Department of Pharmacy Practice School of Pharmacy North Dakota State University

Summary of Individual Faculty Research/Scholarship 2022-2023

Sydney Armbrust, PharmD, BCPS



Assistant Professor of Practice, Department of Pharmacy Practice Inpatient Clinical Pharmacist, Essentia Health

Sudro Hall 118B; Sydney.Armbrust@ndsu.edu

Recent Publications

• **Johnk S**, Grindeland C, Leedahl D, Carson P, Leedahl N. Impact of a multicenter stewardship-targeted carbapenem justification requirement on the use of carbapenems in 23 hospitals. *J Am Coll Clin Pharm.* 2019; 2:53–57.

Research Funding:

Current Projects/Collaborations

Implementation of a pharmacy-driven COVID vaccination program in an inpatient setting. (Monson)

Research Keywords:

Carbapenems, Antimicrobial Stewardship, Drug Utilization

Rebecca Brynjulson, PharmD, BCACP, BCGP



Director, Introductory Pharmacy Practice Experiences Assistant Professor of Practice

Sudro Hall 20B; (701) 231-7477; rebecca.brynjulson@ndsu.edu

Recent Publications

- Kelsch, M., Brynjulson, R., Hursman, A., Werremeyer, A., Eukel, H. (2022). Impact of an Emergency Center Simulation on Pharmacy Students' Interprofessional Skills and Attitudes. Submitted to INNOVATIONS in pharmacy on February 16, 2022. Resubmitted July 2022. Accepted August 6, 2022.
- Frenzel, J., Eukel, H., **Brynjulson, R.** (2020). Use of Medication Error Simulations in Continuing Professional Education to Effect Change in Practice. *INNOVATIONS in pharmacy*, *11*(1), Article 7. doi: 10.24926/iip.v11i1.2215
- Werremeyer, A., Skoy, E., Marvanova, M., Jarajapu, Y., **Brynjulson, R.**, Wilhelm, R., Eukel, H. (2019). A PharmD program curricular approach to addressing the opioid crisis. *Currents in Pharmacy Teaching and Learning*, 11(6). doi: 10.1016/j.cptl.2019.02.026

Research Funding:

- Geriatrics Workforce Enhancement Program (GWEP) Grant Sub Award, \$53,395.00, University of North Dakota. Period of Grant Award: July 1, 2019- June 30, 2024
- National Association of Community Drug Stores (NACDS) Foundation Million Hearts Grant, \$1000.00, for the project titled "Public Health Impact of community-based cardiovascular risk screenings conducted by pharmacy students." January 2013.
- North Dakota State University Department of Pharmacy Practice Seed Grant in the amount of \$2615.00 for the project titled "Student Engagement in Institutional Introductory Pharmacy Practice Experiences: Preceptor and Student Perceptions" February 2009.
- North Dakota State University Development Foundation Grant, \$1195.00, to purchase a Blood Pressure Training Arm for the North Dakota State University Concept Pharmacy. January 2008.

Current Projects/Collaborations

- Brynjulson R., Petry, N. & Patnaude L. Integration of Pharmacotherapy Case into Pharmacy Practice Improvement and Project Management Course.
- Hursman, A., Petry, N., **Brynjulson, R.**, Frenzel, J., Miller, D., Monson, E., Orr, M., Richter, L., Viets, J. March Medication Madness: Assessing Bracketology's Impact on Pharmacy Student Learning.
- Kalabalik-Hoganson, J., Kahaleh, A., **Brynjulson, R.**, Abrons, J., Adunlin, G., & Truong, H. Assessment of public health emergency preparedness and response education (EPREP) in US Schools of Pharmacy.
- **Brynjulson, R.** Development and assessment of geriatric patient focused activities in a Pharm D program capstone course to increase understanding and application of geriatric patient care principles.

Research Keywords:

Introductory pharmacy practice experiences (IPPE); Experiential education; Public health; Problem solving; Simulation, Education, Geriatrics

Dan Cernusca, PhD



Associate Professor of Practice & Instructional Designer

Sudro Hall 118P; (701) 231-7729; Dan.Cernusca@ndsu.edu

Recent Publications

Cernusca, D. & Mallik, S. (2022). Successful Transfer of Face-To-Face Active Learning Instructional Design to Online Synchronous Format During COVID-19 Pandemic. Quarterly Review of Distance Education, 23(1), 1-11.

Cernusca, D. & Mallik, S. (2022). Strengthening Deep Learning in a Professional Doctorate Pharmaceutics Course. Perceived Impact on Students' Self-Efficacy. Journal of Higher Education Theory and Practice. 22(8), 114-123.

Frenzel, J. & **Cernusca**, **D.** (2022). Alternative Assessment Practices, Grading Less, and Learning More in a Health Professions Skills Laboratory Course. In T. Bastiaens (Ed.), Proceedings of EdMedia + Innovate Learning (pp. 96-105). New York City, NY, United States: Association for the Advancement of Computing in Education (AACE).

Research Funding:

APEX: An Accelerated Pipeline to Graduate Excellence in Electrical and Computer Engineering (9/1/2022 - 08/31/2028 – proposed for funding); Sponsor:

NSF; Total award for NDSU subcontract: \$45,406

Role: Co-PI, Provide oversight and guidance on all educational aspects;

Phase II COBRE - Center for Diagnostic and Therapeutic Strategies on Pancreatic Cancer (07/15/2022 – 06/30/2027); Sponsor: NIH; Total award:

\$9,506,146

Role: Evaluation Coordinator

Current Projects/Collaborations

Strengthening Students' Conceptual Learning through the Integration of Technology-Driven Mindtools and Active Learning Strategies (2018 – 2021)

Collaborator: Sanku Mallik, NDSU

Strategies to Stimulate Metacognition and Effective Information-Seeking Behavior in Undergraduate Active Learning Environments (2022- 2025)

Collaborator: Rebekah Oliver, NDSU

The Impact of Concept Mapping Strategies on Students' Perceptions, Beliefs, and Performance (2019 – 2024) Collaborators: Natasha Petri & Mark Strand, NDSU

Research Keywords:

Instructional Design, Professional Development, Pharmacy Education.

Mark Dewey, PharmD, BCGP, FASCP



Associate Professor of Practice Consultant Pharmacist/ Lake Region Healthcare & Consultant Pharmacist Inc.

