

## Excellence in Undergraduate Education (EUE) Proposal

**Project ID# (leave blank)**

**Project Title**

Project Director	ID Number	Telephone	Email

Department	Campus Box	School College

**Course or Program**

Project Co-Director	ID	Department	Email

Student Impact:

Priority Rating (If Submitting Multiple Proposals):

**Project Budget**

Salary	Wages	Travel	Equip.	Comm	CServ	Auto	Tele	Awards	Total

**Cost-Sharing**

Salary	Wages	Travel	Equip.	Comm	CServ	Auto	Tele	Awards	Total

**Prior EUE Support**

Project Director	Project Number	Award Amount	Project Dates

**Applicable 2024-2025 Priorities (check all your proposal fits, if any):**

- Course redesign project that uses inclusive, student-centered pedagogies to address equity gaps, improve student learning outcomes, & enhance retention
- Project involves courses that have high number of sections, a high ratio of D/F/W grades, or key required courses with high enrollments and opportunities to improve equitable student success

**Community Pharmacy Curriculum Transformation**  
**Miranda Wilhelm, Pharm.D., Clinical Professor**  
**SIUE School of Pharmacy**

**Summary**

Community pharmacy practice is currently undergoing a transformation from an emphasis on medication delivery to a patient care focused model. Southern Illinois University Edwardsville School of Pharmacy graduates need to be prepared to practice pharmacy today and for the future as healthcare advances to provide optimal care for patients. This will especially be true in the rural communities of Central and Southern Illinois where pharmacists have an opportunity to provide medication and patient care services to underserved populations. A needs assessment of the community pharmacy related content within the School of Pharmacy curriculum will be conducted utilizing alumni focus groups. Alumni are a valuable resource to know how the current pharmacy curriculum fits with contemporary community pharmacy practice. Additional content areas identified by the focus groups will be utilized to develop a survey that will be distributed on a larger scale to pharmacists across the state of Illinois. This will provide validation to the focus group results and provide direction for enhancement of the community pharmacy related content within the School of Pharmacy curriculum. Faculty development will be required to redesign and implement the new content in addition to student-centered active learning activities and assessments within the curriculum. By creating a faculty expert in current methods for student pharmacist skill development, the School of Pharmacy curriculum will improve student learning outcomes, enhance retention, and empower graduates to meet the unique needs of patients in rural Central and Southern Illinois.

## **Proposal Narrative**

### **Current situation**

The community pharmacy is often the first place our neighbors, patients, and future students meet a pharmacist – and it is the common image society has for the profession. On average, the portion of Southern Illinois University Edwardsville (SIUE) School of Pharmacy (SOP) graduates that enter community pharmacy practice has been 70% (50+ students/year) for the past 5 years. The business model supporting medication dispensing is rapidly changing due to declining reimbursement rates. This is changing how pharmacies operate. Community pharmacy practice is experiencing tremendous transformation into a place where patients receive comprehensive patient care and other services in addition to medications. Care and services include test/treat protocols for various infectious diseases (e.g., COVID-19, influenza, strep throat), pharmacist administered immunizations, pharmacist prescribed oral contraceptives, pharmacist prescribed HIV pre-exposure prophylaxis (PrEP)/post exposure prophylaxis (PEP), pharmacist recommended over-the-counter hearing aids, and cannabidiol (CDB) dietary supplements as well as others.

There is a well-documented shortage of health care providers in rural primary care environments. Student pharmacists attending SIUE SOP are predominantly from rural and small urban areas of Central and Southern Illinois. Many return to practice in these same communities upon graduation. Rural areas are experiencing additional needs for healthcare providers, creating an opportunity for expanded roles for community pharmacists with advanced skills. Specialized training of student pharmacists, with a focus on enhanced community pharmacy patient care services, has the potential to meet the needs of communities and patients with limited access to primary care in Central and Southern Illinois. Pharmacists could help provide these underserved populations with the opportunity for equity in healthcare.

Over the last few years, the American Association of Colleges of Pharmacy (AACP) has seen a decline in the number of students applying for and graduating as pharmacists. In contrast, the United States Bureau of Labor Statistics projects employment growth of 3% for the next 10 years; with 13,400 openings for pharmacists anticipated each year. The resultant shortage of pharmacists can lead to barriers to healthcare access and will be especially magnified in rural and underserved areas.

