



2021 Inaugural Meeting of the Miner Health Partnership

NIOSH Total Worker Health[®] and Substance Use Efforts

Jamie C. Osborne, MPH, CHES[®]

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

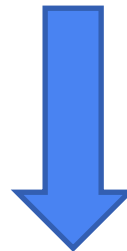
November 17th, 2021



Keep Workers Safe



Establish Workplace Policies, Programs, and Practices that Grow Health

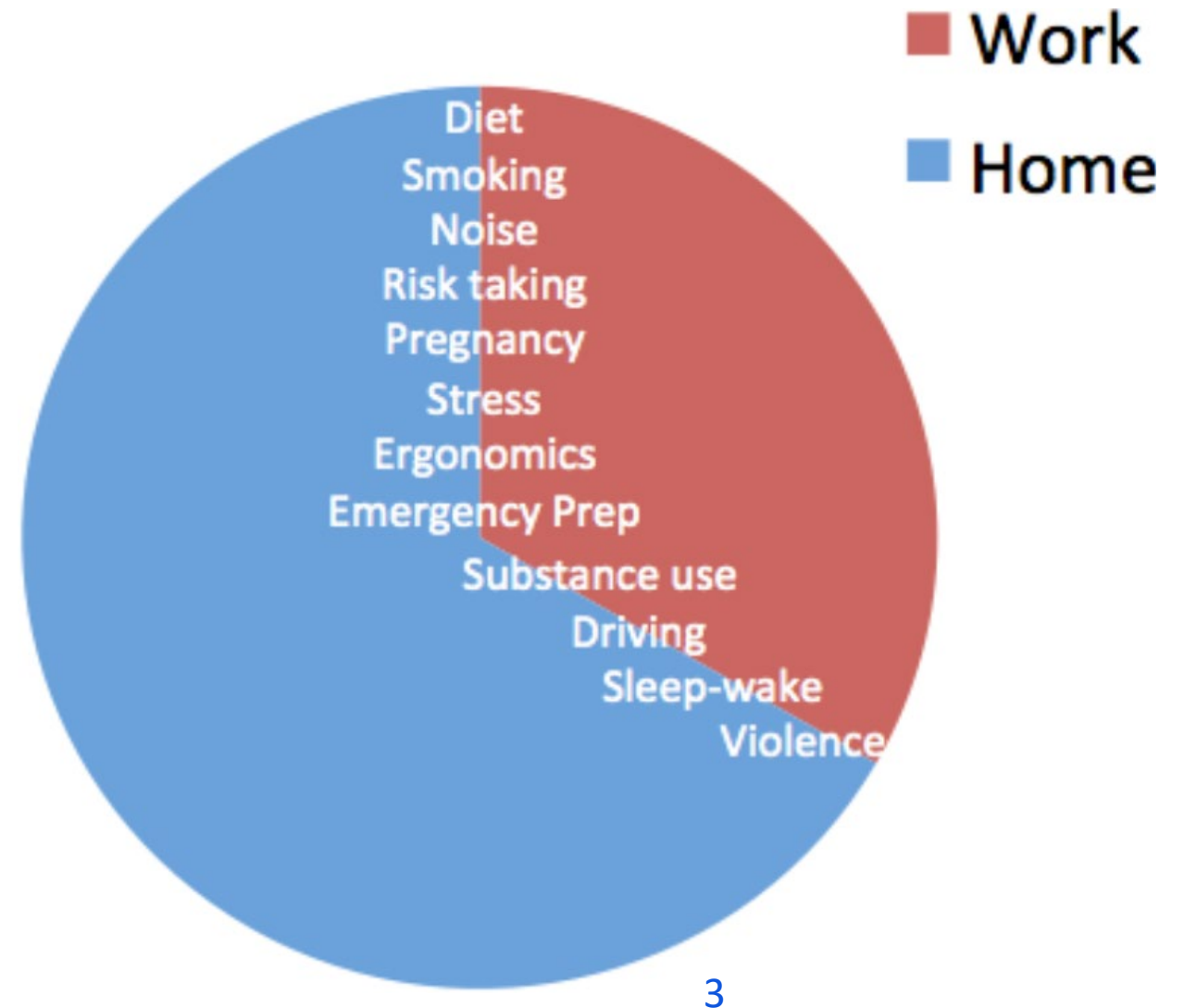


Create Worker



Workforce Safety, Health, and Well-Being

- Workplace and work contribute to workforce safety, health, and well-being
- Workforce safety, health, and well-being are inextricably linked, both on- and off-the-job



