RESIDENTIAL SUBSTANCE ABUSE TREATMENT (RSAT)

Training and Technical Assistance

RSAT Training Tool: Overdose Risk Reduction and Relapse Prevention for RSAT Programs

Advocates for Human Potential, Inc.

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Overdose Risk Reduction and Relapse Prevention for RSAT Programs

Section I

This manual offers comprehensive information on the elevated risk of drug overdose deaths among the justice population, particularly those re-entering the community from prison or jail. It outlines measures that can reduce the risks of overdose, tailored specially for Residential Substance Abuse Treatment (RSAT) program staffs who work with at-risk individuals recovering from substance use disorders. A section on client education with materials appropriate for use in RSAT programs is also included.

This manual focuses on overdose prevention and emergency responses in custody settings and in the high-risk period immediately following release from prison or jail.

Information in this manual pertains to opioids as well as other illicit and pharmaceutically produced drugs commonly involved in overdose deaths. Although opioids were responsible for an estimated 68% of all drug overdose fatalities in 2017, proportions vary from state to state.[1] Stimulants are also a major threat in many regions. The majority of opioid-related fatalities now include a mix of substances.

Section II

This section presents an overview of the unique factors that increase overdose fatality risks for justice populations and how the most commonly involved drugs cause these deaths. It concludes with an assessment of current national and regional drug overdose threats.

Section III

This section focuses on overdose response information that can be provided, both inside facilities and in the community, including safety tips to minimize risks for staff and first responders. It concludes with examples of overdose education and naloxone distribution (OEND) programs provided by prisons and jails.

Section IV

This section discusses relapse and overdose prevention/risk reduction and its integration into correctional programming, as well as provides in-depth information and useful resources for staff. It concludes with client education materials for relapse prevention groups and individual release planning.

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[1] Scholl, L., Seth, P., Kariisa, M., Wilson, N., & Baldwin, G. (2018, December 21). Drug and opioid-involved overdose deaths — United States, 2013–2017. *Morbidity and Mortality Weekly Report, 67*(51 & 52), 1419–1427. Retrieved from Centers for Disease Control and Prevention website https://www.cdc.gov/drugoverdose/data/statedeaths.html

Section I

A Prevention Perspective

Addiction is a chronic condition. Recovery can be a daily struggle. Integrating overdose prevention into treatment programming does not imply the inevitability of relapse or permission to return to drug use. Having a plan in place to both prevent relapse and mitigate its duration and intensity, however, can be key to reducing post-release fatalities, as well as associated recidivism. RSAT clients need a plan in place they can activate if they relapse that:

- Minimizes risk and harms to keep them alive and safe;
- Identifies someone in their support network to assist them;
- Lists the course-correction steps they'll need to take to promptly pull out of using mode;
- Has information on where they can access additional supports/services required; and
- Encourages them to reflect on the factors that contributed to their relapse so they can make any changes necessary to avoid similar situations going forward.

Although emergency naloxone administration for opioid overdose is a critical element of the public health response to opioid overdoses, it is no more preventive of overdoses than defibrillators are of heart attacks. Then too, unfortunately, opioids are not the only drugs involved in post-release overdose deaths. RSAT clients may relapse upon release on other substances that are also high risk for fatality.

Prevention efforts to decrease overdose risks *before a crisis occurs* are critical, especially in regions dealing with potent, fast-acting opioids (e.g., illicit fentanyl and analogues). Lethality can be swift, and reviving users often requires multiple doses of naloxone. Success, tragically, is not guaranteed. These substances can also be a threat to correctional staff, law enforcement, and first responders who may be exposed unintentionally.

Recent research has shown *fatality risks actually increase for people with an opioid use disorder (OUD) after completing residential programs that do not offer medications as part of treatment.*[2] Treating OUD with approved medications also reduces the likelihood of overdose fatality,[3] recidivism, and criminal behavior.[4, 5]

All three medications approved by the U.S. Food and Drug Administration (FDA) to use for OUD, methadone, buprenorphine, and naltrexone, with concurrent counseling and recovery support, reduce the risks of relapse and overdose fatality.[6, 7]

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[2] Pierce, M., Bird, S. M., Hickman, M., Marsden, J., Dunn, G., Jones, A., & Millar, T. (2016). Impact of treatment for opioid dependence on fatal drug-related poisoning: A national cohort study in England. *Addiction, 111*, 298–308. doi:10.1111/add.13193

[3] Nora, D., Volkow, N. D., Frieden, T. R., Hyde, P. S., & Cha, S. S. (2014). Medication-assisted therapies—tackling the opioid-overdose epidemic. *New England Journal of Medicine, 370*(22), 2063–2066.

[4] Chandler, R. K., Fletcher, B. W., & Volkow, N. D. (2009). Treating drug abuse and addiction in the criminal justice system: Improving public health and safety. *JAMA, 301*(2), 183-90.

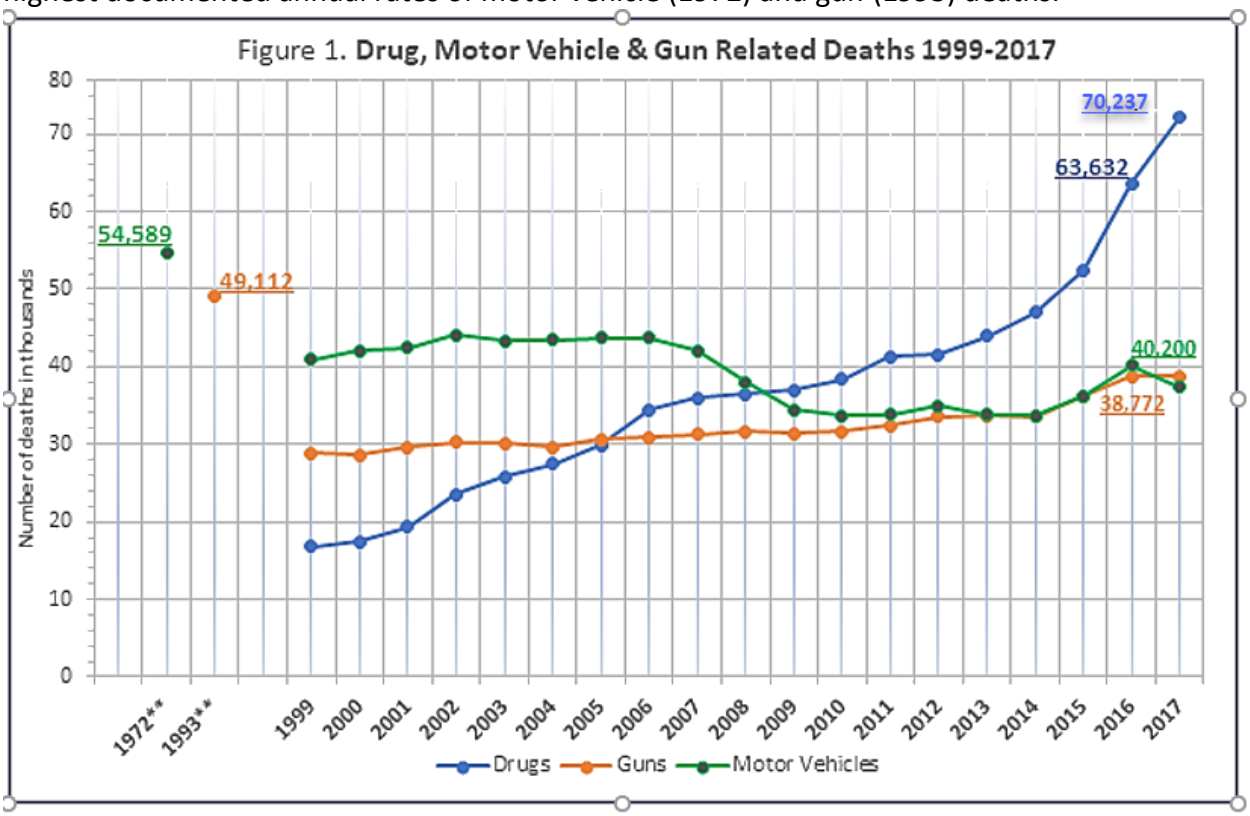
[5] Kelly, S., O'Grady, K., Jaffe, J., Gandhi, D., & Schwartz, R. (2013). Improvements in outcomes in methadone patients on probation/parole regardless of counseling early in treatment. *Journal of Addiction Medicine*, *7*(2), 133–8.

[6] Schedules of Controlled Substances, 21 C.F.R. Part 1308 (2018). Retrieved from https://www.deadiversion.usdoj.gov/21cfr/cfr/2108cfrt.htm

[7] Krupitsky, E., Nunes, E. V., Ling, W., Illeperuma, A., Gastfriend, D. R., & Silverman, B. L. (2011). Injectable extended-release naltrexone for opioid dependence: a double-blind, placebo-controlled, multicentre randomized trial. *The Lancet*, *377*(9776), 1506–1513. doi: https://doi.org/10.1016/S0140-6736(11)60358-9

Opioid Overdose Risk Reduction

The Centers for Disease Control and Prevention (CDC) mortality data for 2016 and 2017 and current provisional estimates indicate overdose deaths remain high, exceeding even the highest documented annual rates of motor vehicle (1972) and gun (1993) deaths.



Sources: 2016 final drug overdose deaths (63,632) in Hedegaard, Warner, and Miniño (2017), *Drug overdose deaths in the United States, 1999–2016* (National Center for Health Statistics Data Brief No. 294). Retrieved from https://www.cdc.gov/nchs/data/databriefs/db294.pdf; Provisional estimate of predicted deaths (72,287) for 12-month period ending December 2017 from Ahmad et al. (2019), *Provisional drug overdose death counts*. Retrieved from Centers for Disease Control and Prevention National Center for Health Statistics Vital Statistics Rapid Release website https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm (**Note:** Provisional drug overdose death count as of August 30, 2018, with reporting 0.2 percent incomplete. Final count could differ slightly from projected total.); 2016 estimated motor vehicle deaths from National Safety Council http://www.nsc.org/NewsDocuments/2017/12-month-estimates.pdf; 2016 estimated gun deaths from Ahmad and Bastian (2019), *Quarterly provisional estimates for selected indicators of mortality, 2017-Quarter 4, 2018*. Retrieved from CDC NCHS Vital Statistics Rapid Release website http://www.cdc.gov/nchs/nvss/vsrr/mortality-dashboard.htm#

**Peak annual gun deaths (1993) from Pew Research Center (2015). Retrieved from www.pewresearch.org/fact-tank/2015/10/21/gun-homicides-steady-after-decline-in-90s-suicide-rate-edges-up/; Peak motor vehicle deaths (1973) in Longthorne, Subramanian, and Chen (2010), *An analysis of significant decline in motor vehicle traffic fatalities in 2008* (National Highway Traffic Safety Administration Report No. DOT HS 811 346). Retrieved from https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811346

As the death toll has continued to rise, efforts to reduce fatalities have intensified. In addition to emergency naloxone and OUD treatment, measures that have been effective in the United States and other countries include safe injection sites, drug use education, needle exchanges, single-dose buprenorphine ordered for overdose admissions to hospitals, and immediate access to medication-assisted treatment (MAT) for survivors.

