AN EVOLVING MARKET
Biosimilars have been highly anticipated, and their introduction will have an impact across the profession.

NEW TOOLS IN THE FIGHT
The Comprehensive Addiction and Recovery Act of 2016 provides new tools for pharmacists.

THREADED CHEMISTRY
Two faculty members rethink chemistry education to better prepare students.
08 AN INNOVATIVE APPROACH TO CHEMISTRY EDUCATION When presented with the opportunity to rethink chemistry curricula to better prepare their students, two College faculty members eagerly met the challenge.

10 HONORING A LIFETIME OF CONTRIBUTIONS Throughout her career, Sister Mary Louise Degenhart ’60 has demonstrated a commitment to helping others succeed. Her dedication to the profession was recently recognized when she was named the 2016 recipient of the prestigious Harvey A.K. Whitney Lecture Award.

14 AN EVOLVING MARKET Projected to save billions of dollars in U.S. health care costs, biosimilars are a highly anticipated alternative to some of the most expensive biologic medications on the market, and their introduction will have an impact across the profession.

26 NEW TOOLS IN THE FIGHT In July 2016, the Comprehensive Addiction and Recovery Act of 2016 (CARA) became law. Taking a broad approach to addiction prevention, education, law enforcement, treatment and recovery, CARA provides pharmacists with new tools to combat the opioid abuse epidemic.
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CONTACT THE COLLEGE
Main Line  314.367.8700
Script Magazine  314.446.8432
Office of the President  314.446.8307
Dean of Pharmacy  314.446.8106
Dean of Arts & Sciences  314.446.8462
Admissions  314.446.8328
Alumni Relations  314.446.8336
Public Relations  314.446.8393
Marketing & Communications  314.446.8432

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DEAR ALUMNI AND FRIENDS,

The academic year is well underway! We have welcomed a new freshman class, and the White Coat Ceremony marked the class of 2020’s entrance into their professional years of study. The flurry of activity each fall brings with it a renewed sense of potential and possibility, and also reminds me of all those who have walked the path our students are on now.

Our campus is home to a vibrant, talented student body, a faculty that is forging new ground, and a dedicated staff who all add to the richness of the College community. But the STLCOP community is not complete without you – our alumni.

Your ongoing engagement with the College and leadership in the profession ensures our success. Your dedication helps us create an environment where students grow into world-class professionals. Thank you for your support as we provide academic experiences of the highest caliber for our students. Our Doctor of Pharmacy program with an integrated Bachelor of Science is providing new opportunities for students to delve deeper into their passions, explore more areas of the profession and become prepared to positively impact patients and society.

To continue our tradition of academic excellence, we are transforming our campus. Our students are thriving in the new Academic and Research Building, and soon the face of the College will change again. In March, we will open the Recreation and Student Center and residence hall. The building – featuring dining and recreation facilities, a student fitness center, gymnasiums, and academic and support resources – will be a welcome addition to campus as well as the larger biomedical community. Our new facilities and the opportunities they create are unparalleled among colleges of pharmacy.

The College has embraced change as opportunity. We are revisiting our strategic plan, STLCOP 20/20, to take stock of all we have accomplished, refocus our priorities and create an ambitious plan that will outline the next steps toward our bright future. Our journey as an institution and a community continues to be an exciting one where challenges are chances to make a difference.

Thank you for being a part of the STLCOP family, for being a leader in the profession and inspiring our students to become the leaders of tomorrow.

Sincerely,

John A. Pieper, Pharm.D., FCCP
President and Professor
ON CAMPUS

EXPANDING POSTGRADUATE OPPORTUNITIES

Through a new partnership with SoutheastHEALTH, the College is expanding postgraduate pharmacy residency programs in Missouri. This collaboration provides the first hospital-based pharmacy residencies in southeast Missouri. SoutheastHEALTH, based in Cape Girardeau, Missouri, provides a far-reaching, regional system with more than 50 care locations in 14 communities. The region spans southeast Missouri, parts of southern Illinois, western Kentucky and northern Arkansas.

The College now sponsors 17 pharmacy residents in eight different residency programs. Among the class of 2016, 46 graduates accepted pharmacy residency positions at 41 different institutions across the country, marking an all-time high of graduates seeking postgraduate residency training.

PROFESSOR PUBLISHED IN THE JOURNAL OF NEUROSCIENCE

Martha Bhattacharya, Ph.D., assistant professor of biology, and her collaborators were recently published in The Journal of Neuroscience for their discovery and study of the gene TMEM184b. Their work focuses on the function of the gene and its role in preventing damage to the peripheral nervous system during chemotherapy.

The research was highlighted in the spring 2016 issue of Script magazine.

TRAINING MANUAL PUBLISHED IN SOUTH AFRICA

St. Louis College of Pharmacy and Nelson Mandela Metropolitan University (NMMU) in South Africa have partnered to publish the Southern African Pharmacy Technician Training Manual. Designed specifically for English-speaking pharmacy technicians in the region, the manual is the first of its kind. Previously, textbooks from Europe and North America were used, but they lacked local context.

The manual, co-authored by Ken Schafermeyer ’76, Ph.D., director of international programs and professor of pharmacy administration at the College, features intensive instruction on medications to help patients with HIV/AIDS and tuberculosis. Other topics include pharmacy calculations, basic pharmacology, compounding and patient communication.

“Pharmacy technicians are an excellent resource in public-sector hospitals and primary care clinics in South Africa, where they might be the only pharmacy personnel to manage medication distribution,” Schafermeyer said.

An instructor’s guide, also co-authored by Stephanie Lukas, Pharm.D., M.P.H., assistant director of international programs and assistant professor of pharmacy administration, accompanies the manual with exercises, assignments and discussion questions.
CLASS OF 2020 RECOGNIZED AT WHITE COAT CEREMONY

On Friday, Aug. 26, family and friends gathered on the Quad to honor students in the class of 2020. Together, members of the class recited the Pledge of Professionalism and were presented with their white coats to mark their entrance into their professional years of study. C. Edwin Webb, Pharm.D., associate executive director of the American College of Clinical Pharmacy, was the featured speaker.

“Tonight, we celebrate the beginning of your professional journey,” remarked Bruce Canaday, Pharm.D., FASHP, FAPhA, dean of the School of Pharmacy. “You may now count yourselves among a select group of people who can call themselves student pharmacists. As a member of that group, you assume the obligations of professionalism, service, ongoing learning and scholarship.”

FACULTY MEMBER RECEIVES GRANT

Yvonne Burnett, Pharm.D., assistant professor of pharmacy practice, received a grant from the Society of Infectious Diseases Pharmacists to analyze pharmacist-led dosing and monitoring of vancomycin in an outpatient antimicrobial therapy (OPAT) program setting. She practices in one of the few OPAT programs in the country, located at the Infectious Diseases Clinic at Washington University School of Medicine in St. Louis.

Students at the College studying under Burnett will also be participating in the research.

“This is a unique program,” Burnett said. “Students are doing everything alongside me including presenting cases to supervising physicians. They’re gaining an incredible amount of experience with interprofessional health care teams.”

RECORD-BREAKING COLLECTION

On April 30, 2016, more than 50 disposal sites were set up across St. Louis during the National Prescription Drug Take-Back Day. Led by the U.S. Drug Enforcement Administration and in partnership with St. Louis College of Pharmacy, the collection saw record-breaking participation in the St. Louis region.

During the four-hour collection window community members turned in 27,470 pounds of medication surpassing last year’s record of 22,231 pounds.

“It is gratifying to see so many people understand the importance of safely disposing of unused medication,” said Amy Tiemeier ’01/’02, Pharm.D., BCPS, director of community partnerships and associate professor of pharmacy practice. “The medication stays out of the wrong hands and is destroyed in a way that is best for the environment.”
FACULTY MEMBER CONtributes TO NEW ADVANCED KIDNEY DISEASE GUIDEBOOK

John “Jack” M. Burke, Pharm.D., BCPS, associate dean of postgraduate education and professor of pharmacy practice, recently contributed two chapters to the new guidebook, Nephrology Pharmacotherapy: A Pharmacist’s Guide to Advanced Kidney Disease and Medication Management. The chapters focus on the anatomical and physiological processes of the kidneys.

“Pharmacists, as part of an interprofessional health care team with physicians, nurses and other providers are now managing more patients with kidney issues,” Burke said. “As the medication experts, pharmacists need to understand not only how to treat chronic kidney disease and its complications, but also how medications the patient is taking for other conditions will affect the kidneys.”

The guidebook was published in 2016 as part of an educational partnership between the National Kidney Foundation, FreseniusRx and the Albany College of Pharmacy and Health Sciences.

PROFESSOR RECOGNIZED FOR RESEARCH

Scott Vouri, Pharm.D., MSCI, BCPS, CGP, FASCP, assistant professor of pharmacy practice, was named the 2016 recipient of the Alene and Meyer Kopelow Award for Geriatrics, Psychiatry and Neurology in recognition of his contributions to the field of geriatrics. The award is presented annually on behalf of the Harvey A. Friedman Center for Aging during the Friedman Lecture at the Institute for Public Health at Washington University in St. Louis. Vouri is the first pharmacist to receive the award.

In addition to his faculty appointment at the College, Vouri is a clinical pharmacist at the Washington University School of Medicine Older Adult Assessment Clinic. His research investigates how medication side effects can be misdiagnosed as symptoms of other health issues in older adults.

