**2017 Epidemiological Profile: Opioids**

Opioids are drugs that activate opioid receptors, including opiates, heroin, and synthetic opioids[[1]](#footnote-1). Heroin, an opioid drug made from morphine, is either injected, snorted, or smoked. Fentanyl is a synthetic opioid similar to morphine, but 50 to 100 times more potent. It is used to treat severe pain, or chronic pain in patients who are physically tolerant to other opioids.[[2]](#footnote-2) Oxycodone, Hydrocodone, and Oxymorphone are opioid pain medications. Hydrocodone is used to manage pain that is severe enough to require daily, around-the-clock, long-term opioid treatment. Oxycodone is used to treat moderate to severe pain and is available in ‘immediate release’ and ‘controlled release’ methods for different pain types. Oxymorphone, also used to treat moderate to severe pain, is slightly stronger than oxycodone and available in both immediate release and controlled release. Methadone is an opioid medication that is used for pain and to reduce withdrawal symptoms in people addicted to heroin or other narcotics without causing the “high” associated with drug addiction.2

In this profile, both prescription drugs and heroin are discussed. For further information regarding heroin and non-medical use of prescription drugs (NMUPD), refer to the respective profiles.

**Consumption**

**Prescription Drugs**

The 2014-2015 National Survey of Drug Use and Health (NSDUH) found that 7.1% of the US population aged 12 and older (or 18.9 million) had used prescription drugs non-medically in the past year, including pain relievers (12.5 million users), sedatives and tranquilizers (7.5 million users), and stimulants (5.3 million users), with over 2% reporting current use of the substances. In Connecticut, the 2014-2015 NSDUH found that 655,000 youths in Connecticut ages 12-17 reported nonmedical use of prescription drugs (NMUPD).

In 2013-2014, NSDUH data showed that the prevalence of past year non-medical use of pain relievers in Connecticut was 2.9% for 12-17 year olds, 8.6% for young adults ages 18-25, and 4.1% for adults ages 26 or older. There has been a slight trend toward less misuse of prescription drugs among both young adults and older adults, although use among adolescents remained relatively stable since 2009-2010.

According to the 2015 Connecticut Youth Risk Behavior Surveillance Survey (YRBSS), 12.0% of high school students reported ever using prescription drugs without a doctor’s prescription. A smaller percentage (6.3%) of high school students reported having ever taken over-the-counter drugs to get high. Misuse of prescription drugs and over-the-counter drugs varied by race/ethnicity with 13.6% and 8.4% reported by Hispanics/Latinos respectively, 11.4% and 5.8% for whites, and 10% and 4.6% for blacks. There was no difference in the percent of female and male students reporting ever use of prescription drugs.

**Heroin**

According to the 2014-2015 NSDUH, 1.07% of 18-25 year olds in Connecticut reported past year use of heroin compared to 0.69% of young adults nationwide. Similarly, the percent past year use in those aged 26 and older was 0.93% statewide compared to the national average of 0.29%. Among both US and Connecticut youth ages 12-17, 0.1% reported having used heroin in the past year.

According to the 2015 YRBSS, about 2.2% high school students reported heroin use in their lifetime, slightly above the national average (2.1%). In Connecticut, Hispanics/Latino students reported the highest rate of heroin use (4.3%), compared to 1.2% for black non-Hispanic students and 1.5% of white students. Three percent of males reported having used heroin at least once in their lifetime, in comparison to 1.1% of females.

