Quarter Award. Not pictured: Connie Miller, Dental Finance and Accounting, also received Dental Medicine's Staff Non-Clinical 4th Quarter Award.



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MUSC Board of Trustees Meeting

UPDATE

MUSC and The Medical University Hospital Authority (MUHA) Board of Trustees held its regularly scheduled meeting to review the education, patient care and research missions of the enterprise. During a discussion about MUSC Health, the board heard updates on the regional expansion MUSC is undertaking to meet the mushrooming health care demands of the community. Projects underway or being planned include the:

- ❑ MUSC Shawn Jenkins Children's Hospital and Pearl Tourville Women's Pavilion at Calhoun Street and Courtenay Drive, a \$388.7 million project with 250 beds, scheduled to open in fall 2019.
- ❑ MUSC Children's Health Ambulatory Campus in North Charleston, a \$57.7 million, 100,000-square-foot facility solely dedicated to outpatient pediatric care, scheduled to open in early 2019.
- ❑ MUSC Health Community Hospital at Nexton, a 311,221-square-foot facility with 128 beds, which will provide a range of specialized inpatient and outpatient services. The estimated \$325 million project is expected to be operational in 2022.
- ❑ MUSC West Campus planned improvements to the West Ashley musculoskeletal institute, a \$16.4 million project anticipated to open in late 2019.
- ❑ Consolidated Service Center, a \$28 million warehouse facility for material management supply chain and a central sterile processing distribution center, expected to be operational in the second half of 2019.
- ❑ First MUSC Health primary care office on Daniel Island which is expected to open by fall 2018.

"Bed capacity is definitely a problem," said Patrick J. Cawley, M.D., CEO of MUSC Health and vice president of Health Affairs, University. "There are just not enough beds in the state. It's an issue that mirrors what's happening across the nation. This is why we have been moving forward, planning for the future.

"It would appear there is a shift

occurring. More and more patients are going to academic medical centers and not to community hospitals. We see this across the country. Older, sicker patients with multiple problems are being sent [referred] to academic medical centers. They're being pushed to teaching hospitals like ours in a big tide," Cawley said. One board member offered that downsizings and closures of many rural hospitals may have eroded confidence among referring physicians and their rural patients.

"Another way to look at our community hospital [in Nexton] is we need to get the less complex patient cases into a lower-acuity setting," said MUSC President David J. Cole, M.D., FACS. "That will allow our high-acuity tertiary care facilities to have available capacity to bring in the patients that we need and want. That innovative tertiary-level work, to serve the sickest patients with the most complex, often life-threatening needs, is something that only MUSC can provide.

"We're trying to support best care for lower-acuity cases and work with our partners to keep those patients local," Cole noted. "With our regional expansion, we're trying to bring the lower-acuity facilities to our patients and have downtown be for high-acuity tertiary care. The concept is to deliver lower-acuity care through better access points throughout the region, including using telehealth, and have our downtown centers, children's and main hospitals be the tertiary centers. Strategically, that's what we're trying to accomplish."

The newest MUSC/MUHA board member, Paul T. Davis, D.M.D., a general dentist from Florence who is in his 19th year of practice, attended his first series of meetings. He was elected as the medical professions representative to the MUSC/MUHA Board of Trustees for the 7th Congressional District. For more information, please visit http://academicdepartments.musc.edu/pr/pressrelease/2018/bot_davis.htm

Board members also marked the

See **UPDATE** on page 11

Letter from the
Office of the

PROVOST

To the MUSC Community,

If you are part of the MUSC Health team, the words Just Culture are probably quite familiar. In clinical care, Just Culture focuses on creating and sustaining patient safety by building a framework where both the individual and the organization are responsible for creating and adopting safe systems. Just Culture at MUSC Health means the individual and the organization are accountable for owning individual and system errors and are committed to designing and improving workplace systems to reduce the risk of bad outcomes.



Saladin

In March, Dr. Danielle Scheurer, who leads Quality and Patient Safety for our health system, and I held meetings with about 150 university leaders. We introduced the Just Culture concept, sharing why we are adopting this method of accountability within the university. Just Culture is in total alignment with and reflective of our institutional values, especially respect, compassion and collaboration.



Scheurer

For the university, implementing a Just Culture requires that we think about this concept in a broader context than originally intended. Our goals are to understand how mistakes are made in any capacity and to treat every employee fairly and respectfully as we examine how to reduce the risk of preventable errors that affect the quality of our execution

across all our missions — education, research and patient care. Understanding how mistakes occur requires detailed process review, listening intently to the people involved and applying a Just Culture algorithm to help with objective calculations and problem resolution.

We all know that sometimes when mistakes are made people can become frustrated, emotional and angry. That's understandable because we all invest so much of ourselves in our work, and that work has tangible, personal meaning. Our intent in the conversation about Just Culture is to actively work toward an environment where mistakes are always addressed using logic and respect, where no employee feels like they are in a hostile environment just because a mistake is made. We want to explore our systems, which can sometimes contribute to errors, and commit to improving those systems to reduce errors and increase quality improvement across our missions.