Healthcare is one of the most rapidly changing industries and therefore the study of pharmacy must constantly adapt and improve. Advances in technology, new medications and treatments, as well as changes with laws and regulations are factors that impact change in pharmacy. In order to prepare students for a career in the pharmacy field that will be constantly changing, the SIUE SOP needs to structure the curriculum to ensure that every graduate is prepared to practice pharmacy in today's world but also pharmacy of the future.

PHEL 779E: Advanced Self-Care and PHEL 790E: Community Pharmacy Application and Skills are two, two-credit hour elective courses for student pharmacists in the third professional year of the pharmacy program. Each course has an enrollment of 25 students. Advanced Self-Care focuses on appropriate assessment and selection of a nonprescription medication and subsequent patient counseling.

Community Pharmacy Application and Skills is a practice-based course where students actively perform test and treat services for a variety of health conditions: influenza, strep throat, HIV, and cholesterol. Hands-on and active learning strategies have been used to simulate real-world patient scenarios.

### **Proposed Project**

The objectives of this project are threefold: (1) to evaluate the current community pharmacy curriculum elective courses utilizing stakeholder (comprised of alumni and community pharmacy practice leaders) focus groups as a needs assessment to prioritize content and skills development (2) utilize the focus

group results to develop a survey distributed to practicing pharmacists across the state of Illinois to further identify and prioritize content and skills development and (3) provide faculty development for the community pharmacy specialist within the SIUE SOP.

SIUE SOP alumni and community pharmacy practice leaders representing various parts of Central and Southern Illinois will be invited to participate in the needs assessment focus groups to identify and prioritize content and skills development within the two community pharmacy elective courses. The purpose is to determine what additional content would have been beneficial to them as practicing pharmacists. What topics were helpful as they entered pharmacy practice and now that they have been in practice for a few years. How did these courses prepare them to enter pharmacy practice? What do they need to know as a practicing pharmacist now to care for their patients? What is their boss/corporate saying they need to know now to care for their patients? The themes identified from the focus groups will then be developed into survey questions. The survey will be distributed on a broader scale to alumni and practicing pharmacists throughout the state of Illinois, regardless of taking the two community pharmacy elective courses, to identify potential gaps in knowledge and topic areas for expansion of the community pharmacy related content within the pharmacy curriculum. The community pharmacy specialist within the SIUE SOP will use a train-the-trainer approach to become a subject matter expert in the additional content areas identified by completing a variety of certificate training programs. The faculty member will then implement student-centered, hands-on, active learning activities, assignments and assessments within the two community pharmacy elective courses.

Timeline:

Date	Milestone
June 2024	Focus group question development for alumni and community pharmacy practice leaders.
July / August 2024	Stakeholder (alumni and community pharmacy practice leaders) community pharmacy curriculum evaluation focus groups.
September 2024	Survey question development for practicing pharmacists within Illinois.

October – November 2024	Survey distribution for practicing pharmacists within Illinois.
December 2024	Analyze survey results.
January – May 2025	Faculty development completion of certificate training programs and update of content in the two community pharmacy elective courses.
Fall 2025	Implement elective course content.

### **Evaluation and Dissemination**

Multiple methods will be used to evaluate the impact of this project. The full impact of this project will be realized in approximately four to five years as students complete the community pharmacy elective courses, graduate and practice pharmacy for a few years. In the short-term to assess the objectives, questions will be added to the Student Evaluation of Teaching (SETs) for the two courses to determine the student's perception of the content aligning with what they are seeing in pharmacy practice at their work and experiential education sites. In addition, student scores on the active learning activities and assessments will be evaluated to determine if students are successfully meeting the course objectives and whether internal remediation is required for students to be considered competent with the content and skills. Students will be required to meet a minimum competency to demonstrate proficiency with the active learning activities and assessments. If the minimum competency is not demonstrated, internal remediation will occur. Internal remediation will improve student performance and ensure that all students achieve the designated minimal competency before moving on in the curriculum.

The project findings will be disseminated through presentation of the results at the annual national conference of the American Association of Colleges of Pharmacy (AACP) as well as submission of a manuscript in the *American Journal of Pharmacy Education*.

## Budget and Budget Justification

The budget for this project is outlined in the table below. Estimated School of Pharmacy cost sharing of \$750 to support travel to present the results of the project at a national professional conference and point-of-care testing supplies is included.

