

# Science Policy Outreach Task Force at Northwestern University

## Opioid Use



*SPOTlight: Opioids are strongly addictive painkillers that were responsible for nearly 80,000 overdose deaths in 2022. The overdose epidemic has been a federal public health emergency since 2017 and is projected to worsen due to growing illicit markets and supply [1].*

### What are opioids?

- Opioids are strongly addictive painkillers (e.g., heroin, morphine, fentanyl) that can be taken intravenously (IV) for inpatient/perioperative use or orally for immediate or extended release [2].
- Opioid overdose (OD) can be lethal primarily through respiratory depression (i.e., cease breathing) [3].
- OD can be temporarily reversed using opioid antagonists such as naloxone, but this requires ongoing medical monitoring, especially at higher doses [3].
- Buprenorphine and methadone are commonly used in treatment of ongoing addiction to opioids to provide safe access to the drug and slowly taper patients off of opioids [4].

### Who is most affected by the opioid epidemic?

- Opioids account for ~70% of ODs, which have quintupled in 25 years. Opioid use has continued to rise ~20% annually, and rose especially sharply during the COVID-19 pandemic [5].
- Opioid death is most common in 35-45 year olds, but recent trends show the greatest increase in opioid deaths for 15-25 year olds [6]. Males account for 70% of opioid deaths [7].
- During prescription expansion of opioid use (oxycodone, hydrocodone, etc), ODs and illicit use were focused in white populations due to prescribers not recognizing pain of black patients. However, as the crisis has expanded to illicitly synthesized opioids, the rate of overdose in black populations has overtaken that of white populations, especially in urban areas [8].
- Opioid prescription patterns began changing in the 1990s. Illicit prescription use escalated in the early 2000s as did heroin use. These were gradually overtaken by illicit synthetics in the 2010s, which have increased dramatically in prevalence since 2020 [9, 10].

### What are the current difficulties in addressing the epidemic?

- Nonmedical users obtain opioids from family members who were legally prescribed, which can be difficult to track [11]. Tightening the opioid supply results in an increased use of more dangerous illicit alternatives [12].
- Newer synthetic opioids such as fentanyl have much smaller lethal doses, and are often mixed into other drugs or mislabeled, increasing overdose potential dramatically [3].
- Programs to address medical supply such as the Prescription Drug Monitoring Programs are underutilized [13].
- Pain management and addiction medicine are limited due to lack of training/reimbursement [13].

### What are the socioeconomic impacts?

- Studies show correlations between an increase in opioid exposure and decline in the employment-to-population ratio and labor force participation rate [14].
- The growth of the illicit opioid market as a result of supply decrease in 2010 is strongly suggested to contribute to an increase in disability benefit applications [15].
- The total economic toll of the opioid epidemic is estimated to be around \$1.5 trillion USD as of 2020 [16].
- Workers with substance use disorders have been shown to take 50% more days off, have 44% higher turnover rate, and have an increased rate of occupational injuries [17].

### What are current policy directions to address the epidemic?

- Preventative measures such as safety education programs [11], improving access to housing and other social support resources such as food and therapy [18, 19] have been used to try to reduce opioid use.
  - Harm reduction measures such as increasing availability of naloxone (Narcan) and fentanyl test kits [13], or syringe exchange programs for IV drug users [11] have been used to reduce negative effects of use.
  - Healthcare transformations such as increased data availability, the Prescription Drug Monitoring Program, mandatory prescriber education, emergency room guidelines on opioid use, and expanded addiction treatments [11] have been used to reduce use and its impacts.
  - Illinois currently operates under the 2022 State Opioid Action Plan (SOAP), which outlines priorities in achieving social equity, prevention, treatment and recovery, harm reduction, and justice [20].
-

