

OPIOIDS

Background

Opioids include prescription pain relievers, heroin, and synthetic opioids such as fentanyl. When opioids enter the brain they bind to opioid receptors. These receptors are located throughout the brain and are involved in how we perceive pain and reward. There are also opioid receptors in the brain stem that affect critical life processes such as blood pressure and respiration. Excess opioids in the brain can interfere with respiration, leading to overdose and possible death.¹ **Each day, more than 115 Americans die from an opioid overdose.**² This is quintuple the number of opioid overdose deaths compared to 1999.²

Prescription Opioids

Opioids are used in a variety of illicit and licit ways. Patients with severe acute or chronic pain may be prescribed opioid-based medications such as morphine, oxycodone, or hydrocodone as a means to relieve pain and discomfort. Of those who misused prescription pain relievers in the past year, 62.3% did so to relieve physical pain.³ Others used pain relievers non-medically to achieve a euphoria or “high” (12.9%).³ Other reasons for prescription opioid misuse included: to relax (10.8%); to help regulate emotions (3.9%); to help with sleep (3.3%); to experiment (3.0%); because they were “hooked” or needed to have the drug (2.1%); and to increase or decrease the effects of other drugs (0.9%).³

Heroin

Heroin is usually found as a white or brown powder or black sticky substance and can be injected, inhaled, or smoked, all of which deliver a rapid dose to of opioids the brain contributing to its risk of overdose and other serious health consequences.¹ Heroin can also be laced with other substances, such as fentanyl, further precipitating health risks. Given that heroin is often injected, users are at higher risk of contracting blood/bodily fluid borne diseases such as HIV and hepatitis C.¹ Individuals who use heroin can mitigate these risks by not sharing or reusing needles and other injection drug equipment.

Fentanyl

In medical settings, fentanyl is typically used to treat patients with severe pain or to manage pain after surgery, and can be injected, put in a transdermal patch, or given as a lozenge. Illicit forms of fentanyl include pills, blotter paper placed under the tongue, or most commonly, a powder that looks identical to heroin. Fentanyl is 50-100 times more potent than morphine, accelerating respiratory depression and increasing risk of overdose.⁴

Epidemiological Overview

An estimated **11.5 million Americans aged 12 and older misused opioid pain relievers in 2016**, and roughly **950,000 individuals used heroin**.³ While 5.6% of individuals who misused prescription opioids also used heroin in the past year, 67.6% of those who used heroin also misused pain relievers in the past year. Individuals who misuse prescription opioid painkillers are 40 times more likely to become addicted to heroin.⁵ Prior prescription drug use is often the common initial step on the pathway to heroin addiction, with 80% of those addicted to opioids reporting that their first opioid was a prescription drug.⁶ This shift from prescription drug misuse to heroin use can be attributed to the pharmacologic similarities of the two types of opioids and to the affordability and accessibility of heroin.⁷ One recent study found that while in 2005, only 8.7% of opioid initiators started with heroin, in 2015 this increased to 33.3%, perhaps as a consequence of interventions that have reduced the supply of prescription opioids.⁸

According to results from the National Survey on Drug Use and Health (NSDUH), in 2016, 3.3 million Americans were currently (during the past month) misusing opioid pain relievers.³ Meanwhile, 475,000 individuals aged 12 or older were currently using heroin.³ This represents a **13.2% decrease in prescription opioid use and a concurrent 44.4% increase in heroin use compared to the previous year**, when 3.8 million people were misusing prescription opioids and 329,000 individuals were using heroin.^{3,9}

The Continuum of Care: Prevention, Treatment, and Recovery

Prevention of Opioid Addiction and Overdose Deaths

Prevention efforts are critical in combating opioid use disorders and overdose deaths. A 2017 review of State-level efforts to address the opioid crisis found that States have been using a wide range of environmental and individual interventions, some of which include: **educational campaigns** on the risks of opioids for the general population, adolescents, women, and older adults; education on prescribing of opioids for prescribers, patients, families, and pharmacists; issuing **prescriber guidelines**; requiring **prescription drug monitoring (PDMP) reporting**; increasing access to **naloxone**; and enacting **Good Samaritan laws** to protect those seeking care for an opioid overdose.¹⁰ These types of public health approaches can prevent addiction and ultimately save lives.