Sudro Hall 118Q; (218) 736-8057 (LRH); Mark.Dewey@ndsu.edu

Recent Publications

- 2022 Benson, M., Dewey, M., Freisner. D. "Pharmacist-led urine culture follow-ups in a rural emergency department." JAPHA. August 22, 2022.
- 2022 Benson,M. Dewey,M., Freisner,D. "Pharmacist Urine Culture Follow-Up For Urinary Tract Infections in the Emergency
- Department Setting in a Rural Health System". American College of Clinical Pharmacy Virtual Poster Symposium.
- 2021 Benson, M., Nelson, J., Dewey, M., Freisner, D., Lien, R. "Implementation and Staff Perceptions of Emergency Pharmacy Services in a Rural Health System". ASHP Midyear Clinical Meeting Poster.
- 2019 Witt, J., Dewey, M., Freisner, D., Marvanova, M. "Medication Regimen Review on Discharge from Skilled Nursing Facility to Independent Living". American Society Of Consultant Pharmacy. Grapevine, TX.
- 2019 Reedstrom, K., Dewey, M., Friesner, D. "Formation of a Controlled Substance Care Team (CSCT) and its impact on identifying and treating those at high-risk for opioid overdose in patients with or at risk for opioid use disorder".

 American College of Clinical Pharmacy Virtual Poster Symposium.
- 2018 Thompson, J., Dewey, M., Freisner, D., Marvanova, M. "Pharmacists Conducted Medication Regimen Review for patients Returning to Independent Living Following Skilled Nursing Facility Stay". American Society Of Consultant Pharmacy. National Harbor, MD.

Research Funding:

2017-2019: Return to Community Initiative Grant for MTM to patients that are returning home after a skilled nursing visit.
2007- present: Medication Therapy Management Program Grant through Lake Region Healthcare from Land of the Dancing Sky Agency on Aging 2013-2016 Minnesota Department of Human Services Community Service/Community Services Development Grants program for MTM via in-home or Telepharmacy presence at Lake Region Healthcare

2011 Lake Region Foundation Grant for Medication Therapy Management Services at the Transition of Care from LRH Foundation

Current Projects / Collaborations

"Impact of Pharmacy Education on the Nurses' Knowledge of Insulin Administration and Use in the Long-Term Care Setting". Pl- Mark Dewey, Pharm.D. Co-investigator(s) and research team: Therese Turner, Daniel Friesner, Natasha Petry.

Heidi Eukel, PharmD



Professor

Sudro Hall 118G; (701) 231-7602; heidi.eukel@ndsu.edu

Recent Publications

- Hill LG, Loera LJ, Torrez SB, Puzantian T, Evoy KE, Ventricelli DJ, Eukel H, Peckham AM, Chen C, Ganetsky V, Yeung M, Zagorski CM, Reveles KR. Availability of buprenorphine/naloxone films and naloxone nasal spray in community pharmacies in 11 U.S. states. *Drug Alcohol Depend*. 2022;237:109518.
- Skoy E, Frenzel O, Lothspeich E, **Eukel H**, Steig J, Strand M, Werremeyer A. A Longitudinal Evaluation of Patient Risks and Targeted Interventions from an Opioid Misuse and Accidental Overdose Patient Screening within Community Pharmacies. Preventing Chronic Disease. In Press.
- Rude T, **Eukel H**, Ahmed-Sarwar N, Sutton Burke E, Anderson A, Riskin J, Caldas L. An Introductory Over-the-Counter Simulation for First-year Pharmacy Students Using a Virtual Pharmacy. American Journal of Pharmaceutical Education. Accepted, March 2022.
- Halvorson D, **Eukel H**, Gilbraith M, Schaper T, Miller D. Design and Implementation of Tech-Check-Tech Programs in North Dakota Pharmacies. Journal of Pharmacy Practice. Accepted, March 2022.
- Werremeyer A, Frenzel O, Strand M, **Eukel H**, Skoy E, Steig J. Improving Community-pharmacist Delivered Care for Patients with Psychiatric Disorders Filling an Opioid Prescription. Psychiatric Services. In Press.
- Daniels D, Caruso S, Morrell B, Eukel H. The Safety Showdown: Clinical Nursing Staff Members' Perceptions of and Practice Change After a Patient Safety Escape Room. Journal of Nurses in Professional Development. In press.
- Werremeyer A, Strand M, **Eukel H**, Skoy E, Steig J, Frenzel O. Longitudinal evaluation of pharmacists' social distance preference and attitudes towards patients with opioid misuse following an educational training program. Substance Abuse. 2022; 43(1) 1051-1056.
- Frenzel O, **Eukel H**, Lothspeich E, Skoy E, Steig J, Strand M, Werremeyer A. Opioid Risk Screening: Program Evaluation from the Community Pharmacists' Perspective. Journal of the American Pharmacists Association. 2022. 62(3) 856-863.
- Eukel H, Llayton C, Anderson A, Ballou J, Donohoe K, Hunt A, Meyer B, Caldas L. Insurance Adjudication Simulation across Multiple Institutions and Levels of Learners. American Journal of Pharmaceutical Education. 2021: 86(3).
- **Eukel H**, Morrell B, Holmes S, Kelsch M. Managing Difficult Patient Encounters: Simulation Design, Findings, and Call to Action. American Journal of Pharmaceutical Education. 2021: 85(7) Article 8327.

Research Funding:

Eukel H, Strand M, Skoy E, Steig J, Werremeyer A. Opioid and Naloxone Education: A State-wide Approach to Prevention, Education, and Interventions. North Dakota Department of Health and Human Services. October 2022 – September 2023. \$632,000

Steig J, Nagel L, **Eukel H**, Skoy E, Werremeyer A. Opioid Drug Safety Risk Evaluation and Mitigation Strategies (REMS) Development. MMB Healthcare. January 2022 – December 2022. **\$80,170**

Steig J, Eukel H, Hursman A, Skoy E, Strand M, Werremeyer A. Opioid Drug Safety REMS Planning. MMB Healthcare. October 2021 – December 2021. \$5,000

Eukel H, Strand M, Skoy E, Slevin A, Steig J, Werremeyer A. Preventative Care Collaboration – Opioid and Hepatitis C Risk Prevention. North Dakota Department of Human Services. October 2021 – September 2022. \$444,717

Current Projects/Collaborations

Overdose Prevention: community pharmacy, public health nursing, community paramedics

Center for Collaboration and Advancement of Pharmacy (CAP) Scientist: Prescription Abandonment, VaxChamp,

Pharmacy Service Enhancement Project, Point of Care Strep Testing, ONE Program

Scholarship of Teaching and Learning: Collaboration with VCU, SDSU, Ole Miss

Research Keywords:

skills laboratory; Simulation; teaching innovation; communication; primary prevention, opioid misuse, opioid overdose, implementation science

Jeanne Frenzel, PharmD, PhD, BCSCP



Professor (tenured)

