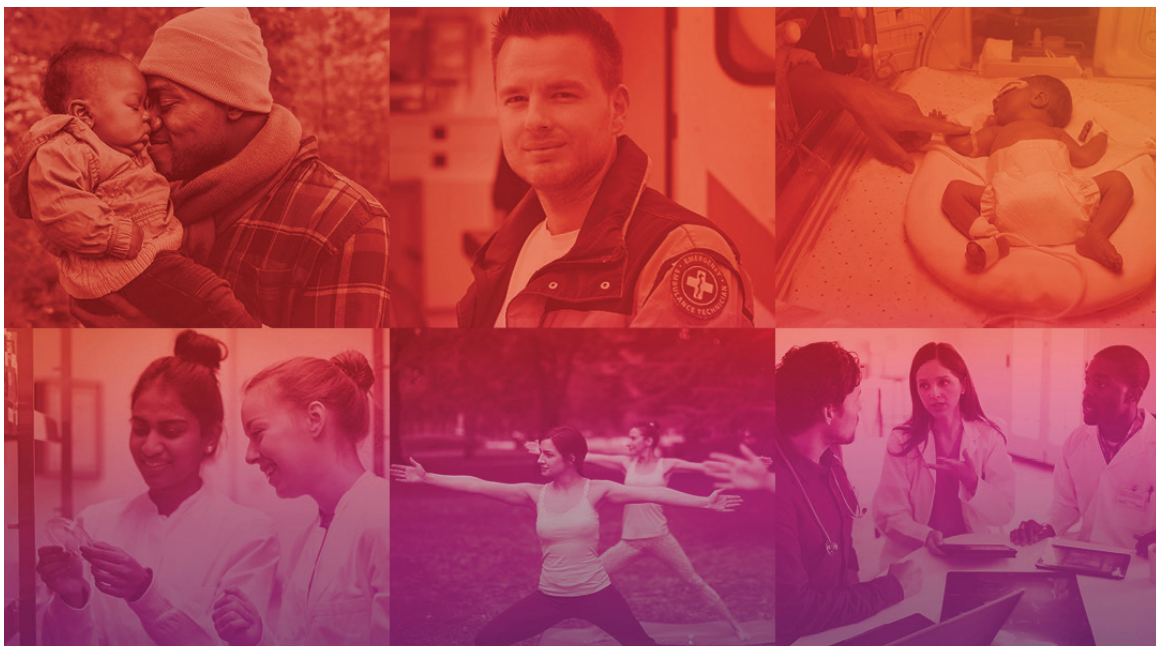


# NIH HEAL Initiative:

*Making a Difference*



NIH • Helping to End Addiction Long-term®



The National Institutes of Health (NIH) Helping to End Addiction Long-term<sup>®</sup> Initiative, or NIH HEAL Initiative<sup>®</sup>, is an aggressive research effort that combines the power of science and community to address the opioid crisis that is devastating American communities.

HEAL-funded researchers are taking a variety of approaches to tackle the opioid crisis through understanding, managing, and treating pain, and improving prevention and treatment for opioid misuse and addiction.

HEAL research is making a difference in the lives of individuals and communities across America. This important work relies on strong partnerships with federal agencies, the private sector, research institutions, and communities. We are all working together to help end addiction long-term.



HEAL researchers and community partners developed tailored communication materials such as this postcard to promote awareness and use of “Provider on the Pier,” a basic medical clinic specializing in addiction treatment in an underserved Massachusetts fishing community at high risk for overdose. (Photo: HEALing Communities Study)

## HEAL Impact: *Making a Difference*

### **The public health crisis of opioid misuse, addiction, and overdose in America continues to evolve rapidly.**

The crisis overlaps with other public health challenges, such as undertreated chronic pain and mental illness. Millions of lives are at stake: These are our family members, friends, neighbors, and coworkers.

Amid this dangerous and evolving crisis, the need for answers is more urgent than ever. In 2021, nearly 107,000 Americans lost their lives to drug overdoses. More than 80,000 of those deaths were from opioids, including highly potent synthetic opioids such as fentanyl.

At the same time, 50 million Americans report pain on most days or every day over the past 3 months, and 20 million experience pain that limits their ability to work, tend to daily activities, or socialize. Many rely on opioid medications for their

pain. These members of our community need safe and effective non-addictive treatments to manage their conditions.

Research funded by the NIH HEAL Initiative spans the entire research spectrum to address the linked challenges of undertreated pain and opioid misuse, addiction, and overdose.

HEAL research benefits from partnerships between communities, scientists, healthcare providers, government, and the private sector.

As the crisis continues to worsen, scientific solutions that meet the needs of Americans are needed now more than ever.

There is no time to waste.

## Why Do We Need HEAL?

**Today's opioid crisis involves record-high numbers of overdoses involving potent synthetic opioids such as fentanyl and drug combinations.**

Tragic effects have been uneven: Fatal overdoses more frequently affect young people and individuals from Black and Indigenous populations.

