845 South Damen Chicago, Illinois 60612 mdurham1@uic.edu

EDUCATION

Doctor of Nursing Practice, Health Systems Leadership Rush University, Chicago, Illinois **DNP Project:** Reducing medication administration errors in acute and critical care: Multifaceted pilot program targeting RN awareness and behaviors

Master of Science in Nursing, Medical Surgical Clinical Nurse Specialist Loyola University, Chicago, Illinois MSN Project: The effect of tachypnea on oral temperature estimation: A replication

Bachelor of Science in Nursing Marquette University, Milwaukee, Wisconsin

EMPLOYMENT

Clinical Associate Professor July 2021-present Clinical Assistant Professor August 2015-July 2021 Population Health Nursing Science University of Illinois Chicago College of Nursing

Director of the DNP Program

August 2017-August 2019 Led the 12-specialty program director team in top ranked DNP program, 520 enrolled students, 10-year CCNE accreditation (2019), build academic-practice partnerships to foster advance practice registered nurse clinical and systems leadership experiences College of Nursing, University of Illinois Chicago

Quality Improvement and Patient Safety Consultant

Faculty Practice and Partnerships, UIC College of Nursing August 2016-August 2020

Education & Quality Coordinator

Adult Critical Care (4 units), Surgical Service Lines (10 units) Department of Professional Nursing Practice Rush University Medical Center July 2011-July 2015

Staff Nurse and Intensive Care Unit Educator roles in Medical, Cardiac, Surgical, and Burn Intensive Care

15 years practice in academic medical centers in Illinois, Arizona and Ohio

Instructor

August 1984-August 1986 University of Arizona College of Nursing, Tucson, Arizona

TEACHING

2022-present UIC College of Nursing, Doctor of Nursing Practice program:

Serve on DNP Essentials Task Force for competency-based curriculum revision; focus on program outcomes, processes to review core courses to eliminate redundancies, add needed content and address sequencing of courses to prepare DNP student for practice

2015-present UIC College of Nursing, Doctor of Nursing Practice program:

Lead faculty and student mentor for three sequential evidence-based practice core DNP project courses (predominately Quality Improvement/Patient Safety projects), 60-120 students/semester, consistent excellent student evaluation scores: Proposal Development for Translating Evidence to Practice (course developed); DNP Project Planning and Implementation; DNP Project Evaluation, & Dissemination. Health Systems Leadership course faculty: Quality and Safety Through Health Technologies, Advanced Systems Leadership; Human Resources and Organizational Behavior; Guest lecture in BSN leadership course on Healthcare Improvement and Patient Safety

QUALITY IMPROVEMENT AND PATIENT SAFETY (QI/PS) PRACTICE

UIC College of Nursing

2015-2023 Mile Square Health Center – Humboldt Park, UIC College of Nursing-led FQHC: consult on medication and vaccine safety resulting in safer structures and processes; created tracer worksheet to prepare for CDPH COVID-19 vaccine site visit resulting in no recommendations; mentor student DNP projects in use of QI/PS methods, tools and analysis; promote continuous and sustained improvement in all DNP projects (patient throughput, academic detailing, vaccine safety including staff training); mentor the UIC IHI Open School interprofessional students QI team ongoing project resulting in patients engaging in healthy eating recipe uptake

- 2018-2020 Illinois Department of Corrections (IDOC) consulting contract, Project Director for a team of consultants who developed and delivered a comprehensive quality improvement and patient safety plan for the 44,000 patient offenders managed through 29 IDOC health care units, developed budget with UIC Nursing financial officer and managed resources, multiple next phase proposal revisions to accommodate the needs of two large state organizations and federal monitors to work together to deliver safe health care to incarcerated citizens in Illinois. Article featured in Weekly Highlights from AHRQ PSNet, August 17, 2022. https://psnet.ahrq.gov/issue/health-care-quality-and-safety-correctionalsystem-creating-goals-and-performance-measures.
- 2017-2022 Faculty development workshops for 60 mentors to close knowledge gaps on QI/PS projects in 2017 and ongoing development; collaborated with UIC Office of Protection of Human Subjects to revise Determination policy related to DNP projects; ongoing informal faculty coaching on the DNP project