The Promise of *Total Worker Health*®

- Reduction in workplace injuries and illnesses
- Improved workers' job satisfaction
- Enhanced organizational culture of trust, safety, health
- More energizing, meaningful work
- Reduction in work-related stress
- Improved health opportunities, more informed decision-making
- More productive employees
- Reduction in healthcare costs
- Family, community, and societal gains



Review

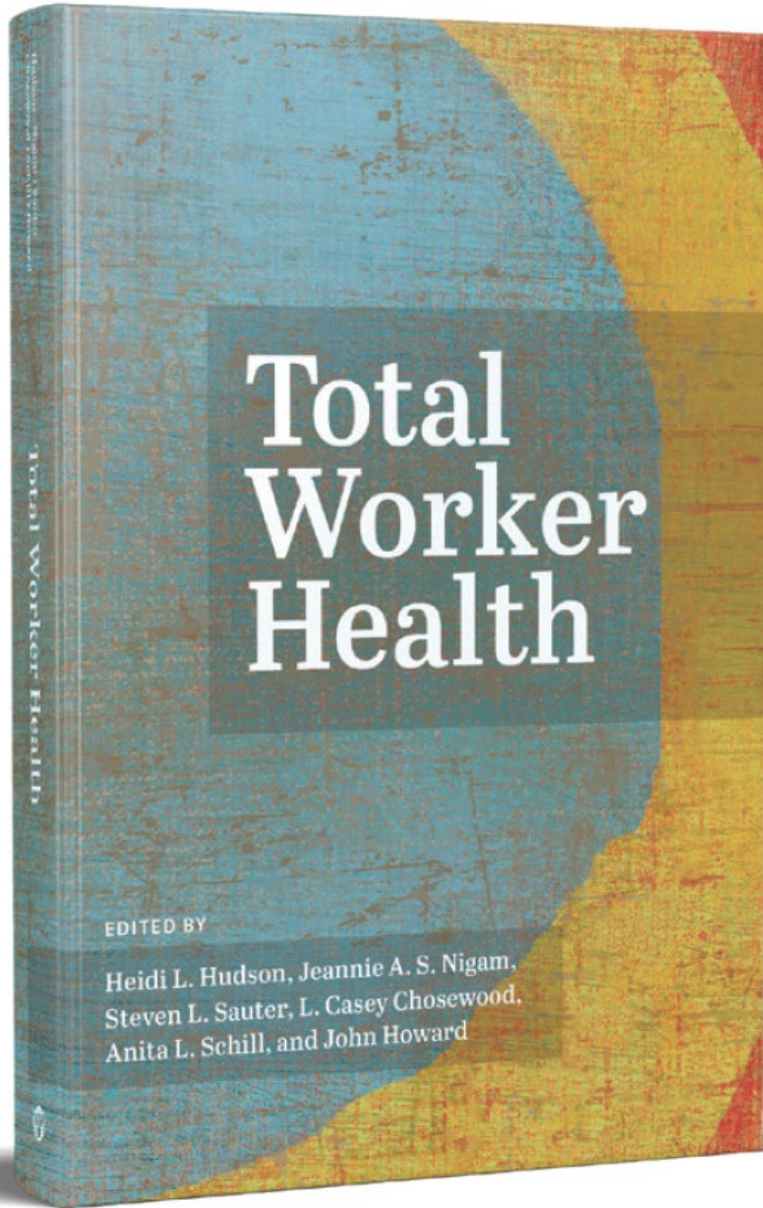
***Total Worker Health*[®] 2014–2018: The Novel Approach to Worker Safety, Health, and Well-Being Evolves**

Sara L. Tamers^{1,*}, L. Casey Chosewood², Adele Childress¹, Heidi Hudson³, Jeannie Nigam³ and Chia-Chia Chang¹

¹ Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 395 E St. SW, Washington, DC 20201, USA; ahc0@cdc.gov (A.C.); cuc8@cdc.gov (C.-C.C.)

² Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 1600 Clifton Rd., Atlanta, GA 30329, USA; ahx6@cdc.gov

³ Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, 1150 Tusculum Ave, Cincinnati, OH 45226, USA; cvv2@cdc.gov (H.H.); zgy1@cdc.gov (J.N.)



Total Worker Health

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available upon request.

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Tools, Promising Practices, and Publications

Tools: Let's Get Started

The below pages include resources that serve as a guide for creating or expanding cultures of safety, health, and well-being within your organization. These links also provide information on how to design policies, programs, and practices that protect and promote worker safety, health, and well-being starting at the organizational and environmental levels.

- Fundamentals of TWH Approaches workbook**
Use this workbook if you're looking for step-by-step directions to identify areas for improvement and plan next steps.
- Hierarchy of Controls Applied to TWH**
Learn how to prioritize TWH approaches
- NIOSH Worker Well-Being Questionnaire**
Use the NIOSH WellBQ to assess worker well-being at your organization
- Making the Business Case**
Go here to learn about the economic rationale for using TWH approaches
- Planning, Assessment, and Evaluation Tools**
Find different resources to help your organization create and sustain healthy workplace culture

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

The National Institute for Occupational Safety and Health (NIOSH)

NIOSH > Total Worker Health

Promising Practices for *Total Worker Health*®

Promising Practices for *Total Worker Health* (TWH) highlight real-world examples of how organizations see positive results using comprehensive workplace policies, programs, and practices. The examples on this page are from the "Total Worker Health in Action!" eNewsletter. Explore the tabs below to find Promising Practices from eNewsletters over the years.

If your organization is targeting the conditions of work to improve the safety, health, and well-being of workers on- and off-the-job, please email us at twh@cdc.gov. Your workplace could be featured as a Promising Practice.

Promising Practices

2021 2020 2019 2018 2017 2016 2015 2014 2013 2012

Applying *Total Worker Health* Approaches in a Healthcare Setting

Eskenazi Health, a NIOSH TWH Affiliate, is a non-profit healthcare organization that employs workers in various conditions and settings. Organizations may have employees who are working from home, providing direct patient care in 12-hour

<https://www.cdc.gov/niosh/twh/letsgetstarted.html>

<https://www.cdc.gov/niosh/twh/practices.html>

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Publications and Reports

The publications and resources on this page identify frameworks, solutions, and relevant research for comprehensive programs to improve worker safety, health, and well-being. The resources below include research findings and data that support using an integrated approach, practical solutions to occupational safety and health issues, and discussions on the characteristics of *Total Worker Health*® strategies.

