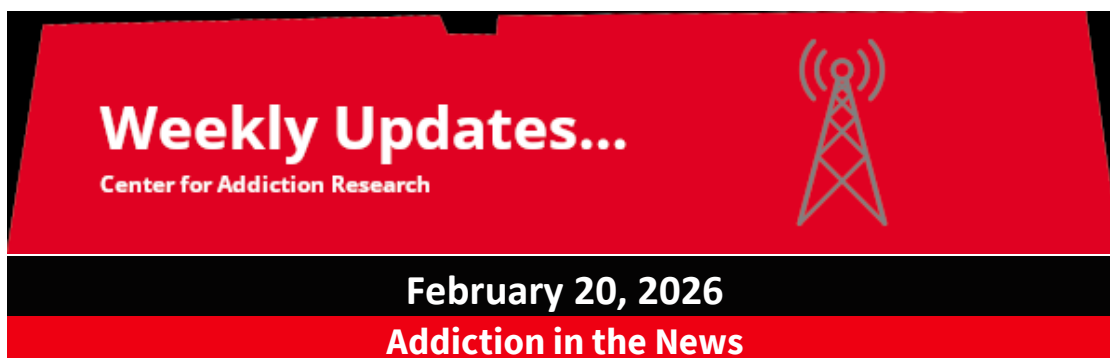


Welcome to the weekly newsletter from the Center for Addiction Research! Each newsletter includes highlights from addiction in the news topics, active funding opportunities offered by NIDA/NIAAA, and information about any new publications from CAR members. Please email Jen Rowe ([roweji@ucmail.uc.edu](mailto:roweji@ucmail.uc.edu))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

#### **UC students aim to expand methadone access to treat opioid use disorder**

A team of UC students hopes a proposal to expand methadone access will garner national attention in their attempt to fight the opioid crisis. UC nursing student Yara Chaouali and criminal justice student Selma Younes, spoke with Spectrum News journalist Javari Burnett about the proposal to help residents across Ohio. Chaouali and Younes, along with psychology student Samantha Jackson and political science student Tala Hamdan recently won the 2025-26 Health Policy Challenge, hosted by UC's Portman Center for Policy Solutions. This week the students are presenting their work at the Policy Challenge...

#### **How sports gambling is changing the game**

The Journal-News turned to Mike Fry, professor of operations, business analytics and information systems at the University of Cincinnati's Lindner College of Business to break down the rise and the risks of sports betting. "It totally changed how fans follow games," Fry said. "It drove interest from watching 'your team' to watching dozens of players from dozens of games. You can really make any game interesting — it's very much about the individual." Today, fans can place proposition bets, or prop bets, on specific players' stats — how many yards they will run, how many touchdowns they will score — all on their phone...

#### **Alcohol tops substance abuse cases at KSU**

Alcohol remains a defining feature of campus life while Kent State officials say substance abuse, specifically involving illicit drugs, isn't a significant concern.

Students, too, say alcohol is far more visible in the campus community than drugs. Alex Bayus, a senior majoring in fashion merchandising at KSU, shared that from his own personal experience, alcohol has been more prevalent in his social circle. “My freshman year roommate was caught with alcohol in our dorm room during a random room check by our RA,” Bayus said. “She was given a warning instead of facing punishment.” Todd Kamenash, associate dean of...

### **Feds Seize Massive Fentanyl Stash in Akron Drug Bust**

Federal agents executed a search warrant at an Akron home and seized over 126 grams of fentanyl, more than 5 pounds of methamphetamine, and multiple firearms including an assault rifle and a sawed-off shotgun. The fentanyl stash alone is enough to potentially produce over 60,000 lethal doses, according to authorities. The large seizure of fentanyl and other hard drugs highlights the ongoing opioid crisis in Ohio and the efforts by law enforcement to disrupt the supply chain of these deadly substances. The presence of assault weapons also raises concerns about the dangerous nature of drug trafficking...

### **Kentucky bill to reroute e-cigarette settlement dollars to prevention on the move**

FRANKFORT — Ksenia Miller sees her fellow youth vaping “all the time,” she told the Kentucky Senate Health Services committee Wednesday. Speaking in support of legislation to move e-cigarette settlement dollars from the general fund into prevention and cessation efforts aimed at youth, Miller said that Juul “wanted us to vape.” The e-cigarette company is currently paying off a \$14 million legal settlement to Kentucky. “We all know that a new generation of youth like me — and even those much younger than me — have been addicted to nicotine and are being targeted by the marketing of these dangerous products...

### **UK awarded \$7.2 million to reduce overdose risk among justice-involved women**

LEXINGTON — University of Kentucky researchers have been awarded a five-year grant, projected to total \$7.2 million, from the National Institutes of Health (NIH) to test overdose prevention strategies for women transitioning from jail back into rural Kentucky communities. The new project is supported by the NIH’s National Institute on Drug Abuse as part of its Justice Community Overdose Innovation Network (JCOIN), a nationwide program that tests strategies to expand effective treatment, recovery and related services for individuals involved in the criminal legal system. Women involved in the criminal legal...

