## **CURRICULUM VITAE**

# Kathryn A. Morbitzer, PharmD, MS

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## **EDUCATION**

Master of Science in Biomedical and Health Informatics Carolina Health Informatics Program The University of North Carolina at Chapel Hill Chapel Hill, North Carolina

August 2015 -December 2017

Translational and Clinical Research Curriculum The North Carolina Clinical and Translational Sciences Institute

The University of North Carolina at Chapel Hill Chapel Hill, North Carolina

August 2013 - May 2015

**Doctor of Pharmacy** 

Eugene Applebaum College of Pharmacy and Health Sciences Wayne State University Detroit, Michigan

September 2008 – May 2012

Pre-Pharmacy Curriculum Wayne State University Detroit, Michigan

September 2006 – August 2008

#### **RESIDENCY TRAINING**

MUSC Medical Center and SC College of Pharmacy Residency Program July 2012 – June 2013 Post-Graduate Year One Pharmacy Practice Residency

Charleston, South Carolina

Program Director: Nicole Pilch, PharmD, MSCR, BCPS

## **FELLOWSHIP TRAINING**

**UNC Eshelman School of Pharmacy** Critical Care Pharmacotherapy Academic Fellow Chapel Hill, North Carolina

July 2013 - August 2015

Program Director: Denise H. Rhoney, PharmD, FCCP, FCCM, FNCS

#### PROFESSIONAL EXPERIENCE

Associate Professor May 2023 – Present

UNC Eshelman School of Pharmacy

Chapel Hill, North Carolina

Associate Director April 2023 – Present

Center for Innovative Pharmacy Education & Research (CIPhER)

UNC Eshelman School of Pharmacy

Chapel Hill, North Carolina

Assistant Director August 2019 – Present

Pharmacy Administration and Leadership Training

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Assistant Professor August 2019 – May 2023

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Assistant Director August 2019 – April 2023

Center for Innovative Pharmacy Education & Research (CIPhER)

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Teaching Assistant Professor September 2018 – August 2019

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Curriculum Design and Innovation Director July 2018 – August 2019

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Assistant Professor of Clinical Education August 2015 – September 2018

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

Clinical Manager December 2017 – March 2018

Pharmacy Analytics, Outcomes, and Impact

University of North Carolina Hospitals

Chapel Hill, North Carolina

Lead Pharmacist October 2016 – December 2017

Pharmacy Analytics

University of North Carolina Hospitals

Chapel Hill, North Carolina

**Data Analytics Pharmacist** August 2015 – October 2016

University of North Carolina Hospitals

Chapel Hill, North Carolina

Clinical Instructor July 2013 - August 2015

**UNC Eshelman School of Pharmacy** 

Chapel Hill, North Carolina

**Clinical Pharmacist** July 2012 - June 2013

Medical University of South Carolina University Hospital

Charleston, South Carolina

Pharmacy On-Call Service July 2012 – June 2013

Medical University of South Carolina

Charleston, South Carolina

Pharmacy Intern May 2009 - May 2011

**CVS Pharmacy** Detroit, Michigan

## **HONORS AND ACHIEVEMENTS**

UNC Eshelman School of Pharmacy Instructor Worthy of Recognition UNC Eshelman School of Pharmacy Academic Excellence Award – Research August 2023 UNC Eshelman School of Pharmacy Academic Excellence Award – Service August 2023 JACCP: Journal of the American College of Clinical Pharmacy Top Cited Author February 2023

2021-2022 UNC Eshelman School of Pharmacy Instructor Worthy of Recognition UNC Eshelman School of Pharmacy Academic Excellence Award – Research

UNC Eshelman School of Pharmacy Academic Excellence Award – Service UNC Eshelman School of Pharmacy Academic Excellence Award – Service UNC Eshelman School of Pharmacy Instructor Worthy of Recognition UNC Eshelman School of Pharmacy Instructor Worthy of Recognition

UNC Eshelman School of Pharmacy Academic Excellence Award – Education UNC Eshelman School of Pharmacy PY3 Instructor of the Year

UNC Eshelman School of Pharmacy Instructor Worthy of Recognition

UNC Eshelman School of Pharmacy Academic Excellence Award – Education

American Association of Colleges of Pharmacy Innovation in Teaching Award UNC Eshelman School of Pharmacy PY3 Instructor of the Year

American Society of Health-System Pharmacists Best Practices Award UNC Eshelman School of Pharmacy Instructor Worthy of Recognition

UNC Health Care Residency Advocate of the Year

UNC Eshelman School of Pharmacy Instructor Worthy of Recognition

The Graduate School at UNC-CH Master's Merit Scholarship

Neurocritical Care Society Research Conference Top 10 Abstract Submission

**Neurocritical Care Society Travel Award** Phi Lambda Sigma Leadership Award

December 2023

July 2022

August 2022 August 2022

September 2021 August 2021

January 2021 August 2020

May 2020

May 2020 November 2019

July 2019

**April 2019** October 2018 July 2016 June 2016

July 2015 April 2015 August 2014

June 2014 May 2012

September 2006

Michigan Society of Health-System Pharmacists President's Award May 2012 American College of Clinical Pharmacy Annual Meeting Student Travel Award September 2011 May 2011 Michigan Pharmacy Foundation Colleges of Pharmacy Scholarship Award Phi Lambda Sigma: The National Pharmacy Leadership Society September 2010 • Gamma Chi Chapter Membership Rho Chi National Pharmacy Honor Society April 2010 • Alpha Chi Chapter Membership Wayne State University Chemistry Award Certificate • 2008 Chair's Honor List April 2008 • 2007 Chair's Honor List April 2007

