

NIOSH Responds to the Opioid Crisis

An Update for the NCIPC Board of Scientific Counselors

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December 4, 2019



Understanding the Opioid Crisis among US Workers



- **95%** – In 2017, **95%** of the 70,067 US drug overdose deaths occurred among the working age population, persons aged 15-64 years.
- **4.3%** – According to the National Survey of Drug Use and Health, an estimated **4.3%** of respondents age 18 years or older reported illicit opioid use in the past year. An estimated 66.7% of these self-reported illicit opioid users were employed full- or part-time.

Understanding the Opioid Crisis among US Workers



- **25%** – The Bureau of Labor Statistics reported that overdose deaths at work from non-medical use of drugs or alcohol increased by at least **25%** annually between 2013 and 2017. Workplace overdose deaths reported in 2016 accounted for 5.3% of occupational injury deaths that year, compared to 1.8% in 2013.
- **14.8 days** – Workers with a current substance use disorder miss an average of **14.8 days** per year, while those with a pain medication use disorder miss an average of **29** days per year. This is in contrast to an average of **10.5** days for most employees.

Lifetime odds of death for selected causes, United States, 2017



Cause of Death	Odds of Dying
Heart Disease	1 in 6
Cancer	1 in 7
Chronic Lower Respiratory Disease	1 in 27
Suicide	1 in 88
Opioid overdose	1 in 96
Motor Vehicle Crash	1 in 103
Fall	1 in 114
Gun Assault	1 in 285
Pedestrian Incident	1 in 556
Motorcyclist	1 in 858

Exploring the Link: Opioids and Work



- Lack of employment
- Insecure employment, new employment arrangements
- Hazardous work and increased risk of work-related injury
- Wages, working conditions that can predispose to chronic health problems or pain
- Lack of benefits/paid sick leave
- Industry/occupation variations
- Geographic differences



Exploring the Link: Opioids and Work

- **75%** of employers say their workplace has been impacted by opioids
- Only **17%** of employers feel extremely well prepared to deal with it
- **31%** report an overdose, arrest, near miss or injury due to opioid use
- Only **half** are very confident they have the appropriate HR policies and resources to deal with opioid misuse
- Only **4 in 10** employers would return an employee to work after he/she receives treatment for misusing prescription opioids
- Despite effective treatment, only **1 in 5** receive any treatment for OUD, fewer than that receive the gold standard (medication-based treatment)



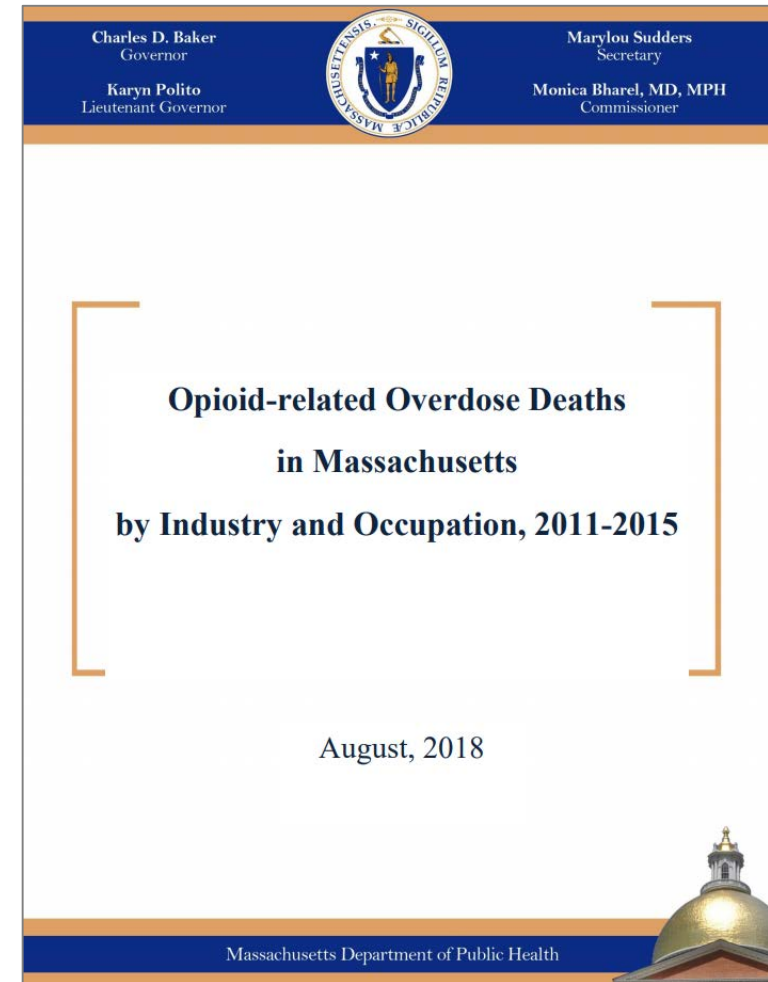
Data to Characterize and Address the Crisis

- **August 2018 MMWR: Occupational Patterns in Opioid-Involved Overdose Deaths**
- NIOSH researchers analyzed drug overdose deaths within 26 job groups from 2007-2012.
 - 57,810 drug overdose deaths
 - Majority were: male (61.8%), white (89.8%), aged 45-54 (30.1%) or 35-44 (24.1%)
- PMRs from drug overdose were highest for six occupation groups
 - Construction (highest PMR for heroin and methadone)
 - Extraction (highest PMR for natural and semi-synthetic opioids)
 - Food preparation and serving
 - Health care practitioners and technical occupations (highest PMR for synthetic)
 - Health care support
 - Personal care and service
- PMR also significantly elevated for “unpaid/unemployed”

