

# Naloxone for Opioid Overdose: Life-Saving Science

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### Naloxone Saves Lives

**Naloxone can quickly restore normal breathing and save the life of a person who is overdosing on opioids.** In 2015, over 33,000 people died from an overdose on opioid drugs, including prescription pain relievers, heroin, and fentanyl.<sup>6</sup> Naloxone is a safe medication that is widely used by emergency medical personnel and other first responders to prevent opioid overdose deaths. Unfortunately, by the time a person having an overdose is reached, it is often too late.

**Friends, family, and other bystanders can save lives with naloxone.** Naloxone distribution programs give naloxone kits to opioid users, their friends and families, and others who may find themselves in a position to save the life of someone at risk of an opioid overdose.

- A naloxone distribution program in Massachusetts reduced opioid overdose deaths by an estimated 11 percent in the nineteen communities that implemented it without increasing opioid use.<sup>7</sup>
- From 1996 to 2014, at least 26,500 opioid overdoses in the U.S. were reversed by laypersons using naloxone.<sup>8</sup>

### How Does Naloxone Work?

**Naloxone is an opioid receptor antagonist meaning it binds to opioid receptors and reverses or blocks the effects of other opioids.** Giving naloxone immediately reverses the effects of opioid drugs, restoring normal respiration. It can be administered by injection.

### Is Naloxone Safe?

Was this article helpful?

Yes

No

**Yes. There is no evidence of significant adverse reactions to naloxone.**<sup>9</sup> Administering naloxone in cases of opioid overdose can cause withdrawal symptoms when the person is dependant on opioids; this is uncomfortable without being life threatening.<sup>10,11</sup> The risk that someone overdosing on opioids will have a serious adverse reaction to naloxone is far less than their risk of dying from overdose.<sup>12,13</sup> Naloxone only works if a person has opioids in their system; the medication has no effect if opioids are absent.

## Science Driven Solutions

### **USER-FRIENDLY NALOXONE**

In 2015, the FDA approved the first naloxone nasal spray—**NARCAN**<sup>®</sup>—developed as a result of NIDA-funded research.<sup>1,2</sup> Naloxone is also available as an autoinjector—**EVZIO**<sup>®</sup>—that provides verbal step-by-step instructions for use. Increasing access to naloxone is a priority for the U.S. Department of Health and Human Services, and research funded by NIDA is developing strategies to identify people at risk and ensure they have access to naloxone in the event of an overdose.

### **IDENTIFYING AT-RISK PATIENTS**

A survey given to chronic pain patients receiving prescription opioids found that nearly 1 in 5 had experienced an overdose and more than half engaged in high-risk behaviors, including combining opioids with alcohol. While only 3% of patients surveyed reported having a naloxone prescription or being trained to deliver naloxone, nearly 40% had witnessed an overdose.<sup>3</sup> Another study found 68% of participants recruited from syringe service programs, detoxification, or opioid treatment programs had witnessed an overdose but only 17% had a prescription for naloxone.<sup>4</sup>

### **CO-PRESCRIBING NALOXONE TO AT-RISK PATIENTS**

NIDA-funded researchers are evaluating interventions to improve opioid prescribing practices, including the co-prescription of naloxone. An early study found that giving naloxone to patients on opioid therapy for chronic pain was associated with fewer opioid-related emergency department visits, especially among patients receiving high doses of prescription opioids. This study will help to inform implementation efforts that can increase access to naloxone.<sup>5</sup>

## Good Samaritan Laws for Naloxone

Thirty-six states and the District of Columbia provide legal immunity for friends, family, and other bystanders, or “Good Samaritans,” who seek medical aid for someone experiencing an opioid overdose.<sup>14,15</sup>

## After Naloxone is Given

## **BYSTANDERS: CALL 911 IMMEDIATELY**

**It is important to call emergency responders right away.** Naloxone is only active in the body for 30 to 90 minutes and its effects could wear off before those of the opioids, causing the user to stop breathing again.

## **CLINICIANS: SCREEN FOR OPIOID USE DISORDER**

**An overdose reversal is a critical opportunity to identify people with opioid use disorder and engage them in treatment.**

- Patients should be assessed for opioid use disorder using a validated tool, such as NIDA's Recognizing Opioid Abuse table.
- Those with a positive assessment should be engaged in treatment, including FDA-approved medications, when appropriate.
- Treatment plans, including opioid pain reliever dose, should be reassessed for patients who are prescribed opioids for pain. See the [CDC Guideline for Prescribing Opioids for Chronic Pain](#).

## Where Can I Get Naloxone?

Naloxone can be purchased in many pharmacies, in many states, without bringing in a prescription. The majority of states allow prescribing and dispensing of naloxone to family members and friends in addition to people receiving prescription opioids for pain or with opioid use disorder.<sup>14</sup> Law enforcement, emergency medical services, and community-based naloxone distribution programs can apply to be a Qualified Purchaser or work with their state or local health department to order naloxone. To find naloxone in your area, go to the [Naloxone Finder](#).

## Where Can I Get More Information?

If you or someone you care about has an opioid use disorder:

- Ask your health care provider or pharmacist about naloxone
- View [NIDA's naloxone web page](#)

### *Solutions Driven Science*

#### **REACHING COMMUNITIES IN NEED**

In partnership with the Appalachian Regional Commission, NIDA is funding research that addresses the dramatic increase of opioid misuse and its consequences in Appalachia. This research will identify community-specific factors that contribute to the high rates of opioid misuse, overdose deaths, and the related spread of infectious disease and will identify promising evidence-based prevention and treatment interventions to address these factors and improve

public health outcomes. Read more in the NIDA press release "[NIDA and ARC announce funding opportunity for research projects to address opioid injection use and its consequences in the Appalachian Region.](#)"

### **BARRIERS AND FACILITATORS TO PRESCRIBING NALOXONE**

NIDA-funded studies are evaluating key barriers and facilitators to prescribing naloxone. Current projects include assessing the use of naloxone by law enforcement and measuring its impact on referrals to treatment and on the rates of 911 use by witnesses of opioid overdose; the implementation of pharmacy-based naloxone access and its association with opioid-overdose mortality rates; and the implementation of naloxone distribution programs and overdose education among criminal justice populations.

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