Colorado's Opioid Solution: Clinicians United to Resolve the Epidemic (CO's CURE)

2019 Hospital Overdose Education & Naloxone Distribution Guidelines

Strategies for Hospitals and Hospital-Based Clinicians to Decrease Rates of Opioid Overdose Death

COLORADO MEDICAL SOCIETY
COLORADO CONSORTIUM for Prescription Drug Abuse Prevention
c|h|a Colorado Hospital Association

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Introduction

One Colorado resident dies of an opioid overdose every 15 hours, on average.[1] This startling statistic, which has quintupled since the turn of the millennium, is predicted to climb commensurate with the growing availability of potent, illicit synthetic opioids.[2] For the first time in more than 50 years, life expectancy in the United States is on a multiyear decline – a trend that the Centers for Disease Control and Prevention (CDC) primarily attributes to drug-related deaths.[3] To put this national crisis in perspective, more Americans have died of drug overdoses in the past 18 years than were killed in World War I, World War II, the Korean War, the Vietnam War and the wars in the Middle East combined. The health care costs associated with this epidemic are staggering – and the human costs are incalculable.

A Brief History

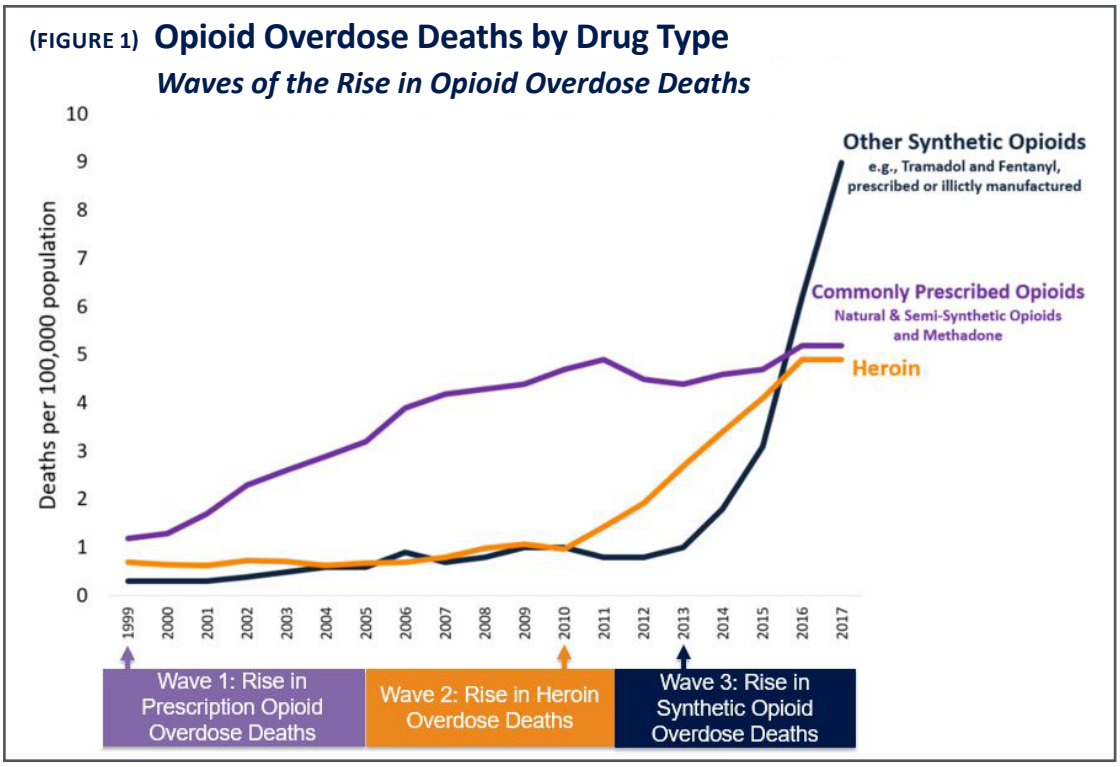
In the centuries since ancient Mesopotamians first harvested the milky sap of the opium poppy, societies have sought to balance the essential therapeutic value of opioids with their potentially devastating risks. "Opioids," a broad term that applies to any compound that binds to opioid receptors in the brain, include naturally derived substances like opium and morphine; semisynthetic compounds like heroin and oxycodone; and fully synthetic drugs such as methadone and fentanyl. For most of human history, opium (which is 12% morphine) was the only available opioid. Morphine and codeine were isolated from opium in 1805 and, for a time, were used to treat opium addiction.

Although heroin was synthesized from morphine in 1874, it would not be produced commercially for another 20 years. Initially designed as a less potent variant of morphine, heroin was briefly used as a cough suppressant and to treat respiratory disorders, however, the United States banned the drug in 1924 after recognizing its addictive potential. In the decades since, the U.S. has experienced several major heroin epidemics, which initially reinforced the medical community's wariness of this potentially lethal class of drugs. In the 1990s, growing concern about the undertreatment of pain coupled with the introduction of new, long-acting formulations resulted in a dramatic spike in opioid prescriptions.

The epidemic continued to gather steam as prescription opioid users turned to illicit, less expensive alternatives – primarily heroin **(FIGURE 1)**. Fueled by growing demand and wide-spread heroin distribution networks, overdose death rates skyrocketed. In 2013, potent synthetic opioids began to flood the market, particularly fentanyl and carfentanil illicitly manufactured in China and Mexico.