Integrating relapse/overdose prevention into RSAT programs constitutes a unique opportunity to reach an extremely high-risk population. Effective components of relapse/overdose prevention include:

- First, identifying overdose risk through screening (although, admittedly, development of validated tools is in its infancy);
- Integrating, reinforcing, and repeating risk reduction messages at every client encounter;
- Training all involved medical and security, as well as RSAT treatment, staff on dealing with high-risk individuals;
- Including pre-release overdose education as an essential component of RSAT programming; and
- Providing naloxone education and distribution of naloxone kits to individuals when they are released from custody and family members whenever possible.

RSAT staff should be sure to be up to date on newly emerging threats at national, regional, and local levels. The CDC publishes annual surveillance reports on drug-related risks and outcomes.[8] Staffs should also be educated on prescription drug monitoring programs in their states, drug disposal, and medication safety.

[8] Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. (2018). *2018 Annual surveillance report of drug-related risks and outcomes—United States*. Surveillance Special Report. Retrieved from https://www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drug-surveillance-report.pdf

Section II

Overdose Fatality, Risks Factors and Drug Threats

The current landscape of risk is subject to rapid changes and varies between states and even at the county level. New illicit stimulants, synthetics, and fentanyl analogues can appear in communities before they are scheduled, often trafficked via the Internet. The 2018 Drug Enforcement Administration (DEA) list of Schedule I drugs (high abuse potential and no legitimate medical use) includes more than 100 illicit opioid compounds (e.g., methylfentanyl, U-47700, acetyl fentanyl), plus more than 100 non-opioid psychostimulants and synthetics that are frequently reformulated to stay ahead of laws that ban them. While the Federal Analogue Act of 1986 allows for prosecution of crimes related to substances similar to an illegal drug, analogues and frequent changes in chemical formulations make importation, manufacture, and internet sales harder to control.[9]

Re-entering RSAT clients are particularly vulnerable to overdosing due to increased heroin purity, potent illicit fentanyl, and new non-opioid drugs.

It is also common to find illicit fentanyl blended into street heroin. Fentanyl is also mixed with powder and crack cocaine and stamped into counterfeit pills sold as "prescription" opioid analgesics or tranquilizers.[10]

Drug Enforcement Administration, 2018 Controlled Substances by Abuse Potential

Schedule I—Illicit drugs, no legitimate medical use:

- Nearly 100 illicit opioids: heroin, opium, fentanyl analogues, and other synthetics,
- Over 100 illicit non-opioids: "*designer*" psychedelics, LSD, ecstasy (MDMA), synthetics, stimulants and depressants

Schedule II—Tightly regulated medical use, high abuse potential: methadone, hydrocodone, fentanyl, oxycodone, cocaine, and methamphetamine

Schedule III—Abuse potential, regulated medical use: ketamine, steroids, most barbiturates, buprenorphine, marinol, and many codeine formulations

Schedule IV—Lower abuse potential: tramadol, muscle relaxers, sedatives, phenobarbital, benzodiazepines, hypnotics, and some weight-loss drugs

Schedule IV—Lowest abuse potential: mild cough syrups and analgesics, anticonvulsants (e.g., Lyrica)

***Source*:** DEA (2018), www.deadiversion.usdoj.gov/schedules/

***When illicitly manufactured fentanyl is present in substances sold as cocaine or other non-opioid drugs, overdose risk is extremely high, as non-opioid users may have no tolerance for opioids*.** [11]

Overdose fatality rates differ up to eightfold across the states. In some communities, non-opioid deaths represent a bigger threat. For example, in San Diego County, California, the largest proportion of drug-induced fatalities was attributable to methamphetamine; those fatalities rose to an all-time high in 2016.[12] Nationally, methamphetamine deaths more than doubled between 2010 and 2014, and recently there have been reports of seizures of fentanyl-

[9] Schedules of Controlled Substances, 21 C.F.R. Part 1308 (2018). Retrieved from https://www.deadiversion.usdoj.gov/21cfr/cfr/2108cfrt.htm
[10] S. Bogan. (2017, October 2). Illicit fentanyl found locally in fake opioid pills [Web log post]. Retrieved from https://publichealthinsider.com/2017/10/02/illicit-fentanyl-found-locally-in-fake-opioid-pills/
[11] Drug Enforcement Administration. (2017). *2017 National drug threat assessment.* Retrieved from https://www.dea.gov/sites/default/files/2018-07/DIR-040-17_2017-NDTA.pdf
[12] Wagner, G. (2017). *County of San Diego Department of the Medical Examiner 2016 annual report.* Retrieved from https://www.sandiegocounty.gov/content/dam/sdc/me/docs/SDME%20Annual%20Report%202016.pdf

laced methamphetamine.[13] In other states, opioids continue to constitute the largest proportion of drug-related overdose deaths. In several states where medical examiners have performed the necessary examinations, they have found overdose deaths from buprenorphine, although most buprenorphine related deaths involve mixtures with other substances.

Incarceration and Opioid and Other Drug Overdose Fatalities

A recent retrospective, cross-sectional analysis of data from the 2015-2016 National Survey on Drug Use and Health (NSDUH) suggests more than half of Americans who have a prescription opioid or heroin use disorder have had contact with the criminal justice system.[14] A history of criminal justice involvement was associated with:

- 22% of those who reported use of prescription opioids;
- 33% of those who reported misuse of prescription opioids;
- 52% of those who reported a prescription opioid use disorder; and
- 77% of those who reported heroin use.

Drug overdose is the leading cause of post-release death. A recent study found that 85% of fatalities occurring in the immediate post-release period (first 2 weeks) were attributable to drug overdose.[15] Although opioid overdose deaths made up the largest share, studies show that cocaine and other stimulants are also responsible for a substantial number of deaths.[16]

According to a study of recently released prisoners who survived a drug overdose, two of the most common reasons they gave for the overdose were:

- A lack of knowledge about decreased tolerance levels after a period of limited access to drugs during incarceration, and
- The increase in potency levels of street drugs during the time they spent in custody.[17]

For these reasons alone, overdose prevention understandably must become an essential component of RSAT programming.

Background

Research on the vulnerability of recently released prisoners to drug overdose fatality is well founded. It has been a priority topic for the United Nations Office on Drugs and Crime (UNODC) and for the World Health Organization (WHO), highlighted in the 2010 publication *Preventing Overdose Deaths in the Criminal-justice System,* revised in 2014.

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[13] Artigiani, E. E., Hsu, M. H., McCandlish, D., & Wish, E. D. (2018). *Methamphetamine: A regional drug crisis.* Retrieved from the National Drug Early Warning System website: https://ndews.umd.edu/sites/ndews.umd.edu/files/pubs/ndews-scs-methamphetamine-report-september-2018-final.pdf

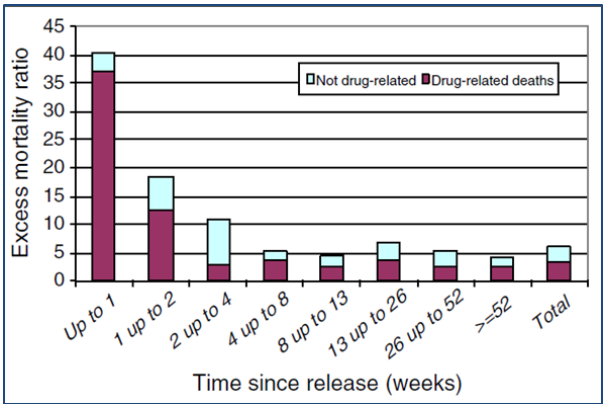
[14] Winkelman, T.N., Chang, V.W., & Binswanger, I.A. (2018). Health, polysubstance use, and criminal justice involvement among adults with varying levels of opioid use. *JAMA Network Open*. doi:10.1001/jamanetworkopen.2018.0558

[15] Bukten, A., Lund, I. O., Rognli, E. B., Stavseth, M. R., Lobmaier, P., Skurtveit, S., . . . Kunøe, N. (2015). The Norwegian Offender Mental Health and Addiction study—Design and implementation of a national survey and prospective cohort study. *Substance Abuse: Research and Treatment*, 2015:9(S2), 59–66. doi:10.4137/SART.S23546

[16] Calcaterra, S., Blatchford, P., Friedmann, P., & Binswanger, I. (2012). Psychostimulant-related deaths among former inmates. *Journal of Addiction Medicine, 6*(2), 97–105. doi:10.1097/ADM.0b013e318239c30a

[17] Binswanger, I. A., Nowels, C., Corsi, K. F., Glanz, J., Long, J., Booth, R. E., & Steiner, J. F. (2012). Return to drug use and overdose after release from prison: A qualitative study of risk and protective factors. *Addiction Science & Clinical Practice*. doi:10.1186/1940-0640-7-3

Researchers in Scotland first identified the concentration of drug overdose deaths among recently released prisoners in the 1990s.[18] A meta-analysis of studies on overdose mortality risks during the immediate post-release period in the United Kingdom estimated the risk of death at 40 times higher than that of the general population.[19] British Medical Research Council data (see chart) illustrate that the drug overdose deaths occur mostly in the first 2 weeks after release. The Scottish prison system now provides naloxone kits to all re-entering individuals prior to release. Two years after its implementation, post-release overdose fatalities in Scotland were cut in half.[20]



Source: Singleton, N., Pendry, E., Taylor, C., Farrell, M., & Marsden, J. (2003). Drug-related mortality among newly released prisoners (Report No. 187). London: Home Office Research, Development and Statistics Directorate.

A 2007 Washington State prison study similarly found the risk of overdose deaths for those released from prison was 129 times higher than for other state residents.[21,22] The study confirmed that the first 2 weeks post-release were the period with the highest risk. Follow-up research has noted similarly high proportions of deaths among recently released prisoners. For those released from the Baltimore city jail, for example, the risk of overdose was 8.2 times greater in the first week post-release, as compared to 3–12 months post-release.[23]

Overdose Deaths in Custody

Opioid and other drug overdose deaths have become a problem in many jails and, to a lesser extent, in prisons. California prisons are an exception where overdose is one of the leading causes of death in the state prison system.

According to the Bureau of Justice Statistics (BJS), the incidence of fatality is relatively low in state prison systems but can be four times higher in jails.[24] Increased overdose deaths in jails and detention centers may result from drugs ingested before individuals are taken into custody, on their person when taken into custody, or contraband drugs acquired inside the facility.[25]

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[18] Strang, J. (2015). Death matters: Understanding heroin/opiate overdose risk and testing potential to prevent deaths. Society for the Study of Addiction. *Addiction, 110*, 27–35. doi:10.1111/add.12904

[19] Leach, D., & Oliver, P. (2011). Drug-related death following release from prison: A brief review of the literature with recommendations for practice. *Current Drug Abuse Reviews, 4*(4), 292–297. doi:10.2174/1874473711104040292

[20] Information Services Division, National Services Scotland. (2014, October 28). National Naloxone Programme Scotland – naloxone kits issued in 2013/14 and trends in opioid-related deaths. Retrieved from https://isdscotland.scot.nhs.uk/Health-Topics/Drugs-and-Alcohol-Misuse/Publications/2014-10-28/2014-10-28-Naloxone-Summary.pdf?12183779479

[21] Binswanger, I. A., Stern, M. F., Deyo, R. A., Heagerty, P. J., Cheadle, A., Elmore, J. G., & Koepsell, T. D. (2007). Release from prison—A high risk of death for former inmates. *New England Journal of Medicine, 356*(2), 157–165. doi:10.1056/NEJMsa064115

[22] Binswanger, I. A., Nowels, C., Corsi, K. F., Glanz, J., Long, J., Booth, R. E., & Steiner, J. F. (2012). Return to drug use and overdose after release from prison: a qualitative study of risk and protective factors. *Addiction Science & Clinical Practice.* doi:10.1186/1940-0640-7-3

[23] Maryland Department of Health and Mental Hygiene. (2014). *Risk of overdose death following release from prison or jail.* Retrieved from https://bha.health.maryland.gov/OVERDOSE_PREVENTION/Documents/Corrections%20Data%20Brief_final.pdf

[24] Bureau of Justice Statistics. (2014). *Data collection: Mortality in correctional institutions* [Data file and code book]. Retrieved from https://www.bjs.gov/index.cfm?ty=dcdetail&iid=243

[25] Bureau of Justice Statistics. (2015). *Mortality in local jails and state prisons, 2000–2013 - Statistical Tables* (NCJ 248756). Retrieved from https://www.bjs.gov/content/pub/pdf/mljsp0013st.pdf

"Spice," or synthetic cannabinoids (also known as K-2), is becoming a popular contraband drug that inmates find easier to conceal in settings. Buprenorphine, a partial agonist used for pain and as an opioid medication, is a prime contraband drug both in pill form and as a sublingual strip. Spice consists of shredded herbs sprayed with various synthetic chemicals that drug screens seldom test for and drug sniffing dogs may not detect. Illicit stimulants (cocaine and methamphetamine) have also been associated with deaths in custody. Alcohol is associated with a substantial number of deaths in jails and lockups, although most alcohol-related fatalities are from complications of alcohol withdrawal rather than overdose.