## References and additional resources:

- [1] “Ongoing emergencies | CMS.” <https://www.cms.gov/About-CMS/Agency-Information/Emergency/EPRO/Current-Emergencies/Ongoing-emergencies> (accessed Aug. 22, 2023).
- [2] B. Cohen, L. J. Ruth, and C. V. Preuss, “Opioid Analgesics,” in *StatPearls*, Treasure Island (FL): StatPearls Publishing, 2023. Accessed: Aug. 22, 2023. [Online]. Available: <http://www.ncbi.nlm.nih.gov/books/NBK459161/>
- [3] E. Y. Schiller, A. Goyal, and O. J. Mechanic, “Opioid Overdose,” in *StatPearls*, Treasure Island (FL): StatPearls Publishing, 2023. Accessed: Aug. 22, 2023. [Online]. Available: <http://www.ncbi.nlm.nih.gov/books/NBK470415/>
- [4] M. R. Jordan and D. Morrisonponce, “Naloxone,” in *StatPearls*, Treasure Island (FL): StatPearls Publishing, 2023. Accessed: Aug. 22, 2023. [Online]. Available: <http://www.ncbi.nlm.nih.gov/books/NBK441910/>
- [5] “Provisional Data Shows U.S. Drug Overdose Deaths Top 100,000 in 2022 | Blogs | CDC,” May 18, 2023. <https://blogs.cdc.gov/nchs/2023/05/18/7365/> (accessed Aug. 22, 2023).
- [6] “Opioid Misuse in Rural America.” <https://www.usda.gov/topics/opioids> (accessed Aug. 22, 2023).
- [7] “Drug Overdoses,” *Injury Facts*. <https://injuryfacts.nsc.org/home-and-community/safety-topics/drugoverdoses/> (accessed Aug. 22, 2023).
- [8] M. C. Gondré-Lewis, T. Abijo, and T. A. Gondré-Lewis, “The Opioid Epidemic: a Crisis Disproportionately Impacting Black Americans and Urban Communities,” *J. Racial and Ethnic Health Disparities*, vol. 10, no. 4, pp. 2039–2053, Aug. 2023, doi: 10.1007/s40615-022-01384-6.
- [9] E. National Academies of Sciences *et al.*, “Trends in Opioid Use, Harms, and Treatment,” in *Pain Management and the Opioid Epidemic: Balancing Societal and Individual Benefits and Risks of Prescription Opioid Use*, National Academies Press (US), 2017. Accessed: Aug. 22, 2023. [Online]. Available: <https://www.ncbi.nlm.nih.gov/books/NBK458661/>
- [10] “Understanding the Opioid Overdose Epidemic | Opioids | CDC,” Aug. 08, 2023. <https://www.cdc.gov/opioids/basics/epidemic.html> (accessed Aug. 22, 2023).
- [11] A. Kolodny *et al.*, “The Prescription Opioid and Heroin Crisis: A Public Health Approach to an Epidemic of Addiction,” *Annual Review of Public Health*, vol. 36, no. 1, pp. 559–574, 2015, doi: 10.1146/annurev-publhealth-031914-122957.
- [12] J. Hoffman, “Tranq Dope: Animal Sedative Mixed With Fentanyl Brings Fresh Horror to U.S. Drug Zones,” *The New York Times*, Jan. 07, 2023. Accessed: Aug. 22, 2023. [Online]. Available: <https://www.nytimes.com/2023/01/07/health/fentanyl-xylazine-drug.html>
- [13] N. D. Volkow and C. Blanco, “The changing opioid crisis: development, challenges and opportunities,” *Mol Psychiatry*, vol. 26, no. 1, Art. no. 1, Jan. 2021, doi: 10.1038/s41380-020-0661-4.
- [14] D. Cho, D. I. Garcia, J. Montes, and A. Weingarden, “Labor Market Effects of the Oxycodone-Heroin Epidemic,” *FEDS*, vol. 2021, no. 025, pp. 1–41, Apr. 2021, doi: 10.17016/FEDS.2021.025.
- [15] S. Park and D. Powell, “Is the Rise in Illicit Opioids Affecting Labor Supply and Disability Claiming Rates?,” *J Health Econ*, vol. 76, p. 102430, Mar. 2021, doi: 10.1016/j.jhealeco.2021.102430.
- [16] “The Economic Toll of the Opioid Crisis Reached Nearly \$1.5 Trillion in 2020 - The Economic Toll of the Opioid Crisis Reached Nearly \$1.5 Trillion in 2020 - United States Joint Economic Committee.” <https://www.jec.senate.gov/public/index.cfm/democrats/2022/9/the-economic-toll-of-the-opioid-crisis-reached-nearly-1-5-trillion-in-2020> (accessed Aug. 22, 2023).
- [17] E. Goplerud, S. Hodge, and T. Benham, “A Substance Use Cost Calculator for US Employers With an Emphasis on Prescription Pain Medication Misuse,” *J Occup Environ Med*, vol. 59, no. 11, pp. 1063–1071, Nov. 2017, doi: 10.1097/JOM.0000000000001157.
- [18] K. Milaney *et al.*, “Drug use, homelessness and health: responding to the opioid overdose crisis with housing and harm reduction services,” *Harm Reduct J*, vol. 18, p. 92, Aug. 2021, doi: 10.1186/s12954-021-00539-8.
- [19] “Gov. JB Pritzker announces plan to prevent deaths from opioid addiction,” *ABC7 Chicago*, Mar. 21, 2022. <https://abc7chicago.com/illinois-governor-jb-pritzker-drug-addiction-behavioral-health-overdose-action-plan/11669554/> (accessed Aug. 22, 2023).
- [20] “State of Illinois Opioid Action Plan.” <https://dph.illinois.gov/topics-services/opioids/il-opioid-action-plan.html> (accessed Aug. 22, 2023).

*This document was compiled by the Science Policy Outreach Task Force (SPOT). SPOT is a nonpartisan organization of Northwestern University researchers focused on advocating for science, evidence-based reasoning, and scientifically-sound policy to the voting-aged public and policymakers. This document does not represent an official statement by Northwestern University. It does not contain an exhaustive summary of all scientific issues but rather is intended to provide background information relative to the topic.*

*August 2023.*

---