(FIGURE 1) Opioid Overdose Deaths by Drug Type

Waves of the Rise in Opioid Overdose Deaths



SOURCE: *National Vital Statistics System Mortality File and Centers for Disease Control and Prevention*

Introduction continued

Four out of five heroin users report that they received their first opioid from a medical provider.[4] Although the number of opioid prescriptions has declined steadily since 2011 when the epidemic reached its peak, the unprecedented potency and availability of illicit, synthetic opioids have continued to drive overdose deaths.[3,5] Despite widespread efforts to combat the epidemic, the United States saw a record 70,237 fatal opioid overdoses in 2017 – 1,012 deaths in Colorado alone **(FIGURE 2)**.[6, 7]

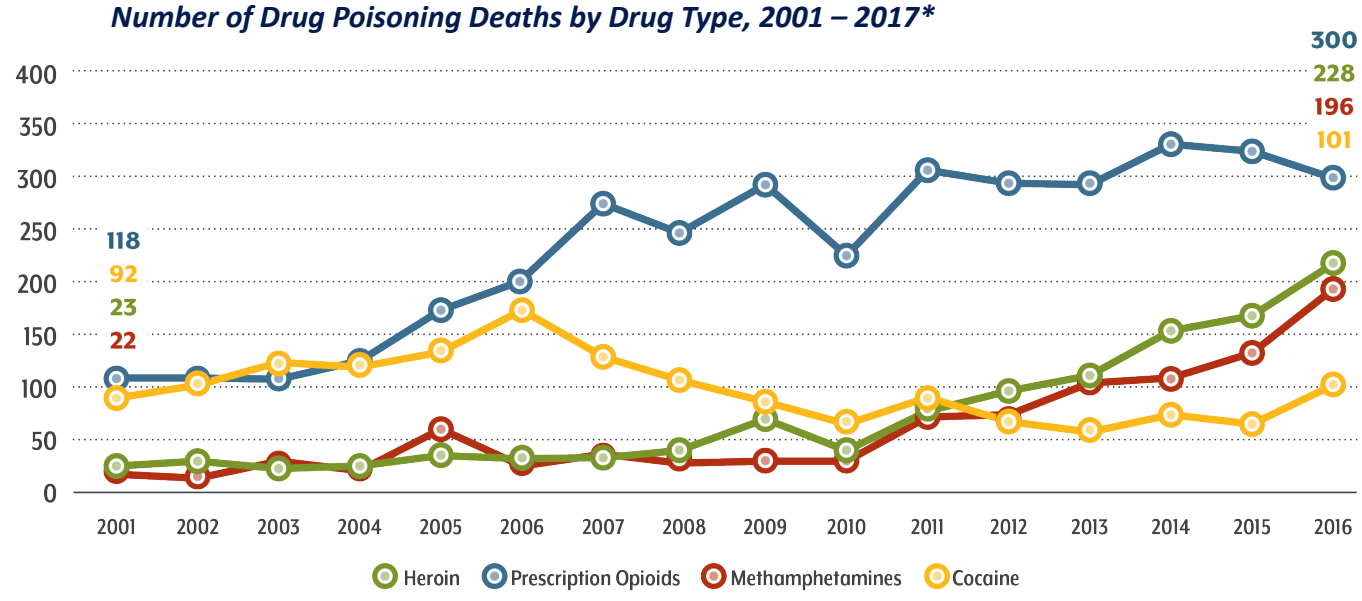
Colorado: Crisis and Response

Colorado Hospital Association (CHA) and its partners are leading efforts to combat the over-prescribing of opioids, encourage the use of pharmaceutical alternatives, destigmatize addiction and secure parity in funding for substance use disorders.[8] Thanks in part to these efforts, the number of prescription opioids has significantly declined across the state, and Colorado has experienced fewer opioid-related deaths per capita than the national average since 2014.[2]

To respond to the rising threat posed by heroin and synthetic opioids however, Colorado must strengthen its commitment to overdose prevention by taking safe, effective, evidence-based measures aimed at harm reduction.[9] The following guidelines aim to help clinicians identify high-risk patients and foster access to the lifesaving antidote: naloxone. These recommendations, which represent the first naloxone distribution protocol created by a state hospital association, are an important tactical advance in addressing the national opioid crisis.

(FIGURE 2) Overdose Deaths in Colorado

Number of Drug Poisoning Deaths by Drug Type, 2001 – 2017*



* Categories are not mutually exclusive (may total to more than 100% of total drug overdoses) or comprehensive (other drugs not listed).
Source: Vital Statistics Program, Colorado Department of Public Health and Environment

SOURCE: *Colorado Health Institute*

Naloxone: An Antidote for Opioid Overdose

Naloxone rapidly displaces opioids from μ-opioid receptors in the brain, a process that reverses the respiratory depression that can cause an overdose death. Sold as an uncontrolled drug under the brand names Narcan and Evzio, naloxone poses no risk of abuse and carries no euphoric or analgesic properties. Patented in 1961 as a treatment for opioid-related constipation, the drug was soon recognized as a powerful overdose antidote. In the decades since it was first approved by the U.S. Food and Drug Administration (FDA) in 1971, naloxone has been used safely and effectively in hospital settings to treat overdose and modulate the effects of opioids used in anesthesia. Although the medication can precipitate sudden and severe withdrawal symptoms, life-threatening side effects are exceedingly rare.

A History of Safe, Effective Use

First responders have been successfully administering naloxone in the field for decades. Since 2011, the drug has been used to reverse more than 10,000 opioid overdoses.[10] Harm reduction advocates first began distributing take-home naloxone kits in 1996, after recognizing that most fatal overdoses occur outside the hospital (and that "first responders" are often those who use opioids themselves). The pilot program, which was first launched in Chicago, was a resounding success.[11] Since then, numerous studies have confirmed that laypeople can administer naloxone with therapeutic success.[11-15] In the six years since Colorado broadened access to the antidote, the Harm Reduction Action Center reports that take-home naloxone kits have reversed an estimated 1,042 overdoses (270 in 2018 alone).

Between 10-30% of take-home naloxone kits are successfully used to reverse an overdose.[13,16] This success is largely dependent on the prevalence of opioid and heroin use, efficiency of naloxone distribution and level of public awareness in each community. Research also demonstrates a strong correlation between the number of naloxone kits distributed and a reduction eduction in opioid overdose deaths.[17]

Even by conservative estimates, naloxone dramatically reduces overdose-related medical expenses. In addition to saving lives, a successful rescue can mitigate the risk of a lengthy hospitalization for serious complications, including anoxic brain damage and other sequelae of a nonfatal, untreated overdose.[18-20]

Naloxone and Colorado Law

Statewide legislative action has largely eliminated the significant legal barriers to naloxone distribution and use. Colorado law (Senate Bill [SB] 15-053) now protects those who prescribe and administer the medication from civil and criminal liability. Any medical professional with prescriptive authority can write a standing order for naloxone that can be dispensed by other designated providers, including pharmacies and harm reduction organizations, without a patient-specific prescription. A map of the Colorado pharmacies that currently stock naloxone is available at stoptheclockcolorado.org/map.