For this reason, many correctional facilities have trained staff how to administer naloxone and have it on hand to administer for opioid overdose events among inmates. Staff are also trained and prepared to transport overdosing individuals to local hospital emergency rooms.

Drugs Most Frequently Involved in Overdose Fatalities

Opioids are the class of drugs responsible for the largest share of overdose deaths. However, an increasing proportion of overdose deaths involve more than one substance (from 40% in 2010 to 51% 2014).[26] This is especially true among decedents who had recently been released from custody.[27] The Delaware Monitoring Initiative (DMI), for example, reports overdose data from the medical examiner, emergency medical services, the Department of Health and Social Services (DHSS), and the criminal justice system. The Initiative reported multiple substances present in 86% of overdose deaths at the beginning of 2017, with cannabis and fentanyl the most frequently detected additional substances.[28]

Typically, opioid overdose deaths involve one or more other central nervous system depressants (e.g., alcohol, benzodiazepines, or another opioids). In almost all benzodiazepine fatalities, alcohol or one or more other substances were present. Benzodiazepines (e.g., Xanax®, Valium®, Ativan®) were developed to replace barbiturates, a class of sedative drugs with a higher overdose risk, but are not risk free themselves. Other substances are present in an estimated 45% of deaths attributed to methamphetamine. [29]

Since 2016, fatalities due to combining opioids and cocaine have increased dramatically. [30]

Alcohol's role in opioid overdose deaths is particularly significant and usually underestimated. Biochemical research suggests that not only are heroin and alcohol both central nervous system depressants that slow down many bodily functions such as heart rate and breathing, but alcohol may also reverse opioid tolerance and cause long-time opioid users to succumb to fatal

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[26] Warner, M., Trinidad, J., Bastian, B., Miniño, A., & Hedegaard, H. (2016). *National Vital Statistics Reports*, *65*(10). Retrieved from https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_10.pdf

[27] Andrews, J. Y., Kinner, S. A. (2012). Understanding drug-related mortality in released prisoners: A review of national coronial records. *BMC Public Health*, 12(270). doi:10.1186/1471-2458-12-270.

[28] Saloner, B., Bachhuber, M., Barry, C. L., Krawczyk, N., Pasha, O., Sen, A. P., & Sharfstein, J. (2018). *A blueprint for transforming opioid use disorder treatment in Delaware.* Retrieved from Delaware Department of Health and Social Services website https://dhss.delaware.gov/dhss/files/johnshopkinsrep.pdf

[29] CDC, National Center for Health Statistics (2018). *National overdose deaths: 2002–2015 Data, National Institute of Drug Abuse Presentation.*

[30] Seth, P., Scholl, L., Rudd, R. A., & Bacon, S. (2018). Overdose deaths involving opioids, cocaine, and psychostimulants—United States, 2015–2016. *Mortality and Morbidity Weekly Report, 67*(12), 349–358. doi: 10.15585/mmwr.mm6712a1

respiratory depression. When drinking alcohol, they may overdose on amounts of opioids they might otherwise tolerate.[31, 32]

Physiological Mechanisms of Overdose Deaths

The drugs most frequently involved in overdose fatalities are:

1. Opioids (both illicit and pharmaceutically produced),
2. Stimulants (mainly cocaine and methamphetamine), and
3. Benzodiazepines (alprazolam or Xanax and diazepam or Valium).[33]

The mechanism by which overdose death occurs depends on the substance.

- *Opioid overdoses and deaths involving benzodiazepines or other central nervous system depressants are generally caused by respiratory depression.* Lack of oxygen to the brain can cause serious health consequences in cases of non-fatal overdose. Chronic respiratory conditions (e.g., emphysema, bronchitis, asthma, sleep apnea) elevate risks, as do other chronic health conditions (e.g., HIV, mental illness, impaired liver functioning).[34]
- *Stimulant overdose deaths are generally due to cardiovascular causes* (e.g., heart attack, stroke, seizures). Contributing factors include elevated blood pressure, hyperthermia, and kidney failure. Most cocaine deaths are related to seizures, cardiac arrhythmias, or respiratory failure.[35] Methamphetamine deaths can result from cardiovascular collapse or cerebral stroke and hemorrhage.[36] Pre-existing cardiovascular disease heightens fatality risk. Medical examiners report up to 82% of methamphetamine decedents, with no other substances present, showed signs of pre-existing cardiovascular disease.[37]

Individuals involved in the justice system who abuse drugs are more likely than the general population to suffer from other conditions that compromise their overall health. This makes them more vulnerable to dying from drug overdoses. While typically, for example, opioid withdrawal is not lethal, for persons who have co-occurring physical and mental disorders it can be quite deadly.

Training in opioid and other drug overdose emergency response and provision of naloxone has become part of standard operating procedures in many jails and in state prison systems. Such

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[31] Hull, L. C., Gabra, B. H., Bailey, C. P., Henderson, G., & Dewey, W. L. (2013). Reversal of morphine analgesic tolerance by ethanol in the mouse. *The Journal of Pharmacology and Experimental Therapeutics*, *345*(3), 512–519. doi:10.1124/jpet.112.202184

[32] Hill, R., Lyndon, A., Withey, S., Roberts, J., Kershaw, Y., MacLachlan, J., … Henderson, G. (2016). Ethanol reversal of tolerance to the respiratory depressant effects of morphine. *Neuropsychopharmacology*, *41*(3), 762–773. doi:10.1038/npp.2015.201

[33] Warner, M., Trinidad, J. P., Bastian, B. A., Miniño, A. M., & Hedegaard, H. (2016). Drugs most frequently involved in drug overdose deaths: United States, 2010–2014. *National Vital Statistics Report, 10*(65). Retrieved from Centers for Disease Control and Prevention website https://www.cdc.gov/nchs/data/nvsr/nvsr65/nvsr65_10.pdf

[34] World Health Organization (August 2018). Information sheet on opioid overdose [Webpage]. Retrieved from http://www.who.int/substance_abuse/information-sheet/en/

[35] Heard, K., Palmer, R., & Zahniser, N. R. (2008). Mechanisms of acute cocaine toxicity. *The Open Pharmacology Journal*, *2*(9), 70–78. doi:10.2174/1874143600802010070

[36] Pittman, H. J. (2005). Methamphetamine overdose. *Nursing, 35*(4), 88.

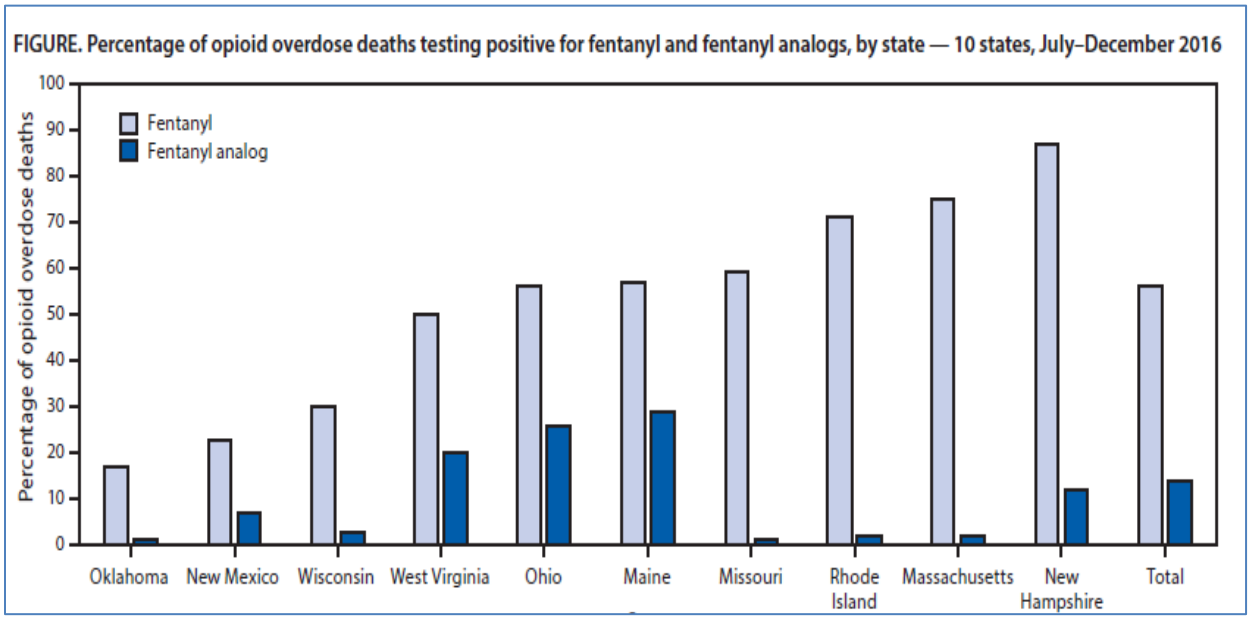
[37] Wagner, G. (2017). County of San Diego Department of the Medical Examiner 2016 annual report. Retrieved from https://www.sandiegocounty.gov/content/dam/sdc/me/docs/SDME%20Annual%20Report%202016.pdf

training and preparation should not be limited to medical staff, because medical staff may not be available after the workday ends. Security and other staff should also be trained.
Since every second counts, emergency response training should include:

- Recognition of overdose signs and symptoms;
- Awareness of response protocols and easy access to naloxone or other critical supplies;
- Knowledge of safety protocols to secure the scene, ensuring staff or inmates are not exposed if exposure to dangerous drugs is involved;
- Training in rescue breathing, cardiopulmonary resuscitation (CPR), and naloxone administration;
- Awareness of emergency contact protocols and appropriate hospitals; and
- Discharge planning for survivors returning to the facility from hospitals.

