

2018

Annual Report



Leading in Life and Health Sciences.
Excelling in Research.

Message from Dean Melchert



Dear Friends,

I am pleased to present this summary of the many activities and accomplishments of the UMKC School of Pharmacy in 2018, highlighting the successes of our school and significant progress on our 2015-2020 Strategic Plan.

The amazing students, staff, and faculty at the School of Pharmacy continued a long-standing and strong tradition of bringing prestige and international visibility to the university. While focusing on our top goal of placing student success in the center of all we do, faculty and staff led our pharmacy and graduate students to many great achievements. Our pharmacy student organizations were once again recognized among the

top chapters in the country. Doctor of pharmacy graduates performed well on the NAPLEX and MPJE licensure exams, and many went on to match in prestigious residency positions. Doctor of philosophy students also continued to bring prestige to the university by winning international research awards and publishing cutting-edge research articles in highly rated national and international scientific journals. This success of our students speaks highly of the faculty mentors and staff who have been there for them throughout their journey at the School of Pharmacy.

Our research mission is also a top priority for the school, and our creative faculty and students once again brought significant national and international prestige through their outstanding scholarly publications and through significant grant funding. Pharmacy faculty received funding from the National Institutes of Health, private foundations and the pharmaceutical industry. New research programs receiving funding will focus on targeted delivery of novel anticancer drugs and new drug targets for bacteria highly resistant to antibiotics. Who knows, maybe someday a cure for these debilitating conditions will be found right here at UMKC.

There are many other highlights to see, so please spend some time and enjoy reviewing all of the outstanding accomplishments of our school in this annual report. For all of the achievements in this report, I am thankful for the hard work and dedication of our students, staff and faculty, as well as state financial support and assistance from our partners at the UMKC College of Arts and Sciences, the UMKC Schools of Biological Sciences, Dentistry, Medicine, Nursing and Health Studies, the University of Missouri-Columbia, the University of Missouri System, and Missouri State University.

Sincerely,

A handwritten signature in black ink that reads "Russell B. Melchert". The signature is fluid and cursive, with a long horizontal line extending to the right.

Russell B. Melchert, Ph.D.
Dean and Professor

Table of Contents

MESSAGE FROM DEAN MELCHERT	2
OUR MISSION STATEMENT	3
STUDENT SUCCESS	4-5
STUDENT ACTIVITIES	6
FACULTY HIGHLIGHTS	6-7
PHARMACY FOUNDATION	8-9
FACULTY SPOTLIGHT	10
STUDENT SPOTLIGHT	11

THREE CAMPUSES, ONE MISSION

The UMKC School of Pharmacy (SOP) contributes significantly to the university's mission to lead in the life and health sciences, to develop a professional workforce, and to collaborate on urban issues and create a vibrant learning experience.

SOP MISSION STATEMENT

To educate, innovate, discover, engage and serve to improve health.

SOP CORE VALUES

The school's core values represent the cultural and personal principles that guide school-related decision making and individual conduct. Members of the school are committed to the following core values when acting on behalf of the school:

- **Leadership:** We lead with courage and vision while considering the needs of our people.
- **Professionalism:** We act with integrity, honesty, reliability, ethics, moral courage, humility, respect and accountability.
- **Service orientation:** We serve others in an altruistic and cooperative manner.
- **Community:** We care about others by being a learning organization that enriches and values our human wealth and promotes civility, diversity and mutual respect.
- **Collaboration:** We engage in creative partnerships locally and globally to advance health education, research and practice.
- **Innovation:** We seek and develop resources, infrastructure and knowledge to promote discovery.
- **Excellence:** We strive for excellence in all we do.

Student Success



Student success shines through the UMKC School of Pharmacy graduating Class of 2018.



Paul Gubbins, Pharm.D., associate dean at Missouri State University, toasts the inaugural graduating Class of 2018 during the senior banquet in Springfield.



UMKC Chancellor C. Mauli Agrawal, Ph.D., welcomes the Class of 2022 during orientation.

