SEARCHING FOR HIDDEN CONNECTIONS

Study uses power of artificial intelligence to find new uses for approved medications
DEAR ALUMNI AND FRIENDS,

The mornings have turned cool and crisp, the leaves are falling, and you can see your breath in the morning chill. For me, this time of year represents a season of thankfulness, when we share in the joy of our many blessings.

One of the things for which I am profoundly grateful is the giving attitude of our faculty, staff, students, donors, preceptors and friends of the College of Pharmacy. This profession is one that focuses on the ability to share knowledge that will improve the lives of others. The College of Pharmacy demonstrates this in so many ways.

This issue of Gamecock Pharmacist features several stories of how our students, faculty and staff are continually giving back. It is through community events supported by our student organizations, the selfless actions of a student to save someone’s life, participation in international medical trips to help patients and train health care providers, and collaboration across our health sciences units which provide students with the skills they will need as they move into their future careers.

We also highlight two of our longtime and esteemed colleagues. Gene Reeder and Stan Papajohn each made the decision to step away from their faculty positions after a combined 70 years of service to the college. While we will miss their regular presence in our hallways and classrooms, they both leave enduring legacies that will benefit our students for years to come.

I invite you to share your thoughts on how we can continue to move the College of Pharmacy forward by becoming a member of our Dean’s Circle or getting involved with our new Alumni Council. Your input on how we can work together for the betterment of our profession is of utmost importance to us.

I look forward to our future conversations and thank you for your continued support of our college as we move toward an even more exciting year for 2024.

Forever to thee.

Stephen J. Cutler
Dean, College of Pharmacy
Embracing excellence in research: 
A journey of collaboration and discovery

Amidst the Covid pandemic in August 2020, I was honored to be appointed as the interim associate dean for research by Dean Cutler. What started as a temporary role evolved into my dream job, a position I have held with immense joy and passion since February 2023. This journey has been fulfilling. It’s been fueled by my love for research, dedication to our exceptional college, appreciation for its remarkable community, and the thrill of fruitful collaborations that converge harmoniously in this role.

Our vision at the COP Office of Research is to foster a culture of research excellence. We propel ideas into groundbreaking discoveries. Our mission is to empower faculty and students through a collaborative environment, removing barriers that hinder progress.

To bring our vision to life, the Office of Research has launched several funding-focused initiatives. An example is our biannual Grant Writing Boot Camp, exclusively tailored for COP faculty. In collaboration with the USC Office of the Vice President’s PROPEL boot camp, this program equips our faculty with essential research funding skills.

Moreover, our Faculty Development Seminar series facilitates constructive feedback on project Specific Aims, encouraging competitive grant submissions and fostering interdisciplinary discussions. As a testament to our collective efforts, our faculty in 2022 achieved an all-time record of $8,413,528 in total federal funding.

We also recognize the significance of large-scale program project grants, often exceeding $2 million annually, in driving research and COP success. Our commitment to this objective is exemplified by housing the esteemed Center for Targeted Therapeutics since 2014, funded through the NH Center of Biomedical Research Excellence (COBRE).

Additionally, we have collaborated with the Arnold School of Public Health and School of Medicine to lead an NIH-funded cooperative agreement addressing obesity in the African American community, which is being leveraged for the development of a second COBRE grant slated for submission in early 2024.

As I reflect on my journey as the associate dean for research, I remain deeply committed to embracing research excellence and fostering a supportive ecosystem that nurtures innovation and curiosity. I am honored to serve alongside exceptional faculty, students and staff, united in our unwavering dedication to advancing knowledge and making a lasting impact on society.

Let us continue this voyage of collaboration and discovery, shaping the future of our college and beyond. The transformative power of research lies within us, and it is an honor to contribute to this journey of exploration and innovation in academia.

Lorne Hofseth, Ph.D., is the Associate Dean for Research at the College of Pharmacy

BY THE NUMBERS

$8.4M in total federal funding is a record high for the college

The college doubled the number of NIH-funded investigators from six to 13 since FY 2020.

43% increase in NIH funding to the College of Pharmacy since 2020.

Ranked #31 nationally in total NIH funding, increasing steadily since 2020.
**J. ADDISON LIVINGSTON II, ’97**

Growing up on a farm in Swansea, South Carolina, Addison Livingston knows what it means to work hard. “Life on a farm is all I knew growing up and that means working all day, every day. You do what needs to be done,” he says. Farm life also taught him another valuable life lesson: no fear, a message he shared with the Class of 2023 as he addressed them at their hooding ceremony.

“On a farm, you constantly battle uncontrollable circumstances. Sometimes it’s too much rain, sometimes it’s too little rain. Sometimes, it’s frost, wind, hail or insects, but there is always a risk. But no matter the risk, my father would plant again every year with no fear. I have carried that mindset with me throughout my career.”

Livingston has had a most successful career. His interest in pharmacy sparked from conversations with his local pharmacists and shared discussions about animal medicine. Livingston says when he first entered USC, it was overwhelming to move from a class of 99 students to a large university. “I wasn’t an academic overachiever as an undergrad, but Dean Fincher and the College of Pharmacy took a chance on me.”