Here are two examples where operating under the auspices of a Just Culture can make a tremendous difference for our institution. Let's say that earlier this month, the College of Medicine realized it paid more for its space than it should have because a small amount of leased space was included in its space costs. That leased space should have been excluded. This is clearly a financial issue where an error was made by one or more individuals. What we need to do is nonjudgmentally explore how it happened and the many different ways it could have been prevented. There isn't typically one individual responsible for such a mishap. Looking for someone to blame and rail against isn't the answer. Under a Just Culture, this situation requires a thorough, systematic review and process improvement to prevent this from happening in the future. Such an approach can diffuse the emotion and blame from the situation and help us, instead, focus our collective energy on how to prevent it from happening again.

In another example, let's say an administrative services professional books a flight for his or her supervisor, but the departure flight is accidentally

April "Health Focus" schedule on SC Public Radio

Visit www.southcarolinapublicradio.org/programs/health-focus

April 23 — Segment #1
Topic: Concussion & Post-Concussion Syndrome in Children
Guest: Dr. Thomas Koch
Dr. Thomas Koch, professor and chief of the Division of Pediatric Neurology, will discuss the diagnosis and treatment of concussion and post-concussion syndrome during childhood.

April 23 — Segment #2
Topic: Exercise for Parkinson's disease
Guest: Dr. Marian Dale
Neurologist Dr. Marian Dale with MUSC's Movement Disorders Program will speak about specific exercise routines that can help patients who have Parkinson's disease.

April 30 — Segment #1
Topic: How Oral Health Affects General Health
Guest: Dr. Amy Martin
College of Dental Medicine's Dr. Amy Martin, director of the Division of Population Oral Health, will discuss the connection between oral health and general health.

April 30 — Segment #2
Topic: Preserving & Protecting Memory as we Age
Guest: Dr. Nicolas Milano
Dr. Nicolas Milano, assistant professor of Neurology and a cognitive behavioral neurologist, will review information about preserving and protecting our memory as we get older.

booked for the wrong day. The busy supervisor doesn't notice the mistake and, as a result, the supervisor misses his or her flight to an important conference. Standing in the airport, the frustrated supervisor might be tempted to yell at the gate agent, jot an all caps email to the assistant, which indicates SHOUTING, or call the administrative professional and let off some steam. In a Just Culture, there's no place for stress transfers, assigning blame and intentionally belittling a colleague for human error.

Just Culture does not mean, however, that team members are permitted to make the same mistakes repeatedly without consequences. Accountability, transparency and adherence to process should ensure that team members maintain their appropriate, balanced responsibility for their assignments. Just Culture demands that we remove the emotion from the equation and treat everyone with respect at all times, particularly when recognizing and discussing errors. The focus becomes analysis of what went wrong and the establishment of the right checks and balances so that the same errors do not recur. This benefits our team members, our organization and those that we serve by producing better outcomes.

Just Culture breeds resilience and self-awareness and builds solid relationships through consistent fairness and respect. This approach to relationships can be woven into our work lives in all directions through interactions with peers, direct reports, external associates and supervisors.

To learn more about Just Culture and its algorithm, feel free to access these resources on the MUSC Horseshoe at <https://www.musc.edu/medcenter/justculture/index.htm>. In addition, the book that explains Just Culture from its inception is *Dave's Subs: A Novel Story about Workplace Accountability* by David Marx.

In the coming months, we will be training a number of university team members as certified Just Culture specialists. Our intention is to implement this operational methodology in an informal manner across all departments and units over the next few months. We look forward to this journey to strengthen process improvement, focus on error reduction and engender more civil and respectful work relationships.

Lisa K. Saladin, PT, Ph.D.

Executive vice president for Academic Affairs and Provost

Could you live on \$1 a day?

Global Health Week highlights problems like extreme poverty, showcases inspiring successes

BY HELEN ADAMS

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In Charleston, South Carolina, where a bus ride is \$2 for a one-way trip and the cheapest apartments go for hundreds of dollars a month, the idea of living on \$1.90 a day is hard to swallow.

“You can think of it as extreme poverty,” said Chris Elias, president for global development at the Bill and Melinda Gates Foundation, during his keynote speech at MUSC’s Global Health Week conference.

In his talk before faculty members, staff and students, Elias said around nine percent of the world’s population is living under the international poverty line of about \$1.90. But that’s actually good news. The rate of people in that category was once as high as 35 percent.

“Our vision is a world where every person has the opportunity to live a happy and healthy life. All lives have equal value,” he said.

The foundation Elias works for attributes the drop in global poverty to charitable giving and the hard work people have done to improve their situations. In his speech, Elias also emphasized the importance of partnerships between the public and private sectors and disciplines within academic centers such as MUSC.

The sought-after speaker’s talk kicked off a week that brought together people interested in looking beyond their community to see how they can improve health on a larger scale. It was organized by the MUSC Center for Global Health. Center director Michael Sweat said Elias was the perfect person to launch the event.

“The Gates Foundation gives out over \$5 billion a year in support, and they are by far the biggest foundation globally doing global health interventions and research,” Sweat said. “Chris’ visit helps give our academic community an appreciation of how their work fits into the big picture and how their efforts really

are contributing to making the world a healthier place.”

