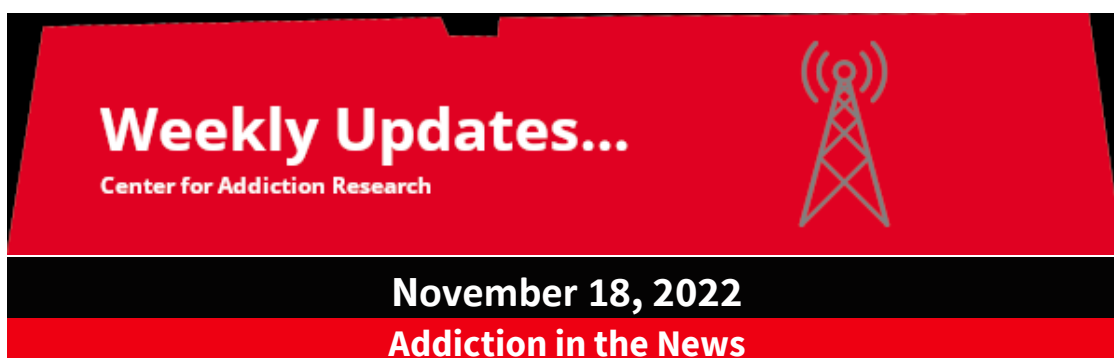


Welcome to the weekly newsletter from the Center for Addiction Research! Each newsletter includes highlights from addiction in the news topics, active funding opportunities offered by NIDA/NIAAA, and information about any new publications from CAR members. Please email Jen Rowe ([roweji@ucmail.uc.edu](mailto:roweji@ucmail.uc.edu)) to change your communication preferences. The next weekly newsletter will be distributed on 12/2/2022 - we at CAR wish you and your loved ones a safe and happy Thanksgiving holiday! 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**

#### **NIH grant funds HIV research - UC team studying how alcohol, fentanyl affect medications**

The United States has set a goal of reducing the number of new HIV infections by 75% by 2025 and by at least 90% by 2030, mirroring the United Nations' initiative to end the AIDS epidemic as a global health threat by 2030. Part of reaching these goals is ensuring the safety and efficacy of HIV medications in different situations, and researchers at the University of Cincinnati have recently been awarded a \$3.5 million National Institutes of Health grant that will examine how current medications are affected by alcohol use alone or in combination with fentanyl. Bingfang Yan, PhD, DVM, contact principal investigator of the research, said there is no clear data showing how alcohol with or without fentanyl affects HIV... **(featuring CAR member and co-PI, Dr. Blackard)**

#### **New Cincinnati Children's program aims to help young people overcome opioid addiction**

CINCINNATI — A new drug treatment clinic opening in southwest Ohio hopes to flatten the curve on a rapidly rising trend of overdose deaths among young people. Cincinnati Children's Hospital Medical Center created the Opioid Use Treatment Clinic for those between the ages of 16 and 21. The clinic provides tailored, age-specific care to patients struggling with addiction to drugs like heroin, Percocet, oxycontin, fentanyl, oxycodone, hydromorphone and Vicodin. It's one of the few outpatient clinics offering medication treatment to people under 18 years old in the

region. “Opioid addiction is still a growing problem in adolescents and young adults,” said Daniel Cohen, a nurse practitioner in the hospital’s division...

### **ADAMHS Board to Install Narcan Vending Machines in Northeast Ohio**

In order to help prevent fentanyl overdoses and lower the death toll in Northeast Ohio, the Alcohol Drug Addiction and Mental Health Services (ADAMHS) board are to install Narcan vending machines throughout Cuyahoga County in the upcoming week. In the next week, the board is rolling out five Narcan vending machines across Cleveland and is also working on putting more than 400 weather-resistant Narcan cabinets in public parks in the near future. The vending machines, purchased with \$1.2 million dollars of opioid response funding, contain fentanyl test strips, Narcan, and information about drug abuse. People in need can simply punch in a code and get what they need free of charge. “We don’t condone...