The Early Assurance Program

The Early Assurance (EA) allows up to 40 incoming college freshmen priority status for the Pharm.D. program at UMKC. Students admitted to the EA program graduate from high school knowing they are on track to earn their seat in the School of Pharmacy. Twenty-three students matriculated into the School of Pharmacy in 2018 with an average GPA of 3.87 and an average ACT composite score of 29.

Doctor of Pharmacy Class of 2018 recognizes first Springfield graduates

The first class of the UMKC School of Pharmacy at Missouri State University in Springfield graduated May 11, 2018, at Swinney Recreation Center in Kansas City. The 31 students joined their peers from the School of Pharmacy's campuses in Columbia and Kansas City in receiving their Doctor of Pharmacy degrees.

Prior to graduation, these students celebrated their accomplishments at the senior banquet on May 5 at Touch Restaurant in Springfield. The class invited several members of the UMKC and MSU administration to attend this significant event, as well as Missouri legislators who have supported the program from its inception.



UMKC School of Pharmacy graduate students who participated in the 2018 Mid-Year Commencement ceremony included Asmaa Alsousi, Zhen Zhao, Mary Joseph Ngatuni, Stephani Stancil, Alex Owiti and Abhriup Mandal.

DOCTOR OF PHARMACY CLASS OF 2022

193

Accepted Applicants

Applicants Matriculated	151
Average Age	22
Female	62%
Male	38%
Resident of Missouri	73%
Previous Baccalaureate Degree	27%
Average GPA	3.37
Average PCAT Composite	56

DOCTOR OF PHARMACY CLASS OF 2018

94.4%

On-Time Graduation Rate

NAPLEX first time pass rate*	93.3%
MPJE first time pass rate*	93.3%

Post-graduate placement

Employment	62%
Residency or Fellowship*	35%
No plans or other	3%

*above the National first-time pass rate

Springfield-area mom realizes goal through special UMKC partnership



The 2018 commencement was an exciting one for this self-described full-of-grit mom of three young sons. It meant she would get to be a pharmacist, an opportunity that wouldn't be available to her and her 30 classmates if UMKC hadn't struck a special partnership with Missouri State University to fill critical health care needs in rural areas of the state.

Kendra White, '18
Program: Doctor of Pharmacy
School: School of Pharmacy
Hometown: Marionville, Missouri

Why did you choose UMKC?

I chose it because of the satellite UMKC pharmacy campus at Missouri State University in Springfield. It was an easy commute for me and I didn't have to uproot my family to pursue my goals.

Why did you choose pharmacy?

I had been a pharmacy technician for a long time but was limited in the health-care services I could provide to the community.

I have realized what I am capable of and the impact I can have in patient lives and the health care field. It's inspiring when patients compliment and thank you for your part in helping them with their pharmaceutical needs and health care goals.

Tell us about the job you already have lined up after graduation.

It's at HomeTown Pharmacy in Mount Vernon, Missouri, which isn't too far from my home in Republic, Missouri. It's funny, but I worked there 20 years ago when I started as a pharmacy technician so I've come full circle.

Before having kids, why was attending school in the southwest Missouri area important to you?

I love this area and its landscape and outdoor activities. I also didn't want to be far from family. I received a Bachelor of Fine Arts in photography from Missouri State University.

What was the UMKC pharmacy program like in Springfield?

The small class size of the Springfield campus — 31 in our class and about the same number in each of the subsequent classes — has been a benefit. We are a pretty close group and work together well, learning from one another and building off each others' strengths.

What's the best piece of advice you have ever received from a professor?

Don't waste your jelly beans, and don't waste others' jelly beans. Dr. Wombwell showed us a video "The Time You Have in Jelly Beans," that put life into perspective. The point was to be aware of your time, especially your free time. Invest less time worrying and wasting your time and invest your time in something you love, and make it worth it, because what if it was your last day, what would you do with your time?

What do you admire most about UMKC?

I admire the faculty and staff at the UMKC School of Pharmacy Springfield campus. They are invested in the students, driven and determined to help us and the new campus succeed. They were always available to offer advice, give feedback and build our confidence. They focus on developing a well-rounded pharmacist, with many skills, not just academic excellence.

Since entering the Pharm.D. program at UMKC, what have you learned about yourself?