Sweat said there has been a dramatic increase in the number of students and faculty at MUSC interested in global projects. The Center for Global Health is currently involved in almost 70 projects in 26 countries and was just awarded a \$3.1 million grant from the National Institutes of Health to continue to study a promising approach to preventing HIV in Tanzania.

Sweat said global research and service give students, faculty and staff a chance to have an impact on some of the world’s poorest people in a tangible way and find new ways to solve problems affecting people in wealthier parts of the world as well.

“There are a host of innovations that are brought back from low-income countries,” Sweat said. “A great example is in my field of HIV prevention and care. Many significant breakthroughs were discovered in low-income settings that have very high prevalence of HIV, and many of these innovations have been brought back to the U.S. and implemented.”

Being involved in global health also makes doctors and researchers better at their regular jobs, Sweat said. “It gives them opportunities to fully use their clinical skills, often with minimal access to high technology. It hones their cultural skills in communication, their competency in diagnostics and patient assessment, and honestly, it’s inspiring and rejuvenating.”

“I am constantly hearing from our doctors that going to a developing country setting, even if just for a few weeks, gets them back to why they got involved in medicine. They get enormous satisfaction from helping people, and there is nothing like global health to make you appreciate why you invested so much in your education and training.”

In addition to Elias’ talk, which was heard not only at MUSC but also at Clemson University via video, Global



Photo by Anne Thompson

Bill and Melinda Gates Foundation’s Dr. Chris Elias gives the keynote speech at MUSC’s Global Health Week.

Health Week included a networking event, a look at how an organization called Grassroot Soccer is improving kids’ health in more than 50 countries and a discussion about ending preventable deaths of mothers and children around the world.

The goal wasn’t to solve all of the world’s problems in one week but to highlight success stories and inspire more people to see health as a global issue.

While too many people still live in

*See **POVERTY** on page 11*



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MEET ANNE



Anne Toward

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Family and pets

Husband, Jack; daughters, Casey, Jodie and Molly; son-in-law, Scott; grandson, Noah; a dog, Andy; and two cats, Sammy and Louie

Who in history would you most like to meet and why

President Abraham Lincoln because of his impact on American history and to learn how and why he made the important, difficult decisions during his presidency

Words of advice

"It is better to keep your mouth shut and appear stupid than to open it and remove all doubt." — Abraham Lincoln, Mark Twain and others. It is also found in the Bible.

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Submission Rules:

1. Contestants may enter only one category and enter one photograph.
2. CREW Team maintains the right to approve/disapprove any photo.



2018 YES Campaign



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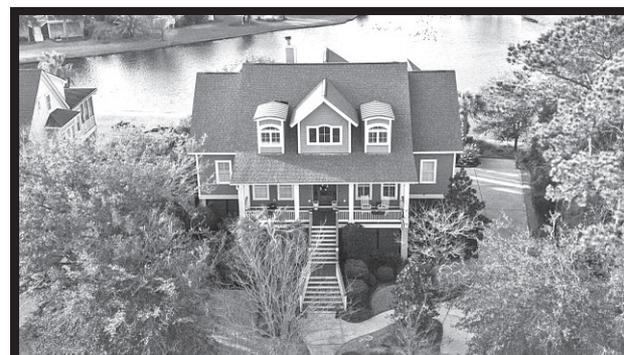
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MUSC launches state's only chronic pain rehab program

Program focused on addressing pain

BY MIKIE HAYES & JENNA LIEF

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America is fighting the deadliest drug crisis ever. And with Americans consuming considerably more opioids than any other country, nearly 60 percent more than Canada, the No. 2 consumer, according to the United Nations International Narcotics Control Board, the problem doesn't necessarily lie with illegal drugs. Prescribed opioid painkillers are actually at the heart of the issue. Reports that the American Society of Addiction Medicine, 259 million prescriptions were written for opioids in 2012, more than enough for every adult in the United States to have their own bottle of prescription opioids.

Part of the underlying problem is the fact that chronic pain is a real problem, affecting an estimated 100 million people in the U.S. alone. Doctors don't want their patients to suffer and mean well when they write prescriptions for pain medications. Kelly Barth, D.O., a psychiatrist and internal medicine physician at MUSC who concentrates her efforts on the management of patients taking opioid medications for chronic pain, said patients with this type of persistent pain can have a worse quality of life than patients with cancer, adding that chronic pain can negatively affect their daily lives in countless ways.

Properly treating pain while not creating addiction is a delicate balance — one that has not been struck particularly well. The increase in the number of opioid prescriptions written coincides with a high number of drug overdose deaths, said Barth. Today that number surpasses the total number of gun homicides and motor vehicle crashes combined. And as a result, the pendulum has swung. With data showing that Americans consume greater than 75 percent of the global supply of oxycodone and 99 percent of hydrocodone, it's no wonder that the Federal Drug Administration has cracked down on the prescribing of

opioids, declaring opioid misuse, abuse, dependence and overdoses have reached epidemic levels over the last decade.

In an effort to address both problems, MUSC launched South Carolina's first comprehensive chronic pain rehabilitation program in March. With half of opioid prescriptions in the U.S. written for chronic pain, opioid misuse and chronic pain often go hand in hand. As a result, doctors like Barth and patients alike sought more inventive and targeted forms of treatment to address chronic pain and opioid addiction.

