



2021 ANNUAL REPORT

DEPARTMENT OF
PHARMACEUTICAL
OUTCOMES AND
POLICY

LETTER FROM THE CHAIR

Dear POP family and friends,

Yet another annual report begins with a reference to the COVID-19 pandemic, which has affected all of us in so many ways. As we are beginning the new academic year in Florida, one aspect is new: We are now watching a preventable spike in infections and deaths. We had the knowledge and the instrumentarium to prevent this, and the analogy to our work in medication use could not be more obvious. Our department's focus on enhancing dissemination and integration of evidence in decision-making at the patient, provider and policy level could not be more pertinent.

Despite the pandemic, POP has continued its growth in terms of faculty, trainees, research output and training opportunities and our impact on public health. Please check out the faculty profiles of Serena Guo, who joined us this past academic year. We also welcomed three new postdoctoral fellows, along with a great new cohort of Ph.D. and residential M.S. students. Of course, several of our senior students have graduated and left for exciting careers in academia, industry, the C.D.C. and the F.D.A. Our online M.S. program has grown this past year under Laura Happe's leadership as well, with a new specialty track in Pharmaceutical Value Synthesis and Communication and a new format for our annual seminar that is now accessible to non-students. Finally, a special recognition goes to Rich Segal, who won our college teacher of the year award!

Our research focus continues to build around several areas of excellence: Our faculty evaluated the safety and effectiveness of drugs, examined the quality of medication use and the impact of regulatory efforts to improve health care quality and design prediction models that can help guide patient and provider decision-making for more effective and safer use of medications. Our clinical areas of emphasis have retained a focus on the opioid epidemic, pain and mental health, geriatrics and dementia, diabetes and cardiovascular disease, infections and cancer, and pregnancy and pediatrics. Our Consortium for Medical Marijuana Clinical Outcomes Research, which involves nine universities in the state, held its inaugural conference with more than 200 attendees and has now a strong branch for the evidence dissemination.

Our work, with more than 140 peer-reviewed publications this past academic year, was recognized with a number of press releases, some featured in this report, editorials and literature awards. Our funding has increased by nearly one million compared to last year. Finally, the Center for Drug Evaluation and Safety, or CoDES, has grown to 24 members, all sharing our growing data infrastructure. The new home for POP, CoDES and the Medical Marijuana Consortium, Malachowsky Hall for Data Science & Information Technology is taking shape with an anticipated move-in date in early 2023.

I hope you agree these are exciting news events and you have the opportunity to hear about some of these directly from our "POPers." I sure have missed meeting many of you at ICPE and other venues where we used to get together. I hope you stay close to our department, and if you have not been in Gator country for a while, please consider visiting us, virtually or in person.

Sincerely,



ALMUT WINTERSTEIN, R.PH., PH.D., FISPE

Dr. Robert and Barbara Crisafi Chair and Distinguished Professor
Director, Center for Drug Evaluation and Safety (CoDES)

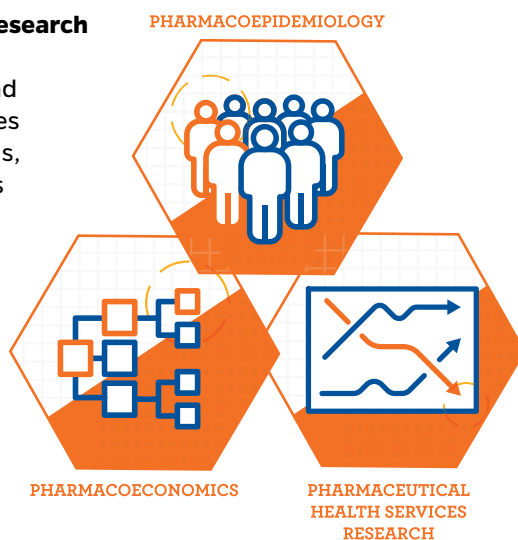


PUBLIC HEALTH IMPACT SPANNING OVER 30 YEARS
OF GRADUATE TRAINING, RESEARCH AND SERVICE

WHAT IS POP ABOUT?

The department of pharmaceutical outcomes and policy excels in three areas of specialization in both research and training. Each area employs its own set of methodological approaches, but all utilize the vast array of big data sources available in the department.

- 1. Pharmacoepidemiology and Safety Sciences** applies epidemiologic methods and knowledge to the study of uses and effects of drugs in populations after drug approval. Important research areas include causal inference studies on postmarketing drug safety and comparative effectiveness and predictive models of drug outcomes and use.
- 2. Pharmacoeconomics and Outcomes Research** assesses the value (clinical and economic) of pharmaceutical products and related services in the delivery of health care. It aims to provide patients, providers and payers with evidence to inform decision-making. Important research areas include economic evaluations, budget impact analysis, multicriteria decision analysis and policy evaluations related to drug formulary, reimbursement and pricing.
- 3. Pharmaceutical Health Services Research** examines the quality, accessibility and delivery of pharmaceuticals and related services. The program places emphasis on vulnerable populations, such as children, elderly, minorities and persons with high-burden diseases and disabilities. Examples of research include the development of quality measures or assessment of disparities and determinants of appropriate therapy.



In this report, Dr. Haesuk Park shines a spotlight on the department's Pharmacoeconomics and Outcomes Research area of specialization.

SPOTLIGHT ON

PHARMACOECONOMICS AND OUTCOMES RESEARCH



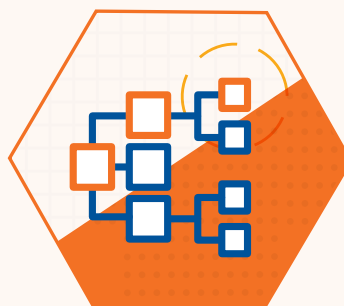
HAESUK PARK, PH.D.
Associate Professor

Pharmacoeconomics and Outcomes Research is a fast-growing and globally important scientific discipline that utilizes economic methods to evaluate the clinical, economic and humanistic aspects of pharmaceutical products, services and programs, as well as other health care interventions. It aims to provide payers, policymakers, providers and patients with information needed to make treatment decisions and optimally allocate limited health care resources. In the Pharmacoeconomics and Outcomes Research academic track, within the Pharmaceutical Outcomes and Policy graduate program, our goal is to equip students and trainees with the tools necessary to critically appraise and conduct cutting-edge research on the value of health care

interventions. Students in this track have the opportunity to engage in research with high-caliber faculty specialized in diverse clinical and methodological focus areas, including economic evaluations, econometrics, patient-reported outcomes and decision analysis.

Within this research track is the Professional Society for Health Economics and Outcomes Research, or ISPOR, student chapter, which provides a platform to support and develop future leaders in the field of health economics and outcomes research, or HEOR. The student chapters' mission is to:

- Provide an environment where students can share knowledge in HEOR
- Serve as a bridge to bring together students interested in the field of HEOR with members of the biopharmaceutical industry, health-related organizations and academia
- Act as a resource for new students interested in the field
- Provide an opportunity for student chapter members to become familiar with, and be represented in, ISPOR



WHO WE ARE

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PH.D.
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RESIDENTIAL
MASTER'S STUDENTS

NEW FACULTY IN 2020-21



JINGCHUAN “SERENA” GUO, M.D., PH.D.
Assistant Professor

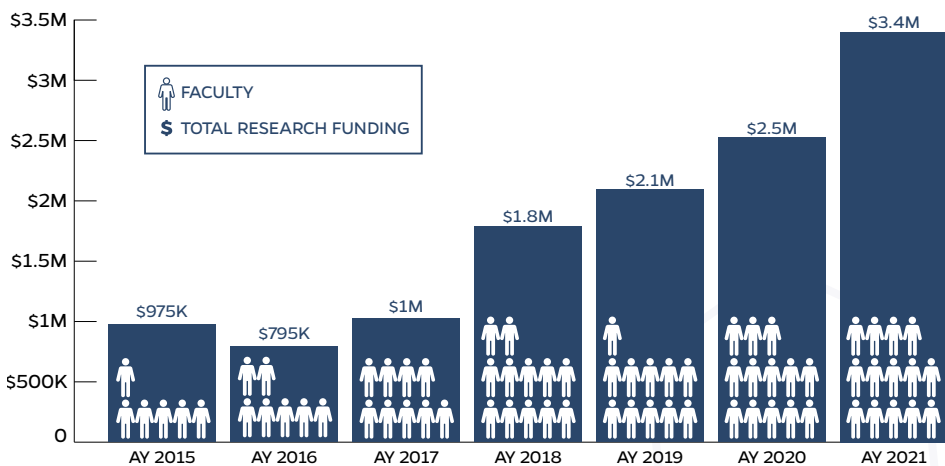
Jingchuan “Serena” Guo is assistant professor in the department of pharmaceutical outcomes and policy at the University of Florida College of Pharmacy. She received her M.D. from Peking University in Beijing, China and her Ph.D. in epidemiology from the University of Pittsburgh. After a one-year postdoctoral fellowship at the Center for Pharmaceutical

Policy and Prescribing at the University of Pittsburgh, she joined the faculty at UF in December 2020. Within a year after finishing her postdoctoral training, Guo has published nearly 30 peer-reviewed manuscripts with more than half as first or senior author. Several articles have been published in top-tier journals, including Diabetes Care, Lancet and BMJ, and featured in media outlets, including the Washington Post, NPR and CNN.

As a junior faculty member, Guo is serving as principal investigator on a UF CTSI Pilot Award and a College of Pharmacy PROSPER Seed Award. She also contributes as a co-investigator to three NIH grants. She conducts epidemiologic and health services research focusing on cardiovascular health and diabetes. Her research draws on large health care databases and advanced analytics (e.g., machine learning and causal mediation analysis) to evaluate: 1) geographic and racial and ethnic inequities in treatment use and clinical outcomes, 2) the effects of potentially modifiable social determinants of health (e.g., neighborhood-level social and built environment and individuals’ social-behavioral factors), and 3) fairness and bias in machine learning predictions across racial and ethnic groups. Guo is a member of the UF College of Pharmacy’s artificial intelligence, or AI, initiative committee and ad-hoc member of UF’s AI Search Committee.