I have learned that nothing is impossible. If you are determined and driven, you can accomplish more than you ever dreamed of.

POST-GRADUATE TRAINING

58

Number of UMKC Residency Match Applicants

Number of UMKC Applicants Matched	41
UMKC SOP Residency Match Rate	70.7%
National Residency Match Rate	65.3%

Forty-eight students (35% of the class) were accepted into postgraduate residency or fellowship training programs. Twenty-eight of these students attended classes in Kansas City, eight students attended classes in Columbia, and twelve were from Springfield.

2018 GRADUATE STUDENT DATA

38

Pharmaceutical Sciences Students Enrolled

Pharmaceutical Sciences Students Graduated	9
Pharmacology and Toxicology Students Enrolled	7
Pharmacology and Toxicology Students Graduated	3
Pharmaceutical Sciences Publications	9
Pharmacology and Toxicology Publications	3

Two-thirds of 2018 graduating IPH.D. students received post-graduate employment.

Student Activities

Student Pharmacists No. 1

The UMKC chapter of American Pharmacists Association-Academy of Student Pharmacists was recognized with the Chapter of the Year Award at the annual APhA meeting in Nashville, Tennessee.

“This was an amazing accomplishment considering there are more than 130 chapters of APhA-ASP around the country,” said Russell Melchert, dean of the UMKC School of Pharmacy.

The UMKC chapter also won the distinction in 2012.

The UMKC chapter was recognized for its work in providing wellness screenings — such as blood glucose, blood pressure, heartburn and bone mineral density — as well as immunizations, medication counseling and other services.

The UMKC chapter reaches out and provides those services for those most in need, including the underserved and underinsured.

Faculty advisors include Kelly Cochran, Kathryn Holt, Lisa Cillessen, Angela Brownfield, Sarah Cox, Heather Taylor, Andrew Bzowickyj, Valerie Ruehter and Cameron Lindsey.

Other awards:

- Valerie Ruehter received the APhA-ASP Outstanding Chapter Advisor Award.
- Sierra Woods received the APhA Good Government Student Pharmacist of the Year Award. Only one is awarded in the entire nation.
- Sara Massey received the APhA Foundation Award, one of 13 in the nation.
- Aaron Hunsacker, Kayla Shaw, Kayla Copeland and Dylan Detlor placed in the top three of the National Community Pharmacists Association Good Neighbor Pharmacy Pruitt-Schutte Student Business plan Competition.
- Dion Tyler (pharmacy), Holly Marx (health administration), Kelsey Allen (nursing) and Emil Thyssen (medicine) placed third in the interprofessional CLARION National Case Competition.
- The UMKC School of Pharmacy chapter of the American Pharmacists Association-Academy of Student Pharmacists received the 2018 Operation Heart Patient Care Award at the annual mid-year regional meeting

15 Professional Student Organizations

2 Graduate Student Organizations



UMKC School of Pharmacy students celebrated their Chapter of the Year award at the 2018 American Pharmacists Association-Academy of Student Pharmacists annual meeting.

Faculty Highlights

New Faculty



Brandi Bowers, Pharm.D., BCACP
Clinical Assistant Professor

Dr. Bowers earned her bachelor of arts in mathematics from Missouri State University (MSU) and her doctor of pharmacy from the University of Arkansas for Medical Sciences. She completed a PGY1 pharmacy residency at St. Louis College of Pharmacy and Mercy Hospital in St. Louis, Missouri, and a PGY2

ambulatory care pharmacy residency at CoxHealth in Springfield, Missouri.

She is a board-certified ambulatory care pharmacist and practices at MSU Care in Springfield, Missouri, providing comprehensive primary care to adult, uninsured, low-income patients as a member of an interprofessional team. The clinic serves as a learning site for third- and fourth-year student pharmacists (IPPE and APPE) and PGY1 pharmacy residents from Mercy Hospital, as well as learners in the Missouri State University physician assistant, nurse practitioner, nursing and dietetics programs.