On This Page

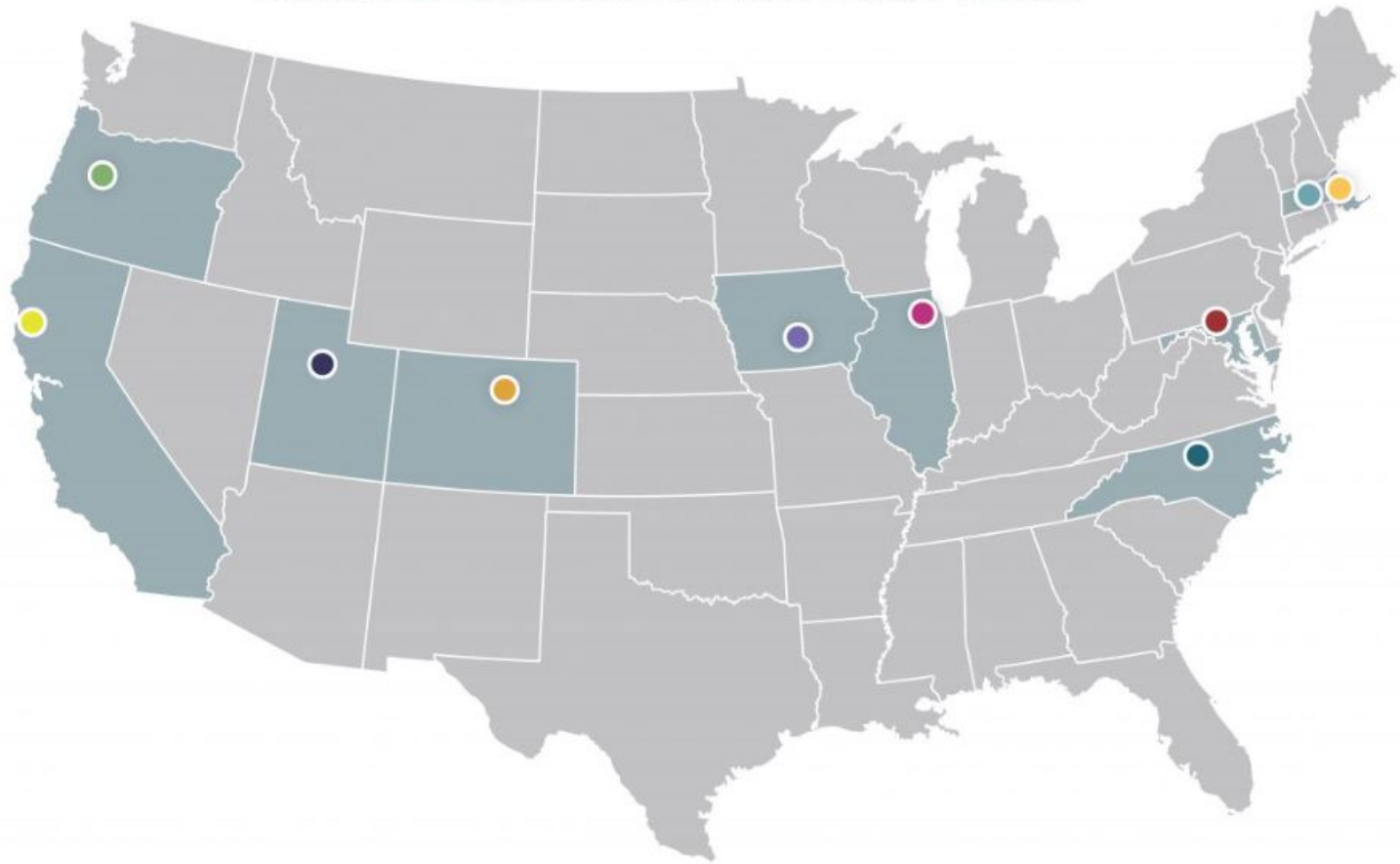
- Guiding Frameworks
- Workplace Solutions
- Publications from the NIOSH Centers of Excellence for TWH
- Select Publications Featuring TWH Authors
- Workshop Summaries

<https://www.cdc.gov/niosh/twh/publications.html>

NIOSH *Total Worker Health*[®] Centers of Excellence

<https://www.cdc.gov/niosh/twh/centers.html>

Centers of Excellence for *Total Worker Health*[®]



- California Labor Laboratory (CALL Center)
- Carolina Center for *Total Worker Health*[®] and Well-being
- Center for Health, Work & Environment
- Center for the Promotion of Health in the New England Workplace (CPH-NEW)
- Healthier Workforce Center of the Midwest
- Johns Hopkins P.O.E. *Total Worker Health*[®] Center in Mental Health (POE Center)
- Oregon Healthy Workforce Center (OHWC)
- The Harvard T.H. Chan School of Public Health Center for Work, Health & Well-being
- UIC Center for Healthy Work
- Utah Center for Promotion of Work Equity (U-POWER)