National and Regional Drug Threats

Over the last decade, factors have contributed to the increasing potency and decreasing price of retail heroin in the United States.[38]



Source: O'Donnell, J. K., Halpin, J., Mattson, C. L., Goldberger, B. A., & Gladden, R. M. (2017, November 3). Deaths involving fentanyl, fentanyl analogs, and U-47700—10 states, July–December 2016. *Morbidity and Mortality Weekly Report*, *66*(43), 1197–1202. Retrieved from Centers for Disease Control and Prevention website https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6643e1-H.pdf

Heroin purity has been increasing rapidly in the U.S. market. The DEA has been monitoring purity of street-level retail heroin since the 1980s, when it was about 10% pure, and has recently documented purity levels close to 40%. Most heroin currently trafficked in the United States originates from Mexico.[39] Fentanyl is a Schedule II drug developed in the 1960s as an anesthetic. Small amounts of pharmaceutically produced fentanyl have been diverted for illicit use since that time. However, a little over a decade ago, illegally manufactured and imported

[38] U.S. Department of Justice Drug Enforcement Administration. (2017, October). National drug threat assessment. Retrieved from https://www.dea.gov/docs/DIR-040-17_2017-NDTA.pdf

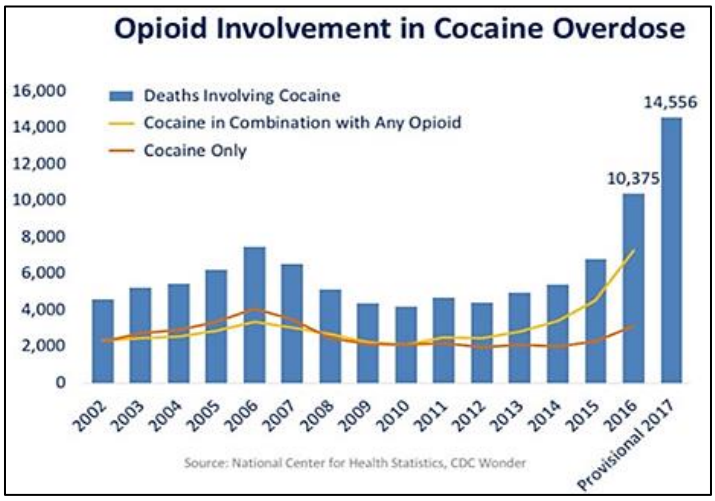
[39] U.S. Department of Justice Drug Enforcement Administration. (2016). *National heroin threat assessment summary—updated* (DEA Intelligence Report No. DEA-DCT-DIR-031-16). Retrieved from https://www.dea.gov/sites/default/files/divisions/hq/2016/hq062716_attach.pdf

fentanyl began to appear in the United States. The number of opioid seizures testing positive for fentanyl was relatively stable between 2007 and 2013 (under 1,000). However, in 2014 it jumped to nearly 5,000 and exceeded 14,400 in 2015.[40] Illicit fentanyl is now involved in more than half of opioid overdose deaths.[41] The graph shows the percentage of drug overdose deaths where decedents tested positive for fentanyl or analogues across 10 states. Fentanyl is an enormous problem in some regions.

Re-entering RSAT clients who have been incarcerated for even relatively short periods may be exposed to far more potent illicit opioids upon release, not only in regions where fentanyl is trafficked, but also from the supply of stronger heroin, making their first relapse potentially their last.

Increases in Cocaine-related Deaths

Rates of drug overdose fatalities involving cocaine have increased more than sevenfold since 2002.[42] Cocaine fatalities increased 52% in 2016 to 10,375 and are projected to exceed 14,600 in 2017, with opioids also involved in the majority of deaths.[43] Cocaine increases the risk of respiratory depression and, when taken with opioids, boosts the overdose fatality risk. The most current provisional drug overdose data shows deaths involving cocaine are trending nearly as high as those involving heroin for 2018. [44] Cocaine is processed from coca leaves grown primarily in South America. Over the last 2–3 years, bumper Colombian crops and the halting of aerial spraying due to environmental concerns has led to an increase in U.S. supplies and a sharp rise in cocaine-related fatalities.[45]



Regional Drug Threat Information

Overall rates of non-medical use of prescription opioids were slightly higher in urban areas than rural areas between 2005 and 2011. However, research shows rural opioid users are more likely than their urban counterparts to be involved with the criminal justice system and usage rates tend to be higher among youth and other vulnerable groups. Several predominantly rural states

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[40] National Forensic Laboratory Information System (2017). *NFLIS brief: Fentanyl, 2001–2015.* Retrieved from https://www.nflis.deadiversion.usdoj.gov/DesktopModules/ReportDownloads/Reports/NFLISFentanylBrief2017.pdf

[42] National Institute on Drug Abuse (2018). Overdose death rates, revised August 2018. Retrieved from https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates

[43] Ahmad, F. B., Rossen, L. M., Spencer, M. R., Warner, M., & Sutton, P. (2018). *Provisional drug overdose death counts*. Designed by Rossen, L. M., Lipphardt, A., Ahmad, F. B., Keralis, J. M., & Chong, Y. Retrieved from Centers for Disease Control and Prevention National Center for Health Statistics Vital Statistics Rapid Release website https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

[44] Ahmad, F. B., Rossen, L. M., Spencer, M. R., Warner, M., & Sutton, P. (2018). *Provisional drug overdose death counts*. Designed by Rossen, L. M., Lipphardt, A., Ahmad, F. B., Keralis, J. M., & Chong, Y. Retrieved from Centers for Disease Control and Prevention National Center for Health Statistics Vital Statistics Rapid Release website https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm

[45] High Intensity Drug Trafficking Areas, Office of National Drug Control Policy. (2017, April). *Colombia cocaine cultivation and production* [Webinar].

have had the highest rates of overdose fatalities (e.g., Kentucky, New Hampshire, West Virginia). Early in the crisis, rural opioid use was primarily driven by diversion and abuse of prescribed opioids, and in many rural areas illicit opioids are now dominant.[46]

High Intensity Drug Trafficking Areas (HIDTA) are DEA-designated centers that provide additional drug control support to identified high-trafficking regions. Early in the opioid crisis, local HIDTA offices were enlisted in response efforts and have been a critical source of data. They offer information on the local street-level drug trade and current drug threats for many specific regions. More information on regional HIDTAs is available below.

National/Regional Drug Threat Assessment Resources
DEA 2018 National Drug Threat Assessment

CDC 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes

DEA HIDTA program: Information on all regional HIDTAs. The following summaries are from recent HIDTA drug threat reports for various regions:

New England HIDTA Heroin Response Strategy: *This presentation highlights the national heroin response strategy developed by New England HIDTA in partnership with Appalachia, NY/NJ, Washington/Baltimore, and Philadelphia/Camden HIDTAs. Drug intelligence officers and public health analysts were hired for each state in participating HIDTAs. Seven agencies from Maine participated with NEHIDTA: Auburn, Lewiston, Portland, and Scarborough police departments; the Maine Drug Enforcement Agency (MDEA); the Maine State Police; and the Town of Scarborough.*

Central Valley, California 2017 HIDTA Annual Report: *In its 2017 Threat Assessment, CVC HIDTA leadership concluded as it had in prior years that methamphetamine, followed closely by illegal marijuana, would continue to be the most serious drug threats faced in the region during the year. Trafficking and abuse of heroin and other opioid drugs, along with dangerous THC extraction labs and trafficking in BHO (butane hash oil) were identified as serious, emergent threats.*

Washington Baltimore HIDTA 2017 Annual Report: *The primary drug threats in the Washington/Baltimore HIDTA region in 2017 were heroin, diverted prescription narcotics, crack cocaine, powder cocaine, and fentanyl. Threat Assessment Surveys identified these as the top drugs causing significant or moderate harm in their communities. Fentanyl appeared in sufficient quantities that three-quarters of the survey respondents reported that it had become at least a moderate problem in their jurisdictions.*

Midwest HIDTA 2018 Annual Report: *Methamphetamine remains the greatest danger when considering its nexus to violence and other criminal activities. Methamphetamine availability and use was higher than any other drug type, which indicates its popularity is unlikely to fade. Equally disconcerting was the increased abuse of heroin and the growth of synthetic opioid abuse (e.g., non-pharmaceutical fentanyl, its analogs, and synthetic opioids such as U-47700). They are frequently illicitly produced by transnational criminal organizations in China and Mexico and transported to the heartland.*

Gulf Coast HIDTA 2018 Annual Report: *Heroin is considered the greatest drug threat to the Greater New Orleans area. More law enforcement resources are spent on heroin than any other drug. New*

[46] Lenardson, J. D., Gale, J. A., & Ziller, E. C. (2016). *Rural opioid use: Prevalence and user characteristics* (PB-63-1). Retrieved from the University of Southern Maine website http://muskie.usm.maine.edu/Publications/rural/Rural-Opioid-Abuse.pdf

Orleans continues to be a heroin source city for Southeast Louisiana and Southern Mississippi and is responsible for a significant portion of the area's violent and property crimes. Fentanyl and other synthetic opioids are considered the second greatest drug threat, frequently been found in samples of heroin and counterfeit pharmaceuticals. Reports of fentanyl overdoses outside of the major cities in the Gulf Coast indicate that its use, both alone and as a cutting agent, is now common.

Northwest HIDTA 2017 Annual Report: *Powerful synthetic opioids, such as fentanyl and its derivatives, led to the overdose deaths of 70 individuals in Washington State during 2016 - more than twice the number of fentanyl-related deaths in the previous year. Although much of Washington's focus is on curbing the opioid crisis, methamphetamine remains a critical threat in the Pacific Northwest. The regulation of recreational and medicinal marijuana continues to pose new challenges for law enforcement even as use of the drug in Washington State has been legal for several years. The reemergence of cocaine presents a unique threat to law enforcement and citizens in Washington State.*

Section III

Overdose Response and Prevention Programming in Custody

Overdose Response, Reversal, and Treatment

Overdose education and naloxone distribution is a cost-effective, potentially life-saving intervention for the custody population. It has two important limitations. It does not help with an overdose of a non-opioid drug, and it isn't easily self-administered. However, at least one study suggests most of the drug overdoses that occur in the immediate post-release period are in the presence of others.

Naloxone for Opioids: The U.S. Surgeon General issued a public health advisory in April of 2018, urging more Americans to learn to use the opioid overdose–reversing drug naloxone.[47] Naloxone, approved by the FDA in 1971, has no abuse potential. It is available as a solution, usually administered via intermuscular injection, in a nasally administered form (Narcan®), and as an autoinjector.[48] Costs for the injectable form range from $13 to $17 per dose and as high as $70 per dose for Narcan.[49] Recently, demand has driven prices up, but Medicaid covers the cost in most cases, and it can be obtained at low or no cost (see resources at the end of this section). [50]

Naloxone is a short-acting opioid antagonist that immediately blocks the effects of opioids, including respiratory depression, which causes overdose fatality. A few important points regarding naloxone:

- When individuals who are addicted to opioids are revived with naloxone, they may experience immediate, intense withdrawal symptoms known as *precipitated*

[47] Office of the U.S. Surgeon General, U.S. Department of Health and Human Services. (2018). U*.S. Surgeon General's advisory on naloxone and opioid overdose*. Retrieved from https://www.surgeongeneral.gov/priorities/opioid-overdose-prevention/naloxone-advisory.html

[48] U.S. Department of Justice Drug Enforcement Administration. (2017, October). *National drug threat assessment* (DEA-DCT-DIR-040-17). Retrieved from https://www.dea.gov/sites/default/files/docs/DIR-040-17_2017-NDTA.pdf

[49] Comparing naloxone vs Narcan injection. (n.d.) Retrieved from https://www.drugs.com/compare/naloxone-vs-narcan-injection

[50] Rosenberg, M., Chai, G., Mehta, S., & Schick, A. (2018). Trends and economic drivers for United States naloxone pricing, January 2006 to February 2017. *Addictive Behaviors, 86,* 86–89. doi: 10.1016/j.addbeh.2018.05.006

withdrawal. This typically results in a strong desire to use more opioids. Therefore, it is important to monitor individuals revived with naloxone to counter this short-term, predictable physiological response.