Sudro Hall 118F; (701) 231-8546; Jeanne.Frenzel@ndsu.edu

Recent Publications

- Rude T, **Frenzel J**. Cooperative wikis used to promote constructivism and collaboration in a skills laboratory course. Currents in Pharmacy Teaching and Learning. In press.
- Hursman A, Richter L, **Frenzel J**, Viets Nice J, Monson E. An Online Escape Room used to Support the Growth of Teamwork in Health Professions Students. Journal of Interprofessional Education & Practice. 2022; 29, 100545.
- Frenzel J, Cernusca D. Alternative assessment practices, grading less, and learning more in a health professions skills laboratory course. In T. Bastiaens (Ed.), Proceedings of EdMedia + Innovate Learning (pp. 92-101). New York City, NY, United States: Association for the Advancement of Computing in Education (AACE). 2022. Retrieved June 27, 2022 from https://www.learntechlib.org/primary/p/221274/
- Frenzel J, Porter A. Design and Assessment of Telepharmacy and Telehealth Training in Two Pharmacy Programs. American Journal of Pharmaceutical Education. 2022; 86 (5)
- Porter A, Frenzel J, Siodlak M. Assessment of a Two-School Collaborative Telepharmacy Simulation. Currents in Pharmacy Teaching and Learning.
 2022; 14(2): 123-252
- Richter L, Monson E, Bye K, **Frenzel J**. Design and Assessment of Pharmacy Student Delivered Preceptor Development. American Journal of Pharmaceutical Education. 2022; 86(2): Article 8939.
- Richter L, Lotspeich E, Frenzel J. Susan D. Blum (Ed.) Kohn A., UNgrading: Why rating students undermines learning (and what to do instead). West Virginia University Press Morgantown, WV (2020). US \$26.99 (paperback), ISBN: 978-1949199826; Book Review; Currents in Pharmacy Teaching and Learning. 2022; 4 (5).

Research Funding:

Frenzel J. Development Foundation Board of Trustees Endowment, \$970.00

Current Projects / Collaborations

- Kawaguchi-Suzuki M, Blakely M, Childs-Kean L, Devraj R, Frenzel J, Medina M, Pate A, Miller-Thurston M, Franks A. Guidance for Qualitative Research Manuscripts for Pharmacy Educators. American Journal of Pharmaceutical Education.
- Vogler C, VanLangen K, Knockel L, Frenzel J. Design and analysis of a rubric to assess student pharmacists' longitudinal prescription counseling skills. INNOVATIONS in pharmacy. Under review.
- VanLangen K, Begley K, Bradley C, Hong L, Knockel L, Renfro C, Sourial M, Frenzel J. Student Barriers to Achieve Entrustable Professional Activity Readiness: A Holistic View for Student Success. Currents in Pharmacy Teaching and Learning. Under review.
- Hursman A, Petry N, Brynjulson R, Frenzel J, Miller D, Monson E, Orr M, Richter L, Viets J. March medication madness: Assessing bracketology's impact on pharmacy student learning.
 INNOVATIONS in pharmacy. Under review.
- **Frenzel J**, Crawford A, Fredrickson M, Duale K, Vadlapatla R. Economic Considerations Associated with Nonsterile Compounding Education in US Schools and Colleges of Pharmacy. American Journal of Pharmaceutical Education. Under review.
- **Frenzel J**, Crawford A, Fredrickson M, Duale K, Vadlapatla R. Economic Considerations Associated with Sterile Compounding Education in US Schools and Colleges of Pharmacy. American Journal of Pharmaceutical Education. Under review.

Research Keywords: alternative grading, levels of entrustment, skill laboratory, telepharmacy

Allison Hursman, PharmD, BCGP



Assistant Professor of Practice, Pharmacy Practice Department, NDSU Ambulatory Care Clinical Pharmacist, Family Healthcare

Sudro Hall 118S; (701) 231-8216

Recent Publications

- **Hursman A**, Richter LM, Frenzel J, Viets J, Monson E. An online escape room used to support the growth of teamwork in health professions students. Journal of Interprofessional Education & Practice. Published online August 13, 2022:100545. doi:10.1016/j.xjep.2022.100545
- Frenzel JE, Richter LM, **Hursman AN**, Viets JL. Assessment of preceptor understanding and use of levels of entrustment. Currents in Pharmacy Teaching and Learning. 2021;13(9):1121-1126. doi:10.1016/j.cptl.2021.06.034

Research Funding:

- Implementation and Assessment of the Efficacy of a VaxChamp in the Community Pharmacy, North Dakota Department of Health, 2022-24, \$84,201
- North Dakota Pharmacists Service Enhancement Project Pilot Implementation, North Dakota Department of Health Centers for Disease Control, 2021-22, \$20,000
- ND DoH Collaborative Tobacco Prevention and Control, 2022-23 \$191,697
- NDSU Hepatitis C POC Testing Initiative, ND Department of Health, 2022-23, \$32,950

Current Projects/Collaborations

Pharmacy Service Enhancement Project (Maack, Petry, Miller, Buettner-Schmidt, Rubinstein)

Ambulatory Care Reimbursement

VaxChamp in the Community Pharmacy (Skoy, Nagel, Steig)

Ungrading in Pharmacy Education (Monson, Frenzel, Richter, Armbrust, Viets)

Bracketology in Educational Setting (Petry, Brynjulson, Miller, Werremeyer, Monson, Viets, Richter, Frenzel) The Dakota Geriatric Workforce Enhancement Program (Interprofessional workgroup with University of North Dakota)

Research Keywords:

Medication Therapy Management; Leadership; Levels of Entrustment; Bracketology; Interprofessional Education; Virtual Escape Room;

Michael Kelsch, PharmD, BCPS



Associate Dean for Academic Affairs (SOP); Professor, Department of Pharmacy Practice

Sudro Hall 123D; (701) 231-6528; Michael.Kelsch@ndsu.edu

Recent Publications

- Rude T, **Kelsch MP**, Fingarson M, Eukel H. Hello Operator? A Pharmacy Practice Simulation to Increase Student Confidence in Telephone Communication Skills. Journal of Pharmacy Technology. 2022: In press.
- **Kelsch MP**, Brynjulson R, Hursman A, Werremeyer A, Eukel H. Impact of an Emergency Center Simulation on Pharmacy Students' Interprofessional Skills and Attitudes. Innovations in Pharmacy. 2022: In press.
- Eukel H, Morrell B, Holmes S, **Kelsch MP**. Managing Difficult Patient Encounters: Simulation Design, Findings, and Call to Action. American Journal of Pharmaceutical Education. Jan 2021, 8327.
- Scott DM, **Kelsch MP**, Zhang A, Friesner DL. Appraisal of the Entrustable Professional Activities Interprofessional Team Member Domain Performed by North Dakota Pharmacists. Pharmacy Practice 2021 Jan-Mar;19(1):2179.
- **Kelsch MP**. Skin and Soft Tissue Infection I (Book Chapter) in Infectious Diseases: A Case-Study Approach (First Edition). McGraw-Hill (and online on Access Pharmacy). April 2020.