Barth brought the multidisciplinary program to fruition and now oversees it. She believes the new rehab program will provide patients with a more effective approach. Its objective is to aid patients experiencing chronic pain who have been prescribed long-term opioids to address it. Already, the program has distinguished itself from others because it focuses heavily on eliminating patients' reliance on opioid medication that resulted from prior treatment.

Barth explained that in order to address the nation's over-reliance on opioids, it is necessary to address what's creating that reliance, which, she says, is chronic pain. The program "decentralizes" the use of opioids, while providing evidence-based non-opioid pain treatments and "giving patients the support they need to recover in a civilized way."

The Centers for Disease Control and Prevention recommends nondrug approaches such as physical therapy, exercise therapy and psychological therapies to address chronic pain. Barth said MUSC's program not only includes opioid reduction and elimination and medication management, but also cognitive behavior therapy, physical and occupational therapy, biofeedback and nutrition education. These evidence-based treatments are modeled after those employed at a highly successful rehabilitation program in Jacksonville, Florida, and also follow CDC guidelines.

Specific goals for recovery include



Pain Rehab Clinic physician Dr. Kelly Barth, from left, joins Shayna Epstein, Dr. Jeff Borckardt and Dr. Patrick Cawley during the March 5 Ribbon Cutting Ceremony and Open House. Left photo: Dr. Kelly Barth tours visitors around the facility located at the MUSC Wellness Center.

Photos by Cindy Abole

patients reducing or discontinuing the use of pain medications and education is also a major component of the program, as patients learn stress management, relaxation techniques and coping skills and improve the ability to self-manage chronic pain. Ultimately, Barth said, patients will be able to reduce their reliance on both opioids and health care professionals, moving more towards a model of "wellness rather than illness."

Barth said the first eight patients successfully made it through the program. Each feels lucky to have been a part of it.

Mark Amundson, 60, participated in the program after recently having been diagnosed with idiopathic neuropathy, a chronic disease in which nerve damage interferes with the functioning of the nervous system. Prior to MUSC opening its program, he sought treatment at medical institutions across the country and became reliant on the opioid

medications that doctors continuously prescribed him. However, even taking these prescriptions, his pain was excruciating. He said his legs and thighs "burned 24/7." So, when MUSC launched its rehabilitation program, he enrolled immediately, eager to resolve his pain and receive better treatment.

Amundson, one of the first cohort of patients, touched on some of the reasons he is such a fan. "It has been an unusual experience in the best way. It's not just about the patient approach. This is bedside manner. There seems to be a feeling, a commitment, and a sense of the patient's need. It's not just an office visit — trust me, I've seen enough doctors, but it's different here. Everyone is focused on the program."

The three-week rehabilitation program runs from 8 a.m. through 5 p.m., Monday through Friday and is

See PAIN on page 8

Antibiotic resistance: A global crisis in the making

By MIKIE HAYES

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A deadly type of bacteria accidentally released from a laboratory spread across an expansive property, infecting several rhesus macaques. Two died. An employee tested positive. Authorities rushed to contain the possible spread of a potentially fatal illness called Whitmore's disease that affects humans and animals.

What sounds like the plot of a Michael Crichton novel is not fiction at all. This incident happened in 2015 at an academic research center in Louisiana. And while pandemics make for gripping reading and disaster movies, there is an even scarier reality: In 2018, you could indeed catch an infection that doctors cannot treat.

Antibiotics, which doctors prescribe every day to cure infections, are not

working against certain bacteria, rendering one of the world's most valuable classes of medicines useless. When bacteria stop responding to antibiotics, it leaves humankind wide open for — as the World Health Organizations calls it — “a global crisis in the making.”

There are bacteria, like the type that caused Whitmore's disease, that have become highly resistant to several classes of antibiotics — including carbapenems, which are referred to as the “antibiotics of last resort,” by the National Institutes of Health.

That in a nutshell is what is keeps experts like Amanda Parks, M.D., an assistant professor in the Division of Infectious Diseases, up at night. Parks was recruited to MUSC to ensure everything possible is being done to promote appropriate use of antibiotics.



photo provided

A petri dish growing methicillin-resistant staphylococcus aureus (MRSA), bacteria that have become resistant to many of the antibiotics used to treat ordinary staph infections.

“This is the beginning of what has been theorized as the ‘post-antibiotic era,’ the time after antibiotics,” she explained. “Most physicians have never

been in that position — faced with treating an infection that is resistant to all antibiotics — it only takes one time to

See **RESISTANCE** on page 10

“My Reviews Speak for Themselves”

David Kent

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PAIN *Continued from Page Six*

organized so that patients are given individual attention from multiple specialists each day. Amundson feels that this type of overarching approach provided the biggest benefit for the “physical side of his disease.” He said the multiple factors that were contributing to his lacking health were not only assessed but addressed on a daily basis, which he credits with helping him get to where he is today.

“I still have pain, but I’m not standing on the corner saying “hey do you have pain relievers?” Instead, he said he is able to resist the urge for pain medication and confront his pain with methods taught in the program. In this way, he feels “a sense of accomplishment.”