Exploring the Link: Opioid Misuse and Work

Lack of employment

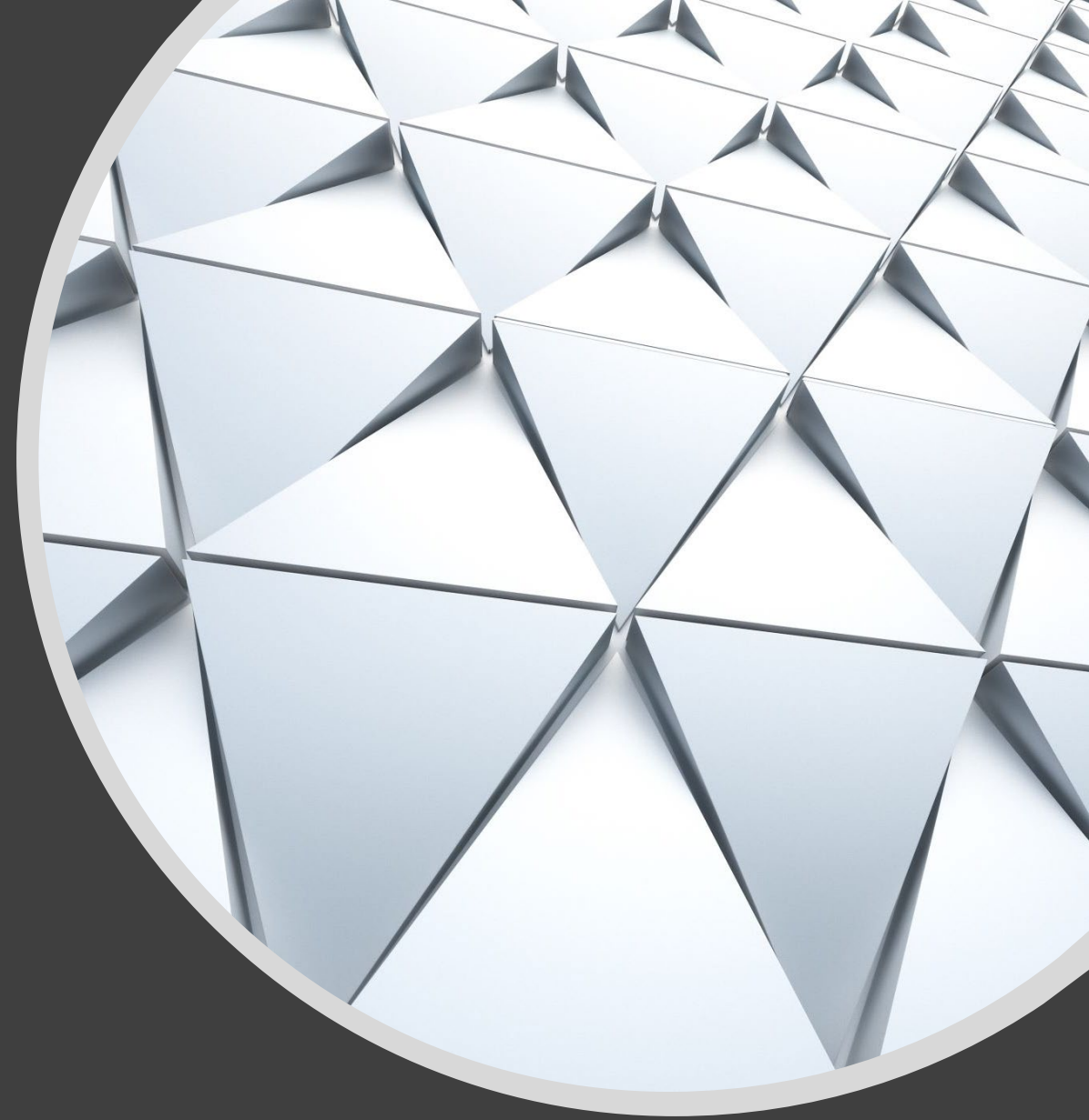
Insecure employment,
new employment
arrangements