AND STILL GROWING

The department of pharmaceutical outcomes and policy has experienced significant growth in its faculty and total research funding in the last six years.



FACULTY IN 2020–21



ALMUT WINTERSTEIN, R.PH., PH.D., FISPE

Dr. Robert and Barbara Crisafi Chair and Distinguished Professor

Dr. Winterstein’s research program focuses on the evaluation and prediction of drug safety and effectiveness in real-world populations and on devising ways to improve medication use. Clinical areas of interest include pediatrics and pregnancy, psychopharmacology and treatment and prevention of infectious disease.



JOSHUA BROWN, PHARM.D., PH.D., M.S.

Assistant Professor and Associate Graduate Program Director

Dr. Brown’s research is in the field of comparative effectiveness and safety research focusing on anticoagulants, hematology and cardiology and in health care policy evaluation. His research also focuses on medication effects on mobility and aging in older adults and developing real-world evidence for generic drugs and biosimilars.



KARAM DIABY, PH.D., M.SC.

Assistant Professor

Dr. Diaby’s research interests are in the field of economic evaluation, decision analytic modeling, health technology assessment, or HTA, and priority setting using multi-criteria decision analysis, or MCDA.



AMIE GOODIN, PH.D., M.P.P.

Assistant Professor

Dr. Goodin’s research focuses on policy evaluation through the lens of health services research, incorporating mixed-method approaches to assess the impact of policy changes on populations that face health disparities. Specific interests include substance use disorders, particularly opioids and tobacco cessation during pregnancy.



LAURA E. HAPPE, PHARM.D., M.S.

Clinical Associate Professor, Director of The POP Online M.S. Program

Dr. Happe is an editor, professor and author who specializes in using data to aid in decision making. Happe leads the online master’s degree program with approximately 150 students and 50 graduates annually. She is also the Editor-in-Chief of the Journal of Managed Care and Specialty Pharmacy (JMCP), the official peer-reviewed journal of the Academy of Managed Care Pharmacy. Her first book, “If You Give an Ox an Oxy,” is an educational resource for parents to teach their adolescents about the hazards of opioid use.

FACULTY IN 2020–21



JUAN HINCAPIE-CASTILLO, PHARM.D., M.S., PH.D.
Assistant Professor

Dr. Hincapie-Castillo’s research interests include the study of drug utilization and safety in the area of pain management, the evaluation of the effects of State and Federal laws on patient outcomes (legal epidemiology), and the assessment of patient safety and quality for inpatient pain management.



WEI-HSUAN “JENNY” LO-CIGANIC, PH.D., M.S., M.S. PHARM
Associate Professor

Dr. Lo-Ciganic’s research program focuses on evaluation of treatment effectiveness and safety, application of advanced predictive analytics, and improvement of prescribing quality and health disparity, especially among vulnerable populations. Areas of research interests include medication adherence, prescription drug abuse, treatment for substance use disorders, chronic diseases management and oncology.



HAESUK PARK, PH.D.
Associate Professor

Dr. Park’s research program focuses on the evaluation of economic and health outcomes of medication and pharmaceutical care services, as well as policy associated with the use of pharmaceuticals.



RICHARD SEGAL, R.PH., PH.D., M.S.
Professor, Associate Chair and Graduate Program Director

Dr. Segal’s research focuses on improving the quality and safety of the medicines use process, with a particular emphasis on improving prescribing practices and in creating collaborative practice models to improve medication use by patients.



HUI SHAO, M.D., PH.D.
Assistant Professor

Dr. Shao’s research interests include predictive modeling, using advanced machine learning, microsimulation, and econometrics method to build valid predictive models to resolve real-world issues. He is one of the original developers of the Building, Relating, Assessing, and Validating Outcomes (BRAVO) diabetes model, which is the first person-level microsimulation model predicting the progression of diabetes based on individuals’ characteristics and treatment regimen, in the U.S. Hui is currently working with the Centers for Disease Control and Prevention on multiple projects, oversees the development process of several national diabetes/ prediabetes predictive models.

FACULTY IN 2020–21



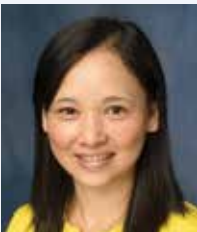
STEVEN SMITH, PHARM.D., M.P.H.
Assistant Professor

Dr. Smith’s research is in the area of cardiovascular pharmacotherapy and hypertension and is funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health. He is a member of the American Heart Association, American College of Cardiology, American College of Clinical Pharmacy, the American Association of Colleges of Pharmacy and the International Society for Pharmacoepidemiology. He is an Assistant Professor in the Departments of Pharmacotherapy and Translational Research and Pharmaceutical Outcomes and Policy.



SCOTT MARTIN VOURI, PHARM.D., PH.D., BCGP
Clinical Assistant Professor and Assistant Director of Pharmacy Services–UF Health Physicians

Dr. Vouri’s research interests include pharmacoepidemiology and pharmaceutical health services research related to the fields of inappropriate medication prescribing/deprescribing, geriatrics, urology and medication utilization following bariatric surgery.



YU-JUNG ‘JENNY’ WEI, PH.D.
Assistant Professor

Dr. Jenny Wei’s research programs focus on questions surrounding the effectiveness, safety and quality of medication use in elderly patients with chronic conditions, especially those in nursing home settings.



FOR ALL DEPARTMENT NEWS IN THE PAST YEAR, VISIT
[POP.PHARMACY.UFL.EDU/CATEGORY/RECENT-NEWS/](https://pop.pharmacy.ufl.edu/category/recent-news/)

POSTDOCTORAL FELLOWS & RESEARCH FACULTY



HYERIM KANG, PH.D.
Postdoctoral Fellow

Kang is a postdoctoral fellow and works with Haesuk Park.



RACHEL REISE, PHARM.D.
Postdoctoral Fellow

Reise is a postdoctoral fellow and works with Scott Martin Vouri.



HAMED KIANMEHR, PH.D.
Postdoctoral Fellow

Kianmehr is a post-doctoral fellow and works with Hui Shao.



HYUN JIN SONG, PH.D.
Postdoctoral Fellow

Song is a postdoctoral fellow and works with Haesuk Park.



SABINA NDUAGUBA, PH.D.
Postdoctoral Fellow

Nduaguba is a postdoctoral fellow and works with Almut Winterstein.



SILKEN USMANI, PHARM.D.
Assistant Scientist

Usmani is an assistant scientist and works with Scott Martin Vouri.



AWARDS, HONORS & APPOINTMENTS

DR. WEI-HSUAN “JENNY” LO-CIGANIC AWARDED UF COP OUTSTANDING PUBLICATION IN CLINICAL SCIENCE RESEARCH AWARD



The University of Florida College of Pharmacy has honored Wei-Hsuan “Jenny” Lo-Ciganic, Ph.D., M.S., M.S.Pharm., an associate professor in the department of pharmaceutical outcomes and policy, with the 2019 Outstanding Publication in Clinical Science Research Award. Lo-Ciganic received the award for her paper published in JAMA Network Open that reported on her and her co-authors’ investigation of five different machine learning approaches to predict opioid overdose in the subsequent three months among 560,057 fee-for-service Medicare beneficiaries who had more than one opioid prescription from 2011 to 2015. Lo-Ciganic and her team’s work used innovative approaches to address a significant public health issue.

Opioid prescription misuse and opioid-related overdose deaths have become a public health crisis. Health care systems and payers have attempted to combat this epidemic, but the lack of accurate and efficient methods to identify individuals who are most at risk has led to broad interventions that are costly for payers and burdensome to patients. Accurately determining who is at ‘high-risk’ can reduce the costs and burdens and improve patient outcomes. Lo-Ciganic and her team’s modeling classified patients into low, medium and high-risk subgroups with over 90% of the overdoses occurring in the high and medium-risk subgroups.

Lo-Ciganic’s paper is published in JAMA Network Open, one of the American Medical Association family journals and achieved a high impact (Almetric score: 135 reflecting its ranking in the top 5% of all research outputs scored by Almetric as of August 2020). It has been mentioned by 159 tweets and five news outlets (e.g., EurekAlert!, MedicalXpress), and cited by 32 articles in the in less than 17 months since publication. This work led National Institute on Drug Abuse to recruit Lo-Ciganic as a member to their Clinical Trials Network Computer Intelligence /Artificial Intelligence Workgroup. Ultimately, the cumulative results of Lo-Ciganic’s efforts will inform the Centers for Medicare & Medicaid Services’, state agencies’ and their partners’ opioid use policies and aid in developing effective prevention strategies to curb the opioid epidemic in the U.S.

JOSHUA BROWN, PHARM.D., PH.D., M.S.

Asst. Professor and Associate Graduate Program Director

- Outstanding Paper of the Year Award, ACCP Ambulatory Care Practice and Research Network, 2020
- Faculty Inductee, Phi Lambda Sigma Pharmacy Leadership Society, 2020
- NIH-NIA Loan Repayment Program Award, 2020-22
- Expert Panelist, National Quality Forum Measure Incubator NVAF — Related Stroke Prevention Strategy, 2020
- Chair/Co-Chair, Academic Council, International Society for Pharmacoepidemiology, 2019-21
- Co-Lead, Pharmacoepidemiology Educational Competencies Working Group, International Society for Pharmacoepidemiology, 2019-21

AMIE GOODIN, PH.D., M.P.P., Asst. Professor

- Editorial Advisory Board, Pain Medicine, Opioids & Substance Use Disorders section, 2020-21
- Editorial Board, Medical Cannabis and Cannabinoids, 2020-21
- Co-Chair, Academic Council, International Society for Pharmacoepidemiology, 2020-21
- Opioid Data Lab Collaborative (affiliation: <https://www.opioiddata.org/>)

LAURA E HAPPE, PHARM.D., M.S.