Rosa Hardee, who like Amundson, was a part of the program’s first run, has benefitted as well. Since 1997, the 52-year-old has suffered from a host of physical ailments. She said she has suffered with arthritis flare ups, lupus, leukemia, and throughout, she has received infusions, undergone painful bone marrow tests, and was prescribed countless opioids like oxycodone.

In calling to mind these past 21 years, Hardee explained that the only thing that helped her were the opioids. In contrast, she added that during her treatment at MUSC, she received helpful advice from researchers, occupational therapists and physical therapists on how to handle her pain without relying on medication.



Photo by Cindy Abole
Among the MUSC Pain Rehab Clinic’s first patients are Rosa Hardee, left, Nancy LaPrince Fordham and Mark Amundson.

“It was so rewarding to be here,” she explained. “Everyone was so kind and interesting, you know. It was a different experience for me at my age. I thoroughly enjoy not wanting to be an old drug addict, and I was so happy that they were able to help me stop taking the oxycodone.”

“Although Rosa did not actually develop addiction,”

Barth added, “she like many patients fear becoming addicted to their opioids.”

Damian Millet, a patient nurse coordinator with the program, said the type of intensive approach that these patients received is particularly effective because it offers patients a hands-on experience with health care providers from multiple disciplines, all of whom are there to see patients succeed and return to a more functional life. They are busy eight hours a day, he said, and get a lot of personal attention in group settings. They make a great deal of progress in just three weeks.

“It is an intense education process, as they build coping skills and learn how to live with pain. Lynn Kimball and I are here with the patients all day,” he said of his fellow RN. “And every day, the M.D.s review their medications. The patients work in a group setting with psychologists three times per day, the occupational therapists once a day and physical therapists twice a day. This is all in an effort to taper them off opiates and positively improve their functioning and quality of life.”

The program is working. After years of taking prescriptions with little benefit, Amundson and Hardee are relieved to have taken such positive steps toward recovery after only three weeks at MUSC and feel blessed to have been a part of the program. They believe it has changed their lives for the better. To learn more about the program and how to apply, visit <http://www.muschealth.org/psychiatry/services/pain-rehabilitation-program/index.html>.



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AWARD *Continued from Page One*

the longest-funded grant in the United States related to age-related hearing loss.

During her tenure at MUSC, she has brought more than \$70 million to the institution. In addition to providing critical insights into the subject of hearing loss in the aging, this funding also has allowed for the employment of more than 100 research students and technicians. Most of the students have launched successful research careers, having had the opportunity to work so closely with Dubno.

Dubno's research program has been ranked near the top in the nation for NIH funding in Departments of Otolaryngology over the last decade. "Her experience and expertise have been invaluable in fostering the research careers of many faculty within our department. This has been a key component of our national ranking as #11 Best Otolaryngology Departments in the country by U.S. News & World Report," said Paul R. Lambert, M.D., professor and chairman of the Department of Otolaryngology-Head and Neck Surgery.

Widely acknowledged as an auditory scientist for her expertise in hearing loss and aging, Dubno has served as a leader in scientific societies and worked extensively in public policy related to hearing loss to improve access and affordability of hearing-loss treatments.

She was elected president of two major scientific societies, the Association for Research in Otolaryngology and the Acoustical Society of America, and is an elected member of two honorary scientific societies. She has served on two NIH scientific review panels, having chaired one, and was a member of the Advisory Council of the NIH, which is the committee that makes the final funding recommendations to the NIH.

Dubno has served on four consensus committees of the National Academies of Sciences, Engineering, and Medicine (NASEM), focusing on hearing and noise in the military, evaluating a government hearing-loss prevention research program and conducting an analysis of the long-term effects of blast exposure to service members in the Gulf War.

Most recently, Dubno served on the

NASEM Committee on Accessible and Affordable Hearing Health Care for Adults, which reviewed the evidence related to the importance of hearing to individual and societal health, including such issues as social isolation, physical and mental health consequences and economic productivity.

The committee reviewed and assessed current federal regulations, the affordability of hearing technologies and services and access to hearing health care. One of its recommendations was for the U.S. Food and Drug Administration to create a new category of over-the-counter hearing aids to improve access, lower costs and encourage innovative technologies. This recommendation directly led to the introduction of a bill in Congress that was signed into law on Aug. 18 as the Over-the-Counter Hearing Aid Act of 2017.

Dubno was recruited from UCLA in 1991 to help establish a research program in hearing at MUSC. At that time, there was growing recognition nationally that hearing loss was a major disability for older citizens, a problem that has only worsened in the ensuing decades, as baby boomers continue to reach senior status.

Today, it is estimated that 15 percent of individuals 18 years of age or older have some trouble hearing. This number increases to 25 percent for individuals ages 65 to 74 and over 50 percent for those 75 and older, according to a 2010 report published by the National Institute of Deafness and Other Communication Disorders. The consequences of hearing loss are significant, said Dubno. In addition to the obvious safety issues, studies demonstrate an increased incidence of isolation and depression and possibly an accelerated cognitive decline in patients with hearing impairment.

