Welcome to the Biannual Bulletin from the Center for Addiction Research! The biannual bulletin contains news stories and summaries provided by CAR members about the great work they are doing. Thank you to those who shared stories for this edition! To have your work included in the next issue, coming in late January 2023, please send a brief summary/story accompanied by pictures or graphics (if available) to Jen Rowe (roweji@ucmail.uc.edu) any time prior to January 15th. Thank you!

CAR Biannual Bulletin

July 2022

Member Research Updates

2023 Next Bulletin Release Date:
- Late January

2023 Next Deadline for Submitting Stories:
- January 15th

Register Now! Center for Addiction Research Summer Speaker Series, final session, Wednesday, August 17, 2022, at 12:00 PM, featuring Dr. LaTrice Montgomery, "Understanding and Impact of Medical Marijuana in Ohio". Hosted by: Urban Health Pathway of Next Lives Here

Digging Deeper Into Cannabis Research
UC researcher says more specific data on ethnic, racial groups is needed

Earlier this month, Mississippi became the 37th state to legalize medical marijuana, while 27 states have already decriminalized cannabis use for personal consumption.

As more states legalize cannabis use, research into its usage and effects has lagged behind, specifically among different racial and ethnic groups, according to LaTrice Montgomery, PhD, research associate professor in the Addiction Sciences Division of the Department of Psychiatry and Behavioral Neuroscience in the University of Cincinnati College of Medicine.

One focus of Montgomery's research is cannabis addiction, also known as cannabis use disorder (CUD).

It's not just that a person is using cannabis frequently, because that fact alone is not enough to meet criteria for a cannabis use disorder. We really are looking for patterns.
LaTrice Montgomery, PhD

What is cannabis use disorder?
Montgomery said many partakers and advocates of marijuana contend that cannabis addiction is not possible, but research suggests that it is. She noted that CUD is listed in the industry standard handbook in the substance abuse section along with other stimulants like alcohol and cocaine.

"They all follow the same criteria, it just varies based on the specific drug that you're referring to," Montgomery said. "You spend most or all of your time in getting the drug or using the drug, and that again can be for cannabis, cocaine, whatever the drug might be. There are also other symptoms of CUD, such as craving cannabis and experiencing withdrawal when discontinuing cannabis."

The frequency of cannabis use and the age of initiation are also factors to consider, as research shows people who start using cannabis younger are more likely to experience issues in the long run, such as CUD. However, Montgomery clarified that not everyone who uses cannabis frequently has CUD, as differences in other individual behaviors, such as other substance use, should be taken into account.

“It's not just that a person is using cannabis frequently, because that fact alone is not enough to meet criteria for a cannabis use disorder,” she said. “We really are looking for patterns. We are looking to see if you meet two or more of 11 criteria within a 12-month period. There are also levels of CUD, including mild, moderate and severe, based on the number of criteria that are displayed.”

One difficulty in advancing research on cannabis and CUD has been a lack of a standard unit of cannabis, as it can be consumed in many different ways (e.g., edibles, concentrates/dabs, cigarettes). Montgomery noted it is clear what constitutes one “drink” of alcohol, with recommendations and guidelines built around the standard, but that is currently not the case for cannabis. However, the National Institute on Drug Abuse and other health institutes recently directed its researchers to use a standard unit of 5 milligrams of THC for measuring and reporting purposes in clinical research.

Current treatments

As the general public’s opinion and the legal status of cannabis has shifted over the years, Montgomery said previous ideas of a “just say no” approach to cannabis use is not helpful when treating CUD. Instead, a more personalized approach appears to be more effective.

There are no currently approved medications that have been shown to treat CUD, so treatment largely focuses on evidence-based behavioral treatments, such as cognitive behavioral therapy (CBT) and motivational interviewing.

In CBT, patients talk with their therapists to try to understand the connection between thoughts, feelings and actions and how that connection leads to addiction.

“We really try to help people identify and understand destructive thoughts and how they impact behaviors and emotions that are associated with cannabis use,” Montgomery said. “Several strategies are employed in CBT, such as learning new skills to decline offers for cannabis use in real-world situations and self-monitoring of thoughts and behaviors that are associated with cannabis use.”

Montgomery said motivational interviewing is a similar technique that is designed to strengthen personal motivation for setting and reaching goals, such as reducing or quitting cannabis. The underlying reasons for cannabis use are explored and used as a basis for eliciting thoughts and behaviors in favor of behavior change.

Motivational strategies are tailored to a person’s readiness to change, which ranges from not being ready to change to maintaining change behaviors.

The state of research
Montgomery recently published an article in the journal Current Addiction Reports reviewing other published research on cannabis use among different racial and ethnic groups, including African Americans, American Indian/Alaska Natives, Asian Americans, Hispanic/Latinos and Native Hawaiian/Pacific Islanders, from 2017-2021.