In addition, Colorado SB 13-014 permits third parties, including friends, family members and others who have regular contact with an at-risk opioid user, to fill naloxone prescriptions. Statewide Good Samaritan laws further protect victims of overdose from prosecution for narcotics use or possession. In addition, Colorado Medicaid no longer requires preauthorization for a naloxone prescription. Although these major legislative accomplishments have improved access to the drug, success would be exponential if health care systems enacted programs that ensure the availability of naloxone for every citizen in danger of an opioid overdose.

Health Care Systems & Naloxone Distribution

The U.S. Surgeon General recently joined the World Health Organization (WHO), the CDC and the American Medical Association (AMA) in advocating for a national call to action. The Surgeon General's 2018 advisory on opioids states:

> *For patients currently taking high doses of opioids as prescribed for pain, individuals misusing prescription opioids, individuals using illicit opioids such as heroin or fentanyl, health care practitioners, family and friends of people who have an opioid use disorder, and community members who come into contact with people at risk for opioid overdose, knowing how to use naloxone and keeping it within reach can save a life.*[21]

Colorado's Unmet Needs

By conservative estimates, as many as 250,000 Coloradans are at-risk for an opioid overdose by virtue of an opioid use disorder, chronic prescriptions for high-dose opioids or medical or substance use comorbidities.[22] According to a national 2018 survey by the American Psychiatric Association, nearly one in three Americans know someone who is or has been addicted to opioids.[23] While the risk is widespread, the antidote is not. Despite the proven effectiveness of take-home naloxone kits, these lifesaving tools are available in fewer than 10% of U.S. counties (and in only 12% of counties with the highest opioid overdose rates).[24] This scarcity extends to Colorado where access to naloxone is limited, even in communities that suffer the most.

The Vital Role of Colorado Hospitals

Health care providers on the front lines are in an ideal position to identify and render aid to patients in crisis. According to the CDC, more than 78,000 Americans were hospitalized for opioid poisonings in 2016, and more than 140,000 patients sought emergency treatment for an opioid overdose.[3] The problem has continued to escalate, resulting in a 30% increase in U.S. emergency department visits for opioid overdose since 2016.[25] Furthermore, patients who present to the emergency department after an opioid overdose have a 9.9% risk of dying within the year.[26] Those who misuse opioids have a 45% risk of experiencing a nonfatal overdose and a 75% lifetime risk of witnessing an opioid overdose.[22]

Every day, Colorado hospitals treat those most vulnerable to the dangers posed by opioids – all of whom could leave the hospital with naloxone or a reliable plan to obtain it from a pharmacy.

Naloxone: A Key Element in a Broader Approach to Opioid Use Disorders

Each life spared represents an opportunity for treatment and recovery. Research shows that patients who receive a prescription for naloxone are more likely to enter a treatment program, report decreased drug use and demonstrate a greater willingness to undergo screening for HIV and hepatitis C.[12] A secondary effect has also been noted, in which 28% of take-home naloxone kit recipients report training a friend or family member how to use the antidote within three months of receiving the prescription.[27]

Patients who present to the hospital after a naloxone save may be particularly motivated to seek treatment. Unfortunately, the current treatment options for opioid use disorder are inadequate; fewer than 10% of those who seek help successfully obtain it.[22] An estimated 75% of Coloradans with an opioid use disorder fail to get the help they need.[28] To help reverse this trend, CHA is partnering with state agencies and other stakeholders to improve patient access to substance use disorder treatment.

Ideal Practices for Hospital-Based Overdose Education & Naloxone Distribution

SUMMARY TABLE

1. Hospital screens and identifies patients at risk for substance and/or opioid use disorders.
2. Hospital clinicians, nurses and staff are trained in harm reduction, overdose education and naloxone distribution.
3. Hospital implements an overdose education and naloxone distribution (OEND) program.
4. Hospital dispenses naloxone directly to high-risk patients, their families and close contacts.
5. Hospital works to ensure the OEND program is sustainable and not dependent on external factors like grant funding.

1. Hospital screens and identifies patients at risk for substance and/or opioid use disorders.

The first step in preventing opioid overdose is to identify those at risk by implementing universal screening strategies. One such tool, the Screening, Brief Intervention, and Referral to Treatment (SBIRT) protocol, has been studied since the 1960s as a way to identify and address the behavior of patients at risk for alcohol and substance addiction.[29-32] Programs like this one have been consistently shown to improve the likelihood of patient follow-up and significantly reduce the risk of future substance abuse, with improved response rates as high as 70%.[33,34]

Institutions across the country have integrated SBIRT screening questions **(APPENDIX 4)** into their clinical documentation systems. A growing number of Colorado emergency departments also employ SBIRT-trained health educators who are uniquely prepared to identify high-risk patients and provide brief interventions and treatment referrals.

The SBIRT screening questionnaire below is endorsed by CHA:

1. Do you currently smoke or use any form of tobacco (Yes/No)
2. Do you have >7 (women) or >14 (men) drinks per week? (Yes/No)
3. When was the last time you had four or more (all patients >65) or five or more (men <65) drinks in one day?
4. In the past year, have you used or experimented with illegal or prescription drugs for nonmedical reasons? (Yes/No)
5. Are you, your friends or your family members worried that your use of prescription pain medications is or will become a problem? (Yes/No)
6. How many times in the past year have you used marijuana?
7. Does the patient show other positive screening criteria (based on the chief complaint or presentation)?

Multiple organizations, including Peer Assistance Services, provide valuable support for health care practitioners and those interested in developing SBIRT programs of their own. In addition, the SBIRT mobile application can aid in the bedside identification of high-risk patients and provides a template for interventions and treatment referrals.