Faculty Promotions

Tenure Track:

Leigh Anne Nelson, Pharm.D., Division of Pharmacy Practice and Administration, Promotion to Professor

Non-Tenure Track:

Angela Brownfield, Pharm.D., Division of Pharmacy Practice and Administration, Promotion to Clinical Associate Professor

Maureen Knell, Pharm.D., Division of Pharmacy Practice and Administration, Promotion to Clinical Professor

Faculty Awards and Recognitions

Angela Brownfield, Pharm.D. — *APhA-ASP Region 6 Operation Heart Award*

Heather Lyons-Burney, Pharm.D. — *Jefferson Award for southwest Missouri* for her efforts to end opioid abuse in Taney County; *ACT Missouri Champion of Change for Prevention Award*; *MPA Faculty Member of the Year*

Andrew Bzowickyj, Pharm.D. — *AACP 2018 Emerging Teaching Scholar Award* recipient
Kun Cheng, Ph.D. — *UMKC Trustees Faculty Fellows Award*

Lisa Cillessen — *Missouri Pharmacists Association Young Pharmacist Leader 2018*
Simon Friedman, Ph.D. — Selected as a *Presidential Engagement Fellow* tasked with fulfilling the University's land-grant mission by sharing research discoveries with Missouri citizens in every county.

Diane McClaskey, RPh, BCPS — *Class of 2018 Teacher of the Year*

Eric Wombwell, Pharm.D., BCPS — *Rho Chi Teacher of the Year*; *Phi Lambda Sigma Chapter Alumni of the Year*

Valerie Ruehter, Pharm.D., BCPP — *American Pharmacists Association-Academy of Student Pharmacists Outstanding Chapter Advisor of the Year Award*.

Gerald Wyckoff, Ph.D. — *Governor's Award for Excellence in Teaching*



**Jordan Rowe,
Pharm.D.
Clinical Assistant Professor**

Dr. Rowe received her bachelor of science in chemistry degree from John Brown University and her doctor of pharmacy degree from the University of Arkansas for Medical Sciences College of Pharmacy in Little Rock, Arkansas. She completed a postgraduate year-one pharmacy practice residency at the University of Tennessee Medical Center in

Knoxville, Tennessee, and a postgraduate year-two ambulatory care pharmacy specialty residency at CoxHealth in Springfield, Missouri.

Dr. Rowe practices as a clinic-embedded pharmacist focusing on chronic disease management within the endocrinology and internal medicine clinics at Truman Medical Center (TMC) in Kansas City, an urban safety net health system dedicated to providing interprofessional, patient-centered care. At her clinic site, Dr. Rowe works with third- and fourth-year pharmacy students and acts as an elective rotation preceptor for postgraduate year-one TMC pharmacy residents. Dr. Rowe serves as an advisor for the UMKC chapter of the American Pharmacists Association Academy of Student Pharmacists (APhA-ASP).



**Gerald J. Wyckoff, Ph.D.
Interim Chair, Division of
Pharmacology and
Pharmaceutical Sciences**

Dr. Wyckoff is Interim Chair of the Department of Pharmacology and Pharmaceutical Sciences. He earned a Bachelor of Science degree in Biology from Cornell University (1994) and a Doctor of Philosophy degree (Committee on Genetics) from the University of Chicago in 2000.

Although new to the School of Pharmacy, he has been teaching in the Division of Molecular Biology and Biochemistry since 2002. He is involved with large-scale genomic, and later proteomic, projects, utilizing a bio-informatic framework. At UMKC, he has developed collaborations with the structural biology faculty, in part to extend his knowledge of how to apply large-scale screening techniques to structure-based problems.

Dr. Wyckoff is a former chair of the UMKC Faculty Senate. He also has a courtesy appointment in the UMKC School of Medicine as he has significant interests and expertise in biomedical research.

University of Missouri System Faculty Scholars Program

Four faculty from the Division of Pharmacy Practice and Administration participated in the University of Missouri Faculty Scholars (UMFS) program. They are (pictured left to right below) Heather Taylor, Jamie Hall, Kendall Guthrie and Elizabeth Englin. The program supports the efforts of the university in acclimating and retaining early career faculty members. Participants engage in campus-specific activities and system-wide programs that create avenues for communication and collaboration across the UM System.