When reviewing the research, Montgomery said she found that the majority of studies compare cannabis use outcomes from racial and ethnic groups to that of white populations and does not dig into specific factors that can affect usage among each individual group. This has left gaps in the field that require additional study, especially among Hawaiians and Pacific Islanders, about whom there is very little published research.

More detailed research beyond basic usage rates in each group is important to give context and help create effective prevention messages, interventions and policies for those who need help, Montgomery said.

For example, research often shows that rates of cannabis usage are higher among African American individuals relative to their white counterparts but does not take into account that the tobacco industry has targeted and to an extent encouraged cannabis usage in this population for decades.

Montgomery noted that some cigar and cigarillo products sold at convenience stores are already perforated so that users can remove the tobacco and replace it with cannabis, making cannabis use easier and more accessible. Research has shown that these products are heavily marketed and often cheaper or discounted in predominantly Black communities, Montgomery said.

We need to get specific so that we can really get at what resonates with people and not doing this broad message of, 'Cannabis is bad and you shouldn't do it.' Because that message is just not resonating with people.
LaTrice Montgomery, PhD

Cannabis use can also be used as a way for minority groups to deal with the stress that comes from discrimination or mistreatment in society, Montgomery said.

"We miss important nuances" if using a simple comparison of one group to another, she said. "That's really kind of what I wanted to get across in this particular article, but also in my research, that we're really trying to dig deeper."

Interventions and next steps
As she and others in the field continue to expand the research, Montgomery is also working to make cannabis use interventions accessible for people with CUD. She has found when working with African American young adults, for example, messaging specifically about the use of "blunts," or a cigar that has been hollowed out and filled with cannabis, can be more effective than talking about marijuana use in general.

"It doesn't mean they'll go and quit tomorrow," Montgomery said. "But I think that's why we need to get specific so that we can really get at what resonates with people and not doing this broad

message of, ‘Cannabis is bad and you shouldn’t do it.’ Because that message is just not resonating with people.”

Montgomery is currently actively recruiting participants for a Twitter-based peer-to-peer intervention program specifically for African American young adult blunt smokers.

“Everything that is in there is based on interviews I conducted with young people about why people are using blunts,” she said. “Using that, I could figure out what kind of tweets and messages and what might be helpful in this private, self-help group where people are talking to each other about wanting to reduce their blunt use or quit altogether, depending on their goal.”

Through interviewing people, Montgomery has found that offering alternative ways to manage stress, using humor and talking about how cannabis use affects friends and family around you can be more effective messages.

She also found that young people tend to think they’re invincible and are not phased when told of health issues that can be linked to cannabis use, but may be more likely to respond to messages about how a random drug test at work could cost them their job.

Montgomery explains that people are naturally communicating on social media. She wants to take advantage of that, understand what the trends are and find ways to leverage social media to reduce cannabis use and create effective messaging.

UC News story by Tim Tedeschi:
https://www.uc.edu/news/articles/2022/02/uc-expert-reviews-state-of-cannabis-research.html

Read more from UC News about Dr. Montgomery appearing on the Cannabis Man podcast:
https://www.uc.edu/news/articles/2021/uc-professor-develops-novel-approach-to-combat-addiction.html?utm_source=cerkl&utm_medium=email&utm_campaign=newsletter-01122022&cerkl_id=15074983&cerkl_ue=kCmEVekqxqIzXeJIOOo2ISPvv1zEJ7bNfaODjo9RtMQ%253D

Chronic pain: Would changes in CDC opioid prescribing guidelines help those who have it? UC expert welcomes the proposed changes

In 2016, the Centers for Disease Control and Prevention (CDC) set opioid-prescribing guidelines for physicians. The idea was to offer doctors the best ways to protect people from an over-prescription of pain pills which had fueled the misuse of opioids and amplified cascading overdose deaths in the United States. While the goal was to protect patients, the impact was not all positive.

Following a backlash of complaints from pain patients, along with years of apparent misinterpretation among physicians and new evidence from studies that have been done since the 2016 guidelines went into effect, the CDC has drafted an updated proposal. The draft is in a public comment period that ends April 11.

In an article published by Cincinnati.com, Christine Wilder, MD, of the Department of Psychiatry and Behavioral Neuroscience at the UC College of Medicine and the director of UC Health Addiction Sciences, was one of the experts quoted on the guideline changes, which she says she welcomes.

"I think (the original set) was adopted as 'the rules' by a lot of physicians, states, medical boards … who then required things such as explanations for any more than a seven-day prescription of medication. These are partly a response to that," she said.

Wilder told Cincinnati.com that after the 2016 guidelines came out, she saw an uptick in chronic pain patients asking for methadone treatment at the UC opioid treatment program – because their pain medication had been abruptly stopped or they had one negative drug screen.

