

**University of Cincinnati and
Affiliated Institution Activities
Addressing the Opioid Epidemic**

**University of Cincinnati
Academic Health Center/UC Health
Opioid Task Force**

May 19, 2018

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1.0 Introduction

The University of Cincinnati and UC Health are addressing Ohio's opioid epidemic with a cross-campus, multi-pronged approach emphasizing education, treatment, research and community engagement. UC/UC Health integrates opioid addiction education into coursework in the College of Medicine, College of Nursing, College of Allied Health Sciences and in the James L Winkle College of Pharmacy to ensure that all health professional students are equipped to address all aspects of opioid addiction. UC Health provides wide-ranging clinical services to more than 700 patients suffering from opioid use disorder (OUD), tailored to the specific needs of diverse patient populations. UC/UC Health also are pioneering new treatment methods through cutting-edge research funded by a variety of federal agencies, including the National Institutes of Health (NIH) and the Department of Veterans Affairs (VA), and focused on patient-centered intervention methods, post-treatment behavioral change, postpartum treatment retention, teleconference education, overdose education and naloxone distribution.

Central to the success of UC and UC Health's efforts to combat Ohio's opioid epidemic is the Opioid Task Force. Co-chaired by Melissa DeBello, MD, Dr. Stanley and Mickey Kaplan Professor and Chair of Psychiatry and Behavioral Neuroscience at the College of Medicine, and Neil MacKinnon, PhD, Dean and Professor of the Winkle College of Pharmacy, this group serves as the coordinating body for the opioid-related activities performed across the university and UC Health. The Opioid Task Force fosters enhanced collaboration through interprofessional research, education and practice, as well as community outreach. In carrying out these complementary activities, UC and UC Health exemplifies the critical role academic health centers play in effectively addressing a widespread public health emergency.

2.0 Recent Opioid-Related Publications by University of Cincinnati Faculty (2015 – 2018)

2018

Winstanley, EL, Zhangb Y, Mashnic R, Schneed S, Penme J, Boonef J, McNameeg C, MacKinnon NJ. Mandatory Review of a Prescription Drug Monitoring Program and Impact on Opioid and Benzodiazepine Dispensing. *Drug and Alcohol Dependence*. 188 (2018) 169–174.

Cao M, Javaheri S. Effects of Chronic Opioid Use on Sleep and Wake. *Sleep Med Clin*. 2018 Jun;13(2):271-281.

Takieddine SC, Droege CA, Ernst N, Droege ME, Webb M, Branson RD, Gerlach TW, Robinson BRH, Johannigman JA, Mueller EW. Ketamine Versus Hydromorphone Patient-controlled Analgesia for Acute Pain in Trauma Patients. *J Surg Res*. 2018 May;225:6-14.

Penm J, MacKinnon NJ, Lyons MS, Tolle E, Sneed GT. Combatting Opioid Overdoses in Ohio: Emergency Department Physicians' Prescribing Patterns and Perceptions of Naloxone. *J Gen Intern Med*. 2018 May;33(5):608-609.

Ryan SA, Dunne RB. Pharmacokinetic Properties of Intranasal and Injectable Formulations of Naloxone for Community Use: A Systematic Review. *Pain Manag*. 2018 Apr 23.

Walsh MC, Crowley M, Wexelblatt S, Ford S, Kuhnell P, Kaplan HC, McClead R, Macaluso M, Lannon C; Ohio Perinatal Quality Collaborative. Ohio Perinatal Quality Collaborative Improves Care of Neonatal Narcotic Abstinence Syndrome. *Pediatrics*. 2018 Apr;141(4). pii: e20170900.

Aharonovich E, Campbell ANC, Shulman M, Hu MC, Kyle T, Winhusen T, Nunes EV. Neurocognitive Profiling of Adult Treatment Seekers Enrolled in a Clinical Trial of a Web-delivered Intervention for Substance Use Disorders. *J Addict Med*. 2018 Mar/Apr;12(2):99-106.

Chidambaran V, Subramanyam R, Ding L, Sadhasivam S, Geisler K, Stubbeman B, Sturm P, Jain V, Eckman MH. Cost-effectiveness of Intravenous Acetaminophen and Ketorolac in Adolescents Undergoing Idiopathic Scoliosis Surgery. *Paediatr Anaesth*. 2018 Mar;28(3):237-248.

Hall ES, Rice WR, Folger AT, Wexelblatt SL. Comparison of Neonatal Abstinence Syndrome Treatment with Sublingual Buprenorphine versus Conventional Opioids. *Am J Perinatol*. 2018 Mar;35(4):405-412.

Hall ES, Wexelblatt SL, Greenberg JM. Surveillance of Intrauterine Opioid Exposures Using Electronic Health Records. *Popul Health Manag*. 2018 Feb 27.

Kim Y, Cortez AR, Wima K, Dhar VK, Athota KP, Schragger JJ, Pritts TA, Edwards MJ, Shah SA. Impact of Preoperative Opioid Use After Emergency General Surgery. *J Gastrointest Surg*. 2018 Jan 16.

2017

Grandhi RK, Lee S, Abd-Elsayed A. The Relationship Between Regional Anesthesia and Cancer: A Metaanalysis. *Ochsner J*. 2017 Winter;17(4):345-361.

Olbrecht VA, Ding L, Spruance K, Hossain M, Sadhasivam S, Chidambaran V. Intravenous Acetaminophen Reduces Length of Stay Via Mediation of Postoperative Opioid Consumption following Posterior Spinal Fusion in a Pediatric Cohort. *Clin J Pain*. 2017 Dec 1.

Penm J, MacKinnon NJ, Boone J, Winstanley EL, Ciaccia A, McNamee C. Case Study on Opioid Addiction in Ohio and the Role of Pharmacists. *Journal of the American Pharmacists Association*. In press.

Hardcastle VG and Hardcastle C. Addiction, Chronic Illness, and Responsibility. (*in press, 2017*) *Ideas y Valores*.

Hardcastle VG. When Grief Is a Disorder: Pain, Addiction, and the Brain. *American Association for Philosophy and Psychiatry Bulletin*, Vol. 24, No. 1, pp. 20-2.

Wilder CM, Hosta D, Winhusen T. Association of methadone dose with substance use and treatment retention in pregnant and postpartum women with opioid use disorder. *Journal of Substance Abuse Treatment*. Sep 2017;80:33-36.

Kowalski-McGraw M, Green-McKenzie J, Pandalai SP, Schulte PA. Characterizing the Interrelationships of Prescription Opioid and Benzodiazepine Drugs With Worker Health and Workplace Hazards. *Journal of Occupational and Environmental Medicine*. Sep 19 2017.

Adelsperger S, Prows CA, Myers MF, et al. Parental Perception of Self-Empowerment in Pediatric Pharmacogenetic Testing: The Reactions of Parents to the Communication of Actual and Hypothetical CYP2D6 Test Results. *Health Communication*. Sep 2017;32(9):1104-1111.

Abu-El-Haija M, Kumar S, Quiros JA, et al. The Management of Acute Pancreatitis in the Pediatric Population: A Clinical Report from the NASPGHAN Pancreas Committee. *Journal of Pediatric Gastroenterology and Nutrition*. Aug 23 2017.

Myers MF, Zhang X, McLaughlin B, et al. Prior opioid exposure influences parents' sharing of their children's CYP2D6 research results. *Pharmacogenomics*. Aug 2017;18(13):1199-1213.

Bazov I, Sarkisyan D, Kononenko O, et al. Neuronal Expression of Opioid Gene is Controlled by Dual Epigenetic and Transcriptional Mechanism in Human Brain. *Cerebral Cortex (New York, N.Y. : 1991)*. Jul 28 2017:1-14.

Isemann BT, Stoeckle EC, Taleghani AA, Mueller EW. Early Prediction Tool to Identify the Need for Pharmacotherapy in Infants at Risk of Neonatal Abstinence Syndrome. *Pharmacotherapy*. Jul 2017;37(7):840-848.

Chidambaran V, Sadhasivam S, Mahmoud M. Codeine and opioid metabolism: implications and alternatives for pediatric pain management. *Current Opinion in Anaesthesiology*. Jun 2017;30(3):349-356.

Cuppoletti J, Tewari KP, Chakrabarti J, Malinowska DH. Identification of the fatty acid activation site on human CIC-2. *American Journal of Physiology. Cell physiology*. Jun 01 2017;312(6):C707-C723.

Javaheri S, Patel S. Opioids Cause Central and Complex Sleep Apnea in Humans and Reversal With Discontinuation: A Plea for Detoxification. *Journal of clinical sleep medicine : JCSM : Official Publication of the American Academy of Sleep Medicine*. Jun 15 2017;13(6):829-833.

Brown JL, Gause NK, Lewis D, Winhusen T. Examination of the Hepatitis C Virus care continuum among individuals with an opioid use disorder in substance use treatment. *Journal of Substance Abuse Treatment*. May 2017;76:77-80.

Balyan R, Zhang X, Chidambaran V, et al. OCT1 genetic variants are associated with postoperative morphine-related adverse effects in children. *Pharmacogenomics*. May 2017;18(7):621-629.