Opioid Use: Facts & Figures³

Past Month Use of Illicit Drugs, U.S. Population, 12 and older, 2016

Illicit Drugs	Use % (estimate)
Marijuana	10.6% (24,000,000)
Prescription pain relievers (non-medical use; NMU)	1.2% (3,300,000)
Prescription tranquilizers (NMU)	0.7% (2,000,000)
Cocaine	0.7% (1,900,000)
Prescription stimulants (NMU)	0.6% (1,700,000)
Hallucinogens	0.5% (1,400,000)
Methamphetamine	0.2% (667,000)
Inhalants	0.2% (600,000)
Prescription sedatives (NMU)	0.2% (497,000)
Heroin	0.2% (475,000)

Past Month Use, By Age, 2016

Age	Use % (estimate)
Nonmedical Users of Opioid Pain Relievers	
12-17	7.1% (239,000)
18-25	18.7% (631,000)
26 and older	74.2% (2,500,000)
Heroin Users	
12-17	0.6% (3,000)
18-25	18.6% (88,000)
26 and older	80.8% (383,000)

Snapshot of Some Initiatives to Address the Opioid Crisis^{9, 25, 26}

- **Education:** a primary prevention method used to raise awareness of the risks associated with opioid misuse and addiction. Educational efforts may be for the general public or tailored to specific populations, such as adolescents or pregnant women.
- **Provider Guidelines:** offering standardized education to health care providers about the safe prescribing of opioids.
- **Medication-Assisted Treatment (MAT):** expanding access to the use of medications (methadone, buprenorphine, and naltrexone) in the treatment of opioid addiction in conjunction with counseling.
- **Naloxone:** increasing availability of this U.S. Food and Drug Administration (FDA)-approved medication that is safe and effective at reversing overdose from opioids.
- **Prescription Drug Monitoring Programs (PDMPs):** operationalizing PDMPs to collect, monitor, and analyze electronically transmitted data on prescribing and dispensing as submitted by pharmacies and dispensing providers. PDMPs help prescribers identify whether or not their patients are “doctor shopping”—visiting different physicians to obtain multiple opioid prescriptions.
- **Good Samaritan laws:** providing criminal immunity for victims and witnesses who act in good faith to seek or give medical assistance when they believe an overdose is occurring.
- **Prescription drug take back:** providing a safe means of disposing of unused prescription drugs.
- **Peer recovery support services:** utilizing peer support workers who have been successful in recovery to help others become and stay engaged in the recovery process and reduce the likelihood of relapse.
- **Recovery housing:** offering safe and healthy environments that support residents in their recovery, and that ease the transition towards independent living.

Medication-Assisted Treatment

Treatment plans should be based on individual patient needs and include the full spectrum of clinically appropriate care (e.g.; comprehensive screening and assessment, detoxification, cognitive behavioral therapy, contingency management), access to appropriate settings (e.g.; outpatient, residential, therapeutic community), and adequate lengths of stay.

Medication-assisted treatment (MAT) is one intervention that should be available to all patients with opioid use disorders. There are three FDA-approved medications to treat opioid dependence: methadone, buprenorphine (including implant and injectable), and naltrexone (oral and extended-release injectable). They are each available in various clinical settings, including regulated opioid treatment programs (methadone, buprenorphine, naltrexone) and physicians’ offices (buprenorphine, naltrexone). Use of these medications in conjunction with counseling has been shown to be effective in treating opioid dependence,¹¹⁻¹³ with long-term maintenance on these medications providing the highest rates of sustained abstinence.^{14,15} Additional research on methadone and buprenorphine has shown associations with improved social functioning, reduced infectious disease transmission, reduced criminal activity, and reduced overdose risk.¹⁶ In 2013, NASADAD approved a policy statement supporting the use of medications in treatment.¹⁷

Importance of Naloxone in Saving Lives

Opioid overdose is a serious risk for anyone who uses opioids because the resulting respiratory depression and can be fatal. The Centers for Disease Control and Prevention (CDC) found that there were more than **63,000 drug overdose deaths—42,249 of which were attributed to an opioid—in 2016**, and deaths involving synthetic opioids like fentanyl increased 88% per year from 2013 to 2016.^{2,18} Naloxone is a prescription medication that is used to reverse the effects of an opioid overdose. Making naloxone available for bystanders and first responders, as well as in emergency departments, can save lives.¹⁹⁻²¹ In 2014, NASADAD approved a policy statement supporting strategies to prevent overdose deaths.²²

Benefits of Recovery Support

With appropriate treatment and recovery support services, individuals with an opioid use disorder can enter into recovery. The Substance Abuse and Mental Health Services Administration (SAMHSA) defines recovery as, “a process of change through which individuals improve their health and wellness, live self-directed lives, and strive to reach their full potential.”²³ There are four dimensions of recovery: health, home, purpose, and community.²³ Recovery support services, such as peer support services and recovery housing, can improve all of these dimensions in a person’s life as they seek recovery from opioid addiction.

