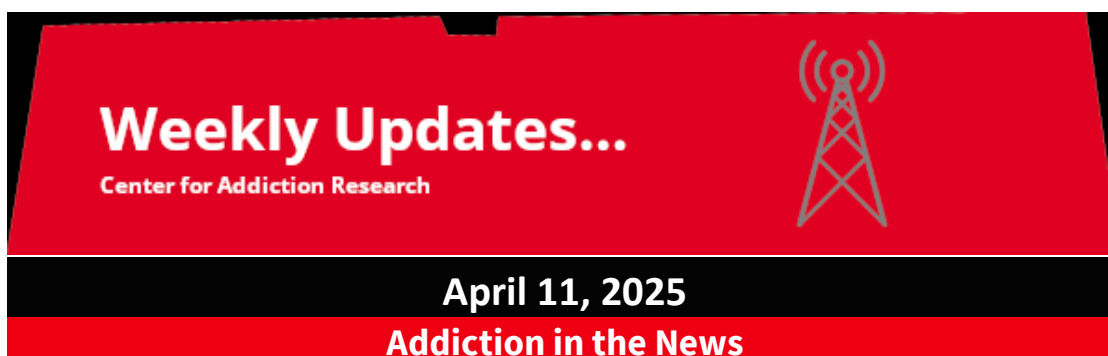


Welcome to the weekly newsletter from the Center for Addiction Research! Each newsletter includes highlights from addiction in the news topics, active funding opportunities offered by NIDA/NIAAA, and information about any new publications from CAR members. Please email Jen Rowe (roweji@ucmail.uc.edu)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

Prenatal Opioid Exposure Linked to Smaller Brain Volume

Opioid exposure in the second or third trimester was associated with smaller brain volumes in newborns, a prospective U.S. study found. Total brain volume averaged nearly 5% smaller among 173 newborns with antenatal opioid exposure than 96 without such exposure after controlling for birth weight, postmenstrual age at MRI, and maternal factors (387.51 vs 407.06 cm³, 95% CI 8.75-30.35, adjusted P=0.002), according to Catherine Limperopoulos, PhD, of Children's National Hospital in Washington, D.C., and colleagues. The exposed group also had significantly smaller volume compared to the control group for cortical gray matter, deep gray matter, white matter, cerebellum, brainstem, and the right and left amygdala, they...

(second author, Dr. Stephanie Merhar, CAR Perinatal Addiction/Developmental Consequence Core leader, see publication below in the newsletter)

UC tracks 'evolving' opioid epidemic across US

The heart of the opioid epidemic that killed 665,341 people in the United States between 2005 and 2020 shifted geographically from the Northwest to the East, according to a new geographical analysis. In a study published in the journal *The Lancet Regional Health — Americas*, epidemiologists at the University of Cincinnati tracked the epicenter of this life-shattering epidemic over space and time across the country, driven largely by a move from prescription opiates to heroin to synthetic substances like fentanyl. Researchers say this geographic shift can be narrowed between 2013 and 2016 as lawmakers implemented stricter regulations limiting access to opioids and law enforcement began prosecuting doctors...

Richland, Ashland county jails to get state funds for addiction treatment

Grants totaling more than \$1.2 million are headed to eight Ohio counties, including Richland and Ashland counties, for sheriffs to prioritize addiction treatment for jail inmates, according to Attorney General Dave Yost. Richland County Sheriff J. Steve Sheldon said he has been chasing funding to create a Medication Assisted Treatment program at the Richland County Jail. "The program will offer treatment via medications to reduce withdrawal symptoms and counseling to our incarcerated individuals who suffer with addiction," Sheldon said in a statement. "This program will also assist with getting them the resources they need to continue treatment upon release from the Richland County Jail." He noted...

Opioid deaths decline, but substance abuse fight faces other obstacles

Every time someone is admitted for detox at addiction treatment center Stella Maris, director of nursing Carole Negus fills out a leather-bound ledger by hand. She highlights each entry based on the person's primary substance of misuse. If the person is dependent on alcohol, their line is highlighted in green. Opioids are blue. Benzodiazepines are orange. If the person misuses a combination of substances, their entry is highlighted in pink. The Cleveland facility has kept the ledgers for decades. Flip through them and a picture of the area's age-old struggle with addiction starts to take shape. When Negus started at Stella Maris in 2013, about half of the lines were green. By 2016, 90% of them were blue. "You (can) literally...