SAFETY *Continued from Page One*

Carolina Hospital Association to honor individuals who have made significant contributions to patient safety in our state. Award winners are recognized annually during the South Carolina Transforming Health Symposium celebration luncheon held at the Columbia Metropolitan Convention Center on April 10.

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RESISTANCE *Continued from Page Seven*

realize that it's terrifying."

Drug resistance is upon us, she said, but it wasn't unexpected.

"We've known this was going to be a problem, and it's a direct effect of wanton, injudicious over-prescription of antimicrobials, which has led to the emergence of drug-resistant bacteria."

Shortly after Alexander Fleming discovered penicillin in 1928, scientists discovered emerging resistance to penicillin. As predicted, bacteria have evolved and adapted to specific drugs, making the germs less susceptible or resistant. And now hospitals are challenged with managing deadly drug-resistant infections.

"For decades, it was projected that this could become a problem, and now it has."

ANTIMICROBIAL STEWARDSHIP

More than 2 million people in the U.S. become ill every year as a result of antibiotic-resistant infections, according to the Centers for Disease Control and Prevention, and 23,000 die. Worldwide that number is 700,000 a year, a statistic that is said to be on the low side, according to the 2014 Review on Antimicrobial Resistance, an influential study that was commissioned by the United Kingdom Department of Health and referenced widely by the National Institutes of Health.

To help combat this, Parks believes that providers should ask questions before prescribing antibiotics.

"First — do they really need antibiotics?" she asked. "A lot of times, people are incorrectly presumed to have infections, and they receive the antibiotics unnecessarily," she explained. "Secondly, if they do actually have an infection, is it an infection caused by a bacteria or a virus? If it is a virus, antibiotics won't treat a virus. If it is a bacteria, what is the appropriate antibiotic to use? Lastly, what is the appropriate duration of treatment? Does everyone need two weeks of Ciprofloxacin? Probably not."

Joel Melroy, Pharm D., director of Adult Pharmacy Services, agreed, adding that well-meaning parents may ask their pediatricians for specific antibiotics

when their children are sick. And despite decades of warnings, doctors continue to overprescribe antibiotics for colds, flu, and upper respiratory infections, even though most are caused by viruses that antibacterial drugs can't help.

"Giving an antibiotic for infections that are not bacterial contributes to this growing problem," he said. That "shotgun approach," as he called it, worries Melroy.

"One of the fears we all have is antibiotic resistance. Beginning therapy on broad-spectrum antibiotics may be appropriate as long as therapy is transitioned to the most suitable therapy to focus on specific infections as soon as specific micro-organism information is available. If we don't de-escalate therapy to focus on specific infections, then we are not only impacting one patient, we have potentially populations of people who may be affected due to antibiotic resistance."

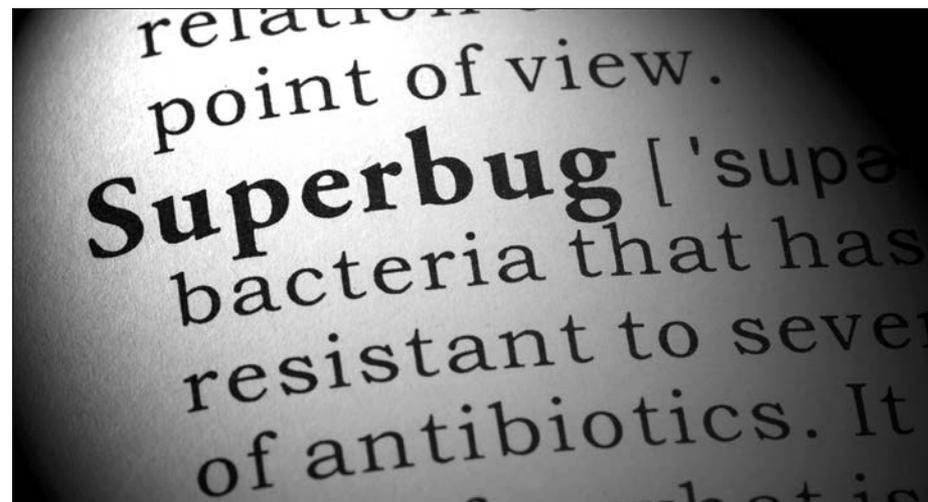
Shawn MacVane, Pharm D, a clinical pharmacy specialist in infectious diseases, is focused on this crisis. MacVane collaborates with Parks, John Gnann, M.D., director of the Antimicrobial Stewardship Program, and Terry Dixon, M.D., Ph.D., a pediatric infectious disease specialist involved in the antimicrobial stewardship program. This team of physicians and pharmacists is tasked with improving the appropriate use of antimicrobials by ensuring the appropriate antimicrobial drug regimen, dosage and duration are used.

MacVane said that as high as 30 to 50 percent of the antibiotic prescriptions written are prescribed inappropriately, relating figures published by the CDC. Repeated exposure, he said, can lead germs to become resistant to the drugs.

Take methicillin-resistant staphylococcus aureus (MRSA), bacteria that has become resistant to many of the antibiotics used to treat ordinary staph infections.

MRSA, which has developed resistance to penicillins and cephalosporins usually used to treat staph infections, can be deadly. Patients with serious MRSA infections require hospitalization for treatment with alternative antibiotic regimens.