#### PEER REVIEWED PUBLICATIONS

Wayne State University Presidential Scholarship

#### Published or In Press

- 1. McLaughlin JE, **Morbitzer KA**, Zeeman JM, Eckel SF. Understanding pathways to health system pharmacy administration: A journey mapping study. *Am J Health Syst Pharm*. 2024;81(3):e90-e99.
- 2. Cook AM, Hall K, Kolpek JH, **Morbitzer KA**, Jordan JD, Rhoney DH. Enhanced renal clearance impacts levetiracetam concentrations in patients with traumatic brain injury with and without augmented renal clearance. *BMC Neurol*. 2024;(1):12.
- 3. Murphy JE, Azad A, Barreto JN, Coons EM, Coons JC, Drury AS, Goodlet KJ, Hennessey EK, Jennings D, Kane-Gill SL, **Morbitzer KA**, Pluckrose DM, Sikand H, Weant KA. Best practices for supporting and improving pharmacy resident research and quality improvement projects. *J Am Coll Clin Pharm*. 2024;7(1):75-84.
- 4. McLaughlin JE, **Morbitzer KA**, Meilhac M, Poupart N, Layton RL, Jarstfer MB. Standards needed? An exploration of qualifying exams from a literature review and website analysis of university-wide policies. *Standards in Graduate and Postdoctoral Education*. 2024;15(1):19-33.
- 5. Sasser CW, Moss A, Goli S, Grego A, Knock M, **Morbitzer KA**, Mortha S, Eckel SF. Contributing factors for the career goal advancement of pharmacy learners in the Black, Indigenous, and Person of Color community. *Am J Health Syst Pharm.* 2023. [Epub ahead of print].
- 6. **Morbitzer KA**, McLaughlin JE, Eckel SF, Shepherd G, Poupart N, Cox WC. An exploration of the relationship between pharmacy school admission variables and PGY1 pharmacy residency program match. *Am J Pharm Educ*. 2023;87(7):100097.
- 7. **Morbitzer KA**, Eckel SF, McClurg MR, McLaughlin JE. Key business of health care topics and strategies to implement within Doctor of Pharmacy curricula. *Am J Pharm Educ*. 2023;87(3):9096.
- 8. McLaughlin JE, **Morbitzer KA**, Hahn F, Minshew L, Brouwer KLR. Qualitative evaluation of postdoctoral trainee and faculty advisor experiences within a research-intensive school of pharmacy. *BMC Med Ed*. 2022;22:691.

- 9. McLaughlin JE, **Morbitzer KA**, Volkmar B, Harris SC, Williams CR, Wolcott MD, Jarstfer MB, White CY. Designing inclusive training for pharmacy educators. *Pharmacy*. 2022;10(5):113.
- 10. Olsen AA, **Morbitzer KA**, Zambrano S, Zeeman JM, Persky AM, Bush AA, McLaughlin JE. Development and implementation of a formative instructional coaching program using the Teaching Practices Inventory within a health professions program. *BMC Med Ed*. 2022;22(1):554.
- 11. **Morbitzer KA**, McLaughlin JE, Henson B, Fassett KT, DiVall MV. Current state and opportunities for enhancing peer evaluation practices across the pharmacy academy. *Am J Pharm Educ*. 2022;86(8):8887.
- 12. Wolcott MD, Sasser CW, **Morbitzer KA**, Eckel SF. Exploring shifts in resident recruitment during COVID-19: Initial perceptions from residents, preceptors, and residency program directors. *J Am Coll Clin Pharm.* 2022;5(4):436-41.
- 13. Moss A, Kang S, **Morbitzer KA**, Nguyen L, Shwin M, St. Cyr D, Portogues J, Eckel SF. Evaluation of chemotherapy preparation processes: volumetric method reliability and gravimetric method utility within five US hospital. *Am J Health Syst Pharm*. 2022;79(4):230-8.
- 14. **Morbitzer KA**, McLaughlin JE, Devanathan AS, Ozawa S, McClurg MR, Carpenter DM, Lee CR. How-to guide for overcoming barriers of research and scholarship training in PharmD and pharmacy residency programs. *J Am Coll Clin Pharm*. 2021;4(6):743-53.
- 15. Sasser CW, Wolcott MD, **Morbitzer KA**, Eckel SF. Exploring lessons learned from early pharmacy learner and educator experiences during COVID-19. *Am J Health Syst Pharm*. 2021;78(10):872-78.
- 16. **Morbitzer KA**, Olsen AA, McLaughlin JE. A mapping review of teamwork training in pharmacy education. *Am J Pharm Educ.* 2021;85(3):8356.
- 17. Vest TA, Simmons A, **Morbitzer KA**, McLaughlin JE, Cicci J, Clarke M, Valgus JM, Falato C, Waldron KM. Decision-making framework for an acute care pharmacist productivity model: part 1. *Am J Health Syst Pharm*. 2021;78(15):1402-9.
- 18. Simmons A, Vest TA, Cicci J, Clarke M, **Morbitzer KA**, Falato C, Colmenares EW, Vest MH, Waldron KM. Formation and validation of an acute care clinical pharmacist productivity model: part 2. *Am J Health Syst Pharm*. 2021;78(15):1410-16.
- 19. **Morbitzer KA**, McLaughlin JE, Ozawa S, Beechinor R, Dumond J, Pomykal C, Bush A, Zhang Q, Carpenter C, Lee CR. Implementation and initial evaluation of a research and scholarship training pathway in a PharmD curriculum. *Am J Pharm Educ*. 2021;85(1):8079.
- 20. Olsen A, Minshew LM, **Morbitzer KA**, Brock T, McLaughlin JE. Emerging innovations and professional skills needed within pharmacy curricula. *J Med Educ Curric Dev.* 2020;7:1-5.
- 21. Minshew LM, Yi J, **Morbitzer KA**, McLaughlin JE. A review of capstones that synthesize and apply knowledge and skills in pharmacy education. *Am J Pharm Educ.* 2020;84(11):8060.