TOPPING OUT PHASE II

On Aug. 23, 2016, the final beam of the Recreation and Student Center (RAS) and residence hall was placed. The weather was dreary, but spirits were high as the crane lifted the beam into place, marking the beginning of the final phase of construction. Completion of the RAS will bring the largest campus expansion project in the College’s history to a close, adding more than 400,000 square feet of space for living and learning.
St. Louis College of Pharmacy is home to a talented, diverse group of students. The qualities that make them special are too numerous to count, but faculty, staff and alumni know that there's a special trend among our students. They often come in pairs!

It is not uncommon for siblings to attend the same college, but at STLCOP, we see more than our fair share of multiples. Five pairs of identical and fraternal twins share what it’s like to attend the College together.

**Choosing Pharmacy**
*Mason and Weston Davis, Class of 2022*

Despite family ties, making the decision to pursue a Pharm.D. was not taken lightly by sophomores Mason and Weston Davis.

“When we were growing up, my grandparents owned a local pharmacy,” Mason said. “I never thought I would want to be a pharmacist until I had the opportunity to shadow the greatest pharmacist I have ever known, Mr. John Keller.”

“He taught us that being a pharmacist isn’t an occupation — it’s something you enjoy doing while making a difference,” Weston added. “Pharmacy is about building relationships with your patients, educating them and helping them improve their quality of life.”

With aspirations of becoming pharmacists together, the Davis twins set their sights on applying to pharmacy school, and they now call the College home.

**Applying to College**
*Adam and Dylan Batty, Class of 2018*

P3 student Dylan Batty knew he wanted to attend college close to home, but he didn’t know his twin brother, Adam, was thinking the exact same thing.

“My brother didn’t influence my decision, but when I found out that he applied to STLCOP, I was excited to have someone who is always there for me,” Dylan said.

“I chose STLCOP because it’s in my city,” Adam said. “This is where I’m from, and I knew it had a prestigious reputation for educating top pharmacists in the area.”

“I knew STLCOP was the right place for me after learning more about the profession and, like Adam, the proximity to home was a benefit for me,” Dylan added. “Once I applied for Early Decision and got accepted, I couldn’t wait to start school.”
Starting College  
*Alison and Taylor Skaggs, Class of 2021*

Transitioning from high school and moving on to pharmacy school can be a challenge, but with a built-in study buddy, juniors Taylor and Alison Skaggs were able to navigate the process smoothly. The College provided an environment where the twins could stay close and still have opportunities to explore their interests.

“Moving away from my family for the first time was a challenge, but having my sister by my side made coming to college much easier,” Taylor said.

“We have both come to appreciate the intimate size of our campus,” Alison said. “It made making friends easier, and it gave us better opportunities to get involved.”

Living On Campus  
*Frederick “Fred” and Peter Jaeger, Class of 2018*

Getting involved at the College was easy for P3 students Peter and Fred Jaeger. Both attended the College not only to pursue pharmacy but also to continue participating in cross country. During their first professional year, both earned AMC All-Conference honors as student-athletes.

“We both competed on the cross country team during undergrad,” Peter said. “We’re also both RAs in the residence hall, but we manage different floors and organize our programs independently.”

“I was walking on Peter’s floor toward his room when I was stopped by one of his residents,” Fred said. “She told me, ‘Hey Peter, I’m not going to be able to make it to the floor meeting.’ Instead of taking the time to explain that I wasn’t him, I just acted as if I was and moved on. I still don’t think she had any idea she was talking to the wrong twin!”

Preparing for Practice  
*Alana and Lauren Little, Class of 2017*

Although they love being twins, P4 students Lauren and Alana Little used rotations as an opportunity to explore their interests independently.

“We’ve lived together since our first year of college, which made studying easier because we could provide different viewpoints,” Alana said. “It’s easy for people to see us as a single unit, but our different rotations have allowed us to pursue our own interests.”

“Now that we’re in our rotation year, we live in different places and only see each other on weekends,” Lauren said.

DID YOU KNOW? President John A. Pieper has a twin sister, Joan (Pieper) Lawson. She serves as co-president of Farmers State Bank, in Colorado, which has been owned and operated by the Pieper family since the 1970s.
When presented with the opportunity to rethink St. Louis College of Pharmacy’s chemistry curriculum to better prepare their students, Ehren Bucholtz, Ph.D., associate professor of organic chemistry, and Benjamin Barth, Ph.D., assistant professor of organic chemistry, were eager to accept the challenge.

“We were encouraged to do new things, to make something unique, something to be proud of,” Bucholtz said. “This allowed us to focus on tailoring the curriculum to our students.”

With support from Kimberly Kilgore, Ph.D., dean of the School of Arts and Sciences, Bucholtz and Barth set out to tackle some of the challenges that often hinder students’ success.

**IMPROVING THE CURRICULUM**

“Previously, we taught chemistry the same way they do at the majority of schools – one year of general chemistry followed by one year of organic chemistry,” Barth said. “The problem is, there is often a drastic difference between students in terms of preparedness and educational backgrounds when they enter our program. Some of our students have already taken two years of chemistry in high school, while others only have the opportunity to take one semester.”

Just as students have a wide variety of chemistry backgrounds, they also tend to have varied math backgrounds.

“It is very difficult for students to learn math and chemistry principles simultaneously,” Bucholtz noted. “What we have found is students are either very comfortable with the mathematics and not necessarily the chemistry principles the math is trying to explain, or they do not have an advanced math background coming into college chemistry, so they become overwhelmed by both the math and the chemistry.”

**A UNIQUE, STUDENT-FOCUSED SOLUTION**

After more than a year of analyzing existing coursework and researching alternative chemistry curricula, Bucholtz and Barth came up with an innovative solution that would strengthen the focus on key chemistry concepts throughout the program.
"We call this approach a threaded chemistry curriculum because we are essentially threading the big concepts through the entire chemistry program," Bucholtz explained. "We worked backwards to say, 'where do we want our students to be at the end of the curriculum, and what do we want them to be able to do?' This helped us clarify the concepts that are most important to cover and refine the coursework to focus on biologically relevant topics that would be applicable to students in the future."

One of their goals in structuring the new curriculum was to avoid thinking about the material as strictly general or organic chemistry. By emphasizing the connection points in the different areas of chemistry, students come away with a more complete understanding of how the concepts can be applied.

"In the threaded chemistry curriculum, we are able to cover an organic chemistry topic where it naturally ties into a general chemistry concept," Barth said. "We introduce the topic the same way we would in general chemistry, but then extend that topic to go more in depth into organic chemistry. This way, students are able to see the connections in the material."

Introducing new organic chemistry concepts earlier in the program helps to ensure a more level playing field for students with a wide range of chemistry and mathematics backgrounds.

"Having students learn concepts that are new to everyone is key. It creates a better learning community," Bucholtz said.

"Restructuring the curriculum also allowed us to move the majority of the calculation-based chemistry to later in the program," Barth said. "That way, students have already taken precalculus, calculus and statistics before they get to chemistry material that requires heavy mathematical calculation."

ENCOURAGING RESULTS

Implemented in fall 2014, the threaded curriculum is still relatively new, but it is already showing positive effects. Bucholtz and Barth are starting to see encouraging test results that seem to indicate students are retaining the material more effectively.

The new course structure also lends itself to faster intervention if a student is starting to fall behind, creating opportunities to connect students with academic support resources.

“Because we are getting into these organic chemistry topics earlier, we are able to recognize that a student is struggling right away, so they are able to get help sooner,” Barth added.

A LEADER IN CHEMISTRY INSTRUCTION

The College is on the leading edge when it comes to this type of alternative curriculum, and other institutions are starting to take notice. Bucholtz recently hosted a symposium at a national meeting of chemistry educators on alternative pathways to curricular change where he received positive feedback from peers and fellow institutions.

“There are a handful of other institutions exploring similar methods of altering the curriculum, but the vast majority are still using the same general chemistry, organic chemistry approach,” Bucholtz said. “Educators are starting to realize that chemistry needs to change because not everyone is a chemistry major. What we have done is create a program that is a good fit for non-chemistry majors who need to have a strong background in chemistry. We are relating the material to skills for our students. Other institutions are going to learn from us and start asking, ‘what can we do to better meet our students’ needs?’”
HONORING A LIFETIME OF CONTRIBUTIONS

Sister Mary Louise Degenhart ’60 receives the prestigious Harvey A.K. Whitney Lecture Award.

As grades are calculated and students prepare for break, the stress of final exams subsides across campus. But for Sister Mary Louise Degenhart ’60, ASC, MBA, FASHP, special assistant to the president, the anticipation extends beyond the last test. She waits to hear how the students she has mentored have fared. Slowly the emails come. Along with the passing marks are kind words from students appreciative of Degenhart’s time.

“To see students achieve success and have the ability to encourage them means everything to me,” Degenhart shared.

Connections like the ones she has made with students at St. Louis College of Pharmacy have defined her career in pharmacy. Her devotion to helping others succeed is one of the reasons Degenhart was selected as the 2016 Harvey A.K. Whitney Lecture Award recipient. Each year, the American Society of Health-System Pharmacists (ASHP) recognizes an individual of high moral character, good citizenship and elevated professional ideals who has made outstanding contributions to health-system pharmacy. The Whitney Award is considered health-system pharmacy’s highest honor and one of the two highest in American pharmacy.