Balyan R, Mecoli M, Venkatasubramanian R, et al. CYP2D6 pharmacogenetic and oxycodone pharmacokinetic association study in pediatric surgical patients. *Pharmacogenomics*. Mar 2017;18(4):337-348.

Chidambaran V, Venkatasubramanian R, Zhang X, et al. ABCC3 genetic variants are associated with postoperative morphine-induced respiratory depression and morphine pharmacokinetics in children. *The Pharmacogenomics Journal*. Mar 2017;17(2):162-169.

Emoto C, Fukuda T, Johnson TN, Neuhoff S, Sadhasivam S, Vinks AA. Characterization of Contributing Factors to Variability in Morphine Clearance Through PBPK Modeling Implemented With OCT1 Transporter. *CPT: Pharmacometrics & Systems Pharmacology*. Feb 2017;6(2):110-119.

Thanos PK, Zhuo J, Robison L, Kim R, Ananth M, Choai I, Grunseich A, Grissom NM, George R, Delis F, Reyes TM. Suboptimal maternal diets alter mu opioid receptor and dopamine type 1 receptor binding but exert no effect on dopamine transporters in the offspring brain. *Int J Dev Neurosci*. 2018 Feb;64:21-28.

Chidambaran V, Pilipenko V, Spruance K, et al. Fatty acid amide hydrolase-morphine interaction influences ventilatory response to hypercapnia and postoperative opioid outcomes in children. *Pharmacogenomics*. Jan 2017;18(2):143-156.

Grandhi RK, Lee S, Abd-Elsayed A. Does Opioid Use Cause Angiogenesis and Metastasis? *Pain Medicine (Malden, Mass.)*. Jan 01 2017;18(1):140-151.

Kropp F, Lewis D, Winhusen T. The Effectiveness of Ultra-Low Magnitude Reinforcers: Findings From a "Real-World" Application of Contingency Management. *J Subst Abuse Treat*. 2017 Jan;72:111-116.

Redmann AJ, Wang Y, Furstein J, Myer CM, 3rd, de Alarcon A. The use of the FLACC pain scale in pediatric patients undergoing adenotonsillectomy. *International Journal of Pediatric Otorhinolaryngology*. Jan 2017;92:115-118.

2016

Davidson S, Golden JP, Copits BA, et al. Group II mGluRs suppress hyperexcitability in mouse and human nociceptors. *Pain*. Sep 2016;157(9):2081-2088.

Chen G, Xie RG, Gao YJ, et al. beta-arrestin-2 regulates NMDA receptor function in spinal lamina II neurons and duration of persistent pain. *Nature Communications*. Aug 19 2016;7:12531.

Elder N, Penm M, Pallerla H, et al. Provision of Recommended Chronic Pain Assessment and Management in Primary Care: Does Patient-Centered Medical Home (PCMH) Recognition Make a Difference? *Journal of the American Board of Family Medicine*. Jul-Aug 2016;29(4):474-481.

Goesling J, Moser SE, Zaidi B, et al. Trends and predictors of opioid use after total knee and total hip arthroplasty. *Pain*. Jun 2016;157(6):1259-1265.

Winstanley EL, Clark A, Feinberg J, Wilder CM. Barriers to implementation of opioid overdose prevention programs in Ohio. *Substance Abuse*. 2016;37(1):42-46.

Wilder CM, Miller SC, Tiffany E, Winhusen T, Winstanley EL, Stein MD. Risk factors for opioid overdose and awareness of overdose risk among veterans prescribed chronic opioids for addiction or pain. *Journal of Addictive Diseases*. 2016;35(1):42-51.

Thanos PK, Zhuo J, Robison L, et al. Suboptimal maternal diets alter mu opioid receptor and dopamine type 1 receptor binding but exert no effect on dopamine transporters in the offspring brain. *International Journal of Developmental Neuroscience: The Official Journal of the International Society for Developmental Neuroscience*. Sep 22 2016.

Butler MM, Ancona RM, Beauchamp GA, et al. Emergency Department Prescription Opioids as an Initial Exposure Preceding Addiction. *Annals of Emergency Medicine*. Aug 2016;68(2):202-208.

Clark A, Breitenstein S, Martsolf DS, Winstanley EL. Assessing Fidelity of a Community-Based Opioid Overdose Prevention Program: Modification of the Fidelity Checklist. *Journal of Nursing Scholarship: An Official Publication of Sigma Theta Tau International Honor Society of Nursing*. Jul 2016;48(4):371-377.

Oliva EM, Nevedal A, Lewis ET, et al. Patient perspectives on an opioid overdose education and naloxone distribution program in the U.S. Department of Veterans Affairs. *Substance Abuse*. 2016;37(1):118-126.

Winhusen T, Theobald J, Lewis D, Wilder CM, Lyons MS. Development and initial testing of a tailored telephone intervention delivered by peers to prevent recurring opioid-overdoses (TTIP-PRO). *Health Education Research*. Apr 2016;31(2):146-160.

Winhusen T, Theobald J, Lewis D. Design considerations for a pilot trial using a novel approach for evaluating smoking-cessation medication in methadone-maintained smokers. *Contemporary Clinical Trials*. Mar 2016;47:334-339.

Zeidan F, Adler-Neal AL, Wells RE, et al. Mindfulness-Meditation-Based Pain Relief Is Not Mediated by Endogenous Opioids. *The Journal of Neuroscience: The Official Journal of the Society for Neuroscience*. Mar 16 2016;36(11):3391-3397.

Khodneva Y, Muntner P, Kertesz S, Kissela B, Safford MM. Prescription Opioid Use and Risk of Coronary Heart Disease, Stroke, and Cardiovascular Death Among Adults from a Prospective Cohort (REGARDS Study). *Pain Medicine (Malden, Mass.)*. Mar 2016;17(3):444-455.

Hall ES, Isemann BT, Wexelblatt SL, et al. A Cohort Comparison of Buprenorphine versus Methadone Treatment for Neonatal Abstinence Syndrome. *The Journal of Pediatrics*. Mar 2016;170:39-44 e31.

Clark A, Winstanley EL, Martsolf DS, Rosen M. Implementation of an inpatient opioid overdose prevention program. *Addictive Behaviors*. Feb 2016;53:141-145.

Ehsan Z, Mahmoud M, Shott SR, Amin RS, Ishman SL. The effects of anesthesia and opioids on the upper airway: A systematic review. *The Laryngoscope*. Jan 2016;126(1):270-284.

Droege CA, Mueller EW. Fentanyl Pharmacokinetics in Critically Ill Patients: A Demonstration of Mixed Effects. *Critical Care Medicine*. Jan 2016;44(1):240-242.

2015

Javaheri S, Winslow D, McCullough P, Wylie P, Kryger MH. The Use of a Fully Automated Automatic Adaptive Servoventilation Algorithm in the Acute and Long-term Treatment of Central Sleep Apnea. *Chest*. Dec 2015;148(6):1454-1461.

Wiles JR, Isemann B, Mizuno T, et al. Pharmacokinetics of Oral Methadone in the Treatment of Neonatal Abstinence Syndrome: A Pilot Study. *The Journal of Pediatrics*. Dec 2015;167(6):1214-1220 e1213.

Tiffany E, Wilder C, Miller SC, Winhusen T. Knowledge of and interest in opioid overdose education and naloxone distribution among veterans on chronic opioids for addiction or pain. *Drugs: Education, Prevention & Policy*. Published online 4 Dec 2015.

Winstanley EL, Clark A, Wilder CM. Response to "Quality Assessment Errors and Study Misclassification Threaten Systematic Review Validity: Community Opioid Overdose Prevention and Naloxone Distribution Programs Review". *Journal of Addiction Medicine*. Nov-Dec 2015;9(6):503-504.

Kim TK, Niklewski PJ, Martin JF, Obara S, Egan TD. Enhancing a sedation score to include truly noxious stimulation: the Extended Observer's Assessment of Alertness and Sedation (EOAA/S). *British Journal of Anaesthesia*. Oct 2015;115(4):569-577.

Hall ES, Wexelblatt SL, Crowley M, et al. Implementation of a Neonatal Abstinence Syndrome Weaning Protocol: A Multicenter Cohort Study. *Pediatrics*. Oct 2015;136(4):e803-810.

Foster SD, Lyons MS, Runyan CM, Otten EJ. A mimic of soft tissue infection: intra-arterial injection drug use producing hand swelling and digital ischemia. *World Journal of Emergency Medicine*. 2015;6(3):233-236.

Daniulaityte R, Carlson R, Brigham G, Cameron D, Sheth A. "Sub is a weird drug:" A web-based study of lay attitudes about use of buprenorphine to self-treat opioid withdrawal symptoms. *The American Journal on Addictions*. Aug 2015;24(5):403-409.

Wilder CM, Winhusen T. Pharmacological Management of Opioid Use Disorder in Pregnant Women. *CNS Drugs*. Aug 2015;29(8):625-636.