Clinical Associate Professor, Director of The POP Online M.S. Program

- American Institute of the History of Pharmacy Cert. of Commendation, 2020

WEI-HSUAN “JENNY” LO-CIGANIC,

PH.D., M.S., M.S. PHARM, Associate Professor

- UF College of Pharmacy Outstanding Clinical Science Publication Award, 2020

RICHARD SEGAL, R.PH., PH.D., M.S.

Professor, Associate Chair and Graduate Program Director

- Teacher of the Year, COP, 2021
- Paul Doering Excellence in Teaching Professor Award, 2021

HUI SHAO, M.D., PH.D., Asst. Professor

- Invited Symposium Presenter, 81st ADA Annual Conference, 2021

STEVEN SMITH, PHARM.D., M.P.H.

Asst. Professor

- Member, U.S. CDC National Hypertension Control Roundtable Symposium

CONGRATULATIONS

TO DRs. ALMUT WINTERSTEIN AND JENNY LO-CIGANIC ON THEIR PROMOTIONS!



ALMUT G. WINTERSTEIN,
R.Ph., Ph.D., FISPE,
is now a
Distinguished
Professor



WEI-HSUAN “JENNY” LO-CIGANIC
Ph.D., M.S., M.S. Pharm.,
is now an
Associate Professor

SCOTT MARTIN VOURI, PHARM.D., PH.D., BCGP

Clinical Asst. Professor and Asst. Director of Pharmacy Services — UF Health Physicians

- Teacher Service Incentive Award, UF College of Pharmacy
- Editorial Board, Journal of the American Geriatrics Society, 2020
- Multiple Chronic Conditions (MCC) Scholars Program, AGING Initiative
- Co-Chair, American Geriatrics Society, Polypharmacy & Deprescribing Special Interest Group
- Co-Chair, US Deprescribing Network, Prescribing Cascade Special Interest Group

YU-JUNG “JENNY” WEI, PH.D.

Asst. Professor

- Invited to NIH Pain Consortium Annual Symposium as a Junior Investigator, 2021

ALMUT WINTERSTEIN, R.PH., PH.D., FISPE

Dr. Robert and Barbara Crisafi Chair and Distinguished Professor

- Immediate Past President, International Society of Pharmacoepidemiology, 2020-21
- Director, Consortium for Medical Marijuana Clinical Outcomes Research
- Director, Center for Drug Evaluations and Safety (CoDES)
- Expert Advisor, Board of the International Network for Epidemiology in Policy, 2021

POP RESEARCH

GUIDING CLINICAL CARE AND POLICY DECISIONS
WITH REAL-WORLD EVIDENCE

STUDY LED BY UF RESEARCHERS EXAMINES TRENDS IN HIV PREEXPOSURE PROPHYLAXIS PRESCRIBING IN THE UNITED STATES

In a study published in the Journal of the American Medical Association, researchers in the University of Florida College of Pharmacy used a commercial insurance database to examine the trends in the prescribing of preexposure prophylaxis, or PrEP, for HIV prevention in the U.S. PrEP is recommended for use by individuals at risk of acquiring HIV, but few of those at risk receive it. Identifying trends and gaps in PrEP care can provide much needed guidance for focusing efforts to increase access to PrEP for appropriate candidates to ultimately curtail the spread of HIV.

Haesuk Park, Ph.D., an associate professor of the department of pharmaceutical outcomes and policy, and Hyun Jin Song, M.Pharm., Ph.D., a postdoctoral fellow in the department, led the investigation. Their study found that the annual number of persons prescribed PrEP in a sample of national medical claims from U.S. employers — provided health insurance increased from 821 in 2012 to 29,799 in 2018. Primary care physicians prescribed 79% of the PrEP prescriptions and infectious disease physicians prescribed 7%. Of physicians who prescribed PrEP, 42% were physicians who had also cared for a person diagnosed with HIV, and they prescribed 64% of PrEP, with 53% of the PrEP prescriptions being prescribed by primary care physicians with a history of caring for persons with HIV. Park said that public health efforts such as clinician education on identifying appropriate candidates for PrEP are needed to increase access to PrEP.



UF STUDY: FDA LABEL CHANGE REQUIREMENT HELPED REDUCED ANTIBIOTIC MISUSE

The U.S. Food and Drug Administration in 2016 took action to reduce the overuse of fluoroquinolones, a type of antibiotic associated with serious side effects. That step helped cut the use of these antibiotics for uncomplicated urinary tract infections, or UTIs, by more than half, according to a University of Florida study published in JAMA's Internal Medicine.

Fluoroquinolones, the most common class of quinolones, became one of the world's most widely used antibiotics in the 1990s, but concerns about serious side effects emerged in the 2000s. The FDA warned about the risk of tendon ruptures and severe nerve damage, but the drug's use for uncomplicated infections, for which there are safer alternatives, continued.

Almut Winterstein, Ph.D., a distinguished professor and the Dr. Robert and Barbara Crisafi Chair of Pharmaceutical Outcomes and Policy in the UF College of Pharmacy and director of the UF Center for Drug Evaluation and Safety, participated in a 2015 FDA advisory committee meeting that re-evaluated the risk-benefit of quinolones. Instead of banning the drug, which proves useful in cases of severe infection and antibiotic resistance, the committee supported the removal of labeling indications for uncomplicated UTIs, acute sinusitis and acute exacerbations of chronic obstructive pulmonary disease, or COPD.

In the recent study, Winterstein and her research team evaluated the effect of this decision. "The effect of regulatory action on prescribing behavior can vary tremendously," she said. "For example, previously issued box warnings to alert prescribers about the serious side effects of quinolones had limited effect. Our study aimed to find out whether the FDA's action resulted in a shift in prescribing practice, and it did."

In 2015, quinolones were used to treat 41.6% of antibiotic-treated UTIs. When the relabeling policy went into effect in 2016, the number immediately dropped by 7.2% and ultimately decreased to 19.2% by the end of 2018. Prevalence of quinolone treatment for sinusitis dropped from 8.3% to 2.9% and 31.9% to 14.6% for COPD.

Treatment mostly shifted to recommended antibiotics: nitrofurantoin for UTIs, amoxicillin for sinusitis and macrolides for COPD. However, use of non-recommended antibiotics like tetracycline for COPD also increased.

"Removal of indications for sinusitis and acute exacerbations of COPD showed smaller but recognizable decreases, demonstrating that the FDA action succeeded across all examined medical specialties," Winterstein said. While she is pleased with the results, Winterstein noted room for improvement in further reducing the number of UTIs treated with quinolones.

RESEARCHER EARNS DIVERSITY SUPPLEMENT FOR DEMENTIA WITH LEWY BODIES GRANT



Joshua Brown, Pharm.D., Ph.D., recently received an NIH National Institute on Aging diversity grant supplement award for his research on dementia with Lewy bodies, or DLB. The supplement was awarded to a parent grant held by Melissa Armstrong, M.D., M.Sc.

Brown, an assistant professor of pharmaceutical outcomes and policy in the UF College of Pharmacy, was awarded the diversity supplement based on his disadvantaged socioeconomic background. Growing up in a loving household in rural Arkansas, Brown's parents, who both struggled to earn their high school diplomas, couldn't afford to send him to college and therefore didn't push him to pursue a secondary education.

"Up until the summer before my senior year of high school, I wasn't even planning to go to college and didn't see it as an option," Brown said. "I was lucky to get advice and mentorship from family friends, professors and advisors, which helped me forge a path through a higher education system that is challenging for first generation students."

Brown went on to get a bachelor's degree from the University of Arkansas, a doctorate in pharmacy from the University of Arkansas for Medical Sciences and his Ph.D. from the University of Kentucky.

Armstrong's study, which Brown's supplement award will support, seeks to improve end-of-life experiences for individuals with DLB and their families. DLB is a form of degenerative dementia that affects over a million people in the U.S. It can cause changes in memory and thinking, movement issues, psychiatric illness and hallucinations, though symptoms vary from case to case.

"The goal of this study is to understand the experiences of the moderate-to-advanced stages of DLB and to understand what changes might tell us when someone is approaching the end of life," said Armstrong, an associate professor of neurology in the UF College of Medicine.

Armstrong is gathering data for the three-year study of about 150 individuals with DLB and their caregivers by meeting with caregivers bi-annually, while Brown is using a Medicare dataset of roughly 19,000 patients, an approach that both researchers describe as complementary.

Brown says that in addition to enhancing Armstrong's study, the grant will help further his knowledge of neurodegenerative diseases like DLB and Alzheimer's, while continuing to fund his research into those areas.

"NIH has a broad definition of diversity that includes race, ethnicity, sex, disabilities, as well as socioeconomic disadvantages," Brown said. "I think it's really unique and opens opportunities for more people with disadvantaged backgrounds to pursue academic research careers."

GRANTS

DEPARTMENT FACULTY ARE STEADILY INCREASING THEIR EXTRAMURALLY FUNDED RESEARCH PORTFOLIO AND ARE ACTIVELY INVOLVED IN OVER 40 GRANTS AND CONTRACTS

Advancing Personalized Hypertension Care through Big Data Science

*NHLBI/NIH (K01HL138172) Research Scientist Development Award 7/2018-6/2023
Principal Investigator: Steven Smith
Mentor: Almut Winterstein*

This project seeks to use large-scale EHR data to better understand current prescribing patterns for new antihypertensive use, to identify treatment effect modifiers of antihypertensive response, and ultimately to develop prediction models for optimal antihypertensive selection following hypertension diagnosis.

Assessing the Burden of Diabetes By Type in Children, Adolescents and Young Adults (DiCAYA)

*CDC U18DP006512-01-00 9/2020-8/2025
Principal Investigator: Hui Shao*

This study will build a surveillance system in Florida to monitor the prevalence and incidence of diabetes among children and adolescents in an accurate, cost-effective, and timely fashion.