National News

Eight or more drinks per week linked to signs of injury in the brain

Heavy drinkers who have eight or more alcoholic drinks per week have an increased risk of brain lesions called hyaline arteriolosclerosis, signs of brain injury that are associated with memory and thinking problems, according to a study published online in *Neurology*. Hyaline arteriolosclerosis is a condition that causes the small blood vessels to narrow, becoming thick and stiff. This makes it harder for blood to flow, which can damage the brain over time. It appears as lesions, areas of damaged tissue in the brain. "Heavy alcohol consumption is a major global health concern linked to increased health problems and death," said study...

Alcohol causes cancer, and less than one drink can increase your risk—a cancer biologist explains how

Alcohol, whether consumed regularly or only on special occasions, takes a toll on your body. From your brain and heart, to your lungs and muscles, to your gastrointestinal and immune systems, alcohol has broad harmful effects on your health—including causing cancer. Alcohol is the third-leading preventable cause of cancer in the U.S., responsible for about 100,000 cases of cancer and 20,000 cancer deaths annually. In comparison, alcohol-related vehicle crashes cause around 13,500 deaths each year in the U.S. As early as the 1980s, researchers suspected that alcohol can cause cancer. Epidemiological studies have shown that alcohol...

Government shuts CDC office focused on alcohol-related harms and prevention

A small office that produced data on alcohol-related deaths and harms, and worked on policies to reduce them, has been shuttered by the Trump administration. Those involved with the work say it was the only group in the federal government focused on preventing excessive drinking and the many problems associated with it, including chronic diseases. At least 11 states directly relied on the Alcohol Program in the Centers for Disease Control and Prevention for funding, data assistance and other guidance. The three-person, 24-year-old program was cut by the large reduction-in-force that began April 1 at Health and Human...

Simultaneous alcohol, cannabis use may fuel more drinking

Many young adults drink alcohol and use cannabis together, at the same time, as a coping mechanism or to relieve stress. A recent study from the University of Missouri School of Medicine found that people may perceive fewer negative effects of alcohol if they are also using cannabis at the same time, potentially leading to alcohol use disorder, alcohol-related harms and drunk driving. The paper, "Affective reinforcement of simultaneous versus single use of alcohol and cannabis," is published in Drug and Alcohol Dependence. Given how frequently people use cannabis and drink, it's important to understand what drives...

New study reveals potential biological link between cannabis and psychosis

A new study published in JAMA Psychiatry sheds light on how cannabis use disorder is linked to changes in the brain that are associated with psychosis. Using brain imaging techniques, researchers found individuals with cannabis use disorder, those who were using cannabis on a frequent basis over an extended period of time, exhibited signs of higher levels of dopamine in the same region of the brain that is tied to psychosis. This study was conducted in London, Ont., led by researchers from London Health Sciences Center Research Institute (LHSCRI) and Western's Schulich School of Medicine & Dentistry. Previous data has shown...

ACP's Best Practice Advice addresses use of cannabis, cannabinoids for chronic noncancer pain

The American College of Physicians (ACP) has issued Best Practice Advice for clinicians whose patients are considering or using cannabis or cannabinoids for management of chronic, noncancer pain. Cannabis or Cannabinoids for the Management of Chronic Noncancer Pain: Best Practice Advice From the American College of Physicians, was published today in Annals of Internal Medicine. ACP's Best Practice Advice paper is intended to inform clinicians about the evidence regarding the benefits and harms of cannabis or cannabinoids in the management of chronic noncancer pain and to provide advice for clinicians counseling...

Medical cannabis could speed recovery, especially at community recovery homes, pilot study indicates

A new pilot study from UBC Okanagan and Thompson Rivers University examined how medically supervised cannabis use in a residential recovery home may support people in treatment for substance use challenges. The study, published in the Journal of Studies on Alcohol and Drugs, was conducted by researchers from UBC Okanagan and Thompson Rivers University. Participants reported that cannabis helped them manage pain, anxiety, depression and sleep issues—key symptoms that can complicate recovery. "Our findings suggest medical cannabis could play a meaningful role in reducing cravings...

Michigan anesthesiologists want to know if you use these substances before surgery

With cannabis and hallucinogen use on the rise, the Michigan Society of Anesthesiologists is trying to educate the public on the importance of disclosing the use of the substances to physicians, particularly before going into surgery. Use of cannabis and hallucinogens remains at an all-time high in recent years, according to a University of Michigan study. The effects of the substances on anesthesia and surgery vary but include increasing or decreasing a person's sensitivity to sedation, delirium following sedation and lung complications, and effects on heart rate and blood pressure, said Dr. Matt Dellaquila, president-elect of...