- More than one dose of naloxone may be required to revive individuals overdosing on potent illicit opioids. It is not uncommon to have to administer 2 to 4 doses before successfully reviving an individual.[51] Also, the effects of naloxone only last for 30–90 minutes. A follow-up second dose is usually administered to prevent respiratory depression from returning as the medication wears off. Most naloxone kits contain two doses for this reason. All overdose survivors revived with naloxone should get medical attention.[52]
- Every second counts! Naloxone cannot reverse any damage oxygen deprivation does to the brain. Preforming rescue breathing until emergency medical help arrives and naloxone is administered can prevent damage from occurring.
- To prevent individuals from choking from vomiting, they should be placed on their side with their top arm across their torso, bottom arm under their heads, and knees slightly bent. This placement is especially crucial if overdose victims must be left for any length of time.

An individual's health can also influence susceptibility to overdoses. The average age of decedents has steadily moved downward with the recent increases in illicit opioid deaths, although most opioid overdose deaths have been among individuals 45–64 years of age. Respiratory conditions, including chronic obstructive pulmonary disease (COPD), asthma, and sleep apnea, also make people more susceptible to overdoses. People with existing heart disease who abuse stimulants are among the most susceptible to cocaine or methamphetamine overdose death.[53]

***Benzodiazepines*:** As with alcohol and opioids, tolerance to benzodiazepines occurs with regular use and can diminish during periods in custody. Re-entering individuals are susceptible to overdose when taking amounts they may have tolerated prior to incarceration*.*

Flumazenil, like naloxone, is an antagonist medication that can reverse a benzodiazepine overdose and prevent respiratory depression, coma, and death. However, nearly all benzodiazepine overdose fatalities involve alcohol or other drugs, and flumazenil may be contraindicated when multiple substances are involved. Use of flumazenil may also be contraindicated for individuals who have taken high doses for extended periods. Abrupt benzodiazepine withdrawal, in these cases, can involve serious symptoms, including seizures,

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[51] Faul, M., Lurie, P., Kinsman, J. M., Dailey, M. W., Crabaugh, C., & Sasser, S. M. (2017). Multiple naloxone administrations among emergency medical service providers is increasing. *Prehospital Emergency Care*, *21*(4), 411–419. doi:10.1080/10903127.2017.1315203

[52] European Monitoring Centre for Drugs and Drug Addiction. (n.d.). Harm reduction topics page. Retrieved from http://www.emcdda.europa.eu/topics/harm-reduction.

[53] Hedegaard, H., Miniño, A., & Warner, M. (2018). *Drug Overdose Deaths in the United States, 1999–2017* (National Center for Health Statistics Data Brief No. 329). Retrieved from the Centers for Disease Control and Prevention website https://www.cdc.gov/nchs/data/databriefs/db329-h.pdf

delirium tremens, and psychosis. Unlike naloxone, flumazenil cannot be legally administered by the layperson.[54]

Some opioid users may intentionally use benzodiazepines to boost the effects of the opioids. When benzodiazepines are involved in an opioid overdose, administering naloxone can reverse life-threatening respiratory depression and won't cause any harm.

Stimulants: There is no specific medication that can reverse a stimulant overdose. Severe symptoms of cocaine overdose can include irregular heart rhythm, heart attacks, seizures, strokes, and difficulty breathing. Methamphetamine overdose can result in high blood pressure, high body temperature, stroke, or cardiac collapse. There is not much a bystander can do, other than call 911 as soon as possible and provide information to medical staff. No other drugs should be administered by non-medical staff to counteract the overdose.

In the case of stimulants, binge use is common, and toxicity can occur due to a buildup of the drug in the user's system from repeat doses within a short period.

Staff Safety Tips

In 2015, the DEA released "DEA Warning to Police and Public: Fentanyl Exposure Kills," cautioning against handling drugs found at the scene of an overdose.[55] Law enforcement, correctional officers, and others must take precautions to avoid skin contact and unintentional inhalation when exposed to illicit fentanyl, which can come in the form of powders, tablets, capsules, solutions, rocks, and spray or blotter paper. For this reason, individuals should avoid field testing, use protective gear when conducting searches, and transport any suspect contraband directly to labs that are prepared to analyze such substances.[56]

Symptoms of exposure include disorientation, difficulty breathing, drowsiness, clammy skin, pinpoint pupils, and sedation. Naloxone administration is recommended if symptoms are observed. Some experts contend casual exposure resulting in overdose is unlikely. However, in May 2017, local law enforcement officers fell ill after encountering a powdery substance discovered during a traffic stop and were revived with naloxone.[57] The safest approach is to review the warnings and guidelines below for detailed safety precautions.

Safety Resources:

Drug Enforcement Administration: DEA Warns Local Law Enforcement and First Responders about the Dangers Of Fentanyl Exposure, June 2016 https://www.dea.gov/press-releases/2017/06/06/dea-warns-local-law-enforcement-and-first-responders-about-dangers

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[54] Council for Information on Tranquillisers, Antidepressants, and Painkillers (2012). *Benzodiazepine withdrawal protocol.* Retrieved from http://www.citap.org.uk/Benzodiazepine-Protocol.pdf

[55] United States Drug Enforcement Administration Public Affairs. (n.d.) DEA warning to police and public: Fentanyl exposure kills. Retrieved from https://ndews.umd.edu/sites/ndews.umd.edu/files/DEA%20Fentanyl.pdf

[56] National Institute for Occupational Safety and Health. (2016). Fentanyl. Retrieved from https://www.cdc.gov/niosh/topics/fentanyl/default.html?s_cid=3ni7d2Blog-Fantanyl-topic-6.2017

[57] Jackson, D., Chiu, S., & Hornsby-Myers, J. (2018). *Evaluation of law enforcement officers' occupational exposure to illicit drugs* (HHE Report No. 2018-0118-3331). Retrieved from the U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Health Hazard Evaluation program website https://www.cdc.gov/niosh/hhe/reports/pdfs/2018-0118-3331.pdf

Office of National Drug Control Policy/Department of Justice, August 2018: Fentanyl: Safety Recommendations for First Responders (handout and video): https://www.whitehouse.gov/ondcp/key-issues/fentanyl/

CDC April 2018 Guidelines: Fentanyl-Preventing Occupational Exposure to Emergency Responders https://www.cdc.gov/niosh/topics/fentanyl/risk.html

Alberta Health Services: Interim Guidance for First Responders: Opioid Misuse, January 2017 https://www.fentanylsafety.com/wp-content/uploads/OPIOID-MISUSE-INTERIM-GUIDANCE_2.pdf

Delivery Models of Overdose Prevention for Custody Populations

The examples that follow demonstrate some of the options available to RSAT programs. County jails and state prison systems across the country have implemented in-house overdose education and naloxone distribution (OEND) programs and expanded access to MAT. Some have been collaborating with public health and community harm reduction agencies to facilitate in-reach and/or pre-release programming, including referrals to overdose prevention and emergency response resources in the community. Models have included:

- Overdose prevention/risk reduction education and access to naloxone pre-release;
- Overdose prevention community agency in-reach (access to naloxone upon release);
- Overdose prevention/risk reduction education as part of substance use disorder (SUD) treatment in custody; and
- Overdose prevention/risk reduction release plans with referrals to preventive services.

Models are not mutually exclusive and combining two or more is likely to produce the most desired outcomes. Any facility can implement some level of overdose prevention/risk reduction to educate people about the elevated risks, ways to reduce them, recognizing signs of an overdose, and how to respond. Release planning focusing on recovery support during the first 48 hours to 2 weeks post-release provides an alternative to the all-too-common situation that awaits people released from custody, namely friends offering them drugs to "celebrate."

As important as it is to provide naloxone to exiting inmates, it is important to provide it to their families or significant others. In the Rhode Island prison, for example, a sign posted in the visiting room invites visitors to remain 5 minutes after visiting hours to watch a short video on naloxone. Those who watch it are provided a free naloxone kit to take home.

What the Research Tells Us

Training people in custody settings in naloxone administration and providing them with kits upon release has been found to be highly effective. Some of the custody-based naloxone programs report individuals trained to administer naloxone in custody have saved lives in their community after release. Research has shown that former inmates can successfully administer naloxone with minimal training and, given the opportunity, they are likely to do so.

- At least *70–80% of prison inmates have witnessed one or more overdose events.*
- Up to a third have witnessed a fatal overdose.
- At least a third have personally experienced an overdose.[58]

[58] Albizu-Garcia, C., Hernandez-Garcia, A., Feal, J., & Rodriguez-Orengo, J. (2009). Characteristics of inmates witnessing an overdose event in prison: Implications for prevention in the correctional setting. *Harm Reduction Journal, 6*. doi:10.1186/1477-7517-6-15

- Up to 90% express interest in participating in naloxone trainings.[59]

Medication-Assisted Treatment (MAT)

Overdoses can also be prevented by providing MAT to incarcerated individuals so that, when released, they have an easier time avoiding relapse. Many jails and prisons now provide re-entering individuals with injectable naltrexone immediately before release. Naltrexone blocks opioid receptors in the brain and reduces cravings. The injection lasts for 28 days, covering the highest risk period for released individuals. It is worth providing injectable naltrexone to exiting individuals even if they are unable, unwilling, or unsure of whether to continue their injections in the community.

Methadone and buprenorphine, agonist medications, similarly reduce cravings and provide a safer alternative to heroin and other opioids. Both must be taken daily, although injectable buprenorphine that lasts 1 month has recently become available. The advantage of injectable buprenorphine and naltrexone, of course, is that individuals do not have to make a daily decision to take their medication to avoid relapse and not get high on illicit opioids.

Rhode Island Jails and Prisons: In November of 2016, the Rhode Island Department of Corrections launched a comprehensive MAT program in addition to its naloxone distribution program. All inmates were screened for OUDs and were provided an FDA-approved medication for an OUD if requested (i.e., methadone, buprenorphine, or extended-release injectable naltrexone). Inmates entering the correctional system who were already on any of the medications continued on their current medication if requested. Patients were linked with treatment that continued to provide the opioid medication of choice upon release. A study compared characteristics of overdose decedents after the program began with those before the program began and found 26 of 179 individuals (14.5%) who died of an overdose were recently incarcerated. After implementation, only 9 of 157 individuals (5.7%) who died were recently incarcerated. This represented a 60.5% reduction in mortality among the recently incarcerated group and contributed to a 12% reduction in overdose fatalities statewide.[60]

Combining access to pre and post-release MAT and naloxone for custody populations can achieve maximum impact.