- 22. Colmenares EW, McLaughlin JE, **Morbitzer KA**, Eckel SF. The importance of a master's degree in health-system pharmacy administration training. *Am J Health Syst Pharm*. 2020;78(1):74-79.
- 23. **Morbitzer KA**, Wilson WS, Chaben AC, Darby A, Dehne KA, Brown ER, Rhoney DH, Jordan JD. Energy expenditure in critically ill adult patients with acute brain injury: indirect calorimetry versus predictive equations. *Front Neurol*. 2020;10:1426.
- 24. Wells MA, **Morbitzer KA**, Rhoney DH. Evaluation of the accuracy of standard renal function equations in critically ill patients with subarachnoid hemorrhage. *Neurocrit Care*. 2020;32(3):828-35.
- 25. **Morbitzer KA**, Rhoney DH, Dehne KA, Jordan JD. Enhanced renal clearance and impact on vancomycin pharmacokinetic parameters in patients with hemorrhagic stroke. *J Intensive Care*. 2019;7:51.
- 26. **Morbitzer KA**, Eckel SF. Association between student characteristics and rankings when applying for a residency in health-system pharmacy administration. *Am J Health Syst Pharm*. 2019;76(23):1944-50.
- 27. Leary MH, Petrovskis M, Savage SW, Pinelli NR, Pappas AL, **Morbitzer KA**, Eckel SF, Rhoney DH, Rao KV. Impact of an innovative partnership in patient care between an academic medical center department of pharmacy and a school of pharmacy. *Am J Health Syst Pharm*. 2019;53(5):471-7.
- 28. **Morbitzer KA**, Jordan JD, Dehne KA, Durr EA, Olm-Shipman CM, Rhoney DH. Enhanced renal clearance in patients with hemorrhagic stroke. *Crit Care Med*. 2019;47(6):800-8.
- 29. Leary MH, **Morbitzer KA**, Walston BJ, Clark S, Kaplan J, Waldron K, Valgus J, Falato C, Amerine L. Evaluation of targeted pharmacist interventions to reduce length of stay in an acute care practice model. *Ann Pharmacother*. 2019;53(5):471-77.
- 30. **Morbitzer KA**, Rao KV, Rhoney DH, Pappas AL, Durr EA, Sultan SM, Eckel SF, Savage SW, Daniels BR, Pinelli NR. Implementation of the flipped research model to enhance residency research training. *Am J Health Syst Pharm.* 2019;76:608-12.
- 31. Nelson NR, **Morbitzer KA**, Jordan JD, Rhoney DH. The impact of capping creatinine clearance on achieving therapeutic vancomycin concentrations in neurocritically ill patients with traumatic brain injury. *Neurocrit Care*. 2019;30(1):126-31.
- 32. Vest TA, Carrasquillo MA, **Morbitzer KA**, Cruz JL, Eckel SF. Evaluation of a comprehensive, integrated, medical service-based pharmacy practice model. *J Am Coll Clin Pharm*. 2018;1:7-13.
- 33. Lewis TD, Dehne KA, **Morbitzer KA**, Rhoney DH, Olm-Shipman C, Jordan JD. Influence of single-dose antibiotic prophylaxis for early-onset pneumonia in intubated patients. *Neurocrit Care*. 2018;28(3): 362-69.
- 34. La MK, Ong A, **Morbitzer KA**, Jordan DJ, Rhoney DH. Vancomycin pharmacokinetics in neurocritically ill patients with central nervous system infection. *J Drug Des Res.* 2017;4(7):1061-7.

- 35. Gonzalez D, Rao GG, Bailey SC, Brouwer KLR, Cao Y, Crona DJ, Kashuba ADM, Lee CR, **Morbitzer KA**, Patterson JH, Wiltshire T, Easter J, Savage SW, Powell JR. Precision dosing: Public health need, proposed framework, and anticipated impact. *Clin Transl Sci*. 2017;10(6):443-54.
- 36. Hansen KN, **Morbitzer KA**, Waldron KM, Amerine LB. Development of novel formulas to determine hospital and pharmacy opportunities to reduce extended length of stay. *J Pharm Technol*. 2017;33(1): 15-22.
- 37. Rhoney DH, **Morbitzer KA**, Hatton J. Optimizing medication outcomes in neurocritical care: focus on clinical pharmacology. *Semin Neurol*. 2016;36(6):586-600.
- 38. **Morbitzer KA**, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with hemorrhagic stroke. *Neurocrit Care*. 2016;25(2):250-7.
- 39. Sikora AS, Casciere BC, Jordan JD, Rhoney DH, Sullivan KA, **Morbitzer KA**, Moore JD, Durr EA. The role of statin therapy in clinical outcomes for hemorrhagic stroke. *Pharmacotherapy*. 2015;35(12):1152-63.
- 40. Jordan JD, **Morbitzer KA**, Rhoney DH. Acute treatment of blood pressure after ischemic stroke and intracerebral hemorrhage. *Neurol Clin.* 2015;33(2):361-80.
- 41. **Morbitzer KA**, Jordan JD, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with acute brain injury undergoing controlled normothermia, therapeutic hypothermia, or pentobarbital infusion. *Neurocrit Care*. 2015;22:258-64.
- 42. Gray JR, **Morbitzer KA**, Liu-DeRyke X, Parker D Jr, Zimmerman LH, Rhoney DH. Hyponatremia in patients with spontaneous intracerebral hemorrhage: A single center cohort study. *J Clin Med*. 2014;3:1322-32.
- 43. **Morbitzer KA**, Taber DJ, Pilch NA, Meadows HB, Fleming JN, Bratton CF, McGillicuddy JW, Baliga PK, Chavin KD. The impact of diabetes mellitus and glycemic control on clinical outcomes following liver transplant for hepatitis C. *Clin Transplant*. 2014;28(8):862-8.
- 44. Nemerovski CW, Salinitri FD, **Morbitzer KA**, Moser LR. Aspirin for the primary prevention of cardiovascular disease events. *Pharmacotherapy*. 2012;32(11):1020-35.

## **Under Review**

1. **Morbitzer KA**, Fuller K, Zeeman JM, Persky A, Savage A, McLaughlin JE. Exploring the use of ChatGPT to analyze student course evaluation comments. *BMC Med Ed.* 2023. [Submitted].

## **BOOK CHAPTERS**

## Published or In Press

1. **Morbitzer KA**. Pharmacotherapy: Therapeutic Considerations. *Medical-Surgical Nursing Review for Registered Nurses*. 2024.

- 2. **Morbitzer KA**. Pharmacotherapy: Therapeutic Considerations. *Medical-Surgical Nursing Review for Registered Nurses*. 2020.
- 3. Rhoney DH, **Morbitzer KA**, Hatton-Kolpek J. Pharmacotherapy for Vasospasm Prophylaxis and Treatment in Subarachnoid Hemorrhage. *Neuropharmacology in Critical Illness*. 2018.
- 4. Rhoney DH, **Morbitzer KA**, Jordan JD. Critical Care Management of Aneurysmal Subarachnoid Hemorrhage. *Critical Care Pharmacotherapy*. 2015.
- 5. **Morbitzer KA**. Pharmacotherapy: Therapeutic Considerations. *North Carolina Registered Nurse Refresher Course Manual*. 2015.

#### **ABSTRACTS**

## **Platform Presentations**

1. **Morbitzer K**, Taber D, Pilch N, Meadows H, Fleming J, Jordan C, Mardis A, Makowski C, Baliga P, McGillicuddy J, Chavin K, Bratton C. Glycemic control significantly improves graft and patient survival following liver transplant for hepatitis C. *Am J Transplant*. 2013;13(S5):A368. [American Transplant Congress Annual Meeting, Seattle, Washington. May 2013].

