

Welcome to the weekly newsletter from the Center for Addiction Research! Each newsletter includes highlights from addiction in the news topics, active funding opportunities offered by NIDA/NIAAA, and information about any new publications from CAR members. Please email Jen Rowe (roweji@ucmail.uc.edu) to change your communication preferences. Thank you.

Thank you for your interest in the Center for Addiction Research - our mission is to accelerate scientific progress in the prevention and treatment of substance use disorders and their consequences by fostering research collaborations across: 1) UC departments, colleges, and centers including Cincinnati Children's Hospital Medical Center; 2) Local, regional, and state community and governmental partners; and 3) Other academic institutions and industry."



UC/ Regional News

Recent publication highlights the impact of morphine during pregnancy on brain development using a mouse model.

Rates of opioid use during pregnancy have increased in parallel with the opioid epidemic and children exposed to opioids during the prenatal period (before birth) are at an increased risk of developing behavioral disorders. Smith et al. use a mouse model to study the behavioral effects of prenatal opioid exposure in both male and female offspring. Male exposed offspring have deficits in learning, motivation, and attention, while females are much less affected. Both sexes show an increase in sociability after morphine exposure. Finally, the brain's immune system may play a role in shaping brain development after prenatal opioid exposure. This work was led by Dr. Brittany Smith, a K99-funded postdoctoral fellow in the lab of Dr. Teresa Reyes. **(CAR member, Dr. Reyes)**

Link: <https://www.eneuro.org/content/9/5/ENEURO.0238-22.2022>

Perinatal morphine exposure leads to sex-dependent executive function deficits and microglial changes in mice

Brittany L. Smith, Tess A. Guzman, Alexander H. Brendle, Collin J. Laaker, Alexis Ford, Adam R. Hiltz, Junfang Zhao, Kenneth D.R. Setchell, Teresa M. Reyes.

Research could change vaccine practices for people with HIV

Research led by Kenneth Sherman, MD, PhD, Gould Professor of Medicine and director of the Division of Digestive Diseases in the Department of Internal Medicine, shows that a three-dose course of the hepatitis B vaccine HEPLISAV-B® provides

complete protection for people living with HIV who have never been vaccinated against or exposed to the hepatitis B virus (HBV). The study findings were presented Oct. 20 at the IDWeek conference in Washington, DC. “Hepatitis B is highly ranked among liver-disease-related causes of death among people living with HIV,” says Sherman, study chair and senior author of the research. “This finding may well change routine vaccine practices among persons living with HIV.” The analysis included 68 adults living with HIV at 38 sites in the United States, South Africa and Thailand. None of the people enrolled in the study group had received HBV vaccination previously or had evidence of being exposed to HBV and all were on antiretroviral therapy. The levels of antibody produced were higher than what has been observed following older vaccine preparations. “Higher antibody levels often translate to better vaccine durability,” according to Sherman. “While this will not cure those who already have hepatitis B, it will keep others from getting the disease.” **(CAR member, Dr. Sherman)**

Hamilton County Public Health OD2A Webinar

“Interviews with Hamilton County S.A.F.E Services (Syringe Service Program) Participants: Observations from the Field”

Wednesday, November 16th from 1:00-2:30 pm ET

Summary:

The Harm Reduction Division at Hamilton County Public Health conducted interviews with S.A.F.E. (Stigma-free Access for Everyone, formerly Syringe Service Program) Services participants to better understand the community culture, needs, and hear feedback about their personal experiences. The surveys were completed between May and June of 2022 with 148 responses. The conversations centered around the importance of expanding harm reduction programs throughout the county, creating trustworthy spaces for support, and providing more education to the public on the complexity of fentanyl, Naloxone use, and the impact of stigma. During this webinar, you will hear from HCPH on how and why this innovative project was created, key takeaways from the interview interactions, and strategies to replicate this initiative in your own community. We hope you can join us for this Hamilton County Public Health OD2A Webinar and participate in this very critical conversation.