San Francisco Jails		
# of trainings	11	3
# of people trained	91	59
% accepted naloxone	67	54

[59] Horton, M., McDonald, R., Green, T., Nelson, S., Strang, J., Degenhardt, L., & Larney, S. (2017). A mapping review of take-home naloxone for people released from correctional settings. *International Journal of Drug Policy, 46*, 7–16. doi:10.1016/j.drugpo.2017.05.015

[60] Green, T. C., Clarke, J., Brinkley-Rubinstein, L., Marshall, B. D., Alexander-Scott, N., Boss, R., & Rich, J. D. (2018). Postincarceration fatal overdoses after implementing medications for addiction treatment in a statewide correctional system. *JAMA Psychiatry, 7*(4), 405–407. doi:10.1001/jamapsychiatry.2017.4614

% used in month prior to incarceration	43	44
% prior overdose	26	45
% witnessed overdose	79	56
% ever used naloxone	16	6

Examples: Overdose prevention with take-home naloxone in custody settings

San Francisco Jails: The San Francisco Department of Public Health began contracting with the west coast headquarters of Harm Reduction Coalition (HRC) in Oakland, CA in 2003, making it the first health department–funded naloxone distribution program in the country. The Drug Overdose Prevention Education (DOPE) Project began providing overdose prevention education and naloxone kits and linkages to harm reduction resources in the community to San Francisco jail inmates upon release in 2013. A recent city public health report indicated overall heroin overdose fatalities in the city decreased from more than 120 deaths annually in 2000 to 10–20 deaths during the years 2010–2015.[61]

New York State Prisons: In 2015, a partnership between the New York State Department of Health (DOH), the Department of Corrections and Community Supervision (DOCCS), and the east coast headquarters of Harm Reduction Coalition (HRC) piloted an opioid overdose and prevention training program in state prisons. In 2017, it was implemented across all 54 state correctional facilities in New York. It is offered to all re-entering individuals, not just those with identified SUDs, as well as to corrections staff and parole officers. In some locations, it is also offered to family members through partnering community agencies. Program graduates were found to be responsible for at least 14 overdose reversals of people in the community.[62]

The Vera Institute of Justice report *Corrections-Based Responses to the Opioid Epidemic: Lessons from New York State's Overdose Education and Naloxone Distribution Program* details implementation and offers a preliminary assessment of program efforts.

Cook County Jail, Chicago: The Cook County Jail has trained inmates to use naloxone nasal spray devices since 2016, and distributed them to at-risk individuals upon release. Trainings include information on Good Samaritan laws in Illinois, since research shows inmates are more likely to accept kits upon release if they are aware of the protections from criminal consequences.[63] In 2018, a survey of Illinois jails found that 14% of 36 jails responding provided training and naloxone kits to individuals prior to release.

Examples: Overdose prevention education, naloxone provided by community sources

North Carolina Jails and Prisons: In 2015, the North Carolina Harm Reduction Coalition (NCHRC) helped advocate for expansion of the state's 911 Good Samaritan law to include protection from probation/parole violations. NCHRC is working with corrections to get information about the law and naloxone kits to people leaving jails and prisons. Agencies/facilities trained by NCHRC include the Albemarle District Jail, Durham County Jail, Cleveland County Parole and Probation, and Orange Correctional Center (North Carolina Division of Prisons minimum security men's facility). In some cases,

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[61] Coffin, P. (2015, December). Prevention of overdose mortality. Presented at the University of Michigan Injury Prevention Center Opioid Overdose Summit.

[62] Anthony-North, V., Pope, L. G., Pottinger, S., & Sederbaum, I. (2018). Corrections-*b*ased *r*esponses to the *o*pioid *e*pidemic*:* Lessons from New York State's *o*verdose *e*ducation and *n*aloxone *d*istribution *p*rogram*.* Retrieved from the Vera Institute of Justice website https://storage.googleapis.com/vera-web-assets/downloads/Publications/corrections-responses-to-opioid-epidemic-new-york-state/legacy_downloads/corrections-responses-to-opioid-epidemic-new-york-state.pdf

[63] Reichert, J., Weisner, L., Marcheschi, T., Gleicher, L., & Adams, S. (2018). *Addressing opioid use disorders in corrections: A survey of Illinois jails*. Retrieved from the Illinois Criminal Justice Information Authority Center for Justice Research and Evaluation website http://www.icjia.state.il.us/assets/articles/Addressing_Opioid_Use_Disorders_in_Corrections_2018.pdf

NCHRC offers training to inmates in custody, but otherwise a volunteer meets participants at the gate upon release to give them a kit.

Strafford County Jail, New Hampshire: The county jail, which also houses federal inmates and U.S. Immigration and Customs Enforcement (ICE) detainees, has partnered with the SOS Recovery Community Organization. In 2017, three inmates were revived with naloxone by emergency responders, prompting the jail to initiate an OEND program.[64] Local volunteers train people within 30 days of release, and SOS provides kits that are placed with participants' property for them to take upon release (C. L. Conway, personal communication, November 2018).

New Mexico: The New Mexico Department of Health (NMDOH) has been providing overdose prevention trainings inside detention centers since 2006. Needle exchange program sites provide naloxone to participants once they are released. At one metropolitan detention center, a third of the injection drug users who participated in jail trainings picked up naloxone kits after release. The New Mexico Corrections Department (NMCD) recently launched the Peer Education Project: Prisoner Health is Community Health. Inmates with at least a year left to serve and good disciplinary records are trained in prevention, SUDs, overdose prevention and harm reduction (reducing HIV and HCV), and basic health literacy. They learn training and communication skills through collaboration with Project ECHO®, a tele-mentoring rural hub and spokes program. Training at nine prisons takes place through video conferencing. Upon release, peer educators may receive community health–worker certifications through Project ECHO and help with job placement.[65]

[64] Crompton, J. (2017, June 6) Inmates overdose at Strafford County Jail. *WMUR.* Retrieved from https://www.wmur.com/article/5-inmates-overdose-at-strafford-county-jail/9983966

[65] SPOTLIGHT: New Mexico Peer Education Project. (2018, October 3). Addiction Policy Forum *Spotlight Series*. Retrieved from https://www.addictionpolicy.org/hubfs/Spotlight_New%20Mexico%20PEP_version%204.pdf

Section IV

Incorporating Overdose/Relapse Prevention into RSAT Programs

This section outlines overdose prevention and relapse risk reduction basics. It highlights nine key educational messages RSAT programs can deliver in groups and/or incorporate into release planning. They are designed to make participants aware of the elevated overdose fatality risk they face upon release and steps they can take to reduce it. The main topics are:

- Legal protections for overdose emergencies and laws pertaining to naloxone;
- Understanding tolerance and its impact on risk of post-release overdose death;
- Changes in the potency of illicit opioids;
- How combining drugs (and alcohol) increases overdose fatality risks;
- Safer use rules in the event of a relapse;
- Recognizing and responding to an overdose;
- Preventing overdose deaths: naloxone and rescue breathing;
- Release plans: overdose risk reduction and action steps in the event of a slip; and
- Community resources: emergency contacts, naloxone, harm reduction, and MAT.

1. **Key Message**: *There are laws in every state that protect people who call for help in an overdose emergency or who have naloxone and use it to prevent an overdose death.*

Laws that apply: There are two different sets of laws that vary from state to state: naloxone distribution laws and Good Samaritan laws. People are more likely to call for help in an overdose emergency if they understand Good Samaritan laws and to accept naloxone kits if they know it is okay to have or use them.

Naloxone distribution laws—Many people at highest risk are unlikely to access medical care and obtain a prescription for naloxone. These laws allow broader access and protect laypersons who administer naloxone from liability. In 45 states and the District of Columbia, *naloxone can be prescribed to a third party* (family members, probation officers, etc.) who could help in an overdose emergency.[66] In 49 states and D.C. (but not Nebraska), *naloxone can be distributed without individual prescriptions to specific patients.* Some of the ways states do this:

- Standing orders, protocol orders, or practice agreements issued at the state level allow distribution of naloxone (without a specific prescriber).
- Some states allow community agencies that normally would not have authority to give out prescribed medications to distribute naloxone.
- A few states give pharmacists authority to distribute naloxone without a prescriber.

Good Samaritan laws—At least 46 states have laws to encourage drug users to call 911 in an overdose emergency. They offer protection from legal consequences to overdose victims or witnesses who call for help, but protections from arrest or prosecution vary from state to state:

[66] The Substance Abuse and Mental Health Services Administration's Center for the Application of Prevention Technologies. (2018). *Preventing the consequences of opioid overdose: Understanding naloxone access laws*. Retrieved from https://pttcnetwork.org/sites/default/files/2019-08/naloxone-access-laws-tool.pdf

- Fewer than half of states offer protection from arrest for possession.
- Many states only offer protection from prosecution or consider overdose a defense or a factor in sentencing.
- Some states offer protection from possession of controlled substances, but not drug paraphernalia.
- Fewer than half of states offer protection from probation or parole violations.

Approximately 10 states and D.C. offer *comprehensive* protection from arrest and charges and prosecution for possession, drug paraphernalia, and probation/parole violations: Delaware, Georgia, Hawaii, MA, Maryland, MS, Montana, Nevada, New Jersey, and Tennessee).

Resources: For information on the provisions of these laws for each state (as of July 2017), visit **Prescription Drug Abuse Policy** website. For more current information: **Drug Overdose Prevention and Harm Reduction** at Network for Public Health Law website. Local overdose prevention services also educate people about the laws that apply.

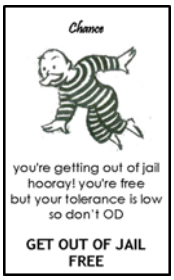
2. **Key Message**: *Most people who have died due to overdose just after release used amounts that might have been okay before their tolerance was lowered.*

Tolerance refers to the need for increasing amounts of a psychoactive substance to produce the desired effects; this occurs with regular use. Regular use of many non-opioid drugs (alcohol, benzodiazepines, and other CNS depressants) leads to tolerance. But opioids are somewhat unique in the speed and intensity with which tolerance develops *and* the way a period of abstinence or reduced use can reverse tolerance, increasing the risk of overdose. Understanding tolerance is a critical part of overdose prevention education for RSAT clients.

Most opioid users have firsthand experience with tolerance, but a little knowledge can be dangerous. They tend to assume they have a high tolerance and may have experienced a rapid return of tolerance when they have resumed opioid use in the past. However, many factors can impact tolerance in unpredictable ways.

Reverse tolerance always occurs after a period of abstinence or infrequent or reduced use, making re-initiation of opioid use extremely dangerous.

Loss of tolerance is not as much a factor in stimulant overdose as binge use. Repeat doses can make it harder to feel the effects. People can overdose from the buildup of toxicity when taking larger doses over short periods.



Resources: **Get out of jail free card**: Download a PDF of the card from the DOPE project.

Staying Alive on the Outside video: **View this** excellent 7-minute video from the Center for Prisoner Health and Human Rights.

3. **Key Message:** *Most people who recently died from an overdose used something with fentanyl in it. But even heroin with nothing else in it is a lot stronger than it was in the past.*

Potency: Fentanyl-type drugs sold or mixed with heroin are different from pharmaceutical fentanyl. They are made illicitly in China and other parts of the world, formulas are unpredictable, and they change all the time. These drugs were involved in more than half of

recent deaths from opioid overdose. This type of fentanyl is also used to make fake pills sold as painkillers and Xanax and even mixed into crack and powder cocaine.

Heroin purity has also changed recently. The table below shows the levels of heroin purity and how they have increased in recent years. Even when there is no chance of it being mixed with fentanyl, what is on the street now may be a lot stronger than it was a year ago.