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/occupational,
cultural, and
geographic differences



Lifetime Odds of Dying for Selected Causes in the US, 2019



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 92
Fall	1 in 106
Motor-vehicle crash	1 in 107
Gun assault	1 in 289
Pedestrian Incident	1 in 543
Motorcyclist	1 in 899

Using Total Worker Health[®] Strategies to Combat Opioid Harms

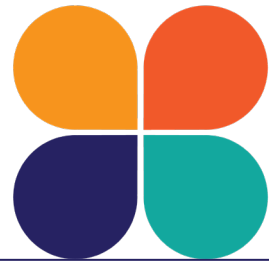


....policies, programs, and practices that integrate protection from work-related safety & health hazards with promotion of injury and illness prevention efforts to advance worker well-being.

Why does it matter for opioid use and misuse?

- Effects of opioid use and misuse **not isolated** to work or home environments
- Prevention and intervention require comprehensive, integrated solutions
- Coordinated “systems approaches” are vital, meet the needs of workers more completely, and are more efficient

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 carfentanil, 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.



Naloxone: Establishing a Workplace Program

- **Risk assessment:** Conduct a risk assessment before implementing the naloxone program.
- **Liability:** Consider liability and other legal issues
- **Records Management:** Include formal procedures for documenting incidents and managing records
- **Staff Roles:** Define clear roles/responsibilities for all persons designated to respond to a suspected overdose
- **Training:** Train staff to lower their risks when providing naloxone
- **Purchasing and storing Naloxone:** Naloxone is widely available in pharmacies, follow manufacturer instructions for storing, keeping it near all other PPE (gloves, etc.)
- **Follow-up care planning:** Develop a plan for immediate care, referral, and ongoing support for any worker who has overdosed
- **Maintenance:** Re-evaluate your program periodically, assessing for new risks

NIOSH Workplace Solutions: Medication-Assisted Treatment for Opioid Use Disorder

- MAT is the gold standard.
- SUD is a chronic disease, treatable, manageable.
- *Employment and RTW strategies are critical, and MAT contributes to more stable, long-term employability.*

<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



What is a recovery-supportive workplace?

A recovery-supportive workplace aims to **prevent exposure** to workplace factors that could cause or perpetuate a substance use disorder while **lowering barriers** to seeking care, receiving care, and maintaining recovery.

A recovery-supportive workplace **educates** its management team and workers on issues surrounding substance use disorders to **reduce the all-too-common stigma** around this challenge.



Workplace Supported Recovery

- Evidence-based policies and programs to:
 - Reduce risk of initiating substance use/misuse
 - Lower the threshold/barriers for seeking care
 - Educate, empower management teams
 - Lower stigma
 - Ensure privacy and confidentiality
 - Assist workers in recovery, reintegration, RTW
- Naloxone, MAT awareness/supports



Workplace Supported Recovery

Reduce stigma and send the right message


- Stigmatization (negative attitudes and stereotypes) can lead to prejudice, discrimination, social exclusion, and limited opportunities for employment and other life roles
- Frequently experienced by individuals with SUD or in recovery
- Visible educational materials and consistent discussions of the actual nature of SUDs, treatment, and recovery may help reduce stigma and encourage others to enter treatment

Key Talking Point **Substance use disorders are not a moral failing, recovery is possible, people can get better and return to work**

Workplace Supported Recovery Webpage:


<https://www.cdc.gov/niosh/topics/opioids/wsrp/default.html>



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Workplace Supported Recovery —

Resources


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Click here to visit the Opioids topic page for more information.


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[Medication-Assisted Treatment for Opioid Use Disorder](#)

[Fentanyl](#)

Promoting productive workplaces through safety and health research 

Workplace Supported Recovery



Substance use disorders represent a pressing issue for American employers and

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josborne2@cdc.gov