CDC cuts key smoking programs despite success in curbing smoking rates

The U.S. government has shut down or paused several major anti-smoking efforts. Public health leaders say the cuts could reverse decades of progress that have pushed smoking rates in the country to all-time lows. Last week, the Department of Health and Human Services (HHS) made major cuts to tobacco control offices at the U.S. Centers for Disease Control and Prevention (CDC) and U.S. Food and Drug Administration (FDA). Dozens of workers were let go, including Brian King, the FDA's top tobacco regulator. The CDC's Office on Smoking and Health, which led work on smoking cessation and research into youth tobacco use, was...

Public housing smoking ban can reduce heart attacks and strokes

A paper, "Evaluation of Federally Mandated Smoke-Free Housing Policy and Health Outcomes Among Adults Over the Age of 50 in Low-Income, Public Housing in New York City, 2015-2022," published in Nicotine & Tobacco Research finds that a 2018 U.S. ban on smoking in public housing led to a reduction in hospitalizations for cardiovascular problems. Tobacco use and exposure to secondhand smoke is a leading cause of preventable death in the United States. Some 480,000 Americans die every year due to tobacco. While the prevalence of adults exposed to secondhand smoke decreased dramatically between 1988 and 2014 (from...

HHS cuts leave future of mental health, substance use hotlines uncertain

Hotlines that have fielded millions of calls from people — including new mothers — looking for mental health support or to quit smoking are in limbo after federal officials fired the workers who oversaw them. Employees were cut from offices that fund prevention work on the local, state, and tribal level. Those include hotlines like the Maternal Mental Health Hotline run by the Health Resources and Services Administration, and another to help smokers quit using tobacco. The workers who oversee these hotlines make up a small sliver of the overall cuts to chronic disease work in the Department of Health and Human...

Hit hard by opioid crisis, Black patients further hurt by barriers to care

Purple flags, representing the nearly 300 Mecklenburg County residents who died of opioid overdose in 2023, fluttered in the humid breeze last August in recognition of International Overdose Awareness Day on the city's predominantly Black west side. As recently as five years ago, the event might have attracted an overwhelmingly white crowd. But the gathering on the last day of the month at the Valerie C. Woodard Community Resource Center drew large attendance from Black people eager to learn more about a crisis that now has them at the center. In recent years, the rate of overdose deaths from opioids—originally dubbed...

AI screening for opioid use disorder associated with fewer hospital readmissions

An artificial intelligence (AI)-driven screening tool, developed by a National Institutes of Health (NIH)-funded research team, successfully identified hospitalized adults at risk for opioid use disorder and recommended referral to inpatient addiction specialists. The AI-based method was just as effective as a health provider-only approach in initiating addiction specialist consultations and recommending monitoring of opioid withdrawal. Compared to patients who received provider-initiated consultations, patients with AI screening had 47% lower odds of being readmitted to the hospital within 30 days after their initial...

Misinformation about fentanyl exposure threatens to undermine overdose response

Fentanyl, the deadly synthetic opioid driving the nation's high drug overdose rates, is also caught up in another serious problem: misinformation. False and misleading narratives on social media, in news reports and even in popular television dramas suggesting people can overdose from touching fentanyl — rather than ingesting it — are now informing public policy and spending decisions. John Greene and his counselor Emily Georgia at Family & Children's Counseling Services in Cortland, N.Y. Greene is four months into recovery for the first time since he started regularly using drugs at age 14. He credits a new program that the...

Community coalitions key to combating the opioid crisis

Collaborative, community-driven initiatives can help mitigate the impact of opioid misuse and overdose deaths, according to a research team that includes Brandy Henry, assistant professor of rehabilitation and human services in the Penn State College of Education. That finding, published in the journal *BMJ Public Health*, was concluded from data collected by the larger HEALing Communities Study (HCS). Launched in 2019 by the National Institute on Drug Abuse and the Substance Abuse and Mental Health Services Administration, HCS was the largest addiction prevention and treatment implementation study ever conducted in the...

For opioid victims, payouts fall short while governments reap millions

Christopher Julian's opioid journey is familiar to many Americans. He was prescribed painkillers as a teenager for a series of sports injuries. He said the doctor never warned him they could be addictive. Julian didn't learn that fact until years later, when he was cut off and began suffering withdrawal symptoms. At that point, he started siphoning pills from family members and buying them from others in his southern Maine community. After his brother died of brain cancer in 2011, Julian used opioids to cope with more than physical pain. He stole to support his addiction, cycled in and out of jail and treatment, and overdosed...