Rush University Medical Center

- **2014-2015 Project Lead** to prevent unwanted sedation and respiratory depression adverse drug events in all patients receiving opioids for acute pain, organizational response to sentinel event alert from The Joint Commission, analyzed problem and developed solutions in collaboration with multiple stakeholders, delivered an on-demand program including integrated electronic medical record improvements for 3100 interprofessional clinicians resulting in increased knowledge and safe and sustained monitoring behaviors, gained resources for technical upgrades to support large program, policy change. Publication cited in revised guidelines by the American Society for Pain Management Nursing (2019)
- 2014-2015 Project Lead to reduce medication administration errors in acute and critical care (organizational goal to improve medication safety), 99 nurses trained in simulation pilot (system and human factors focused) resulting in sustained monthly increases in safe administration behaviors and 53% reduction in the likelihood of an error after the program
 Project Lead, Rapid response team improvement project, interprofessional simulation-based team trainings to prevent adverse events through early detection, workflow redesign for different environments, new policy to include internal and external workflows, shorter response times and improved identification of risk outcomes
- 2015 Improvement Coach, Professional image of nursing in large academic medical center; Management Coach, Neuroscience ICU

- 2014-2015 Tracer Team Lead, monthly tracers throughout medical center for reliability and accreditation readiness; Scribe for The Joint Commission surveyor in multiple offsite ambulatory clinics
- 2013 Training Team Lead, accountable education for all critical care nurses to prevent central-line associated bloodstream infections using peer to peer audit and feedback
- 2012-2013 Rush Way Performance Improvement Training 32-hour course improvement methods training and project application,
 Project Lead to reduce medication omissions leading to adverse events in all critical care units, 20% reduction sustained for 9 months after program, electronic record integration and policy changes
- 2011-2015 Annual Competency Training Lead for 1800 registered nurses, revised Curriculum in 2014 to a competency-based quality and safety focus case study format resulting in self-reported competency validation scores improving from an average of 63% to 97.5%

AWARDS AND HONORS

2021 Excellence in Interprofessional Education Collaboration National Award, The United States Public Health Service (USPHS) and the Interprofessional Education Collaborative (IPEC). Honorable Mention in At Risk and Vulnerable Communities Category. The Excellence in Interprofessional Education Collaboration Award is presented to an interprofessional team of health professional students and/or faculty, whose interdisciplinary work has significantly impacted the community they serve. Project: Addressing Healthy Eating and Lifestyles in an FQHC: An Interprofessional Quality Improvement Project. UIC IHI Open School Chapter Quality Improvement Team; PI

Power of Nursing Leadership Pinnacle Nurse Leader Award, University of Illinois at Chicago (UIC) College of Nursing, 2018

Recognition from college as an extraordinary nurse leader

Teaching Scholar for the Center for the Advancement of Teaching-Learning Communities at UIC, 2016

Rush University College of Nursing Dean's Award for Academic Excellence, 2015

Rush University Medical Center Course for Excellence Award, 2015

Ebola treatment designated facility: co-lead of core emergency and ICU team training in personal protective equipment use and safety procedures in the simulation lab, led training team to flex to daily CDC practice changes

Sigma Theta Tau International, Honor Society for Nursing, 1986 Inducted Loyola University of Chicago, Alpha Beta Chapter

Dean's Research Award University of Arizona College of Nursing Tucson, Arizona, 1986 Recognition and small monetary award to continue work on temperature study

FUNDED GRANT

2019-2023. Yingling, C., Snyder, M., Handrup, C. T., Cotler, K. F., Durham, M. L., & Rosenberger, K. D.T. Practice Ready: Partnership to Enhance Primary Care Nurse Practitioner Practice Readiness, Health Resources and Services Administration (HRSA),
20% work effort to Implement Rapid Cycle Quality Improvement Plan Do Study Act cycles to carry out the work of the project. (2.7 million)

FUNDED CONTRACT

2018-2019. Comprehensive Quality Improvement and Patient Safety Plan for the Illinois Department of Corrections Health Care Units [University of Illinois at Chicago College of Nursing, Consultant Partnership Project Lead, **Durham, M. L.**] (Total =\$532,000)

PUBLICATIONS

PEER-REVIEWED (*data-based; **student; ***invited; senior author underlined)

Cronin, J. & Durham, M. L. Microlearning: A concept analysis under review

Durham, M. L., Diegel-Vacek, L., Sparbel, K. J. H., Rugen, K. W., & Hershberger, P. E. (2023). Strategies for developing faculty confidence and competencies to mentor quality improvement DNP projects. *Journal of Professional Nursing.* 47, (56-63).