“When I got to pharmacy school, it was like going home again. It was a family atmosphere where I made friendships that have lasted a lifetime.” A change to his rotation schedule resulted in a long-lasting impact on his career. Livingston landed with one of the owners of Hawthorne Pharmacy in Columbia. “During my rotation, the owner asked if I would be interested in a part-time position because I already had my B.S. degree and was a licensed pharmacist,” he says. “This rotation started a string of opportunities and failures that have molded my career.”

Twenty-six years later, Livingston is co-owner and president/CEO of Hawthorne Pharmacy and Medical Equipment with several locations in South Carolina. Livingston has made it a priority to be active in policy development for the profession through his involvement in numerous pharmacy organizations. He also served as chair for the South Carolina Board of Pharmacy. In being named an outstanding alumnus, Livingston says that he has been fortunate to serve both the college and his profession. “It seems that I have gotten more out of it than what I have given. I would encourage all alumni to give back – your time, your experience. Giving back is extremely rewarding.”

**DEBBIE TAPLEY, MBA, ’84**

Debbie Tapley, MBA, ’84, is the recipient of the College of Pharmacy’s inaugural Outstanding Friend of the College award. Following residency, Tapley took a pharmacist position on the night shift. After the pharmacy director asked her to consider managing controlled substance distribution in surgical services, her career began an upward trajectory.

She earned her MBA from the University of South Carolina in 1984 and advanced to director of the hospital’s pharmacy residency program. “I really had no intention of staying for more than a year but then one thing led to another,” she says.

Her interest in pharmacy was inspired by her grandmother, a medical technologist in their hometown hospital in Hartland, Maine. “I would wander around the hospital and thought I wanted to be a technologist as well, but my mother suggested I should look at something more demanding,” she says. A friend suggested pharmacy, and after I looked it up in the Encyclopedia Britannica, I never thought about anything else.”

Having students around ensures you must constantly stay abreast of the most current trends in the industry.”

“After I became director, my entire livelihood centered around the ability to get great, qualified people onto our staff, and a significant portion of those individuals came from USC,” she says. “Over my career, I have watched the progression of the profession and how fast it has changed. Having students around ensures you must stay current.” Tapley has always felt mindful about the profession’s future practitioners. “I think about how this incredible education has contributed to my life,” she says. “I believe we have a responsibility to give back and support the program.”

Tapley says she is honored to be recognized as the first recipient of the Outstanding Friend of the College award, which is presented to non-alumni who best exemplify commitment and support of the college through volunteerism, philanthropy and service. “The college has been a significant part of my journey but has been on its own journey as well,” she says. “The profession has grown and changed over the years, and I cannot wait to see what it will look like in the future. By staying affiliated with the university, I get to see that journey.”
ALUMNI AWARDS

JARROD TIPPINS, ’09

OUTSTANDING YOUNG ALUMNUS OF THE YEAR

First alumnus to receive this new award

When Jarrod Tippins applied to the University of South Carolina as an education major, his mentor, Dan Bushardt, ’70, convinced him that he should consider pharmacy as a future career.

He took Tippins to his first South Carolina Pharmacy Association meeting, where Bushardt served as president. That’s where Tippins saw firsthand what leadership looked like.

“He always told me that you can be at the table or on the table,” says Tippins. “When I saw how active he was and the influence he had on important topics, I knew that I wanted to be involved.”

Tippins earned his Pharm.D. and launched his professional career with CVS Pharmacy, where he became an emerging entrepreneur, to be a great pharmacist and to be impactful in my community. “I have always asked myself how I could make an impact and enjoy what I do,” Tippins says. “I wanted to be an entrepreneur, to be a great pharmacist and to be impactful in my community.”

For his dedication to improving the lives of his patients and his community, Tippins has been recognized with multiple awards, including the SCPhA Distinguished Young Pharmacist of the Year. For implementing solutions to provide vaccinations and testing during the COVID-19 pandemic, he earned the SCPhA Excellence in Innovation Award. Tippins serves on several community boards, including the Florence County Disabilities Foundation, All-A-Autism Rotary Club of Florence and the McLeod Health Foundation. He was named Small Business Person of the Year by the Greater Florence Chamber of Commerce in March. Tippins believes in giving support to the College of Pharmacy.

“The Expo has become an expectation of the students each year that is met with anticipation,” says Amy Grant, associate dean of student affairs and diversity. “Every job, every experience we have as Pharm.D.s can be informative and help students as they prepare for a career. You will wind up running your profession,” Grant says. “Holding the Expo virtually not only allows for greater participation from pharmacists located all over the country, it lets students practice professional networking with individuals who are not physically located in front of them.”

Mark Neese, ’18, has been a presenter at past Career Expos. He is an associate director working in Business Development and Licensing with Bayer Pharmaceuticals on diversities and our licensing deals.

“Most Pharm.D. programs focus on clinical/hospital first, retail second and may only have a few industry opportunities,” Neese says. “Luckily for me, an upperclassman and some professors provided information about accessing opportunities in industry, but I wish I had learned about industry and how to prepare for it earlier.”