But according to Parks, compared to a new resistant strain of CREs, or



carbapenem-resistant enterobacteriaceae, MRSA is now just a superbug lite.

MacVane points to a CRE called NDM-1, a gene carried by some strains of bacteria, which is resistant to even the last resort antibiotics, like carbapenems.

"There are no current antibiotics to combat bacteria that have the NDM-1 gene, and this makes it potentially extremely dangerous," he said.

NDM-1 stands for New Delhi metallo- β -lactamase-1. It was first seen in 2008 in India. By 2010, it reached the U.S., and by 2015, it had been detected in more than 70 countries worldwide. The WHO said the rise of NDM-1 could present a "doomsday scenario of a world without antibiotics."

"Once MRSA was the big threat," said Parks. "But a CRE can be resistant to just about everything we have."

She paused. "There's nothing quite as bone chilling as looking at a patient and saying, 'I'm sorry. There are no antibiotics to treat this.'"

Parks came to MUSC at the beginning of the year to join the Antimicrobial Stewardship Program that has been in existence since 2009. She was pleased with what she found: MUSC has a very low rate of CREs.

"The unique thing about MUSC is that we actually have a phenomenally low rate of these super-resistant organisms."

She feels that through a strong stewardship program, MUSC can make greater strides in judiciously using the antimicrobials that are left, which could delay the evolution of resistant bacteria. Already, the stewardship team has been able to reduce resistance to the drug Ciprofloxacin.

"That's important. We're not quite at the very end — we can still slow this process. But we need to get the most mileage we can out of the antimicrobials that remain. That's the point of stewardship," she said. "To be proactive and continue to guard the unnecessary use of our antimicrobials in order to preserve the rate of low CREs."

WILL BUGS STAY ONE STEP AHEAD?

Another big problem is there are few innovative new antibiotics in Big Pharma's pipeline. Developing antimicrobials is not a lucrative endeavor, and it's very time-intensive, Parks said.

"Development and production has really slowed tremendously over the last 20 years. You don't take antibiotics daily for the rest of your life — like you do with Lipitor or Norvasc — it's perhaps a week or two. For all the time and money that goes into developing a new antibiotic, the return on investment really isn't there. As a result, they are not compelled to invest their dollars there."

In 2014, a presidential task force for science and technology determined that emerging antimicrobial resistance was not only a public health threat but a threat to the U.S. economy.

"As a result, they outlined what we needed to do as a nation to prevent this from becoming a true catastrophe. From that, the Joint Commission made antimicrobial stewardship mandatory for all acute and now subacute hospitals and nursing homes. That's a good thing."

Parks' recruitment is an effort to ensure that antimicrobial stewardship

See **RESISTANCE** on page 11

UPDATE *Continued from Page Two*

mid-March passing of Robert C. Gordon, D.D.S. An Orangeburg dentist since 1972, he had been a member of the MUSC/MUHA Board of Trustees since April 2017 and had represented the 6th Congressional District. Visit <http://academicdepartments.musc.edu/pr/pressrelease/2018/gordon.htm>

Danielle Scheurer, M.D., chief quality officer for MUSC Health, reported that effective March 7, the Office of Clinical Standards and Quality in the Centers for Medicare and Medicaid Services (CMS) recertified the Heart Transplant Program. MUSC Health is the only hospital in the state that performs heart transplants.

In other business, the board voted to appoint Zoher Kapasi, PT, Ph.D., the next dean of the College of Health Professions, effective May 1. Associated with Emory University since 1994, Kapasi brings 24 years of experience as an academic faculty member and seven years of experience as an academic leader as the Emory University School of Medicine's director of the Division of Physical Therapy, vice chairman of education and chief of outpatient development in the Department of Rehabilitation Medicine. For more information, please visit <http://academicdepartments.musc.edu/pr/pressrelease/2018/kapasi.htm>

During its previous meeting, the board voted to approve Linda S. Weglicki, Ph.D., RN, the next dean of the MUSC College of Nursing, effective June 1. Weglicki has more than 40 years of professional experience in nursing practice, education and research. An internationally recognized scholar and leader in adult and community health nursing, she joins MUSC with numerous leadership achievements showcasing her commitment to mentoring and fostering the next generation of nurse leaders, practitioners, researchers and scholars. For more information, please visit <http://academicdepartments.musc.edu/pr/pressrelease/2018/weglicki.htm>

"Dr. Kapasi and Dr. Weglicki were selected after extensive national searches," said Lisa K. Saladin, PT, Ph.D., executive vice president for Academic Affairs and provost. "I want to express my gratitude to the search committee and especially to the chairs for the time, effort and due diligence performed to identify the best candidates for these critical leadership positions." Mark Sothmann, Ph.D., chaired the search for the College of Health Professions dean, while Darlene Shaw, Ph.D., chaired the search for the College of Nursing dean.

"I would also like to extend my appreciation to Dr. Jim Zoller for his service and excellence as interim dean of the College of Health Professions since July 1, 2016,"

Saladin said. Chair of the Department of Healthcare Leadership and Management for five years in the College of Health Professions, Zoller has announced plans to retire from MUSC once the new dean comes aboard. In recognition of his 24-year distinguished career in academia at MUSC and outstanding service to the institution, the board voted to appoint Zoller dean emeritus effective July 1.