**Kim, H., Hershberger P. E., **Korzynski, A. & <u>Durham, M. L.</u> (2023). Identifying barriers and facilitators for nurse practitioners' opioid management of chronic pain: An integrative review. *Journal of the American Association of Nurse Practitioners*. 35, (12-20). DOI: 10.1097/NNE.00000000001326

Yingling, C., Nisi, R., McNamara, M., House, K., Cotler, K., **Durham, M.,** Handrup, C., & Vaez, K. (2022). Community health outside the exam room: Extracurricular learning to augment NP student practice readiness. *Nurse Educator*, *48*(3), 142–146. doi:10.1097/NNE.00000000001326

**Johnson, K., **McMahon, C., Gingell, M., **Ciraulo, A., **Reiland, A., & <u>Durham, M. L.</u> (2022). COVID-19 vaccination preparation in a Federally Qualified Health Center: A quality improvement approach. *AAACN ViewPoint.* 44(4), (3-11).

**Neely, J., Sampath, R., Kirkbride, G., Meeks, S. L. & <u>Durham, M. L.</u> (2022). Healthcare quality and safety in a correctional system: Creating goals and performance measures for improvement. *Journal of Correctional Health Care: The Official Journal of the National Commission on Correctional Health Care, 28*(3), 141–147. https://doi.org/10.1089/jchc.20.07.0058

*Pasquinelli, M., Tammemagi, M., Kovitz, K., **Durham, M.L.,** Deliu, Z., Guzman, A., Rygalski, K., Liu, L., Koshy, M., Finn, P., & Feldman, L.E. (2022). Addressing sex disparities in lung cancer screening eligibility: USPSTF versus PLCOm2012 criteria. *CHEST*, 161(1), 248-256.

*Durham, M. L. & **Town, E. (2020). Interprofessional student quality improvement project in a Federally Qualified Health Center. *Journal of Nursing Education*, 59(10), 585-588. https://doi:10.3928/01484834-20200921-09

*Pasquinelli, M.M.**, Tammemägi, M.C., Kovitz, K.L., **Durham, M.L.**, Deliu, Z., Rygalski, K., Liu, L., Koshy, M., Finn, P., & Feldman, L.E. (2020). Risk prediction model versus United States Preventive Services Task Force lung cancer screening eligibility criteria – reducing race disparities. *Journal of Thoracic Oncology*, 15(11), 1738-1747. <u>https://doi.org/10.1016/j.jtho.2020.08.006</u>

*** Durham, M. L. (2020). Mindfulness for medication safety. *American Nurse Journal*, 15(7), 24-26. https://www.myamericannurse.com/mindfulness-for-medication-safety/

***Durham, M. L.,** **Didovic, I. & **Gingell, M. J. (2020). Improving a pediatric vaccine administration process in a Federally Qualified Health Center. *Patient Safety*, 2(2), 36-46. https://patientsafetyj.com/index.php/patientsaf/article/view/pediatric-vaccine/157

Durham, M. L. & Jankiewicz, A. (2019). Detecting medication administration errors. Journal of *Patient Safety*. 15(3), 181-183. doi:10.1097/PTS.00000000000384

***<u>Durham, M. L.</u>, Cotler, K. & Corbridge, S. J. (2019). Facilitating faculty knowledge of DNP quality improvement projects. *Journal of the American Association of Nurse Practitioners*, 31(11), 665–674. doi: 10.1097/JXX.000000000000308

***Durham, M. L.**, Yingling, C., & Hershberger, P. E. (2019). Accelerating improvement of a DNP project proposal course using quality improvement methods. *Journal of Nursing Education*, 58(5), 306-311. doi:10.3928/01484834-20190422-11

***Durham, M. L.**, **Egan, A., Jankiewicz, A., Murphy, M., Nedved, P., Luvich, R., Goh, A., & Fogg, L. (2017). Addressing safe opioid monitoring practices using an interprofessional approach. *The Journal of Nursing Administration*, 47(11), 537-544. doi:10.1097/NNA.000000000000540

***Durham, M. L.**, Suhayda, R., Normand, P., Jankiewicz, A., & Fogg, L. (2016). Reducing medication administration errors in acute and critical care: Multifaceted pilot program targeting RN awareness and behaviors. *The Journal of Nursing Administration*, 46(2), 75-81. doi: 10.1097/nna.000000000000299

***Durham, M.L.**, Swanson, B., & Paulford, N. (1986). The effect of tachypnea on oral temperature estimation: a replication. *Nursing Research*, 35, 211-214.