Opioid-related Overdose Deaths in MA by Industry and Occupation, 2011-2015



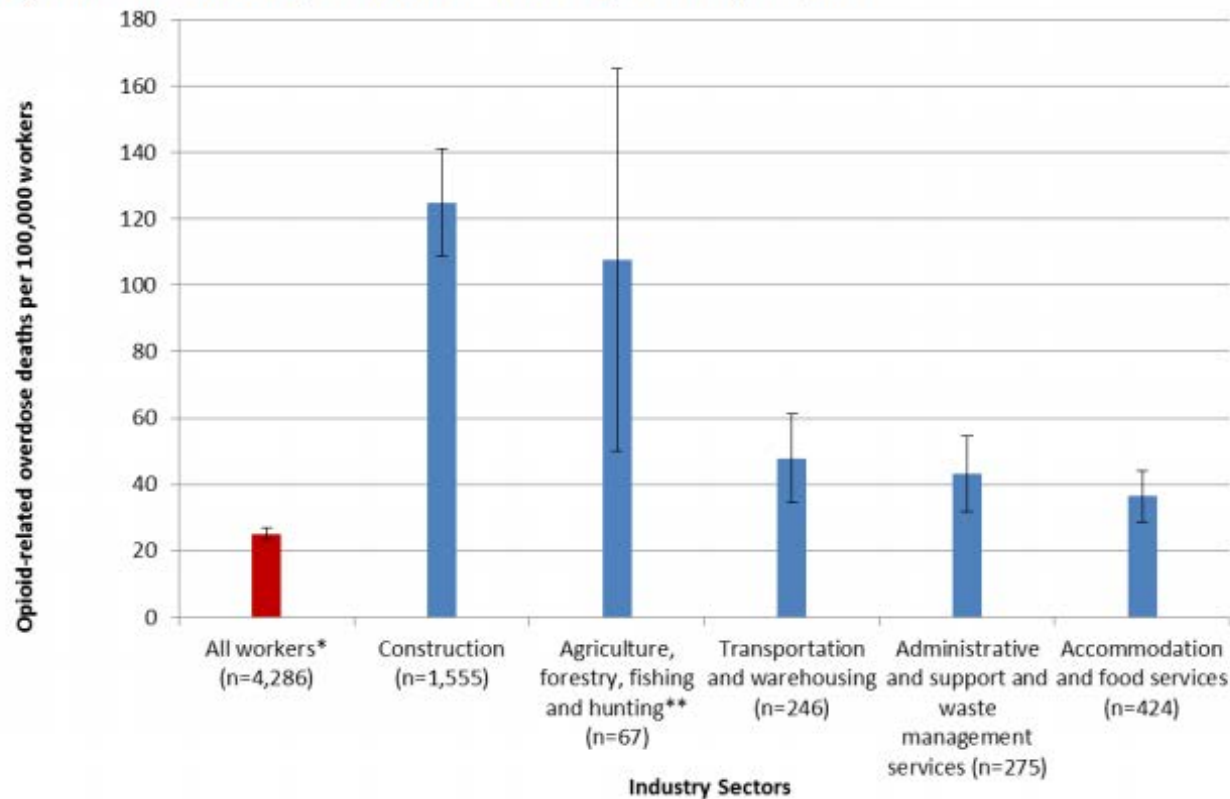
- Massachusetts Department of Public Health on opioid-related overdose deaths by industry/occupation, 2011-2015, in their state.
- Found that the opioid-related death rate for those employed in construction and extraction occupations was 6 times the average rate for all Massachusetts workers.
- Other occupational groups with higher than average rates included: farming, fishing and forestry; material moving; installation, maintenance and repair; and transportation among others.



Opioid-related Overdose Deaths in MA by Industry and Occupation, 2011-2015



Figure 1. Industry sectors with opioid-related overdose death rates significantly higher than the average rate for all workers, Massachusetts workers, 2011-2015, n=4,302



- The report also found that the rate of fatal opioid-related overdose was higher among workers employed in industries known to have high rates of work-related injuries and illnesses.
- Additionally, rates were higher among workers in occupations with lower availability of paid sick leave and lower job security.

New Update Report from the Massachusetts Department of Public Health



- Unintentional overdose in the workplace was the **leading single cause of fatal injury at work in 2016-2017**
- Unintentional overdose, drugs or alcohol, resulted in 54 fatalities (25%) during those two years.*
- For more details visit:
<https://www.mass.gov/info-details/fatal-injuries-at-work>

MASSACHUSETTS
State **FACE** Program
Fatality Assessment & Control Evaluation
Massachusetts Department of Public Health

**Fatal Injuries at Work
Massachusetts
Fatality Update
2016-2017**

Massachusetts Department of Public Health
Occupational Health Surveillance Program
Census of Fatal Occupational Injuries
Fatality Assessment and Control Evaluation

<https://www.mass.gov/lists/fatal-work-related-injury-reports-and-publications>
ma.face@state.ma.us
1-800-338-5223

August 2019

The cover features a map of Massachusetts, the state logo, and four photographs: a worker in a hard hat, a pile of white pills, a worker in a safety harness, and a damaged red car.