Budget Item	Category	Amount
<p>Focus group question development for alumni and community pharmacy practice leaders.</p> <p>Justification: Use of professional service to develop focus group questions and analyze data.</p>	Contractual Services	\$3,000
<p>Stakeholder (alumni and community pharmacy practice leaders) community pharmacy curriculum evaluation focus groups.</p> <p>Justification: Provide 20 focus group participants with a \$50 gift card as incentive for their time in addition to food.</p>	Contractual Services	\$2,600
<p>Survey question development for practicing pharmacists within the state of Illinois.</p> <p>Justification: Use of professional service to develop survey questions and analyze data.</p>	Contractual Services	\$3,000
<p>Faculty development education and training via Certificate Training Programs</p> <ul style="list-style-type: none"> <li>• CEImpact: Advancing Women’s Health: Pharmacist Prescribing of Hormonal Contraceptives \$149</li> <li>• CEImpact: Pharmacist-in-Charge Bootcamp \$149</li> <li>• CEImpact: A Sound Solution: OTC Hearing Aids for Pharmacy Professionals \$199</li> <li>• CEImpact: Test and Treat Training for Pharmacists \$199</li> <li>• APhA: Increasing Access to Hormonal Contraceptives \$169</li> <li>• APhA: Pharmacy-Based OTC Hearing Aids \$149</li> <li>• APhA: Pharmacy-Based Test and Treat Certificate Training Program \$475</li> <li>• APhA: Pharmacists Getting Paid Through Collaborative Clinical Services \$599</li> <li>• Pharmcon: Cannabis Pharmacy Specialist \$257</li> </ul> <p>Justification: The certificate training programs will develop the faculty member’s knowledge, skills and resources in a variety of pharmacy practice areas to incorporate the content along with subsequent active learning activities and assessments into the pharmacy curriculum.</p>	Equipment	
<p>AACP Meeting</p> <p>Justification: Travel to a conference to present results of the project to a national audience of peers. Estimate includes cost of</p>	Travel	\$2,500

conference registration, airfare, and hotel. Estimated cost sharing from the School of Pharmacy in the amount of \$500 to support travel has been committed to this project.		
<b>TOTAL FUNDS REQUESTED</b>		<b>\$13,445</b>



**Biographical Sketch**  
**Miranda Wilhelm, Pharm.D.**

**EDUCATION:**

2002 – 2003	University of Kansas Community Pharmacy Residency B&K Prescription Shop, Salina, Kansas
1996 – 2002	Doctor of Pharmacy University of Kansas School of Pharmacy, Lawrence, Kansas

**PROFESSIONAL EXPERIENCE:**

2021 – Present	Clinical Pharmacist SIUE Health Services Pharmacy, Edwardsville, Illinois
2020 – Present	Clinical Professor Southern Illinois University Edwardsville School of Pharmacy, Edwardsville, Illinois
2014 – 2020	Clinical Associate Professor Southern Illinois University Edwardsville School of Pharmacy, Edwardsville, Illinois
2008 – 2020	Clinical Pharmacist Schnucks Pharmacy, Edwardsville, Illinois
2008 – 2014	Clinical Assistant Professor Southern Illinois University Edwardsville School of Pharmacy, Edwardsville, Illinois

**HONORS:**

2023 – Present	Academia Community Transformation – Community Pharmacy Practice Transformation Badge
2022	Southern Illinois University Edwardsville Friends of Student Affairs – Faculty Award Clinical Pharmacist, SIUE Health Services Pharmacy
2019	Outstanding Reviewer for 2018 for the Journal of the American Pharmacists Association
2018	Outstanding Reviewer for 2017 for the Journal of the American Pharmacists Association
2017	Illinois Pharmacists Association Educator of the Year
2017	American Association of Colleges of Pharmacy 2017 Award for Excellence in Assessment
2017	Southern Illinois University Edwardsville School of Pharmacy Capstone Mentor of the Year
2017	Southern Illinois University Edwardsville school of Pharmacy Service Recognition Award
2017	Southern Illinois University Edwardsville Teaching Distinction Recognition

**PUBLICATIONS:**

- **Wilhelm M.** Dietary Supplements and Diabetes: A Focus on Complementary Health Approaches. In: Cornell S, Miller DK, Urbanski P, eds. The Art and Science of Diabetes Care and Education. Chicago, Illinois: Association of Diabetes Care and Education Specialists; 2023.
- **Wilhelm M, Arnoldi J.** Reducing Dyspnea by Optimizing Treatment of Chronic Obstructive Pulmonary Disease. In: Margaret Campbell, ed. Respiratory Symptoms. New York, New York: Oxford Academic; 1 Apr. 2023.