REPORT

Report to State Agency: University of Illinois at Chicago College of Nursing (2019). Quality improvement and patient safety (QI/PS) plan for the Illinois Department of Corrections (IDOC) healthcare units. Chicago: author. The 261-page bound volume report was prepared by a team of consultants with expertise in QI/PS, risk management, performance measurement, credentialing and privileging and infection prevention and control.

PRESENTATIONS

INVITED Local

Borgers, F., <u>Durham, M. L</u>. & Wescott, J. (April 7, 2023). *Collaborating to Improve Health Equity: A Call to Action.* UIC 14th Annual Minority Health Conference, Chicago, IL.

Guest Lecture Quality and Safety

- UIH Pulmonary Fellows conference (2022, April 6)
- UIH Nurse Residents (2022, June 8)
- UIH Nursing Grand Rounds (2022, May 5)

Regional

Durham, M. L. (April 2023) **Keynote Address** *Breaking the Mold: Utilizing Research & EBP to Advance Practice*, 26th Annual Nursing Research Conference Memorial Health. Springfield, IL

Durham, M. L. & Shah, A. (2020, March 6). Fostering IPE student groups: Lessons and experiences. Aligning interprofessional education (IPE) with practice, development &

infrastructure. A conference hosted by a consortium of academic programs in Chicago on building IPE in the healthcare environment. (Conference cancelled)

National

Durham, M. L., Wescott, J. & Rodriguez, V. (2021, June 1). Summer 2021 Interprofessional Education Collaborative (IPEC) Member Meeting. Addressing Healthy Eating and Lifestyles in an FQHC: An Interprofessional Quality Improvement Project. Poster presentation at the IPEC COF Award Recognition Ceremony.

Durham, M. L. & Cotler, K. (December 2018). DNP project: How to manage all the students. *National Organization of Nurse Practitioner Faculties (NONPF) Special Topics Conference,* Bethesda, MD, December 6, 2018.

POSTER PRESENTATIONS

Bibo, C. & <u>Durham, M. L.</u> (March 2024). *Surgical clearance for elective medical tourism: An Illinois Medicaid policy analysis.* Midwest Nursing Research Society Student Poster Competition selection by the UIC College of Nursing. Minneapolis, MN.

Durham, M.L., Diegel-Vacek, L., Carlucci, M., & Rugen, K. W. (January 2024). *Processes to Promote DNP Student and Faculty Scholarship.* American Association of Colleges of Nursing Doctoral Education Conference. Naples, FL.

Johnson, K., <u>Durham, M.</u>, & Gingell, M. (2022). *Adapting a Vaccine Administration Process for COVID-19 in a Federally Qualified Health Center*. Poster session presented at the meeting of Creating Healthy Work Environments. Sigma Nursing. Washington, DC, USA Presentation type: Poster. Event type: Conference. Event scope: International.

Ayala-Fontanez, N., Blumenstein, N., Coffinbargar, M., May, J., Neely, J., Rodriguez, V., Yang, S., Wescott, J. & **Durham, M.** (2020). Addressing healthy eating and lifestyles in a FQHC: An interprofessional student quality improvement project. 2020 UI Health Quality and Safety Fair. (People's Choice Award winner)

Ayala-Fontanez, N., Blumenstein, N., Coffinbargar, M., May, J., Neely, J., Rodriguez, V., Yang, S., Wescott, J. & **Durham, M.** (2020). Addressing healthy eating and lifestyles in a FQHC: An interprofessional student quality improvement project. 32nd Annual National Forum on Quality Improvement in Health Care, Institute for Healthcare Improvement. Virtual.

<u>*Pasquinelli. M.</u>, ** Tammemägi, M., Kovitz, K., **Durham, M.**, Deliu, Z., Rygalski, K., Liu L., Koshy, M., Winn, R., & Feldman, L. (October 1, 2019). Comparison of the Sensitivity of USPSTF and PLCOm2012 Lung Cancer Screening Criteria in a Racially Diverse Population. International Association for the Study of Lung Cancer 2019 World Conference on Lung Cancer September 7-10, 2019.