Faculty Patents

Kun Cheng, Ph.D. — US Patent No. 15,288,837 entitled “Peptide ligands for hepatic stellate cells,” application granted in November 2018.

Simon Friedman, Ph.D. — Patent No. 10,159,735, entitled “Photocleavable drug conjugates,” awarded December 2018.

Thomas Johnston, Ph.D., RPh. — Patent No. 10,039,709 entitled “Bioadhesive compositions for epithelial drug delivery,” awarded August 2018.

Active Grants/Research Funding

In 2018, faculty in the School of Pharmacy had 19 active grants: eight through the National Institutes for Health, one through the American Cancer Society, one through U.S. Army Medical Research, one through the U.S. Health Resources and Services Administration, and eight grants that are industry/foundation-funded. Principal Investigators include Kun Cheng, Ph.D.; Kelly Cochran, Pharm.D., BCPS; Simon Friedman, Ph.D.; William Gutheil, Ph.D.; Anil Kumar, Ph.D.; Mridul Mukherji, D. Phil.; Leigh Anne Nelson, Pharm.D., BCCP; Roger Sommi, FCCP, BCPP; and Bi Botti Youan, Pharm.D., Ph.D.

Pharmacy Foundation

An important resource for the future of health care is the next generation of pharmacists. The School of Pharmacy is working to meet that demand by attracting, cultivating and retaining exceptional students through excellent pharmacy education and providing the necessary financial support for that training.

Scholarship support is a vital necessity to make that education a reality for many students. The UMKC Pharmacy Foundation recognized scholarship donors and those students who have benefitted from financial aid during its 2018 Achievers of Excellence Awards Ceremony.

The Foundation introduced two new two new endowed scholarships and three new annual scholarships were introduced in 2018. In total, more than \$201,000 was awarded through 161 student scholarships.

The new scholarships include:



Jack and Margaret Corken Memorial Scholarship awarded to Cole Simonic

This scholarship was established by Denis and Ann Mackey (class of 1979) in memory of Ann's parents. It is awarded to a second-, third- or fourth-year doctor of pharmacy student with a minimum grade point average of 2.5. First preference is given to a student who graduated from a high school in Nodaway, Holt or Buchanan County in Missouri. Consideration is also given to students involved in academic leadership positions, organizations or community service; and preference is given to a student planning to practice in an independent pharmacy or specializing in geriatric pharmacy care in Missouri after graduation.



UMKC Pharmacy Foundation Scholarship awarded to Hadley Barnett

This scholarship was established by gifts to the Pharmacy Foundation scholarship fund. It is awarded to a second-, third- or fourth-year doctor of pharmacy student with a minimum grade point average of 2.5. First preference is given to a student who has volunteered with Pharmacy Foundation or Pharmacy Alumni Association programs or events, with secondary preference given to students involved in other pharmacy or UMKC campus-based events or programs. Preference is also given to applicants with a reference letter written by a Pharmacy Foundation or Pharmacy Alumni Board member.



Kansas City APhA-ASP Legacy Scholarship awarded to Jackson McIntosh

This scholarship was established by the APhA-ASP student organization at UMKC. It is awarded to a fourth-year doctor of pharmacy student with a minimum grade point average of 2.5, who is current with their APhA-ASP membership fees, and has demonstrated academic merit, professional involvement and positive impact of effort. Preference is given to students from the Kansas City campus. Applicants must submit a one-page essay that demonstrates their qualifications for this scholarship based upon the APhA core values of mission, vision, accountability, collaboration, integrity, respect and quality.

Golf for student support

On Wednesday, June 13, 2018, friends of the UMKC Pharmacy Foundation teed off at Falcon Ridge Golf Club for the **24th annual J. Leo McMahon Memorial Golf Tournament**.

Proceeds from the tournament are used for student support. Pharmacy students who had previously received funding from the Pharmacy Foundation were present to assist and socialize during the tournament. This event raised more than \$8,000 for the Pharmacy Foundation.