Dalesio NM, McMichael DH, Benke JR, et al. Are nocturnal hypoxemia and hypercapnia associated with desaturation immediately after adenotonsillectomy? *Paediatric Anaesthesia*. Aug 2015;25(8):778-785.

Abd-Elseyed AA, Guirguis M, DeWood MS, Zaky SS. A Double-Blind Randomized Controlled Trial Comparing Epidural Clonidine vs Bupivacaine for Pain Control During and After Lower Abdominal Surgery. *The Ochsner Journal*. Summer 2015;15(2):133-142.

Wilder C, Lewis D, Winhusen T. Medication assisted treatment discontinuation in pregnant and postpartum women with opioid use disorder. *Drug and Alcohol Dependence*. Apr 01 2015;149:225-231.

Wexelblatt SL, Ward LP, Torok K, Tisdale E, Meinzen-Derr JK, Greenberg JM. Universal maternal drug testing in a high-prevalence region of prescription opiate abuse. *The Journal of Pediatrics*. Mar 2015;166(3):582-586.

3.0 Research Projects

3.1 College of Medicine

- **“EMPOWER: Evaluating the Ability to Reduce Morphine Equivalent Dose for Chronic Pain Patients Receiving Opioid-therapy Through a Web-based E-Health Self-management Program: A Randomized Multi-site Clinical Trial”** (R01 DA044248)
Funded by the National Institute on Drug Abuse, Sept. 1, 2017 – June 30, 2022 (\$2,480,791)
Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division
Goals of project: 1) Conduct a multi-site clinical trial to evaluate the ability of a web-based chronic pain management program (E-health) to reduce morphine equivalent dose (MED), while also decreasing pain, in 400 chronic pain patients receiving long-term opioid therapy in primary care; and 2) Test our conceptual model of E-health's mechanisms of change, including hypothesized mediators (i.e., pain self-efficacy, coping strategies, knowledge about pain/opioid therapy, and stress) and moderators (neurocognitive function: executive function and verbal learning ability) of E-health's impact on decreasing MED and pain intensity.
- **A Tailored, Peer-delivered Intervention to Reduce Recurring Opioid Overdoses** (1R34DA040862)
Funded by the National Institute on Drug Abuse, Sept. 15, 2016 – June 30, 2019 (\$680,319)
Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division
Goals of project: 1) Finalize the Peer Interventionist training materials by creating training files and evaluating the inter-rater reliability of TTIP-PRO's competence assessment (Stage 1A); and 2) Conduct pilot testing in preparation for a full-scale clinical trial (Stage 1B). Exploratory aims are to: E1) Test the validity of two assessments developed for TTIP-PRO; E2) Test the conceptual model of TTIP- PRO's mechanisms of change.
- **“Comparing Treatments for HIV-Infected Opioid Users in an Integrated Care Effectiveness Study (CHOICES) Scale Up”** (UG1-CTN-0067)
Funded by the National Institute on Drug Abuse, June 1, 2017 – May 31, 2020
Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division
The Ohio Valley Node has two sites participating in this trial – 1) Ruth M Rothstein CORE Center (Chicago, IL) and 2) University of Kentucky (Lexington, KY)
Goals of project: CTN-0067 will randomize 350 HIV-infected patients who have untreated opioid use disorder and are at risk for/presenting with HIV viral non-suppression to either office-based extended-release naltrexone (XR-NTX) for 24 weeks (6 monthly injections) or to treatment as usual (TAU).
- **“Opioid Use Disorder in the Emergency Department”** (UG1-CTN-0069)
Funded by the National Institute on Drug Abuse, June 1, 2017 – May 31, 2020
Michael Lyons, MD, associate professor of emergency medicine and director of the Early Intervention HIV Program (site PI); Theresa Winhusen, PhD, professor and vice chair of

psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division (Ohio Valley Node PI)

Goals of project: The study will evaluate the impact of (1) Implementation Facilitation (IF) on rates of provision of Emergency Department (ED)-initiated buprenorphine/naloxone (BUP) treatment with referral for ongoing medication-assisted treatment (MAT) and the (2) effectiveness of IF on patient engagement in formal addiction treatment at 30 days.

- **“A new paradigm for treatment of Staphylococcal bacteremia in IVDU: Early intensive addiction therapy with outpatient administration of prolonged half-life lipoglycopeptides for antibiotic management”**

Funded by the University of Cincinnati Department of Internal Medicine faculty award (\$30,000)

George Smulian, MD, professor of internal medicine and director of the division of infectious diseases

Goals of project: Appropriate treatment for Staphylococcal bacteremia usually requires six weeks of parental intravenous antibiotics administered in a controlled environment such as a hospital or extended care nursing facility. These environments do not provide adequate addiction therapy programs and therefore the management of the underlying cause of presentation, the opioid addiction, is not addressed. New antimicrobial agents with long half-lives requiring infrequent administration allow the potential to administer parental therapy in the outpatient setting while focusing on intensive addiction therapy. The proposed pilot study will determine pharmacokinetic analysis and modeling and address the feasibility, safety and appropriateness of focusing on addiction therapy in conjunction with outpatient antibiotic management.

- **“Evaluation of the Impact of Implementing Comprehensive Regional Distribution of Naloxone to Reverse Opioid Overdose”**

Funded by BrightView Foundation, Nov. 1, 2017 – Oct. 31, 2019

Michael Lyons, MD, associate professor of emergency medicine and director of the Early Intervention HIV Program

Goals of project: The Narcan Distribution Collaborative is funded by a consortium of government, foundation, healthcare and community-based organizations to implement a massive regional naloxone distribution program over a two-year period. The clinical program will be implemented by Hamilton County Public Health with advising from the University of Cincinnati Department of Emergency Medicine (UC EM). UC EM and collaborators in the UC Winkle College of Pharmacy will work to implement naloxone distribution within the University of Cincinnati Medical Center. UC EM will conduct an evaluation of the regional implementation effort and any resulting effects on overdose mortality.

- **Behavioral Change and Use of Naloxone Following Opioid Overdose Education (RIP 2015-2608)**

Funded by the Department of Veterans Affairs, VISN 10 Research Initiative Program. Oct. 1, 2015 – Sept. 30, 2016

Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience; medical director of the department's Addiction Sciences Division

Goals of project: The objectives of this study are to 1) determine the rate of opioid overdose events, naloxone kit retention and naloxone kit use in the six months following Opioid Overdose Education and Naloxone Distribution training; and 2) compare self-

reported overdose risk behaviors, knowledge of overdose and management of overdose events prior to training and six months after training.

- **An Interprofessional Strategy for Improving Primary Care Management of Patients with Chronic Pain: Project TEAMS (Teleconference Education And Management Support)**
Jill Martin-Boone, PharmD, professor of pharmacy practice and administrative services, James L. Winkle College of Pharmacy, and Nancy Elder, MD, professor of family and community medicine
- **Improving Postpartum Treatment Retention in Opioid-using Women**
Funded by the Center for Clinical and Translational Science and Training, University of Cincinnati (WH-2) July 1, 2014 – March 31, 2016
Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience; medical director of the department's Addiction Sciences Division
Goals of project: The major goal of this project is to develop and pilot test a computer-delivered brief intervention for retaining opioid-using women in medication assisted treatment during the postpartum period.
- **Implementing Overdose Education and Naloxone Distribution: A Formative Evaluation (RRP 13-466)**
Funded by the Department of Veterans Affairs Health Services Research and Development Quality Enhancement Research Initiative Oct. 1, 2013 – Sept. 30, 2015
Elizabeth Oliva, PhD (PI); Christine Wilder, MD (Co-Investigator).
Goals of project: The primary objective of this qualitative study is to evaluate the barriers and facilitators for national implementation of overdose education and naloxone distribution within the Veterans Health Administration.
- **Characterizing Opioid Use Disorder Patients who have Received Medication Trials with Both Buprenorphine and Methadone: A Preliminary Step towards Predicting Buprenorphine Response (SUDQ-LIP 1401)**
Funded by the Department of Veterans Affairs Health Services Research and Development Quality Enhancement Research Initiative Oct. 1, 2013 – Sept. 30, 2014
Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience; medical director of the department's Addiction Sciences Division
Goals of project: The goal of this retrospective chart review of veterans treated with medication assisted treatment at the Cincinnati Veterans Affairs Medical Center is to describe characteristics predicting success or failure on each medication.
- **Prescription Drug Overdose Prevention**
Funded by Ohio Department of Health grant awarded to Hamilton County Health Department.
Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience; medical director of the department's Addiction Sciences Division, serves as a collaborator for program development and expert consultation
Goals of project: The purpose of this study is to reduce opioid overdose fatalities in Hamilton County by 5 percent through the use of an injury prevention coordinator who will coordinate naloxone distribution efforts and real time data analysis on overdose trends.