"Physically they feel terrible," Wilder said. But some of the patients could not be treated with methadone at the clinic. "Legally for methadone, you can't admit someone to the clinic unless someone had opioid use disorder." That's not what they had. They were experiencing withdrawal because of their physical dependence on the medication, not addiction.

UC News story by Tim Tedeschi:
https://www.uc.edu/news/articles/2022/02/cincinnaticom--chronic-pain--would-changes-in-cdc-opioid-prescribing-guidelines-help-those-who-have-it.html?utm_source=cerkl&utm_medium=email&utm_campaign=newsletter-03022022&cerkl_id=15388485&cerkl_ue=kCmEVekqxqIzXeJIOOo2ISPvv1zEJ7bNfaODjo9RtMQ%253D

Read the entire Cincinnati Enquirer article by Terry DeMio:
https://www.cincinnati.com/story/news/2022/02/21/chronic-pain-cdc-opioid-prescribing-guidelines-stress-individual-treatment-comment-period-open-now/6802008001/

Center for Addiction Research 2022 Summer Speaker Series

To view the completed sessions recordings and presentation slides, or to register for the final virtual August session, please visit the 2022 Summer Speaker Series webpage.

UC (HEALing Communities Study) + Hamilton County Addiction Response Coalition partnership to engage the African American community to prevent overdoses

Wednesday, June 15, 2022
12:00–1:00 p.m.


Timothy Ingram, MS, RS
University of Cincinnati


Tina Ernst, Magistrate (Ret.) JD, BA
University of Cincinnati


Kamaria A. Tyehimba, PhD, LISW-S, LICDC-CS
Talbert House


Patricia Brown, MBA, MSSA, LISW-S, LICDC
The Crossroads Center

Participants ≈≈ 80

Survey Rating:

90% rated the session as being very good or excellent

Development of a Recombinant Humanized Anti-Cocaine Monoclonal Antibody

Wednesday, July 20, 2022
12:00–1:00 p.m.

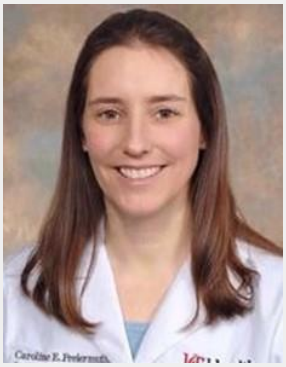

Andrew Norman, PhD
University of Cincinnati

Participants ≈≈ 37

Survey Rating:

93% rated the session as being very good or excellent

CAR Member Recognition



Congratulations to **Caroline Freiermuth, MD**, associate professor, Center for Addiction Research Population Health and Health Services Core Co-Leader, on receiving the SAEM Academy for Women in Academic Emergency Medicine (AWAEM) Social Medicine Advocacy Award, which honors a female faculty who has made significant contributions toward social justice and advocacy on behalf of patients or the community within emergency medicine.

Congratulations to **Teresa M. Reyes, PhD**, Professor, Department of Pharmacology & Systems Physiology on receiving the 2022 Basic Science Faculty Mentoring Award. Mentoring among faculty at UC College of Medicine is a crucial element in sustaining a vital faculty community, promoting faculty development, and increasing faculty retention. The purpose of the Faculty-to-Faculty Mentoring Award is to recognize the outstanding efforts of one clinical and one basic science faculty member for their mentorship of other faculty members. These prestigious awards acknowledge the time sacrifice and dedication faculty mentors devote to foster the career development and academic success of colleagues in the areas of research, education, service, and clinical practice. "My dedication to mentoring comes from a deep appreciation for the many mentors that have supported me in my career development by providing essential advice and training. I hope that by sharing my own experiences, I can help “demystify” aspects of a scientific career. There is great joy in celebrating the success of fellow faculty and trainees, as each individual finds their own path."- Teresa M. Reyes, PhD

Congratulations to **Jason Blackard, PhD**, Professor, Department of Internal Medicine, Division of Infectious Diseases, on receiving the following numerous awards:

- CoM Office of Research Gallery of Awardees for faculty who have been awarded external grants of $100,000/yr. or more.
    - Award: National Institute on Drug Abuse R33
    - Project Title: PHASE II-Omics Analysis of HIV during Synthetic Opioid Exposure
    - Project Period: 1/1/2022- 1/31/2024
    - Summary: The US is in the midst of a major opioid epidemic largely attributed to synthetic opioids. For example, fentanyl is 50-100 times more potent than heroin and is involved in >60% of overdoses nationwide and >90% of overdoses in Ohio, although this is almost certainly an underestimate of recreational use. Individuals with opioid use disorder are at significant risk for transmission of HIV, and new cases of HIV are on the rise in the Midwest and at our institution. Opioid receptors are expressed in a variety of

cell types that are susceptible to HIV infection. Commonly abused opioids promote HIV replication and virus-mediated pathology. Thus, translational research on virus-opioid interactions is essential for optimized treatment and limiting viral reactivation. Important knowledge regarding how synthetic opioids influence HIV latency and reactivation is absent from the available literature. To fill this critical gap and institute a major shift forward in our understanding of this epidemic, researchers propose a series of complementary in vivo studies to directly evaluate the impact of synthetic opioids on markers of HIV latency/reactivation, viral diversity, transcription factor expression, microRNA expression, and cell signaling pathways.