Learning Objectives:

1. Describe S.A.F.E. Services participant opinions on ways to increase the safety of illicit drug use.
2. Demonstrate the need for continued education to promote the best outcomes with the use of naloxone.
3. Examine the impact of stigma from the person using drugs perspective.

Kentuckians encouraged to dispose of prescription drugs properly, safely Oct. 29

FRANKFORT, Ky. — Gov. Andy Beshear is encouraging Kentuckians to participate in the DEA's National Prescription Drug Take Back Day scheduled nationwide from 10 a.m. to 2 p.m. ET, Oct. 29. "We must take every step possible to lower the amount of drug overdose deaths in Kentucky," said Gov. Beshear. "National Prescription Drug Take Back Day is an easy opportunity for all Kentuckians to do their part in ensuring that prescription drugs are not able to be misused or abused." According to the National Survey on Drug Use and Health, a majority of abused prescription drugs were obtained from family and friends, often from the home medicine...

Law enforcement, treatment agencies take part in saturation event

LANCASTER – The Ohio Narcotics Intelligence Center (ONIC) and RecoveryOhio joined nearly a dozen law enforcement and treatment agencies in Fairfield County to conduct a coordinated drug/outreach saturation event this week. Participating agencies included the South-Central Ohio Major Crimes Unit, which serves Fairfield, Athens, and Pickaway counties and Logan in Hocking County. The two-day Operation Bridging Recovery and Interdiction Data Gathering Enforcement (BRIDGE) event was aimed at removing drugs and drug traffickers from the streets as well as connecting individuals with substance use disorder to help and...

KY School District Takes Lead on Mental Health, Drug-Use Prevention

In Trimble County, school staff are expanding services for students and families aimed at curbing vaping, marijuana and opioid use, and increasing psychological supports. Denise Hall, advocate for the Trimble CARES Coalition, provides one-on-one education for students who violated school drug and alcohol policies, and led the push to install vape detectors in the county's high school. She said more recently, schools have grappled to address rising anxiety, depression and self-harm, among youths. "We are bringing in-school mental-health counselors," Hall explained. "We are filling a lot of duties that you think would be..."

Ohio mental health and addiction director experiences OHIO's VR and its potential for health care and law enforcement training

Ohio University hosted Lori Criss, director of the Ohio Department of Mental Health and Addiction Services, and her staff for an immersive presentation on the University's use of virtual reality. "Today I'm really excited to learn about the possibilities of virtual reality," Criss said. "This is definitely a future-oriented space for us at our department." Faculty from Ohio University gave demonstrations to Criss and her team about the University's cutting-edge virtual reality technology, and what that means for the future of health care and law enforcement. The first simulation, "Destiny," simulates the experience of working with Appalachian ...

Ohio lawmakers urged to find funding for 988 suicide hotline before money runs out

The national 988 suicide hotline was hailed as a life-saving tool when it was rolled out in July. But there was no federal funding for the 180 local crisis centers in all 50 states that take those calls. Advocates in Ohio want state lawmakers to start now to plan for how to fund the hotline here. The \$20 million in initial funding for Ohio's 988 suicide hotline is paid with federal American Rescue Plan dollars that are set to run out in June. Advocates say money for the hotline shouldn't come from other mental health services, and are proposing a 50-cent monthly fee on cell phones. They include Sandy Williams of Columbus, who lost her father Jerry to...

National News

Could A Person's Desire To Drink Alcohol Be Driven By Genetics?

Our genes play a role in nearly everything we do and every choice we make. According to Livescience, genetics influences our social preferences, self-control, and decision-making, among other things. But could a person's desire to drink alcohol be driven by genetics? A new study in Alcoholism Clinical & Experimental Research looked at how genetic and environmental factors influenced drinking motives in college students. The study found that genetics influenced alcohol dependence related to coping motives the most, but how much genes affected the other three drinking motives was unclear. La Trobe University details four primary drinking motives. Social drinking is motivated by pleasure, mainly the desire to increase the amount of fun enjoyed with friends, and is associated with moderate...