*Massachusetts Fatality Update, 2016-2017 - <https://www.mass.gov/info-details/fatal-injuries-at-work>

The NIOSH Framework to Address Opioid Misuse





A worker's exposure to opioids can take many forms. Work itself can result in painful injuries for which an opioid can be prescribed by a physician. Chronic opioid use can lead to an Opioid Use Disorder—a treatable brain condition. Emergency workers can be exposed to opioids when responding to an opioid overdose, or working to detect and decontaminate an affected area. NIOSH has collected data, conducted research and field investigations, and is committed to the principles of *Total Worker Health*[®] to better understand the crisis and recommend policies, programs, and practices to help workers and employers face this challenge together.

-NIOSH Director, John Howard, M.D.

NIOSH's Ongoing Work to Address the Crisis



- Examine work-related factors and exposures as risk factors for opioid use
- Better understand the crisis through important occupational lenses
 - Industry/occupation, age, gender, geographic region, workplace culture
 - Surveillance coordination and optimization
 - Workers compensation data and partnerships
- Protect workers who respond to the crisis as part of their job
- Develop recommendations for exposure prevention for first responders, healthcare workers, and other frontline groups
- Create information, guidance, resources, and educational materials for workers and employers
- Coordinate with intramural and extramural partners addressing this crisis

Opioid Dispensing Rates in Workers' Compensation



- NIOSH-funded study by the Workers' Compensation Research Institute (WCRI) found rates differed based on several factors:
 - **Industry in which the injured worker is employed**
 - Mining (including oil and gas) and Construction had the highest opioid dispensing rates, followed by Agriculture, Forestry, and Fishing and Public Safety
 - **Company size** (based on payroll)
 - Smaller companies had higher opioid dispensing rates than larger companies
 - **Injured worker age**
 - Older workers had higher opioid dispensing rates than younger workers

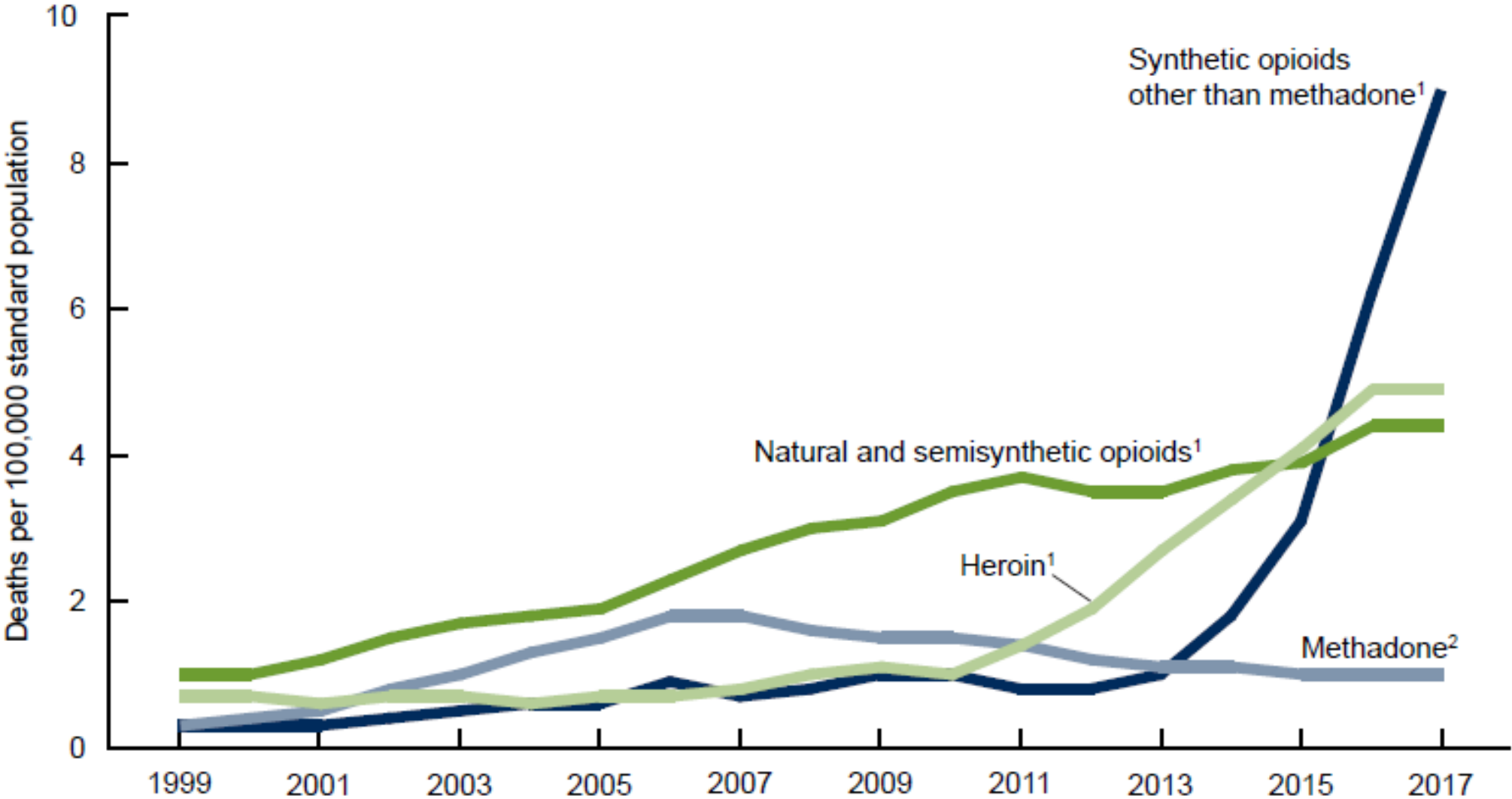
Opioid Dispensing Rates in Workers' Compensation