2. Hospital clinicians, nurses and staff are trained in harm reduction, overdose education and naloxone distribution.

Ideally, hospital providers are prepared to identify those with opioid use disorders and implement best practices for educating patients, families and caregivers on harm reduction principles. Effective naloxone distribution programs train patients and their families how to recognize an overdose, administer the antidote and provide CPR, while emphasizing the importance of calling 911. It is worth noting that only half of documented naloxone rescues by nonmedical personnel include a call to 911. Fearing legal ramifications, heroin users in particular are reticent to summon emergency medical services.[16,35,36]

For this reason, it's recommended that overdose education include information about Colorado's Good Samaritan laws, which protect victims of overdose and those who call 911 from prosecution for minor drug-related crimes. Stress the importance of avoiding delays in emergency care, which can result in repeat episodes of respiratory depression, overdose and death. Ideally, any patient who injects drugs

(continued)

Ideal Practices continued

would be referred to a syringe exchange program and harm reduction center. In the absence of an existing local needle exchange program, hospitals might consider housing or establishing a program of their own. Harm reduction tactics are discussed at greater length in the Colorado Chapter of the American College of Emergency Physicians' *2017 Opioid Prescribing & Treatment Guidelines*.

3. Hospital implements an overdose education and naloxone distribution (OEND) program.

The ramifications of opioid abuse affects both metropolitan and rural areas; no Colorado community is immune. As such, hospitals of all sizes play an important role in addressing the epidemic of overdose deaths. While the structure of OEND programs varies by hospital, successful efforts share key characteristics, including the ability to engage stakeholders in program development, clearly defined provider roles, achieving financial sustainability, developing appropriate criteria for program inclusion, leveraging electronic health record alerts, creating preset order bundles and performing regular, data-driven quality reviews. Organizations like PrescribeToPrevent also offer valuable resources to hospitals planning to establish an OEND protocol **(APPENDIX 1)**.

4. Hospital dispenses naloxone directly to high-risk patients, their families and close contacts.

The best way to safeguard high-risk patients and their families and friends is to dispense naloxone directly from the hospital or emergency department upon discharge. It is important to understand that such patients are unlikely to fill this prescription on their own or request naloxone from a pharmacy.[37]

Ideally, take-home naloxone kits would be dispensed directly to patients who:

- Are receiving medical care for opioid intoxication or overdose
- Have a suspected opioid use disorder, including nonmedical opioid use
- Are starting methadone or buprenorphine treatment for opioid use disorder
- Are prescribed >100mg morphine equivalents per day (may consider for patients taking >50mg morphine equivalents per day)
- Are receiving an opioid prescription for pain ***AND***
  - Have a known or suspected alcohol use disorder
  - Are concurrently using benzodiazepines or other sedatives
  - Have rotated from one opioid to another because of increased tolerance or poor analgesic effects
  - Are taking a prescription for methadone or buprenorphine
  - Have a history of tobacco use, chronic obstructive pulmonary disease, emphysema, asthma, sleep apnea, a respiratory infection or other pulmonary disease
  - Have a history of renal dysfunction, hepatic disease, cardiac comorbidities or HIV/AIDS
  - Suffer from uncontrolled depression (known or suspected)
  - Are taking a prescription antidepressant
- Are taking opioids and have unreliable access to emergency medical services
- Have resumed opioid use after a period of abstinence (e.g., a recent release from jail or prison or a recent discharge from a hospital or drug treatment facility)

When managing intermediate risk patients with strong social supports, private insurance and a verbal commitment to starting treatment, providers can consider providing a prescription for naloxone upon discharge. In such cases, overdose counseling and naloxone education would be provided before the patient leaves the hospital and a list of participating outpatient pharmacies should be furnished **(APPENDIX 2)**.

5. Hospital works to ensure the OEND program is sustainable and not dependent on external factors like grant funding.

For hospital-based naloxone distribution programs to be sustainable, the costs of the take-home kits and patient education materials must be adequately reimbursed. Naloxone is available in many formulations and through a variety of delivery systems **(APPENDIX 3)**, including nasal sprays, prefilled syringes with mucosal atomizers and intramuscular (IM) and auto-injection devices. Commercial prices vary widely, from approximately $40 for two doses of the IM formulation to $130 for Narcan nasal spray to $4,000 for an Ezvio auto-injector at the time of publication.[38]

(continued)

Ideal Practices continued

Hospitals can often obtain naloxone at a discount (<$30/dose). A take-home naloxone kit equipped with two nasal atomizers costs approximately $35. An improvised kit of naloxone delivered through a mucosal atomizer is the least expensive needle-free formulation; however, Narcan nasal spray is easier for laypeople to use and is most effective for achieving therapeutic blood levels.[39,40] In April 2019, the FDA approved a generic version of naloxone nasal spray, which is likely to help reduce the cost of take-home naloxone programs.

Ultimately, each hospital will need to balance its available resources with the costs of providing this lifesaving antidote. In certain cases, naloxone manufacturers (e.g., Adapt, Amphastar, Kaléo) may be willing to donate the medication or provide rebates to some institutions for out-of-hospital overdose rescue kits.

Close consultation with the hospital's pharmacy and billing departments is essential for obtaining reimbursement for naloxone and any overdose education provided. Although Medicaid, Medicare and most private insurers cover naloxone prescriptions filled by an outpatient pharmacy, few offer reimbursements for take-home kits dispensed by a hospital or emergency department. However, hospitals may be permitted to bill the patient's insurance for naloxone dispensed from their outpatient pharmacy. The hospital itself may be another potential source of funding when the cost of naloxone is budgeted as a community benefit or subsidized by local health departments or state, county and city agencies. In addition, law enforcement agencies, coroners and drug courts may have access to additional funding.

Existing naloxone access programs, including local harm reduction and drug treatment centers, may have access to other sources of financial support. Settlements from lawsuits against pharmaceutical companies may provide additional resources. However, the most reliable way to obtain OEND funding is to build program reimbursement protocols into the current billing infrastructure that exists between hospitals and payers.

Conclusion

CHA and its partners recognize the tremendous need to address the statewide epidemic of opioid misuse and believes that this can be accomplished with innovative, scientifically supported clinical protocols. These guidelines provide a common sense, lifesaving approach to naloxone distribution that can be rapidly implemented by Colorado hospitals, which are uniquely positioned to make a profound difference in the lives of those gripped by addiction.