### **Addiction Services Renamed to Recovery Services To Help Fight the Stigma of Addiction**

Public Health - Dayton & Montgomery County’s Addiction Services program is now named Recovery Services. The name has been changed to help fight the stigma associated with addiction and to acknowledge that the journey of recovery is a life-long one that individuals must make. Recovery Services provides substance use and co-occurring disorder screening and treatment, problem gambling treatment, eye movement desensitization and reprocessing therapy, and trauma informed practices, prevention and intervention services that help individuals and families find what works for them. “For those suffering from addiction there are many barriers to their path to recovery and living with the stigma of addiction...

## **National News**

### **CDC: Alcohol-Related Deaths Spiked During Pandemic**

On Friday, the Centers for Disease Control (CDC) published new data revealing the full extent of alcohol-related deaths during the roughly two-year lockdown period of the Chinese coronavirus pandemic. As reported by CNN, the rate of alcohol-related deaths in the United States spiked by 26 percent between 2019 and 2020, with this one-year percentage increase being higher than the cumulative increase over the entirety of the previous decade. As a result, alcohol was the cause of death for over 49,000 Americans in 2020, which amounts to 13 out of every 100,000 people on average, up from 2019’s total of 10.4 people out of every 100,000. In response to the CDC’s findings, Marvin Ventrell, CEO of the National Association of Addiction Treatment Providers, rhetorically asked: “What’s a word bigger than...

### **Sleeping medications used for insomnia may combat drug and alcohol addiction**

Rutgers researchers think they have identified a biological process for drug and alcohol addiction, and believe existing insomnia treatments could be used to reduce or eliminate cravings. A review in Biological Psychiatry explains how ongoing

work at the Rutgers Brain Health Institute and elsewhere demonstrates that the brain's orexin system—which regulates sleep/wake states, reward systems and mood—motivates drug-seeking behavior. The researchers report that many drugs of abuse increase orexin production in both animal and human brains, and that blocking this system reverses addiction in animals. Another study has even demonstrated that one of the three orexin-blocking sleep aids approved for insomnia treatment reduces opioid cravings in human subjects. "There's...

### **Why aren't there more ways to treat alcoholism?**

News organizations were quick to trumpet the recent findings of a small study suggesting that “magic mushrooms” could be part of a breakthrough treatment for alcoholism. It's no wonder. Every year, alcohol abuse kills more than 140,000 Americans and affects millions more, with a steep increase in deaths in recent years, according to data published by the Centers for Disease Control and Prevention on Nov. 4. But excitement about the psilocybin study also raises a question: Why aren't there more medical treatments for such an obviously devastating problem? “There is a desperate need for new medications, and there are many good avenues that we're pursuing,” said Dorit Ron, a neurology professor at the University of California at San Francisco Medical Center, who...

### **Teens who perceive their friends posting drinking-related content online inaccurately report higher recent alcohol use**

Teens who perceived their friends posted alcohol-related content on social media reported drinking more than those who weren't exposed to such posts, a new study has found. In addition, adolescents overestimated the frequency of their peers' alcohol-related posts online, a misperception that potentially shaped their drinking. Perceptions of peers' alcohol use, even if inaccurate, generate a social norm—a standard that tends to guide human behavior. Adolescents are especially susceptible to peer influence. Previous research has highlighted teens' exaggerated perceptions of peers' drinking in raising the risk for their alcohol use. Social media may amplify this effect, with its unique features (“likes” and sharing) that potentially create the illusion of widespread drinking. A discrepancy...

### **Why Cannabis Holds Promise for Pain Management**

Drug overdose deaths from opioids continue to rise in the U.S. as a result of both the misuse of prescription opioids and the illicit drug market. But an interesting trend has developed: Opioid emergency room visits drop by nearly 8% and opioid prescriptions are modestly lower in states where marijuana is legalized. Marijuana is produced by the cannabis plant, which is native to Asia but is now grown throughout the world. Individuals use marijuana for both its psychoactive, euphoria-inducing properties and its ability to relieve pain. Chemicals produced by the cannabis plant are commonly known as cannabinoids. The two primary cannabinoids that occur naturally in the cannabis plant are THC – the psychoactive compound in marijuana – and CBD, which does not cause the sensation of...