- The NIOSH WCRI also found rates differed based on several factors:
 - **County-level factors** (in which the injured workers resides)
 - Rural areas had higher opioid dispensing rates than urban areas
 - Areas with low rates of health insurance had higher rates for opioids prescribing than areas with high rates of health insurance
 - **Injury type**
 - Fractures and carpal tunnel syndrome had the highest opioid dispensing rates, followed by neurologic spine pain



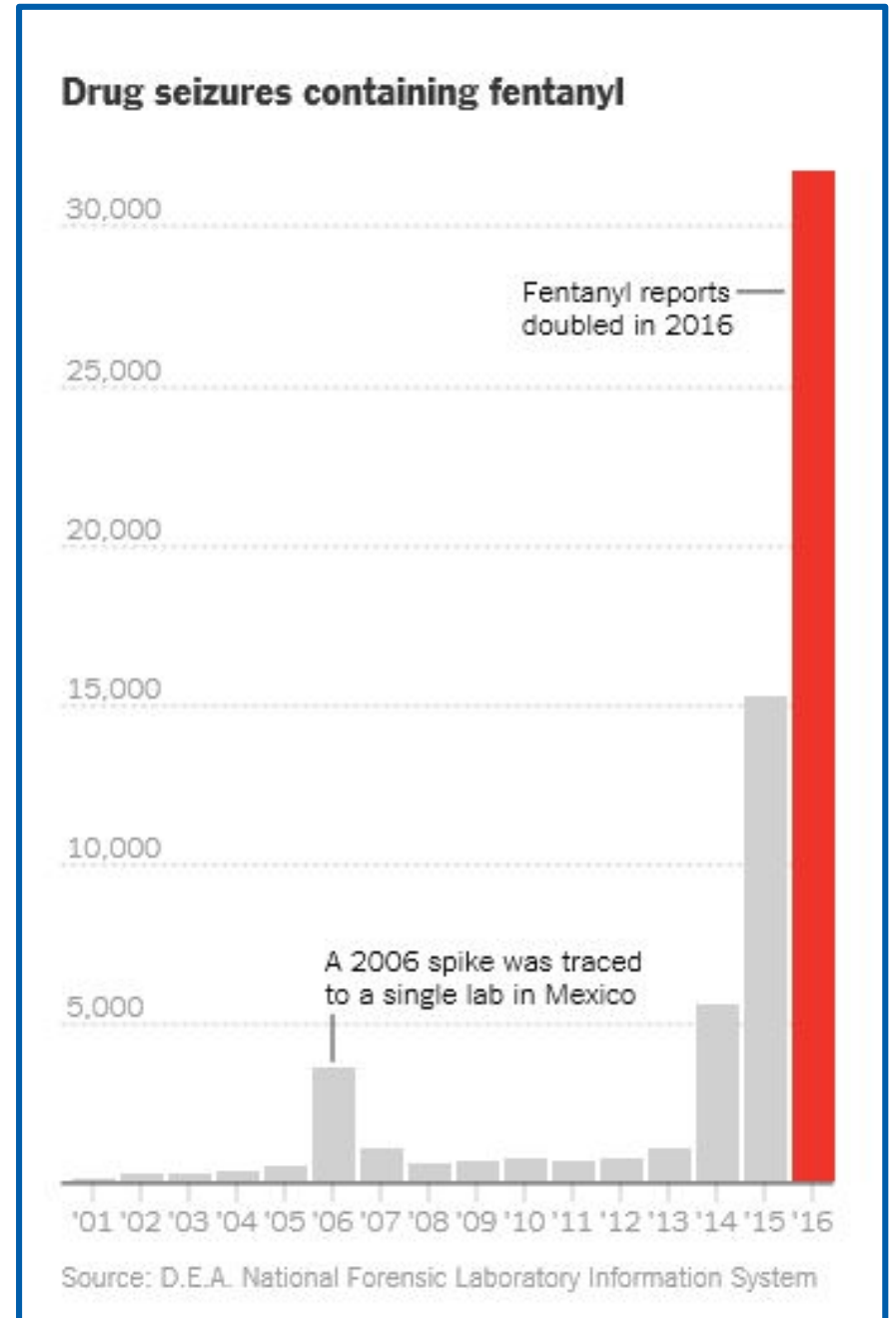
Long-Term Trends in Opioid Overdose Deaths



Suggested citation: Hedegaard H, Miniño AM, Warner M. Drug overdose deaths in the United States, 1999–2017. NCHS Data Brief, no 329. Hyattsville, MD: National Center for Health Statistics. 2018. (Available from <https://www.cdc.gov/nchs/products/databriefs/db329.htm>)

Fentanyl

- Pharmaceutical fentanyl is a synthetic opioid pain medication and schedule II prescription drug approved for treating severe pain, typically after surgery or advanced cancer pain.
- Among the more than 72,000 drug overdose deaths estimated in 2017, the sharpest increase occurred among deaths related to fentanyl and fentanyl analogs (synthetic opioids) with nearly 30,000 overdose deaths.
- It is 50 to 100 times more potent than morphine
- Illicitly-made fentanyl is sold illegally for its heroin-like effect, and often mixed with heroin and/or cocaine.