**At-Risk Populations**

* Consumption data from the 2014-2015 NSDUH and the 2015 YRBSS indicate that certain demographic subgroups are at increased risk of both heroin use and prescription drug misuse, including young adults and Hispanics.
* People who take opioids for chronic pain are at increased risk for addiction, overdose, and other adverse consequences.[[3]](#footnote-3)
* People who live in places that lack opioid treatment programs or buprenorphine providers and naloxone are at increased risk of overdose and death.7
* Persons who take opioids with alcohol or benzodiazepines are at higher risk for overdose death.7
* Those injecting opioids are at higher risk of overdose.7
* People who inject drugs are at risk for Hepatitis B virus (HBV) and Hepatitis C virus (HCV) infection through the sharing of needles and drug-preparation equipment.[[4]](#footnote-4)
* Women with opioid use disorders often have a history of sexual abuse and/or interpersonal violence, inadequate social supports, inadequate parenting, poor nutrition, unstable housing, and psychiatric comorbidity.1
* Respiratory depression is the primary mechanism contributing to fatal opioid overdose, which may be exacerbated by concomitant use of benzodiazepines.[[5]](#footnote-5)
* Patients with chronic pain who use opioid analgesics along with benzodiazepines and/or alcohol are at higher risk for fatal/nonfatal overdose.
* Risk factors for respiratory depression due to opioids may include age > 55 years, preexisting chronic obstructive pulmonary disease, known or suspected sleep-disordered breathing problems, anatomic oral or airway abnormalities, and comorbidities (e.g., advanced systemic disease, renal or hepatic impairment).9
* Compared with opioid abusers, concurrent users of benzodiazepines and opioids take higher doses of the drugs for longer periods of time, are more likely to abuse additional substances, and are more likely to have a psychiatric comorbidity.5
* People who are alcoholics are twice as likely to become addicted to heroin compared to those without alcoholism. Likewise, those who marijuana use disorder are three times more likely and those addicted to cocaine are 15 times more likely to become addicted to heroin. (CDC)
* Two-thirds (66.6%) of New England Region respondents in the DEA Drug Threat Assessment reported high availability of Heroin, followed closely by 51% who reported high availability of controlled prescription drugs.13

**Consequences**

* According to OCME reports, Connecticut had 853 opioid-involved fatalities in 2016.
* Connecticut’s drug overdose death rate per 100,000 population in 2016 was 25.6, in comparison to 22.1 in 2015.
* According to the Office of the Connecticut Medical Examiner (OCME), since 2012 there has been a consistent increase in heroin-related deaths reaching the highest rate in 2016 with a death rate of 14.2 per 100,000 population.
* In 2016, Connecticut saw an opioid-related death rate of 23.9 per 100,000 population, a 19% increase from the 2015 rate of 19.4.
* Of all overdose deaths occurring between 2012 and 2016, 88% involved opioid drugs, and 54.4% involved heroin specifically.
* The majority of opioid overdose deaths in Connecticut between 2012 and 2016 occurred among males (73.6%), adults between the ages of 40 to 60 (47.6%), and non-Hispanic whites (81.9%).[[6]](#footnote-6)
* OCME data show that fentanyl was 14 times more likely to be involved in opioid overdose deaths from 2012 to 2016, when 52.5% of opioid fatalities had traces of fentanyl.
* Of all Connecticut treatment admissions in 2016, 36.7% were for heroin as the primary substance.7
* Over half of heroin admissions in 2016 were between the ages of 21 and 35 years old and 70% were male. The racial/ethnic distribution of primary heroin admissions were 72.5% white, 7.5% Black, and 19.7% were Hispanic or Latino[[7]](#footnote-7).
* Other opiate use problems accounted for 4.2% of treatment admissions in 2016. 60% were male and nearly 80% of admissions were white.3
* Over half of other opiate treatment admissions in 2016 were between the ages of 21 and 35.3
* A small, but not insignificant number of heroin users are controlled prescription drug (CPD) users who began using heroin as a cheaper alternative to the high price of illicit CPDs or when they were unable to obtain prescription drugs.[[8]](#footnote-8)
* Users of heroin and other opioids are at risk of developing opioid use disorders, including tolerance to the drug, requiring more to obtain the same physical effects, and physical dependence.
* Severe respiratory depression, which can lead to hypoxia, reduced oxygen to the brain, can have short- and long-term psychological and neurological effects, including coma, permanent brain damage and death.[[9]](#footnote-9)
* The changes in brain chemistry and function that occur and persist in individuals with opioid use disorder mean that short-term management such as detoxification is not a stand-alone treatment. Detoxification alone is associated with high rates of relapse and places individuals at risk for overdose due to a lowered level of physical dependence.
* Between 2012 and 2014, the number of outside of the hospital, non-fatal opioid-related overdose events treated at Connecticut’s acute care hospitals and emergency departments increased from 895 to 1217 annually, a 36% increase.[[10]](#footnote-10)
* The rate of opioid-related inpatient stays in Connecticut was 337.5 per 100,000 population in 2014, which was ranked 7th highest in the nation. The national rate for inpatient stays was 224.6 per 100,000 in 2014.[[11]](#footnote-11)
* The rate of opioid-related emergency department visits in Connecticut was 254.56 per 100,000 population in 2014. This was higher than the national average of 177.7, and Connecticut ranked 5th in the nation for highest rate of ED visits.7
* Most newborns of mothers who used opioids during pregnancy develop symptoms of Neonatal Abstinence Syndrome (NAS), a postnatal drug withdrawal syndrome, primarily caused by maternal opioid use. There was a 2.7-fold increase in NAS among children born in Connecticut from 2002 to 2011 (0.27% to 0.73%).
* Abrupt discontinuation of opioid use during pregnancy can result in premature labor, fetal distress, and miscarriage.1
* The number of NAS hospitalizations more than doubled in Connecticut from 2003 to 2014.
* While 58% of all babies born in Connecticut from 2005-2014 were non-Hispanic White, they accounted for 75% of all NAS hospital discharges.[[12]](#footnote-12)
* In Connecticut during 2014
  + The average length of hospital stay for infants with NAS was four times longer than that for all newborns (15.8 days versus 3.8 days)
  + Median inpatient hospitalization cost for NAS was more than seven times higher than that for all newborns ($13,421 versus $1,862)
* In 2014, 31% of people living with HIV in Connecticut were attributable to injection drug use.[[13]](#footnote-13)
* Almost three-quarters (72.2%) of New England Region respondents in the DEA 2016 Drug Threat Report reported that heroin contributes most to property crime, while 14.3% believed that CPDs contribute most.
* Approximately one-in-three (31.6%) of DEA respondents reported heroin as the drug that contributes the most for violent crime; 10.7% reported CPDs as contributing most to violent crime.[[14]](#footnote-14)
* In 2013, the total economic burden nationwide of prescription drug overdose, abuse and dependence was estimated to be $78.5 billion.
* In 2015, Connecticut spent over $294 million on health care costs from opioid use, an estimated 1.2% of the state’s total health care costs.[[15]](#footnote-15) (24)
* $55 billionin health and social costs related to prescription opioid abuse each year.[[16]](#footnote-16)
* $20 billionin emergency department and inpatient care for opioid poisonings.12