Resources: **Seattle/King County Public Health Fentanyl Warning Fact Sheet**

Heroin purity table data from the DEA Heroin Monitoring Program

	Purity by Year				
Source	2011	2012	2013	2014	2015
Mexican	17%	18%	20%	21%	29%
South American	31%	35%	35%	31%	39%

4. **Key Message**: *If you have a relapse/return to drug use upon release, do not mix in alcohol or other drugs. They will make the effects stronger when your tolerance will already be lower.*

Mixing drugs: Potentiation refers to stronger effects that result when two or more substances are taken together: 2 + 2 does not = 4 as expected. Instead, the cumulative effects can add up to 7, 8, or more if you also add alcohol! Alcohol is particularly dangerous for three reasons:

- When combined with other CNS depressants (e.g., opioids, benzodiazepines), effects of slowing down breathing and heart rate are stronger for both;
- Alcohol intoxication can make people a little numb to opioid effects, plus judgement is impaired so they end up taking too much; and
- Research shows alcohol use can reverse existing opioid tolerance, causing people to overdose on amounts they would normally take without a problem. [67, 68]

Most opioid users have some understanding of potentiation and may intentionally try to boost the effects of opioids by mixing them with other substances. This includes over-the-counter and prescribed medications (e.g., Xanax, Benadryl®, gabapentin, cough medicine with dextromethorphan) and/or illicit drugs and alcohol. Regardless of whether substances are mixed intentionally or inadvertently, the result is greater risk of overdose due to the stronger effects of combinations. Understanding the motivations for poly-drug use and providing accurate information about the risks can help reduce post-release overdose.

Cocaine also increases the risk of opioid overdose. A common false belief among drug users is that the stimulating effects of cocaine help counteract an opioid overdose (i.e., respiratory depression). This is an extremely dangerous false belief. In fact, high doses of cocaine depress the urge to breathe, particularly when combined with opioids.[69]

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[67] Hull, L. C., Gabra, B. H., Bailey, C. P., Henderson, G., & Dewey, W. L. (2013). Reversal of morphine analgesic tolerance by ethanol in the mouse. *The Journal of Pharmacology and Experimental Therapeutics*, *345*(3), 512–519. doi:10.1124/jpet.112.202184

[68] Hill, R., Lyndon, A., Withey, S., Roberts, J., Kershaw, Y., MacLachlan, J., … Henderson, G. (2016). Ethanol reversal of tolerance to the respiratory depressant effects of morphine. *Neuropsychopharmacology*, *41*(3), 762–773. doi:10.1038/npp.2015.201

[69] New York State Department of Health. (2006). *Overdose prevention manual.*

Resources: **Harmful Interactions: Mixing Alcohol and Medicines**—Brochure from the National Institute on Alcohol Abuse and Alcoholism (NIAAA)

Mixing Drugs—Safety tips from Harm Reduction Coalition

5. **Key Message:** *If you do end up using again, at least know the steps you can take to lower the risk of overdose and other serious problems.*

Harm reduction/safer use: The only sure way RSAT clients can eliminate high post-release overdose fatality risks is by not using drugs. The following safer use 'rules,' developed by the British Department of Health, however, can lower the high risks if RSAT clients do return to drug use upon release.

1. Don't use alone.
2. Never use behind a locked door.
3. Don't combine drugs or drink alcohol while using.
4. Never share equipment (needles, cookers, cottons, spoons, water).
5. Use a less risky method (i.e., snort instead of inject).
6. Go slow at first and test out drugs from unknown sources.
7. Have naloxone available or know where to call for help before you start.[70]

Every second counts with opioid overdose. Lives can be saved if someone calls for help, starts rescue breathing, or administers naloxone in time. These actions also reduce the seriousness of health problems resulting from a non-fatal overdose.

Resource: **Overdose: Everything You Need to Know** – Easy to read booklet from Exchange Supplies:

6. **Key Message**: *If someone shows signs of an opioid overdose and is unresponsive, call 911 for help immediately and administer naloxone if available.*

Recognizing signs of an overdose and how to respond: There a lot of myths surrounding opioid and other drug overdose that RSAT clients may have heard or believe, especially about what to do if someone is overdosing. It is important to make sure they have the correct information. Signs of opioid overdose include:

- Loss of consciousness;
- Unresponsiveness to outside stimulus;
- Being awake but unable to talk;
- Breathing that is very slow and shallow, erratic, or has stopped;
- Choking sounds or a snore-like gurgling noise;
- Vomiting;
- Very limp body;
- Very pale or clammy face;
- Fingernails and lips that turn blue or purplish black;
- Slow, erratic, or nonexistent pulse (heartbeat); and

[70] British National Treatment Agency, Department of Health, Exchange Supplies. (2009*). Overdose: Everything you need to know*. Retrieved from Exchange Supplies website: http://www.exchangesupplies.org/pdf/HRDVD6.pdf

- Lighter skin turning bluish purple; darker skin turning grayish or ashen.[71]

Best response: If someone shows signs of an overdose, call the person's name and/or say something like "I'm going to call 911," or "I'm going to give you naloxone." If they don't respond, rub your knuckles into the sternum (in the middle of the chest where the ribs meet). If they are still unresponsive, call 911. Give naloxone if it is available and you know how to use it.

Things that *do not work*:

- *Walking someone around:* This does not help—plus the movement could make things worse by speeding up absorption of drugs that are in his/her system.
- *Putting a person in a cold bath:* This wastes valuable time, and people can be injured when they are placed in the tub.
- *Slapping or hurting a person to bring him/her around:* If the person is still unresponsive after calling his/her name and rubbing the sternum with your knuckle, slapping or hurting won't help. Call 911.
- *Injecting a person with saltwater, putting ice down pants, or giving another drug:* None of these things help, and they all waste valuable time and could cause more damage.

Resource: **When the Seconds Count**—Overdose prevention card from the American Society of Anesthesiologists

7. **Key Message**: *Placing someone in the rescue position, calling for help, giving naloxone, and/or helping the person breathe until help arrives could save a life.*

Preventing overdose death with naloxone and rescue breathing: If someone is unresponsive, check for breathing for about 10 seconds. If the person is not breathing, put him/her in the rescue position and call for help. To put someone in the rescue position, turn the person on his/her side with his/her top arm across the torso, the bottom arm under the head, and knees slightly bent. This keeps the airway open. Administer naloxone if you can, or begin rescue breathing until help arrives.

To give rescue breaths, make sure the chin is titled back and the airway is open. Pinch the nose closed, put your mouth over the person's mouth, and give one rescue breath every 5 seconds. If you are trained in CPR, give two chest compressions every 30 seconds, along with rescue breathing. This helps push blood around the body to vital organs, supplying the person with oxygen.

Resource: **Narcan Nasal Administration and Rescue Breathing Instructions**—New Mexico Department of Public Health

8. **Key Message**: *Relapse prevention is a big part of release planning, but you also need a plan to reduce overdose risks and get back on track if a lapse or relapse should occur.*

Overdose/relapse prevention in release planning: RSAT clients benefit from building a strong foundation in relapse prevention skills throughout treatment and being provided pre-release

[71] Harm Reduction Coalition. (2012). Overdose prevention tips. In *Guide to developing and managing overdose prevention and take-home naloxone projects*. Retrieved from http://harmreduction.org/wp-content/uploads/2012/11/HRC_ODprevention_worksheet9.pdf

planning. Cognitive behavioral approaches can engage clients in identifying triggers that result in urges to use, automatic thoughts that follow, feelings, and ways to challenge them. Planning for high-risk situations and rehearsal of refusal skills are also important elements of relapse prevention groups. The following are suggested additions to these foundation components:

- Steps they will take to reduce overdose risks should they return to drug use;
- If opioids are part of use history, a plan to obtain naloxone and training in its use;
- Post-relapse action plan, including:
  - Who they will talk with about the plan;
  - Steps they will take to make sure they stop using;
  - Additional services they commit to seeking if they need help; and
  - Reflection on what led up to using and making needed changes going forward.

Medicaid covers naloxone prescribed to beneficiaries at risk of overdose in all states, but not all cover it for family members or people close to the beneficiary (see RSAT Medicaid 50-state Review for rules in each state). Other ways to obtain naloxone are listed in the resource pages at the end of this section.

9. **Key Message**: *Know who to call in an overdose emergency, and attend a naloxone training as soon as you are released. You will get a kit that could help you save a life.*

Emergency numbers, naloxone, harm reduction, and MAT: A goal of pre-release planning for RSAT clients is a seamless transition to appropriate levels of continuing care. For some, that may be an intensive outpatient program, while others require referral and a warm handoff to MAT providers to continue or start medication. It is also important to link RSAT clients to harm reduction and overdose prevention services and make sure they know how to contact emergency services in the event of an overdose. Many such agencies collaborate with correctional facilities on in-reach and OEND training for inmates. Even if pre-release naloxone distribution is not feasible, involving these agencies helps establish linkages. At the very least, RSAT staff can refer re-entering clients to OEND trainings in the community. They are usually free, and offer participants a naloxone kit upon completion. Schedules and locations are usually posted on local public health department, state alcohol and drug services, or overdose prevention coalition websites.

Additional information for RSAT staff

This section offers useful information about other substances and drug combinations that can impact overdose risks and special issues and risks for certain sub-groups relevant to RSAT staff.

Kratom: Currently, kratom is not classified as an illegal drug, but it is also not FDA approved or regulated. Kratom is from a Southeast Asian plant and sold as a powder, extract, or tea. One of the psychoactive ingredients, mitragynine, interacts with opioid receptors in ways similar to morphine and has analgesic effects at sufficient doses. Some people use it for pain as an alternative to opioids, while others claim it helps with opioid withdrawal and addiction.[72] In 2016, the FDA proposed to ban kratom, and the DEA announced it would be classified as a Schedule I drug, the same as heroin or illicit fentanyl, halting all studies on mitragynine and

[72] National Institute on Drug Abuse. (2018). DrugFacts: Kratom. Retrieved from https://www.drugabuse.gov/publications/drugfacts/kratom

pain. Outcry from the public and scientists forced officials to reconsider pending further research. A few facts:

- The FDA indicates 44 reports of kratom-associated deaths worldwide, but admits only one occurred without adulterants and/or other drugs present (e. g., opioids, benzodiazepines).
- Currently, there is no evidence kratom helps with opioid addiction or withdrawal, and viewing it as such means people may opt not to use medications for OUD that are known to be effective.[73]
- The FDA has issued several warnings about adulterated kratom and salmonella contamination; some voluntary recalls have been issued by the manufacturers.[74]
- Combining kratom with opioids, MAT drugs, and other substances is likely to increase overdose risks. Using it during pregnancy is a bad idea.

Methadone and MAT medications: It is important to distinguish between overdose deaths due to methadone prescribing for pain and the relative safety of use for treatment of OUD. Methdone is a Schedule II long-acting opioid analgesic primarily used to treat OUD since FDA approval in 1947. Its long half-life (up to 59 hours) makes it well-suited for MAT. It is carefully regulated, with opioid treatment programs as the only methadone distribution outlets for use with OUDs. It cannot be prescribed, only "dispensed." There is a small fatality risk from methadone overdose during the first weeks, but maintainence treatment has a high safety profile. Dosages are carefully monitored and only increased in small increments until withdrawal is controlled without unwanted side effects.