Study Shows Marijuana Use Reaching Record Levels Among Young Adults

According to a new study, use of the drug marijuana has reached record highs for young adults in the United States, to the point that it may become a common practice for a majority of this demographic. Breitbart reports that the study, conducted by scientists at the University of Michigan's Institute for Social Research, on behalf of the organization Monitoring the Future, shows a significant increase in the use of marijuana and other hallucinogens among adults between the ages of 19 and 30, compared to the same rates just 10 years earlier. The study says that "past-year, past-month and daily marijuana use (use on 20 or more occasions in the past 30 days) reached the highest levels ever recorded since these trends were first monitored in 1988." It goes on to say that "Marijuana use in the..."

NIH-funded psychedelic trial will study whether hallucinogen can help smokers quit

Can psychedelics help smokers quit? The National Institutes of Health wants to know the answer, and to find out, they've awarded a grant to scientists at Johns Hopkins University. It's the first time in 50 years that a federal grant has been given to study a psychedelic drug as a possible treatment. The study, a randomized controlled trial expected to start later this year, will investigate whether psilocybin, the psychedelic compound found in "magic mushrooms," can help people quit

smoking tobacco. Hopkins researchers will lead the trial, which will be done in collaboration with researchers at NYU Langone Health and the University of Alabama at Birmingham. Until now, the lack of support from NIH on psychedelic research had been a major hurdle in the field, said Dr. Joshua Woolley, an...

Smoking and vaping had overlapping adverse health effects, dual product use may be worse

DALLAS, Oct. 26, 2022 — Two related studies, one in humans and the other in rats, found that the cardiovascular effects of cigarettes and e-cigarettes are strikingly similar, and these harmful effects on blood vessel function are likely caused by airway irritation due to inhalation of a foreign substance, rather than a specific component of the cigarette smoke or e-cigarette vapor (aerosol), according to new research published today in the American Heart Association's peer-reviewed journal *Arteriosclerosis, Thrombosis and Vascular Biology (ATVB)*. Cigarette smoking and e-cigarette vaping are both known to cause endothelial dysfunction, the inability of the large blood vessels to open enough to supply sufficient blood to the heart and other tissues. This can be an early predictor of...

E-CIGARETTES: NEW RESEARCH FINDS A SERIOUS CONSEQUENCE OF VAPING

Some of the ingredients in e-cigarettes have the same or even worse effects on the heart than regular cigarettes. Researchers from the Christina Lee Brown Envirome Institute at the University of Louisville have found in a new study that exposing animal models to the aerosols from e-cigarettes can cause heart arrhythmias, both in the form of premature and skipped heart beats. The results of the study, which were published today in *Nature Communications*, suggest that certain chemicals in e-cigarette liquids (e-liquids) may cause irregular heartbeats and electrical problems in the heart. The findings of the study, as explained by lead author Alex Carll, "demonstrate that short-term exposure to e-cigarettes can destabilize heart rhythm through specific chemicals within e-liquids. These..."

FDA, DOJ Goes After Vaping Companies as Teen Use Remains High

Vaping continues to be a major area of concern as rates of teen usage continue to be high, erasing years of declining cigarette use within that demographic. The U.S. Department of Justice announced last week that it was taking legal action against six e-cigarette companies. In a move that was a first, the Justice Department acted on behalf of the Food and Drug Administration (FDA) by issuing an injunction against the e-cigarette manufacturers, saying they failed to submit the proper applications for their products. Companies are required to submit applications to the FDA and to get them approved before manufacturing, selling or distributing new tobacco products. The FDA said these manufacturers have continued to illegally manufacture, sell, and distribute their products, despite previous...