Application of Physiologically Based Pharmacokinetic Models to Inform Dosing Recommendations for Hormonal Contraceptives Co-administered with Other Medications

*Bill & Melinda Gates Foundation (OPP118545); 11/2017-10/2022
Principal Investigator: Stephan Schmidt
Co-Investigators: Joshua Brown, Valvanera Vozmediani Esteban, Rodrigo Cristofolletti, Almut Winterstein*

This project aims to develop pharmacological and pharmacoepidemiological evidence to inform treatment decisions for hormonal contraceptives and interacting medications by integrating real-world outcomes research, model-based meta-analytic approaches and physiologically based pharmacokinetic modeling and simulations.

A Behavioral Economic Intervention to Reduce Marijuana Use in Truant Youth

*NIH/NIDA K23DA046565 (K23) Research Project Grant Award 04/2019-03/2024
Principal Investigator: Ali Yurasek
Co-Investigator: Haesuk Park*

The aim of this proposal is to adapt a brief behavioral economic intervention to reduce marijuana use that involves truant youth and their parents. This project will examine the acceptability, feasibility, and initial efficacy of this intervention with adolescents referred for services as part of a juvenile specialty (truancy) diversion program.

Characterizing Community and Physician-Level Factors Associated with Medical Marijuana Registration and Patient Access

*Consortium for Medical Marijuana Clinical Outcomes Research 12/2019-12/2020
Principal Investigators: Joshua Brown, Amie Goodin*

This project created a data resource and tool to understand the environmental factors related to use of cannabis in the state of Florida including community and physician level factors.

Characterization of the Concurrent Prescribing of Non-Benzodiazepines Hypnotics

*AFPE Gateway to Research Scholarship; 7/2021-6/2020
Principal Investigator: Razanne Oueini
Primary Mentor: Scott Vouri*

This study assessed the trends of co-utilization of non-benzodiazepine hypnotics and opioids using the NAMCS database.

Comparing Cardiovascular Benefits Between GLP-1RA and SGLT2 Inhibitor Agents

*University of Florida 2020 PROSPER Award; 1/2020-1/2021
Principal Investigator: Hui Shao, Christina DeRemer
Co-Investigators: Scott Vouri*

This study compared the risk for cardiovascular complications

between GLP-1RA and SGLT2i users who have T2DM and are commercially insured by large health plans. We will emulate the SUSTAIN-8 diabetes trial by following its trial protocol and applying an instrumental variable to adjust for selection bias.

Consortium for Medical Marijuana Clinical Outcomes Research

*Florida State University System Board of Governors 07/2019-12/2021
Principal Investigator: Almut Winterstein
Co-Investigators: Amie Goodin, Joshua Brown*

This state appropriation funds the consortium for medical marijuana clinical outcomes research, charged to generate and disseminate evidence on the outcomes of the medical use of marijuana to inform clinical and policy decisions. The Consortium includes nine Florida universities.

Developing the Capability of Using National Medicaid Data for FDA Post-Marketing Surveillance to Assess Medication Safety During Pregnancy

*Brigham and Women's Hospital — sub-award under HHSF2232014000431 (FDA) 09/30/2017-03/31/2021
Principal Investigator: Almut Winterstein*

This study will develop and validate Medicaid-specific algorithms to estimate gestational age for live birth pregnancies, explore methods to identify non-live birth pregnancy outcomes (e.g., stillbirth, induced abortion, spontaneous abortion) and estimates for the gestational length of these pregnancies, if deemed feasible, and develop analytic tools to assess the impact on relative risk estimates of exposure misclassification (due to errors in estimation of gestational age and exposure measurement), outcome misclassification (due to lack of outcome validation), selection bias (due to failure to include non-live births), and residual confounding (due to missing covariates in EHD).

Developing a Real-Time Trajectory Tool to Identify Potentially Unsafe Concurrent Opioid and Benzodiazepine Use among Older Adults

NIH/NIA AG060308 (R21)
Exploratory/Developmental Research Grant Award; 05/2019-01/2022
Principal Investigator: Wei-Hsuan “Jenny” Lo-Ciganic
Co-Investigators: Almut Winterstein, Juan Hincapie-Castillo

This project aims to develop an innovative, real-time “Predicting Risky Opioid-Benzodiazepine Trajectory e-Care Tool (PROTeCT)” for identifying and predicting subgroups of older adults with potentially unsafe patterns of concomitant use of opioids and benzodiazepines, in order to better guide clinical care and inform related policies and interventions.

Diversity supplement for Joshua Brown to parent R01

NIH National Institute on Aging (1R01AG068128-Diversity Supplement); 6/2021-5/2023
Principal Investigator: Melissa Armstrong
Co-Investigator: Joshua Brown

This project aims to evaluate end-of-life healthcare trajectories and causes of death in people with dementia with Lewy bodies.

Epidemiology and Cost of RSV Infections in Infants and Toddlers

Merk and Company Inc
5/2020-6/2021
Principal Investigator: Almut Winterstein

This study will estimate the number and proportion of children <5 years of age with RSV-associated inpatient admissions or outpatient visits, and estimate RSV related costs, considering relative contributions of RSV infections to the overall burden of lower-respiratory tract infections and variation in disease incidence and cost across strata defined by chronological and gestational age, key risk conditions, plan type, and RSV season and geographic region.

Estimating Patterns of Geographic Variation and Social Determinants of Health that Impact Breastfeeding Outcomes Using Natural Language Processing and Electronic Health Records

UF Clinical and Translational Sciences Institute (CTSI) Precision Health Initiative Pilot Funding
7/2020-7/2021
Principal Investigator: Dominick Lemas
Co-Investigator: Amie Goodin

This project maps breastfeeding uptake and outcomes among people who have delivered live born infants within a region of Florida via mining of EHR structured and unstructured clinical notes.

Evaluation of Drug Treatment for Incident Trigeminal Neuralgia in Medicare-Insured Patients

UF Center for Advancing Minority Pain and Aging Science
9/2020-8/2021
Principal Investigator: Juan Hincapie-Castillo

This study aims to describe the initial drug treatment for trigeminal neuralgia in older adults using real-world data and to understand the patient characteristics associated with individual treatment selection.

Evaluation of Utilization Patterns of Cough Medications in the U.S.

Merck Sharp & Dohme Corp
5/2021-11/2022
Principal Investigators: Wei-Hsuan “Jenny” Lo-Ciganic, Juan Hincapie-Castillo

The goal of the study is to (1) estimate changes in the trend in chronic cough medication (CCM) use over time in the US ambulatory care settings, and (2) to identify and characterize the distinct CCM utilization trajectories and associated factors using Medicare and OneFlorida data.

Improving the Effectiveness of Medication Therapy Management

CDC /Department of Health
06/2021-06/2023
Principal Investigator: Richard Segal

This project aims to study the effectiveness of community health workers, when collaborating with pharmacists to improve medication adherence and blood pressure control in a diverse population with poorly controlled high blood pressure.

Improving Medication Adherence with Telehealthcare Medication Therapy Management to Change Health Outcomes in Adolescents and Young Adults with Asthma (MATCH)

NIH/NHLBI R01HL136945 (R01) Research Project Grant Award
5/2018-3/2023
Principal Investigator: Kathryn Blake (Nemours Children’s Clinic)
Co-Investigators: Haesuk Park, Almut Winterstein

This project aims to use video telemedicine to improve medication adherence in adolescents and young adults with poorly controlled asthma by monitoring improvements in asthma outcomes through adherence counseling with a pharmacist via telehealth in a convenient and private location.

Integrative and Multidisciplinary Pain and Aging Research Training (IMPART)

NIH/NIA AG0049673-01 (T32) Award
8/2020-8/2025
Principal Investigator: Roger Fillingsim
Developmental Mentor Investigator: Yu-Jung “Jenny” Wei

The goal of the IMPART program is to develop outstanding independent investigators capable of sustaining productive clinical and translational research careers addressing the biopsychosocial mechanisms underlying age-related changes in the experience of pain and/or designing clinical interventions to ameliorate acute and chronic pain among older adults. I am one of the developmental mentors who will serve as a co-mentor and member of mentoring teams of trainees who would like to develop skills in pharmacoepidemiology.

Leveraging Social Media Data for Evaluation of Drug Use Trends After Opioid Policies

American Association of Colleges of Pharmacy; 03/2020-02/2021
Principal Investigator: Juan Hincapie-Castillo
Co-Investigators: Amie Goodin, Wei-Hsuan “Jenny” Lo-Ciganic

The proposed study aims at exploring the feasibility of using consumer-generated data from social media to evaluate trends in prescription and illicit opioid use in the context of opioid-related policies

DR. SCOTT MARTIN VOURI RECEIVES CAREER DEVELOPMENT AWARD TO STUDY PRESCRIBING CASCADES IN OLDER ADULTS



Scott Martin Vouri, Pharm.D., Ph.D., BCPG, an assistant professor of pharmaceutical outcomes and policy, was recently awarded a K08 Career Development Award through the National Institute on Aging to further his work on prescribing cascades in older adults. Prescribing cascades describe a problem in medication use where a drug-induced adverse event is not recognized as such and is instead treated with another potentially unnecessary medication. This award includes \$643,854 over four years and will provide Vouri with resources to conduct research and complete further training under the guidance of his primary mentor, Almut Winterstein, Ph.D., a distinguished professor and the Dr. Robert and Barbara Crisafi Chair of Pharmaceutical Outcomes and Policy in the University of Florida College of Pharmacy.

With this funding, Vouri plans to expand on his previous research that described a common prescribing cascade where patients initiate a loop diuretic medication to treat edema caused by a calcium channel blocker medication. He will use novel approaches to measure the occurrence and downstream negative effects of this cascade as well as develop approaches to prevent and mitigate prescribing cascades in clinical practice. “Prescribing cascades are thought to be a contributor to polypharmacy thus negatively impacting the health and well-being of older adults,” Vouri said. “My research will further explore risk and consequences of prescribing cascades as well as provide insight into deprescribing prescribing cascades.”

Vouri’s committee members include Todd Manini, Ph.D., an associate professor in the department of aging and geriatric research at UF; Dan Malone, R.Ph., Ph.D., a professor of pharmacotherapy at the University of Utah; and Mike Daniels, Sc.D., a professor, chair and the Andrew Banks Family Endowed Chair in the department of statistics at UF. Additionally, Vouri will receive consultation from Carl Pepine, M.D., a professor of medicine at UF; Lawrence Solberg, M.D., a geriatrician at the U.S. Department of Veteran Affairs; and Ben Staley, a clinical data specialist at UF Health.