- Reducing Fatal Overdoses in Ohio**
 Funded by the Ohio Office of Criminal Justice Services
Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience, serves as a Collaboration Board Member providing study design, implementation and evaluation.
Goals of project: The goal of this project is to evaluate a pilot program designed to prevent opioid overdoses in community corrections, halfway house and substance abuse treatment environments.
- Impact of drug use on HIV/STI risk across development among African American female adolescents: An integrative data analysis**
 Funded by the National Institute on Drug Abuse
Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience, is a co-investigator and principal investigator of the University of Cincinnati sub-contract.
Goals of project: The goal of this research is to yield a more precise, developmental understanding of drug-related HIV and STI risk among African American female adolescents in the Southern United States utilizing an Integrated Data Analysis approach.
- Primary Care Training and Enhancement Project**
 Funded by the Health Resources & Services Administration
Jeff Schlaudecker, MD, associate professor of family and community medicine, principal investigator
 An Opiate Expansion project from July 1, 2017 to June 30, 2018 with goals to: 1) train faculty, community preceptors and residents in opioid diagnosis, prevention and medication-assisted treatment (MAT); and 2) enhance community-based primary care training sites to provide and train in opioid use disorder diagnosis and prevention, and MAT.

Under Review:

- “Medication treatment for Opioid-dependent expecting Mothers: a randomized trial comparing 2 buprenorphine formulations (MOMs²)”**
 Submitted to the National Institute on Drug Abuse, 2018 –2022 (\$9,551,709)
Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department’s Addiction Sciences Division
Goals of project: The specific aims of this project are to compare the effects of extended-release buprenorphine (BUP-XR) and sublingual buprenorphine (BUP-SL) treatment in pregnant women with opioid use disorder on: 1) neonatal outcomes, with neonatal length of stay as the primary outcome; 2) participant treatment retention and illicit opioid use during pregnancy; and 3) treatment retention and illicit opioid use during six-months postpartum.
- “Development and Evaluation of a Novel mHealth Intervention to Increase HCV and HIV Testing Uptake Among Opioid Users Engaged in Substance Use Treatment”**
 (K23DA043606-01A1)
 Submitted to the National Institute on Drug Abuse, Sept. 1, 2017 – Aug. 31, 2022 (\$836,379)
Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience

This K23 application proposes a training and research program to achieve the long-term career goal of becoming a patient-oriented clinical scientist with expertise in the development and evaluation of mobile health (mHealth) delivered addictions interventions.

- **“Clinical Decision Support via Electronic Medical Record to Improve Linkage and Retention in HIV, HCV, and Substance Use Prevention and Treatment Services among Opioid Users: Development and Pilot Test”**

Submitted to National Institute on Drug Abuse, July 1, 2018-June 31, 2023 (\$1,500,000)

Jennifer Brown, PhD, Associate Professor of Psychiatry and Behavioral Neuroscience

Goals of project: This proposal is submitted in response to the Avenir Award Program for Substance Abuse and HIV/AIDS. The goal of this research is to develop and evaluate a comprehensive clinical decision support intervention delivered via the electronic medical record that can optimally address the multi-faceted substance use and infectious disease health care needs of individuals with opioid use disorder to improve linkage and retention in both substance use treatment and HIV and HCV care.

- **“Developing Facility- and Community-Level Interventions to Prevent Opioid Overdose and Hepatitis C Virus (HCV) in Justice-Involved Populations”** (\$100,000)

Submitted to the Center for Clinical and Translational Science and Training, University of Cincinnati

Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience, and Aaron Vissman, PhD, Associate Director, Center for Health and Human Services Research, Talbert House

Goals of project: The goals of this project are to: 1) pilot-test an innovative Overdose Education and Naloxone Distribution (OEND) program delivered in 11 southern Ohio community-correctional treatment facilities; and 2) analyze emerging data and policies that guide Quick Response Teams (QRTs) operating in urban and rural Ohio-Kentucky border counties (Hamilton County and Brown County) designed to reduce opioid overdose and enhance addiction and mental health treatment linkage-to-care.

Current Projects that Could Provide Pilot Data for Proposals:

- **“Project ASPIRE: Accelerating Substance Use and Psychiatric Screening Among Individuals at Risk or HIV-infected and Facilitated Referral via the Emergency Department”** (\$2,322,305)

Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience, and Michael Lyons, MD, associate professor of emergency medicine and director of the Early Intervention HIV Program

Project ASPIRE will leverage a high-volume, urban emergency department (ED) in conjunction with its affiliated infectious diseases treatment center (IDC) and addiction sciences division (ASD) treatment center to accomplish the following primary goals: 1) implement screening among patients identified as at-risk for HIV or with HIV infection to identify Substance Use Disorders (SUDs) and co-occurring mental health disorders (CODs); 2) utilize a multicomponent, comprehensive linkage service with a combination of early, intensive, and sustained efforts to link these patients to culturally-tailored SUD/COD treatment as well as HIV and HCV treatment, housing assistance and other services as needed; and 3) seamlessly

convert linkage services into retention services for SUD/COD treatment within the ASD after patients are successfully linked.

- **“RETAIN: Retaining opioid users Entering medication assisted Treatment and encouraging HCV/HIV testing through Active patients sharing their experiences and the provision of Information about infection risk factors, testing, and treatment - an electroNic-health application”**

Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division

Goals of project: The pre-post study of RETAIN will be conducted with patients entering medication assisted treatment (MAT), the goals of which are to: 1) assess the acceptability of RETAIN; 2) test the impact of RETAIN on knowledge about MAT; 3) assess MAT retention rates in patients completing the RETAIN intervention; 4) test the impact of RETAIN on knowledge about HCV/HIV; and 5) test the impact of RETAIN on interest in being tested for HCV/HIV.

- **“AWAITS: A Web-based e-health application for Active illicit opioid users providing Information about overdose and infection risk factors and encouraging HCV/HIV testing and medication assisted Treatment Seeking”**

Theresa Winhusen, PhD, professor and vice chair of psychiatry and behavioral neuroscience and division director of the department's Addiction Sciences Division

Goals of project: The pre-post study of AWAITS will be conducted with out-of-treatment active illicit opioid users to: 1) assess the acceptability of AWAITS; 2) test the impact of AWAITS on knowledge about opioid overdose; 3) assess the proportion of participants who accept a list of local MAT providers; 4) test the impact of AWAITS on knowledge about HCV/HIV; and 5) test the impact of AWAITS on interest in being tested for HCV/HIV.

3.2 College of Pharmacy

- **“Evaluation of the implementation of the Ohio emergency and acute care facility opioids and other controlled substances (OOCs) Prescribing Guidelines”**

Funded by the Ohio Department of Health, \$47,904

Neil MacKinnon, PhD, dean, James L. Winkle College of Pharmacy, Jill Martin-Boone, professor of pharmacy practice and administrative services, James L. Winkle College of Pharmacy; and Michael Lyons, MD, associate professor of emergency medicine and director of the Early Intervention HIV Program

The purpose of this evaluation is to determine the extent and level of adoption of the Ohio Emergency and Acute Care Facility OOCs Prescribing Guidelines and obtain feedback and recommendations from hospital administration and emergency department staff regarding any improvements that would assist with the implementation of the Guidelines.

- **“Mandatory OARRS Registration and Utilization: HB 341 Policy Evaluation”**

Funded by the Ohio Department of Health, \$44,885

Erin Winstanley, PhD, associate professor of pharmaceutical systems and policy, West Virginia University School of Pharmacy; Jill Martin-Boone, Professor of pharmacy practice and administrative services, James L. Winkle College of Pharmacy; and Neil MacKinnon, PhD, Dean, James L. Winkle College of Pharmacy,

The purpose of this study is to determine whether Ohio House Bill 341, which mandated the use of Ohio’s PDMP, was an effective regulatory strategy to reduce opioid and benzodiazepine dispensing. We conducted a time series analysis of Ohio’s PDMP from November 2014 to March 2017.

- **“Mandatory OARRS Registration and Utilization: HB 341 Policy Evaluation”**

Funded by the State of Ohio Board of Pharmacy

This analysis was to provide descriptive statistics on opioid and benzodiazepines dispensed during this timeframe and to conduct an analysis to determine whether the passage of HB341 was associated with a change in the quantity of opioids dispensed.

Under Review:

- **“Understanding the Opioid Overdose Epidemic and Barriers to Naloxone Access in Ohio and Northern Kentucky: A spatial Epidemiology Approach”**

Ana Hincapie, PhD, assistant professor of pharmacy practice and administrative services

- **“Naloxone Access and Impact Evaluation”**

Submitted to: the Ohio Department of Health, \$75,000

Neil MacKinnon, PhD, dean, James L. Winkle College of Pharmacy, and Jill Martin-Boone, professor of pharmacy practice and administrative services, James L. Winkle College of Pharmacy

The purpose of this project is to conduct an evaluation study to determine the extent of implementation, the impact, successes, barriers, and/or unintended consequences with House Bill 4 (HB4) implementation.

3.3 College of Arts and Sciences

- **“Growing Community Change Researchers in STEM”**

Funded by the National Institutes of Health, Sept. 15, 2017 – July 31, 2022 (\$1,250,669)

Farrah Jacquez, assistant professor of psychology, College of Arts and Sciences

The overall objective of this proposal is to engage students and teachers from urban African American and rural Appalachian schools in a community-based participatory research (CBPR) program focused on drug abuse and addiction in their local communities. Youth who collaborate as shared decision-makers in research are more likely to develop intrinsic interest in STEM research professions. By facilitating meaningful engagement in addiction science research, we will reach our long-term goal of increasing economic, geographic and racial diversity in the biomedical, behavioral and clinical research workforce.