Research Funding

• Increasing North Dakota's Adults Immunization Rates, July 1, 2017 – June 30, 2018; \$9,993; Co-investigator; North Dakota Department of Health

Current Projects/Collaborations

- Kelsch MP, Thompson S, Skoy E. Impact of a Poverty Simulation on Pharmacy Students' Sociocultural and Patient Advocacy Attitudes and Beliefs
- Friesner D, Preheim A, Wirth L, Kelsch MP. Assessing Multiple-Mini Interview Performance Across Pharmacy Admissions Pathways

Research Keywords

Interprofessional Education; Simulation; Course Timing; Health Sciences Reasoning Test; Poster Presentations; Interrater Reliability; Interviews; Current Events; Peer Teaching; Chronic MRSA Infections; Immunizations; Entrustable Professional Activities; Skin Infections; Antimicrobial Hypersensitivity Reconciliation; Fluoroguinolone Use; Population Health; Difficult Patient Encounters

Daniel Kenzie, PhD



Assistant Professor, Pharmacy Practice Department, NDSU

Sudro Hall 118J; (701) 231-5162; daniel.p.kenzie@ndsu.edu

Recent Publications

- Arnó-Macià E, McCall MA, **Kenzie DP**, Isohella S, Maylath B. Designing telecollaborative projects for professional communication and user experience. Journal of Universal Computer Science. 2021;27(5):450-471.
- Sills E, **Kenzie DP**. Critical science literacy in the writing classroom: A pedagogy for post-truth times. In Carillo E, Horning A, eds. *Teaching Critical Reading and Writing in the Era of Fake News*. Peter Lang; 2020:113-128.
- **Kenzie DP**. Review of *Disabled Upon Arrival* by Jay Dolmage, *Authoring Autism* by Melanie Yergeau, and *Fables and Futures* by George Estreich. Present Tense: A Journal of Rhetoric in Society. 2020;8(2).
- **Kenzie DP**, McCall MA. Teaching writing for the health professions: disciplinary intersections and pedagogical practice. Technical Communication Quarterly. 2018;27(1):64-79.
- Sánchez F, **Kenzie DP**. Of evolutions and mutations: assessment as tactics for action in WAC partnerships. The WAC Journal. 2016:27:119-141.

Research Funding:

Current Projects/Collaborations

- Discourse about COVID-19 vaccines on social media
- Student learning in an online writing elective
- Public literacy about epidemiology

Research Keywords:

Professional & Technical Writing, Writing in the Disciplines, Rhetoric of Health & Medicine, Disability Studies

Brody Maack, PharmD, BCACP, CTTS



Associate Professor of Practice/Ambulatory Care Clinical Pharmacist

Sudro Hall 118L; (701) 231-9781; brody.maack@ndsu.edu

Recent Publications

- Buettner-Schmidt K, Swanson K, **Maack B,** Barnacle M, Miller D, Orr M, Hatlen Gag M. E-cigarettes for tobacco cessation: Not the solution. The Nurse Practitioner. 2021;46(12):7-11. doi: 10.1097/01.NPR.0000798228.69915.64.
- Buettner-Schmidt K, Maack B, Larson M, Orr M, Miller D, Mills K. Systems Change to Improve Tobacco Use identification and Referral in the Chiropractic Setting: A Pilot Study. Chiropractic & Manual Therapies. 2018 Nov 26;26:45. doi: 10.1186/s12998-018-0214-y.
- Maack B, Willborn R. Description of Tobacco Use and Cessation among Bhutanese Refugees Participating in a Tobacco Cessation Program. Ethn Health. 2017 Jan 21: 1-13. doi: 10.1080/13557858.2017.1280134. [Epub ahead of print].

Recent Research Funding:

- North Dakota Pharmacists Service Enhancement Project (PI)
 - ND Department of Health and Human Services 1815 grant: \$80,600
 - ND Department of Health and Human Services Tobacco Policy and Control Center: \$194,197
- 2022-2023 ND Quits Cessation Grant Program: \$22,352 (PI)
 - ND Department of Health grant administered at Family HealthCare

Current Projects/Collaborations

- North Dakota Pharmacy Service Enhancement Project: In collaboration with CAP Center, Drs. Allison Hursman, Natasha Petry, Kelly Buettner-Schmidt (PI), Don Miller, Ellen Rubinstein and several NDSU student research assistants.
 - Collaborative project with pharmacy, nursing and medical anthropology (sociology)

Research Keywords:

Diabetes; Depression; Tobacco; Medication management; Implementation; Reimbursement; Innovation

Donald R. Miller, PharmD, FASHP



Professor (tenured), Department of Pharmacy Practice

Sudro Hall 118R; (701) 231-7941; Donald.R.Miller@ndsu.edu

Recent Publications

- Buettner-Schmidt K, Steward K, Goniewicz ML, Miller DR, Orr M., Schaeffer-Fraase K. Chemical Analysis of E-liquid Ingredients. A
 report to the ND Department of Public Health, July 2022.
- Miller DR and Sampson L. A primer on copay accumulator programs. The Rheumatologist. August 2022, p 15-16 <u>A Primer on</u>
 Copay Accumulator Programs The Rheumatologist (the-rheumatologist.org)
- Halvorson D., Eukel HN, Gilbraith M, Schaper T, **Miller DR**. Design and Implementation of Tech-Check-Tech Programs in North Dakota Pharmacies. J Pharm Practice (accepted for publication 3/2/22)
- Buettner-Schmidt K, Swanson K, Maack B, Barnacle M, **Miller D**, Orr M, Gag M. E-Cigarettes for Tobacco Cessation: Not the Solution. Nurse Practitioner 2021;46(12):7-11. doi: 10.1097/01.NPR.0000798228.69915.64
- Buettner-Schmidt K, **Miller D**, Orr M, Rykal K, Swanson K, Berry M. Compliance with North Dakota's smoke-free law among vape and tobacco specialty shops. <u>Public Health Nursing 2021;00</u>, 1–6. https://doi.org/10.1111/phn.12916

Research Funding:

\$174,948, North Dakota Department of Public Health. NDDoH G21.781. Co-investigators: Buettner-Schmidt, K. (PI), Schaeffer Fraase, K.L., Groom, A), Orr, M. Collaborative Tobacco Prevention and Control Activities Study 2022-2023.

\$168,843, North Dakota Department of Public Health. NDDoH G21.254. Co-investigators: Buettner-Schmidt, K. (PI), Orr, M. (Co-PI), Schaeffer Fraase, K.L.I). Collaborative Tobacco Prevention and Control Activities Study 2021-2022.