“It never entered my head that I would be a recipient,” she said. “It’s an honor for me, but more than that, it’s an honor for my family, my religious community and the College.”

The award comes as Degenhart celebrates 60 years in the profession. Several years before choosing pharmacy, Degenhart entered the Adorers of the Blood of Christ, a vowed religious community of Roman Catholic women founded in 1834. There are more than 2,000 members of the Adorers of the Blood of Christ worldwide including more than 200 who live in the United States. After graduating from the College, Degenhart’s pharmacy career began at a 55-bed hospital in Murphysboro, Illinois.

“Starting out in a small hospital, I had the opportunity to do everything,” she said. “I was able to learn about all areas of pharmacy that way.”

For nearly half of her career, Degenhart focused on developing and growing pharmacy residency and pharmacy technician programs. She established programs at the University of Chicago and in Springfield, Illinois. She also helped hundreds of other programs through her work with ASHP conducting accreditation evaluations, a role that highlighted her passion for nurturing the growth of students and programs.

“To see students achieve success and have the ability to encourage them means everything to me.”

“At ASHP, we were in the accreditation business, not the disaccreditation business,” Degenhart said. “We were exploring ways to help pharmacy programs improve. I felt we were surveyors in the sense of upholding national standards and also consultants.”

In accepting the award, Degenhart presented an imagined conversation between herself and Harvey A.K. Whitney, co-founder of ASHP and the organization’s first president. During her speech, she made the case for the expanded training of young pharmacists, especially in community residencies, despite the changing climates within pharmacy and higher education. Degenhart used the opportunity to connect with the audience and encourage them to invest in and strengthen the profession of pharmacy – just as she has done throughout her entire career.
Help Us Shape the Future

Our strategic plan, STLCOP 20/20, has served as a blueprint to guide St. Louis College of Pharmacy’s evolution into a globally prominent academic and research institution. Building on our history and prestigious reputation, we are embracing our role as a leader in health care education and taking bold steps into the future.

With your support, we have made significant progress. We have formed partnerships that give us a stronger voice to advocate for pharmacists in the broader health care conversation. These partnerships have allowed us to establish academic and research centers where faculty researchers push the boundaries of our knowledge and students build foundational skills.

By taking a leadership role in pharmacy, we will increase awareness of the proud history of innovation at the College and maximize the value of a STLCOP degree for all students – past, present and future.

Join us as we define the future of pharmacy education.

On Nov. 10, we will share a special announcement you will not want to miss. Join us for this innovative, web-based event to learn about the exciting changes underway and see what comes next.

We have accomplished great things, and now it is time to look to the future. As we take the next step, we invite members of the STLCOP community across the country and around the world to be a part of this exciting announcement.
Join us online at stlcop.edu/campaign for a special presentation Thursday, Nov. 10 at 7 p.m. CST.
An Evolving Market

UNTANGLING THE NEXUS OF DEVELOPER, PRESCRIBER, PROVIDER AND PATIENT.

A LOOK AT THE EMERGENCE OF BIOSIMILARS.
Produced by living organisms, biologics have a more complex structure than standard, chemically based medications composed of small molecules. The active components in biosimilars are large, complex protein and polypeptide macromolecules. Leah Christl, Ph.D., associate director for therapeutic biologics at the U.S. Food and Drug Administration (FDA), elaborated in the April 2016 issue of the FDA Consumer Health Information publication.

“Biologics are different from conventional medications,” Christl said. “Conventional medications are generally made from chemicals, or chemically synthesized, and therefore their structure can be relatively easily defined. Because biologics come from living organisms that are variable in nature, they are generally more complex and not as easy to define and characterize.”

Terry Seaton, Pharm.D., FCCP, BCPS, professor of pharmacy practice at St. Louis College of Pharmacy, explains that with biologics, it is not only the end product that is complicated, it is the creation process as well. Medications produced by living organisms are not revolutionary, but in the case of biologics, the organism’s genetic information is altered to stimulate production of the medication.

“With many small-molecule medications, like aspirin, the manufacturing process is relatively simple and not proprietary,” Seaton explained. “But with biologics, the process of making them is extremely complex, and it is also proprietary. Manufacturers start with a line of cells and insert new genetic information into their DNA. Then, they culture those cells and grow them, and those cells secrete the medication. The process is time consuming and very controlled, and no one but the company really knows the exact details.”

While many European countries have already reaped the benefits of a strong biosimilar market, the first FDA-approved biosimilar did not hit the U.S. market until the 2015 introduction of Zarxio, a product of Sandoz Inc., the generics arm of Novartis AG. Unlike generics, biosimilars are not copies of a brand-name medication. They are “highly similar” to a reference product (the original, brand-name medication) and produce the same biological effects as the reference product.

As is often the case with advances in drug development, the advent of biosimilars came with some initial hesitation. Differences in the immunogenicity of reference products and biosimilars created some concerns that patients successfully receiving biologic treatments may experience adverse immune responses to biosimilar substitutes.

Concerns also have been raised about discrepancies between the pharmacokinetic and pharmacodynamic profiles of innovator
reference products and biosimilars, which could translate to differences in efficacy and side effects.

While, in theory, these questions may have merit, the review and approval process for biosimilars has alleviated most concerns. Before a biosimilar is approved, FDA experts verify that the biosimilar functions the same way as the reference product and is of the same strength and dosage form.

“Patients can rest assured that they’ll be able to rely upon the safety and effectiveness of an FDA-approved biosimilar, just as they can rely on the reference product that the biosimilar was compared to,” Christl said.

Seaton added, “I’m confident that the U.S. regulation of biosimilars is good. It’s solid. Biosimilars didn’t catch them [the FDA] off guard. They learned from the European experience. They have patients’ best interests in mind, and they are smart people. They are not going to approve products that are not good for patients.”

Fostering Innovation With Legislation

Even though many drug companies began developing biosimilars in tandem with their reference product, only three biosimilars have been approved by the FDA — Zarxio (a biosimilar version of filgrastim), Inflectra (a biosimilar version of infliximab), and Erelzi (a biosimilar version of etanercept). Despite the low number of biosimilars on the market, key legislation has already been passed in anticipation of market growth. To introduce more price competition and encourage innovation in the biologics market, President Barack Obama signed the Patient Protection and Affordable Care Act (PPAC Act) into law on March 23, 2010. This law provides an abbreviated approval pathway for biosimilars.


“By signing Senate Bill 875 into law, Governor Nixon has added Missouri to the list of states that allow retail pharmacies to substitute interchangeable biologic medicines.”

Missouri is one of 20 states with laws allowing pharmacists to substitute an interchangeable biosimilar without a prescribing physician intervening. There are varying opinions about substituting biosimilars for reference products, which in most cases requires a new prescription. For some, this requirement presents an obstacle.

“The challenge, in many cases, is that biosimilars may not be automatically
substitutable,” explained Adam Kautzner ’01, Pharm.D., vice president of formulary and drug trend solutions at Express Scripts Inc. “You’ll have to get a new prescription for the biosimilar product.”

For others, the substitution of a biosimilar warrants the involvement of the prescribing physician.

“The prescriber should know when medications are being substituted,” Seaton said. “With biologics and biosimilars, the effect that people get can be more variable, and the diseases that are being treated are more serious. Both the physician and pharmacist need to know what is happening with the patient.”

The Cost of Competition

The high cost of biologic medications is a major issue for many patients. With the introduction of biosimilars into the market,

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THERE WILL BE MANY TYPES OF BIOLOGIC PRODUCTS

<table>
<thead>
<tr>
<th>TYPE</th>
<th>DESCRIPTION</th>
<th>DATA PACKAGE</th>
<th>PRACTICE IMPLICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Originator</td>
<td>First-to-market biologic molecule. Will likely be the reference product.</td>
<td>Demonstrate safety and efficacy.</td>
<td></td>
</tr>
<tr>
<td>Biosimilar</td>
<td>“Highly similar” to reference product. Approved via biosimilars pathway.</td>
<td>Abbreviated data package.</td>
<td>Biosimilar reimbursement per CMS (same margin as reference).</td>
</tr>
<tr>
<td>Interchangeable</td>
<td>A biosimilar that can be switched to and from the reference with no clinical consequences.</td>
<td>Abbreviate data package. More information on switching.</td>
<td>Biosimilar reimbursement per CMS. Possible automatic substitution without contacting prescriber.</td>
</tr>
<tr>
<td>Biosimilar</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Non-Originator Biologic</td>
<td>Another brand name of an already approved biologic.</td>
<td>Demonstrate safety and efficacy.</td>
<td>Lower margin if lower cost. Automatic substitution issues.</td>
</tr>
<tr>
<td>Next-Generation</td>
<td>Biologic that has been altered to achieve improved clinical outcomes.</td>
<td>Demonstrate safety and efficacy.</td>
<td>New entity.</td>
</tr>
<tr>
<td>“Bio-Better”</td>
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Adapted and reproduced with authorization from Edward Li, Pharm.D., MPH, BCOP, associate professor of pharmacy practice at the University of New England College of Pharmacy; and Jim Stevenson, Pharm.D., FASHP, of the University of Michigan College of Pharmacy; from the APHA 2016 presentation, “Biosimilars: What Every Pharmacist Needs to Know”
patients are afforded treatment options at a lower cost.