He urges more alumni to consider taking part in the Career Expo.

Finding their path

Students rely on alumni to learn about career options

Student pharmacists say one of the most valuable ways they learn about career options is by talking with those who have gone before them.

That is the purpose behind the College of Pharmacy’s annual Career Expo, which will take place on Feb. 3, 2024.

This virtual networking event is a requirement for first- through third-year students. It is a chance to talk with experienced pharmacists from a wide array of backgrounds, from traditional roles such as community and independent pharmacy, clinical specialties, hospital settings and small pharmacy to non-traditional options in the pharmaceutical industry, managed care and consulting.

“‘Hopefully in return I can help pave the way for someone else,’” Tippins says. “‘I want to be involved.’”
When Gene Reeder was a teenager, he worked for a local pharmacist, riding his bike to make deliveries to patients in his community and sweeping the floor at the end of the day. “My first promotion was from making deliveries to being a soda jerk,” he says. “I still make a mean milkshake.”

Reeder’s desire to be part of the pharmacy profession grew stronger. In 1973, he earned his first of three degrees from the University of South Carolina with a Bachelor of Science degree in pharmacy, and in 1983, a Ph.D. in Health Care Management and Economics. Shortly after completing his bachelor’s degree, Reeder was invited to become a part-time faculty member at the College of Pharmacy. “Dean Julian Fincher then offered me a full-time position,” Reeder says. “I had really never thought about being a teacher until someone gave me that opportunity.”

Fincher further encouraged Reeder to pursue pharmacy administration. From there, Reeder expanded his knowledge base to include pharmacy management, economic evaluation of pharmaceutical interventions and health care policy. Reeder retired initially from teaching at USC in 2008 and worked in the private sector as a consultant. The pull of teaching was strong, however. In 2016 Dean Stephen J. Currier asked him to consider returning to his alma mater. Reeder never hesitated. He was named director of outcomes research for the Kennedy Pharmacy Innovation Center. “I have always been happiest when I was with my colleagues and my students,” he says.

Reeder’s many accolades include the Outstanding Alumni Award from the College of Pharmacy, the Bowl of Hygeia Award from the South Carolina Pharmacy Association and the Richard A. Rempel Award from the USC Student Body Government for his concern for the welfare of the student body. He has served as president of both the APhA Academy of Pharmaceutical Research and Science and the Academy of Managed Care Pharmacy, and he has been chair of the USC Faculty Senate. When asked about his greatest achievement, Reeder humbly credits his graduation with the U.S.C. Student Senate. “I had always been happiest when I was with my colleagues and my students,” he says. “I tell my students to stick with me because you’ll go places!”

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Gene Reeder

Gene Reeder retired after two distinguished careers. Stan Papajohn retired after two distinguished careers.

After 49 years, Gene Reeder retires.

Stan Papajohn retired from his first career in 1996 after 35 years as a community pharmacist. Now he is hanging up his white coat for the final time after 23 years as a clinical instructor in the College of Pharmacy’s community lab.

Papajohn has always been a stickler for keeping order in the lab. He takes immense pride in ensuring procedures are followed to the letter, yet always with a sense of humor. This will be the first semester in 25 years that first-year student pharmacists will not be greeted in the lab by the “Chair Man.”

“That’s because I always made them put their chairs up,” he says with a chuckle. The College of Pharmacy recognized Papajohn early in his pharmacy career as its first Preceptor of the Year. “At that time, as an independent pharmacy, we had one student for four weeks, followed by another,” he says. “Gene Reeder was one of my students. I tell my students to stick with me because you’ll go places!”

Because of his extraordinary efforts in advancing the education, mentoring and career development of student pharmacists, Papajohn was awarded the college’s Distinguished Service Award in May.

Papajohn has been active in his community. He has sung in his church choir for 72 years. He has designed the T-shirt for Columbia’s Greek Festival more than 30 years. Following the devastating floods of 2015, he helped bring a smile to neighborhood faces by drawing art on the tree trunks left behind when floodwaters receded.

At age 89, Papajohn wants to spend more time with what is most important to him – his family. His father immigrated to the U.S. from Greece, as did his mother’s parents. Papajohn had never visited his homeland until this past June, when his family took him to the Greek islands. He also has painted murals for the college, and during COVID-19 shutdowns he created coloring pages for kids to enjoy.

He leaves with this advice for students and their spouses are USC alumni as well. “As a kid, I was all about the Gamecocks,” he says. “Then as a student, I drew cartoons for Paul Dietzel’s football team and for the college newspapers.”

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“God has been good to me. I have had so much fun and enjoyed my stay at the university,” he says. “It has been a great journey. I will miss it, but it is time.”

Stan Papajohn retires after two distinguished careers.

After 49 years, Stan Papajohn retires.
Searching for hidden connections

Study uses power of artificial intelligence to find new uses for approved medications

Every year, hundreds of studies are published on drug treatments for various diseases, their outcomes and side effects — both bad and good. No one person or team could digest all the information, much less find subtle connections between different therapies studied.