#### **Poster Presentations**

- 1. Elmoazen Y, Lee E, Stepanovic M, **Morbitzer KA**, Eckel SF. Pathways to successful careers in pharmacy administration and leadership. [American Society of Health-System Pharmacists Midyear Clinical Meeting, Anaheim, California. December 2023].
- 2. Stepanovic M, **Morbitzer KA**, Eckel SF. Evaluating the perceived impact of a master of science in health-system pharmacy administration program on graduate academic success and practice sites. [American Society of Health-System Pharmacists Midyear Clinical Meeting, Anaheim, California. December 2023].
- 3. Walgos K, **Morbitzer KA**, Moss AC, Eckel SF. Implementation of standard infusion concentration in neonates and infants at the University of North Carolina Medical Center. [American Society of Health-System Pharmacists Midyear Clinical Meeting, Anaheim, California. December 2023].
- Stepanovic M, Moss AC, Morbitzer KA, Eckel SF. Examining board-certified pharmacists' impact on clinical and operational measures in US hospitals: A pilot study. [Medication Management 2023 Society of Hospital Pharmacists of Australia, Cairns, Australia. November 2023].
- 5. **Morbitzer KA**, McClurg MR, Veeravalli SR, Goli S, McLaughlin JE. Exploring the path(s) less traveled: Determining non-direct patient care opportunities for pharmacists. [American Association of Colleges of Pharmacy Annual Meeting, Denver, Colorado. July 2023].
- 6. Moss AC, **Morbitzer KA**, Eckel SF. Development of Best Practices for Smart Pump Drug Library Pertaining to Neonatal and Infant Continuous Infusions. [American Society of Health-System Pharmacists Midyear Clinical Meeting, Las Vegas, Nevada. December 2022].

- 7. Moss AC, **Morbitzer KA**, Eckel SF. Quantitative Analysis of Neonatal and Infant Standardized Concentrations Based Upon Smart Pump Utilization Data. [American Society of Health-System Pharmacists Midyear Clinical Meeting, Las Vegas, Nevada. December 2022].
- 8. **Morbitzer KA**, McLaughlin JE, Eckel SF, Shepherd G, Cox WC. An exploration of the relationship between pharmacy school admission characteristics and PGY1 residency program match. [American College of Clinical Pharmacy Annual Meeting, San Francisco, California. October 2022].
- 9. McLaughlin JE, Hahn FN, Minshew LM, **Morbitzer KA**, Brouwer KLR. Understanding postdoctoral experiences and identifying opportunities for improvement. [American Association of Colleges of Pharmacy Annual Meeting, Virtual. July 2021].
- 10. **Morbitzer KA**, McLaughlin JE, White CY. Preparing faculty and preceptors to create an inclusive learning environment. [American Association of Colleges of Pharmacy Annual Meeting, Virtual. July 2021].
- 11. **Morbitzer KA**, Eckel SF, McLaughlin JE. Identification of key business of healthcare topics needed within the PharmD curriculum. [American Association of Colleges of Pharmacy Annual Meeting, Virtual. July 2021].
- 12. Yi JX, **Morbitzer KA**, Minshew LM, McLaughlin JE. What's in a capstone? A review of capstones in pharmacy education. [American College of Clinical Pharmacy Annual Meeting, New York, New York. October 2019].
- 13. **Morbitzer KA**, McLaughlin JE, Olsen AA, Zhang Q, Dumond J, Carpenter C, Ozawa S, Smith P, Bush A, Pomykal C, Lee CR. Implementation and initial evaluation of an innovative approach to research and scholarship training in pharmacy education. [American College of Clinical Pharmacy Annual Meeting, New York, New York. October 2019].
- 14. **Morbitzer KA**, Yi JX, Minshew LM, McLaughlin JE. Describing the use of capstone assessments within pharmacy education. [10<sup>th</sup> Biennial Monash Pharmacy Education Symposium, Prato, Italy. July 2019].
- 15. **Morbitzer KA**, Eckel SF. Pharmacy student characteristics associated with successful acceptance into a pharmacy post-graduate training program. [10<sup>th</sup> Biennial Monash Pharmacy Education Symposium, Prato, Italy. July 2019].
- 16. **Morbitzer KA**, Pinelli NR, Jordan JD, Troiani L, Dehne KA, Olm-Shipman CM, Durr EA, Rhoney DH. Impact of renal function on achieving therapeutic exenatide concentrations in acute brain injury: an exploratory dosing study. [American College of Clinical Pharmacy Annual Meeting, Seattle, Washington. October 2018].
- 17. Rhoney DH, Merz M, **Morbitzer KA**, Cook A. Assessment of Kcentra dosing practices within neurocritical care. *Neurocrit Care*. 2018:A129. [Neurocritical Care Society Annual Meeting, Boca Raton, Florida. September 2018].