*Gingell, M. J.**, **Durham, M. L.**, Corbridge, S. J. (November 2019). Improving clinician behaviors and patient safety outcomes through standardization of a pediatric vaccine administration process. Rising Stars of Scholarship and Research Invited Student Poster Program at Sigma Theta Tau International's (Sigma) 45th Biennial Convention. Washington, D.C.

Arban, C.M., Ayrempour, S., Finnegan, M., Justen, C., Ortmayer, A., Peesapati, M., Singh, M., Town, E., Wang, Y., Borgers, F. & <u>Durham, M. L.</u>, (December 2018). Rising up for interprofessional engagement. 30th Annual National Forum on Quality Improvement in Health Care, Institute for Healthcare Improvement. Orlando, Florida.

***Durham, M. L.**, Hershberger, P., & Yingling, C. (January 2018). Accelerating improvement of a DNP project proposal writing course using quality improvement methods. AACN Doctoral Conference. Naples, Florida.

***Durham, M. L.** & Normand, P. (December 2015). Using mindfulness for critical thinking and safety. 27th Annual National Forum on Quality Improvement in Health Care, Institute for Healthcare Improvement. Orlando, Florida.

PROFESSIONAL MEMBERSHIPS

2021 – 2023	American College of Healthcare Executives (ACHE)
2019 – present	Sigma Theta Tau International, Alpha Lambda Chapter, University of
	Illinois at Chicago
2018 – present	Member, National Organization of Nurse Practitioner Faculties (NONPF)
2017 – present	Member, National Association for Healthcare Quality (NAHQ)
2016 – present	Member, American Society of Professionals in Patient Safety (ASPPS)
2010 – present	Member, American Association of Critical Care Nurses (AACN)

SERVICE

University	
2023-present	Co Faculty Advisor UIC Center for the Advancement of InterProfessional
	Practice, Education and Research for Student Engagement and
	Leadership Development. Mentoring students across the seven health
	science colleges at UIC to lend their voice for planning and implementing
	interprofessional experiences for students, with a focus on community
	engagement, patient safety, and health equity.

2017-2023	Co Faculty Advisor UIC Institute for Healthcare Improvement Open School Chapter, mentoring student leaders from the seven UIC health science colleges on quality improvement and patient safety (QI/PS). Activities include QI/PS projects, educational activities and invited speakers.
	Service Case Competition Mentorship Akurati, S., Arban, C.M., Neeley, J. & Finnegan, M. (April 2019). Borgers, F. & Durham, M.L., co-faculty mentors. Clarion National Case Competition on homelessness. First Place Team , University of Minnesota Center for Health Interprofessional Programs.
2021, 2022	Facilitator, Foundations of Interprofessional Collaborative Practice – UIC Interprofessional Practice and Education Office of Vice Chancellor for Health Affairs, Spring, 2021 and 2022
2019	Member, Office of the Vice Chancellor Chicago Campus Interprofessional Education (IPE) Curricular Pilot Day Committee, Immersion program, Foundations of Collaborative Practice, for Colleges of Pharmacy and Nursing
2017-2019	Interprofessional Education Immersion Day, faculty training and facilitation of a group from approximately 900 students from across the university.
Collogo of Nursing	

College of Nursing

2022-present	DNP Curriculum Revision Committee
2022-2023	Nursing Service Plan (NSP) Board as Population Health Nursing Science
	faculty representative
2022-2023	Promotion and Tenure Committee, Population Health Nursing Science

Manuscript Reviewer

Journal of Patient Safety
BMJ Innovations
American Nurse Today
Nursing Outlook
Journal for Healthcare Quality

Item Writer

Certified Professionals in Patient Safety (CPPS) certification exam item writing, National Patient Safety Foundation 2016-2017

REGISTERED NURSE LICENSE

Illinois #041.197290; Expires 5/31/2024

NATIONAL SPECIALTY CERTIFICATIONS

- 2020-2024 Healthcare Quality Certification Commission. Certified Professional in Healthcare Quality (CPHQ) expires 12.31.24
- 2016-2025 Certification Board for Professionals in Patient Safety. Certified Professional in Patient Safety (CPPS) expires 9.22.25
- 2011-2023 American Association of Critical Care Nurses certification as a Critical Care Registered Nurse (CCRN-K) Adult Critical Care Knowledge Professional (6/1/2011 -5/31/2026)

DOCTOR OF NURSING PRACTICE PROJECT FACULTY MENTOR

Martinez, M. (2023-) *Decreasing primary care appointment no-show rates*. University of Illinois Chicago.