About CHA

Colorado Hospital Association (CHA) is the leading voice of Colorado's hospital and health system community. Representing more than 100 member hospitals and health systems throughout the state, CHA serves as a trusted, credible and reliable resource on health issues, hospital data and trends for its members, media, policymakers and the general public. Through CHA, Colorado's hospitals and health systems work together in their shared commitment to improve health and health care in Colorado. For more information, visit www.cha.com.

About CO's CURE

In 2019, CHA, Colorado Medical Society and Colorado Consortium for Prescription Drug Abuse Prevention launched a new initiative designed to address the opioid epidemic in Colorado – Colorado's Opioid Solution: Clinicians United to Resolve the Epidemic (CO's CURE). CO's CURE brings together diverse clinical specialties, all committed to resolving the opioid epidemic in Colorado, to develop and pilot the nation's first comprehensive, multispecialty medical guidelines for limiting opioid use and increasing the use of alternatives to opioids (ALTOs). For more information, visit www.cha.com/CURE.

Appendices

APPENDIX 1

Hospital OEND Program Checklist

- ☐ Identify the providers who will supervise and implement the program.
- ☐ Build or procure the naloxone kits and educational materials.
- ☐ Develop and schedule provider training.
- ☐ Establish criteria for inclusion in the program.
- ☐ Develop systems for identifying patients who meet those criteria and establish targeted electronic health record alerts.
- ☐ Create a standardized order set.
- ☐ Establish modes of billing and reimbursement (to cover the costs of the kit and the provider's time).
- ☐ Identify potential sources of additional program funding.
- ☐ Develop protocols for continuous quality assessment and improvement.

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APPENDIX 2

Sample Overdose Education and Naloxone Discharge Instructions

You were treated in the emergency department today for an opioid overdose, and your care team would like to help you avoid this risk in the future. In the year following an opioid overdose, a person has a one in 10 chance of dying from another overdose. Opioid use disorder is a life-threatening disease. We want to help you stay safe and encourage you to seek treatment when you are ready.

If you would like to begin treatment for opioid use disorder:
The best way to avoid an overdose is to accept medical treatment, including a prescription for buprenorphine. If you would like to stop using illegal or nontherapeutic opioids, we can get you started on buprenorphine and transition your treatment plan to a doctor or clinic near you.

If you are not yet ready to begin treatment:
Even if you are not ready to stop using opioids, you can take steps to reduce the risk of overdose. It's extremely important for you to know what substance you're putting into your body, especially when injecting drugs. Counterfeit pain pills may also contain unknown and potentially lethal ingredients. Potent forms of fentanyl can cause overdose in very small doses.

These steps can help reduce your risk of overdose death:

- Tell your friends and family where to find your naloxone kit and teach them how to use it.
- Never use opioids alone.
- Try a test dose of the drug you intend to inject, especially if it is from a new source.
- Never use opioids with alcohol, benzodiazepines (e.g., Xanax, Ativan, Valium, Klonopin) or other sedating substances.
- Be careful if using any drug after a period of abstinence. Abstinence can reduce a person's tolerance to the drug and increase the risk of overdose.
- The Denver Harm Reduction Action Center (231 East Colfax Avenue; **303-572-7800**) is an excellent resource for anyone struggling with an opioid use disorder.

Your Take-Home Naloxone Kit

We are providing you with a take-home naloxone kit that you or others can use to reverse an opioid overdose. An opioid overdose can cause brain damage or death because it impairs breathing. Naloxone saves lives by restoring breathing.

The kit you will take home today includes a naloxone mist that is delivered through the nose. Before you leave the hospital, your team will teach you how to assemble and use the medication. If you'd like to review those instructions or teach others to use the kit, we encourage you to watch this helpful instructional video: https://youtu.be/BHNelucT728. OpiRescue, a free smartphone app, also explains how to assemble and use the kit.

It's very important to let your family and friends know where your naloxone is stored and how to use it. The medication expires after two years and should be stored at room temperature. Never store it in a hot car.

Although naloxone can cause a rapid withdrawal from opioids that is uncomfortable and can cause agitation, this process does not put the user in any medical danger. While naloxone will not reverse overdose in someone who has used too much alcohol, cocaine or methamphetamine, it is a safe medication and will not cause harm in such situations.

(continued)

Appendices continued

Be Prepared

Anyone can obtain naloxone at a Colorado pharmacy without a prescription. If you know others who might benefit from having the medication on hand, please feel free to request additional prescriptions before you leave the hospital today.

An intranasal version of naloxone, called Narcan, is available without a prescription at most major pharmacies. This nasal spray may be easier to use than the kit you will take home today. Most insurers, including Medicaid, will cover the full cost of the spray or charge a copay of $10-$20.

It is important to know that Colorado's Good Samaritan law protects those who administer naloxone from any legal liability. It also ensures that no one who overdoses or calls for help can be charged or arrested for drug use or possession. No one should be scared to call 911 for fear of prosecution.

Download the OpiRescue app to your smartphone. This app will:

- Help you identify an opioid overdose
- Guide you through an overdose rescue, step by step
- Help you find a nearby pharmacy that dispenses naloxone
- Connect you with programs and providers that treat opioid use disorders
- Provide live access to a behavioral health specialist who can help you find treatment

SOURCE: *Created by UC Davis Center for Design in the Public Interest and UC Davis Health*

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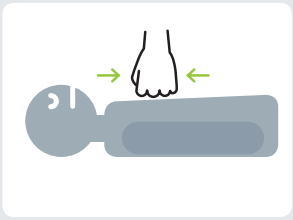
1 Try to wake the person up



Shake them and shout.

If there is no reponse, **grind your knuckles into their breastbone** for 5 to 10 seconds.

2

call 911

3 Give naloxone
the label may say "Narcan"

nasal spray

Naloxone nasal spray works even if the person is not breathing.

Peel the package open and hold the device.
Do not press until ready to give naloxone.

Place the tip in the nostril.

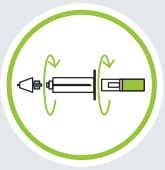
Press button firmly.

or

nasal atomizer spray

Naloxone atomizer spray works even if the person is not breathing.

Pull off safety caps.