But that is exactly what a team of researchers, including several in the University of South Carolina’s College of Pharmacy, is aiming to do by using the computing power of artificial intelligence. The team includes biomedical and computer scientists, medicinal chemists, pharmacists and statisticians, as well as psychologists.

The project, funded by a $2 million grant from the National Institutes of Health, marks the first time the Clinical Pharmacy and Outcomes Sciences department has collaborated on research with the Drug Discovery and Biomedical Sciences department.

“This analysis requires diverse expertise ranging from computer science, biomedical, statistical and clinical experience — all of which we have in our team,” says Scott Sutton, chair of CPOS. “That expertise provides a strong partnership to ensure the success of this project.”

The project has several components, but primarily the teams are looking for information from studies of approved drugs and their outcomes, particularly in patients with HIV-associated neurocognitive disorders.

These conditions — known as HAND — affect about half of the 36 million people worldwide and 1.2 million in the U.S., who are living with HIV infection.

“That’s across the spectrum. It’s not in one population with the disease. It could be with anybody who has the disease,” says Michael Shtutman, director of the Functional Genomics Core in the College of Pharmacy.

Often these cognitive deficiencies are augmented by substance use disorder comorbidities, which can also affect how well patients manage their HIV treatment.

Currently, there is no approved treatment for HAND.

“It’s both biological and psychological effects,” Shtutman says. “When people have substance use disorder, that contributes to HIV protein neurotoxicity. But the other aspect — when a person is addicted to illicit drugs — they may not keep up their treatments. And that leads to more virus. This combination can have severe neurological effects, so it’s very important to somehow be able to stop that process.”

Another “cause” of cognitive issues in patients with HIV is the result of more effective anti-retroviral therapy, which means patients with HIV are living longer. Despite the improved overall outcome, patients’ quality of life can be compromised by a range of cognitive issues, including memory loss.

“With aging, people living with HIV can develop dementia and other age-related complications earlier than most populations,” Shtutman says.

Another part of the AI-driven study looks at millions of medical records through the Veterans Administration to find different outcomes based on different medications used. That study has the potential to prompt future clinical trials.

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This approach aims to determine new mechanisms of HIV and substances of abuse interactions and to discover repurposed drug candidates for the treatment of HIV-infected substance use disorder patients,” Sutton says.

Finding off-label benefits for approved medications is not new, but using the power of AI to harvest the data related to these outcomes is.

“The combination of sciences coupled with modern technology — the ability of artificial intelligence and computation methodology — is allowing for a new research partnership.”

In addition to Shuttman and Sutton, the research team includes Michael Wyatt, chair of Drug Discovery and Biomedical Sciences, College of Pharmacy Ph.D. candidate Celia Cui and computer scientist Ilya Safre, Ph.D., associate professor in the Department of Computer and Information Sciences at the University of Delaware.
The Veterans Health Administration is the largest health care system in the country, providing care to more than 9 million military veterans at more than 1,300 health care facilities. At the College of Pharmacy, that translates into valuable learning and research opportunities.

Fourth-year pharmacy students can participate in rotations at VA clinics, while researchers can access the VA’s extensive database of medical records. Additionally, a number of pharmacy alumni are, or have been, employed as VA pharmacists.

“The Veterans Affairs Administration has had a commitment to teaching and giving back across all the health professions. They have been a valued and invaluable partner to our program over the years, providing innovative inpatient and outpatient practice opportunities for pharmacists and the pharmacy students they supervise,” says Jennifer Baker, ’92, the director of Experiential Programs and a clinical associate professor in the USC College of Pharmacy.

Baker says the federal health care system has long taken steps to involve the profession of pharmacy into the practice of health care. When student pharmacists are in their final year completing their rotations as part of their clinical training, some spend time in VA clinics around the state.

“The veterans are the patients. The decisions are the responsibility of the licensed practitioner, but the ICP students are making recommendations and looking at patient information and interacting with patients to provide recommendations to improve the lives of patients.” Baker says. “In the case of the VA, with the veteran population, most of our experiences currently within South Carolina are in the clinics. The VA systems are huge and have clinics that are rural or spread out all over, and that’s where we see a lot of our activity taking place.”

For Scott Sutton, ’98, a professor and chair of the College of Pharmacy’s Department of Clinical Pharmacy and Outcomes Sciences, access to VA medical records has been the key tool in his research.

Sutton is affiliated with the Dorn Research Institute, an independent nonprofit established to support the research and educational activities at the Columbia VA Health Care System. Because of that connection, he is able to tap into the VA Informatics and Computing Infrastructure (VINCI) — a collection of the medical records of all veterans.

“For example, if a drug has been shown to be efficacious in a clinical trial, that doesn’t mean the same outcomes will occur once the drug is being used on general patients. Sutton and his fellow COP researchers, Joe Magagnoli and Tammy Cummings, partner with pharmaceutical companies to understand utilization of drugs or how patients with a certain disease are being treated. For example, if a drug has been shown to be efficacious in a clinical trial, that doesn’t mean the same outcomes will occur once the drug is being used on general patients. Sutton and his team partner with companies to help understand the true effectiveness of their drugs in the real world. Their research group also works on drug repurposing — understanding how medications that are used for certain diseases can be effective in the management of other diseases.