161

Total Scholarships
Awarded



Class of 2018 UMKC School of Pharmacy at MSU Scholarship awarded to Jaimyn Chiles

This scholarship was established by alumni from the class of 2018 at the MSU campus. It is awarded to a second-, third- or fourth-year doctor of pharmacy student on the MSU campus, with a minimum grade point average of 3.0. Preference is given to applicants who are active while in pharmacy school as members of two or more student organizations or student government. Applicants for this scholarship should also hold an office or chair position in at least one student organization.

\$201,300

Total Amount
Awarded



Schoeneck Family Scholarship awarded to William Glenski

This scholarship was established by Thomas (class of 1963) and Dolores Schoeneck. It is awarded to a male doctor of pharmacy student with a minimum grade point average of 2.5, and is renewable for the recipient's remaining years in pharmacy school when he maintains a 2.5 or higher grade point average. First preference is given to a student who graduated from Bishop LeBlond High School in St. Joseph, Missouri, with second preference given to a graduate of any high school in St. Joseph.

Outstanding Faculty: Instructors of the year

This year's awards ceremony also recognized faculty who have demonstrated excellence in teaching at the School of Pharmacy. Each student class voted on its own outstanding instructor of the year.



The Class of 2019 selected Diana Tamer, B.S., Pharm.D., BCOP, clinical assistant professor, Division of Pharmacy Practice and Administration.



The Class of 2020 chose Thomas Johnston, Ph.D., R.Ph., professor, Division of Pharmacology and Pharmaceutical Sciences.



The Class of 2021 selected Karyn Turla, Ph.D., Division of Molecular Biology and Biochemistry, School of Biological Sciences.



Faculty Spotlight



Kun Cheng, Ph.D., is working on advancements to battle cancer and liver disease through his grant-funded research at the UMKC School of Pharmacy.

School of Pharmacy researcher awarded \$3.53 million in NIH grants

Since joining the University of Missouri-Kansas City in 2007, Kun Cheng, Ph.D., Curators' Distinguished Professor of Pharmacy, has worked on developing targeted delivery systems for drugs that treat cancer and liver disease.

Recently, he won two National Institutes of Health grant awards totaling more than \$3.5 million to fight prostate cancer and liver fibrosis and cirrhosis.

"Dr. Cheng is on the forefront in the fight against cancer and disease, and it's rewarding that his discoveries are being recognized by the NIH at a time when funding is more competitive than ever," said Russell Melchert, dean of the UMKC School of Pharmacy.

The first grant from the National Cancer Institute for \$1.772 million is for Cheng to develop successful immunotherapies against advanced prostate cancer. The other \$1.758 million grant, from the National Institute on Alcohol Abuse and Alcoholism, is to reverse alcoholic liver fibrosis using nanotechnology to deliver a gene-silencing large molecule called siRNA that was discovered in Cheng's laboratory. There's no standard treatment for liver fibrosis, which left untreated, leads to cirrhosis, a condition

that's irreversible. Both new grants are for five years.

Last year, Cheng won another NIH grant for \$1.2 million. In that project for the National Institute of General Medical Sciences, Cheng's team aims to improve the solubility and specificity of a chemotherapy drug using a peptide-based platform. If successful, the same platform can be used for other chemotherapy agents that have poor solubility and specificity.

"Immunotherapy using monoclonal antibody has now evolved into the most promising therapy for various cancers," Cheng said. "However, its large size may limit its activity inside tumor tissues. We recently discovered a peptide-based checkpoint inhibitor with low molecular weight. The "small" checkpoint inhibitor demonstrates very promising anti-tumor activity, and we are in the process to file a patent application for this discovery."

Cheng is the 2018 winner of the Trustees Faculty Fellows Award, recognizing outstanding faculty who distinguish themselves through scholarship and creativity. He was recognized with the award this month. ■

American Cancer Society awards grant to pharmacy professor for breast cancer research

The American Cancer Society awarded Kun Cheng, Ph.D., \$525,000 for breast cancer research through 2019.

Since joining UMKC in 2007, Cheng has worked on developing targeted delivery systems for drugs that treat cancer and liver disease, primarily those involving a gene-silencing large molecule called siRNA.

He calls siRNA one of the most important findings in biomedical research in the past 20 years. The potential payoff is huge for cancer patients, who now confront the miserable, even life-threatening side effects of traditional chemotherapy.