NIOSH Field Investigations

- NIOSH Health Hazard Evaluation Program
- 14 projects assessing hazards to emergency responders and other groups of workers
- Early Key Findings
 - It is difficult to examine emergency response situations retrospectively
 - Possibility of multiple types of substances present at any response
 - Ill effects were related to work activities and impacted the ability to perform job duties
- Additional real-time evaluation and research necessary
- Firefighter Fatality Investigation Program efforts

<https://doi.org/10.1002/ajim.22967>

NEW NIOSH Webpages on Opioids

- Features the NIOSH Framework and sub-pages:
 - Data Collection
 - Field Investigations
 - Research
 - Resources

The National Institute for Occupational Safety and Health (NIOSH)

Workplace Safety & Health Topics

Opioids

NIOSH's Framework

Data Collection

Field Investigations

Research

Resources

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NIOSH Homepage

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- Programs
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Promoting productive workplaces through safety and health research **NIOSH**

NIOSH > Workplace Safety & Health Topics

Opioids

NIOSH Confronts the Opioid Crisis

The effects of opioid use and misuse are not isolated to work or home environments, and the potential for addiction may be preceded by injuries that happen in the workplace, with the consequences affecting both an individual's working life as well as their home life.

By using *Total Worker Health* principles, NIOSH is developing solutions to help workers and employers facing this epidemic in their communities. [Learn more](#) about the specific steps NIOSH is taking to approach this challenge.

Determine Risk Factors

DATA COLLECTION

NIOSH will obtain relevant data to characterize and address the opioid crisis in workers. [More >](#)

FIELD INVESTIGATIONS

NIOSH is conducting field investigations to determine the extent of opioid exposures and best approaches for prevention. [More >](#)

RESEARCH

Transfer knowledge into practice to promote effective interventions. [More >](#)

Featured Resources

Below you will find featured NIOSH, CDC and other resources related to the opioid epidemic. Check back frequently for new information. For a full list of resources, see our resources page on this website.

NIOSH Resources	CDC Resources	Additional Resources
<ul style="list-style-type: none">FentanylPrescription Drug Overdose Prevention	<ul style="list-style-type: none">CDC National Center for Injury Prevention and Control: Opioid Overdose	<ul style="list-style-type: none">National Institute on Drug AbuseU.S. Surgeon General Opioid Response

NEW NIOSH Webpages on Opioids: Resources

- Resources related to the Opioid Epidemic
 - Tools for Workplaces
 - Research on Workplaces
 - General Resources

The screenshot shows the NIOSH website page for Opioid Resources. The page has a dark blue header with the NIOSH logo and tagline. A left sidebar contains a navigation menu with 'Resources' highlighted. The main content area is titled 'Opioids' and includes social media icons, a breadcrumb trail, and several sections of links: 'Resources related to the Opioid Epidemic', 'Tools for Workplaces', 'Research on Workplaces', and 'General Resources'. The 'Resources related to the Opioid Epidemic' section lists links such as 'Fentanyl', 'Prescription Drug Overdose Prevention', and 'SAMHSA Opioid Overdose Prevention Toolkit'. The 'Research on Workplaces' section lists links like 'Opioid-related Overdose Deaths in Massachusetts by Industry and Occupation, 2011-2015'. The 'General Resources' section lists links to 'National Institute on Drug Abuse', 'Opioids.gov', 'U.S. Surgeon General Opioid Response', 'HHS.gov/Opioids', and 'MMWR Opioid Reports'.

The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces through safety and health research

Workplace Safety & Health Topics

Opioids

NIOSH's Framework

Data

Field Investigations

Research

Resources

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NIOSH A-Z

Workplace Safety & Health Topics

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Programs

Contact NIOSH

NIOSH > > Workplace Safety & Health Topics > > Opioids

Opioids

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Resources related to the Opioid Epidemic

Tools for Workplaces

- [Fentanyl](#)
- [Prescription Drug Overdose Prevention](#)
- [SAMHSA Opioid Overdose Prevention Toolkit](#) [en Español](#)
- [Opioid Use Disorder Facts](#)
- [Five Essential Steps for First Responders](#)
- [Information for Prescribers](#)
- [Safety Advice for Patients & Family Members](#)
- [Recovering from Opioid Overdose](#)
- [CDC National Center for Injury Prevention and Control: Opioid Overdose](#)

Research on Workplaces

- [Opioid-related Overdose Deaths in Massachusetts by Industry and Occupation, 2011-2015](#)
- [Landscape Study of Field Portable Devices for Presumptive Drug Testing](#)
- [A NIOSH Role in Prescription Drug Abuse Prevention](#)
- [The Opioid Overdose Epidemic and the Workplace](#)
- [Fentanyl and the safety of first responders: Science and recommendations](#)
- [NIOSH Science Blog](#)
- [MMWR Occupational Patterns in Unintentional and Undetermined Drug-Involved and Opioid-Involved Overdose Deaths](#)
- [National Safety Council Prescription Drug Employer Toolkit](#) *Note: Signup may be required to download resource

General Resources

- [National Institute on Drug Abuse](#)
- [Opioids.gov](#)
- [U.S. Surgeon General Opioid Response](#)
- [HHS.gov/Opioids](#)
- [MMWR Opioid Reports](#)