- 18. La MK, **Morbitzer KA**, Cook A, Hatton-Kolpek J, Jordan JD, Nelson NR, Rhoney DH. Levetiracetam pharmacokinetics and dose optimization for seizure prophylaxis in TBI. *Neurocrit Care*. 2018:A239. [Neurocritical Care Society Annual Meeting, Boca Raton, Florida. September 2018].
- 19. Cook AM, Rhoney DH, Smetana K, Parli S, **Morbitzer KA**, Hatton-Kolpek J. Cystatin C concentrations following acute traumatic brain injury. *Neurocrit Care*. 2017;27(S72):A55. [Neurocritical Care Society Annual Meeting, Waikoloa, Hawaii. October 2017].
- 20. Wilson W, Chaben A, Rhoney DH, Dehne K, Jordan JD, **Morbitzer KA**. Energy expenditure in critically ill adult patients with acute brain injury: indirect calorimetry versus predictive equations. *Neurocrit Care*. 2017;27(S211):A190. [Neurocritical Care Society Annual Meeting, Waikoloa, Hawaii. October 2017].
- 21. Pinelli NR, **Morbitzer KA**, Jordan JD, Troiani L, Olm-Shipman CM, Sullivan KA, Durr EA, Rhoney DH. Feasibility of intravenous exenatide infusion in critically ill patients with acute brain injury. *Neurocrit Care*. 2017;27(S214):A193. [Neurocritical Care Society Annual Meeting, Waikoloa, Hawaii. October 2017].
- 22. **Morbitzer KA**, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Enhanced renal clearance and impact on vancomycin trough concentrations in patients with hemorrhagic stroke. *Pharmacotherapy*. 2016;36(e218):A56. [American College of Clinical Pharmacy Annual Meeting, Hollywood, Florida. October 2016].
- 23. **Morbitzer KA**, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Enhanced renal clearance in patients with intracerebral hemorrhage. *Neurocrit Care*. 2016;25(S106):A73. [Neurocritical Care Society Annual Meeting, National Harbor, Maryland. September 2016].
- 24. **Morbitzer KA**, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Enhanced renal clearance in patients with subarachnoid hemorrhage. *Neurocrit Care*. 2016;25(S234):A201. [Neurocritical Care Society Annual Meeting, National Harbor, Maryland. September 2016].
- 25. Rhoney DH, Merz MM, **Morbitzer KA**, Cook AA. Assessment of Kcentra dosing practices within neurocritical care. *Neurocrit Care*. 2016;25(S117):A84. [Neurocritical Care Society Annual Meeting, National Harbor, Maryland. September 2016].
- 26. **Morbitzer KA**, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with aneurysmal subarachnoid hemorrhage. *Neurocrit Care*. 2015;23(S1):A204. [Neurocritical Care Society Annual Meeting, Scottsdale, Arizona. October 2015].
- 27. **Morbitzer KA**, La M, Chiang J, Jordan JD, Sullivan KA, Durr EA, Olm-Shipman CM, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with intracerebral hemorrhage. *Neurocrit Care*. 2015;23(S1):A82. [Neurocritical Care Society Annual Meeting, Scottsdale, Arizona. October 2015].
- 28. **Morbitzer KA**, Jordan JD, Durr EA, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with acute brain injury undergoing controlled normothermia. *Pharmacotherapy*. 2014;34(10):A40E. [American College of Clinical Pharmacy Annual Meeting, Austin, Texas. October 2014].

- 29. **Morbitzer KA**, Jordan JD, Durr EA, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with acute brain injury undergoing controlled normothermia. *Neurocrit Care*. 2014;21(S1):A96. [Neurocritical Care Society Annual Meeting, Seattle, Washington. September 2014].
- 30. **Morbitzer KA**, Jordan JD, Durr EA, Rhoney DH. Vancomycin pharmacokinetic parameters in patients with acute brain injury undergoing pentobarbital infusion or therapeutic hypothermia. *Neurocrit Care*. 2014;21(S1):A97. [Neurocritical Care Society Annual Meeting, Seattle, Washington. September 2014].
- 31. **Morbitzer KA**, Chiang J, Witenko CJ, Jordan JD, Durr EA, Rhoney DH. Glycemic control in controlled normothermia for acute brain injury. *Neurocrit Care*. 2014;21(S1):A62. [Neurocritical Care Society Annual Meeting, Seattle, Washington. September 2014].
- 32. Witenko CJ, **Morbitzer KA**, Chiang J, Durr EA, Jordan JD, Rhoney DH. Glycemic control in prolonged therapeutic hypothermia for acute brain injury. *Neurocrit Care*. 2014;21(S1):A72. [Neurocritical Care Society Annual Meeting, Seattle, Washington. September 2014].
- 33. **Morbitzer KA**, Rhoney DH. The impact of augmented renal clearance on levetiracetam pharmacokinetics in patients with traumatic brain injury. [Neurocritical Care Society Research Conference, Houston, Texas. August 2014].
- 34. **Morbitzer K**, Taber D, Fleming J, Pilch N, Meadows H, Jordan C, Makowski C, Mardis A, Bratton C, Baliga P, Chavin K, McGillicuddy J. The impact of pre-existing and new onset diabetes on hepatitis C recurrence following liver transplantation. *Am J Transplant*. 2013;13(S5):A1073. [American Transplant Congress, Seattle, Washington. May 2013].
- 35. **Morbitzer K**, Kuckewich L, Lim T, Makowski C, Hassig T, Wisniewski C. Evaluation of inappropriate parenteral nutrition in adults. [UHC Consortium Resident Poster Session, Las Vegas, Nevada. December 2012].
- 36. **Morbitzer K**, Wilpula D, Salinitri F. Effects of hemodialysis on glycemic control in hospitalized type 2 diabetes mellitus patients receiving basal-bolus insulin: a retrospective chart review. [American Society of Health-System Pharmacists Midyear Clinical Meeting, New Orleans, Louisiana. December 2011].
- 37. Ross K, **Morbitzer K**, Salinitri F. Exposing high school students to clinical pharmacy practice through case based team learning. [American Society of Health-System Pharmacists Midyear Clinical Meeting, New Orleans, Louisiana. December 2011.]

#### **SELECTED PRESENTATIONS**

## **International/National**

Academic Misconduct and Artificial Intelligence (ChatGPT). PharmAlliance Annual Meeting. July 2023.

The Development of Research Entrustable Professional Activities (EPAs) for the Training of Student Pharmacists. PharmAlliance Annual Meeting. July 2023.

Choose Your Own Adventure: Exploring Different Career Tracks for Student Pharmacists. PharmAlliance Annual Meeting. July 2023.

Designing an Inclusive Learning Training Series for Pharmacy Educators. PharmAlliance Annual Meeting. July 2023.

Towards Establishing a Pharmacy Research Culture: Methods to Embed Research Training in Pharmacy Education. Life Long Learning in Pharmacy 14<sup>th</sup> International Conference. July 2023.

Scaffolded Learning Approaches to Research Skill Development. APSA-ASCEPT 2022 Joint Conference. November 2022.

Preparing Students for Success: Strategies to Train Students for the Post-Graduate Job Market. American Association of Colleges of Pharmacy Annual Meeting. July 2022. ACPE accredited continuing education program.

Strategies to Overcome Barriers of Student Research Training Programs. American Association of Colleges of Pharmacy Annual Meeting. July 2022. ACPE accredited continuing education program.

Creating an Inclusive Learning Environment: Experience with a Faculty Development Series. American Association of Colleges of Pharmacy Annual Meeting. July 2021. ACPE accredited continuing education program.

Peer Evaluation 2.0: Making Your Peer Feedback or Coaching Program Work for YOU. American Association of Colleges of Pharmacy Annual Meeting. July 2021. ACPE accredited continuing education program.