- **Wilhelm M.** The Intricate Relationship Between Stress, Nutrients, and Health: What Pharmacists Need to Know. PowerPak. December 2023.
- **Wilhelm M.** Ensuring Health Equity in Vaccination Access: How Pharmacies Can Work With Community Organizations. Pharmacy Times. September 2023. p17-20.
- **Wilhelm M.** Therapeutic Advancements in Allergic Rhinitis: The Pharmacist's Role in Improving the Use of OTC Treatments. Pharmacy Times. February 2023. p70-86.
- **Wilhelm M.** OTC Medication Considerations for People with Diabetes. On the Cutting Edge Diabetes Dietetic Practice Group. 2022. 43(2): 31-34.
- Devraj R, **Wilhelm M**, Deshpande M. Consumer perceptions of a Shingles infograph intervention and vaccination plans in community pharmacy settings. Innovations in pharmacy. August 2022; 13(3): Article 1. P1-12.
- **Wilhelm M.** Exploring Novel Vaccines for Prevention of Hepatitis B Virus Infection: Updated Guidelines and the Role of the Pharmacist in Expanding Vaccination. Pharmacy Times. August 2022. P92-101.
- **Wilhelm M.** OTC Azelastine for Allergic Rhinitis. Contributing Faculty Member Weekly Continuing Education for Pharmacists. CEImpact. Des Moines, IA. July 2022.
- **Wilhelm M.** Updated Recommendations for Zoster Vaccine. Contributing Faculty Member Weekly Continuing Education for Pharmacists. CEImpact. Des Moines, IA. June 2022.
- **Wilhelm M.** Updated Recommendation for Pneumococcal Vaccines. Contributing Faculty Member Weekly Continuing Education for Pharmacists. CEImpact. Des Moines, IA. May 2022.
- **Wilhelm M.** Managing Seasonal Allergies with Nonprescription Medications. The Rx Consultant. May 2022.
- Mospan C, **Wilhelm M.** Handbook of Nonprescription Drugs Quick Reference. Washington, DC: American Pharmacist Association; 2021.
- **Wilhelm M**, Hunziker S. Prescription Drug Coverage. In: Gupta V, Nguyen T, Clark M, Williams E, Cone C, Desselle S. eds. Pharmacy Practice Skills: A Guide for Students and Instructors. New York, NY: McGraw-Hill; 2021.
- **Wilhelm M.** Sleep and Stress: Pharmacist Insights on Non-Prescription Treatment Options. PowerPak. December 2021.
- **Wilhelm M.** Huma Papillomavirus Vaccine Status and Sexually Transmitted Infection Outcomes. Contributing Faculty Member, "Brain Bolus" (weekly continuing education for pharmacists). CEImpact. Des Moines, IA. October 2021.
- **Wilhelm M.** Risks of Respiratory Syncytial Virus in Older Adults: Emerging Prophylactic Vaccines and Intervention Opportunities for Pharmacists. Pharmacy Times. August 2021.
- **Wilhelm M.** Immunization Update 2021. Pharmacy Today. August 2021; 27(8): 52-62.
- **Wilhelm M.** Oseltamivir Coming to an Aisle Near You? Contributing Faculty Member, "Brain Bolus" (weekly continuing education for pharmacists). CEImpact. Des Moines, IA. July 2021.
- **Wilhelm M.** Know Your D: Key Differences Between Vitamin D2 and Vitamin D3. Contributing Faculty Member, "Brain Bolus" (weekly continuing education for pharmacists). CEImpact. Des Moines, IA. July 2021.
- **Wilhelm M.** A Closer Look at Contact Lens Care and Solutions: Opportunities for Patient Counseling. Pharmacy Times. May 2021: 44-54.

**Letters of Support:**

Please find letters of support attached from:

1. Mark Luer, Dean, SIUE School of Pharmacy
2. Jennifer Hookstra, Chair, Department of Pharmacy Practice, SIUE School of Pharmacy

# SOUTHERN ILLINOIS UNIVERSITY EDWARDSVILLE

February 26, 2024

EUE Award Review Committee:

The Southern Illinois University Edwardsville (SIUE) School of Pharmacy (SOP) is in full support of the Excellence in Undergraduate Education (EUE) proposal titled "Community Pharmacy Curriculum Transformation". Dr. Miranda Wilhelm's proposal is timely and follows a rapid practice transformation that has occurred within the community pharmacy setting since the pandemic. The majority of pharmacists in the United States work within the community setting and the same holds true for the graduates of the SIUE School of Pharmacy.