Emergency Responder Resources Fentanyl Webpages & First Responder Toolkit

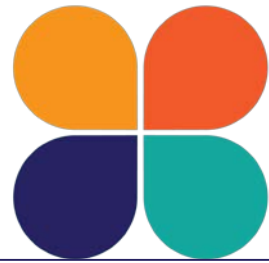


The screenshot shows the CDC website header with the CDC logo and the text "Centers for Disease Control and Prevention CDC 24/7: Saving Lives, Protecting People™". A search bar is visible with the text "Search NIOSH" and "SEARCH". Below the header, the NIOSH logo and tagline "Promoting productive workplaces through safety and health research" are displayed. The main content area is titled "Fentanyl: Preventing Occupational Exposure to Emergency Responders" and includes social media sharing icons for Facebook, Twitter, and a plus sign. A sidebar on the left lists "Workplace Safety & Health Topics" with "Fentanyl" selected, and "Follow NIOSH" with links to Facebook, Flickr, Pinterest, Twitter, and YouTube.

The screenshot shows the CDC website header with the CDC logo and the text "Centers for Disease Control and Prevention CDC 24/7: Saving Lives, Protecting People™". A search bar is visible with the text "Search NIOSH" and "SEARCH". Below the header, the NIOSH logo and tagline "Promoting productive workplaces through safety and health research" are displayed. The main content area is titled "Preventing Occupational Exposure to Healthcare Personnel in Hospital and Clinic Settings" and includes social media sharing icons for Facebook, Twitter, and a plus sign. A sidebar on the left lists "Workplace Safety & Health Topics" with "Fentanyl" selected, and "Follow NIOSH" with links to Facebook and Flickr.

<https://www.cdc.gov/niosh/topics/fentanyl/risk.html>

Using Naloxone to Reverse Opioid Overdose in the Workplace: Information for Employers and Workers



Using Naloxone to Reverse Opioid Overdose in the Workplace: Information for Employers and Workers

Introduction

Opioid misuse and overdose deaths from opioids are serious health issues in the United States. Overdose deaths involving prescription and illicit opioids doubled from 2010 to 2016, with more than 42,000 deaths in 2016 [CDC 2016a]. Provisional data show that there were more than 49,000 opioid overdose deaths in 2017 [CDC 2018a]. In October 2017, the President declared the opioid overdose epidemic to be a public health emergency.

Naloxone is a very effective drug for reversing opioid overdoses. Police officers, emergency medical services providers, and non-emergency professional responders carry the drug for that purpose. The Surgeon General of the United States is also urging others who may encounter people at risk for opioid overdose to have naloxone available and to learn how to use it to save lives [USSG 2018].

The National Institute for Occupational Safety and Health



Photo by ©Thinkstock

(NIOSH), part of the Centers for Disease Control and Prevention (CDC), developed this information to help employers and workers understand the risk of opioid overdose and help them decide if they should establish a workplace naloxone availability and use program.

Background

What are opioids?

Opioids include three categories of pain-relieving drugs: (1) natural opioids (also called opiates) which are derived from the opium poppy, such as morphine and codeine; (2) semi-synthetic opioids, such as the prescription drugs hydrocodone and oxycodone and the illicit drug heroin; (3) synthetic opioids, such as methadone, tramadol, and fentanyl. Fentanyl is 50 to 100 times more potent than morphine. Fentanyl analogues, such as carfentanyl, can be 10,000 times more potent than morphine. Overdose deaths from fentanyl have greatly increased since 2013 with the introduction of illicitly-manufactured fentanyl entering the drug supply [CDC 2016b; CDC 2018b]. The National Institute on Drug Abuse [NIDA 2018] has more information about types of opioids.

What is naloxone?

Naloxone hydrochloride (also known as naloxone, NARCAN® or EVZIO®) is a drug that can temporarily stop

many of the life-threatening effects of overdoses from opioids. Naloxone can help restore breathing and reverse the sedation and unconsciousness that are common during an opioid overdose.

Side effects

Serious side effects from naloxone use are very rare. Using naloxone during an overdose far outweighs any risk of side effects. If the cause of the unconsciousness is uncertain, giving naloxone is not likely to cause further harm to the person. Only in rare cases would naloxone cause acute opioid withdrawal symptoms such as body aches, increased heart rate, irritability, agitation, vomiting, diarrhea, or convulsions. Allergic reaction to naloxone is very uncommon.

Limitations

Naloxone will not reverse overdoses from other drugs, such as alcohol, benzodiazepines, cocaine, or

amphetamines. More than one dose of naloxone may be needed to reverse some overdoses. Naloxone alone may be inadequate if someone has taken large quantities

of opioids, very potent opioids, or long acting opioids. For this reason, call 911 immediately for every overdose situation.

Opioids and Work

Opioid overdoses are occurring in workplaces. The Bureau of Labor Statistics (BLS) reported that overdose deaths at work from non-medical use of drugs or alcohol increased by at least 38% annually between 2013 and 2016. The 217 workplace overdose deaths reported in 2016 accounted for 4.2% of occupational injury deaths that year, compared with 1.8% in 2013 [BLS 2017]. This large increase in overdose deaths in the workplace (from all drugs) parallels a surge in overall overdose deaths from opioids reported by CDC [2017]. Workplaces that serve the public (i.e. libraries, restaurants, parks) may also have visitors who overdose while onsite.