Endless Possibilities: Discussing Career Pathways for Mid-Career Faculty. American Association of Colleges of Pharmacy Annual Meeting. July 2021.

Pathways and Tracks in Pharmacy Education. American Association of Colleges of Pharmacy (AACP) Pharmacy Practice Section. May 2021.

A Multi-Institution Collaboration to Improve the Quality of Peer Review of Teaching. American Association of Colleges of Pharmacy Annual Meeting. July 2019. ACPE accredited continuing education program.

Frequently Encountered Questions in Neurocritical Care. American Society of Health-System Pharmacists Midyear Clinical Meeting. December 2014. ACPE accredited continuing education program.

## Regional

Let the reSEARCH Begin: Strategies to Incorporate Learners into Research to Advance Initiatives at your Site. Eastern AHEC/Greenville Region UNC Preceptor Appreciation Program. May 2022.

The Importance of Scholarly Activity Next Year and Beyond. North Carolina Association of Pharmacists Residency Conference. July 2021.

*Pitfalls, Myths, and Success Stories of Being a Successful Research Mentor.* Research in Education and Practice Symposium. May 2017. ACPE accredited continuing education program.

Acute Pain Management in the Intensive Care Unit. 17<sup>th</sup> Annual Procrastinator's Marathon. Charlotte Area Health Education Center. December 2014. ACPE accredited continuing education program.

#### Institutional

Chatting and Cheating: What Do We Do About Academic Dishonesty? Center for Innovative Pharmacy Education & Research (CIPhER) Seminar. UNC Eshelman School of Pharmacy. May 2023. ACPE accredited continuing education program.

Giving and Receiving Credit Where Deserved: Strategies to Prevent and Resolve Authorship Challenges. Center for Innovative Pharmacy Education & Research (CIPhER) Seminar. UNC Eshelman School of Pharmacy. September 2022. ACPE accredited continuing education program.

Creating an Inclusive Learning Environment in the Didactic Pharmacy Classroom. Professional Development Event for Pharmacy Faculty. Manchester University. January 2022.

Moving Your Project from Results to Publication: Advice on the Manuscript Writing Process from Successful Scholars. Center for Innovative Pharmacy Education & Research (CIPhER) Seminar. UNC Eshelman School of Pharmacy. November 2021. ACPE accredited continuing education program.

Manuscript Writing 101: Tips for Developing a Research Question and Publishing Your Project. Center for Innovative Pharmacy Education & Research (CIPhER) Seminar. UNC Eshelman School of Pharmacy. October 2020.

Medication Optimization in Acute Brain Injury: Focus on Renal Clearance. Department of Neurology Grand Rounds. University of North Carolina at Chapel Hill. February 2016.

Augmented Renal Clearance in Neurocritically Ill Patients. Department of Neurosurgery Grand Rounds. University of North Carolina at Chapel Hill. February 2015.

Augmented Renal Clearance, Nutrition Requirements, Glycemic Control, and Thermoregulation in Patients with Acute Brain Injury. Department of Neurology Grand Rounds. University of North Carolina at Chapel Hill. April 2014.

Aspirin for the Primary Prevention of Cardiovascular Disease. Resident interactive teaching experience presentation. Medical University of South Carolina and South Carolina College of Pharmacy. May 2013.

*Transitions of Care: Impact of the Pharmacist.* Medical University of South Carolina and South Carolina College of Pharmacy. April 2013. ACPE accredited continuing education program.

*Sedation in the intensive care unit*. Medical Intensive Care Unit Grand Rounds. Medical University of South Carolina. December 2012.

*Management of Alcohol Withdrawal Syndrome.* Medical Intensive Care Unit Grand Rounds. Medical University of South Carolina. December 2012.

*Diagnosis and Management of Hepatorenal Syndrome*. Medical/Surgical Intensive Care Unit Grand Rounds. Medical University of South Carolina. August 2012.

# **TEACHING ACTIVITIES**

UNC Eshelman School of Pharmacy Chapel Hill, North Carolina	July 2013 – Present
Course Director/Division Director	
PHCY 825: Business of Healthcare Seminar I Spring 2024 (29 Students)	2024 – Present
Pharmacy Administration and Leadership Short Course 2023 – 2024 (23 Participants)	2023 – Present
PACE 815: Evaluation Research and Project Design Fall 2020 (12 Students Online) Fall 2021 (8 Students Online) Fall 2022 (10 Students Online) Fall 2023 (7 Students Online)	2020 – Present
PHCY 733: Integrated Pharmacotherapy III Spring 2019 (141 Students) Spring 2020 (155 Students) Spring 2021 (135 Students)	2019 – 2021
PHCY 726: Research and Scholarship in Pharmacy III  Spring 2018 (26 Students)  Spring 2019 (28 Students)  Spring 2020 (26 Students)  Spring 2021 (26 Students)  Spring 2022 (43 Students)  Spring 2023 (34 Students)  Spring 2024 (38 Students)	2018 – Present
PACE 825: Foundational Practices of Successful Health-System Department of Pharmacy Spring 2018 (9 Students) Spring 2019 (9 Students) Spring 2020 (14 Students) Spring 2021 (14 Students Residential; 12 Students Online) Spring 2022 (14 Students Residential; 10 Students Online) Spring 2023 (19 Students Residential; 11 Students Online)	2018 – Present

#### Spring 2024 (20 Students Residential; 5 Students Online)

PHCY 725: Research and Scholarship in Pharmacy II 2017 - Present *Fall 2017 (26 Students) Fall 2018 (28 Students) Fall 2019 (26 Students)* Fall 2020 (25 Students) Fall 2021 (44 Students) *Fall 2022 (34 Students)* Fall 2023 (38 Students) PHCY 624: Research and Scholarship in Pharmacy I 2017 - Present Spring 2017 (28 Students) Spring 2018 (25 Students) Spring 2019 (26 Students) Spring 2020 (30 Students) Spring 2021 (47 Students) Spring 2022 (34 Students) Spring 2023 (41 Students) Spring 2024 (19 Students) Lectures/Case Expert PHCY 619: Business of Healthcare: Focus on the Pharmacy Enterprise Spring 2022 (146 Students) Spring 2023 (126 Students) Spring 2024 (144 Students) • Microsoft Excel Fundamentals 2022 - Present PHCY 733: Integrated Pharmacotherapy III Spring 2021 (135 Students) Spring 2022 (156 Students) Spring 2023 (146 Students) Spring 2024 (126 Students) • Intracerebral Hemorrhage and Anticoagulant Reversal Strategies 2021 - Present PHCY 732: Integrated Pharmacotherapy II Fall 2018 (140 Students) *Fall 2019 (155 Students)* Fall 2020 (135 Students) Fall 2021 (156 Students) 2018 - 2021• Intracerebral Hemorrhage and Anticoagulant Reversal Strategies PACE 815: Evaluation Research and Project Design Fall 2015 (9 Students) Fall 2016 (9 Students) Fall 2017 (9 Students) Fall 2018 (10 Students) Fall 2019 (14 Students)