Weglicki succeeds Gail Stuart, Ph.D., RN, whose esteemed leadership has propelled the MUSC College of Nursing to national prominence and excellence during her 16-year tenure as dean. To recognize her years as dean and 33 years with MUSC, the board approved Stuart as dean emerita effective June 30. On that day, she steps down after dedicating 47 years to the nursing profession. During her time as dean, Stuart raised the school's profile by increasing its research funding by more than 470 percent to become a top-tier college for nursing research. The college also landed the No. 1 spot on the U.S. News & World Report list for online graduate nursing programs in 2015 and has been consistently ranked among the top three in the country for the past four years.

The MUSC/MUHA Board of Trustees serves as separate bodies to govern the university and hospital, holding two days of committee and board meetings six times a year.

RESISTANCE *Continued from Page Ten*

continues to grow and develop. She said MUSC has a top-notch stewardship program, but it could be a lot more. It's understaffed, she said.

"The effort at this point as an institution is to develop a more robust stewardship initiative. The subject needs more awareness. Most people don't even know infectious disease doctors exist. We need at least two more pharmacists. The pharmacists are the linchpin of the whole program. A specially trained pharmacist, like Shawn MacVane, who has done a fellowship in infectious disease, is invaluable. They monitor hospitalwide use of antimicrobials, making sure the correct ones are being used."

Melroy agreed. "Shawn and his colleagues are not in the daily lens of the staff and patients at MUSC, but they are guardian angels in the background. They are experts in understanding susceptibility and resistance patterns. They are helping providers and patients improve our antibiotic utilization. They are curbing the threat by making sure patients are on the most appropriate

therapy. Patients don't know what the risks are with these agents, so our staff helps ensure their safety."

Parks and MacVane also work closely with Lisa Steed, Ph.D., director of diagnostic microbiology in the Department of Pathology and Laboratory Medicine. Parks praised the rapid diagnostics capabilities at MUSC.

"We have cutting-edge technology that helps to identify problem organisms generally about 24 hours sooner than you would if you had to use standard culture methods. And, we have Dr. Steed. She's incredibly sharp, and she's passionate about this work. You have to have the passion to make any of this work."

She bottom-lines the looming problem — it's all about antimicrobial stewardship.

"At the end of the day," Parks said, "we're all potential patients — every single one of us who works and practices here are patients, and nobody wants an infection like a CRE. What we can do is be good stewards of our remaining antibiotics, put effective systems in place and make sound decisions. Antibiotics are really a treasure; one we have too long taken for granted."

POVERTY *Continued from Page Four*

extreme poverty, other problems appear to be on the way out. Elias told a story about what he called "the world's smartest sticker." It was created by a company in the U.S. to monitor the temperature of perishable food. The sticker, a small circle, changes color when it's exposed to heat.

Researchers realized it might be helpful in a much more important area: telling whether polio vaccines, which require constant refrigeration, had been kept cool enough to still be effective. It worked — in a big way.

"This simple innovation, based on a very innovative partnership between the public and private sector with support from the United Nations and others, was critical to enabling the success we're about to achieve with the polio eradication effort," Elias said. "We're on the edge of succeeding in polio eradication, which would be the second disease ever eradicated from the globe."

Sweat said it was a reminder that global health efforts do make a difference. "These remarkable achievements are not by accident. They

have occurred by concerted efforts of health professionals like those we have on campus here. Having a healthier world population is good for everyone."

MUSC Gospel Choir's Spring Concert set for April 25, St. Luke's Chapel

The MUSC Gospel Choir will perform a Spring Concert in celebration of the group's one-year anniversary from 12:15 to 12:45 p.m., Wednesday, April 25 at St. Luke's Chapel.

The choir is comprised of students, faculty and staff from across the MUSC enterprise.

The choir is led by choir director Wayne Singleton and supported by faculty advisors, Shannon Jones of MUSC Libraries and Myra Haney Singleton, College of Medicine's Dean's Office.

For information, contact Jones at joneshan@musc.edu or Singleton at 792-1672.



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Visit horseshoe.musc.edu/everyone/employee-appreciation for details on the Employee Appreciation Day Celebration, Hospital Week, Nurses Week, University calendar of events, MUSC Physicians, and off-site location events!



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Celebrate Nurses' Week!!!!

Calendar of Events

- Monday, May 7th- Healthy Work Environment (HWE) will host the Nurse of the Year Ceremony-10a-11a St Luke's Chapel
- Tuesday, May 8th- Nursing Excellence Transformational Leadership Council (NETL) will sponsor leadership rounding and virtual yearbook
- Wednesday, May 9th- Exemplary Professional Practice (EPP) Council will sponsor coffee cart, snacks and mobile photo challenge
- Thursday, May 10th-New Knowledge and Innovation (NKI) Council will host a Poster Development workshop, 1PM-2PM, 2W Classroom
- Friday, May 11th-Structural Environment (SE) Council will support information sharing on Professional Development and rounding
- Saturday, May 12th-Florence Nightingale's Birthday

Unit based councils are asked to plan celebration activities throughout the week.

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