Linking VA and non-VA Data to Study the Risk of Suicide in Chronic Pain Patients

Voices of Hope National Institute of Mental Health/Cornell University
09/2020-05/2025
Principal Investigator: Jyotishman Pathak
Co-Investigator: Wei-Hsuan “Jenny” Lo-Ciganic

The study aims to integrate large-scale VA and non-VA data to study the risk of deaths (suicide and accidental opioid overdose), and suicidal ideation and attempts in Veterans on chronic opioid therapy using innovative machine learning and data mining approaches.

Louisiana Experiment to Address Diabetes: Zero-Dollar Copayment (LEAD-ZDC) for Improving Disease Management

CDC U18DP006523-01-00
09/2020-09/2025
Principal Investigator: Lizheng Shi
Co-Investigator: Hui Shao

This project seeks to examine if a zero-dollar copayment program in Blue Cross Blue Shield of Louisiana will improve the care among patients with Diabetes and if it is cost-effective in a long run.

Medicaid Prior Authorization Policies for Chronic Hepatitis C Treatment in Vulnerable Populations

NIH/NIDA K01DA045618 (K01) Research Scientist Development Award; 5/2018-4/2023
Principal Investigator: Haesuk Park
Mentor: Almut Winterstein

This award supports the PI’s career development in viral hepatitis and health policy for individuals with substance use disorders and HIV co-infection. The project will advance the understanding of the consequences of Medicaid policies for hepatitis C treatment on accessibility, quality of care, and clinical outcomes critical to improving access to care and health equality in underserved and vulnerable populations.

Nursing Unit Design and Hospital Falls

Veterans Affairs Merit, 3/2021-2/2022
Principal Investigator: Ron Shorr
Co-Investigator: Wei-Hsuan “Jenny” Lo-Ciganic

The study aims to identify unit design factors contributing to inpatient falls within the Veteran Health Administration (VHA) using a mixed qualitative and quantitative methods.

Operationalizing High-Throughput Screening Prescription Sequence Symmetry Analysis to New Prescribing Cascades

University of Florida College of Pharmacy PROSPER Research Enhancement Awards Seed/Pilot Funding; 02/2021-1/2021
Co-Principal Investigator: Scott Vouri, Steven Smith

This project aims to develop a process to identify novel statin prescribing cascades using high-throughput screening with the prescribing sequence symmetry analysis.

Pharmacological Management of Pain in Alzheimer’s Disease and Related Dementia (ADRD)

NIH/NIA 1K01AG054764-01A1 (K01) Mentored Research Scientist Development Award 08/2017-06/2022
Principal Investigator: Yu-Jung “Jenny” Wei
Mentor: Almut Winterstein

This project aims to provide preliminary data that improve our understanding of current pain medication prescribing and potential discrepancies between practices and pain guidelines, and to formulate hypotheses for future research regarding the role of pain control in reducing mental health problems in ADRD.

Administrative Supplement for K01 Pharmacological Management of Pain in Alzheimer’s Disease and Related Dementia (ADRD)

NIH/NIA 3K01AG054764-04S1 K01 administrative supplement
08/2020-05/2022
Principal Investigator: Yu-Jung “Jenny” Wei

This supplement is used to support the PI’s transition from mentored career development to research independence after a critical life event.

Precision Antiplatelet Therapy After Percutaneous Coronary Intervention

NIH/NCATS R01 HL149752
07/2020-06/2021
Principal Investigator: Larisa Cavallari
Co-Investigator: Almut Winterstein

Completion of this research project will elucidate the key factors that influence outcomes with a genotype-guided precision medicine approach to antiplatelet therapy and establish optimal strategies that improve outcomes with this approach in a diverse, real-world setting.

Prescription Opioid Use Trajectories and Risk Factors Associated with Opioid-Related Hospitalizations in Older Adults

AHRQ 1R03HS027230-01 (R03) Award
9/2019-8/2021
Principal Investigator: Yu-Jung “Jenny” Wei

This study aims to assess elderly high-risk prescription opioid use patterns and risk factors that are associated with opioid-related hospitalizations among older adults.

Preventing the Calcium Channel Blocker- Lower Extremity Edema — Loop Diuretic Prescribing Cascade in Older Adults

NIH/National Institute on Aging (K08AG066854); 05/2021-3/2025
Principal Investigator: Scott Vouri
Mentor: Almut Winterstein

This project aims to assess the incidence and downstream consequences of a prescribing cascade and assess the potential impacts of a prescribing cascade intervention.

Preventing and Eliminating the Calcium Channel Blocker- Lower Extremity Edema — Loop Diuretic Prescribing Cascade in Older Adults

Claude D. Pepper Older American Independence Centers — Junior Scholars Program — NIH/NIA
4/2019-3/2021
Principal Investigator: Scott Vouri

This project aims to assess the incidence and downstream consequences of a prescribing cascade.

Program Evaluation and Analytic Support Services for a Substance Use Disorders Recovery Community Center

*Voices of Hope; 08/2019-12/2020
Principal Investigator: Amie Goodin*

This project aims to develop a measurement framework for, and then evaluate, participation and retention measures among programs offered within a recovery community center for persons with substance use disorders.

Quality of Care with Inferior Vena Cava Filters

UF Health Quasi-Endowment Fund 10/2019-12/2021

Principal Investigator: Joshua Brown

This project aims to determine the scope of practice focused on a medical device, inferior vena cava filters, and aims to promote high-value, evidence-based practices within UF Health and collect preliminary data for future grant applications.

Safety of Gadolinium-Enhanced MRI Exposure During Pregnancy on Adverse Fetal Outcomes

U.S. Food & Drug Administration HHSF223201810083C

09/2018-09/2020

*Principal Investigator:
Almut Winterstein*

This proposal has the primary aim to provide robust evidence on the safety of GBCA-enhanced MRI during pregnancy regarding adverse fetal outcomes to support regulatory decision-making. It will further establish enhanced capacity to evaluate emerging safety questions in pregnancy.

Simulating Long-Term Outcomes for iGlarlixi Using BRAVO Diabetes Model

Sanofi; 6/2020-2/2021

Principal Investigator: Hui Shao

This study compared the risk for cardiovascular complications between iGlarlixi and standards of care in people with type 2 diabetes.

Sparking Advancements in Genomic Medicine

NIH/NHGRI U01HG007269 (U01)

Research Project-Cooperative

Agreements Grant Award

09/2018-06/2023

Principal Investigator: Julie Johnson

Co-Investigators: Karam Diaby, Almut Winterstein

This project aims to address the significant burden of both pain and opioid use in the U.S. by testing the hypothesis that CYP2D6 genotype-guided pain management leads to improved patient reported outcomes for pain control and is cost-effective in a real-world setting.

Surveillance on the Economic-Related Issues in Diabetes Care in the US

CDC 20IPA2008335DPG

7/2020-6/2022

Principal Investigator: Hui Shao

This project seeks to provide surveillance on the utilization and economic burden of diabetes management in the U.S.

Trajectories of Apixaban for Extended Treatment of Recurrent Venous Thromboembolism: a Retrospective Cohort Study

American Thrombosis Investigator Initiated Research Program (ARISTA) 06/2020-06/2022

*Principal Investigator: Haesuk Park
Co-Investigators: Wei-Hsuan "Jenny" Lo-Ciganic*

To investigate the effects of extended use of apixaban or warfarin beyond 6 months of initial treatment on the risk of recurrent venous thromboembolism and major bleeding events among patients with a history of venous thromboembolism.

Transforming and Translating Discovery to Improve Health

NIH/NCATS UL1TR001427

07/2020-06/2021

Principal investigator: Duane Mitchel

Co-Investigator: Almut Winterstein

The UF and FSU CTSa hub will work within Florida to improve human health by accelerating the translation of scientific discoveries and the implementation of evidence-based best practices for the diagnosis,

treatment, prevention and cure of human diseases across the lifespan. This anticipated award represents the next phase of evolution from creating a clinical and translational science infrastructure to enhancing the local, state and national impact of CTSI-led science with a special emphasis on underserved and unique patient populations.

Using Machine Learning to Predict Problematic Opioid Use

NIH/NIDA 1R01DA044985 (R01)

Research Project Grant Award

09/2017-06/2022

*Consortium Principal Investigator:
Wei-Hsuan "Jenny" Lo-Ciganic*

The purpose of this study is to apply machine learning to develop two distinct prediction algorithms that can identify patients at high risk of problematic opioid use and overdose among Medicaid beneficiaries in Pennsylvania and Arizona.

Using PCORnet to Compare Blood Pressure Control Strategies

Patient-Centered Outcomes Research Institute (PaCR Grant Administrative Supplement for COVID-19)

07/2020-06/2021

*Principal Investigators: Rhonda Cooper-DeHoff, Steven Pletcher
Co-Investigator: Steven Smith*

This project seeks to employ the BP Control Lab, a PCORI-funded project that uses PCORnet data, to study relationships between COVID outcomes and antihypertensive exposures among individuals with hypertension.

The 6th Biennial Science of Global Prostate Cancer Disparities in Black Men of African Ancestry

NIH/NCI R13CA254395

09/2020-08/2021

Principal Investigator:

Folakemi Odedina

Co-Investigator: Richard Segal

This study aims to foster research skills and share research results that develop and test the feasibility of prostate cancer-relevant interventions in Blacks or determines the biological basis for prostate cancer disparities in Blacks.

TRANSLATING BIG DATA INTO EVEN BIGGER, HEALTHIER AND SAFER OUTCOMES

UF RESEARCHERS EXAMINE THE BENEFITS OF USING GLP-1RA DRUGS TO CONTROL DIABETES AMONG ASTHMA OR COPD PATIENTS

Patients with diabetes commonly have additional chronic diseases such as asthma or COPD. Because several diabetes medications with different mechanism of action are approved, it is important to understand which diabetes medication fits specific patients' needs. For example, some glucose-lowering drugs have shown beneficial effects on the heart, while others may cause weight gain and thus, may be harmful for patients with obesity. Unfortunately, patients with comorbidities are frequently excluded from clinical trials and therefore, the whole spectrum of effects beyond the direct effect on diabetes symptoms, either harmful or beneficial, of newly approved medications are unknown in various patient groups.