Instead of being in a lab trying to identify a drug from ground zero, we’re taking drugs that are already on the market being used for a certain disease state, but they have other activities that nobody knew at the time. And we are able to find those,” he says. “That’s really been where our most innovative use of this data set and relationship with the VA has come.”

Partnering with researchers at USC and Dr. Jayakrishna Ambati at the University of Virginia School of Medicine, the group has looked at a medication used to manage HIV that has also been shown to provide benefits in the treatment of macular degeneration.

Sutton, who has been working with the VA data for about 20 years and has spent a total of 25 years at USC, says this is just one example of the work College of Pharmacy researchers have done, and it demonstrates an innovative way to use data to understand or identify new targets and new drugs.

“When we are able to utilize our relationship with the VA, we can really help pharmaceutical companies to understand how medications that are used for a certain disease state, but they have other activities that nobody knew at the time. And we are able to find those,” he says. “That’s really been where our most innovative use of this data set and relationship with the VA has come.”

Partnering with researchers at USC and Dr. Christopher Wood, Executive Director of the Dorn Research Institute, there’s no way for us to access this.”

And as good collaborations often go, the Columbia VA sees the value of the relationship from a different perspective.

“We are grateful for the veteran-focused work Dr. Sutton and his team conducts and their commitment to improving veteran health,” says Dr. Christopher Wood, Executive Director of the Dorn Research Institute. “His team’s work leverages the largest integrated health care system in the country and has the potential to benefit a multitude of health conditions that impact veterans as well as non-veterans.”
Donors play an important role in the life of our college. Our annual “Give 4 Garnet: Day of Giving” campaign offers a fun opportunity for faculty, staff, alumni and friends to rally together in the spirit of participation and fundraising. In just 18 hours and 01 minute, our 2023 donors helped place COP on the university’s Top 10 list for dollars raised and greatest number of donors. We asked a few of our donors why they participate in Give 4 Garnet.

Chengwen Teng, Faculty member, College of Pharmacy

“As a faculty member, I choose to support the college through Give 4 Garnet in the student scholarship fund because I think we should encourage students to study hard to pursue their academic and career goals by awarding scholarships to outstanding students. I was awarded a scholarship when I was a Pharm.D. student in the University of Oklahoma College of Pharmacy and a Ph.D. student in the University of Texas at Austin College of Pharmacy. I would like to give back to the pharmacy profession.”

Jeff Tuori, Parent of Catherine Tuori, Class of 2024

“The Give 4 Garnet campaign is a great opportunity to support the USC programs that are most important to you. As parents of a P4 in the College of Pharmacy, we see first-hand the amazing education that COP provides its students. The experience and classroom education our daughter is getting from a faculty that is both gifted in the classroom and in practice has well prepared her for her career. As a family, we have always believed that an education is the most important gift we can pass on, and that is why we have chosen to support the college through the Give4Garnet campaign. We want others who are following behind our daughter to get the same opportunities that she has had. Our experience as both parents and student has been wonderful, and we are pleased to be able to support the college in any way possible.”

Hugh Mobley, ’78, Board of Trustees member, University of South Carolina

“Give 4 Garnet is an annual opportunity to be a part of a college that gave me my foundation for a rewarding profession and to be a part of a wonderful community. I would encourage any alum who has the ability to contribute and help grow the next generation of pharmacy professionals.”

Next year’s campaign will be on March 20.

When Mike Eaddy looks back on what ignited his interest in the pharmacy profession, he recalls mentors who greatly influenced him. He also remembers one particular event that opened his eyes as to how he could help others. “My grandmother had a reaction to one of the medicines she was taking,” he says. “If there had been a better connection between the physicians and the pharmacists, that possibly could have been avoided. As heartened more, I realized that not only could I help my family but I could also help my community.” Eaddy decided to ask Leon Finklin, ’72, if he could volunteer in Finklin’s pharmacy. He spent the day observing the impact that a local pharmacist could have on patients, and that led to him working in the pharmacy.

Eaddy then applied to the USC College of Pharmacy, and he says, “The rest is history.” Eaddy earned his Doctor of Pharmacy in 1999 and his Ph.D. in Pharmaceutical and Health Outcomes Sciences in 2001. His career has taken him from South Carolina Cancer Center to the pharmacy industry with Xcenda and AbbVie, where he is now vice president of the Real-World Evidence Center of Expertise. His team supports the expanded use of real-world data in the generation of evidentiary needs for regulatory, market access and commercial purposes.

Eaddy credits his time at the College of Pharmacy and the relationships he developed with his colleagues and the faculty with helping him grow into his career. “It wasn’t just the education I received,” he says. “It was the life experiences and the interactions being more enriched as I went into the graduate program.”