Fall 2020 (14 Students) Fall 2021 (14 Students) Fall 2022 (19 Students) Fall 2023 (20 Students)	
Research Implementation	2015 – Present
PACE 811: Contemporary and Applied Communications in Healthcare Fall 2015 (25 Students) Fall 2016 (25 Students)  • Formative and Summative Research Perspectives	2015 – 2016
PHCY 446: Psychiatry/Neurology Pharmacotherapy Module Spring 2014 (167 Students) Spring 2015 (166 Students) Spring 2016 (159 Students)	
<ul> <li>Capstone Patient Case</li> <li>Delirium</li> <li>Antiseizure Agents</li> <li>Multiple Sclerosis</li> <li>Stroke</li> </ul>	2015 - 2016 2015 - 2016 2014 - 2016 2014 - 2016 2014 - 2016
PACE 808: Critical Care Pharmacotherapy Spring 2014 (30 Students) Spring 2015 (39 Students)	
Status Epilepticus	2014 – 2015
Objective Structured Clinical Examination (OSCE)/Case Presentation Evaluator PHCY 898: Leading Change in Healthcare I Fall 2023 (8 Students)	2023
PHCY 516: Foundations of Patient Care Spring 2023 (10 Students)	2023
PHCY 732: Integrated Pharmacotherapy II  Fall 2018 (60 Students)  Fall 2019 (26 Students)  Fall 2020 (48 Students)  Fall 2021 (12 Students)  Fall 2022 (10 Students)	2018 – 2022
PHCY 733: Integrated Pharmacotherapy III  Spring 2018 (10 Students)  Spring 2019 (10 Students)  Spring 2020 (10 Students)  Spring 2021 (48 Students)	2018 – 2021
PHCY 631: Integrated Pharmacotherapy I Spring 2018 (22 Students)	2018 – 2020

Spring 2019 (60 Students) Spring 2020 (12 Students)

<u>Facilitator</u>

PHCY 504: Evidence-Based Practice 2019

*Fall 2019 (10 Students)* 

PHCY 732: Integrative Pharmacotherapy II 2018 – 2022

Fall 2018 (24 Students) Fall 2019 (12 Students) Fall 2020 (12 Students) Fall 2021 (13 Students)

Fall 2022 (22 Students)

PHCY 450: Pharmacotherapy Problems; PY3 Pharmacy Students 2014 – 2015

Spring 2014 (12 Students) Spring 2015 (12 Students)

PHCY 446: Psychiatry Recitation; PY2 Pharmacy Students 2014 – 2015

Spring 2014 (15 Students) Spring 2015 (12 Students)

## Advanced Pharmacy Practice Experience (APPE) Academic Rotation Preceptor

• Academic Year 2020 – 2021: 6 Students

• Academic Year 2021 – 2022: 4 Students

• Academic Year 2022 – 2023: 3 Students

• Academic Year: 2023 – 2024: 3 Students

## Graduate Student Thesis-Substitute Committee Member

- Kevin Hansen, PharmD, BCPS: Utilization of prescriptive analytics to reduce extended length of stay through targeted pharmacy interventions in the acute care setting, May 2016
- Mary-Haston Leary, PharmD, BCPS: Evaluation of targeted pharmacist interventions to reduce length of stay in an acute care practice model, May 2018
- Mary Petrovskis, PharmD, BCPS: An analysis of a department of pharmacy's unreconciled dispenses, May 2018
- Tyler Vest, PharmD, BCPS: A clinical pharmacy productivity model at the University of North Carolina Medical Center, May 2018
- Adrienne Simmons, PharmD, BCPS: Implementing a clinical productivity model at the University of North Carolina Medical Center, May 2020
- Kyra Walgos, PharmD: Implementation of standardized neonatal and infant continuous infusion concentrations at UNC Hospitals, May 2024 (anticipated)

## Teaching and Learning Certificate Faculty Mentor

Allison Behrens, PharmD: 2019 – 2020

• Faustina Hahn, PharmD: 2019 – 2020

• Savannah Jones, PharmD: 2020 – 2021

• Whitney Ly, PharmD: 2020 – 2021

MUSC Medical Center and SC College of Pharmacy Residency Program Charleston, South Carolina

July 2012 - June 2013

• Academician Preparation Program

• Faculty Advisor: Nicole Bohm, PharmD, BCPS

Wayne State University

June 2010 - May 2011

Eugene Applebaum College of Pharmacy and Health Sciences Detroit, Michigan

 Peer Mentor and Group Leader for Second Year Pharmacy Student Learning Community

• Faculty Advisor: Lynette Moser, PharmD

## **FUNDED GRANTS/CONTRACTS**

Title: Reducing preventable medication errors through minimizing work distractions: Evaluating data from smart pump usage in health systems across the Midwest

Role: Co-Investigator

Funded (2022 – 2025): \$607,510 – The US Food and Drug Administration (FDA)

Title: Exploring the path(s) less traveled: Determining non-direct patient care pathway opportunities for pharmacists

Role: Principal Investigator

Funded (2022 - 2023): \$8,000 - AACP New Investigator Award

Title: Evaluation of the percentage and perceived value of board-certified pharmacists in the US hospitals and associated impact on clinical and operational measures

Role: Co-Investigator

Funded (2022 - 2023): \$5,000 - Board of Pharmacy Specialties (BPS) Seed Grant

Title: Influencers of career goals and attainment among BIPOC pharmacy trainees

Role: Co-Investigator

Funded (2021 – 2022): \$5,000 – ASHP Foundation – Pharmacy Leadership Scholars

Title: Improving neonatal and pediatric patient safety through precision drug concentrations