The Role of State Alcohol and Drug Authorities in Prevention, Treatment, and Recovery

State Alcohol and Drug Authority Directors design, manage, and evaluate the publicly funded substance use disorder prevention, treatment, and recovery system in each State. State Directors provide leadership by promoting standards of care, evidence-based services, and continuous quality improvement innovations. State Directors also ensure that public dollars are dedicated to programs that work through the use of performance data management and reporting, contract monitoring, corrective action planning, on-site reviews, and technical assistance.

Key Federal Programs and Agencies

SAMHSA’s **Substance Abuse Prevention and Treatment (SAPT) Block Grant** is a formula grant awarded to every State and Territory. The SAPT Block Grant accounts for an estimated 65% of State Alcohol and Drug Agencies’ expenditures on prevention.²⁴ SAPT Block Grant funds enable more than 1.5 million Americans to receive treatment annually. In addition, more than 10.8 million Americans received SAPT Block Grant-funded prevention services in individual-based

programs, and more than 260 million (duplicated count of persons) were served in population-based programs in 2017.²⁴ In the same year, at discharge from block grant-funded programs, 69% of clients demonstrated abstinence from illegal drug use, 84% were abstinent from alcohol use, 88% had stable housing, and 93% had no arrests. Congress appropriated \$1,858,079,000 for the SAPT Block Grant in FY 2017.

The 21st Century Cures Act, enacted in December 2016, authorized the **State Targeted Response to the Opioid Crisis Grant program**. This two-year grant program, administered by SAMHSA, aims to increase opioid use disorder prevention, treatment, and recovery services. In April 2017, grants were awarded to State alcohol and drug agencies via a formula that is based on unmet need for opioid use disorder treatment as well as drug overdose deaths. Congress appropriated \$485 million in FY 2017 for this program.

SAMHSA’s **Center for Substance Abuse Prevention (CSAP)** leads efforts to stop drug use before it starts. CSAP’s Partnerships for Success Program provides funding for States to develop comprehensive Statewide approaches to address prescription drug abuse or other problems unique to that State. Congress appropriated \$223 million for CSAP in FY 2017.

SAMHSA’s **Center for Substance Abuse Treatment (CSAT)** works to improve and expand existing substance use disorder treatment programs under the SAPT Block Grant. SAMHSA’s Division of Pharmacologic Therapies (DPT) oversees the accreditation and certification process for opioid treatment programs and physician waivers to prescribe buprenorphine. Congress appropriated \$352 million for CSAT in FY 2017.

The Office of National Drug Control Policy (ONDCP) provides federal leadership on addiction prevention, treatment, and recovery policy. Among its many initiatives designed to address the opioid crisis, ONDCP issued a comprehensive plan to address prescription drug abuse in 2014, framing the opioid crisis as a public health and public safety issue, and recognizing addiction as a disease. ONDCP also provides administrative and financial support for the President’s Commission on Combating Drug Addiction and the Opioid Crisis, which was established in March 2017 in order to study how to best address the opioid crisis. Congress appropriated \$388 million for ONDCP in FY 2017.