3.4 Cincinnati Veterans Affairs Medical Center

- **“Impact of a tobacco and recreational nicotine-free policy within a residential substance use disorder treatment program.”**

Shannon Miller, MD (PI); Christina Bonanno, Pharm D; Matthew Brown, Pharm D; Octaviana Hemmy Asamsama, PhD; Mark Silvestri, PhD; Whitney Gore, PhD; Teri Bolte, PhD; Michael Krueger, FMNP.

Tobacco is the No. 1 cause of preventable death and kills one of every two users. Many who use opioids use tobacco, and tobacco contributes to opioid relapse. Veterans Health Administration has 65 Substance Abuse Residential Rehabilitation Treatment Programs (SARRTP) nationwide. Virtually none provide a tobacco/nicotine-free approach. Stopping or reducing tobacco use during residential treatment improves relapse rates for non-tobacco/nicotine substances. Up to 62 percent of patients in residential programs are interested in nicotine-related treatment. Many SARRTP's and outpatient addiction treatment programs do not offer tobacco/nicotine-related services as part of routine care. Potential barriers include: use of nicotine products would erode patient interest in pursuing residential treatment, more behavioral problems, etc. In January 2015, the Cincinnati Veterans Affairs Medical Center SARRTP was perhaps the first Veterans Health Administration SARRTP nationally to transition to a completely tobacco/nicotine-free environment, including removal of smoke breaks and including tobacco-related services as part of the SARRTP. This study aims to evaluate the impact of a tobacco and recreational nicotine-free intervention (TRNI) on programmatic and patient-level outcomes within this SARRTP. The central hypothesis of this proposal is that the TRNI will not be associated with a worsening of program level SARRTP outcomes, and will be associated with an improvement in patient-specific tobacco/nicotine and other (including opioid) substance-related outcomes greater than or equal to months following discharge. This includes an assessment on opioid-related outcomes.

- **“Veteran demographics and long term opioid therapy characteristics among patients with versus without a history of military sexual trauma.”**

Funded by Research in Addiction Medicine Scholar Award.

Darcelia Plott, MD, MPH (PI); Kari Leiting, PhD; Shannon Miller, MD.

Military sexual trauma (MST) is defined by the U.S. Department of Veteran Affairs as “sexual harassment that is threatening in character or physical assault of a sexual nature that occurred while the victim was in the military regardless of geographic location of the

trauma, gender of the victim or relationship to the perpetrator. MST is associated with multiple psychiatric and medical consequences including chronic pain and depression, as well as subsequent long term opioid therapy (LTOT). LTOT has increased over the previous two decades. However, the intersection of LTOT and MST has not been fully described. The purpose of this study is to better describe veteran demographics and LTOT characteristics among LTOT patients with versus without a history of military sexual trauma, including a focus on gender differences. Results supported that: (1) LTOT MST subjects were significantly younger with higher rates of concomitant antidepressant and benzodiazepine usage, thus enhancing overdose risk (including opioids), (2) among high dose LTOT MST subjects, males trended to higher dose utilization than females, and (3) further clinical recognition and studies are needed to explore the relationship between MST and LTOT.

- **“Behavioral Change and Use of Naloxone Following Opioid Overdose Education.”**
Christine Wilder; Shannon Miller; Darcelia Plott, MD, MPH (PI); Laura Gilliam, PhD.
See above.

4.0 Education

4.1 College of Medicine

College of Medicine faculty have lectured widely on various aspects of Opioid Use Disorder. Among the many presentations during the last year have been:

- 2nd Annual Perinatal Summit: Managing Maternal Substance Use and Treatment
- “Lunch N Learn: Working with Pregnant Women with Opioid Use Disorder.”
Lecture for University of Cincinnati Women’s Health Department Nursing staff.
Presented by Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience and medical director of the department’s Addiction Sciences Division.
- “Professional Stigma and the Use of Medication-Assisted Treatment for Opioid Use Disorders.” Keynote address at the 2016 Annual Meeting of the Hamilton County Mental Health and Recovery Services Board presented by Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience.
- “The Opioid Epidemic: Scope, Challenges, and Treatment Strategies” at the Central Ohio Pediatric Society Meeting, Columbus, OH, Oct. 19, 2016, presented by Theresa Winhusen, PhD, professor and associate vice chair of psychiatry and behavioral neuroscience and division director of the department’s Addiction Sciences Division.

The College of Medicine also offers the following courses for students:

- “Provision of Training in Addiction Treatment Approaches for Clinical Psychology Doctoral Student Trainees Within the Addiction Sciences Division’s Clinical Services.” Jennifer Brown, PhD, associate professor of psychiatry and behavioral neuroscience, supervisor.
- “Assessment, Prevention and Treatment of Substance Use Disorders: Independent Study.” Course designed and taught by Jennifer Brown, PhD,

associate professor of psychiatry and behavioral neuroscience, for psychology doctoral students.

College of Medicine departments with organized education activities related to opioid abuse include:

- Anesthesiology
 - Harsh Sachdeva, MD, associate professor of anesthesiology, does a mandatory Grand Rounds presentation on substance abuse once per year.
 - Each year a Pain Fellow presents a Grand Rounds on substance abuse.
- Emergency Medicine
 - Emergency Medicine residents are educated on a clinical pathway titled: "Acute Resuscitation of Suspected Opioid Overdose."
 - This same pathway is presented at a departmental faculty meeting.
 - "Acute Resuscitation of Suspected Opioid Overdose," developed by the department, is now available to all emergency departments in this region.
 - Community education in regards to the opiate epidemic: Indian Hill, OH
 - The department's Early Intervention program provides patient education following every overdose or high-risk patient who come to the Emergency Department.
 - Two faculty members are working with the American College of Emergency Physicians NIX Opiates program and are working to present the program to one or two local schools during fall 2017.
- Environmental Health
 - Master of Public Health classes discuss opiate addiction.
- Family and Community Medicine
 - As part of the first-year medical school curriculum (Physician and Society):
 - Students are assigned to read *Dreamland: The True Tale of America's Opiate Epidemic*. Two sessions are dedicated to discussing the book. There also is a panel discussion with student pro and con assessment on naloxone use in the community.
 - Students review opioid addiction and the role of physician prescribing in the epidemic use
 - All interns receive a naloxone didactic that includes prescribing to patients and/or family members, and a skills station to practice using the different applications of administering. Interns view three asynchronous video modules on naloxone, Urine Drug Screen interpretations and narcotic treatment contracts and the Ohio Automated Rx Response System (OARRS). They will also participate in a book discussion with community preceptors, faculty and other residents using the book *Dreamland*, a history of development of the current opioid epidemic in the U.S.
 - Second-year residents experience a two-week addiction medicine rotation and shadowing at Brightview, a Cincinnati treatment center that includes time with a social worker, group visits and obtaining buprenorphine waiver training (ASAM). They view asynchronous video modules on Screening, Brief Intervention & Referral to Treatment (SBIRT), Crucial Conversations on Opiate Prescribing and Narcan (naloxone). They also participate in the book club activity.
 - Third-year residents view one asynchronous MAT video module that provides an overview of all the modules listed above, as well as a module on Non-pharmacologic Treatment.
 - Third-year Clerkship teaches Naloxone administration.
 - Residency faculty and community preceptors as well as faculty members and learners from the new Physician Assistant program at Mount Saint Joseph University participate in the book club activity in addition to attending a one-time

live session on the distillation of the video modules and Buprenorphine waiver training (CME eligibility pending). They also view the asynchronous video modules for CME credits (CME eligibility pending).

- Project “TEAMS” (Teleconference Education And Management Support): *An Inter-professional Strategy for Improving Primary Care Management of Patients with Chronic Pain*
 - Goals:
 - Host monthly teleconference-based, interprofessional consultation coaching “rounds” based on the Project ECHO model.
 - Connect a group of primary care providers (PCPs) with each other and experts from a variety of disciplines who work with patients with chronic pain to provide education and support.
 - Technology used as a platform to connect PCPs with pain specialists
 - Monthly, one-hour case-based meetings to discuss complex chronic pain patients identified by PCPs
 - Follow up patient outcomes
- Internal Medicine
 - Weekly Medical Grand Rounds include medical students, residents, faculty and community (web-based) with opioid use discussed during each session.
 - Academic Half Day every Thursday consists of curriculum in small groups with residents.
 - Morning Reports with residents include case-based opioid use discussion three or four days a week at the Cincinnati Veterans Affairs Medical Center and University of Cincinnati Medical Center.
 - Each of the department’s nine divisions have their own programs similar to Morning reports, including Grand Rounds and Morbidity & Mortality discussions.
 - Professional Rounds with third-year medical students every two months.
 - Other recent presentations have included:
 - **May 4, 2016:** Judith Feinberg, MD, “Heroin in the Heartland: Dealing with Addiction”
 - **April 26, 2017:** Michael Binder, MD, “The Opioid Addiction Crisis”
 - **July 12, 2017:** Soumya Pandalai, MD, “When the Physician Needs Help – Physician Health Programs and Substance Abuse Disorders”
- Neurology and Rehabilitation Medicine
 - Various types of pain encountered in headache and painful peripheral neuropathy are taught to residents.
- Neurosurgery
 - Annual Grand Rounds presentation on opioid use by Christine Wilder, MD, medical director of UC Health Addiction Service.
- Obstetrics and Gynecology
 - Grand Rounds speaker, Hendree Jones, PhD, professor of obstetrics and gynecology, adjunct professor of psychology and psychiatry and behavioral sciences, University of North Carolina, Chapel Hill, and executive director, Horizons Program, coming in May 2018 to speak on addiction.
- Orthopedic Surgery
 - Michael Staples, director of compliance and loss prevention at Cincinnati Pain Physicians - Practice Shields, will do an in-service during fall 2017 with faculty and residents about Comprehensive Controlled Substance Prescribing.