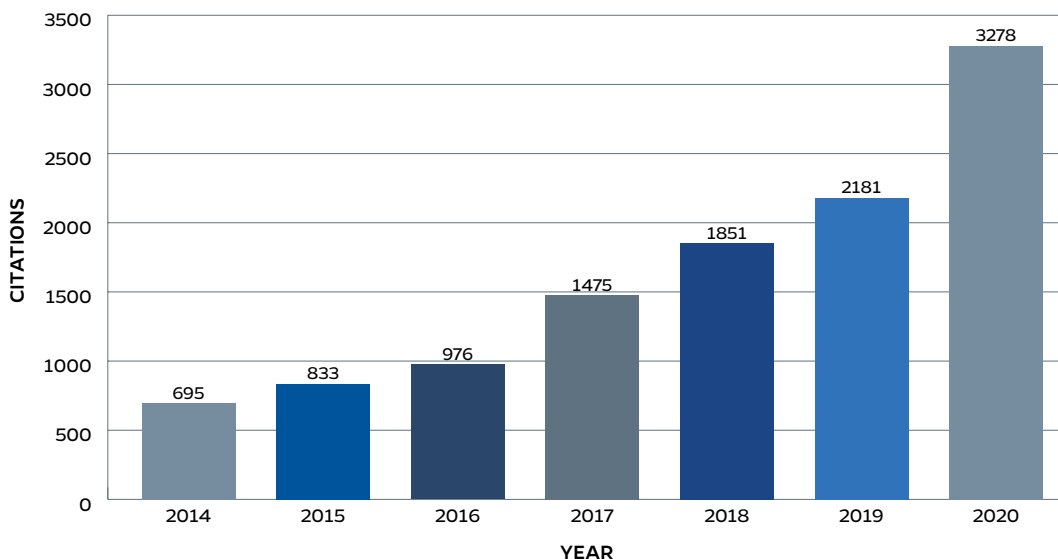
Animal studies have shown promising results of glucagon-like peptide-1 receptor agonists, or GLP-1RA, a new class of glucose lowering agents, on improving impaired lung function. In a study published in the journal *Diabetes Care*, researchers from the UF College of Pharmacy sought to evaluate the potential benefits of using GLP-1RA drugs for diabetes control among patients who have also asthma or COPD. They observed that the patients who initiated GLP-1RA had half the risk of hospitalizations for COPD or asthma exacerbations than a similar group of patients who started alternative diabetes medications. They noted similar positive effects when examining a broader set of outcomes including emergency department visits for asthma or COPD or the need to use oral corticosteroids, drugs used to control severe asthma and COPD exacerbations. UF College of Pharmacy researchers applied several analyses to examine the results' robustness and all findings were consistent.



In conclusion, considering both plausible mechanistic pathways proposed from bench science research, and the real-world evidence, GLP-1RA offer an added benefit when deciding on a treatment strategy for diabetic patients with asthma or COPD.

This study was led by Almut Winterstein, R.Ph., Ph.D., FISPE, a distinguished professor, the Dr. Robert and Barbara Crisafi Chair in Pharmaceutical Outcomes and Policy in the College of Pharmacy and director of the Center for Drug Evaluation and Safety at UF, and Yasser Albogami, Ph.D., M.P.H., a former graduate student in the department of pharmaceutical outcomes and policy.

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MACHINE-LEARNING ALGORITHM LED BY UF RESEARCHER IMPROVES THE PREDICTION OF OPIOID OVERDOSE BY INTEGRATING HEALTH CLAIMS DATA WITH PUBLIC HUMAN SERVICES DATA



In a study recently published by PLOS One, researchers at the University of Florida College of Pharmacy reported on a machine-learning approach for predicting opioid overdose risk that integrates public human services data with health claims. In response to the growing epidemic of opioid use in the United States, health systems have implemented surveillance methods using simple criteria to identify those at high-risk of overdose and opioid use disorder. To improve the surveillance methods, Wei-Hsuan “Jenny” Lo-Ciganic, Ph.D., M.S., M.S.Pharm., an associate professor of pharmaceutical outcomes and policy, worked with researchers at the University of Pittsburgh and Pennsylvania’s Allegheny County Department of Human Services. The team linked Medicaid health claims data with human services and criminal justice data. This allowed them to account for important social determinants of opioid overdose, such as social services use and incarcerations.

Lo-Ciganic’s study found that of the top 30 most important predictors, nine were human services and criminal justice variables. Of the individuals with overdoses, approximately 70% were members of the top-risk decile in the team’s model. Ultimately, Lo-Ciganic’s algorithms can be used to more accurately identify those at highest risk of opioid overdose allowing for timely and better allocation of treatment resources and preventative care.

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FAST FACTS FOR 2021

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ACTIVE
EXTRAMURALLY
FUNDED
PROJECTS

\$3.4M

EXTRAMURAL
FUNDING TO
POP FACULTY

143

PEER-REVIEWED
MANUSCRIPTS

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PUBLICATIONS
FIRST AUTHORED
BY GRADUATE
STUDENTS

165

TOTAL NUMBER
OF TRAINEES

35

NEW
GRADUATES

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POP'S GRADUATE PROGRAM

LETTER FROM THE GRADUATE DIRECTOR

As the department's graduate director, I am delighted to share information about the state of our graduate program and the many accomplishments of our students. Our program focuses on interdisciplinary collaboration while creating world-class researchers and policymakers. During the past academic year, 35 graduate students have been part of our residential graduate program, with almost all working on a doctoral degree. And our program continues to grow with 13 new students beginning during the 2021-22 academic year. Further, our students bring diverse global perspectives with 15 nations represented.

The residential graduate students first-authored 26 papers in peer-reviewed journals during the past year, including papers published in high-impact journals such as JAMA Internal Medicine and The Journal of Pain. Students have virtually presented their research, giving more than 20 presentations at national or international research and professional meetings. We also recognized several graduate students who have been particularly meritorious in critical scientific skills, including research, leadership and service. For 2020-21, Brianna Costales received the Bonnie Avery Advancing Women in Pharmaceutical Sciences Award and Amir Sarayani received the Ronald J. and Sally G. Brenner Fellowship. Costales and Sarayani were selected from among the more than 125 graduate students in the College of Pharmacy for these awards. At the departmental level, Sarayani received the "POP Graduate Student Publication Award," meant to recognize a graduate student who has displayed excellence in a single peer-reviewed article or a body of scientific work. Earl Morris was the recipient of the "Leadership Service Award," or the "POP Star" award, for a student who displays a passion for the department and research and is a leader and an overall good citizen. Thuy Thai received the "POP Programming Award," recognizing her skills in writing and cleaning code. We also recognized finalists for these departmental awards, including Ching-Yuan "Peggy" Chang, Ziyang Chen, Brianna Costales and Earl Morris.

Further, during the prior academic year, graduates have found incredible positions upon finishing their degree programs, such as a prevention effectiveness fellow in the Division of Overdose Prevention at the Centers for Disease Control and Prevention and an associate director at Merck.

The online M.S. program, and related graduate certificate programs, have offered state-of-the-art learning experiences to more than 180 students in the past year. This program provides coursework tailored for working professionals, including specialty tracks in applied pharmacoeconomics, managed care pharmacy systems, medication safety and quality systems, pharmaceutical regulation and a new track called pharmaceutical value assessment and communications. Students have raved about the value-added from their participation in the program. I encourage you to check out some of the student testimonials about how the program has impacted them professionally.



As you can tell, we are so proud of our students and graduates. They have accomplished a great deal during the past year, despite the COVID-19 pandemic, and, most importantly, are making significant impacts on society through their research and professional achievements.

RICHARD SEGAL, R.PH., PH.D., M.S.

Professor, Associate Chair and Graduate Program Director

CONGRATULATIONS TO OUR GRADUATES

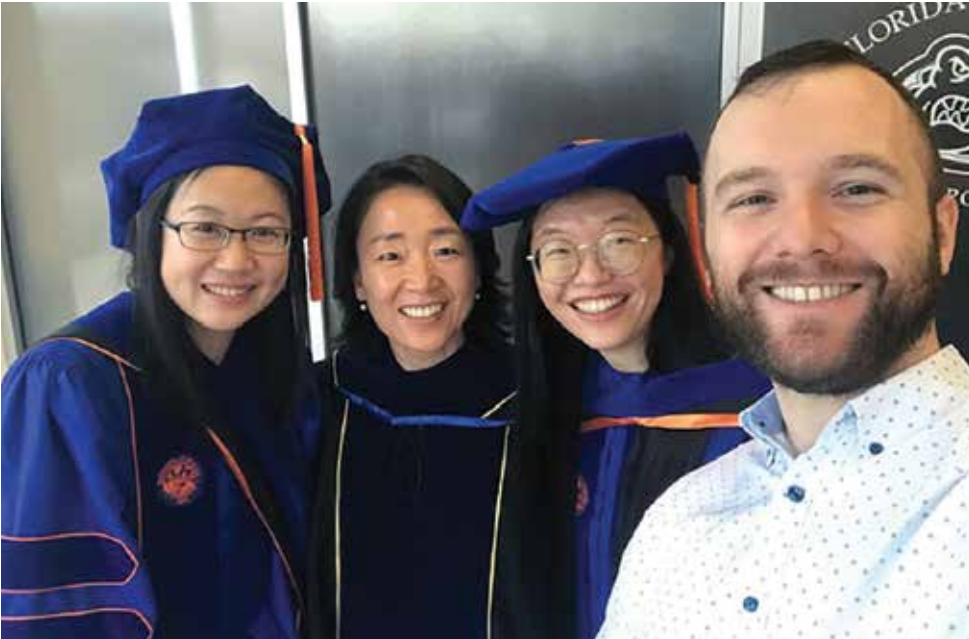
IN ACADEMIC YEAR 2020-21



• Drs. Xi Wang & Almut Winterstein



• Drs. Yasser Albogami & Almut Winterstein



• Drs. Xi Wang, Haesuk Park, Xinyi “Rose” Jiang and Joshua Brown

2021 PH.D. GRADUATES

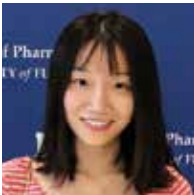


HUSSAIN ALQHTANI, PH.D.