Facilitation improves provision of some substance abuse medications in HIV clinics

Implementation facilitation at HIV clinics led to increased provision of medications for tobacco use and alcohol use disorders, but not of medications for opioid use disorders, researchers reported in JAMA Network Open. Medications for addiction treatment are inconsistently offered at HIV clinics, E. Jennifer Edelman, MD, MHS, of the program in addiction medicine at Yale School of Medicine, and colleagues wrote. Edelman and colleagues sought to evaluate the impact of implementation facilitation, a multicomponent strategy, on increasing provision of medications for addiction treatment for opioid, alcohol and tobacco use disorders. The researchers used an unblinded, stepped wedge study design to sequentially assign each of four HIV clinics in the northeastern United States...

White House Outlines Plan to Help Pregnant Women With Substance Use Disorder

The Biden administration shared the actions it is taking to prevent overdose deaths, reduce stigma, and expand access to treatment among pregnant women with substance use disorder (SUD) in a report issued by the White House's Office of National Drug Control Policy (ONDCP) on Friday. The report noted the importance of increased education and data transparency, as well as drug treatment court programs funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) and the Department of Justice, explaining that overdose is the leading cause of pregnancy-related deaths in the year following delivery of a baby in states like Ohio and Tennessee. The Biden administration shared the actions it is taking to prevent overdose deaths, reduce stigma, and expand...

Strategies for Limiting Opioids Post-Surgery

October is National Substance Abuse Prevention Month. According to CDC data, an average of 207 people died each day from opioid overdoses in the U.S. during the 12-month period ending in April 2021. When opioids are prescribed in the hospital setting, a patient's risk for long-term opioid reliance increases, regardless of whether they had prior exposure to opioids. Patients receiving opioids for short-stay surgeries have a 44% increased risk of long-term opioid use, and over 60% of those receiving 90 days of continuous opioid therapy continue use years later. These figures are staggering, and as medical professionals we must adapt our practice to help prevent opioid misuse in surgical patients. Countless medical professionals have witnessed patients become addicted to narcotics after...

Opioid prescribing after surgery remains the same for seniors, but doses are lower, study shows

Although there has been no decrease in the number of opioid prescriptions seniors receive after surgery, the doses of those prescriptions are lower, according to a study of more than a quarter million Canadian patients being presented at the Anesthesiology 2022 annual meeting. "While it's good news that the doses in opioid

prescriptions are being reduced, the fact that the actual number of opioid prescriptions filled has remained the same shows there is still an opportunity for improvement," said Naheed Jivraj, MBBS, MS, FRCPC, lead author of the study and a critical care medicine fellow at the University of Toronto, Ontario. "That's particularly true for procedures associated with low postoperative pain that can be effectively controlled with non-opioid medications such as acetaminophen and...

Antibody blunts heroin's lethality, paving the way for a promising new therapy

A monoclonal antibody that targets heroin is effective in blocking the psychoactive and lethal effects of this drug of abuse in mice—offering a new strategy for heroin addiction and overdose treatment, according to a new study from Scripps Research. In the study, published in ACS Central Science, the researchers isolated several distinct variants (or "clones") of antibodies that bind tightly to heroin and its major metabolites. They found that one of these monoclonal antibodies was remarkably effective at blocking heroin's painkilling effect, as well as its effect in slowing breathing and heart rate—the cause of overdose deaths. The results also suggested that heroin itself is the best target for such therapies, whereas researchers in the past have targeted heroin's two major metabolites, morphine...

Outpatient visits are critical to success of treating opioid-use disorder, researchers find

People with opioid-use disorder who enter treatment are at risk for relapse, overdose or death if they engage in less than two outpatient visits in their first month of care, according to a study coauthored by Rutgers researchers. The study, published in the American Journal of Psychiatry, examined the likelihood of patients continuing treatment for opioid-use disorder during their first month in care based on how often they engaged in outpatient visits or other professional services. "Engagement in outpatient visits or professional services appears to be a necessary condition for adequate care retention," said study coauthor Stephen Crystal, the director of the Center for Health Services Research at the Rutgers Institute for Health, Health Care Policy and Aging Research and Distinguished...