### **Marijuana Smoking Increases Emphysema Risk, Study Suggests**

Emphysema and airway inflammation were more common among marijuana smokers compared with tobacco-only smokers, according to a small retrospective case-control study. In sex- and age-matched analyses, marijuana smokers -- most of whom also smoked tobacco -- had significantly higher rates of emphysema compared with tobacco-only smokers (93% vs 67%,  $P=0.009$ ), and higher rates of paraseptal emphysema as well (57% vs 24%, respectively,  $P=0.09$ ), reported Luke Murtha, MD, of the Ottawa Hospital in Ontario, Canada, and colleagues. Overall, emphysema was slightly more common in marijuana smokers in the unmatched analysis as well (75% vs 67%), though the difference here was not significant, they noted in Radiology. Marijuana smokers also had significantly higher rates...

### **Study finds cannabis users had worse bypass outcomes, increased amputation and opioid use**

The use of cannabis may have a negative impact on outcomes for a common bypass surgery, a study suggests. Researchers at Michigan Medicine analyzed more than 11,000 cases from the Blue Cross Blue Shield of Michigan Cardiovascular Consortium, known as BMC2, to review patient cannabis use and postoperative outcomes for lower extremity bypass after 30 days and one year. The minimally invasive procedure, also called a peripheral artery bypass, involves detouring blood around a narrowed or blocked artery in one of the legs with a vein or synthetic tube. Results published in *Annals of Vascular Surgery* reveal that patients who used cannabis prior to lower extremity bypass had decreased patency, meaning the graft had a higher chance of becoming blocked or occluded, and were 1.25 times...

### **Affordable Care Act linked to reduced smoking among US adults with mental health and substance use disorders**

During the first decade following passage of the Affordable Care Act (enacted March 2010), U.S. adults with mental health and substance use disorders (MH/SUD) experienced significant increases in health insurance coverage. They also showed significant reductions in smoking and increases in recent smoking abstinence. A new study published by the journal *Addiction* has found that those two changes—increased health insurance coverage and improved smoking outcomes—appear to be linked. This study, by a team that included researchers at Harvard Medical School/Cambridge Health Alliance, compared smoking and insurance coverage trends among almost 450,000 US adults with and without MH/SUD, using 2008-19 data from the National Survey on Drug Use and Health, an annual...

### **Analysis reveals increasing addiction and intensity of e-cigarette use by US adolescents**

A new analysis published in *JAMA Network Open* by investigators at Massachusetts General Hospital (MGH) in collaboration with a retired UCSF professor reveals ongoing and worsening adolescent e-cigarette addiction in the United States. In the

analysis of data from the annual National Youth Tobacco Survey, a nationally-representative survey of middle and high school students in grades 6-12, researchers found that e-cigarette prevalence among youth peaked in 2019 and then declined, but e-cigarette initiation age dropped between 2014 and 2021, and intensity of use and addiction increased after the introduction of protonated nicotine products. Protonated nicotine is created by adding acid to the e-cigarette liquid, which makes the nicotine easier to inhale. Since Juul pioneered...

### **Vapers' Nicotine Exposure Surges, Biomarkers Show**

People who vape have lower levels of exposure to a tobacco-related carcinogen than cigarette smokers, according to a new study of urinary biomarkers. Lower concentrations of a carcinogen metabolite in urine suggest that "switching completely from combustible cigarettes to e-cigarettes may provide significant health benefits," said Hongying Daisy Dai, PhD, professor and associate dean of research in the College of Public Health at the University of Nebraska Medical Center in Omaha, who is the corresponding author of the study. Vapers' exposure to nicotine substantially increased from 2013 to 2019, consistent with the proliferation of vaping products that contain high levels of the drug, the researchers report. "e-Cigarette products with high nicotine concentrations might pose higher...