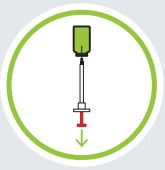
Screw pieces together.
Do not press until ready to give naloxone.

Spray **one half** of the medicine into **each nostril.**

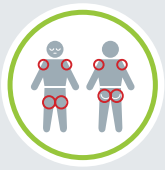
or

injection

Flip off the cap to reveal the latex seal on the top of the bottle.



Turn bottle upside down and pull the plunger on the syringe.



Inject into muscle such as the **shoulders, thighs, or buttocks.**
Push the plunger all the way down.

4 Check for breathing

Give CPR if you have been trained

Or, do rescue breathing:

1. Tilt the head back, open the mouth, and pinch the nose
2. **start with 2 breaths** into the mouth
3. then, **give 1 breath every 5 seconds**
4. **continue** until help arrives

5 Be prepared to give a second dose of naloxone

If the person does not wake up in 3 minutes, give a second dose of naloxone.

Turn the person on their side to prevent choking.

Naloxone wears off in **30 to 90 minutes.**

***SOURCE**: Created by UC Davis Center for Design in the Public Interest and UC Davis Health*

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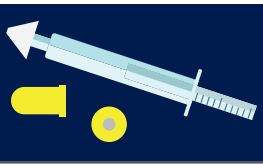
APPENDIX 3
Available Naloxone Formulations

Naloxone Product Comparison				
	Injectable (and IN), Generic	**Intranasal, Branded**	**Injectable, Generic[1]**	**Auto-injector, Branded**
Brand name		Narcan nasal spray		Evzio auto-injector
				
FDA approved (Labeling includes instructions for layperson use.)	X (for IV, IM, SC)	X X	X	X X
Assembly required	X		X	
Fragile	X			
Dose can be titrated	X		X	
Strength	2mg/2mL	4mg/0.1 ml 2mg/0.1 mL	0.4mg/mL 4mg/10 mL	2mg/0.4mL
Storage requirements (Protect from light.)	Store at 15°C-30°C (59°F-86°F); fragile (glass)	Store at 15°C-25°C (59°F-77°F); excursions from 3.9°C-40°C (39°F -104°F)	Store at 20°C-25°C (68°F-77°F); breakable (glass)	Store at 15°C-25°C (59°F -77°F); excursions from 3.9°C-40°C (39°F -104°F)
Cost/kit[4]	$$	$$	$	$$$
Prescription variations				
Refills	Two	Two	Two	Two
Rx and quantity	Two 2mL Luer-Jet Luer-Lock needleless syringe *PLUS* two mucosal atomizer devices (MAD-300)	A two-pack of two 4mg/0.1mL (intranasal) A four-pack of four 2mg/0.1mL (intranasal)	Two single-use 1-mL vials *PLUS* two 3mL syringes w/ 23-25 gauge 1-1.5 inch IM needles A 10mL multidose vial PLUS two 3mL syringes with 23-25 gauge 1-1.5-inch IM needles	A two-pack of two 2mg/0.4 mL prefilled auto-injector devices

APPENDIX 4

SBIRT Substance Abuse Screening Protocol

Brief Screen for Substance Use

Question	Positive Screen Criteria
TOBACCO	
Do you currently smoke or use any form of tobacco?	**Positive Screen** = Yes **NEXT STEP:** Explore readiness to quit. Offer assistance and/or arrange additional services.
ALCOHOL	
Drinks per week: How many drinks do you have per week? 12 fl oz beer = 5 fl oz table wine = 1.5 fl oz liquor (vodka, tequila, etc.)  ~5% alcohol ~12% alcohol ~40% alcohol	**Positive screen** = More than 7 drinks per week for a female of any age or a male over age 65 **Positive screen** = More than 14 drinks per week for a male up to age 65 **NEXT STEP:** Consider further screening using the AUDIT or another screening tool. Provide a brief intervention and referral to treatment if indicated.
Drinks per day: When was the last time you had 4 or more drinks per day? (Asked of all females and males over the age of 65) **OR** When was the last time you had 5 or more drinks per day? (Asked of males age 65 and younger)	**Positive Screen =** in the past year **NEXT STEP:** Consider further screening using the AUDIT or another screening tool. Provide a brief intervention and referral to treatment if indicated.
MARIJUANA	
In the past year, how many times have you used marijuana?	**Positive screen =** 1 or more times **NEXT STEP:** Explore quantity and frequency of use. Consider further screening using the CUDIT-R or another screening tool. Provide a brief intervention and referral to treatment if indicated.
OTHER DRUGS	
In the past year, have you used or experimented with an illegal drug or a prescription drug for non-medical reasons?	**Positive Screen** = Yes **NEXT STEP:** Identify specific drugs, quantity and frequency of use. Consider further screening using the DAST or another screening tool. Provide a brief intervention and referral to treatment if indicated.
OTHER POSITIVE SCREEN CRITERIA	
For those age 18 – 20	Any alcohol use
For pregnant women	Any alcohol use

See Reverse for References.

Peer Assistance Services, Inc.

Developed 5/17; Updated 8/19

SOURCE: *Courtesy of Peer Assistance Services, Inc*

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Screening, Brief Intervention, Referral to Treatment: Drug Abuse Screening Test (DAST-10©)

The questions included in the DAST-10 concern information about possible involvement with drugs not including alcoholic beverages during the past 12 months.

In the statements, "drug use" refers to (1) the use of prescribed or over the counter drugs in excess of the directions and (2) any non-medical use of drugs. The various classes of drugs may include: cannabis (marijuana, hashish), solvents, tranquilizers (e.g., Valium), barbiturates, cocaine, stimulants (e.g., speed) hallucinogens (e.g., LSD) or narcotics (e.g., heroin).