- Psychiatry and Behavioral Neuroscience
 - College of Medicine Addiction Psychiatry Fellowship: This program has been funded by the College of Medicine and supported locally by the Cincinnati Veterans Affairs Medical Center, where it was founded. It is fully ACGME-accredited and affords training at a variety of institutions. This program has produced 16 board-eligible Addiction Psychiatry graduates from the specialties of Psychiatry and Child and Adolescent Psychiatry. Fellows receive roughly 80 lectures, many relating to opioid use disorder, as well as a myriad of rotations.
 - Resident required rotation in the diagnosis and management of addiction disorders with a focus on triage and detoxification, as well as electives in Buprenorphine, co-existing disorders, etc.
 - Twenty-six separate and annually recurring lectures on a wide array of addiction topics preparing students for clinical practice and board certification in psychiatry.
 - Six medical student case conferences, each on a separate substance use disorder (including opioid) and occurring annually with each student cohort.
 - Medical student electives in buprenorphine, detoxification, co-existing disorders, etc.
 - Medical student addiction lectures.
 - Medical student intercession.
 - Opportunities for research have been supported by the Medical Student Scholars Program, including student involvement in a VA-based study on opioid overdose education and naloxone distribution.
- Radiology
 - Resident lectures regarding opiate use in conscious sedation.
 - Interventional radiology lecture to radiology fellows, residents and attending physicians that covers periprocedural interventional radiology care. A segment of this talk discusses the use of IV moderate sedation and pharmacology of drugs used to promote and reverse IV moderate sedation. Before becoming credentialed to provide IV moderate sedation, each attending physician completes an education module.
- Surgery
 - As opiates are routinely used on surgical services, opiate-related education is an ongoing process in all of resident and medical student rotations as part of their patient-care activities.
 - Formal didactic opiate education:
 - is covered during annual general surgery intern orientation lectures
 - is a component of post-operative pain management, which is a module within our general surgery resident curriculum, and
 - this academic year is a planned subject of one of our Grand Rounds presentations to the faculty and trainees.

4.2 College of Allied Health Sciences

- **Interprofessional Screening, Brief Intervention, Referral and Treatment (SBIRT)**
Funded by Substance Abuse and Mental Health Services Administration (\$916,323)
Shauna P. Acquavita, PhD, MSW, assistant professor, School of Social Work

The purpose of this project is to provide education and training to social work, nursing, pharmacy and medicine students, field instructors and preceptors, and health professionals in Screening, Brief Intervention, and Referral to Treatment (SBIRT). In our interprofessional course on SBIRT (Nursing, Pharmacy, Medicine, Social Work), students complete a module on medication-assisted treatment, which includes information on opioid dependence and how to treat this disorder. Students also complete a minimum of two clinical practice experiences at University of Cincinnati Medical Center and in community settings to screen for substance use disorders, including opioids. In addition, an online module to train healthcare providers in the use of SBIRT with pregnant women has been developed

- **Substance Use Disorders (SW 6058)**

This course is for undergraduate and graduate social work students. The content provides a basic overview and the most recent information available on the substances most likely to result in addiction and dependence, and why knowledge of these substances is so important for ethical, efficient and effective professional practice. Emphasis is placed on how this information can influence the therapeutic/counseling relationship and supports the use of progressive treatment plan development and documentation strategy. Some of the topics include opioid dependence, medication assisted treatment and different levels of care for treatment. At the end of the course students have scenarios whereby they address how to treat the individual with a substance use disorder. One of these is an individual with opioid dependence.

- **Bachelor of Social Work (BSW) Distance Learning program**

Bachelor of Social Work complete program (junior and senior years) offered in an online format. This program includes a collaboration with the Substance Abuse Counseling program at the UC College of Education, Criminal Justice and Human Services to offer courses that will give students the coursework needed for the first level of substance abuse counseling certification (Chemical Dependency Counselor Assistant) and additional courses that students may take that are needed for higher levels of certification.

- **Doctor of Physical Therapy (DPT)**

This program covers substance abuse in some of their courses and plans to expand the curriculum by adding a course focused on pain management. Specific courses include: 35 PT8033 Pathophysiology and Pharmacology II and 35 PT 8099 Differential Diagnosis.

4.3 College of Nursing

The following represents where all University of Cincinnati College of Nursing graduate students (on-site or distance) in the advanced nursing practice programs receive education regarding opioid abuse.

- **Advanced Health Assessment (NURS8020)**

First introduced in the assessment of sensitive topics such as drug abuse and threaded throughout is discussion about physical findings of substance abuse.

- **Pharmacology for Advanced Practice Nurses (NURS8024)**

- Lecture topics include: substance abuse (nicotine, cocaine, methamphetamine, alcohol, opiates), pathophysiology of pain, pharmacology of opioids and pain

management, role of Drug Enforcement Administration and Food & Drug Administration in drug regulation;

- Obligation of providers to use Ohio Automated Rx Reporting System (or other prescription drug monitoring program, according to state of practice);
 - Ohio law for Advanced Practice Nurses related to prescribing;
 - Federal law related to controlled substances;
 - Centers for Disease Control and Prevention opioid prescribing guidelines (2016): evaluation and management of pain, non-opioid treatment for pain, dosing and titration, opiate abuse and referral for treatment, risk mitigation, naloxone and role of urine drug testing.
 - Students are also required to complete a total of three modules on SAFE Opioid Prescribing that is endorsed by the American Medical Association and American Association of Nurse Practitioners.
- **Clinical Management II (AANP8032)**
Discuss appropriate management of pain, including appropriate medications (World Health Organization pain ladder) and safe narcotic conversion. Students do an assignment on opioid-related topics: overdose/poisoning and recognizing and treating substance abuse (heroin abuse) in primary care. There are also assignments on anxiety, depression, suicide and mental illness in the adolescent population and depression in the older adult, which can also contain content on abuse of controlled substances.
 - **AGPC seminars (ANNP 8050, 8052, 8054)**
Discuss issues related to prescribing controlled substances and recognizing/treating abuse throughout each semester through case studies the students present, individual student experiences in clinical, as a group discussing obtaining a Drug Enforcement Administration number, and what that means and the responsibilities.
 - **All Family Nurse Practitioner, Adult Gerontology-PCNP, Adult Gerontology-Acute Care Nurse Practitioner students**
New lecture on addiction and treatment of addiction to Seminar III.
 - **ANW8022- Advanced Women’s Health II**
 - **ANW8054-Antepartum Care for Nurse-Midwifery**
Discussion board on the opiate crisis. Students must post an article with a summary of the article. In addition, they have a rubric to ensure robust discussion.

4.4 College of Engineering and Applied Science

- **Fire Science & Emergency Management – Community Paramedicine (20 FST 3043)**
This course examines frequent callers to 911 for EMS services, and how some Fire/EMS agencies are finding unique solutions. Community paramedics interact and treat patients in changing ways, engaging a wide variety of community resources to meet the needs of frequent users of the EMS system. Community paramedics are able to serve the patient and the community by providing a wider array of services more closely matched to the patient's need.
 - The course utilizes “team teaching” with Amy McMahan, assistant professor of social work, College of Allied Health Sciences, and Marie Garrison, clinical

educator, College of Nursing, as well as Fire Science adjunct professor Mark Johnston, EMS coordinator, Christ Hospital, and Will Mueller, assistant fire chief, Colerain Township Fire Department.

- Course will also include field trips to the Center for Addiction Treatment to meet with clinical services counselors and patients.