### **Recent Findings On E-Cigarette Use**

In recent years, several studies have alluded to the potential harms of vape usage, but a recent landmark study found evidence that vaping can be as bad for your heart as traditional cigarettes. These findings cast significant doubt on the claim that e-cigarettes are "safer" than traditional cigarettes; a claim usually made by proponents of vaping as a smoking cessation tool. The Cardiac and Lung E-cig Smoking study (CLUES) observed 395 participants (164 long-term e-cigarette users, 117 long-term cigarette users, and 114 people who do not vape or smoke). Those who used e-cigarettes and traditional cigarettes experienced greater increases in heart rate and blood pressure; however, regular vape users experienced worse measures of heart rate variability, a constricted brachial artery (which is the...

### **Reduced-Nicotine Cigarettes May Reduce Smoking in Anxious, Depressed Smokers**

Decreasing the amount of nicotine in cigarettes to non-addictive levels may reduce smoking without worsening mental health in smokers with mood or anxiety disorders. This is according to new research from scientists at Penn State College of Medicine and Harvard Medical School. They said that lowering the nicotine content in cigarettes could also lessen addiction, lower exposure to toxic substances, and improve a smoker's chances of quitting. Tobacco remains the leading preventable cause of premature death and disease in the United States. Recent proposals by the U.S. Food and Drug Administration (FDA) and the New Zealand government seek to limit the amount of nicotine in cigarettes to minimally addictive levels. Although previous research suggests that reducing nicotine content could help smokers...

## **Tobacco Product Use Among Middle and High School Students — United States, 2022**

Commercial tobacco use is the leading cause of preventable disease and death in the United States. Youth use of tobacco products in any form is unsafe. In 2022, nearly one in nine (11.3%) middle and high school students reported current tobacco product use, including 13.5% of non-Hispanic American Indian or Alaska Native students; 16.0% who identified as lesbian, gay, or bisexual; 16.6% who identified as transgender; 18.3% who reported severe psychological distress; 12.5% with low family affluence; and 27.2% with low academic achievement. Continued surveillance, sustained implementation of population-based tobacco control strategies, and efforts to address disparities, combined with the Food and Drug Administration's regulation are warranted to prevent and reduce youth...

## **Chronic Pain: Opioids No Longer Treatment of Choice**

One of the CDC's goals in its notorious 2016 guidance on opioids for chronic noncancer pain appears to have been met, but it wasn't a reduction in actual opioid prescribing, federal survey data indicated. In an analysis of Medical Expenditure Panel Survey (MEPS) data from 2011 to 2019, use of nondrug approaches such as physical therapy and chiropractic care increased dramatically beginning in 2017, reported Kevin T. Pritchard, MS, OTR, of the University of Texas Medical Branch in Galveston, and colleagues. From 2011 to 2016, the percentage of chronic pain patients using nondrug therapies without opioids stayed relatively steady at 20%, but this figure rose rapidly thereafter, reaching 40% in 2019, the researchers noted in JAMA Network Open. The CDC guidance had stipulated that "non-opioid...

## **Some Naloxone Products May Be Safe, Effective Over the Counter, FDA Says**

After a preliminary review, the FDA issued a notice on Tuesday suggesting that some lower-dose naloxone hydrochloride (Narcan) products may be safe and effective for use without a prescription. Specifically, naloxone nasal spray up to 4 mg and the intramuscular or subcutaneous naloxone autoinjector up to 2 mg "have the potential to be safe and effective" for over-the-counter access, the FDA wrote. "We believe the prescription requirement for these naloxone products might not be necessary for the protection of the public health," the agency added. However, more "product-specific data" related to the nonprescription user interface design, such as packaging and labeling information, is needed to "make a conclusive determination." The FDA also underscored that the notice does not represent...

## **Amid backlash, CDC's new opioid guidance aims to curb addiction and treat patients**

The Centers for Disease Control and Prevention on Thursday issued new guidance for doctors who treat pain patients that reverses a 2016 version used to sharply curtail opioid prescriptions, ultimately leading to devastating results for some pain patients. The new guidance avoids strict figures on dosage and length of opioid

prescriptions, recommends how and when to prescribe opioids, and describes harms and benefits. But the CDC emphasized the recommendations are voluntary and flexible and should not be used to support a one-size-fits-all policy. The original version was meant for primary care doctors who treat chronic pain patients but ended up being used by states, licensing boards, insurers, pharmacies and others to force millions of Americans to rapidly reduce or discontinue prescription...