“Inflammatory conditions like rheumatoid arthritis, psoriasis, and Chron’s disease cost more than any other disease state,” said Kautzner. “From an overall payer perspective, more competition in the market will cause the cost to come down, especially if there is a directly competing biosimilar.”

The added bonus of a rise in biosimilars is the innovation that accompanies competition. Encouraging manufacturers to innovate not only increases physician and patient treatment options, but it also increases patient access to these new innovations. More cost-effective biosimilars create a financial opportunity to invest in new treatment options.

Impact on the Profession

In the next few years, biosimilars have the opportunity to create significant health care savings. For the biosimilars market to grow and remain stable, policy makers, manufacturers, physicians, pharmacists, patients and payers will have to work together. Strong competition in the market begins with cooperative legislation both at the national and state levels. Legislation encouraging physicians to prescribe biosimilars, comparable to laws that promote generic prescribing, is a likely approach. Policymakers are also focusing on the pharmacist’s role in substitution, as demonstrated by the Missouri Senate Bill 875.

The components that make for a sustainable biosimilar market are just as complex as the molecular structure of the medications, and pharmacists are sure to play an integral role. The exclusivity of the current biosimilar market has affected pharmacists working in hospital settings the most. Community pharmacists will play a different, but equally important role.

KEY LEGISLATION

As more biosimilars are introduced to the market, federal and state legislatures are taking note and creating new legislation to address the change.

- **Signed into law by President Barack Obama on March 23, 2010, the Patient Protection and Affordable Care Act (PPAC Act)** provides an abbreviated approval pathway for biosimilars.
- **Missouri Senate Bill 875** adds Missouri to the list of 20 states to have passed laws allowing pharmacists to substitute an interchangeable biosimilar without intervention from the prescribing physician.
- **Missouri House Bill 1366** furthers Missouri’s dedication to expanding the pharmacist’s role in dispensing and substituting interchangeable biosimilars.
As legislation continues to be passed regarding the interchangeability of biosimilars, community pharmacists will be working with physicians and payers to make decisions regarding what biosimilars should be prescribed. Pharmacists are already the liaison between patients and payers. With the advent of biologics and biosimilars, interactions between pharmacists and payers will become more frequent and complex.

Teaching for the Future

Community pharmacists will also play a critical role in patient education. Despite most biologic medications being administered in a hospital or clinic, community pharmacists are often the most accessible source of health care information. Pharmacists will be required to provide information and education to patients receiving biologic treatments, even though they may not be providing the medication.

“When you become a pharmacist, your learning never ends,” Seaton explained. “Biologics and biosimilars are great examples of how pharmacists have to keep up with drug development. These medications are new, so we have to learn about them to properly educate our patients. The patient may be receiving their biosimilar from a specialty pharmacy, but they are filling the rest of their medications in their regular pharmacy. That pharmacist has to be a resource for the patient.”

The changing landscape of biologics and biosimilars will also inform the way institutions like St. Louis College of Pharmacy educate the next generation of pharmacists.

“We are obligated to teach students for the future,” Seaton said. “The work we do in the classroom may not always seem practical, but we are aiming at a target that is not today. We have to equip students with practical knowledge as well as a framework of understanding that allows them to learn and remain at the forefront of the profession.”

The development, legislative intricacies and implications for the future of biosimilars and pharmacy is a collection of intertwined issues. Pharmacists will continue to be a critical link, ensuring patients receive optimal benefit from these therapies.

“...biologics and biosimilars are great examples of how pharmacists have to keep up with drug development. These medications are new, so we have to learn about them to properly educate our patients.”

TERRY SEATON, PHARM.D., FCCP, BCPS

CONTINUING EDUCATION

The U.S. Food and Drug Administration provides a free course for health care professionals to learn about biosimilars. The course provides information on the new approval pathways and discusses the prescribing and dispensing of biosimilar products.

The course is available online at fdabiosimilars.e-paga.com. Pharmacists may earn 1.5 ACPE contact hours upon completion.
In 1941, Kurt Kleinmann '59, R.Ph., M.S., left Vienna for the United States. He was only 11 years old when the devastating conditions in Vienna forced his mother to send her son overseas to escape the same fate as his father and brother, who had been arrested two years prior and would survive six years in the Auschwitz concentration camp. Kleinmann does not know how his mother found the means to send him to the U.S. and confesses that saying goodbye to his mother and sister Herta is a memory buried too deep in his mind to recall. Both his mother and sister would be murdered by the Nazis after being transported to Minsk in June 1942. The memories from that time are heavy, but Kleinmann has carried his mother’s incredible act of love with him in everything that he does.

A prominent family of lawyers in New Bedford, Massachusetts, took in young Kleinmann. He knew no English, with the exception of “yes” and “no” and eventually the poem “Pat-a-Cake.” Kleinmann went on to show exceptional skill in math and science and had his eyes set on a future in aeronautical engineering. When he told his high school counselor of his plans, he was instructed to take mechanical drawing. After a taste of the tedious work of technical lettering, Kleinmann began to think of an alternative future.

His aptitude for math and science, coupled with his experience working in a community pharmacy, led him to the profession of pharmacy. After graduating from Rhode Island College of Pharmacy in 1952 (now the University of Rhode Island College of Pharmacy), Kleinmann applied to Ohio State University. However, he was only able to attend for one year before he was drafted into the military. After serving the majority of his two years in Germany, he was assigned to a hospital in Salzburg, Austria, where he would be reunited with his father and brother after 15 years of separation.

Upon returning home, Kleinmann realized that hospital pharmacy was where he wanted to dedicate his efforts. He contacted The Johns Hopkins Hospital regarding their residency program but was instead offered a position in their pharmacy department, at the time under the direction of Arthur Purdum, the first Harvey A. K. Whitney Lecture Award recipient. After two years, he was promoted to supervisor, heading the manufacturing area, until he realized that graduate study and residency was the next stop on his journey.

Kleinmann used the GI Bill to apply for VA residency training and graduate school. He was hoping for an assignment in California when he received a letter from St. Louis College of Pharmacy inviting him to pursue a residency at the St. Louis VA Medical Center–John Cochran Division under the tutorship of Norman Hammelman ‘43.

“Taking the offer in St. Louis was the best decision I ever made,” Kleinmann said. “Norman Hammelman was an outstanding preceptor. Though it was in his best interest to keep me at the VA, he felt his job was to teach me hospital pharmacy. He made arrangements with the other hospitals in St. Louis, called the pharmacy residency directors and said, ‘I have a resident. You can work him as hard as you want, but you have to teach him something.’ As a result of that, I rotated through a number of hospitals and was even assigned to the commissioner of St. Louis to survey the city’s hospitals.”

Kleinmann was only in St. Louis for two years, and during that time he balanced earning a master’s degree with a growing family.

“I was already married and had two children in St. Louis. My wife and I lived in a one-bedroom apartment in Maplewood,” Kleinmann recalled. “It was tough. We were on duty 28 hours a week at the hospital and spent the remaining time at the College. We even had keys to the College due to our late night labs. It was a great group, and we formed a special bond during that time.”

Since graduating from the College with a Master of Science in 1959, Kleinmann has demonstrated a commitment to lifelong learning. He has anticipated many trends in pharmacy that have come into fruition. In his 1994 lecture given at the acceptance of the Harvey A.K. Whitney Lecture Award, he outlined the need for pharmacists to have prescribing privileges and the value of interdisciplinary care.

During his time at Montefiore Medical Center in New York, Kleinmann pioneered their clinical pharmacy program. The program was host to 12 pharmacists who worked in all areas of the hospital alongside their fellow health care providers.

In his Whitney Award lecture, Kleinmann closed with a reflection on how sailing translates into his everyday life.

“I am a sailor,” he said. “To be a good sailor, one must shift to a new track, or ‘come about’ as the wind changes. Pharmacy practice is continually changing. Do this with a caring heart for your patients.”

Kleinmann currently resides in Ossining, New York, with his wife, Dianne. In 1994, he retired as director of pharmacy services at Montefiore Medical Center and was awarded the Harvey A.K. Whitney Lecture Award.
Whatever It Takes

Parkland Health Mart Pharmacy in Desloge, Missouri, feels different than most. When patients walk through the door, they enter a cozy seating area with contemporary decor that feels like home. They are also welcomed by a caring staff whose interest extends beyond their medications. The pharmacy is an organization built on a dedication to patients — a value that can be seen in its mission, to improve the health of patients and positively impact the communities it serves, as well as the culture of care, “whatever it takes.”

Founded in 2005 by Lisa Umfleet ’96, R.PH., CDE, CGP, Parkland Health Mart Pharmacy has grown to include two additional locations, in Fredericktown and Ironton, Missouri. In partnership with fellow alumnus Jeremy Leach ’04, who joined the business in 2012, Umfleet strikes a balance between management and staffing, tending to the needs of the business as well as her patients.

How do you balance your roles as business owner and staff pharmacist?

I work full time, but I try to split my time between management and staffing. I like focusing on patient care activities, but being a business owner requires many hats to be worn. My responsibilities include everything, but I’m not afraid to delegate responsibilities. I enjoy working behind the counter, and I am always striving to find the right balance between owner and pharmacist.