Healthcare typically runs a fast course of evolution, but the pandemic shifted this pace for pharmacy into a higher gear and without much preparation. The scope of practice for the community pharmacist now includes topics such as COVID-19 testing and vaccination, over-the-counter (OTC) hearing aids, OTC contraception, cannabidiol (CBD), the influences of medical and recreational marijuana, point-of-care testing and treatment, pharmacist prescribed PrEP/PEP for HIV exposure, and much more. These changes are quickly leaving pharmacy education to play catch up. Historically, the SOP would rely on the literature, accreditation standards, surveys of new graduates, and the input of employers and alumni in all practice settings to help inform curricular content as a component of curricular revision. However, these inputs are slow to evolve, tend to be wide-ranging in nature and as a result, the new practice demands are outpacing our ability to keep an educational system relevant for the both today and tomorrow.

Dr. Wilhelm's proposal will employ both focus groups and a focused input from alumni in the community practice setting to identify curricular gaps. Once identified filling these gaps is not just a matter of determining which topic(s) should be substituted in a course. Instead, the faculty in the SOP must also be educated and trained to effectively position the new topics throughout the curriculum. Dr. Wilhelm's proposal would effectively establish a new norm for informing our curriculum to better educate our students and increase their readiness to enter the profession as a pharmacist upon graduation.

The SIUE School of Pharmacy is excited to support this innovative proposal. It is my hope that the review committee finds value in supporting this proposal as well.

Sincerely,



Mark S. Luer, Pharm.D., FCPP  
Dean & Professor  
SIUE School of Pharmacy

# SOUTHERN ILLINOIS UNIVERSITY

## EDWARDSVILLE

February 22, 2024

Excellence in Undergraduate Education (EUE) Program Review Committee  
c/o Nicole Klein, Professor and Director for Faculty Development  
2605 Lukas Annex, Vadalabene Center  
Edwardsville, IL 62026

RE: EUE Award Application, Miranda Wilhelm, SIUE School of Pharmacy

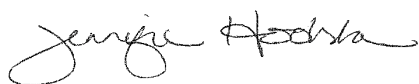
Please accept this letter of support for the SIUE School of Pharmacy project, "Community Pharmacy Curriculum Transformation." Not only is Dr. Wilhelm (Primary Investigator) highly qualified to lead this project, but this project will also create significant and impactful change in our curriculum to align student learning with real world practice. Dramatic changes have occurred in community pharmacy practice as a result of advances made during the pandemic putting pharmacists in direct patient care. As significant shortages of pharmacists in the community setting continue, our ability to produce graduates ready and willing to enter this practice setting is greatly needed. The time to transform our curricular content to address these changes is now. As Department Chair for the Pharmacy Practice Department, I can confirm our support for this work.

Dr. Wilhelm is as an experienced pharmacist and clinician in community-based practice, a recognized educator, and competent scholar in practice. She has been a prior co-investigator for multiple awards, and she teaches the majority of our curricular content related to community pharmacy practice. She is the lead pharmacist at the SIUE Counseling and Health Service clinic and is a member of the ACT Pharmacy Collaborative, a network of faculty, schools, and community pharmacies across the country involved in transforming pharmacy practice in the community-based practice setting.

SIUE School of Pharmacy is a regional leader in pharmacy education that is situated as the only pharmacy school in Illinois outside of the Chicago metro area. The school produces high quality graduates, most of whom go into community-based practice in the region. We are known for our engagement in community service and are well prepared to support this aim to serve our region with successful graduates ready to address health needs in southern Illinois communities. We look forward to collaborating with our alumni and other pharmacists in Illinois to train our students in innovative and state-of-the-art practices.

The Department of Pharmacy Practice will contribute support to this work with select resources available. I will work with Dr. Wilhelm to assure the time needed is available to carry out the aims of this project.

Sincerely,



Jennifer Hookstra Danielson, PharmD, MBA, CDECS  
Department Chair and Professor  
SIUE School of Pharmacy