### **A Vaccine Against Deadly Fentanyl Might Be Near**

THURSDAY, Nov. 17, 2022 (HealthDay News) -- Researchers report they have created a vaccine to fight fentanyl addiction, in a potential breakthrough in the opioid epidemic. The shot would block the ability of fentanyl to enter the brain and cause the “high” that users crave. It could be used to prevent relapses in people trying to quit opioids, once it gets through clinical trials, the scientists said. “We believe these findings could have a significant impact on a very serious problem plaguing society for years — opioid misuse,” said study author Colin Haile, a research associate professor of psychology at the University of Houston and the Texas Institute for Measurement, Evaluation and Statistics. “Our vaccine is able to generate anti-fentanyl antibodies that bind to the consumed fentanyl and...

### **Ethnic and racial disparities found in buprenorphine treatment**

A quartet of researchers, three with Harvard Medical School's Massachusetts General Hospital Institute for Technology Assessment, and the fourth with McGill University, has found that there are ethnic and racial disparities in the availability and duration of treatment for people with addictions prescribed the drug buprenorphine. In their Research Letter written for the U.S. State Department and published in JAMA Psychiatry, the group describes what they found when they studied addiction patient information obtained from IQVIA, a health information technology company. Over the past several years, the use and abuse of opioids in the United States has reached levels that have prompted some in the medical community to describe it as a crisis. Drugs such as oxycontin and fentanyl...

### **Half of patients in telemedicine program for opioid use disorder current with medication a month later**

More than half of the patients who were prescribed medication to treat opioid use disorder through a virtual program established during the pandemic continued with their treatment at least a month later, according to a NEJM Catalyst study from researchers at the Perelman School of Medicine at the University of Pennsylvania. The program, CareConnect, is a partnership between Penn's 24/7 virtual urgent care, Penn Medicine OnDemand, and a team of substance use navigators. Trained urgent care clinicians provide virtual assessment and treatment with buprenorphine,—a medication that treats opioid cravings and withdrawal symptoms—with patients receiving support from substance use navigators throughout their care process. The study showed that 89 percent of patients in...

### **US overdose deaths may be peaking, but experts are wary**

Have U.S. drug overdose deaths stopped rising? Preliminary government data suggests they may have, but many experts are urging caution, noting that past plateaus didn't last. U.S. overdose death rates began steadily climbing in the 1990s driven by opioid painkillers, followed by waves of deaths led by other opioids like heroin and—most recently—illicit fentanyl. Last year, more than 107,000 Americans died of drug overdoses—the highest tally in U.S. history. On Wednesday, the Centers for Disease Control and Prevention released provisional data on what happened through the first six months of this year. The news appears to be hopeful. Provisional data indicates U.S. overdose deaths fell three months in a row. The CDC estimated there were about 107,600 overdose deaths for the 12-month period...

### **Walmart offers \$3 billion to settle opioid lawsuits**

Another major pharmacy chain has offered billions to settle claims for its role in the opioid epidemic. While saying it would pay out \$3.1 billion, Walmart noted in a statement that it "strongly disputes" allegations made by state, local and tribal governments in lawsuits that it had improperly filled painkiller prescriptions. Walmart joins pharmacy chains Walgreen Co. and CVS Health in offering to settle the cases. Those chains each agreed to pay about \$5 billion. The \$3.1 billion offer is about 2% of Walmart's quarterly revenue, the Associated Press reported. "Walmart believes the settlement framework is in the best interest of all parties and will provide significant aid to communities across the country in the fight against the opioid crisis, with aid reaching state and local governments faster than any...