As a business owner, I try to recognize my weaknesses. You cannot do it all. I have a strong leadership team and a great, experienced staff. They make my job easy. I can rely on them to keep the business moving, which allows me to get out of the pharmacy, teach monthly diabetes classes, run flu shot clinics, work on marketing projects, and still make it home to have family time.

How has your business evolved?

I opened my store in Desloge in 2005. It was successful and I knew it could grow. Then, Jeremy Leach and I met through a mutual friend and pharmacy technician Debbie Hamby, who is now our business manager, and decided to partner on a second location in Fredericktown, Missouri. That store opened in 2012 and the following year, we opened the third location in Ironton, Missouri.

Jeremy and I have a great business relationship, and we try to maintain dedicated meeting time. Every few weeks, we have a breakfast meeting to ensure we are addressing business issues, brainstorming on marketing and focusing on improving patient outcomes. This is our time to work on the business instead of working in the business.

How do you approach the integration of technology?

I always look for a more efficient way to accomplish something. That may only require a small change to streamline workflow, but it can also mean integrating automation, such as Parata PASS compliance packaging or automated dispensing using the Parata MAX.

We recently made a complete change of our pharmacy software and it was tough! We completed the migration in January, and we are starting to see a return on new operational efficiencies. The automated medication synchronization is smooth and allows us to build more time for clinical activities. It helps us get our medication therapy management appointments completed, screen for vaccines and identify compliance packaging candidates who may need extra help remembering medications.
How do you maintain a focus on innovation?

We have invested in technology to improve our processes and services, and we have seen the benefits. Our staff knows that we are always looking for the best way to get something done, and we want them to identify areas where we can do better. In fact, many of the changes we have made in the pharmacy come from employee suggestions or the anonymous “idea jar” which encourages employee feedback.

How do you see your role as a pharmacy owner in a rural community?

Our work in the community has a direct impact on our patients, and we approach our role with a strong sense of responsibility. Our county, St. Francois, is ranked No. 101 out of 114 counties in health rankings. Working with the local health department, we participate in the St. Francois County Health Coalition, raising awareness of heart disease and healthy living.

In each of the communities we serve, we proudly offer a comprehensive suite of services including pharmaceutical care services, medication therapy management, medication synchronization, 340B and Medicare Part D counseling, diabetes counseling, long-term care service, medication deliveries and immunizations. When we remodeled the pharmacy, we also added a private consultation area. One day each week, we have a nurse on-site to meet with patients and provide blood pressure and blood sugar checks. Providing rural patients with access to a wide range of services is an important part of what we do. Outside the pharmacy, we are working to provide education in our communities. We host monthly diabetes classes and wellness classes focusing on topics such as smoking cessation and weight loss. We recently partnered with our local hospital to teach classes on heart failure and COPD.

UMFLEET’S HARD WORK HAS NOT GONE UNNOTICED. In both 2014 and 2015, she received the Missouri Pharmacy Association (MPA) President’s Appreciation Award. She currently serves on the MPA Board of Directors, a role that has provided insights into the importance of advocacy on behalf of the profession.

In 2013, McKesson Corporation named Parkland Health Mart Pharmacy the Pharmacy of the Year, citing its early adoption of medication synchronization and the American Association of Diabetes Educators’ accreditation of the pharmacy’s diabetes education program, Partners in Diabetes Care and Healthy Living as distinctions setting the pharmacy apart. Umfleet joined the McKesson National Independent Advisory Board and has served on the Speakers’ Bureau for three years speaking at Health Mart Town Hall meetings.
FORGING HIS OWN PATH

Most high school students spend their summers swimming, traveling or spending time with friends, but during the summer of 2003, Harold Carter ’11, Pharm.D., set out to make a difference. With some encouragement from his parents, Carter dedicated the summer between his sophomore and junior years to helping others in a volunteer role at SSM Health St. Mary’s Hospital-St. Louis that would lead him to his career in pharmacy.
“Through my volunteer experience, I gained exposure to all the different functions of the hospital,” Carter said. “One of the areas that intrigued me the most was the pharmacy and all the interactions the pharmacists had with patients and other health care professionals on a daily basis.”

This early experience in health care sparked Carter’s interest in pharmacy, leading him to pursue additional opportunities to learn more about the profession. He soon found a position at Walgreens where he would gain experience working in a community pharmacy setting throughout his college career. Through this position, Carter met an alumnus from St. Louis College of Pharmacy who inspired him to pursue his Pharm.D.

“What really helped me make my decision was connecting with alumni who encouraged me to learn more about pharmacy,” Carter said. “I found that a lot of the people I was interacting with in the pharmacy profession had either attended STLCOP, or knew of the College’s prestigious reputation. I still find that in my career today.”

After gaining experience in a community setting, Carter was eager to explore other areas of pharmacy.

“I remember attending one of the College’s career fairs where I met representatives from different companies and pharmacies from around the area,” Carter said. “After learning more about Express Scripts, I went on to do a summer internship there. It was such a great experience that I completed another internship with them the following summer and stayed in touch with the leadership team.”

To continue his training in a corporate setting, Carter decided to forge his own path, setting up a new rotation.

“I really wanted to go into managed care based on my summer internships,” Carter said. “So I sought out rotations during my professional years that would help me gain that experience.”

After a five-week rotation with Humana Inc. in Louisville, Kentucky, Carter was confident he had found the career path for him. Following graduation, Carter accepted a role at Express Scripts Inc. (ESI) with the same group he worked with as a student pharmacist and has continued his career there. In his current role as director of clinical solutions, he leads the development, management and creation of key strategic clinical and financial initiatives for the company.

“What I really enjoy about my current position is the opportunity to use my clinical knowledge in a corporate setting,” Carter said. “My role is about aligning clinical knowledge with the financial and business aspects of pharmacy. We’re also creating management solutions for our clients so they can provide better care to their patients while managing medication costs.”

Carter has enjoyed a diverse range of work experiences with ESI, from helping with the initial integration process with Medco Health Solutions Inc. to product development for their plan sponsors.

“My day-to-day is pretty varied,” Carter shared. “The most important parts of my role involve discussing new drugs that are coming to the marketplace, analyzing current practice treatments and planning the best way to manage those drugs for our clients.”

Since graduating, Carter has stayed involved with the College, helping with career fairs and networking events, assisting with the BEST Pharmacy Summer Institute and serving as a preceptor for students. He also hopes to assist with the College’s efforts to enhance opportunities to learn about managed care, noting the growing amount of jobs in this area of pharmacy.

“I really enjoy being able to give our summer interns and externs on rotation insight into what managed care involves, not just from a pharmacy benefits management prospective but explaining how they can leverage their clinical knowledge to make recommendations for plan sponsors and patients,” Carter said. “It’s essential for students to understand the importance of cost as a factor because you can make a clinical recommendation to treat a condition, but if the plan sponsor or patient can’t afford the medication, it’s an irrelevant recommendation.”

Carter’s advice to current students is to always be open to new experiences through their didactic work and rotations.

“There is always something you can take out of each experience while you’re in pharmacy school to build on and learn from,” Carter shared. “By seeking out new opportunities to follow your specific interests in pharmacy, you can build a rewarding career to remain passionate about for years to come.”

Carter remembers his time at the College with fondness, reflecting on the many relationships he built. His best memory at STLCOP was meeting his wife, Callie (Trexell) Carter’11, Pharm.D. They dated throughout their time at the College and got married shortly after graduation. They are enjoying their new role as parents to their one-year-old son, Eston.

Harold and Callie Carter with their son, Eston. Callie works as a specialist pharmacist for the Express Scripts Diabetes Therapeutic Resource Center.
NEW TOOLS IN THE FIGHT

The Comprehensive Addiction and Recovery Act of 2016 outlines new provisions to help pharmacists and other health care providers continue the fight against opioid abuse.

In recent years, there has been a growing national conversation surrounding the use and abuse of opioids. The rate of deaths due to drug overdoses has been on a steady rise, surpassing car accidents as the number one cause of injury death, according to the U.S. Drug Enforcement Administration. In 2014, the National Center for Health Statistics at the Centers for Disease Control and Prevention reported deaths resulting from overdoses of prescription opioids had more than tripled since 2001.

In response to the epidemic, and with bipartisan support, Sen. Sheldon Whitehouse (D-RI) introduced sweeping legislation to tackle the problem. After successful passage by Congress, the Comprehensive Addiction and Recovery Act of 2016 (CARA), S.524, was signed into law by President Barack Obama on Friday, July 22, 2016.

The first federal addiction legislation passed in 40 years, the 85-page act takes a sweeping approach to opioid addiction and addresses prevention, education, law enforcement, treatment and recovery. The legislation creates mechanisms to enhance and improve research, data collection and law enforcement. It also provides grant funding for the creation and implementation of tools and education.

According to a press release issued by Whitehouse’s office, “The Comprehensive Addiction and Recovery Act establishes a range of policies to prevent and treat addiction to opioid drugs, including programs to increase education on drug use, to expand medication-assisted treatment, to improve prescription drug monitoring programs, and to promote comprehensive state responses to the opioid crisis.”