Workplace risk factors for opioid use

Opioids are often initially prescribed to manage pain arising from a work injury. Risky workplace conditions that lead to injury, such as slip, trip, and fall hazards or

heavy workloads, can be associated with prescription opioid use [Kowalski-McGraw et al. 2017]. Other factors, such as job insecurity, job loss, and high-demand/low-control jobs may also be associated with prescription opioid use [Kowalski-McGraw et al. 2017]. Some people who use prescription opioids may misuse them and/or develop dependence. Prescription opioid misuse may also lead to heroin use [Cicero et al. 2017]. Recent studies show higher opioid overdose death rates among workers in industries and occupations with high rates of work-related injuries and illnesses. Rates also were higher in occupations with lower availability of paid sick leave and lower job security, suggesting that the need to return to work soon after an injury may contribute to high rates of opioid-related overdose death [MDPH 2018, CDC 2018c]. Lack of paid sick leave and lower job security may also make workers reluctant to take time off to seek treatment.

Considering a Workplace Naloxone Use Program

Anyone at a workplace, including workers, clients, customers, and visitors, is at risk of overdose if they use opioids. Call 911 immediately for any suspected overdose. Overdose without immediate intervention can quickly lead to death. Consider implementing a program to make naloxone available in the workplace in the event of an overdose. The following considerations can help you decide whether such a program is needed or feasible:

- Does the [state](#) where your workplace is located allow the administration of naloxone by non-licensed providers in the event of an overdose emergency?
- What liability and legal considerations should be addressed? Does your state's Good Samaritan law cover emergency naloxone administration?
- Do you have staff willing to be trained and willing to provide naloxone?
- Has your workplace experienced an opioid overdose or has there been evidence of opioid drug use onsite (such as finding drugs, needles or other paraphernalia)?
- How quickly can professional emergency response personnel access your workplace to



Photo by ©Thinkstock

provide assistance?

- Does your workplace offer other first aid or emergency response interventions (first aid kits, AEDs, trained first aid providers)? Can naloxone be added?
- Are the risks for opioid overdose greater in your geographic location? The National Center for Health Statistics provides data on drug overdose deaths in an online state dashboard. [CDC 2018a.]

- Are the risks for opioid overdose greater in your industry or among occupations at your workplace? [See MDPH 2018 and CDC 2018c.]
- Does your workplace have frequent visitors, clients, patients, or other members of the public that may be at increased risk of opioid overdose?

Review the above questions periodically even if a program is not established right away. Ideally, a naloxone program is but a part of a more comprehensive workplace program on opioid awareness and misuse prevention.

Establishing a Program

You will need policies and procedures for the program. These should be developed in consultation with safety and health professionals. Involve the workplace safety committee (if present) and include worker representatives. You also will need a plan to purchase, store, and administer naloxone in case of overdose. Additional considerations for establishing a program are described below.

Risk assessment

Conduct a risk assessment before implementing the naloxone program.

- Decide whether workers, visiting clients, customers, or patients are at risk of overdose.
- Assess availability of staff willing to take training and provide naloxone.
- Consult with professional emergency responders and professionals who treat opioid use disorders in your area.

Liability

Consider liability and other legal issues related to such a program.

Records management

Include formal procedures for documenting incidents and managing those records, to include safeguarding the privacy of affected individuals. Maintain records related to staff roles and training.

Staff roles

Define clear roles and responsibilities for all persons designated to respond to a suspected overdose. Include these roles and responsibilities in existing first aid or emergency response policies and procedures (first aid kits, AEDs, training for lay first-aid providers, and/or onsite health professionals).

Training

Train staff to lower their risks when providing naloxone. Staff must be able to:

- Recognize the symptoms of possible opioid overdose.
- Call 911 to seek immediate professional emergency medical assistance.
- Know the dangers of exposure to drug powders or residue.
- Assess the incident scene for safety concerns before entering.
- Know when NOT to enter a scene where drug powders or residues are visible and exposure to staff could occur.
- Know to wait for professional emergency responders when drug powders, residues, or other unsafe conditions are seen.
- Use personal protective equipment (PPE; nitrile gloves) during all responses to protect against chemical or biological exposures including opioid residues, blood, or other body fluids.
- Administer naloxone and recognize when additional doses are needed.
- Address any symptoms that may arise during the response, including agitation or combativeness from the person recovering from an overdose.
- Use additional first aid, CPR/basic life support measures. Opioid overdose can cause respiratory and cardiac arrest.

Prepare for possible exposure to blood. Needles or other sharps are often present at the scene of an overdose. Provide bloodborne pathogen training to responding staff members and consider additional protection, such as hepatitis B vaccination.