Gavina, J. (2023-) *Preventing medication errors by unlicensed assistive personnel.* University of Illinois Chicago. **Albert Schweitzer Fellowship 2022.

Cronin, J. (2023-) *Creating an evidence-based product to support nurses writing content for learning modules.* University of Illinois Chicago.

Bibo, C. (2022-). *Surgical clearance for elective medical tourism: An Illinois Medicaid policy analysis.* University of Illinois Chicago. **American Association of Colleges of Nursing Graduate Student Policy Fellowship, Washington, D. C., 2023.

Lester, E. (2022-). *Identifying barriers to pediatric influenza vaccination at a Federally Qualified Health Center.* University of Illinois Chicago.

Trujillo, M. (2022-). *Vaccines for children process improvement in a Federally Qualified Health Center.* University of Illinois Chicago.

Korzynski, A. (2021-2022). *Increasing the use of academic detailing for nurse practitioners at a Federally Qualified Health Center*. University of Illinois Chicago.

Dluski, C. (2021-2022). *Using academic detailing to enhance provider awareness on opioid prescribing practices.* University of Illinois Chicago.

Johnson, K. (2021-2022). Adapting an administration process for the new COVID-19 vaccines in a Federally Qualified Health Center. University of Illinois Chicago. ** Rising Stars of Scholarship and Research Invited Student Poster Program at Sigma Theta Tau International 45th Biennial Convention. Washington, D.C., 2022.

McMahon, C. (2021-2022). Aligning administration process of COVID-19 vaccine with electronic health record capabilities. University of Illinois Chicago.

Jeshang, C. (2021). Addressing provider knowledge deficits on chronic opioid management through academic detailing. University of Illinois Chicago.

Kim, H. (2021). Addressing barriers and facilitators for academic detailing visits for nurse practitioners. University of Illinois Chicago.

Vega-Byrnes, J. (2021). *Improving preventative care for older adults through improved interdisciplinary collaboration*. University of Illinois Chicago.

DeMoss, H. (2020). Innovations in patient safety. University of Illinois at Chicago.

Ciraulo, B. (2020). *Preparing for COVID-19 vaccine administration: A quality improvement and teaming approach*. University of Illinois at Chicago.

Reiland, A. (2020). *Sustainment and scale up of a pediatric vaccine administration process improvement.* University of Illinois at Chicago.

Salmon, T. (2019). *A risk-based approach to infection prevention in correctional health*. University of Illinois at Chicago.

Didovic, I. (2019). *Continuous improvement and sustainment of a standardized pediatric vaccine administration process*. University of Illinois at Chicago.

Gingell, M. J. (2019). *Improving pediatric vaccination process in a nurse-led clinic*. University of Illinois at Chicago. **Rising Stars of Scholarship and Research Invited Student Poster Program at Sigma Theta Tau International 45th Biennial Convention. Washington, D.C., 2019

Papineau, E. (2019). Improving use of venous ulcer guidelines. University of Illinois at Chicago

Pasquinelli, M. M. (2019). A retrospective analysis of UICs lung cancer cases (2010 – 2017): Identifying gaps in current lung cancer screening eligibility to reduce health disparities. University of Illinois at Chicago. ** Prevent Cancer Foundation's James L. Mulshine National Leadership Award, 2021.

Padiyara, J. (2018). Adding value to waiting time in a nurse-led practice using a patient education video. University of Illinois at Chicago.

Alvarez-Brown, S. (2018). Using a second victim support program to increase medication error reporting rates. University of Illinois at Chicago.

DOCTOR OF NURSING PRACTICE PROJECT MENTOR

Egan, A. M. (2015). *Reducing opioid-induced respiratory depression in hospitalized adults*. Rush University, Chicago, Illinois.

MASTER'S PROJECT MENTOR

Holmberg, N. (2014). *Reducing medication administration errors in acute and critical care – optimizing data analysis*. Rush University, Chicago, Illinois.

Gillespie, D. (2014). *Reducing medication administration errors in acute and critical care – simulation training*. Rush University, Chicago, Illinois.

Brenner, C. (2013). *Reducing medication administration errors in acute and critical care*. Rush University, Chicago, Illinois.

Kim, J. H. (2013). *Reducing medication administration errors in acute and critical care - failure mode effects analysis*. Rush University, Chicago, Illinois.