The legislation also recognizes the important role pharmacists play in addressing the crisis.
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EXPANDING THE CONVERSATION
CARA outlines provisions to establish an inter-agency Task Force on Pain Management. The task force, including representatives of the Department of Health and Human Services, Department of Veterans Affairs, Department of Defense, Office of National Drug Control Policy, as well as pharmacists, researchers, and experts in pain management and addiction, will review contemporary research and establish best practices to advance drug abuse awareness and education.

The legislation also creates a special Food and Drug Administration (FDA) advisory committee to review applications for new opioids and provide recommendations prior to approval. Additionally, it requires the FDA Pediatric Advisory Committee to provide recommendations on the labeling of opioids for pediatric patients.

IMPROVING ACCESS TO TREATMENTS
To improve access to overdose reversal medications, CARA provides grant funds to support the establishment of prescribing programs, offset the costs of treatments, establish protocols to connect patients to treatment services, and provide training for providers, pharmacists and first responders. States may also receive funding to implement strategies that allow pharmacists to dispense opioid overdose reversal medications pursuant to standing orders.

FOSTERING NEW RESEARCH
With an eye toward the future, CARA authorizes the National Institutes of Health (NIH) to coordinate “fundamental, translational and clinical research” to expand the current understanding of pain, develop new therapies for the treatment of chronic pain and develop alternatives to opioids.

Evan Kharasch, M.D., Ph.D., director of the Center for Clinical Pharmacology explains that the center, a collaboration between St. Louis College of Pharmacy and Washington University School of Medicine in St. Louis, was established for just this type of research.

“Opioids are among the oldest and most effective drugs available to treat acute and severe pain,” Kharasch said. “Much of the science we have today was not available when these drugs were developed. There are unmet needs for better and safer ways to use existing opioids, develop new and safer opioids, and non-opioid pain medicines.”

IMPROVING DRUG MONITORING
CARA also seeks to improve drug monitoring programs by reauthorizing the National All Schedules Prescription Electronic Reporting (NASPER) Act of 2005. CARA also provides grants to states (or local governments where state programs have not been legislated) for the establishment, implementation or improvement of prescription drug monitoring programs (PDMPs). The grants incentivize states to create integration and information sharing mechanisms between PDMPs and national abuse agencies to better identify patients in need of treatment services.

EXPANDING PREVENTION EFFORTS
CARA supports the prevention of prescription medication abuse by supporting the expansion of drug take-back programs. By creating additional disposal sites at locations such as community, hospital and health-system pharmacies, law enforcement agencies, and long-term care facilities, the act seeks to reduce the rate of opioid abuse through the safe disposal of unwanted prescriptions.

“By expanding take-back programs in our cities and communities, patients will have greater access to resources to dispose of unused opioids, which will help prevent accidental poisonings and decrease diversion of these powerful medications,” said Amy Tiemeier, Pharm.D., BCPS, director of community partnerships and associate professor of pharmacy practice.

“There are unmet needs for better and safer ways to use existing opioids, develop new and safer opioids, and non-opioid pain medicines.”

Evan Kharasch, M.D., Ph.D.

EMPOWERING PHARMACISTS
The act also includes a provision that allows for the partial fill of opioid prescriptions. By reducing the amount of medication a patient is issued at one time, lawmakers hope to reduce drug abuse and diversion.

Although the act has been widely praised, there are concerns as well. Stakeholders note the lack of funding for provisions and programs. The $920 million in funding for CARA was voted down in the House of Representatives before the bill reached the Senate. Although the legislation would authorize $181 million in spending each year, funding is not attached to the final bill and must be authorized through the appropriations process each year. Despite concerns, stakeholders, advocates and health care practitioners agree that CARA is a step forward in the ongoing fight against opioid addiction.
Alumni Association Update

The St. Louis College of Pharmacy Alumni Association is a non-dues paying organization that provides opportunities for alumni to stay involved and connected to the College. The association works to support the College, current students and the profession.

To learn how you can get involved with the association, visit stlcop.edu/alumni.

Distinguished Alumni Awards

Each year, the Alumni Association presents awards to outstanding alumni who embody the attitudes and values that provide the foundation for exceptional patient care. The awards are presented to nominated alumni in recognition of their professional accomplishments, community service or service to the College.

Get to know the 2016 award recipients!

DEDICATED SERVICE TO THE COLLEGE AWARD
Recognizing an alumnus who supports the College and its mission.

Suzanne Bollmeier ’99/’00
Bollmeier has served as a faculty member at the College since 2001 and is currently a professor of pharmacy practice, where she co-coordinates the Advanced Pharmacy Practice course and lab and primary care elective. In addition to her teaching responsibilities, Bollmeier practices at the South County Health Center, where she and her students work collaboratively with providers to help patients achieve positive disease outcomes, such as glycemic control, smoking cessation and proper monitoring of their anticoagulants. Currently, she is working with a team of researchers on a collaborative project regarding community pharmacy patients with chronic obstructive pulmonary disease (COPD).

Bollmeier considers her greatest accomplishments to be those she earned as an educator, including being promoted to her current faculty position. She is especially looking forward to the implementation of the College’s new curriculum and has been charged with helping develop the pulmonary module of a new integrated pharmacotherapy course that will be offered for the first time in 2017.

She has served as a member of the board of directors for the National Asthma Educator Certification Board from 2008-2014 and has been a member of their exam committee since 2008. She is also currently a member of the school board for Zion Lutheran School in Belleville, Illinois.

Bollmeier says her time at the College has also given her the tools to enjoy her career. She takes pride in her impact on patients’ lives and the opportunity as an educator to influence the future of the profession.

“I give a lot of time, energy and love to the College,” Bollmeier said. “I’ve spent more than half of my life here as a student, resident and faculty member, the recognition for my service to the College is significant.”

Bollmeier and her husband, Jim, along with their children, Grace and Charlie, enjoy traveling, cooking and staying active outdoors.

DEDICATED SERVICE TO THE PROFESSION AWARD
Recognizing an exceptional alumnus’ positive impact on the pharmacy profession.

Heather (Middendorf) Sundar ’97/’98
As the vice president and general manager of clinical, research and customer solutions at Express Scripts Inc. (ESI), Sundar leads a team of 70 pharmacists, physicians and product managers who are responsible for outcomes research, physician strategy, wired health care and product development of pharmacy benefit management solutions that drive improved clinical and network quality for employers, government agencies, accountable care organizations, health systems and health plans. The solutions her team develops deliver improved health outcomes for more than 85 million Americans by addressing medication safety, adherence and overall care coordination.
Sundar has grown her leadership career at ESI. As vice president of customer, clinical and strategic solutions, she focused on using e-prescribing and wired health care solutions to integrate medication history and clinical pharmacy messaging into electronic health records. She also helped develop solutions to improve clinical outcomes by addressing gaps in health care and medication non-adherence. As the senior director of clinical services, she developed multiple quality and consumer-directed health care products, including patents for care coordination and medication adherence solutions. She also directed clinical strategy for plan sponsors, and served as a subject matter expert on integrated data solutions pharmacogenomics, medication therapy management and adherence.

The first in her family to attend college, Sundar began developing her leadership skills while at St. Louis College of Pharmacy. She fondly recalls giving drug abuse prevention talks at local schools, participating in therapeutics team activities, competing nationally at the American Society of Health-System Pharmacists Clinical Skills Competition and her membership in Kappa Psi fraternity.

“We were together through it all and received an excellent pharmacy education, leadership training, team building skills and lifelong friends,” she said.

Sundar resides in Edwardsville, Illinois, with her husband and former classmate, Murali Sundar ’97/’98, and their two children, Alex and Maya.

BLACK HERITAGE AWARD
Recognizing leaders in the African-American community for their outstanding commitment to community and health care leadership.

Misty Farr ’10
As a Walmart pharmacy manager in Florissant, Missouri, Farr created and executed the pharmacy’s business plan, which included building rapport with area physicians, helping plan the pharmacy’s layout to best fit patients’ health care needs, and consulting with management on the grand opening ceremony. Currently, her other duties include managing pharmacy staff, counseling patients, compounding and dispensing prescriptions, and maintaining corporate compliance.

Farr started her career with Walmart as a pharmacy intern while attending St. Louis College of Pharmacy. She also served as a staff pharmacist and pharmacy manager at other St. Louis-area locations before being asked to become a regional immunization champion for the company. In this role, she helped implement immunization services at Walmart pharmacies across the Midwest, served as an immunization trainer and resource for area pharmacists and ensured their pharmacies met local and federal immunization requirements.

Farr acknowledges that her greatest accomplishment has been graduating from the College.

“As a single parent, pharmacy school was difficult, but I finished, and it has allowed me to be the person whom I dreamed I could be,” she said.

Not only is Farr known for her dedication to the profession of pharmacy, but also for her commitment to helping the community. She volunteers at community health fairs and attends regular meetings to promote pharmacy initiatives and helps educate patients on proper medication usage.

“In the African-American community, many times people just take medicine,” she said. “Working with patients to deepen their understanding of their symptoms and medications is a pleasure.”

Farr also is involved with the American Pharmacists Association, League of Black Women, Knights of Peter Claver Ladies Auxiliary and the Knights of Columbus Ladies Auxiliary. She is a founding member of the Minority Women Pharmacists Association and is a member of the St. Louis Chapter of Top Ladies of Distinction, Inc.

She also has been recognized as the 2016 recipient of the St. Louis American Foundations Salute to Excellence in Health Care Award and the Missouri Pharmacy Association’s (MPA) Distinguished Young Pharmacist Award.