## **National News**

### **Binge-drinking isn't just a young person's issue; it's a serious later-life mortality risk**

Binge-drinking among older adults is associated with a significantly increased risk of death, according to a study published in Alcohol. Researchers have analyzed

data from a large national study of more than 129,000 Canadian adults aged 50 and older and found a graded association between binge-drinking frequency and mortality risk, even after accounting for health status, mental health, and socioeconomic factors. Drawing on the 2005–2014 Canadian Community Health Survey linked to the Canadian Vital Statistics Death Database, the study followed participants for up to 12 years. Approximately 40% of older adults...

### **Parents' multi-substance use tied to higher teen risk, study finds**

"Like father, like son? Can parenting styles break the intergenerational pattern of alcohol and drug use?" A group of Brazilian researchers analyzed data on the behavior of 4,280 adolescents and their guardians based on this question, arriving at two important conclusions. Yes, parental attitudes are one of the most relevant factors in preventing alcohol and drug use among young people. However, the way guardians educate their children can significantly mitigate the risk, even in families where caregivers use these substances, including cigarettes, vapes (which are banned in Brazil), and marijuana. The reduction...

### **Spiritual practices strongly associated with reduced risk for hazardous alcohol and drug use**

Individuals who engaged in spirituality were significantly less likely to exhibit hazardous use of alcohol, tobacco, marijuana, and illicit drugs, according to a new meta-analysis led by researchers at Harvard T.H. Chan School of Public Health. The meta-analysis is the first of its kind to synthesize and comprehensively estimate associations between harmful or hazardous substance use and spirituality—considered any practice, religious or otherwise, through which an individual finds ultimate meaning, purpose, and connection to something greater than themselves. "Our findings indicate that spirituality may be protective against...

### **Seven-day buprenorphine injection matches daily tablets for ED opioid treatment**

More than 15 years ago, Yale's Gail D'Onofrio started studying the effectiveness of sublingual (under-the-tongue) buprenorphine for treatment of opioid use disorder (OUD) in the emergency department. At the time, buprenorphine was already being used in primary care populations at Yale by David Fiellin, so D'Onofrio and Fiellin decided to test if and how it could work for patients in the ED. In the years since, their work has advanced multiple trials testing the effectiveness of different formulations and doses of buprenorphine. In the latest study, D'Onofrio and Fiellin examined the effectiveness of a seven-day, extended-release...

### **Scientists Redesign Fentanyl To Preserve Pain Relief While Reducing Deadly Side Effects**

Researchers at Scripps Research have redesigned fentanyl at the molecular level, challenging decades-old assumptions about opioid chemistry. Fentanyl ranks among the most powerful medications available for treating intense pain. However,

its benefits come with serious hazards, including a high potential for addiction and respiratory depression, a dangerous slowing of breathing that can be fatal. Because of these risks, doctors must carefully restrict its use even though it is highly effective. At the same time, fentanyl is inexpensive and relatively simple to manufacture, which has led to widespread illegal production and...

### **'Game-changer' jab for opioid dependency treatment linked to lower NHS demand, report suggests**

A "game-changer" jab to treat opioid dependence could ease pressure on health care services, outperforming other standard treatments, a new report involving University of Hertfordshire academics suggests. But the injection, known as Buvidal, should be offered as part of a wider, person-centered treatment system, integrated with psychological support and meaningful social activities, rather than positioned as a standalone solution, authors of the report recommend. The global opioid crisis is thought to be of epidemic proportion, with an estimated 60 million people using unregulated opioids in 2023 worldwide. In England...

### **Families, peers biggest predictors of early substance use in children with pain, mental health symptoms**

Children with co-occurring persistent pain and mental health symptoms face higher risk for early substance use, but the strongest predictors of whether a child starts using alcohol, tobacco or cannabis by age 14 are family environment and peer influence, finds a University of Michigan study. The work is published in the Journal of Adolescent Health. The study analyzed five years of data from 9,948 individuals in the Adolescent Brain and Cognitive Development (ABCD) Study, a national study involving 21 sites across the U.S., including U-M. Researchers from the U-M School of Nursing and Michigan Medicine found that children...

### **Addiction affects your brain as well as your body. That's why detoxing is just the first stage of recovery**

Addiction is one of the most common and consequential chronic medical conditions in the United States. Nationwide, more than 46 million people met the criteria for a substance abuse disorder as of 2021, the most recent data available. Decades of evidence show that addiction is a chronic, relapsing disease of the brain. Nonetheless, there's still widespread public misunderstanding of what constitutes "treatment" for addiction, not to mention heavy stigma associated with it. Many patients, families, and even health care systems view entering a detoxification or medically managed withdrawal unit as the primary step in...