4.5 Cincinnati Children's Hospital Medical Center

Pediatric Residency Programs:

- Pediatric Advanced Life Support (including recertification every two years) is required for all pediatric residents and contains education about management of patients with acute overdose syndromes including narcotics.
- Pain Team is part of the noon conference curriculum (every two months) which includes evidence/therapeutic interventions/side effects related to the use of narcotics as part analgesia care in admitted patients. These series also provide alternatives for analgesia and options to avoid use of narcotics.
- "Emerging Evidence Conference Series" includes pain management with a discussion of the current opioid epidemic with alternative analgesic approaches.
- Sentinel Events Presentation/Morbidity & Mortality.
- Subspecialty Rotations Curriculum includes discussion about opioid abuse pertinent to their fields (e.g., Emergency Medicine, Adolescent, Neonatology, Pediatric Intensive Care Unit).
-

Fellowship Programs:

- **Child and Adolescent Psychiatry fellows and Triple board residents:** have an organized clinical rotation at the Adolescent Substance Abuse Program, Inc., which is an intensive outpatient treatment program for adolescents with addiction. This could include adolescents addicted to opioids.
- **Neonatology / PPC:** - On Aug. 29, 2017, all providers in General Pediatrics -- excluding residents -- and all staff including registered nurses, social workers and medical assistants, received training about the opioid epidemic.
- **Emergency Medicine:**
 - Evidence-based practice guideline was developed for education of students, residents, fellows, nurses and clinicians working in the Emergency Department.
 - Simulations were developed (simulation center & Emergency Department).
 - Medical Video Review Conference Series: these conferences review real cases in our emergency department to evaluate care, interventions and develop improvement processes for future similar patients. November 2016 conference was about Opioid Overdose in our Emergency Department.

4.6 Cincinnati Veterans Affairs Medical Center (CVAMC)

- CVAMC's Shannon Miller, MD, serves as editor-in-chief of the American Society of Addiction Medicine's (ASAM) flagship textbook "Principles of Addiction Medicine," sixth edition after previously serving as one of four co-editors on the fourth and fifth editions. This reference textbook is the largest textbook worldwide on the subject. Dr. Miller is the editor for the Pain and Addiction section of the textbook, which includes chapters on the pathophysiology of chronic pain and clinical interfaces with addiction, psychological issues in the management of pain, rehabilitation approaches to pain

management, non-opioid pharmacotherapy of pain, opioid therapy of pain, comorbid pain and addiction, and legal and regulatory considerations in opioid prescribing. He also serves as editor for the Pharmacology section with a chapter on opioids, as well as several other chapters in the textbook on regulatory issues in prescribing, state prescription drug monitoring programs, methadone, buprenorphine, etc. He also added a special chapter on opioid overdose education and naloxone distribution.

- Shannon Miller, MD, also served as one of three co-editors of ASAM's peer-reviewed medical journal, *Journal of Addiction Medicine* for its first decade of existence, as well as co-founded this journal and recruited its first senior editor. Most every issue has at least one opioid-related paper.
- VA Central Office Addiction Medicine Research Fellowship: Funded by the CVAMC, this two-year fellowship training program accepts physicians after completion of residency training in any medical specialty. It provides not only medical addiction training, but also training in addiction-specific evidence-based psychotherapies. This program was among the first 10 Addiction Medicine Fellowship training programs to be accredited by the American Board of Addiction Medicine. This program has produced seven graduates board-eligible in addiction medicine from specialties including internal medicine, family medicine and radiology. More than half of this country's addiction specialty practice physicians are from fields other than psychiatry.
- Formal Training in Motivational Interviewing (workshop). Provided annually, this is provided to both VA and non-VA (typically University of Cincinnati College of Medicine trainees and faculty) free of charge. Provided by a team of Certified Motivational Interviewing National Trainers (MINT).
- National VA webinar: Shannon Miller, MD, et al. Opioid Overdose Education and Naloxone Distribution Implementation at the CVAMC. Department of Veterans Affairs. 2016.
- National VA Webinar: Darlene Contadino, et al. From screening to discharge. Substance Use Disorder Residential Rehabilitation Treatment Program New Manager Orientation. 2015.
- Shannon Miller, MD, has served as research mentor and the CVAMC has been a training site for successful competitive funded research training programs. The CVAMC was the first VA or non-VA site nationally to earn a National Institute on Drug Abuse Research in Addiction Medicine Scholars Award, and the first to earn it two years in a row.
- Graduate education providing opioid use disorder training in: psychology (internship, fellowship), psychiatry, addiction medicine, addiction psychiatry, pharmacy and undergraduate studies in addiction counseling.

5.0 Clinical Services

5.1 College of Medicine / UC Health

Addiction Sciences Division (ADS), Department of Psychiatry and Behavioral Neuroscience, University of Cincinnati College of Medicine

- Medication-Assisted Treatment
 - a. Methadone-assisted treatment: > 400 patients
 - b. Suboxone-assisted treatment: > 230 patients
 - c. Vivitrol-assisted treatment: ~ 10 patients
- Intensive Outpatient Program: ~10 patients per cycle
Patients complete an eight-week intensive program of individual and group therapies as well as medication assisted treatment for a minimum of nine hours per week.
- Perinatal Addictions Clinic: ~ 30 mother-infant dyads
This is a collaborative effort between the Department of Obstetrics and Gynecology, Maternal Fetal Medicine Division, and the Department of Psychiatry, Addiction Sciences Division. It provides coordinated perinatal, addiction and mental health treatment for women with opioid use disorder.
- The ASD Consult Service
Started in response to University of Cincinnati Medical Center's increased need to provide care for patients with opioid use disorder. The service coverage is predominantly staffed by an attending physician in addiction medicine and one or two residents in general psychiatry who are assigned to a month of consultation. The goals of the consult service are primarily to deliver evidence-based care to patients with substance use disorders, with a particular focus on opioid use disorder, and to help train residents and students to care for this underserved population, which includes the use of medication-assisted treatment, collaborating with the psychiatry team for patients with co-occurring mental health conditions or dual diagnosis, and facilitating transition of patients to outpatient treatment programs to improve follow-up care after hospital discharge.
- Electronic Medical Record Additions
 - A product of the opioid research project by Nancy Elder, MD, professor of family and community medicine.
 - Chronic pain assessment tools:
 - PEG monitoring tool as well as other function-based tools
 - ORT and SOAPP risk assessment tools
 - Monitoring of PEG use with patients who have chronic pain
 - PCN-initiated updates to EPIC
 - Flow sheet for UDS, contract, OARRS assessment
 - Alert when a controlled substance has been ordered in a patient whose last documented OARRS (in the flowsheet) is greater than three months.
 - Task button that takes one easily to the flowsheet to document OARRS
 - Pain management urine drug screen available

5.2 Cincinnati Children's Hospital

- The Ohio Perinatal Quality Collaborative (OPQC)
A statewide consortium of perinatal clinicians, hospitals and policy makers and governmental entities that aims, through the use of improvement science, to reduce preterm births and improve birth outcomes across Ohio. OPQC was founded in 2007, and is seen as a national model in statewide perinatal improvement. The OPQC senior leadership team consists of nationally recognized subject matter and quality improvement experts, including: Carole Lannon, MD, Quality Improvement Lead. One of the major aspects of this Collaborative is the Neonatal Abstinence Syndrome (NAS). The aim of the OPQC NAS Project is to increase the identification of and compassionate withdrawal treatment for full-term infants born with NAS, thereby reducing the length of stay for these infants by 20 percent across participating sites.

5.3 Cincinnati Veterans Affairs Medical Center (CVAMC)

- Addiction specialty services include roughly 70 addiction staff and trainees providing the services below. Draws from a 42,000-patient enrollment in the tristate region, serves 2,600 unique veterans for addiction-related disorders annually, generates 38,000 encounters annually and accounts for 6 percent of the total workload (all medical, surgical, etc.) of the CVAMC.
- Access: Importantly, all intakes and opioid detoxification requests are walk-in, no appointment needed. All patients get assessed and assigned a physician and therapist usually within one to two weeks of first contact.
- Treatment for co-occurring psychiatric issues provided in parallel with opioid use disorders: Nearly all clinics, including methadone, provide an interdisciplinary treatment team which address all co-occurring psychiatric disorders – all managed in one place. On-site primary medical care is provided embedded within these addiction clinics:
 - Five-bed Inpatient Detoxification Service
 - Emergency room and inpatient medical ward consultation service
 - Seventeen-bed Residential Addiction Rehabilitation Unit. Use the Brief Addiction Monitor as outcome assessment tool. While a drug-free policy is the standard approach in most Substance Abuse Recovery and Rehabilitation Treatment Program (SARRTP) settings, virtually none provide a tobacco/nicotine-free approach. Recent research supports that stopping or reducing tobacco use during residential treatment improves relapse rates for non-tobacco/nicotine substances including opioids. This is important, because these substances are typically the patient's primary reason for entering SARRTP. The data above reveal a gap between evidence and clinical practice. Thus, effective January 2015, the CVAMC SARRTP was perhaps the first Veterans Health Administration SARRTP nationally to transition to a completely tobacco/nicotine-free environment, including breaks, and to embed tobacco-related services. Research is underway to study this approach and its impact on veteran health.
 - Five-day per week walk-in Outpatient Detoxification Service. Opioid use disorder is a primary diagnosis seen.
 - Integrated Outpatient Rehabilitation Clinic
 - Integrated Dual Diagnosis Treatment Clinic
 - Integrated Substance Use Disorder-Post Traumatic Stress Disorder Clinic
 - Integrated Methadone Clinic. One the oldest methadone clinics in the region (since the 1970s, which then helped to create the University of Cincinnati methadone clinic many years later). Has had a perfect "100" score on at least six Joint Commission site surveys for more than a decade. This clinic has compiled 15 years of prospective outcomes data demonstrating that while 100 percent of patients enter treatment with positive urine drug screens, less than 10 percent remain intermittently positive for opioids after treatment activation. Further, similar very low rates of positive drug screens are seen for the following drugs after treatment enrollment: cocaine, alcohol, oxycodone, benzodiazepines, amphetamines, barbiturates and cannabis. In addition to significantly reduced drug use, improvements in other areas of life functioning are clear. The Addiction Severity Index is administered at both intake and then again 11 months later for new admissions. There are statistically significant decreases in the medical, drug-related, legal, family and psychiatric problems with composite scores 11 months after treatment initiation. This clinic has roughly 170 patients with plans to double or triple capacity.
 - Integrated Buprenorphine Clinic. Roughly 180 patient average census.