- Fulbright Specialist Program award from the U.S. Department of State and the Fulbright Foreign Scholarship Board. The award will support a three-week visit to India to instruct doctoral and postgraduate students and faculty in using multicolor flow cytometry for identifying various immune cells in blood. Beginning July 29, Blackard will be at Sri Ramachandra Institute of Higher Education and Research (SHIHER) in Chennai, on the southeast coast of India. SHIHER is a private institute that has nine colleges, including medicine, biomedical sciences and public health, with more than 6,000 students. Blackard's research focuses on studies to understand the interactions between various viral pathogens, such as hepatitis B and C, human pegivirus, HIV and Zika virus. He has developed international collaborations in South Africa, Botswana, India, Nigeria, Mozambique and Ghana. Blackard has traveled to India several times, most recently visiting SRIHER in September 2019, when he presented during an international symposium on HIV and other infectious diseases, and in October 2019 as part of an American Society for Microbiology/Indo-US Science and Technology Forum Professorship. During this 2022 visit, Blackard will be working with microbiologists and virologists studying HIV, viral hepatitis and SARS-CoV-2 in India. He will meet with graduate students regarding their projects and provide hands-on training related to virus diversity and evolution. "There are a number of exciting opportunities to collaborate with SHIHER, and their faculty, students and staff are the among the best in all of India," says Blackard. Recipients of the Fulbright Specialist awards are selected on the basis of academic and professional achievement, demonstrated leadership in their field and their potential to foster long-term cooperation between institutions in the United States and abroad. Blackard is one of more than 400 people selected for the program this year. The Fulbright program is sponsored by the U.S. government and is designed to build lasting connections between the people of the United States and the people of other countries. The program, established in 1946, is funded through an annual appropriation by Congress to the U.S. Department of State. Participating governments and host institutions, corporations and foundations around the world also provide direct and indirect

support to the program, which operates in more than 160 countries.
- Department of Internal Medicine Spring Research Award recipient of the Senior Faculty Pilot Project Award totaling $30,000 for his proposals “Novel Therapeutic Strategies Targeting the Chemokine System for Opioid Use Disorder and HIV”. Funds will support one year of research beginning July 5.
- College of Medicine's Research Innovation/Pilot Grant Recipient
    - Project Title: “Chemokine Antagonism During HCV and Opioid Use”
    - Project Abstract: Drug overdose deaths reached an all-time high in 2021. In Ohio, ~90% of all opioid overdose deaths are due to fentanyl. The opioid pandemic has led to a significant increase in hepatitis C virus (HCV) cases. Commonly misused substances often suppress immune responses and can directly stimulate viral replication.
    - Chemokines and chemokine receptors play an important role in liver disease. Researchers previously reported that blocking CCR5 limits HCV replication in hepatocytes and reduces hepatic fibrosis. As part of a NIDA R61/R33 to explore the role of the fentanyl in viral pathogenesis, researchers observed robust mu opioid receptor expression in multiple hepatocyte, lymphocyte, and macrophage cell lines, and that fentanyl increased HCV replication and altered chemokine-related genes. Understanding the interactions between opioids, HCV, and the chemokine system can facilitate the optimization of treatment options for patients with opioid use disorder and lead the to the development of novel therapeutic strategies. Thus, researchers will investigate several novel approaches that antagonize chemokine-related genes in the liver to provide critical preliminary data for the submission of at least one new grant.

Center for Addiction Research (CAR)

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CAR Director:
Dr. T. John Winhusen

Changing outcomes, saving lives through work on opioid, stimulant, cannabis,

CAR Mission

To accelerate scientific progress in the prevention and treatment of substance use disorders and their consequences by fostering research collaborations across:

- UC departments, colleges, and centers including Cincinnati Children’s Hospital Medical Center
- Local, regional, and state community and governmental partners
- Other academic institutions and industry

The CAR includes three research concentrations (cores):

- Addiction Treatment Development and Testing (ATT)

and alcohol use disorders

University of CINCINNATI
CENTER FOR ADDICTION RESEARCH

- Perinatal Addiction/Developmental-consequences (PAD)
- Population Health and Health Services (PHHS)

Find out more about the CAR using the website link below: https://med.uc.edu/institutes/CAR/home