Because of those experiences, Eaddy wants to give back by providing opportunities to current students. “For those of us who have been in the industry and see where pharmacy is evolving, it is great to provide that perspective to help students see the possibilities in innovation and technology,” he says. “It is important for us to fuel that passion and growth.”
We use the buzzwords of cultural competency and social determinants of health, but you cannot know it until you go and live it," Bookstaver says. "Our team is going out into the community around Mbeya, talking to the pharmacists there and learning the culture."

A typical day for the team includes rounding with patients, conducting research and holding seminars for hospital staff. Much of the teamwork focuses on conducting research to find solutions to providing a higher level of care to patients.

"They don't have the capability or the resources to collect the data to help them improve their health care delivery, so we help them with that," he says. "And the information we gather is specific to the infectious diseases that are prevalent in these areas."

One study centered on the timeliness of providing antibiotics to patients diagnosed with sepsis.

"When you find out that it takes 23 hours to get the first dose of an antibiotic to a patient, that's very concerning," he says. "We helped them develop guidelines based on the 'bugs' that they have, which are very different than what we have. The resistance profiles are different, and their laboratory capabilities are extremely different."

In the search to collect useful data, the lack of medical records proved to be a barrier. "They do have electronic medical records, but not everything is included in that," Bookstaver notes. "For example, medical charts would be dumped in a barrel and buried after a patient was discharged, so we asked to hold on to those a bit longer until we could review them for our research."

"I learned how to tailor my approach to a limited-resource and culturally diverse setting, a skill I now use every day in my current role."

Team members get to enjoy regional excursions during their free time. "We have been to soccer matches, visited Zanzibar on the coast, been to Malawi, gone on safaris," Bookstaver says. "All of these things add to their experiences and help them understand the culture better."

"I am a big proponent of saying 'yes.' It is an opportunity to be a part of something that has an impact on others," he says. "It is a big win for everyone involved – our students, our residents, the hospital in Mbeya and their staff and their patients. We have come a long way, but there is much more to do."

Africa and wanted the chance to gain more international health care experience. "I learned that Africa has limited resources for health care, and I developed an interest in learning more about how medicine is practiced in remote locations," she says. "If a student has the opportunity and the means to go, I highly recommend it, because it is an incredibly humbling experience."

Stephanie Shealy May, '18, is an infectious diseases and antimicrobial stewardship telehealth pharmacist with Intermountain Health in Salt Lake City. She traveled to Mbeya in February 2020 as one of her elective rotations while a postgraduate second year resident in infectious diseases at Prisma Health Richland.

"Having a pharmacist on the team was not something that they had access to all the time," she says. "What I appreciated most was that they were excited and eager to share things about their culture and how things are done at their hospital that were different from how things are done at ours."

"I learned how to be more understanding of how health care entities function with fewer resources and how she can better support them."

"One of the phrases we used the most was 'Asante sana,' which means 'Thank you very much,'" she says. "There were lots of opportunities to teach and collaborate with them. Everyone was so grateful, excited to have us and eager to learn and share experiences."

Working as a telehealth infectious disease pharmacist, May serves many critical health and rural hospitals in Utah and the Intermountain West region. "Some of these hospitals are quite remote and do not have the resources you might find in an academic medical center or referral hospital," she says. "In Tanzania, I learned how to tailor my approach to a limited-resource and culturally diverse setting, a skill I now use every day in my current role."

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Collaboration, communication and leadership drive success

Future pharmacists bond with other health science students to learn what’s ahead in their careers thanks to USC’s IPE program

Sydney Nicholls, a class of 2024 PharmD candidate, is grateful for the learning opportunities she found in USC’s Interprofessional Education program—even during the time of COVID-19 distancing.

Throughout her four years of pharmacy school, Nicholls attended both online and in-person interprofessional educational events hosted by the Institute for Healthcare Improvement Open School (IHI) chapter at USC. “My favorite activity overall was an in-person IHI trivia night,” Nicholls says. “This was fun because each team had a variety of different health care professions, and the questions were chosen so that each profession was able to contribute their unique expertise. Everyone attending could learn more about the kinds of roles that each profession participates in.”

College of Pharmacy students join the IPE program alongside peers from the 11 other health science degrees across the university.

Future pharmacists gain meaningful interaction with those training to be doctors, nurses, social workers, physical therapists and speech pathologists, among other fields. Through a mix of social events, training programs and interactive educational opportunities, the IPE program helps students envision the real-life healthcare scenarios that will take place in their careers. It serves as a bridge for health science students on different pathways to collaborate on ways to improve research and patient experiences.

And what might seem like “trivia” to one student’s ears are the life-or-death instructions that guide those who will become other types of caregivers.

Betsy Blake, clinical associate professor in the College of Pharmacy, is the director of the Interprofessional Education Program and has been involved since 2009. “We’ve addressed sickle cell disease, values and ethics are key parts of transforming health care,” says Blake. “We’ve addressed sickle cell disease, opioid use, medication assisted treatment options and care for the LGBTQ community, suicide awareness, Black maternal health and more.”

During the 2022-2023 academic year, more than 1,100 students participated in interprofessional education, with 320 pharmacy students in the program. Eighty-six percent of those who attended the introductory IPE course, Transforming Health Care for the Future, said they learned from the collaboration and that the program increased their awareness of other professions.