### **New Non-Addictive Compound Alleviates Pain Without Sedation**

A recent study led by researchers at the University of California, San Francisco found that a newly discovered group of molecules reduced pain in mice without having the sedative effects that limit the use of opiates. The molecules act on the same receptor as clonidine and dexmedetomidine, two sedatives routinely used in hospitals, but they are chemically unrelated and may not be addictive. Both clonidine and dexmedetomidine are potent painkillers, but since they are so sedative, they are seldom used outside of hospitals. "We showed that it's possible to separate the analgesic and sedative effects related to this receptor, said Brian Shoichet, Ph.D., professor in the School of Pharmacy, and one of four senior authors of the study, which appears in the Sept. 30, 2022, issue of...

### **ADHD medication for amphetamine addiction linked to reduced risk of hospitalization and death**

The ADHD medication lisdexamfetamine was associated with the lowest risk of hospitalization and death in people with amphetamine addiction, when medications generally used among persons with substance use disorders were compared. This is shown in a large registry-based study by researchers at Karolinska Institutet in Sweden in collaboration with the University of Eastern Finland and Niuvanniemi Hospital, published in JAMA Psychiatry. "Our results



suggest that lisdexamfetamine is associated with the best outcomes, and encourage the conduction of randomized controlled trials to explore this further," says Jari Tiihonen, professor at the Department of Clinical Neuroscience, Karolinska Institutet, and the study's last author. Amphetamines are the second most...

### **New intervention helps patients with addiction to better manage their health**

An intervention that teaches patients in addiction treatment how to better connect with their primary care medical team on both mental and physical health concerns resulted in long-term benefits over 5 years, including more primary care use and fewer substance-related emergency department visits, Kaiser Permanente researchers have found. The study, published in JAMA Network Open on November 10, was a 5-year follow-up of the LINKAGE trial, which studied 503 patients of a Kaiser Permanente outpatient addiction clinic in San Francisco between 2011 and 2013. The LINKAGE trial compared outcomes for patients who received the patient activation training with others who did not. Patients with substance use disorder tend to have more physical and mental health problems than people without...

### **Highly Processed Foods Can Be Considered Addictive Like Tobacco Products**

It's a question that researchers have debated for years as unhealthy diets are often fueled by foods loaded with refined carbohydrates and added fats. To find a resolution, a new University of Michigan and Virginia Tech analysis took the criteria used in a 1988 U.S. Surgeon General's report that established that tobacco was addictive and applied it to food. Based on the criteria set for tobacco, the findings indicate that highly processed foods can be addictive, said lead author Ashley Gearhardt, U-M associate professor of psychology, and Alexandra DiFelicantonio, assistant professor at Fralin Biomedical Research Institute at Virginia Tech. In fact, the addictive potential for food such as potato chips, cookies, ice cream and French fries may be a key factor contributing to the high public health costs...

## **Funding Opportunities**



[RFA-DA-24-003](#)

[Targeting Inflammasomes in Substance Abuse and HIV \(R01 Clinical Trial Not Allowed\)](#)

[RFA-DA-24-004](#)

[Targeting Inflammasomes in Substance Abuse and HIV \(R21 Clinical Trial Not Allowed\)](#)

[RFA-DA-24-002](#)

[Exploratory studies to investigate mechanisms of HIV infection, replication, latency, and/or pathogenesis in the context of substance use disorders \(R61/R33 - Clinical Trial Not Allowed\)](#)

[RFA-DA-23-059](#)

[HEAL Initiative: Sleep Predictors of Opioid-Use Disorder Treatment Outcomes Program \(R01 Clinical Trial Optional\)](#)

[RFA-DA-23-060](#)

[HEAL Initiative - Sleep Predictors of Opioid-Use Disorder Treatment Outcomes Program: Leadership and Data Co-ordinating Center \(U01 Clinical Trial Optional\)](#)

[NOT-DA-24-002](#)

[Notice of Special Interest \(NOSI\): Chemsex and HIV: prevalence, medical/psychosocial consequences, and treatment](#)

[NOT-DA-24-004](#)

[Notice of Special Interest \(NOSI\) Targeting Epigenetic Regulators for Treating Addiction and Substance Use Disorders](#)