Farr is married to Leslie Farr II and has three children, Leslie III, Madison and Shyllyn.

YOUNG ALUMNUS AWARD
Recognizing an alumnus who has graduated within the past decade and demonstrated outstanding achievement and leadership during this time.

Brian Scholfield ’11
Scholfield is the clinical pharmacy specialist on the emergency medicine team at St. Louis VA Medical Center – John Cochran Division where he works to improve patient care through cost-effective recommendations that utilize evidence-based medicine. Scholfield provides medication reconciliation, counseling to patients, recommendations for antibiotic choices and drug information to his team. He is currently working to implement medication barcode scanning in the ER.

He also currently serves as a limited part-time pharmacist at Costco Pharmacy in St. Peters, Missouri, and is a pharmacy consultant at VPS, LLC, in Palmyra, Missouri, a veterinary pharmacy which he helped launch. Prior to his current roles in the St. Louis area, Scholfield served as a clinical staff pharmacist at Deaconess Health System in Evansville, Indiana, for four years.

Scholfield considers his most important professional accomplishment becoming a Board Certified Pharmacotherapy Specialist (BCPS). His time at Deaconess Health System reinforced his decision to work as a clinical pharmacist so he obtained this board certification by further developing his clinical knowledge base and differentiating himself from others.

Through his involvement in various organizations, the development of lifelong friendships and opportunity to pursue educational opportunities, Scholfield has been able to achieve many of his personal and professional goals in a short time. He is truly honored to receive the Young Alumnus Award and to say he is an alumnus of the College.

His wife and former classmate, Angelina ’11, is also a clinical pharmacist and has supported him throughout his journey to establish himself in his chosen career path and has continually inspired him to succeed. He includes the day he met her among his fondest memories from his time at the College.

“My education has meant the world to me,” Scholfield said.

“Beyond providing the necessary tools for a successful career in pharmacy, my experiences at the College helped mold who I am as a person today.”
New Board Members Elected

Two new pharmacy leaders have joined the Alumni Association’s board of directors. The 22-member board determines and supervises the association’s policies and programs.

Learn how you can get involved at stlcop.edu/alumni.

Sara Richter '12
Columbia, Illinois

After completing a two-year residency program, Sara Richter joined the St. Louis College of Pharmacy faculty as an assistant professor of pharmacy practice with a practice site in internal medicine at Barnes-Jewish Hospital. As a faculty member, she presents didactic lectures and leads small-group teaching discussions. At her practice site, Richter works as a member of an interprofessional team to provide evidence-based, clinical pharmacy services to patients.

Richter is also a preceptor and serves on the Alumni Golf Classic planning committee and the Recent Graduate Chapter committee. She was featured in the Alumni Webinar Series and served as a host for the association’s Dinner with Pharmacists program sponsored by the Student Alumni Association. She is president-elect of the Gateway College of Clinical Pharmacy and active in the American College of Clinical Pharmacy, Missouri Society of Health-System Pharmacists and the St. Louis Society of Health-System Pharmacists.

Sara Worley ’85
St. Louis, Missouri

Sara Worley is a staff pharmacist at Barnes-Jewish West County Hospital where she distributes medications and maintains clinical responsibilities, such as pharmacokinetics monitoring, antibiotic stewardship and patient counseling. She is helping implement Pyxis Pharmogistics, an inventory management system, and serves on several committees within the hospital. She also works as a PRN pharmacist at Kindred Hospital and SSM Health Cardinal Glennon Children’s Hospital. She has previous experience in psychiatric and community pharmacy and as an independent pharmacy owner.

Worley has served as a class chair for her 25- and 30-year class reunions, during which she helped the class of 1985 create an endowed scholarship under the “25k for 25 Years” campaign. She has mentored current students during the Student Alumni Association’s Speed Networking event and has served as a Dinner with Pharmacists host.

THANK YOU FOR YOUR SERVICE

As we welcome the new members to the board, we also thank those who have contributed their time and talents. As their board terms come to an end, we extend special thanks to Rebecca Lich ’07, Sue Bollmeier ’99/’00 and David Frye ‘68 for their service.

Thank you for your dedication to the College and the Alumni Association.

“I feel privileged to serve the College in this role as it is an exciting time in STLCOP’s history. I look forward to working with other members of the board to engage fellow alumni in the strategic plan for the future.

Sara Richter ’11

“I’m so impressed with what these student pharmacists are doing at the College. I’m looking forward to supporting them and seeing their bright futures unfold.

Sara Worley ’85
Alumni Events

There’s always something happening at St. Louis College of Pharmacy. Attend an event to reconnect with campus, learn something new and socialize with former classmates.

Visit stlcop.edu/alumnievents to see what’s coming up!

Alumni Golf Classic Raises $35K

The Alumni Golf Classic has been a tradition since 1996, and to date has raised more than $540,000 for student scholarships and initiatives. The 2016 PARIC and St. Louis College of Pharmacy Alumni Golf Classic, presented by UMB Bank, was held on Sunday, June 5, on the greens of Stonewolf Golf Club.

With the help of 138 golfers and 36 sponsors, this year’s tournament raised $35,000. For the second year in a row, William Wallace ’01, Tony Nazzoli ’07, Brandon Enghauser, and Kelly Hall took home the trophy.
Saturday, November 12

All alumni and friends are invited to reconnect with former classmates during our family-friendly Reunion Celebration. Tour campus in the afternoon before joining the evening celebration at the Malt House Cellar. Enjoy drinks, hors d’oeuvres and rekindling old friendships.

To register, visit stlcop.edu/reunion. For more information, contact Stephanie Hoffmann, director of alumni relations, at 314.446.8419 or shoffmann@stlcop.edu.

SCHEDULE OF EVENTS

Reunion is a time where friends come together to reflect on their time at the College. Invite your friends, bring your family and enjoy celebrating your personal and professional achievements.

1-2:15 p.m.  Golden Alumni Luncheon ARB, 2nd Floor Lobby
During an afternoon luncheon, members of the class of 1966 will be inducted into the Golden Alumni Club in recognition of the 50th anniversary of their graduation from the College.

2:20-3:15 p.m.  Class of 1966 Induction Ceremony ARB, Room 212
Immediately following the luncheon, President John A. Pieper will lead the induction of the class of 1966 into the Golden Alumni Club. All alumni and guests are welcome.

2-4 p.m.  Campus Tours ARB, 1st Floor Lobby
Meet student tour guides for one-hour tours of campus. Tours can be modified to fit your interests. Free parking is available in the Children’s Place Garage (GPS address: 4531 Children’s Place, St. Louis, MO 63110).

5-8 p.m.  Malt House Cellar Reception
2017 Chouteau Ave, St. Louis, MO 63103
Enjoy drinks and hors d’oeuvres at a family-friendly reception while reminiscing with former classmates. Challenge fellow alumni to a game of pool or foosball, have a caricature drawn of you and your friends and browse through old yearbooks.
Cost: $15 per adult, $10 for children (12 and under), free parking.

LODGING ACCOMMODATIONS

Special rates are available for STLCOP alumni at select hotels. Visit stlcop.edu/reunion to learn more.

Golden Alumni Club Spotlight

Robert “Bob” Flynn
Class of 1966
Sterling Pharmaceutical Services, LLC

This year’s Reunion Celebration will honor members of the class of 1966 by inducting them into the Golden Alumni Club in recognition of the 50th anniversary of their graduation.

Robert “Bob” Flynn ’66 recalls attending the College when old factory buildings were converted into classrooms and labs. He also remembers when he and his fellow classmates added bromine a little too fast when compounding and accidentally created a reaction sending brown smoke throughout the organic chemistry lab. Most of all, he cherishes the supportive teachers and is grateful for the pharmacy education that has allowed him to give back to the community for the last 50 years and counting. Flynn looks forward to reconnecting with former classmates at this year’s Reunion Celebration, many of whom he hasn’t seen since graduation.

“I hope all of my classmates enjoyed their careers in pharmacy and are doing well in retirement. I’m excited to learn more about their families and the paths they pursued in the profession.”
– Bob Flynn ’66
Upcoming Events

To register for the Alumni Association events, visit stlcop.edu/alumnievents or contact Stephanie Hoffmann, director of alumni relations, at shoffmann@stlcop.edu or 314.446.8419.

ASHP MIDYEAR STLCOP RECEPTION
Sunday, Dec. 4, 6:30-8:30 p.m.
Join us at the Luxor Las Vegas for a STLCOP social function conducted at the 51st ASHP Midyear Clinical Meeting and Exhibition. Mingle with fellow alumni and College leadership while enjoying drinks and hors d’oeuvres.

WILD LIGHTS AT THE ZOO
Saturday, Dec. 10, 6-9 p.m.
Enjoy the Saint Louis Zoo’s holiday light display and a family-friendly STLCOP reception! Guests’ tickets include the Zoo’s walk-through light display and access to our private room with beverages, desserts and cookie decorating for kids.

MEETING OF THE MINDS
Tuesday, Nov. 15, 5:30-8 p.m.
Join a panel of experts for a moderator-led discussion in St. Louis on antimicrobial stewardship programs including regulatory mandates, strategies for creating and maintaining a program, and emerging diagnostics. Pending CE credit.