Current Projects/Collaborations

Vaping and Tobacco Systems Change for Effective Cessation. With Kelly Buettner-Schmidt (Nursing), Brody Maack (Pharmacy Practice).

Tech-check-tech Implementation in North Dakota Pharmacies. With Heidi Eukel (Pharmacy Practice), Diane Halvorson and Melissa Gilbraith (NDPhA).

Research Keywords:

Tobacco use cessation; Public health; Pharmacy, Rheumatology

Elizabeth Olafson Monson, PharmD



Assistant Professor of Practice, Department of Pharmacy Practice Inpatient Clinical Pharmacist, Essentia Health

Sudro Hall 118B; Elizabeth.monson@ndsu.edu

Recent Publications

- Degrote J, **Olafson E**, Drofa A, Kouznetsov E, Manchak M, Leedahl N, Leedahl D. Ticagrelor and acetylsalicylic acid after placement of pipeline embolization device for cerebral aneurysm: a case series. *Can J Hosp Pharm*. 2018; 71(6):349-355.
- Olafson E, DeGrote J, Drofa A, Kouznetsov E, Manchak M, Leedahl N, Leedahl D. A case series of 18 patients receiving ticagrelor after carotid stenting. *J of Pharm Pract.* 2018;(5):519-521.

Research Funding:

Current Projects/Collaborations

Design and Assessment of a Pharmacy Student Led Preceptor Development Program (Richter, Bye, Frenzel)

Impact of an Online Interprofessional Escape Room (Hursman, Viets, Frenzel, Richter)

Bracketology in Educational Setting (Hursman, Petry, Brynjulson, Miller, Werremeyer, Viets, Richter, Frenzel)

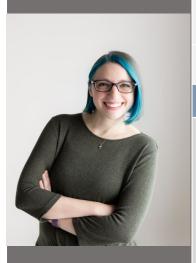
Enzmann, M, Richman W, Gumpleton, R, **Olafson E.** Comparison of bleed risk in regimens containing ticagrelor and anticoagulation versus regimens containing clopidogrel and anticoagulation.

Richman W, Olafson E. Safety and efficacy of abciximab versus eptifibatide in neurointerventional procedures

Research Keywords:

Antiplatelet agent; Ticagrelor; Dual antiplatelet therapy; Neurointervention.

Julia D. Muzzy Williamson, PharmD, BCPPS, BCNSP, C-ELBW



Associate Professor of Pharmacy Practice Pediatric Clinical Pharmacist-Sanford Health Fargo

Sudro Hall 118U; (701) 231-7501; julia.muzzy@ndsu.edu

Recent Publications

- Byerley E, Dykhuizen SN, Haak JR, Grindeland CJ, and Muzzy Williamson JD. Medication Management In LaCtation-A Pharmacist Education Pilot Program (MILK-PHED): Part One Survey. Journal of the American Pharmacist Association. J Am Pharm Assoc. 2022. doi.org/10.1016/j.japh.2022.03.003
- Byerley EM, Perryman DC, Dykhuizen SN, Haak J, Grindeland CJ, and Muzzy Williamson JD. Breastfeeding and the Pharmacist's Role in Maternal Medication Management: Identifying Barriers and Addressing the Need for Continuing Education. J Pediatr Pharmacol Ther 2022;27(2):102-108
- Kamleh M, Muzzy Williamson JD, Casas KA, and Mohamed MW. Reduction in newborn screening false positives in extremely low birth weight neonates: a quality improvement project. J Pediatr Pharmacol Ther 2021;26(7):762-766
- Muzzy Williamson JD, DiPietro Mager N, Bright D, and Cole JW. Opioid use disorder: Calling pharmacists to action for better preconception and pregnancy care. Res Social Adm Pharm. 2021. doi: https://doi.org/10.1016/j.sapharm.2021.08.004.
- Vettleson KL, Larson HJ, Mohamed MW, Grindeland CJ, and **Muzzy Williamson JD**. Micronutrient monitoring and management in PN-dependent premature neonates: A case series. *J Pediatr Pharmacol Ther* 2021;26(2):26(2):200-204.

Research Funding:

\$3,000 NDSU internal department grant. Medication Management in Lactation-A Pharmacist Education Pilot Project. (MILK-PHED)

Current Projects/Collaborations

- Medication Management in Lactation-A Pharmacist Education Pilot Project. (MILK-PHED). Collaboration with colleagues from Sanford Medical Center
- Caffeine Use in Preterm Neonates: National Survey. Collaboration with colleagues from Sanford Medical Center
- · Vitamin D concentrations in neonates. Collaboration with colleagues from Sanford Medical Center
- Intraventricular Hemorrhage, feeding intolerance, and indomethacin prophylaxis use in the extremely premature neonate. Collaboration with colleagues from Sanford Medical Center

Research Keywords

neonatology; pediatric nutrition; parenteral nutrition; lactation; medication safety

Natasha Petry, PharmD, MPH, BCACP



Associate Professor of Practice, Pharmacy Practice Department, NDSU Pharmacogenetics Clinical Pharmacist and Clinical Pharmacogenomics PGY2 Residency Program Director, Sanford Health Imagenetics