In the past 12 months:	Circle response	
1. Have you used drugs other than those required for medical reasons?	**Yes**	**No**
2. Do you use more than one drug at a time?	**Yes**	**No**
3. Are you always able to stop using drugs when you want to?	**Yes**	**No**
4. Have you had "blackouts" or "flashbacks" as a result of your drug use?	**Yes**	**No**
5. Do you ever feel bad or guilty about your drug use?	**Yes**	**No**
6. Does your spouse (or parents) ever complain about your involvement with drugs?	**Yes**	**No**
7. Have you neglected your family because of your use of drugs?	**Yes**	**No**
8. Have you engaged in illegal activities in order to obtain drugs?	**Yes**	**No**
9. Have you ever experienced withdrawal symptoms (felt sick) when you stopped taking drugs?	**Yes**	**No**
10. Have you had medical problems as a result of your drug use (e.g., memory loss, hepatitis, convulsions, bleeding, etc.)?	**Yes**	**No**

Developed on 07/15/2008. For more information, go to www.healthteamworks.org or call (303) 446-7200.

SOURCE: *Courtesy of HealthTeamWorks and Peer Assistance Services, Inc.*

(continued)

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Screening, Brief Intervention, Referral to Treatment: Scoring the DAST-10©

DAST-10 Score:_____

Score 1 point for each question answered "yes," except for question 3 for which a "no" receives 1 point.

DAST-10 Interpretation

Score	Degree of Problems Related to Druge Abuse	Suggested Action
0	No problems reported	None at this time
1-2	Low level	Monitor, re-assess at a later date
3-5	Moderate level	Further investigation
6-8	Substantial level	Intensive assessment
9-10	Severe level	Intensive assessment

1982 by the Addiction Research Foundation. Author: Harvey A. Skinner Ph.D.

Developed on 07/15/2008. For more information, go to www.healthteamworks.org or call (303) 446-7200.

SOURCE: *Courtesy of HealthTeamWorks and Peer Assistance Services, Inc.*

References

1 Opioid Crisis in Colorado: The Office of Behavioral Health's Role, Research and Resources. Department of Human Services. https://www.colorado.gov/pacific/cdhs/opioid-crisis-colorado-office-behavioral-healths-role-research-and-resources. Published October 30, 2018. Accessed March 13, 2019.

2 National Institute on Drug Abuse. Colorado Opioid Summary. NIDA. https://www.drugabuse.gov/drugs-abuse/opioids/opioid-summaries-by-state/colorado-opioid-summary. Published February 1, 2018. Accessed March 13, 2019.

3 Centers for Disease Control and Prevention. 2018 Annual Surveillance Report of Drug-Related Risks and Outcomes — United States. Surveillance Special Report. Centers for Disease Control and Prevention, U.S. Department of Health and Human Services. Published August 31, 2018. Accessed March 13, 2019 from www.cdc.gov/drugoverdose/pdf/pubs/2018-cdc-drugsurveillance-report.pdf.

4 Jones CM. Heroin use and heroin use risk behaviors among nonmedical users of prescription opioid pain relievers – United States, 2002–2004 and 2008–2010. Drug and Alcohol Dependence. 2013;132(1-2):95-100. doi:10.1016/j.drugalcdep.2013.01.007.

5 Opioid Overdose. Centers for Disease Control and Prevention. https://www.cdc.gov/drugoverdose/epidemic/index.html. Published December 19, 2018. Accessed March 13, 2019.

6 Hedegaard H, Miniño AM, Warner M. Drug overdose deaths in the United States, 1999–2017. NCHS Data Brief, no 329. Hyattsville, MD: National Center for Health Statistics. 2018.

7 Drug Overdoses Continued to Increase in 2017. Colorado Health Institute. https://www.coloradohealthinstitute.org/research/drug-overdoses-continued-increase-2017. Published August 29, 2018. Accessed June 13, 2019.

8 Colorado Hospital Association. Colorado Opioid Safety Pilot Results Report. Published January 2018. Accessed March 13, 2019 from https://cha.com/wp-content/uploads/2018/01/CHA.090-Opioid-SummitReport_FINAL.pdf.

9 Zubrzycki J. Drug Overdoses in Colorado: A Statewide Challenge. Colorado Health Institute. https://www.coloradohealthinstitute.org/blog/drug-overdoses-colorado-statewide-challenge. Published April 2, 2018. Accessed March 13, 2019.

10 American Medical Association. Spotlight on Colorado - Best Practices and Next Steps in the Opioid Epidemic. Published January 2019. Accessed March 13, 2019 from https://www.end-opioid-epidemic.org/wp-content/uploads/2019/01/AMA-Paper-Spotlight-on-Colorado-January-2019_FOR-WEB.pdf.

11 Wheeler E, Jones TS, Gilbert MK, Davidson PJ, Centers for Disease Control and Prevention (CDC). Opioid Overdose Prevention Programs Providing Naloxone to Laypersons - United States, 2014. MMWR Morb Mortal Wkly Rep. 2015;64(23):631-5

12 Mcdonald R, Strang J. Are take-home naloxone programmes effective? Systematic review utilizing application of the Bradford Hill criteria. Addiction. 2016;111(7):1177-1187. doi:10.1111/add.13326.

13 Doe-Simkins M, Walley AY, Epstein A, Moyer P. Saved by the Nose: Bystander-Administered Intranasal Naloxone Hydrochloride for Opioid Overdose. American Journal of Public Health. 2009;99(5):788-791. doi:10.2105/ajph.2008.146647.

14 Walley AY, Xuan Z, Hackman HH, et al. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. BMJ. 2013;346. doi:10.1136/bmj.f174.

15 Bird SM, Parmar MK, Strang J. Take-home naloxone to prevent fatalities from opiate-overdose: Protocol for Scotland's public health policy evaluation, and a new measure to assess impact. Drugs (Abingdon Engl). 2014;22(1):66-76.

16 Tzemis D, Al-Qutub D, Amlani A, Kesselring S, Buxton JA. A quantitative and qualitative evaluation of the British Columbia Take Home Naloxone program. CMAJ Open. 2014;2(3). doi:10.9778/cmajo.20140008.

17 Telligen. Opioid Overdose and Naloxone Information by State - Telligen QIN. QIO. https://www.telligenqinqio.com/resource/our-work/opioid-evidence-research/opioid-evidence-research-resources/opioid-overdose-and-naloxone-information-by-state/. Published December 2018. Accessed March 13, 2019.

18 Coffin PO, Sullivan SD. Cost-effectiveness of distributing naloxone to heroin users for lay overdose reversal. Annals of Internal Medicine. 2013;158(1):1-9. doi: 10.7326/0003-4819-158-1-201301010-00003.