References

1. National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA). *Heroin*. Retrieved from <http://www.drugabuse.gov/publications/drugfacts/heroin>.
2. Centers for Disease Control and Prevention (CDC). *Data Brief 294: Drug Overdose Deaths in the United States, 1999–2016*. Retrieved from: https://www.cdc.gov/nchs/data/databriefs/db294_table.pdf
3. SAMHSA. *Key Substance Use and Mental Health Indicators in the United States: Results from the 2016 National Survey on Drug Use and Health*. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUH-FFR1-2016/NSDUH-FFR1-2016.htm#opioid>
4. National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA). *Fentanyl*. Retrieved from <https://www.drugabuse.gov/publications/drugfacts/fentanyl>
5. Jones CM, Logan J, Gladden M, Bohm M; Centers for Disease Control and Prevention. *Vital signs: Demographic and substance use trends among heroin users - United States, 2002-2013*. <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6426a3.htm>. Published July 10, 2015. Accessed December 18, 2017.
6. SAMHSA. *Associations of Nonmedical Pain Reliever Use and Initiation of Heroin Use in the United States*. CBHSQ Data Review. (2013). Retrieved from <http://www.samhsa.gov/data/sites/default/files/DR006/DR006/nonmedical-pain-reliever-use-2013.htm>.
7. National Institutes of Health (NIH), National Institute on Drug Abuse (NIDA). *Prescription opioids and heroin*. Retrieved from: <https://www.drugabuse.gov/publications/research-reports/relationship-between-prescription-drug-abuse-heroin-use/heroin-use-driven-by-its-low-cost-high-availability>
8. Cicero TJ, Ellis MS, Kasper ZA. *Increased use of heroin as an initiating opioid of abuse*. *Addictive Behavior*. 2017 Nov;74:63-66. doi: 10.1016/j.addbeh.2017.05.030.
9. SAMHSA. Results from the 2015 National Survey on Drug Use and Health: Detailed Tables. Retrieved from <https://www.samhsa.gov/data/sites/default/files/NSDUH-DefTabs-2015/NSDUH-DefTabs-2015/NSDUH-DefTabs-2015.pdf>
10. Wickramatilake S, Zur J, Mulvaney-Day N, et al. *How States are tackling the opioid crisis*. *Public Health Reports*. 2017; 132:171-179. doi: 10.1177/0033354916688206
11. National Institute on Drug Abuse. *What can be done for a heroin overdose?* <http://www.drugabuse.gov/publications/research-reports/heroin/what-can-be-done-for-heroin-overdose>. Published September 2014. Accessed May 31, 2016.
12. Kolodny A, Courtwright DT, Hwang CS, et al. *The prescription opioid and heroin crisis: a public health approach to an epidemic of addiction*. *Annu Rev Public Health*. 2015;36:559-574. doi:10.1146/annurev-publhealth-031914-122957
13. Kleber H. *Pharmacologic treatments for opioid dependence: detoxification and maintenance options*. *Dialogues Clin Neurosci*. 2007;9(4):455-70. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3202507>. Published December 2007. Accessed December 2016.
14. Fiellin DA, Friedland GH, Gourevitch MN. *Opioid dependence: rationale for and efficacy of existing and new treatments*. *Clin Infect Dis*. 2006;43(Suppl 4):S173-177. doi: 10.1086/508180
15. Bart G. *Maintenance medication for opiate addiction: the foundation of recovery*. *J Addict Dis*. 2012;31(3):207-25. doi:10.1080/10550887.2012.694598
16. Volkow ND, Frieden TR, Hyde PS, Cha SS. Medication-Assisted Therapies — Tackling the Opioid-Overdose Epidemic. *New England Journal of Medicine*. 2014; 370:2063-2066. doi: 10.1056/NEJMp1402780
17. NASADAD (2013). *Consensus Statement on the Use of Medications in Treatment of Substance Use Disorders*. Retrieved from: <http://nasadad.wpengine.com/wp-content/uploads/2011/06/NASADAD-Statement-on-MAT.pdf>
18. Centers for Disease Control and Prevention (CDC). *Drug Overdose Deaths in the United States, 1999–2016*. Retrieved from: <https://www.cdc.gov/nchs/data/databriefs/db294.pdf>
19. Hawk KF, Vaca FE, D’Onofrio G. *Reducing fatal opioid overdose: prevention, treatment and harm reduction strategies*. *Yale J Biol Med*. 2015;88(3):235-45. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4553643>. Published September 3, 2015. Accessed May 10, 2016.
20. Piper TM, Stancliff S, Rudenstine S, et al. *Evaluation of a naloxone distribution and administration program in New York City*. *Subst Use Misuse*. 2008;43(7):858-70. <http://www.tandfonline.com/doi/full/10.1080/10826080701801261>. Published July 3, 2009. Accessed April 11, 2016.
21. Maxwell S, Bigg D, Stanczykiewicz K, Carlberg-Racich S. *Prescribing naloxone to actively injecting heroin users*. *J Addict Dis*. 2006;25(3):89-96.
22. NASADAD (2014). *Policy Statement on Efforts to Prevent Fatal Overdose*. Retrieved from: <http://nasadad.org/wp-content/uploads/2014/09/NASADAD-Overdose-Statement-Final.pdf>.
23. SAMHSA. *Recovery and recovery support*. Retrieved from: <https://www.samhsa.gov/recovery>
24. SAMHSA. Report from WebBGAS using 2017 SAPT Block Grant Reports. Accessed December 2017.
25. SAMHSA. *Peers*. Retrieved from: <https://www.samhsa.gov/brss-tacs/recovery-support-tools/peers>
26. SAMHSA. *Recovery homes help people in early recovery*. Retrieved from: <https://www.samhsa.gov/homelessness-programs-resources/hpr-resources/recovery-homes-help-people>