Sudro Hall 20D; (701) 231-6554; Natasha.Petry@ndsu.edu

Recent Publications

- Sperber NR, Cragun D, Roberts MC, Bendz L, Ince P, Gonzales S, Haga S, Wu R, Petry N, Ramsey L, Uber R. A Mixed-Methods Protocol to Identify Best Practices for Implementing Pharmacogenetic Testing in Clinical Settings. J. Pers. Med. 2022, 12, 1313. https://doi.org/10.3390/jpm12081313
- Petry NJ, Baye JF, Frear S, Jacobsen K, Massmann A, Schultz A, Heukelom JV, Christensen K. Progression of precision statin prescribing for reduction of statin-associated muscle symptoms. Pharmacogenomics. 2022 Jul;23(10):585-596. doi: 10.2217/pgs-2022-0055. Epub 2022 Jul 1. PMID: 35775396.
- Saugstad AA, Petry N, Hajek C. Pharmacogenetic Review: Germline Genetic Variants Possessing Increased Cancer Risk With Clinically Actionable Therapeutic Relationships. Front Genet. 2022 May 24;13:857120. doi: 10.3389/fgene.2022.857120. PMID: 35685436; PMCID: PMC9170921.
- Salloum RG, Bishop JR, Elchynski AL, Smith DM, Rowe E, Blake KV, Limdi NA, Aquilante CL, Bates J, Beitelshees AL, Cipriani A, Duong BQ, Empey PE, Formea CM, Hicks JK, Mroz P, Oslin D, Pasternak AL, Petry N, Ramsey LB, Schlichte A, Swain SM, Ward KM, Wiisanen K, Skaar TC, Van Driest SL, Cavallari LH, Tuteja S. Best-worst scaling methodology to evaluate constructs of the Consolidated Framework for Implementation Research: application to the implementation of pharmacogenetic testing for antidepressant therapy. Implement Sci Commun. 2022 May 14;3(1):52. doi: 10.1186/s43058-022-00300-7. PMID: 35568931.
- Hajek C, Hutchinson AM, Galbraith LN, Green RC, Murray MF, Petry N, Preys CL, Zawatsky CLB, Zoltick ES, Christensen KD; Imagenetics METRICS
 Team. Improved provider preparedness through an 8-part genetics and genomic education program. Genet Med. 2021 Nov 17:S10983600(21)01122-9. doi: 10.1016/j.gim.2021.08.008. Epub ahead of print. PMID: 34906462.
- Petry NJ, Van Heukelom J, Baye JF, Massmann A. The effect of medication reconciliation on generating an accurate medication list in a pharmacogenomics practice. Pharmacogenom Res Per Med 2021. doi: 10.21037/prpm-21-7
- Petry N, Curtis B, Feldhege E, Khan MS, Leedahl DD, Breidenbach J and Hines L. Impact of Automated Best Practice Advisories on Provider Response to CYP2C19 Genotyping Results for Patients on Clopidogrel. Journal of Pharmacy Practice. 2021. https://doi.org/10.1177/08971900211049589
- Tuteja S, Salloum RG, Elchynski AL, Smith DM, Rowe E, Blake KV, Limbdi NA, Aquilante CL, Bates J, Beitelshees AL, Cipriani A, Duong BQ, Empey PE, Formea CM, Hicks JK, Mroz P, Oslin D, Pasternak AL, Petry N, Ramsey LB, Schlichte A, Swain SM, Ward KM, Wiisanen K, Skaar TC, Van Driest SL, Cavallari LH, Bishop JR, for the IGNITE Pharmacogenetics Working. Multisite evaluation of institutional processes and implementation determinants for pharmacogenetic testing to guide antidepressant therapy. Clin Transl Sci. 2021; 00: 1–13. https://doi.org/10.1111/cts.13154
- Bright DR, Petry N, Roath E, Gibb T. Engaging Pharmacogenomics in Opioid Selection and Optimization. Pharmacogenomics. 2021 Sep 15. doi: 10.2217/pgs-2021-0044. PMID: 34521258.

Research Funding:

- Co-investigator: Expansion of Medication Therapy Management Services. North Dakota Department of Health. 2021-2023.
- Co-investigator: RFA-HG-17-008 NIH/NHGRI Administrative Supplement (07/01/19 06/30/23)

Current Projects / Collaborations

Precision Medicine – ADOPT-PGx; Integrated Individualized Intelligent Prescribing and IGNITE-2: Collaborators at Vanderbilt University Medical Center

Research Keywords:

Lisa Richter, PharmD, BCPS, BCCCP, FASHP



Director of Experiential Outreach and Assessment

Co-Director of Recruitment

Associate Professor of Practice, Department of Pharmacy Practice

Sudro Hall 20A; (701) 231-5178; lisa.richter.1@ndsu.edu

Recent Publications

- Skoy E, Petry N, **Richter L**, Knauf T, Monahan B, Rue J. Implementation and Evaluation of a Student Scholarship Program to Increase Care Initiatives in Rural Pharmacies. Accepted for publication to *Currents in Pharmacy Teaching and Learning*.
- Hursman A, **Richter LM**, Frenzel J, Viets Nice J, Monson E. An online escape room used to support the growth of teamwork in health professions students. *J Interprof Educ Pract*. 2022;29:100545. doi:10.1016/j.xjep.2022.100545.
- Lothspeich EK, Richter LM, Frenzel JE. Ungrading: Why Rating Students Undermines Learning (and What to Do Instead), First Edition, Susan D. Blum (Ed.), West Virginia University Press, Morgantown, WV (2020), p. 269, US \$26.99 (paperback), ISBN: 978-1949199826. Currents in Pharmacy Teaching and Learning. Published online 2022. doi: https://doi.org/10.1016/j.cptl.2022.04.008.
- **Richter LM,** Monson E, Bye K, Frenzel JE. Design and Assessment of Pharmacy Student Delivered Preceptor Development [published online ahead of print, 2022 Jan 25]. *Am J Pharm Educ*. 2022;8939. doi:10.5688/ajpe8939.
- **Richter LM**, Scott DM, Bektas A, Friesner DL, Peterson CD. Impact of COVID-19 Pandemic on Pharmacy Teaching at a Midwestern University. *Journal of Higher Education Theory and Practice*. 2021;21(8). doi:10.33423/jhetp.v21i8.4501
- Frenzel JE, **Richter LM**, Hursman AN, Viets JL. Assessment of preceptor understanding and use of levels of entrustment. *Currents in Pharmacy Teaching and Learning*. Published online June 18, 2021. doi:10.1016/j.cptl.2021.06.034
- Steenhoek RJ, **Richter LM**. An Office of Experiential Education Rotation for APPE Students. *Am J Pharm Educ*. Published online April 23, 2021:8429. doi:10.5688/ajpe8429
- Richter LM, Frenzel JE. Design and Assessment of a Preceptor Development Escape Room. Am J Pharm Edu. 2020. 84(7): 8073.
- McGurran MA, **Richter LM**, Leedahl ND, Leedahl DD. Impact of a comprehensive COPD therapeutic interchange program on 30-day readmission rates in hospitalized patients. *PT*. 2019 Apr;44(4):185-191.

Research Funding:

Richter L (PI), Frenzel J, Monson E, Bye K. Design & Assessment of a Pharmacy Student Led Preceptor Training Program. NDSU RCA Internal Funding -Research Support

Services Award (Award Reference RSS22-06). \$180.00 9/2021-6/15/2022

Current Projects/Collaborations

Promotion and Tenure through the eyes of Experiential Education Faculty: A lesson for inclusivity (Newman, Arnoldi, Danielson, Meny)

A longitudinal exploration of perceptions of pharmacy practice preparedness among graduating pharmacy students and preceptors (Weldon, Majerczyk, Dey, Hardinger, Noureldin)

ASHP Statement on Precepting at a Professional Obligation (Wisniewski, Carroll, Williams, Kido, Eudaley)

Research Keywords:

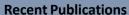
Preceptor Development, Experiential Education, APPE

Elizabeth Skoy, PharmD, RPh

Associate Professor

Center for Collaboration and Advancement in Pharmacy (CAP Center), Director Community Pharmacist, Thrifty White Pharmacy

Sudro Hall 118E, (701) 231-5669, elizabeth.skoy@ndsu.edu



- **Skoy E,** Petry N, Richter L, Knauf T, Monahan B, Rue J. Implementation and Evaluation of a Student Scholarship Program to Increase Care Initiatives in Rural Pharmacies. Currents in Pharmacy Teaching and Learning. Available online September 2022.
- **Skoy E**, Frenzel O, Lothspeich E, Eukel H, Steig J, Strand M, Werremeyer A. A Longitudinal Evaluation of Patient Risks and Targeted Interventions from an Opioid Misuse and Accidental Overdose Patient Screening within Community Pharmacies. Preventing Chronic Disease. 2022 July; 19(8).
- **Skoy E,** Dybsand L, Hall K, Carson P. Assessment of a Virtual Educational Program on Health Professional Students' Vaccine Knowledge, Attitudes, and Confidence Managing Patient Hesitancy. Education in the Health Professions. 2022; 5(1).