Thumbs Down for Genetic Test for Opioid Use Disorder, FDA Advisors Say

An FDA advisory committee on Thursday voted strongly against AvertD, a prescription genetic risk assessment tool for opioid use disorder (OUD). In an 11-2 decision, the Clinical Chemistry and Clinical Toxicology Devices Advisory Committee said the probable benefits of the AvertD device did not outweigh its probable risks, taking into account risks and benefits of currently available alternative forms of detecting OUD risk. AvertD detects the presence of 15 single nucleotide polymorphisms (SNPs) to help identify people who may have an increased risk of OUD. It's intended to be used in combination with clinical evaluations and patient assessments when oral prescription opioids are being considered to treat acute pain. Currently, no FDA-cleared or -approved devices...

Chronic pain: Non-opioid drug candidates could offer relief without addiction

Research on non-habit-forming alternatives to opioids for pain relief is ongoing. In a recent study, researchers used computational methods to identify novel compounds that could activate the norepinephrine α 2a-adrenergic receptor involved in pain modulation. These compounds showed analgesic effects in mouse neuropathic and inflammatory pain models without the sedative effects observed with currently available drugs that bind the α 2a-adrenergic receptor. The findings were recently published in the journal [Science](#). The study's author Allan Basbaum, Ph.D., a professor at the University of California San Francisco, told Medical News Today: "We are interested in the use of this and related molecules to manage chronic pain in the clinic. Obviously, the interest is in using the compounds..."

When it comes to addiction, Americans' word choices are part of the problem

Who gets better medical care in the United States: "addicts," or "people with substance use disorders"? The terms, of course, mean functionally the same thing. But in the field of addiction medicine, the question presents something of a crisis. Even as drugs and alcohol claim 200,000 lives each year, many who seek addiction treatment are greeted by the harsh, stigmatizing labels that many Americans don't think twice about: Words like addict, alcoholic, junkie, abuser, or worse. Even as the nation's substance use crisis has escalated, however, new research has emerged showing that simple word choices can have a big impact on the way health professionals view their patients and, accordingly, the care they receive. And in recent years, a coalition of doctors, recovery advocates, researchers, and even...

Lawmakers pressing CMS to expand substance abuse disorder coverage and close key gaps in care

Several lawmakers are pressing the Centers for Medicare & Medicaid Services (CMS) to expand Medicare's coverage of substance abuse disorder to address key gaps exacerbating the addiction crisis. Rep. Lauren Underwood, D-Illinois, and Sen. Dick Durbin, D-Illinois, wrote a letter to CMS Administrator Chiquita Brooks-LaSure (PDF) earlier this week calling out CMS to use new funding and existing authority to expand Medicare coverage. The letter comes amid rising rates of addiction deaths exacerbated in part by the pandemic. "It is essential that CMS acts swiftly and comprehensively to ensure older adults in our communities have access to the substance use disorder treatments they need and deserve," the letter said. While Medicare does cover low-intensive levels of substance use disorder like...

Psilocybin advocates commune at the capitol to promote policy, mental health, and recovery

LANSING, Oct. 18 – When I arrived on the east lawn of the capitol building, the members of the Michigan Initiative for Community Healing (MICH) were still setting up. It was a frigid fall morning, beset with an icy rain and a particularly unsympathetic wind, yet these uncrowned champions of plant medicine were undeterred. A small group of about seven members were busy erecting tents, piling

T-shirts, and setting out coffee that would warm devoted rally goers; the looming risk of hypothermia overshadowed by their dedication to the cause. I found Matt Strang, a WCC pre-med student, MICH member, and fierce proponent of entheogenic plants. He's wearing a black sweatshirt with the hood pulled down tight over his head. As he shifts his weight from one foot to the other, I can't...