Dissertation: Post-Myocardial Infarction Depression (PMD) among Privately Insured People in the U.S.

Advisor: Vakaramo Diaby

First position after graduation: Assistant Professor at the College of Pharmacy, Najran University, Saudi Arabia



CHENG "ALICE" CHEN, PH.D.

Dissertation: Utilization, Safety, and Effectiveness of Prescription Gabapentinoids And Opioids Among Older Adults

Advisor: Yu-Jung "Jenny" Wei

First position after graduation: Postdoctoral Researcher at University of Pennsylvania



MAHEK GARG, M.S., B.S. PHARM., PH.D.

Dissertation: Use, Misuse, and Safety of Antibiotics

Advisor: Haesuk Park

First position after graduation: Associate Director at Merck

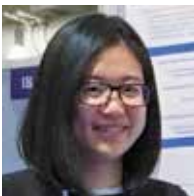


XINYI "ROSE" JIANG, PH.D.

Dissertation: The Cascade of Hepatitis C Virus Care among Individuals with Substance Use Disorders

Advisor: Haesuk Park

First position after graduation: Prevention Effectiveness Fellow, Div. of Overdose Prevention, Centers for Disease Control and Prevention



XI WANG, PH.D., M.P.H.

Dissertation: Utilization and Safety of Biologics for Pregnant Women with Inflammatory Bowel Diseases

Advisor: Almut Winterstein

First position after graduation: Drug Evaluation and Research (CDER), Office of Surveillance and Epidemiology (OSE)

2021 M.S. GRADUATE



YAHAN ZHANG, M.S.

Thesis Title: Association Between Social Determinates of Health and Risk of Type 2 Diabetes in Adults Aged 18-45

Advisor: Hui Shao

First position after graduation: Ph.D. student, University of Cincinnati

CURRENT PH.D. STUDENTS



Aram Babcock,
Pharm.D., R.Ph.,
M.S., M.B.A.



Ching-Yuan "Peggy"
Chang, M.S., B.S.



Ziyang Chen,
M.S.



Brianna Costales,
B.S.



Raj Desai,
M.S.



Mohannad Elkhider,
M.S., B.S. Pharm.



Maria Pilar
Hernandez-Con,
M.D., B.S. Pharm.



Shu Huang,
M.S., M.P.H.



Yushi Huang,
Pharm.D.



Piaopiao Li,
M.S.



Sebastian Jugl,
B.S. Pharm., R.Ph.



Motomori Lewis,
B.S.



Earl Morris,
Pharm.D., M.P.H.



Phuong Pham,
MSPH, B.S. Pharm.



Munaza Riaz,
Pharm.D., M.Phil.



Amir Sarayani,
Pharm.D., M.P.H.

CURRENT PH.D. STUDENTS



Yun Shen,
M.P.H.



Nistha Shrestha,
M.P.H., B.S.Pharm.



Nicole Smolinski,
Pharm.D.



Patrick Squires,
Pharm.D.



Thuy Thai,
M.P.H., B.S. Pharm.



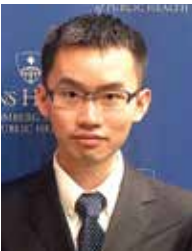
Phuong "Phoenix"
Tan Tran, M.P.H.,
B.S. Pharm.



Ikenna Francis
Unigwe, Pharm.D.,
B.S.



Ching-Yu "Jessie"
Wang, B.S.



Yehua Wang,
M.S.P.H.



Seonkyeong Yang,
M.S., B.S. Pharm.



THESIS M.S. STUDENTS



Golnoosh Alipour
Haris, Pharm.D.



Khalid Alkhuzam,
M.S.Pharm.



Dawei Guan,
M.D., M.S.



Shailina Keshwani,
B.S. Pharm., B.A.S.



Aimalohi Okpeku,
B.S. Pharm.

STUDENT AWARDS

TRAINEE AWARDS

Each year the department recognizes the hard work of our graduate students. We announced winners of our 3rd annual POP Star Awards at our POP Picnic in May 2021. Three different awards were presented to graduate students:

- **POPSTAR GRADUATE STUDENT PUBLISHING AWARD** recognizes a graduate student for contributions to the department and science through demonstrated excellence in publishing research and scholarly work for either a single research article or a body of work
- **POPSTAR LEADERSHIP SERVICE AWARD** recognizes a graduate student who stands out in Leadership Service to the department, college and profession
- **POP PROGRAMMER HALL OF FAME AWARD** is a new award this year and recognizes a graduate student for contributions to the department and science through developing a novel computer program/tool that can assist in improving the efficiency and quality of conducting research



CHIN-YUAN “PEGGY” CHANG

- POPStar Graduate Student Publishing Runner-Up, 2021

ZIYAN CHEN

- POPStar Programming Hall of Fame Runner-Up, 2021

BRIANNA COSTALES

- Bonnie Avery Advancing Women in Pharmaceutical Sciences Endowment Award, 2021
- POPStar Leadership Service Runner-Up, 2021

RAJ DESAI

- ISPOR Student Chapter Leader Distinguished Service Award, 2021
- College of Pharmacy Graduate Student SUPERHERO Award, 2021
- ICPE Spotlight Poster Award, 2020

EARL MORRIS

- POPStar Leadership Service Award, 2021
- POP Programming Hall of Fame Runner-Up, 2021

SABINA NDUAGUBA

- American Association for Cancer Research Minority Scholar in Cancer Research Award, 2020

MUNAZA RIAZ

- ISPOR Student Chapter Education Committee, Distinguished Service Award, 2021

AMIR SARAYANI

- POPStar Graduate Student Publishing Award, 2021
- Ronald J. and Sally G. Brenner Fellowship, 2021
- Student/trainee Abstract Award Winner, American College of Clinical Pharmacology Annual Meeting, 2021

THUY THAI

- POPStar Programming Hall of Fame Award, 2021

ONLINE GRADUATE PROGRAMS



POP'S RESIDENTIAL GRADUATE PROGRAM is complemented by its online graduate program focused on working professionals. The program includes graduate certificates and a non-thesis M.S. degree in five areas of specialization.



APPLIED PHARMACOECONOMICS

Applied pharmacoeconomics centers on the conversion of pharmacoeconomic principles, methods and theories into practice to assess the value of pharmaceutical products and services used in real-world settings. Pharmacoeconomic studies provide scientifically grounded data to inform the optimal allocation of health care resources.

MANAGED CARE PHARMACY SYSTEMS

Managed care is a defined structure and process of designing and delivering covered health care benefits that balances clinical outcomes with access and costs. When applied to pharmacy, the result is optimized pharmaceutical treatments at a price that patients can afford. The curriculum in this program is an in-depth analysis of the structure, set-up, management and delivery of benefit coverage for medicines, as well as current innovations such as risk-sharing, drug pricing reform and coverage of digital therapeutics.

MEDICATION SAFETY & QUALITY SYSTEMS

This program focuses on the design and evaluation of quality improvement initiatives aimed at improving medication safety, as well as the systems used to advance medication use quality. Intended primarily for pharmacists and other clinicians familiar with the drug use system, the curriculum is designed to focus on competencies and skills needed by those acting as patient or medication safety officers or working in quality divisions in health systems or clinical operations.

PHARMACEUTICAL REGULATION

Pharmaceutical regulation is an essential, global and diverse field that is tasked with ensuring safe, effective, and high-quality health care through regulatory compliance. The curriculum in the pharmaceutical regulation track is designed to give students a firm grounding in the regulatory framework around the manufacturing, distribution, dispensing and use of pharmaceutical products, and to place pharmaceuticals in a large context of health care.

PHARMACEUTICAL VALUE ASSESSMENT AND COMMUNICATION

In the pharmaceutical value assessment and communications program, students develop applied skills to translate clinical, economic and patient-reported data into accurate and compelling communication tools to improve decision-making and health outcomes. Students combine a scientific approach to pharmaceutical evidence assessment with effective communications for specific stakeholders.

FAST FACTS FOR 2021



124

matriculated students



185

students taking courses



34

certificates awarded



33

faculty taught courses



29

M.S. graduates

2021 PHARMACEUTICAL OUTCOMES & POLICY SEMINAR

“CAN WE TRUST THE QUALITY OF PHARMACEUTICALS?”

The department hosts an annual Pharmaceutical Outcomes and Policy Seminar for students in the residential and online graduate programs. The 2021 POP seminar, “Can we trust the quality of pharmaceuticals?” explored the science, regulation consequences and future of drug quality in the U.S. Distinguished speakers from the FDA, the U.S. Pharmacopeia, the Association for Accessible Medicine, Boston University, Premier, Long Island University, Pharm3R, the University of Florida and a New York Times best-selling author examined the complex and interrelated factors that underpin drug quality.