Research Funding:

- Eukel H, Strand M, **Skoy E**, Steig J, Werremeyer A. Opioid and Naloxone Education: A State-wide Approach to Prevention, Education, and Interventions. North Dakota Department of Health and Human Services. October 2022 September 2023. \$632,000
- **Skoy, E.** Implementation Antimicrobial Stewardship Pharmacist for the state of North Dakota. The North Dakota Department of Health. August 2022-July 2024. \$406,838.
- **Skoy E,** Petry N. Improving the Health of Americans through Prevention and Management of Diabetes and Heart Disease and Stroke. The North Dakota Pharmacy Service Corporation. October 2020-June 2023. \$82,700.
- Carson P, Skoy E. COVID-19 Vaccine Education and Assistance. March 2021-June 2024. \$5,308,313.

Current Projects/Collaborations

- Reducing opioid misuse and accidental overdose through preventative screening (Opioid and Naloxone Education) (Eukel, Steig, Strand, Werremeyer)
- Improving the Health of Americans through Prevention and Management of Diabetes and Heart Disease and Stroke. (Natasha Petry, NDHHS, North Dakota Pharmacist Association)
- Increasing antimicrobial stewardship in North Dakota (NDHHS)
- Vaccine education, hesitancy and assistance. (Carson, Hall, Steig, Hursman)

Research Keywords: Pharmacy advancement, immunization, opioid misuse/accidental overdose prevention



Jayme Steig, PharmD



Assistant Professor of Practice, Department of Pharmacy Practice Community Pharmacist, Southpointe Pharmacy

Sudro Hall 118N; jayme.steig@ndsu.edu

Recent Publications

- Strand MA, Eukel HN, Frenzel O, Skoy E, **Steig** J, and Werremeyer A. Opioid Risk Stratification in the Community Pharmacy: The Utility of the Opioid Risk Tool. *Research in Social and Administrative Pharmacy*. Accepted for publication July 2022.
- Amy Werremeyer, Mark A. Strand, Heidi Eukel, Elizabeth Skoy, Jayme Steig & Oliver Frenzel (2022) Longitudinal evaluation of pharmacists' social distance preference and attitudes toward patients with opioid misuse following an educational training program, Substance Abuse, 43:1, 1051-1056, DOI: 10.1080/08897077.2022.2060449
- Skoy E, Frenzel O, Eukel H, Lothspeich E, Steig J, Strand M, Werremeyer A. Evaluation of a Program to Screen Patients in Community Pharmacies for Opioid Misuse and Accidental Overdose. Prev Chronic Dis. 2022 Jul 14;19:E41. doi: 10.5888/pcd19.220028
- Frenzel O, Eukel H, Lothspeich E, Skoy E, **Steig** J, Strand M, Werremeyer A. Opioid risk screening: Program evaluation from the community pharmacists' perspective. J Am Pharm Assoc (2003). 2022 May-Jun;62(3):859-863.e1. doi: 10.1016/j.japh.2021.12.003
- Werremeyer A, Frenzel O, Strand MA, Eukel H, Skoy E, **Steig** J. Improving Community Pharmacist-Delivered Care for Patients With Psychiatric Disorders Filling an Opioid Prescription. Psychiatr Serv. 2022 May 3:appips202100592. doi: 10.1176/appi.ps.202100592.

Research Funding:

- Eukel H, Strand M, Skoy E, **Steig** J, Werremeyer A. Community and Clinical Collaboration for Opioid Misuse and Overdose Prevention, North Dakota Department of Human Services, \$632,000, 2022-23.
- Steig J, Nagel L, Eukel H, Skoy E, Werremeyer A. Opioid Drug Safety REMS Development. MB Healthcare. January 2022-December 2022. \$80,170
- Steig J, Brynjulson R, Jurivich D. Pilot Project Screening for the Geriatric 4Ms in a Community Pharmacy. Dakota Geriatrics Workforce Enhancement Project. January 2022-June 2022. \$30,300.

Current Projects/Collaborations

Opioid and Naloxone Education (Strand, Eukel, Skoy, Werremeyer, O. Frenzel)
Center for Collaboration and Advancement in Pharmacy (Skoy, Strand, Werremeyer, Eukel, Maack)

Research Keywords:

Community pharmacy, medication therapy management, opioid safety, quality improvement

Mark A. Strand, PhD, CPH



Professor (tenured), Department of Pharmacy Practice Senior Scientist, Center for Collaboration and Advancement in Pharmacy Sudro Hall 118K; 701-231-7497; mark.strand@ndsu.edu

Recent Publications

- **Strand MA**, Eukel HN, Frenzel O, Skoy E, Steig J, and Werremeyer A. Opioid Risk Stratification in the Community Pharmacy: The Utility of the Opioid Risk Tool. *Research in Social and Administrative Pharmacy*. Accepted for publication July 2022.
- **Strand MA**, Omobosinuola S, Hohman A, Jansen R, Sidhu S. and McDonough S. Evaluating the Association of Face Covering Mandates on COVID-19 Severity by State. *Journal of Primary Care and Community Health*, 2022;13:1-8. Open Access.
- Strand MA, DiPietro Mager N, Hall L, Martin S, Sarpong D. Public Health and Pharmacy Collection: Pharmacy Contributions to Improved Population Health: Expanding the Public Health Roundtable. Submitted to Preventing Chronic Disease journal Guest Editorial, 2020;17:200350.

Research Funding

• Community and Clinical Collaboration for Opioid Misuse and Overdose Prevention, North Dakota Department of Human Services, \$632,000, 2022-23.