Funding Opportunities



[RFA-DA-24-007](#)

[Avenir Award Program for Chemistry and Pharmacology of Substance Use Disorders \(DP1- Clinical Trial Not Allowed\)](#)

[PAR-23-021](#)

[Avenir Award Program for Genetics or Epigenetics of Substance Use Disorders \(DP1 Clinical Trial Optional\)](#)

CAR Member New Publications

Five-year incidence of substance use and mental health diagnoses following exposure to opioids or opioids with benzodiazepines during an emergency department encounter for traumatic injury

Joel G. Sprunger, Keilan Johnson, Daniel Lewis, David C. Kaelber, T. John Winhusen

Journal Drug and Alcohol Dependence

DOI: <https://doi.org/10.1016/j.drugalcdep.2022.109584>

ABSTRACT

Background: Benzodiazepines and opioids are used alone or in conjunction in certain care settings, but each have the potential for misuse.

Objective: This longitudinal observational study evaluated substance use and mental health outcomes associated with providing opioids with or without benzodiazepine to treat traumatic injury in the emergency department (ED) setting.

Methods: We analyzed a limited dataset obtained through the IBM Watson Health Explorys. Matched cohorts were defined for: 1) patients treated with opioids during the ED encounter (ED-Opioid) vs. neither opioid or benzodiazepine treatment (No medication) (n = 5372); 2) patients treated with opioids and benzodiazepines during the ED encounter (ED-Opioid+Benzodiazepines) vs. No Medication (n = 2454); and 3) ED-Opioid+Benzodiazepines vs. ED-Opioid (n = 2454). Patients consisted of adults with an emergency department

encounter in the MetroHealth System (Cleveland, Ohio) with a chief complaint of traumatic injury and medical records for five years following the encounter. Control patients for each cohort were matched to the exposure patients on demographics, body mass index, and residential zip code median income. Outcomes were five-year incidence rates for alcohol, substance use, depression, and anxiety-related diagnoses.

Results: Our results indicate that, although receiving opioids during the ED visit predicted a relatively lower likelihood of subsequent substance use and mental health diagnoses, the brief co-use of benzodiazepines was strongly associated with poorer outcomes.

Conclusions: Even brief exposure to co-prescribed opioids and benzodiazepines during emergency traumatic injury care may be associated with negative substance use and mental health consequences in the years following the event.

Keywords: Benzodiazepines; Co-prescription; Emergency department; Opioids; Substance use disorder.

Perinatal morphine exposure leads to sex-dependent executive function deficits and microglial changes in mice

Brittany L. Smith, Tess A. Guzman, Alexander H. Brendle, Collin J. Laaker, Alexis Ford, Adam R. Hiltz, Junfang Zhao, Kenneth D.R. Setchell, Teresa M. Reyes

eNeuro

DOI: <https://doi.org/10.1523/ENEURO.0238-22.2022>

ABSTRACT

Children exposed prenatally to opioids are at an increased risk for behavioral problems and executive function deficits. The prefrontal cortex (PFC) and amygdala (AMG) regulate executive function and social behavior and are sensitive to opioids prenatally. Opioids can bind to toll-like receptor 4 (TLR4) to activate microglia, which may be developmentally important for synaptic pruning. Therefore, we tested the effects of perinatal morphine exposure on executive function and social behavior in male and female mouse offspring, along with microglial-related and synaptic-related outcomes. Dams were injected once daily subcutaneously with saline (n = 8) or morphine (MO; 10 mg/kg; n = 12) throughout pregestation, gestation, and lactation until offspring were weaned on postnatal day 21 (P21). Male MO offspring had impairments in attention and accuracy in the five-choice serial reaction time task, while female MO offspring were less affected. Targeted gene expression analysis at P21 in the PFC identified alterations in microglial-related and TLR4-related genes, while immunohistochemical analysis in adult brains indicated decreased microglial Iba1 and phagocytic CD68 proteins in the PFC and AMG in males, but females had an increase. Further, both male and female MO offspring had increased social preference. Overall, these data demonstrate male vulnerability to executive function deficits in response to perinatal opioid exposure and evidence for disruptions in neuron–microglial signaling