### **Understanding substance use across the full spectrum of sexual identity**

A study led by researchers at University of California San Diego School of Medicine reveals higher rates of substance use among all non-heterosexual groups in the U.S., including people who are uncertain of or who use different terms to describe their sexual identity. The analysis was based on the 2023 National Survey on Drug

Use and Health (NSDUH), the first nationally representative dataset to include sexual identity options beyond lesbian, gay, bisexual or heterosexual, and the first to ask respondents ages 12–17 about their sexual identity. More than 52,000 people participated in the survey. The study is...

### **Suvorexant for Sleep Disturbance in Substance Use Recovery**

Sleep disturbance is a common, yet often overlooked, part of substance use disorders (SUDs). During withdrawal, many people report difficulty falling asleep and staying asleep, and sleep disturbance may persist during long-term recovery. The severity of sleep disturbances have also shown to be a predictor of relapse and later substance use (Gyawali & James, 2023). With alcohol use disorder (AUD) specifically, insomnia is frequently reported, and untreated insomnia has been identified as a predictor of relapse even months after abstinence (Campbell et al., 2020). Improving sleep during recovery shows promise in improving...

### **Alabama exhibition transforms grief into portraits honoring addiction victims**

HUNTSVILLE, Ala. — An art exhibition opening hearts and minds about addiction has found a temporary home in Huntsville, transforming grief into a powerful call for compassion. Not One More Alabama is hosting "Into Light Project: Real People, Real Stories" through Feb. 20, featuring 41 portraits of Alabamians who died from drug addiction or related causes. The exhibition aims to shift public perception of addiction from moral failing to medical disease. Artist Theresa Clower launched the project after losing her son to addiction. She began by sketching his portrait, discovering that creating art helped process her grief. "Theresa...

### **Ketamine's 'mystical' effects fail to explain alcohol abstinence gains, study suggests**

The psychedelic effects recreational users often seek from taking ketamine do not predict the therapeutic benefits for people being treated for alcohol use disorder. The popular theory, which says that ketamine may have its therapeutic benefits because it produces strong psychedelic effects, has been called into question by a new study from King's College London and the University of Exeter, published in *Addiction*. The study suggests the treatment response may be down to other effects of the drug. The research provides new insights into the use of intravenous ketamine-assisted psychotherapy for individuals with moderate...

## **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

### Single cell RNA transcriptome response to fentanyl use in persons with hepatitis C virus infection

Krishna M. Roskin, Heidi L. Meeds, Janani Madhuravasal Krishnan, Matthew Juhascik, John M. Cafardi, Jennifer L. Brown, Caroline Freiermuth, Michael S. Lyons, Kenneth E. Sherman, Jason T. Blackard

*Frontiers in Virology*

DOI: <https://doi.org/10.3389/fviro.2025.1585217>

#### ABSTRACT

**Introduction:** The US has experienced a major drug epidemic in recent years, attributed in large part to synthetic opioids such as fentanyl. Here, we evaluated how recreational / non-prescribed fentanyl use in persons living with HCV infection impacted gene expression profiles in the peripheral blood.

**Methods:** Whole blood was collected from 11 individuals, including 4 HCV-negative healthy controls, 4 HCV-positive individuals with current fentanyl use, and 3 HCV-positive individuals with no current fentanyl / no opioid use.

**Results:** The median HCV RNA level was 5.6 log<sub>10</sub> copies/mL. Cell frequencies were not different by fentanyl status except for non-CD4<sup>+</sup>, non-CD8<sup>+</sup> T cells (higher for fentanyl use;  $p = 0.052$ ). When comparing HCV-positive persons with / without fentanyl detected in their blood, 106 differentially expressed genes (DEGs) were identified, including 11 in CD4<sup>+</sup> T lymphocytes, 46 in CD8<sup>+</sup> T lymphocytes, 5 in monocytes, 13 in B lymphocytes (excluding plasmablasts), 24 in plasmablasts, 2 in dendritic cells, and 13 in NK cells. Seven DEGs – DHRS4L2, GZMA, H1-3, HLA-C, ISG15, PARP8, PRKX – were shared across multiple cell types, with the majority being involved in host defenses against viruses. Enrichment analysis of differentially expressed genes identified genes involved in multiple cellular processes and phenotypes. Expression of the HCV entry factor CD81 was high in PBMCs; however, other HCV entry factors were expressed at low levels, and none were differentially expressed in HCV-positive persons with / without fentanyl detected in their blood.

**Discussion:** These results highlight multiple pathways by which commonly abused opioids may affect HCV pathogenesis and may reveal additional pathways for novel target-specific therapeutic interventions and enhance the clinical management of this difficult-to-treat population.