Current Projects / Collaborations

- Community and Clinical Collaboration for Opioid Misuse and Overdose Prevention, North Dakota Department of Human Services
- COVID-19 Impact Analysis: Global and Regional

Research Keywords:

Epidemiology; Chronic disease; Diabetes; Public health; Global health; Opioid misuse prevention

Teri Undem, BPharm



Director, Advanced Pharmacy Practice Experiences Senior Lecturer, Pharmacy Practice

Sudro Hall 20C; (701) 231-6578; teri.undem@ndsu.edu

Recent Publications

Brotherson, S. E., Strommen, J., Estepp, P., Grace, R., Pedersen, M. H., O'Connor, M., Saxena, D., & **Undem, T.** (2022, September). *The Stepping On Fall Prevention Program in ND: Project Overview and Summary Report (2012-2020).* Fargo, ND: Extension Technical Report FS-2022, NDSU Extension.

Scott D, Strand MA, **Undem T**, Anderson, G, Clarens, A, and Liu XY. Assessment of Pharmacists' Delivery of Public Health Services in Rural and Urban Areas in Iowa and North Dakota. *Pharmacy Practice*. 2016;14(4):836-846. Strand MA, Scott, D, **Undem T**, Anderson G, Clarens A, Liu X. Pharmacist Contributions to the Ten Essential Services of Public Health in Three National Association of Boards of Pharmacy Regions. *Journal of the American Pharmacists Association*. 2017; 57:395-401.

Scott D, Friesner DL, **Undem T**, Anderson G, Sem K, Peterson C. Perceived sustainability of Community Telepharmacy in North Dakota. *Journal of the American Pharmacists Association*. 2017; 57:362-368.

Strand M, Scott D, **Undem T**, Anderson G, Clarens A, Liu X. Comparing Contributions to the Ten Essential Services of Public Health in Three NABP Pharmacy Regions. *Journal of the American Pharmacists Association*. 2017; 57 (3) Strand M, **Undem T**, PharmD Candidates, Scott D. A Comparison of Pharmacist Delivery of Public Health Services in Manitoba, North Dakota and Iowa. https://www.researchgate.net/publication/322317701

Research Funding:

2014-2015 District V Competitive Grant \$3000 "Assessing Pharmacists Contribution to Public Health". (Research Team member)

Current Projects/Collaborations

Lifestyle Medicine
Successful Aging-Resilience and
Lifestyle Medicine
UND Rural Health IPE Initiative
Employability
Assessing professionalism behaviors in third year PharmD students

Joni Viets, PharmD, BCPS



Assistant Professor of Practice & Clinical Pharmacist – Fargo VA Health Care System

Sudro Hall 118M; (701) 231-6685; joan.viets@ndsu.edu

Recent Publications

• Frenzel J, Richter L, Hursman A, **Viets J**. Assessment of preceptor understanding and use of levels of entrustment. Currents in Pharmacy Teaching and Learning. Volume 13, Issue 9.

Research Funding:

• N/A

Current Projects/Collaborations

Impact of an Online Interprofessional Escape Room (Hursman, Richter, Frenzel, Monson)

Ceftaroline Versus Vancomycin Plus Piperacillin/Tazobactam or Cefepime or Ceftazidime and Effect On Length of Stay (Kokett, Schiele, Newman, Smith, Lo)

Design, delivery and assessment of a pharmacist and student pharmacist leadership workshop on self-perceived leadership ability (Richter, Hursman, Frenzel)

Assessment of the Interprofessional Healthcare Practice (CHP 400) Course (Scott, Freisner, Hursman, Naughton)

Evaluation of the Impact of Combination Basal Insulin and Liraglutide on Hgb A1C Reduction Compared to Basal Insulin Alone (Gourde, Newman, Schiele)

Amy Werremeyer, PharmD, BCPP

Professor and Chair; Psychiatric Pharmacist-Southeast Human Service Center Fargo

Sudro Hall 118H; (701) 231-7603; amy.werremeyer@ndsu.edu

Recent Publications

- Dopheide JA, **Werremeyer A**, Haight RJ, Gutierrez CA, Williams AM. Positioning psychiatric pharmacists to improve mental health care. Mental Health Clinician. 2022; 12 (2):77–85. DOI: https://doi.org/10.9740/mhc.2022.04.077
- Lothspeich E, Werremeyer A, Chase S, Huseth-Zosel A. Patient Experience and Satisfaction with Opioid-related Screening and Intervention in Community Pharmacies. Journal of Pharmacy Practice. 2022. https://doi.org/10.1177/08971900221109528
- Werremeyer A, Frenzel O, Strand M, Eukel H, Skoy E, Steig J. Improving Community-pharmacist Delivered Care for Patients with Psychiatric Disorders Filling an Opioid Prescription. Psychiatric Services. Online in advance: 3 May, 2022. doi: 10.1176/appi.ps.202100592
- **Werremeyer A**, Strand M, Eukel H, Skoy E, Steig J, Frenzel O. Longitudinal evaluation of pharmacists' social distance preference and attitudes towards patients with opioid misuse following an educational training program. Substance Abuse. 2022; 23(1):1051-6.
- Werremeyer A, Mosher S, Eukel H, Skoy E, Steig J, Frenzel O, Strand MA. Pharmacists' Stigma Toward Patients Engaged in Opioid Misuse: When 'Social Distance' Does Not Mean Disease Prevention. *Substance Abuse*. Published online March 22, 2021. https://doi.org/10.1080/08897077.2021.1900988
- Goldstone LW, DiPaula BA, **Werremeyer A**, Botts S, Heburn B, Liu HY, Duckworth K, Young AS, Kelly DL. The Role of Board Certified Psychiatric Pharmacists in Expanding Access to Care and Improving Patient Outcomes. Psychiatric Services. 2021;00:1-8. doi: 10.1176/appi.ps.202000066
- Werremeyer A, Bostwick J, Cobb C, Moore TD, Park SH, Price C, McKee J. Impact of Pharmacists on Outcomes for Patients with Psychiatric or Neurologic Disorders. Mental Health Clinician. 2020;20(6):358-380.
- Eukel H, Steig J, Frenzel O, Skoy E, **Werremeyer A**, Strand M. Opioid Misuse and Overdose: Changes in Pharmacist Practices and Outcomes. Journal of Continuing Education in Health Professions. 2020;40(4):242-247. doi:10.1097/CEH.00000000000317
- Strand M, Eukel H, Frenzel O, Skoy E, Steig J, **Werremeyer A**. Program Evaluation of the Opioid and Naloxone Education (ONE Rx) Program Using the RE-AIM Model. Research in Social and Administrative Pharmacy. 2020;16:1248-1254. https://doi.org/10.1016/j.sapharm.2019.11.016.

Research Funding:

• Strand M, Eukel H, Werremeyer A, Skoy E, Steig J. Primary prevention of opioid misuse and accidental overdose across North Dakota. North Dakota Department of Human Services. 2018-present

Current Projects/Collaborations

- Pharmacists role in safe opioid use and overdose prevention
- Efforts to reduce stigma related to mental illness and substance-use disorder

Value of the psychiatric pharmacist in patient-centered outcomes

Research Keywords:

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