- Vivitrol Clinic. Over 100 patients started.
- Tobacco/Nicotine Clinic. Clinic consult services.
- Opioid Overdose and Naloxone Distribution (OOEND) Clinic. The fifth such OOEND clinic in the Department of Veterans Affairs nationally. It had a central role in the development of the OOEND educational materials used VA-wide, and was the first in the VA to equip security police with naloxone. Previously led the VA nationally in the number of overdoses reversed. Deployed one of the first OOEND programs nationally within a Pain Clinic.
- Contingency Management Clinic. Treatment for cocaine and cannabis can be provided in parallel with opioid use disorder services.
- Gambling Services.
- Community outreach services.
- Evidence-based addiction-specific psychotherapies include: Motivational Interviewing, Seeking Safety, Acceptance and Commitment, Relapse Prevention, Dialectical Behavioral, Social Skills Training, Mindfulness-based, Behavioral Couples, and other forms of evidence-based addiction-specific psychotherapy.

6.0 Community Engagement

6.1 College of Medicine

Christine Wilder, MD, assistant professor of psychiatry and behavioral neuroscience; medical director of the department's Addiction Sciences Division

- UC Health Intravenous Heroin Task Force
- Veterans Affairs Overdose Education and Naloxone Distribution (OEND) National Support and Development Workgroup
- Board of County Commissioners Hamilton County Heroin Coalition
- Health Care Opiate and Heroin Response Committee member, Hamilton County Public Health Department
- Expert Witness Testimony for House Bill 325 (Maiden's Law), Ohio House of Representatives
- Ad Hoc Advisory Committee on Addiction and Pain Control Issues, Ohio Psychiatric Physicians Association

Cincinnati Exchange Project

A public health initiative that supplies mobile vans reaching four communities in Hamilton and Butler counties to exchange sterile syringes for used ones in addition to safe injection supplies. The program also distributes free naloxone, when available, and HIV and hepatitis C testing. Staff members encourage and provide information about drug abuse treatment programs and facilities in the community.

6.2 College of Nursing

Jennifer Lanzillotta MSN, CRNA, professor of clinical nursing

- Hamilton County Heroin Coalition

Sherry Donaworth DNP, FNP, ACNP, assistant professor of clinical nursing

- Clermont County Opiate Taskforce.

6.3 Cincinnati Children's Hospital Medical Center

- Community Relations sponsored a conference hosted by the Children of Addicted Parents on Nov. 17, 2017, titled "Improving the Future for Children of Addicted Parents." This full-day multi-disciplinary conference was for physicians, nurses, social workers, psychologists, educators, early intervention specialists and other professionals who work with children of addicted parents.

6.4 Cincinnati Veterans Affairs Medical Center (CVAMC)

- CVAMC's R. Jeffrey Goldsmith, MD, recently served as president of the American Society of Addiction Medicine (ASAM) and has lectured internationally.
- Annually sponsor a Mental Health Summit (non-Department of Veterans Affairs mental health treatment community attendees to facilitate interagency collaboration), Great American Smoke-Out, Veteran Stand Down. Multiple staff serve on non-VA local community boards, such as the Hamilton County Mental Health Board, Ohio Psychiatric Physicians Foundation Research Award, and task forces, such as local opioid epidemic task force.
- CVAMC community outreach "housing first" team aggressively performs regular population counts of homeless veterans by subdividing the city into geographical grids and walking each grid at night with law enforcement and medical personnel to identify homeless veterans, enter their "count" information into a database, and then aggressively connect them to medical, mental health and addiction treatment, while focusing on getting them into safe housing.

6.5 Continuing Medical Education Programs

Every other month

UC College of Medicine Addiction Sciences Division Journal Club

Provides six continuing education credits annually to all attendees. Original addiction research papers are formally presented and discussed. Attendance includes all Cincinnati area addiction treatment partners as well as trainees.

November 17, 2017

Changing the Future of Children of Addicted Parents, Northern Kentucky Convention Center, Covington, KY

In partnership with the collaborative Children of Addicted Parents, this conference brought together the community of providers caring for these children. National and regional experts addressed the issues affecting children exposed to opioids in utero or living with the chaos of being the child of a parent with a substance abuse problem.

August 23, 2017

Critical Care Medicine Fellowship Conference
"Delirium/Pain," by Andrea Chamberlain, PharmD

June 26, 2017

Hospital Medicine Emerging Evidence Conference

“Inpatient Pain Management,” by Ndidi Unaka, MD, assistant professor of pediatrics

June 21, 2017

Anesthesia Grand Rounds (Addiction Psychiatrist/Pain Psychiatrist, Cincinnati Veteran Affairs Medical Center)

“Opioid Use” by Dan Hosta, MD

May 3, 2017

Critical Care Medicine Fellowship Conference

“Opioids – Pharmacogenomics and Acute Pain Management,” by Sadhasivam Senthilkumar, MD, professor of pediatrics

March 21, 2017

Online Pharmacy Series

“Pain Management,” by Ashley Nebbia, PharmD, Cincinnati Children’s

February 3, 2017

Neonatology Grand Rounds

“Pain Management in the Neonate,” by Ene Fairchild, MD

January 3, 2017

- Webinar as part of Ohio Perinatal Quality Collaborative
 - Understanding NAS – Video 1, Understanding the Breadth and Context of the Problem, James M Anderson Center for Health Systems Excellence, Cincinnati Children’s
 - Understanding NAS – Video 2: Legalities and Practicalities, by James M. Anderson Center for Health Systems Excellence, Cincinnati Children’s
 - Understanding NAS – Video 3: Simplified Screening & Non-Pharmacologic Management of the Newborn at Risk for NAS

November 1, 2016

Pediatric Grand Rounds

“Perinatal Illicit Drug Exposure: Toxic Stress, Childhood Adversities, and Lifetime Brain Health Issues,” by Robert Block, MD

November 1, 2016

Recordings from 2016 “Changing the Future of Children of Addicted Parents Conference: Impact of the Heroin Epidemic on our Children, The Silent Victims”:

- “An Unfortunate Beginning - The Tale of the Infant Child of Addicted Parents,” by Kathy Wedig, MD, associate professor of pediatrics
- “They Grow Best When They Feel Safe: A Trauma Focused Treatment Model for Very Young Victims of the Heroin Epidemic,” by Janes Sites, EdD, and Jennifer Bowden, MD
- “School Age,” by Sara Rorer
- “Through a Child's Eyes,” by Jerry Moe
- “Teens,” by Steve Durkee, PhD
- “Education's Response to Children of Addicted Parents,” by Audrey Shelton, PhD

- “Child Protection: Understanding the Realities,” by Moira Weir

November 1, 2016

Children: The Hidden, Silent Victims of the Opiate (Heroin) Epidemic

September 21, 2016

Anesthesia Grand Rounds

“Paying the Price for Opioid Therapy,” by Kanwaljeet Anand, MD, and Lucille Packard

April 26, 2016

Comprehensive Children’s Injury Center (Trauma)

“Current Drug Trends,” by Jan Scaglione, PharmD

April 19, 2016

Online Pharmacy Series

“What’s in Your Neighborhood? Street Drug Update,” by Jan Scaglione, PharmD

January 19, 2016

Online Pharmacy Series

“Pain Management and the considerations for Prescribing Schedule II Controlled Substances,” by Rachel Hughes, PharmD

October 16, 2015

Cincinnati Pediatric Society (Pediatric Intensive - Effects of Heroin in the Pediatric Community)

Perinatal Institute

- The advanced practice nurses go to the First Step Home and teach expectant mothers tools for taking care of their substance exposed infants.
- The advanced practice nurses, upon request, have gone to community hospitals and trained their staff on assessing infants for Neonatal Abstinence Syndrome and non-pharmacologic care.
- Laura Ward, MD, and Scott Wexelblatt, MD, have given numerous presentations on Neonatal Abstinence Syndrome and the opiate epidemic to community agencies, nurse leaders and birth hospital personnel.

Palliative Care

- Families sign a “contract” for behaviors around opioids. They also sign a “start talking” form as required by Ohio, urine drug screen, family/personal history of mental health issues/drug abuse and prescription drug monitoring reports. Pill counts are done at every visit. Information is used to risk stratify everyone involved.