Animal tranquilizers found in illegal opioids may suppress the lifesaving medication naloxone

The animal tranquilizers xylazine and medetomidine are in approximately one-third of the illegal opioids available in the U.S., including fentanyl, heroin and oxycodone. Animal tranquilizers enhance the user's euphoric high from opioids, particularly in those who have developed a tolerance to the opioid. But adding the tranquilizers to these already illicit drugs could keep naloxone, a medication known to prevent deaths from opioid overdose, from working. These are the key findings of my recent study, published in March 2025 in the *Journal of Pharmacy Technology*. As a pharmacist and researcher who investigates the...

Hospital addiction consultation service initiates and sustains more treatment than usual care, trial finds

Specialized hospital services that aid people with opioid use disorder, regardless of why they are admitted, can boost the number of patients who begin treatment with FDA-approved medication for opioid use disorder and increase the likelihood they remain engaged in that care once discharged, according to a new study. Reporting results from the first parallel assignment randomized clinical trial of a hospital-based addiction consultation service for people with opioid use disorder, researchers found that people who received treatment from a specialized addiction consultation service were about twice as likely to begin medication...

U.S. fentanyl deaths have been plunging. Enter Trump

Federal spending cuts instigated by the White House threaten to reverse a steep decline in American overdose deaths and are jeopardizing other gains in the battle against synthetic opioids, people on the front lines of the anti-narcotics fight say. Government drug researchers have been sacked. One of the nation's premier narcotics testing labs has furloughed chemists who test the potency of illicit drugs. A Pennsylvania outreach center that distributed thousands of doses of lifesaving overdose-reversal medication has closed its doors. An Illinois nonprofit that works to reduce overdose deaths in communities of color is slated to lose...

Heroin found in cocaine and 'ice,' and snorting a line can be lethal

Authorities in New South Wales and Victoria have been warning the public about worrying cases of heroin overdoses after people thought they had taken cocaine or methamphetamine. We know the issue is also relevant to other parts of Australia. And it's particularly concerning because heroin can cause life-threatening opioid overdoses, particularly in people inexperienced with heroin who snort it. Our new research sheds more light on what happens to people who accidentally took heroin thinking it was something else. We are part of a NSW Health program that helps to find and quickly respond to...

Three-quarters of survey respondents supported an overdose prevention center in their neighborhood

Overdose prevention centers (OPCs) offer life-saving interventions in the event of an overdose along with on-site harm reduction services. While studies of OPCs in other countries have shown that they can reduce overdose deaths without increasing crime, they remain a novel concept in the United States. Before the recent opening of the nation's first state-sanctioned OPC, researchers at the Brown University School of Public Health surveyed people living and working in the Providence, Rhode Island, neighborhood where it is located, to ask about their perceptions of the center. They found that 74% of survey participants supported...

Novel brain study increases understanding of what triggers drug use relapse

New research on the biological basis of addiction has found that the critical epigenetic enzyme histone deacetylase 5 (HDAC5) limits the expression of the gene *Scn4b*, regulating neuronal activity and thereby the formation of strong drug-related memories, which can trigger relapse in individuals with substance use disorders (SUDs). The study published in *Biological Psychiatry* detailing these epigenetic mechanisms in the brain, uncovers a new molecular target for the development of novel SUD treatments. SUDs affect many individuals in the United States directly or indirectly. Drug-related deaths remain at an all-time high...

One in 10 with substance use disorder report past-year hospitalizations

About one in 10 U.S. adults with substance use disorder (SUD) report past-year hospitalizations, according to a research letter published online April 1 in the

Annals of Internal Medicine. Eden Y. Bernstein, M.D., M.P.H., from the University of Colorado School of Medicine in Aurora, and colleagues described the prevalence of hospitalizations among U.S. adults with SUD. Adults were classified into non-mutually exclusive groups by the presence of any SUD, individual SUD, and two or more SUDs. The proportion and number of U.S. adults who reported hospitalizations was estimated for each group. The researchers identified...

The White House Announces Six Drug Policy Priorities

The White House Office of National Drug Control Policy (ONDCP) announced the Statement of Drug Policy Priorities, outlining key initiatives to address illicit drug use in America. The Administration highlighted six national priorities: Decrease Overdose Deaths, with an Emphasis on Fentanyl, Strengthen the Global Supply Chain to Combat Drug Trafficking, Halt the Influx of Drugs Across Borders and into Communities, Prevent Substance Use Before It Begins, Expand Access to Treatment for Lasting Recovery, Advance Research and Data to Enhance Drug Control Strategies. The release suggests this approach builds upon President...