[NOT-DA-24-005](#)

[Notice of Special Interest \(NOSI\): Chemoproteomic Approaches for Discovery of Targets and Therapeutics to Treat Substance Use Disorders](#)

[RFA-DA-23-036](#)

[Investigating the Effects of Addictive Substances on Brain Developmental Trajectories Using Innovative Scalable Methods for Quantification of Cell Identity, Lineage and Connectivity \(R01 - Clinical Trial Not Allowed\)](#)

[RFA-OD-22-023](#)

[Mentored Research Scientist Career Development Award in Tobacco Regulatory Research \(K01 - Independent Clinical Trial Not Allowed\)](#)

[RFA-OD-22-024](#)

[Mentored Research Scientist Career Development Award in Tobacco Regulatory Research \(K01 - Independent Clinical Trial Required\)](#)

[NOT-DA-22-065](#)

[Notice of Participation of NIDA in NOT-ES-22-006, "Notice of Special Interest \(NOSI\): Climate Change and Health"](#)

[RFA-NS-22-069](#)

[HEAL Initiative Integrated Basic and Clinical Team-based Research in Pain\(RM1 Clinical Trial Optional\)](#)

[PAR-23-046](#)

[Engineering Next-Generation Human Nervous System Microphysiological Systems \(R01 Clinical Trials Not Allowed\)](#)

[PAR-23-047](#)

[Engineering Next-Generation Human Nervous System Microphysiological Systems \(R21 Clinical Trials Not Allowed\)](#)

### **UC Foundation Funding Opportunities**

Please contact Carol Russell at (513) 556-6169 or [carol.russell@uc.edu](mailto:carol.russell@uc.edu) **at least 5 business days before the deadline**, prior to applying to the below opportunities, to ensure coordination and to facilitate assistance with approaches.

### **[McKnight Foundation Invites Applications for ‘Neurobiology of Brain Disorders’ Award](#)**

**Deadline: December 12, 2022 (Letters of Intent)**

The McKnight Endowment Fund for Neuroscience supports innovative research to bring science closer to the day brain diseases can be accurately diagnosed, prevented, and treated. The foundation seeks to assist scientists working to apply the knowledge achieved through basic research to human brain disorders and who demonstrate a commitment to equitable and inclusive lab environments. Each of four awards will pay \$300,000 over three years. To be eligible, applicants for the McKnight NBD Award must be independent investigators at not-for-profit research institutions in the United States. They must hold faculty positions as assistant professors, associate professors, or professors. The foundation is interested in proposals that address the biological mechanisms of neurological and psychiatric disorders. This includes proposals that provide mechanistic insights into neurological functions at the synaptic, cellular, molecular, genetic, or behavioral level across different species, including humans and vertebrate and invertebrate model organisms. A new additional area of interest is the contribution of the environment to brain disorders. The foundation is particularly interested in proposals incorporating new approaches and those providing potential paths for therapeutic interventions. Collaborative and cross-disciplinary applications are encouraged. According to the foundation, early-life environmental stress is a powerful disposing factor for later neurological and psychiatric disorders. From a clinical perspective, understanding how environmental factors contribute to brain disease is essential for developing effective therapies. In 2023, the foundation

welcomes inquiries about the relevance of a particular research proposal to this focus.

**[Opening in December: HHMI Investigator Competition in Basic Biological Research](#)**

**[Application deadline: March 21, 2023](#)**

The Howard Hughes Medical Institute (HHMI) has announced a national open competition to appoint about 25 new Investigators. HHMI seeks to advance human health and our fundamental understanding of biology. This effort will expand HHMI's community of more than 260 Investigators who perform basic biological research at about 60 research institutions across the nation. Each HHMI Investigator will receive roughly \$8 million over a seven-year term, which is renewable pending favorable scientific review. The competition is open to basic researchers and physician scientists from more than 300 eligible institutions (includes UC) who catalyze research in basic and biomedical sciences, plant biology, evolutionary biology, biophysics, chemical biology, biomedical engineering, and computational biology. Click on title to review further eligibility details.

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