NEW NIOSH Resource

- Workplace Solutions: Medication-Assisted Treatment for Opioid Use Disorder
- Visit: <https://www.cdc.gov/niosh/docs/wp-solutions/2019-133/default.html>
- Suggested Citation:
 - NIOSH [2019]. Medication-assisted treatment for opioid use disorder. By Howard J, Cimineri L, Evans T, Chosewood LC, Afanuh S. Washington, DC: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2019-133, <https://doi.org/10.26616/NIOSH PUB2019133external icon>

Source: <https://www.cdc.gov/niosh/docs/wp-solutions/2019-133/pdfs/2019-133.pdf>

WORKPLACE SOLUTIONS

From the National Institute for Occupational Safety and Health

Medication-Assisted Treatment for Opioid Use Disorder

Summary

The opioid overdose epidemic continues to claim lives across the country with a record 47,600 overdose deaths in 2017. (This number represents 67.8% of the 70,237 overdose deaths from all drugs) [CDC 2018a]. More Americans now die every year from drug overdoses than in motor vehicle crashes [CDC 2016]. The crisis is taking an especially devastating toll on certain parts of the U.S. workforce. High rates of opioid overdose deaths have occurred in industries with high injury rates and physically demanding working conditions such as construction, mining, or fishing [Massachusetts Department of Public Health 2018; CDC 2018b]. Certain job factors such as high job demands, job insecurity, and lack of control over tasks have also been linked to opioid use [Kowalski-McGraw et al. 2017]. Medication-assisted treatment (MAT) (also known as medication-based treatment*) has been shown to be effective for many people with opioid use disorder [SAMHSA 2015b; National Academies of Sciences, Engineering, and Medicine 2019]. In addition to providing general information about MAT, this document provides information for employers wishing to assist or support workers with opioid use disorder.

Background

Challenges related to prescription drug misuse, illicit drug use, and addiction

affect individual workers, their families, and both large and small businesses. In a 2017 National Safety Council survey, 70% of employers reported suffering the negative effects of prescription drug misuse; noting positive drug tests, absenteeism, injuries, accidents, and overdoses [Hersman 2017]. In 2013, the total U.S. societal costs of prescription opioid use disorder (OUD) and overdoses were \$78 billion. Of that, about \$2.8 billion was for treatment [Florence et al. 2016].*

In 2016, individuals with insurance coverage received \$2.6 billion in services for treatment of opioid addiction and overdose, a dramatic increase from \$0.3 billion in 2004 (based on claims data from large employers). Of that \$2.6 billion, \$1.3 billion was for outpatient treatment, \$911 million was for inpatient care, and \$435 million was for prescription drugs [Cox et al. 2018].

Employers may save up to \$2,607 per worker annually (based on 2012-2014 data) by getting workers into treatment [NSC et al. 2016; NORC].

Despite these findings, 80% of individuals in need of treatment for a substance use disorder in 2016 did not receive treatment [CBHSQ 2017]. Making medication-assisted treatment (MAT) more readily available to people with OUD can help diminish the opioid crisis in the United States.

Treatment

What is medication-assisted treatment (MAT)?

MAT uses medications approved by the U.S. Food and Drug Administration (FDA) in combination with counseling and behavioral therapies to treat OUD involving misuse of either prescription

*Note that some experts recommend the term "medication-based treatment" or MBT instead of MAT. This change in nomenclature aligns with the premise that OUD is a chronic disorder for which medications are first-line treatments (often an integral part of a person's long-term treatment plan) rather than complementary or temporary aids on the path to recovery [National Academies of Sciences, Engineering, and Medicine 2019].

The White House Council of Economic Advisers [CEA 2017] estimated the economic cost of these deaths related to opioids "using conventional economic estimates for valuing life routinely used by U.S. Federal agencies." The CEA report "also adjusts for underreporting of opioids in overdose deaths, includes heroin-related fatalities, and incorporates nonfatal costs of opioid misuse." CEA estimates that in 2015, the economic cost of the opioid crisis was \$504.0 billion, or 2.8 percent of GDP that year.



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

New NIOSH Science Blog



- [“Injured Workers More Likely to Die from Suicide or Opioid Overdose”](#) Aug 2019
 - Study published in the *American Journal of Industrial Medicine*
 - [“Suicide and drug-related mortality following occupational injury”](#)
 - Workplace injury raises a person’s risk of suicide or overdose death.
 - Link between work injury, opioids, use disorders, and suicide
 - The following may substantially reduce deaths following workplace injuries:
 - Improved working conditions
 - Improved pain treatment
 - Better treatment of substance use disorders
 - Treatment of post-injury depression
- “The Role of Veterinarians in the Opioid Crisis” Nov 2019
http://blogs.cdc.gov/niosh-science-blog/2019/11/20/veterinarians_opioids/

NIOSH Science Blog

Injured Workers More Likely to Die from Suicide or Opioid Overdose

Posted on August 8, 2019 by Katie M. Applebaum, ScD; Abay Asfaw, PhD; Paul K. O’Leary, PhD; Andrew Busey, BS; Yorghos Tripodis, PhD; and Leslie I. Boden, PhD

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Drug overdoses and suicides have been rising since 2000 and are major contributors to a recent decline in US life expectancy. The opioid crisis is largely to blame, with a record 47,600 overdose deaths in 2017.^[1] Suicide rates in 2016 have increased 30% from 1999.^[2] Case and Deaton have called these “deaths of despair.”^[3]

In the study, “[Suicide and drug-related mortality following occupational injury](#),” published in the *American Journal of Industrial Medicine*, researchers found that workplace injury significantly raises a person’s risk of suicide or overdose death. Earlier studies have shown that injured workers have elevated rates opioid use and depression. In fact, depression is among the most well-documented health consequences of workplace injury.^[4]^[5]^[6] However, no studies have measured increased deaths related to opioid use and depression among injured workers.

Injured workers often receive powerful prescription pain medication, including opioids. In one study, 42% of workers with back injuries were prescribed opioids within a year after injury.^[7] Approximately 16% of those prescribed opioids continued taking them for four quarters, with doses increasing substantially over time.

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The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.