Understanding Addiction: A Guide for Families with author Jessica Hulsey

Join a webinar hosted by Addiction Policy Forum, on Friday, April 25, at 1 p.m. ET featuring Addiction Policy Forum's Founder, Jessica Hulsey, as she discusses her new book, Understanding Addiction: A Guide for Families. Jessica will share insights from the book, reflecting on her own family's struggles with addiction and her decades of experience working in the field. She'll touch on key themes, including the science of addiction, research that dispels common myths and misinformation, and practical guidance to help families navigate the complexities of substance use disorders.

Funding Opportunities



GRANTS & FUNDING

NIH Central Resource for Grants and Funding Information

There are no new NIH Grants Funding Opportunities to post this week.

CAR Member New Publications

Antenatal Opioid Exposure and Global and Regional Brain Volumes in Newborns

Yao Wu, PhD; Stephanie L. Merhar, MD, MS; Carla M. Bann, PhD; Jamie E. Newman, PhD; Kushal Kapse, MS; Josepheen De Asis-Cruz, MD, PhD; Nicole Mack, MS; Sara B. De Mauro, MD, MSCE; Namasivayam Ambalavanan, MD; Jonathan M. Davis, MD; Scott A. Lorch, MD, MSCE; Deanne Wilson-Costello, MD; Brenda B. Poindexter, MD; Myriam Peralta-Carcelen, MD; Catherine Limperopoulos, PhD

ABSTRACT

Importance: Although antenatal opioid exposure is associated with impaired brain growth, previous studies are limited by small sample sizes and lack of controls. As a result, the impacts of opioid exposure on the developing brain remain poorly understood.

Objective: To compare global, regional, and tissue-specific brain volumes in opioid-exposed newborns vs unexposed controls.

Design, Setting, and Participants: In the OBOE (Outcomes of Babies with Opioid Exposure) study, term newborns with antenatal opioid exposure and unexposed controls were recruited at 4 sites in the US from August 2020 to December 2023. Data analysis was performed from August 2020 to December 2024.

Main Outcomes and Measures: The primary outcome was brain volumes in both groups, assessed via unsedated 3-dimensional (3-D) volumetric magnetic resonance imaging (MRI) in opioid-exposed and unexposed newborns prior to 8 weeks of age. T2-weighted MRI data were acquired on Siemens and Philips 3T scanners and harmonized across sites. Brains were segmented using DrawEM- and 3D U-Net–based pipelines and manual corrections. Brain volumes were compared between groups using analysis of covariance, adjusting for postmenstrual age at MRI, sex, birth weight, maternal smoking, and maternal education.

Results: A total of 173 newborns with antenatal opioid exposure and 96 unexposed controls were studied. MRIs were performed at a mean (SD) age of 42.84 (2.11) postmenstrual weeks, and 117 newborns (43.5%) were female. The opioid-exposed group had significantly smaller total brain volume (387.51 vs 407.06 cm³; difference, 19.55; 95% CI, 8.75-30.35) and cortical (167.07 vs 176.35 cm³; difference, 9.28; 95% CI, 3.86-14.70), deep gray matter (27.22 vs 28.76 cm³; difference, 1.54; 95% CI, 0.66-2.43), white matter (159.90 vs 166.65 cm³; difference, 6.76; 95% CI, 1.71-11.81), cerebellar (23.47 vs 24.99 cm³; difference, 1.52; 95% CI, 0.67-2.36), brainstem (6.80 vs 7.18 cm³; difference, 0.38; 95% CI, 0.19-0.57), and amygdala volumes (left: 0.48 vs 0.51 cm³; difference, 0.03; 95% CI, 0.004-0.05; right: 0.51 vs 0.55 cm³; difference, 0.04; 95% CI, 0.08-0.07) compared to controls. Methadone-exposed newborns showed significantly smaller white matter volume compared to controls, while buprenorphine-exposed newborns showed significantly smaller right amygdala volume than controls. Compared to controls, newborns exposed to opioids only and those exposed to opioids plus other substances both showed significant reductions in volumes of cortical and deep gray matter, cerebellum, brainstem, right amygdala, and total brain. Polysubstance-exposed newborns additionally showed smaller volumes in white matter and the left amygdala compared to controls.

Conclusions and Relevance: In a large cohort of antenatally opioid-exposed newborns, there were significant reductions in global and regional brain volumes compared to unexposed controls. These data suggest vulnerability of the developing brain to antenatal opioid exposure, with varying effects depending on the type and number of substances.

Trial Registration ClinicalTrials.gov Identifier: [NCT04149509](https://clinicaltrials.gov/ct2/show/study/NCT04149509)

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