**Selected Indicators**

* NSDUH
* Connecticut School Health Survey (YRBSS)
* Substance Abuse Treatment Admissions
* Emergency Room Visits Involving Opioids Overdoses
* Opioid Overdose Deaths
* CT Prescription Monitoring and Reporting System
* Drug Arrests
* NAS Rates
* DEA Drug Threat Report
* School Attendance
* School Suspensions/Expulsions

**Additional Sources for Information**

1. <http://das.ct.gov/Digest/Digest_2016/Mental%20Health%20and%20Addiction%20Services,%20Department%20of.pdf>
2. [**https://wwwn.cdc.gov/psr/**](https://wwwn.cdc.gov/psr/)
3. <http://www.ct.gov/dmhas/lib/dmhas/publications/CT-STR_to_Opioid_Crisis.pdf>
4. <https://www.cdc.gov/drugoverdose/data/statedeaths.html>
5. Tadros MD, et al., (2015). Emergency visits for prescription opioid poisonings, [The Journal of Emergency Medicine](http://www.sciencedirect.com/science/journal/07364679), [49(6](http://www.sciencedirect.com/science/journal/07364679/49/6)), 871–877
6. [Birnbaum HG](https://www.ncbi.nlm.nih.gov/pubmed/?term=Birnbaum%20HG%5BAuthor%5D&cauthor=true&cauthor_uid=21392250), [White AG](https://www.ncbi.nlm.nih.gov/pubmed/?term=White%20AG%5BAuthor%5D&cauthor=true&cauthor_uid=21392250), [Schiller M](https://www.ncbi.nlm.nih.gov/pubmed/?term=Schiller%20M%5BAuthor%5D&cauthor=true&cauthor_uid=21392250), [Waldman T](https://www.ncbi.nlm.nih.gov/pubmed/?term=Waldman%20T%5BAuthor%5D&cauthor=true&cauthor_uid=21392250), [Cleveland JM](https://www.ncbi.nlm.nih.gov/pubmed/?term=Cleveland%20JM%5BAuthor%5D&cauthor=true&cauthor_uid=21392250), [Roland CL](https://www.ncbi.nlm.nih.gov/pubmed/?term=Roland%20CL%5BAuthor%5D&cauthor=true&cauthor_uid=21392250). (2011). Societal costs of prescription opioid abuse, dependence, and misuse in the United States. [Pain Medicine.](https://www.ncbi.nlm.nih.gov/pubmed/21392250) 12(4):657-67. (doi: 10.1111/j.1526-4637.2011.01075.x.)
7. Birnbaum et al.
8. <http://www.ct.gov/dph/lib/dph/family_health/mchbg/ct_dph_mch_needs_assessment_data_report.pdf>
9. Unified Crime Report, 2015 <http://www.dpsdata.ct.gov/dps/ucr/data/2015/Crime%20in%20Connecticut%202015.pdf>
10. <https://www.bjs.gov/content/dcf/enforce.cfm>
11. <http://www.ct.gov/dmhas/lib/dmhas/eqmi/annualreportsfy2016.pdf>
12. Florence, CS, Zhou, C, Luo, F & Xu, L. (2016). The economic burden of prescription opioid overdose, abuse, and dependence in the United States, 2013. Medical Care, 54(10):901-906. (doi:10:1097/MLR.0000000000000625.)
13. Office of Justice Program, Bureau of Justice Statistics, <http://www.bjs.gov/content/dcf/duc.cfm>
14. <http://aibolita.com/nervous-diseases/5051-opioids-and-crime.html>