Teri Browne, dean of the College of Social Work, teaches the introductory class. She notes that while health professionals will work in their careers on interdisciplinary teams, traditional medical profession education gets delivered in the silo of one discipline.

The IPE curriculum focuses on leadership, teamwork and communication. It also incorporates ethics through health equity conversations and debates. “Values and ethics are key parts of transforming health care,” says Browne. “We’ve addressed sickle cell disease, opioid use, medication assisted treatment options and care for the LGBTQ community, suicide awareness, Black maternal health and more.”

“As patient and community health outcomes and interventions are so multi-faceted, health professionals work with many other disciplines to help patients, families and communities.”

To date, more than 5,500 Gamecock health science students have taken part in the ever-evolving program.

Rebecca Christopher started in the IPE program as a nursing student but quickly found herself drawn to social work.

Now a counseling case manager and co-director of the IPE program, she credits the faculty members as instrumental in finding her passion for and leadership in the social work field.

“If I hadn’t had the knowledge, exposure and collaboration with other health disciplines, I would not be able to do the work I do today successfully,” Christopher says. “We need to have collaboration and connection with other people to attain better patient care.”

“I’ve been told how much the students appreciate the faculty’s input,” says Christopher. “The faculty members played a large role in my passion for leadership and my path to becoming a health care executive.”
Alton Hyatt '87

As a pharmacist and attorney, I benefitted from the generosity of donors supporting the USC College of Pharmacy and have committed myself to helping future generations of pharmacy students. Good Pharmacy of Rock Hill, owned and operated by my family since the early 1960s, stands for the concept that pharmacy is more than a vocation and rises to an advocacy for greater health and well-being in a community. This all starts with supporting, mentoring and inspiring new students, and USC lives this example.

William & Rhonda Wynn '99 & '98

We continue to support the College of Pharmacy for several reasons. First, you are supposed to continue to support your profession across your career, we all took an oath to do so. Second, it is part of our lifelong learning. We grow as much learning from students and recent grads as they do from us. Third, it is an honor to do so. Knowing our support helps grow the college as well as innovation warms the heart. Lastly, where would we be without USC? We found each other and have built our life together because we met in grad school. Keeping the USC College of Pharmacy in our hearts is forever to thee.

Philip Mubarak '79

As a graduate from the College of Pharmacy with a masters degree in medicinal chemistry, I was prepared for medical school, followed by a successful career in pediatric medicine. I am always grateful for the opportunity the college gave me, and I hope my support gives other young students similar opportunities to pursue careers in the health care field. Forever to thee!

Aiya Almogaber '21

The future of the world is in the classroom today. The USC College of Pharmacy has always been committed to developing exceptional pharmacists and leaders who strive to take the pharmacy profession to the top. As a native South Carolina and graduate of the College of Pharmacy, I take pride in offering my continued support to the place I call home. Go Cocks!
A critical aspect of my time as a student pharmacist is the connections and networking opportunities. I can connect with my classmates and professors who provide me with guidance and support throughout my education. Networking is crucial in any profession, and I am grateful for the opportunities I have had to network at the College of Pharmacy.

Chloe McGee · 24

I am grateful to have had the opportunity to learn from such encouraging and knowledgeable faculty members while at the College of Pharmacy. As I continue learning from amazing pharmacists during P4 rotations, I am excited to grow as a student pharmacist, work toward my professional goals and ultimately provide the highest quality patient care.

Peter Hiller · 25

I will never forget the day I toured the College of Pharmacy during orientation and leaving, knowing I was going to be a Gamecock pharmacist one day. This prestigious program has not only provided the best education a student could ask for but also a lifelong community and family I can lean on.

Joshua Kim · 25

I ran out to the boat dock, but the paddle boats and kayaks were locked up,” she says. “My phone was dead so I couldn’t call 9-1-1. I grabbed a life vest and swam out to him. While he hung onto the life vest, I tried to get the dog to shore but he wouldn’t leave his owner.”

After a bit of a struggle, Rudisell managed to get the kayak flipped back over and eventually helped the man and his dog back to shore. She checked on them both to make sure they had recovered from the ordeal before leaving the park.

“It didn’t dawn on me until after I had gotten back to my car to think about what might have happened had I not been there,” she says. “I just knew I had to act, even though I don’t have any water lifesaving training, but I could do CPR if needed. It was a surreal experience.”

It is an encounter that will stay with Rudisell as she completes her pharmacy training. A third-year student, she is busy with leadership roles in addition to her studies. She serves as president of Phi Lambda Sigma and as vice president of recruitment for the USC COP chapter of Kappa Epsilon. She was elected at this summer’s South Carolina Pharmacy Association’s conference as a junior board member after serving as a College of Pharmacy House of Delegates representative.

“Being at the COP has given me unique skill developments and numerous networking opportunities along with a growing confidence in my ability to work in health care,” she says. “I believe the leadership skills I have learned here played a role in helping save that man’s life.”