2 DAYS / 10 SPEAKERS

30 GUEST ATTENDEES

54 ONLINE GRADUATE STUDENTS

15 RESIDENTIAL GRADUATE STUDENTS

578 PHARMACIST CEUs AWARDED

SOCIALLY DISTANCED VIA **ZOOM**

SAVE THE DATE: **MARCH 5-6, 2022**

“RACIAL AND SOCIAL DISPARITIES IN MEDICATION USE”

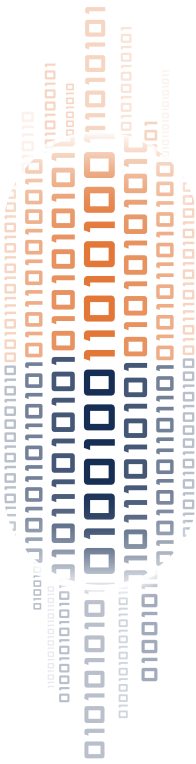
POP'S NEW HOME

Construction is underway on the Malachowsky Hall for Data Science and Information Technology building, POP's new research home. The sixth floor will house POP, CoDES and the Consortium for Medical Marijuana Clinical Outcomes Research. For more information see: <https://pharmacy.ufl.edu/malachowsky-hall/>



WE ARE HIRING

POP IS HIRING TO GROW OUR FACULTY. As part of the UF Artificial Intelligence Initiative, we are hoping to expand the expertise in our department to include a broader range of AI experts with strong connections to our specialty areas. We also have active searches for faculty, postdoctoral fellows and analysts outside of the AI initiative.



INTRODUCING

CoDES

CENTER FOR DRUG EVALUATION & SAFETY

Established in 2019, the University of Florida Center for Drug Evaluation and Safety, or CoDES, aims to improve public health by enhancing and disseminating evidence on the safety and value of medications in real-world populations. CoDES unites a multidisciplinary group of big data researchers in epidemiology, health economics, health services research and decision-sciences who evaluate and project drug outcomes to guide policy and clinical and personal decision-making. In addition to delivering new actionable evidence, CoDES fosters the development of new methods and analytic tools to enhance drug evaluation and regulatory science.

FOCUS

CoDES develops and integrates resources on the assessment and improvement of drug use locally, nationally and internationally through five distinct research programs:

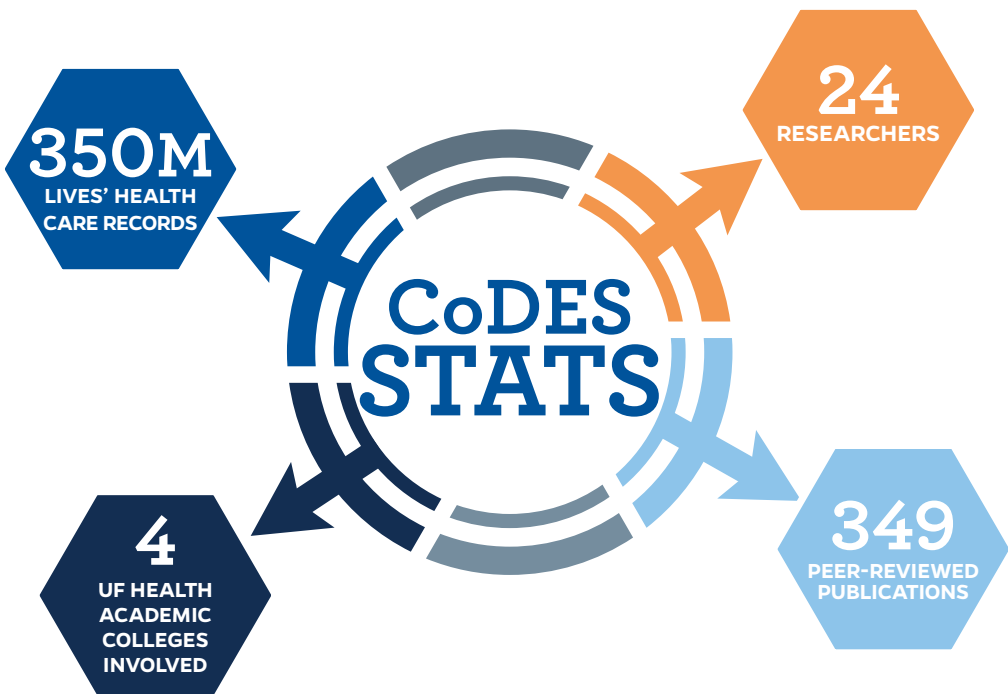
- **PHASE IV STUDIES** evaluate drug safety and effectiveness in real-world populations to enhance pre-approval evidence.
- **PHARMACOECONOMIC STUDIES** assess the value of drugs and related programs to guide investment of personal, payer and societal resources.
- **MEDICATION USE QUALITY STUDIES** evaluate the quality and determinants of medication use to direct the allocation of programmatic resources and policy.
- **PHARMACEUTICAL PREDICTIVE ANALYTICS STUDIES** develop predictive tools for drug response and adverse events to support clinical care and related policy.
- **PHARMACEUTICAL POLICY STUDIES** evaluate policy surrounding medication use to enhance programmatic efforts aimed to improve access and quality of drug therapy.



CoDES FEATURES

Activities at CoDES aim to build a foundation for real-world data research.

- **BIG DATA INFRASTRUCTURE** — CoDES has access to health care records for more than 350 million lives.
- **BIG DRUG DATA ANALYTICAL SUPPORT** — CoDES provides expertise in the measurement of drug exposure and outcomes/phenotypes, causal inference and predictive design and analysis.
- **RESEARCH EXCHANGE** — CoDES maintains an email listserv, website, Twitter account and seminar series.
- **POSTDOCTORAL FELLOWSHIP PROGRAM** — CoDES has introduced a postdoctoral fellowship program that capitalizes on the interdisciplinary nature of its researchers, with the goal of training the next generation of researchers.



 **500+**
FOLLOWERS

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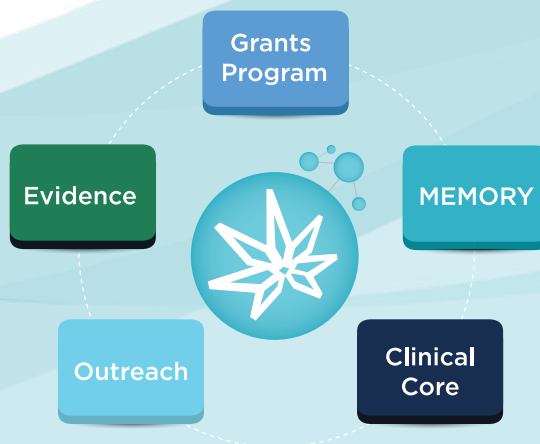
INTRODUCING



Consortium for Medical Marijuana Clinical Outcomes Research

The Consortium for Medical Marijuana Clinical Outcomes was founded by the state of Florida in June 2019 to conduct, disseminate and support research on the use and effects of medical marijuana on patient outcomes.

The consortium's efforts and programs support medical marijuana clinical outcomes research through five pillars aimed at established an effective infrastructure for research and evidence dissemination: a grants program, the Medical Marijuana Clinical Outcomes Repository, or MEMORY, which links medical marijuana dispensing data with our existing data resources, a clinical research core which supports and conducts prospective studies, and an evidence core and outreach program.



The consortium engages nine public and private universities across Florida with leadership housed in the University of Florida.

POP department chair Almut Winterstein serves as the consortium director and Robert Cook, from the UF College of Medicine department of epidemiology, serves as the consortium associate director. Other UF faculty members with Consortium leadership roles include: Joshua Brown (POP department) as MEMORY lead, Yan Wang (epidemiology department) as the clinical core lead, and Amie Goodin (POP department) as the evidence core lead.

For the latest news and information about the consortium, see mmjoutcomes.org, where you can also access a host of resources about medical marijuana clinical outcomes research.

THE INAUGURAL CANNABIS CLINICAL OUTCOMES RESEARCH CONFERENCE (CCORC)



In April of 2021 the Consortium for Medical Marijuana Clinical Outcomes Research hosted the inaugural Cannabis Clinical Outcomes Research Conference, or CCORC. This year's conference was held virtually. CCORC 2021 was organized as a scientific meeting to foster and disseminate research on medical marijuana clinical outcomes, while promoting engagement among medical marijuana researchers, patients, clinicians, policymakers and industry partners. Key conference themes included: (a) the disconnect between policy, practice and evidence and steps towards reconciliation, (b) approaches to overcome common barriers to medical marijuana research, and (c) the use of focused translational approaches utilizing both mechanistic and clinical research methodology to tackle the complexities of medical marijuana outcome assessment.


CCORC HIGHLIGHTS INCLUDE:

225 registrants from **31** states and **5** countries

35 abstracts presented as posters or oral presentations

Three keynote speaker presentations from internationally renowned cannabis researcher members of the National Academies of Sciences, Engineering, and Medicine, including: Dr. Lorraine Collins, Dr. Ziva Cooper and Dr. Donald Abrams.

The image is a promotional poster for the CCORC conference. It features a blue background with white and light blue text and icons. At the top left is the CCORC logo, a stylized green starburst. The main text reads "SAVE THE DATE" in a large, bold, white font, followed by "CANNABIS CLINICAL OUTCOMES RESEARCH CONFERENCE" and "MAY 19TH - 20TH, 2022 | ORLANDO, FL". Below this is the tagline "Learn, Share, and Advance Medical Marijuana Research" in a white box. Three icons represent the conference activities: a group of people for "KEYNOTE SPEAKERS & Panel Discussions", a person at a podium for "RESEARCH POSTER SESSION & Open Discussion Boards", and a computer monitor for "LEARN MORE AT ccorc.mmjoutcomes.org". At the bottom left is the Consortium for Medical Marijuana Clinical Outcomes Research logo, and at the bottom right is a map of Florida.



WE TRANSLATE BIG DATA INTO EVEN BIGGER, HEALTHIER and SAFER OUTCOMES

It's no secret drugs can do amazing, positive things for your health. But real-life medical miracles can turn into health threats. Many drugs have raised serious safety concerns after FDA approval, often because they were tested on only small samples or patients different than you.

At the University of Florida College of Pharmacy, we are working hard to gather and translate literally millions of real-life results into effective knowledge that can catch harmful side effects before they hurt you or your family. For us, this isn't just a numbers game. It's an opportunity to combine comprehensive data and proven expertise into a whole new way for pharmacists to improve and save patients' lives.

To learn more about how you can invest in our efforts to make drugs safer for you and your loved ones, please contact Elizabeth Zipper at 352.273.6605 or ezipper@cop.ufl.edu



Department of Pharmaceutical
Outcomes & Policy
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