Updated September 2017

1. <https://www.ncsacw.samhsa.gov/files/Collaborative_Approach_508.pdf> [↑](#footnote-ref-1)
2. <http://www.iaclea.org/visitors/PDFs/DEA-Drugs_of_Abuse_2017.pdf> [↑](#footnote-ref-2)
3. Bohnert AS, Valenstein M, Bair MJ, et al. (2011). Association between opioid prescribing patterns and opioid overdose-related deaths. JAMA, 305:1315-21. [↑](#footnote-ref-3)
4. <https://www.cdc.gov/hepatitis/populations/idu.htm> [↑](#footnote-ref-4)
5. Risks, Management, and Monitoring of Combination Opioid, Benzodiazepines, and/or Alcohol Use. (PDF available from: https://www.researchgate.net/publication/255735103\_Risks\_Management\_and\_Monitoring\_of\_Combination\_Opioid\_Benzodiazepines\_andor\_Alcohol\_Use [accessed Jun 21, 2017]. [↑](#footnote-ref-5)
6. CT OCME Accidental Drug OD Death 2012-2015, 9.22.16 [↑](#footnote-ref-6)
7. Treatment Episode Data Set, CT https://wwwdasis.samhsa.gov/webt/quicklink/CT15.htm [↑](#footnote-ref-7)
8. <https://www.dea.gov/resource-center/2016%20NDTA%20Summary.pdf> [↑](#footnote-ref-8)
9. NIDA-“What are the consequences of Opioid Abuse?” November 2014 https://www.drugabuse.gov/publications/research-reports/prescription-drugs/opioids/what-are-possible-consequences-opioid-use-abuse [↑](#footnote-ref-9)
10. CT Opioid Response Initiative [↑](#footnote-ref-10)
11. https://www.ahrq.gov/news/opioid-hospitalization-map.html?utm\_source=AHRQ&utm\_medium=STAKEHOLDER&utm\_campaign=AHRQ\_OPIODSMAP\_2017&utm\_term=Opiods&utm\_content=9 [↑](#footnote-ref-11)
12. <http://www.ct.gov/dph/lib/dph/publications/family_health/nas_fact_sheet_2016.pdf> [↑](#footnote-ref-12)
13. <http://www.ct.gov/dph/lib/dph/aids_and_chronic/surveillance/epiprofile.pdf> [↑](#footnote-ref-13)
14. DEA 2016 Drug Threat Report Summary [↑](#footnote-ref-14)
15. <https://drugfree.org/wp-content/uploads/2015/04/Matrix_OpioidAbuse_040415.pdf> [↑](#footnote-ref-15)
16. <https://www.hhs.gov/sites/default/files/Factsheet-opioids-061516.pdf> [↑](#footnote-ref-16)