Isabell Miller · 26

In only my first year at the College of Pharmacy, I’ve been encouraged to explore what interests me, leading me to worlds of pharmacy I never knew were possible. I am excited to continue my journey here, where I’m making lasting friendships and connections, along with finding out more about myself and preparing for my future as a pharmacist.
Christina Cox, ’06, received the university’s Clinical Practice Teaching Award for outstanding clinical teaching, practice, advising and mentoring of health science students.

Tucker A. Patterson, ’92, was promoted to director of the Federal Drug Administration National Center for Toxicological Research.

Sarina Shahidpour, ’23, was named as the Troy Mediane Fellow for the 2023-2024 class of the Population Health and Practice Development Fellowship with Anzu Institute.

Christina Cox, ’96, received the university’s Clinical Practice Teaching Award for outstanding clinical teaching, practice, advising and mentoring of health science students.

Patti Eshel was appointed president of the Academy of Pharmacy Practice Management for the American Pharmacy Association (APhA-APPM) and installed as a member of the Board of Trustees.

Jennifer Baker, ’02, was named immediate past president for SCPhA.

Jennifer Clements received the K. Hinchman Distinguished Service Award at the SCPhA Conference. She has also been elected to the Board of Directors for the Association of Diabetes Care and Education Specialists.

These alumni were newly installed to the SCPhA Board of Directors for 2023-2024

Cheryl Anderson, ’81 President
Kayce Shealy, ’09 President-Elect
Alyssa Norwood, ’93 Speaker, House of Delegates

William Wynn, ’89 Treasurer
Deborah Bowers, ’85 Upstate Region Director
Donna Alman, ’83 Low Country Region Director

Jennifer Baker, ’02, was named immediate past president for SCPhA.

Carolyn Rainier received the Doctoral Alumni Award from the USC School of Medicine-Columbia.

Kegan Bartfeld, ’93, will serve as the education and networking committee chair for the South Carolina Society of Health-System Pharmacists.

Jennifer Clements received the K. Hinchman Distinguished Service Award at the SCPhA Conference. She has also been elected to the Board of Directors for the Association of Diabetes Care and Education Specialists.

Do you have news to share with your fellow alumni? Send us your updates at bit.ly/usccop-alumni.
CharLeigh Steverson, Class of 2024, was named SCPhA Student Pharmacist of the Year.

Peter Hille, Class of 2025, is one of 20 students nationwide named to the AACP’s inaugural cohort of the Aspiring Academics Program.

Fay Hussain, Class of 2024, received a student scholarship award from SCPhA.

Xiaomo Xiong received a 2023 SPARC Graduate Research grant from the USC Office of the Vice President for Research.

Sarah Davis received the Early Career Investigator Travel Award and Young Investigator Award for Most Outstanding Oral Presentation at the annual meeting of the Society on NeuroImmune Pharmacology.

Brice Loney, Class of 2024, received the 2023 Phi John Dear Memorial Student Scholarship at the annual Pediatric Pharmacy Association conference.

Rebecca Axson, Class of 2025, has been named a student intern for Phi Lambda Sigma.

Fay Hussain, Class of 2024, was named SCPhA Student Pharmacist of the Year.

Ph.D. Candidates

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Danne Schreiber, Class of 2024, and CharLeigh Steverson received APhA Foundation Student Scholarships.

Rachel Smith, Class of 2025, and CharLeigh Steverson have been named 2023-2024 regional liaisons for Phi Lambda Sigma.

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Students, faculty, staff, and alumni celebrate many milestones with awards ceremonies, hooding and graduation, and anniversaries.

Our students gain valuable experience, insight, and networking opportunities in the pharmaceutical industry by attending professional conferences and events.

Alumni and friends gather for remarks from Dean Stephen J. Cutler.

Members of the Class of 2021 reunite with Cocky on the Horseshoe.

Alumni spent an evening on the Historic Horseshoe reminiscing about their days at USC and the College of Pharmacy.

Cindi M. Igolle-Ogele shares his reflections during the Convocation and Doctoral Hooding Ceremony with the Class of 2023.

Alumni, faculty, staff and students gathered in April to celebrate the 10 year anniversary of the Walker Leadership Scholars program, founded in 2013 by Donna J. Walker ('79).

Recipients of 2023 Preceptor Awards were recognized by the Palmetto Experiential Education Partnership directors and staff at the P4 Spring Banquet in May.

Walker Leadership Scholars with Jordana Malin at the APhA Conference.

Graduate students participate in the Discover USC research showcase.

CharLeigh Stevenson and Kathy Quarles Moore celebrate their awards at SCPhA’s annual meeting.

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Cocktails on the Horseshoe

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Tremain Cooper, ’07, pharmacy, has always had a desire to serve his community. A Columbia native, U.S. Army veteran and former lead pharmacist for Mecklenburg County Health Department, he’s dedicated his career to providing accessible health services and combating health disparities, especially for Black communities. His commitment to service was reinforced during the COVID-19 pandemic when he worked on the front lines holding vaccination clinics. “Local pharmacies became essential to probably the largest and fastest vaccine rollout in American history,” says Cooper. “I endeavor to keep this same energy to provide care right here in the community where I am from.”