Cheng is looking at chemical connectors that will bind siRNA with cancer cells and bring the drug deeper into breast tumors. The connectors must drop away, however, once it enters tumor cells.

"That's challenging," Cheng said.

Student Spotlight

Pharmacy students join battle against influenza

The Centers for Disease Control estimates that influenza was responsible for nearly 80,000 deaths in the United States during the 2017 flu season. Students at the UMKC School of Pharmacy were busy doing their part to help patients across the state of Missouri battle during the 2018 flu season.

As part of their curriculum, the students participate in an introductory pharmacy practice experience that includes learning to administer immunizations. This year, nearly 155 third-year students on the school's campuses in Kansas City, Columbia and Springfield have taken their new skills and administered 2,171 flu shots through the school's immunization delivery program.

"This is a wonderful opportunity for our students to get involved representing pharmacists and how we as professionals can contribute to the public health," said Valerie Ruehter, Pharm.D., clinical associate professor and director of experiential learning.

The School of Pharmacy started the initiative in 2011 by working with the University's Healthy for Life wellness program and administering flu shots to faculty and staff. Its collaborative efforts have since expanded to include community pharmacies and even Children's Mercy Hospital in Kansas City. Students providing flu shots throughout Missouri have already taken part in 50 flu immunization events this year, Ruehter said.

Bailey Burt, a third-year pharmacy student, remembers one of her early encounters with a flu shot patient who flinched just as she was administering the shot.

"I think he was just trying to scare me," said Burt, who chaired this year's pharmacy student Operation Immunization volunteer program. "A lot of us were scared to do the immunizations at first, scared of the blood or scared of hitting a bone. But you learn to do it and just pharmacist up."

Pharmacist up, she did. Burt figures she has administered more than 400 vaccines during this year's flu shot season.

"I didn't even realize that was something pharmacists could actually do when I was applying for pharmacy school," she said. "Pharmacy practice is ever changing. It's exciting."

Aside from the pharmacy school's immunization program, Burt said that students administered more



Third-year pharmacy student Elizabeth Breeden administers a flu shot to UMKC Chancellor C. Mauli Agrawal, Ph.D.

than 1,000 flu shots through their own volunteer efforts working with pharmacies and hospitals. All totaled, the UMKC students have given well over 3,100 flu shots to Missourians this year.

Even UMKC Chancellor Mauli Agrawal and other top university administrators received their flu vaccines from pharmacy students at a clinic conducted by the Healthy for Life program to encourage others to get the flu vaccine.

All of the vaccines are given under the protocol with required oversight by a physician, said Cameron Lindsey, Pharm. D., professor of pharmacy practice and administration and coordinator of

Immunization Champion Award that recognizes contributions of pharmacists to improve the vaccine rates in their communities.

"For a long time, the School of Pharmacy has felt that having students trained to help with the public health aspect of immunizations is a priority," Lindsey said. "We've pretty much gone wherever the need has made the most sense to help the community. And it helps prepare our students so that once they graduate, they will be able to go out and provide that service within their communities."

Ruehter said the School of Pharmacy's community contacts and collaborations have grown as more

This is a wonderful opportunity for our students to get involved representing pharmacists and how we as professionals can contribute to the public health.

— Valerie Ruehter, Pharm.D.

the immunization course. Lindsey said the School of Pharmacy began training students to give immunizations in 2004.

Today, the school has a history of students, faculty and alumni reaching out to meet public health needs. They were on site in 2009 providing tetanus vaccines to victims of the Joplin tornado. That same year, many of the school's faculty and alumni were active in providing flu shots during the H1N1 "Swine Flu" pandemic.

The American Pharmacists Association even honored the School of Pharmacy in 2012 with its

people recognize the immunization skills and services that pharmacists can offer. That has allowed the school and its students to expand their reach in providing flu vaccines.

"This gives us an opportunity to really affect public health," Ruehter said. "We are touching more people and hopefully saving more lives by preventing the flu from being spread. We started here on our campus and have extended that reach to the surrounding metro areas and wherever our students are volunteering or working." ■



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