FREE CE PROGRAMS
Multiple Sessions, 1:10-4:30 p.m.
Residency seminar presentations boast a variety of continuing education sessions on campus. Attendees may select from program topics that are geared toward their interests. To register, or for more information, visit stlcop.edu/ce.

Join Us For Founders Day!

FRIDAY, NOVEMBER 11

Join us in commemorating our 152-year history. Founders Day provides an opportunity to reflect on all those who have helped shape the College and recognize the strides we’re making toward the future. Students, faculty, staff, alumni and friends of the College are invited to campus for lunch, Founders Day birthday cake and a special convocation program.

To register, visit stlcop.edu/foundersday.

On Nov. 11, 1864, at 7:30 p.m., St. Louis College of Pharmacy was founded in the hall of the St. Louis Medical College. Eugene Massot, an apothecary originally from Kentucky, along with four other medical colleagues, drafted a charter, constitution and bylaws.

Stay Informed

Stay connected to the College and fellow alumni. Create a login at stlcop.edu/alumni to update your email and mailing address.
1960s  Irving Boime ’64, professor of developmental biology, obstetrics and gynecology at Washington University School of Medicine in St. Louis, received the Chancellor’s Award for Innovation and Entrepreneurship.

1980s  Joyce Fogleman ’82, owner of J & S Professional Pharmacy, Inc., was selected as the 2016 “Walk of Honor” inductee by the Old King Coal Committee. A marker with her name has been placed in downtown West Frankfort, Illinois.

Nancy Jane Knorr-Arellano ’87 and her husband, Stan, of Elk Grove, California, celebrated the graduation of their eldest daughter, Kari Arellano-Righter ’16 from the College in May.

1990s  Amy (Gwaltney) Bricker ’99, vice president of supply chain strategy, Express Scripts Inc., was appointed to the Medicare Payment Advisory Commission (MedPAC) in June.

2000s  Alicia (Birdsell) Forinash ’00/’01, professor of pharmacy practice, received the 2016 Excellence in Innovation Award at the Missouri Pharmacist Association’s (MPA) Annual Conference and Tradeshow held in Osage Beach, Missouri, in September.

William Peppard ’02/’03 was named a master preceptor by the American Association of Colleges of Pharmacy (AACP).

Kristen Komaiko ’07 received the Distinguished Young Pharmacist Award at the Illinois Pharmacists Association (IPhA) Annual Conference held in Bloomington-Normal, Illinois, Sept. 29-Oct. 2.

Noah Tennyson ’07 received the 2016 Emerging Leader in Community Pharmacy Resident Precepting Award from Walgreens.

Noah Tennyson ’07 received the inaugural 2016 Emerging Leader in Community Pharmacy Resident Precepting Award presented by Walgreens. Tennyson was nominated for his commitment to going above and beyond to educate his community pharmacy residents.

“I was surprised to hear that I was nominated, let alone selected out of all preceptors from coast to coast for going above and beyond,” Tennyson said. “This award shows that I’m making a difference, and it is both humbling and rewarding.”

Tennyson is the registered store manager at Walgreens on Euclid Avenue, just a few short blocks from the College, the site coordinator for the College’s PGY1 community pharmacy residency program, and a clinical pharmacist at SSM Health Saint Louis University Hospital in the infectious diseases clinic.

“I’m happy to help my residents discover their focus area and go on to become successful in their own right,” he said.

Tennyson looks forward to continuing to help residents grow and find their path.
Anastasia (Roberts) Armbruster ’09, assistant professor of pharmacy practice, and her husband, Robby, welcomed their first child, Ava Jacqueline, on Feb. 25. Ava weighed 7 pounds, 6 ounces and measured 19 inches.

2010s Misty Farr ’10 and Kendra Holmes ’99/’00 received the 2016 Salute to Excellence in Health Care Award from the St. Louis American Foundation.

Maggie Dust ’10 married Todd DeWees on April 22 at the 9th Street Abbey in St. Louis. The newlyweds, who reside in St. Louis, honeymooned in Costa Rica. Maggie is an oncology information systems pharmacist and Todd is a statistician for the radiation oncology department at Washington University in St. Louis.

Kyle Amelung ’12 was named to St. Louis Business Journal’s “30 Under 30” class of 2016.

Allison Gettinger ’15 married Waylon Davault on May 7 in Ste. Genevieve, Missouri, where the couple also resides. Allison works for Bloomsdale Pharmacy and the Alvin J. Siteman Cancer Center at Barnes-Jewish Hospital and Washington University School of Medicine in St. Louis, and Waylon is in the U.S. Air Force.

Kari Arellano ’16 and Andrew Righter ’15 were married on March 26 at Morris Chapel in Lodi, California. The newlyweds honeymooned in Maui, Hawaii. The couple resides in Perryville, Missouri. Kari is a PGY1 resident at Southeast Health in Cape Girardeau, Missouri, and Andrew is a staff pharmacist for CVS Pharmacy in Farmington, Missouri.

Sarah Tesoro ’15 and Christopher Fuchs ’15 were married on Oct. 17, 2015. The couple resides in Poplar Bluff, Missouri. Sarah works for John J. Pershing VA Medical Center, and Christopher works at Physician’s Park Pharmacy in Poplar Bluff, Missouri.

“Above all, the most rewarding part of this business is the opportunity to build relationships with and make an impact on the lives of all of our patients.”

Yervand “Van” Simonyan ’11

WHAT’S NEW?

Tell your STLCOP friends and classmates about the latest news in your life. Share news about your work, projects, new jobs or promotions, marriages, birth updates, awards, vacations or hobbies. Send an email to alumni@stlcop.edu, or submit news online at stlcop.edu/classnotes.
In Memoriam

Adolph Auer ’43
died Sept. 5 in
Belleville, Illinois.

Ely M. Langfeld ’43
died Jan. 25, 2015,
in Alameda, California.

George H. Assaf ’47
died March 1, 2015,
in St. Louis.

Nicolas Bolaños ’48
died July 30 in
Carazo, Nicaragua.

Ronald P. Huber ’51
died Jan. 10, 2014,
in Peoria, Illinois.

Samuel L. Brent ’52
died June 29, 2015, in
Birmingham, Alabama.

Albert C. Hitt ’52
died July 2 in Cape
Girardeau, Missouri.

Donald J. Katz ’52
died Feb. 1 in
Swansea, Illinois.

Harvey Mizes ’52
died April 27 in
Sarasota, Florida.

Valeria H. (Messnerich) Pezzani ’52
died April 12 in
St. Paul, Minnesota.

Walter T. Finley ’53
died Feb. 24, 2015, in
Springfield, Illinois.

Robert E. O’Donnell ’53
died May 18 in
St. Charles, Missouri.

Ernest (Bud) Winkelman ’53
died March 9 in St. Louis.

David L. Dove ’56
died May 8 in
St. Clair, Missouri.

Reginald O. Boyle ’57
died Dec. 9, 2015, in
Sandy, Oregon.

Dean W. Carlisle ’57
died July 20 in
Chesterfield, Missouri.

Ronald L. Doetsch ’61
died March 20 in
Belleville, Illinois.

Sr. Marie C. Erzal ’61
died April 3 in
Leland, North Carolina.

James A. Visconti
’61/’63
died May 23 in
Columbus, Ohio.

Joseph P. Boots ’63
died April 1 in
Bridgeton, Missouri.

Robert E.
Woodsall III ’65
died June 4 in St. Louis.

Charles Horwitz ’66
died April 29 in
Skokie, Illinois.

Barbara J. (Hulsey) Dunning ’67
died May 31 in St. Maarten.

Gordon L. Ritter ’67
died March 6, 2015,
in Scottsdale, Arizona.

Jerry W. Baker ’74
died April 6 in
Urbana, Illinois.

John H. Vance ’75
died June 5 in
Ballwin, Missouri.

L. Joe Wohlwend ’75
died March 18, 2015,
in Anna, Illinois.

D. Michael Hinson ’77
died June 21 in
Union, Missouri.

Cathi S. (Jenness) Richter ’83
died May 23 in
Towanda, Illinois.

Vincent R. Angichiolo ’85
died March 28 in
Phoenix, Arizona.

Denise M. (Thompson) Orwick ’85
died June 28 in
Floyds Knobs, Indiana.

Todd E. Penrod ’95
died Dec. 15, 2014,
in St. Jacob, Illinois.

Ann M. Pounders ’12
died August 21 in
St. Charles, Missouri.

2016 GRADUATE PRACTICE SETTINGS

Members of the class of 2016 accepted positions in a variety of practice settings.

Data collected from the 2016 Pregraduation Employment Survey.
As the St. Louis College of Pharmacy community prepared to celebrate the College’s centennial, campus underwent a series of improvements. The Century Club, established by the Alumni Association in 1961, pooled contributions to upgrade the main academic building entrance, install new fire doors, laboratories, air-conditioning, and a gas-fired boiler. On Saturday, Oct. 17, 1964, ground was broken on a new residence hall, located on what is now the Quad.

More than 50 years later, the College is undergoing a transformation again. In fall 2015, the Academic and Research Building and library was opened providing state-of-the-art learning and laboratory spaces for the professional program. In early 2017, the new Recreation and Student Center and residence hall will open. The completion of these two new facilities will add more than 400,000 square feet of living and learning space to campus.

HISTORY OF CAMPUS TRANSFORMATIONS