Until the late 1990s, methadone for pain was mostly prescribed to late-stage cancer patients. But costs of OxyContin® and diversion and abuse prompted doctors to look for alternatives. The decision to start prescribing methadone for pain to patients that were not closely monitored and often had no tolerance to opioids ***resulted in the most overdose deaths caused by a single drug ever.***[75]

Methadone's long half-life means effects build up in an individual's system and the risk of drug interactions last for days, with effects on respiratory depression intensifying. RSAT clients receiving methadone for MAT should know overdose death risks increase if it is taken with other opiods, alcohol, benzodiazepines, or sedatives with similar properties. The same warnings apply to buprenorphine. It has a higher safety profile and much lower risk of overdose, but a far higher incidence of diversion. Buprenorphine has been present in recent opioid overdose decedents; further research is needed to determine its effects on fatality risks.

Cannabis: Increased legalization of medical and recreational cannabis use has led to what the American Society of Addiction Medicine (ASAM) calls "a disturbing trend" of legislative bills and

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[73] U.S. Food & Drug Administration. (2018, April 5). FDA objects to kratom compound intended for use as an alternative to prescription opioids and promoted with unproven claims to treat addiction. *FDA In Brief.* Retrieved from https://www.fda.gov/news-events/fda-brief/fda-brief-fda-objects-kratom-compound-intended-use-alternative-prescription-opioids-and-promoted

[74] U.S. Food & Drug Administration. (2018). Statement from FDA Commissioner Scott Gottlieb, M.D., on the agency's scientific evidence on the presence of opioid compounds in kratom, underscoring its potential for abuse. Retrieved from https://www.fda.gov/news-events/press-announcements/statement-fda-commissioner-scott-gottlieb-md-agencys-scientific-evidence-presence-opioid-compounds

[75] Boyles, S. (2009, September 30). CDC: Alarming increase in methadone deaths. *WebMD.* Retrieved from https://www.webmd.com/pain-management/news/20090930/alarming-increase-in-methadone-deaths#1

articles suggesting cannabis is useful in the treatment of OUD.[76] These claims are unfounded and can keep people with a deadly condition from seeking treatment with lifesaving, FDA-approved medications known to be effective. Cannabis is also a drug commonly present among overdose decedents, but there is no evidence that it increases fatality risks. Several studies suggest opioid overdose fatality rates may be lower among medical marijuana users.

- RSAT clients released under community supervision need to adhere to applicable policies regarding use of cannabis. Some jurisdictions offer waivers for medical marijuana, while others prohibit any cannabis use (legal or not) while under community supervision.
- Research on cannabis use during MAT suggests it is common, but studies are very mixed. Some suggest moderate or medical use improves compliance, others find associations with lapses into opioid use, and some say cannabis use indicates medication dosages are too low.

Women and others at higher fatality risk: Possibly the only group with a higher risk of overdose fatality than people recently released from custody is *women* recently released from custody. Although women have historically had lower rates of drug and alcohol use and overdose fatality than men, for the last 2 decades women's rates of prescription opioid overdose have increased faster than men's (400% in women compared to 265% in men).[77] Women are also more likely than men to "doctor shop," have prescriptions from multiple prescribers, and get prescription opioids from friends, family, and intimate partners.[78]

Research on clinical profiles of opioid-dependent men and women show women have higher levels of co-occurring mental disorders, substance use severity, and physical health problems, as well as greater impairment in functioning, more intense craving, and more severe withdrawal symptoms.[79]

Women require longer to metabolize substances due to physiological differences. Drugs stay in their systems longer, which makes them more susceptible to the effects of combining opioids with alcohol or other drugs, and elevates overdose risks, particularly when longer acting opioids such as methadone or OxyContin are involved.[80] Women over age 50 are identified as a group at higher risk for prescription opioid analgesic overdose.[81] Also, women who abuse prescription or illicit opioids with male partners may overdose at amounts their male companions tolerate, making it less likely for men to notice overdose signs in female using partners and to call for

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[76] D. Haning. (2019, February 12). Cannabis for treatment of OUD. *American Society of Addiction Medicine Newsletter, ASAM Weekly Editorial Comment.* Retrieved from

[77] Centers for Disease Control and Prevention. (2013, July 2). Deaths from prescription painkiller overdoses rise sharply among women. *CDC Vital Signs*. Retrieved from https://www.cdc.gov/media/releases/2013/p0702-drug-overdose.html

[78] Centers for Disease Control and Prevention. (2013). Vital signs: Overdoses of prescription opioid pain relievers and other drugs among women—United States, 1999–2010. *CDC Morbidity and Mortality Weekly Report*, *62*(26), 537–542. Retrieved from https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6226a3.htm

[79] Back, S. E., Payne, R. L., Wahlquist, A. H., Carter, R. E., Stroud, Z. Haynes, L., . . . Ling, W. (2011). Comparative profiles of men and women with opioid dependence: Results from a national multisite trial. *The American Journal of Drug and Alcohol Abuse*, *37*(5), 313–323. doi:10.3109/00952990.2011.596982

[80] Miller, N. (2014). The promise of gender mainstreaming. In Liquori O'Neil, A., & Lucas, J. (Eds.), *Drugs and Alcohol Women Network*: *Promoting a gender-responsive approach to drug addiction* (pp. 38–69). Turin, Italy: United Nations Office on Drugs and Crime, Interregional Crime and Justice Research Institute.

[81] U.S. Department of Health and Human Services Office on Women's Health. (2017). *Final report: Opioid use, misuse, and overdose in women*. Office of Women's Health. Revised July 2017. Retrieved from https://www.womenshealth.gov/files/documents/final-report-opioid-508.pdf

help.[82] Massachusetts reported women's rates of overdose fatality due to prescription opioids exceeded men's in 2014.[83]

The risk of death is EVEN HIGHER for females leaving custody and re-entering the community than for males.[84, 85, 86, 87]

Specific findings of research on post-release overdose fatalities among women from the United States, Canada, the European Union (EU), and other parts of the world indicate women are at higher fatality risk, making it critical to integrate overdose prevention education into RSAT programs that serve women.

Additional Resources:

WHO *Information sheet on opioid overdose*, August 2018

Adapt Pharma: https://www.getnaloxonenow.org/
The online training is provided free of charge, but to keep the project going a $10 donation for a certificate of completion is requested. Training sessions include 56 slides with voice-over information; each slide prompts "next" when the information is complete. It mentions recent release from custody as a risk factor. There are drag-and-drop exercises.
https://www.getnaloxonenow.org/assets/files/get-naloxone-now-flyer.pdf

New Hampshire: https://anyoneanytimenh.org/naloxone-in-new-hampshire/
Residents who don't have insurance that covers the cost or cannot afford to purchase naloxone can receive free kits for themselves or someone they care about if they are a client of a state-contracted-health center or treatment provider and at risk for opioid overdose, ***or*** by attending an event held by their Regional Public Health Network (RPHN), where the state's free kits are distributed.

Maryland Overdose Response Program (ORP): https://bha.health.maryland.gov/NALOXONE/Pages/home.aspx
The program offers in-person, hands-on training and certification in recognizing and responding to opioid overdose with naloxone. Most ORP trainings are free to attend and provide naloxone to trainees at no charge. Visit the ORP website or contact the ORP for more information.

Wyoming: https://health.wyo.gov/publichealth/prevention/substanceabuseandsuicide/opioid-information-wyoming/opioid-overdose-response/ This training is for first responders and bystanders (family, friends, and others) to take the online training and receive naloxone.

Pennsylvania: Free naloxone has been distributed on specified days by **PAStop.org**: http://pastop.org/naloxone-for-community-members-in-pennsylvania/ and by **Overdose Free PA**: https://www.overdosefreepa.pitt.edu/find-

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[82] U.S. Department of Health and Human Services Office of the Surgeon General. (2016). *Facing addiction in America: The surgeon general's report on alcohol, drugs, and health*. Retrieved from the Office of the Surgeon General, U.S. Department of Health & Human Services website https://addiction.surgeongeneral.gov/sites/default/files/OC_SpotlightOnOpioids.pdf

[83] Massachusetts Department of Public Health (2016). *Data brief: An assessment of opioid-related deaths in Massachusetts 2013-2014.* Retrieved from http://www.mass.gov/eohhs/docs/dph/stop-addiction/chapter-55-opioid-overdose-study-data-brief-9-15-2016.pdf

[84] Groot, E., Kouyoumdjian, F. G., Kiefer, L., Madadi, P., Gross, J., Prevost, B. . . . Persaud, N. (2016). Drug toxicity deaths after release from incarceration in Ontario, 2006–2013: Review of coroner's cases. *PLoS ONE.* doi:10.1371/journal.pone.0157512

[85] Binswanger, I. A., Blatchford, P. J., Mueller, S. R., & Stern. M. F. (2013). Mortality after prison release: Opioid overdose and other causes of death, risk factors, and time trends from 1999 to 2009. *Annals of Internal Medicine, 159*(9), 592–600. doi:10.7326/0003-4819-159-9-201311050-00005

[86] Merrall, L. C., Kariminia, A., Binswanger, I. A., Hobbs, M. S., Farrell, M., Marsden, J., . . . Bird, S. M. (2010). Meta-analysis of drug-related deaths soon after release from prison. *Addiction*, *105*(9), 1545–1554. doi:10.1111/j.1360-0443.2010.02990.x

[87] Martins, S., Sampson, L., Cerdá, M., & Galea, S. (2015). Worldwide prevalence and trends in unintentional drug overdose: A systematic review of the literature. *American Journal of Public Health, 105*(11), e29–e49. doi:10.2105/AJPH.2015.302843

local-resources/find-naloxone/.
Naloxone is also offered at the following needle exchange programs:

Prevention Point Pittsburgh: http://www.pppgh.org/prevention-point-pittsburgh-overdose-prevention-project/naloxone-access-and-training/

Prevention Point Philadelphia: http://ppponline.org/

North Carolina Harm Reduction Coalition: http://www.nchrc.org/programs-and-services/getting-naloxone-from-nchrc/ Provides free naloxone kits to active IV drug users, people on MAT, people who are formerly incarcerated with a history of opiate use, people engaged in sex work, and people who identify as transgender.

Texas Overdose Naloxone Initiative (TONI) has offered free naloxone kits on certain days in Austin and in other locations: https://www.evensi.us/page/texas-overdose-naloxone-initiative-toni/10003090156

Colorado:
The Harm Reduction Action Center: http://harmreductionactioncenter.org/ This center offers syringe access and other services (supporting a Denver supervised use site)
Naloxone access: **Stop the Clock** CO overdose prevention: http://stoptheclockcolorado.org/

California:
Naloxone Distribution Project (NDP):
https://www.dhcs.ca.gov/individuals/Pages/Naloxone_Distribution_Project.aspx
The NDP aims to address the opioid crisis by reducing opioid overdose deaths through the provision of free naloxone in its nasal spray formulation. Starting in October 2018, qualified organizations and entities will be able to request free naloxone from DHCS.
California Department of Public Health (CDPH): I This site provides information on naloxone training and distribution programs:
https://www.cdph.ca.gov/Programs/CCDPHP/DCDIC/SACB/Pages/NaloxoneGrantProgram.aspx#
Naloxone Access Options in California: https://www.chcf.org/wp-content/uploads/2018/10/NaloxoneAccessCA2018.pdf

Hawai'i:
The state **Department of Health** partners with the **Hawai'i Health and Harm Reduction Center**, which dispenses naloxone to anyone who wants it. Their naloxone program is free and anonymous and available on O'ahu, Kaua'i, Maui, and Hawai'i islands:
http://health.hawaii.gov/harmreduction/overdose-prevention-and-naloxone/
https://www.hhhrc.org/overdose