We know from decades of research that addiction is a disease of the brain that creates an uncontrollable need to continue to take drugs even when they cause harm to self or others.

Addiction to opioids is treatable, but only a fraction of people who could benefit from effective treatments get one of the three U.S. Food and Drug Administration-approved drugs for treating opioid use disorder (methadone, buprenorphine, and naltrexone).

Persistent, widespread stigma, uncoordinated care, and social (e.g., housing) barriers to treatment contribute to lack of access and limited use of these solutions.

For the millions of Americans living with chronic pain, currently available treatments do not provide adequate relief, and new non-addictive and effective medications are desperately needed.

For specific types of pain, such as chronic low back pain, we do know that many alternative strategies, such as mindfulness-based therapy and yoga, are effective. Yet most people who could benefit from these complementary and integrative care approaches do not receive them.

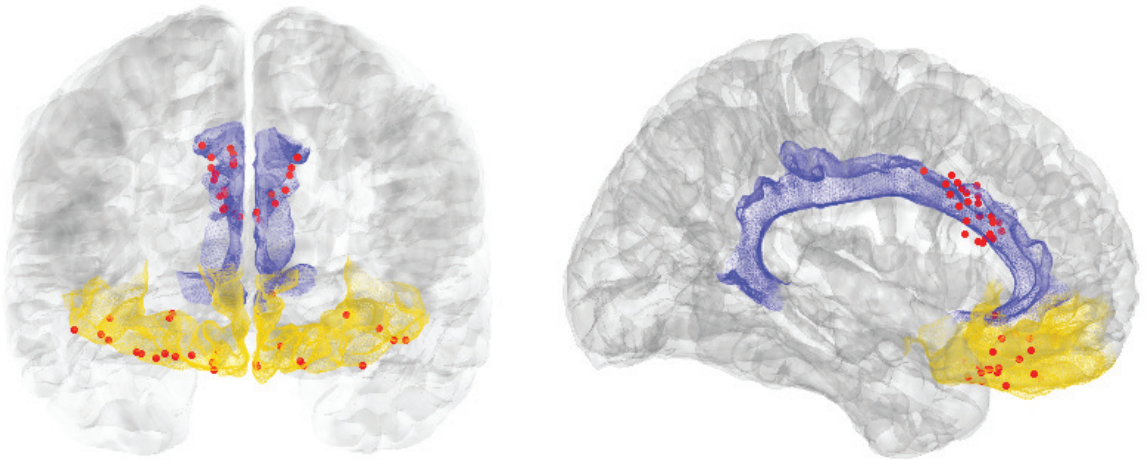
The NIH HEAL Initiative uses every tool available to design and conduct impactful research that will produce scientific solutions for the pain, opioid, and overdose crises.

HEAL research provides hope for the millions of Americans across the country who need help now.



*Physical and emotional pain both contribute to the opioid crisis. (Photo: Adobe Stock)*





Patient-specific brain recordings related to pain sensation (yellow) and emotional response (blue) create a unique signature for chronic pain. (Credit: Shirvalkar, et al.)

## Making a Difference:

### HEAL Research Identifies Individual Chronic Pain Signatures

Millions of Americans live with chronic pain, and the experience is unique in every individual. Currently available treatments do not provide adequate relief, and new non-addictive and effective medications are desperately needed. The development of new medications for pain has significantly declined over the past decade. A major hurdle is the ability to accurately measure chronic pain in order to test new treatments.

For the first time, researchers co-funded by HEAL and the Brain Research Through Advancing Innovative Neurotechnologies® (BRAIN) Initiative measured pain-related brain activity in real time from inside the brains of people with chronic pain disorders caused by stroke or amputation. The scientists measured patient-specific pain signals in regions of the brain associated with both the perception and emotional response to chronic pain.

#### Imagine the Future:

Personalized chronic pain signatures track pain episodes in real time – offering precision therapies such as patient-targeted brain stimulation.

**HEAL Project:**  
Multisite Adaptive Brain Stimulation for Multidimensional Treatment of Refractory Chronic Pain

**Publication:**  
First-in-Human Prediction of Chronic Pain State Using Intracranial Neural Biomarkers. PMID: 37217725

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**Funding:**  
NINDS (UH3NS115631 and 1UH3NS109556-01)



The Eat, Sleep, Console care approach keeps mom and baby together. (Photo: Adobe Stock)

## Making a Difference:

### **HEAL Research Provides Evidence-Based Care for Babies Exposed to Opioids**

Every day in the United States, 60 infants are diagnosed with neonatal opioid withdrawal syndrome, or NOWS. NOWS symptoms typically appear in the first few days of life and include irritability, tremors, poor sleeping, and difficulty feeding – and babies can be hospitalized in the neonatal intensive care unit for several days to weeks.