19 Langham S, Kenworthy J, Grieve R, Dunlop W, Wright A. Cost-Effectiveness of Take Home-Naloxone for the Prevention Of Fatalities from Heroin Overdose in the UK. Value in Health. 2018;21(4). doi:10.1016/j.jval.2016.09.1040.

20 Albert S, Brason FW, Sanford CK, Dasgupta N, Graham J, Lovette B. Project Lazarus: Community-Based Overdose Prevention in Rural North Carolina. Pain Medicine. 2011;12(suppl 2). doi:10.1111/j.1526-4637.2011.01128.x

21 Surgeon General. Surgeon General's Advisory on Naloxone and Opioid Overdose. US Department of Health and Human Services https://www.surgeongeneral.gov/priorities/opioid-overdose-prevention/naloxone-advisory.html. Accessed March 13, 2019.

22 Information sheet on opioid overdose. World Health Organization. https://www.who.int/substance_abuse/information-sheet/en/. Published August 21, 2018. Accessed March 13, 2019.

23 American Psychiatric Association. Nearly One in Three People Know Someone Addicted to Opioids; More than Half of Millennials believe it is Easy to Get Illegal Opioids. https://www.psychiatry.org/newsroom/news-releases/nearly-one-in-three-people-know-someone-addicted-to-opioids-more-than-half-of-millennials-believe-it-is-easy-to-get-illegal-opioids. Published May 7, 2017. Accessed March 13, 2019.

24 Lambdin BH, Zibbell J, Wheeler E, Kral AH. Identifying gaps in the implementation of naloxone programs for laypersons in the United States. International Journal of Drug Policy. 2018;52:52-55. doi:10.1016/j.drugpo.2017.11.017.

25 Opioid Overdoses Treated in Emergency Departments | VitalSigns | CDC. Centers for Disease Control and Prevention. https://www.cdc.gov/vitalsigns/opioid-overdoses/index.html. Accessed June 7, 2019.

26 Weiner S, Baker O, Bernson D, Schuur J. One-Year Mortality of Opioid Overdose Victims Who Received Naloxone by Emergency Medical Services. Annals of Emergency Medicine. 2017;70(4). doi:10.1016/j.annemergmed.2017.07.281.

(continued)

References continued

[27] Strang J, Manning V, Mayet S, et al. Overdose training and take-home naloxone for opiate users: prospective cohort study of impact on knowledge and attitudes and subsequent management of overdoses. Addiction. 2008;103(10):1648-1657. doi:10.1111/j.1360-0443.2008.02314.x.

[28] Substance Abuse and Mental Health Services Administration, Results from the 2011 National Survey on Drug Use and Health: Summary of National Findings, NSDUH Series H-44, HHS Publication No. (SMA) 12-4713. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2012.

[29] Madras BK, Compton WM, Avula D, et al. Screening, brief interventions, referral to treatment (SBIRT) for illicit drug and alcohol use at multiple health care sites: Comparison at intake and 6 months later. Drug Alcohol Depend. 2009;99(1-3):280-295.

[30] Gowing L, Farrell M, Ali R, White JM. Alpha2-adrenergic agonists for the management of opioid withdrawal. Cochrane Database Syst Rev. 2016, Issue 5. Art. No.: CD002024.doi: 10.1002/14651858.CD002024.pub5.

[31] Szalavitz M, Szalavitz M. Preventing Overdose: Obama Administration Drug Czar Calls For Wider Access to Overdose Antidote. Time. http://healthland.time.com/2012/08/22/preventing-overdose-obama-administration-drug-czar-calls-for-wider-access-to-overdose-antidote. Accessed October 20, 2015.

[32] Attorney General Holder Announces Plans for Federal Law Enforcement Personnel to Begin Carrying Naloxone | OPA | Department of Justice. 2014. http://www.justice.gov/opa/pr/attorney-general-holder-announces-plans-federal-law-enforcement-personnel-begin-carrying. Accessed October 20, 2015.

[33] Marmura MJ, Silberstein SD, Schwedt TJ. The acute treatment of migraine in adults: the american headache society evidence assessment of migraine pharmacotherapies. Headache. 2015;55(1):3-20.

[34] Mufson S, Zezima K. Obama announces new steps to combat heroin, prescription drug abuse. The Washington Post. https://www.washingtonpost.com/politics/white-house-announces-newsteps-to-combat-heroin-prescriptiondrug-abuse/2015/10/21/e454f8fa-7800-11e5-a958-d889faf561dc_story.html. Accessed October 23, 2015.

[35] Koester S, Mueller SR, Raville L, Langegger S, Binswanger IA. Why are some people who have received overdose education and naloxone reticent to call Emergency Medical Services in the event of overdose? International Journal of Drug Policy. 2017;48:115-124. doi:10.1016/j.drugpo.2017.06.008.

[36] Baca CT, Grant KJ. What heroin users tell us about overdose. Journal of Addictive Diseases. 2007;26(4):63-68.

[37] Lebin JA, Chehn BC, Korab G, Jablonowski K, Whiteside LK. 254 rates of naloxone prescriptions following implementation of a take-home naloxone program from the emergency department. Annals of Emergency Medicine. 2017; 70(1) Suppl:S101.

[38] Gupta R, Shah ND, Ross JS. The Rising Price of Naloxone — Risks to Efforts to Stem Overdose Deaths. New England Journal of Medicine. 2016;375(23):2213-2215. doi:10.1056/nejmp1609578.

[39] Tippey KG, Yovanoff M, McGrath LS, Sneeringer P. Comparative human factors evaluation of two nasal naloxone administration devices: NARCAN® nasal spray and naloxone prefilled syringe with nasal atomizer. Pain and Therapy. 2019;8(1):89-98.

[40] Krieter PA, Chiang CN, Gyaw S, Mccann DJ. Comparison of the Pharmacokinetic Properties of Naloxone Following the Use of FDA-Approved Intranasal and Intramuscular Devices Versus a Common Improvised Nasal Naloxone Device. The Journal of Clinical Pharmacology. 2019. doi:10.1002/jcph.1401.