Role: Co-Investigator

Funded (2020 – 2023): \$325,000 – Gerber Foundation

Title: Understanding the impact of IV workflow technology on detecting and reducing medication errors and evaluating pharmacy operations that occur in IV preparation

Role: Co-Investigator

Funded (2020 – 2021): \$50,000 – Baxter Investigator Initiated Research

Title: Evaluation of prescriptive analytics to reduce length of stay through targeted pharmacy services in an acute care model

Role: Co-Investigator

Funded (2017 – 2018): \$5,000 – ASHP Master's Resident Practice-Based Research Grant

Title: Implementation of daily goals to improve communication and care within the intensive care unit

Role: Co-Investigator

Funded (2015 – 2016): \$50,000 – UNC Institute for Healthcare Quality Improvement

Title: Optimizing drug doses to improve outcomes of critically ill patients

Role: Co-Investigator

Funded (2015 – 2016): \$75,000 – CTSA Consortium Multi-Institutional Collaborative Translational

Research Pilot Grant

Title: Augmented renal clearance in hemorrhagic stroke patients admitted to the neurosciences

intensive care unit

Role: Co-Principal Investigator

Funded (2014 – 2016): \$11,070 – University of North Carolina at Chapel Hill School of Medicine

Department of Neurology Pilot Grant Fund

Title: Pharmacokinetics and clinical response of tolvaptan in neurocritical care patients

Role: Co-Investigator

Funded (2014 – 2016): \$174,548 – Otsuka Pharmaceuticals

Title: Intravenous exenatide infusion in critically III neurologic patients: a proof of concept study

Role: Co-Investigator

Funded (2014 – 2016): \$199,573 – Bristol Myers Squibb and AstraZeneca

Funded (2014 – 2016): Continuous Blood Glucose Monitors and Supplies – Medtronic Inc.

# **SERVICE**

<u>National</u>	
American College of Clinical Pharmacy Research Affairs Committee	2022 – Present
American Association of Colleges of Pharmacy Council of Faculties Faculty	
Affairs Committee	2022 – Present
American College of Clinical Pharmacy Education PRN	2021 – Present
American Association of Colleges of Pharmacy Council of Faculties Exploration	
Of Career Center Task Force	2020 – 2021
UNC Eshelman School of Pharmacy	
Individualization Phase Subcommittee	2023 – Present
• Chair: 2023 – Present	
PharmAlliance Leadership Team	2023 – Present
<ul> <li>Research Domain Deputy Co-Chair: 2023 – Present</li> </ul>	

Research Domain Deputy Co-Chair: 2023 – Present
 Research Domain Early Career Research Liaison: 2023

Partnership in Patient Care Research Steering Committee 2020 – 2022 Graduate Education Committee 2019 – Present

• PACE Division Director of Graduate Studies: 2020 – Present

Student Faculty Advisor 2019 – Present Curriculum and Assessment Committee 2019 – 2020, 2023 –

Co-Chair: 2023 – Present
 Present

Curriculum Innovation Committee	2018 – 2019
• Vice Chair: 2018 – 2019 Pharmacotherapy Stream	2018 – 2021
• Chair: 2018 – 2020	2010 - 2021
Research and Scholarship in Pharmacy Oversight Committee  • Chair: 2021 – Present	2017 – Present
Research in Education and Practice Symposium Planning Committee	2016 – Present
Research and Scholarship in Pharmacy Curricular Transformation Workgroup	2016
Integrative Pharmacotherapy Curricular Transformation Workgroup	2016
<u>University of North Carolina Health Care System</u>	
Pharmacy System Data Governance Subcommittee  • Chair: 2017 – 2018	2017 – 2018
Pharmacy Services Operational Reporting and Business Intelligence	
Team	2017 – 2018
<u>University of North Carolina Hospitals</u>	
Education, Research, and Practice Training Outcomes Assessment Committee	2016 – 2018
Post-Graduate Year 1 Pharmacy Residency Progression Committee	2016 – 2017
Health-System Pharmacy Administration Residency Leadership Committee	2016 – 2018
Health-System Pharmacy Administration Residency Progression Committee	2016 – 2018
Education Research Enterprise Workgroup	2016 – 2018
Pharmacy Student/Resident Advisory Committee	2016 – 2018
Residency Research Oversight Committee  • Chair: 2015 – 2018	2015 – 2018
University of North Carolina at Chapel Hill	
UNC Investigational Review Board Biomedical Committee	2016 – 2018
PROFESSIONAL MEMBERSHIPS	
North Carolina Association of Pharmacists	2020 – Present
American Association of Colleges of Pharmacy	2018 – Present
Neurocritical Care Society	2013 – 2018
Society of Critical Care Medicine	2013 – 2018
Phi Lambda Sigma: The National Pharmacy Leadership Society	2010 – Present
<ul> <li>Gamma Chi Chapter President: 2010 – 2012</li> </ul>	
American Society of Health-System Pharmacists	2010 – Present
American College of Clinical Pharmacy	2010 – Present
Rho Chi National Pharmacy Honor Society	2010 – Present
Michigan Pharmacists Association	2008 – 2012
SPECIALIZED TRAINING AND CERTIFICATES	
University of North Carolina at Chapel Hill Center for Faculty Excellence	September 2023 – May
<ul> <li>CFE Leadership Fundamentals Program</li> </ul>	2024

Issued June 2012

Relational Leadership Institute February 2021 – March

• RLI@Carolina 2021

Grant Training Center March 2015

Writing and Designing NIH Proposal Workshop

The North Carolina Translational and Clinical Sciences Institute

August 2014 –

• Manuscript Development Workshop March 2015

The University of Arizona College of Pharmacy January 2014

Advanced Course in Pharmacoeconomic Modeling

The North Carolina Translational and Clinical Sciences Institute

November 2013

• Scientific Writing from the Reader's Perspective

The North Carolina Translational and Clinical Sciences Institute July 2013

• Introduction to Study Design and Strategies for Data Analysis

American Pharmacists Association September 2009

• Immunization Certification, CPN #202-0014

PHARMACY LICENSURE

North Carolina Board of Pharmacy Issued July 2013

Pharmacist License, No. 23635
 Expires December 2024

South Carolina Board of Pharmacy Issued July 2012

• Pharmacist License, No. 13772 Expired April 2018

Michigan Board of Pharmacy

• Pharmacist License, No. 5302038856 Expires June 2024

• Controlled Substance License, No. 5302038856