Now, researchers funded by the NIH HEAL Initiative through the Advancing Clinical Trials in Neonatal Opioid Withdrawal (ACT NOW) program show that using the Eat, Sleep, Console (ESC) care approach cuts hospital stays for infants experiencing painful withdrawal symptoms and reduces their need to receive opioid medication as part of their treatment.

#### **Imagine the Future:**

Infants exposed to opioids during pregnancy have a healthy developmental path to childhood and beyond.

**HEAL Project:**

Advancing Clinical Trials in Neonatal Opioid Withdrawal

**Publication:**

Eat, Sleep, Console Approach or Usual Care for Neonatal Opioid Withdrawal. PMID: 37125831

**HEAL Investigators/ Institutions:**

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**Funding:**

NICHD (U10HD036790,  
U2COD023375,  
U24OD024957)



The emergency department offers a time and place to treat opioid use disorder. (Photo: Adobe Stock)

## Making a Difference:

### **HEAL-Funded Research Shows Starting Buprenorphine in the Emergency Department Is Safe and Effective in the Era of Fentanyl**

Fentanyl and other synthetic opioids have created a deadly landscape for people who use drugs. Clinical guidelines that recommend emergency department-administered buprenorphine to treat opioid use disorder are underused in part because providers fear it will cause the rapid and marked onset of painful withdrawal symptoms after the first dose of buprenorphine.

HEAL-funded research through the National Institute on Drug Abuse now shows that only a fraction of people with opioid use disorder whose drug use includes fentanyl (under 1%) experienced withdrawal after being prescribed buprenorphine in the emergency department. The findings are a key step toward affirming the safety and effectiveness of emergency department-administered buprenorphine that includes screening, treatment, referral, and follow-up.

#### **Imagine the Future:**

Emergency departments across America routinely provide life-saving medication and resources for people at risk for overdose.

**HEAL Project:**

Emergency Department-Initiated buprenorphine and VALIDaTION Network Trial (ED-INNOVATION)

**Publication:**

Incidence of Precipitated Withdrawal During a Multisite Emergency Department-Initiated Buprenorphine Clinical Trial in the Era of Fentanyl. PMID: 36995717

**HEAL Investigator/Institution:**

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**Funding:**

NIDA (3UG1DA013035)





Starting opioid use disorder treatment in jail can improve outcomes after release. (Photo: Adobe Stock)

## Making a Difference:

### The Justice System Provides a Window of Opportunity to Treat Addiction

Jails are thought to be “Ground Zero” for the nation’s opioid crisis. Roughly half the people who are incarcerated have opioid use disorder. The risk of fatal overdose is much higher for people recently released from incarceration compared to the general population.

Now, HEAL-funded research through the National Institute on Drug Abuse shows that individuals who had received addiction treatment in one Massachusetts jail were

about 30% less likely to be arrested, arraigned, or incarcerated again compared with those in a neighboring Massachusetts jail that did not offer treatment.

This research, conducted by the Justice Community Opioid Innovation Network, shows that offering treatment during incarceration not only improves individual outcomes but also has positive effects on public health and public safety.

#### Imagine the Future:

Every person in jail, prison, or a court-supervised program receives access to medical care, including treatment for opioid use disorder.

#### HEAL Project:

Massachusetts Justice Community Opioid Innovation Network (JCOIN) Clinical Research Center

#### Publication:

Recidivism and Mortality After In-Jail Buprenorphine Treatment for Opioid Use Disorder. PMID: 35063323

#### HEAL Investigators/ Institutions:

Elizabeth A. Evans, Ph.D. University of Massachusetts Amherst; Peter Friedmann, M.D. Baystate Health

#### Funding:

NIDA (UG1DA050067-01)

## Imagine the Future...

### Imagine a future in which we have safe and effective ways to treat chronic pain.

- Where non-addictive and highly effective medications are available for people who live with chronic pain from a range of health conditions.
- Where personalized pain management addresses health conditions that make pain worse, such as depression and anxiety.
- Where primary care providers routinely integrate complementary and integrative approaches into a patient-centered pain management plan.
- Where clinical decision-making tools are useful and effective for helping providers and patients choose the best available pain care – and it is covered by insurance.

### Imagine a future where everyone has the knowledge and tools to help people become and stay healthy in recovery.

- Where communities adopt evidence-based and cost-effective addiction treatments for people in jails and prisons.
- Where health clinics and emergency departments serve as routine opportunities to prevent and treat opioid use disorder.
- Where schools, pediatricians, and community health clinics screen children for behavioral and other mental health conditions that increase risk for harmful outcomes, including opioid misuse.
- Where infants born exposed to opioids during a mother's pregnancy receive high-quality care – setting them up for a healthy future.

**This is the vision for the NIH HEAL Initiative. Hundreds of researchers and community members across the country are working to achieve a future where people and communities thrive.**



(Photo: Getty Images)





**[heal.nih.gov/impact](https://heal.nih.gov/impact)**

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