

Overdose Prevention and Response

A GUIDE FOR PEOPLE WHO USE
DRUGS AND HARM REDUCTION
STAFF IN EASTERN EUROPE
AND CENTRAL ASIA



OPEN SOCIETY INSTITUTE
Public Health Program

OVERDOSE Prevention and Response

A Guide for People Who Use Drugs
and Harm Reduction Staff in
Eastern Europe and Central Asia

by Matt Curtis and Lydia Guterman

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ISBN: 978-1-891385-86-5

Published by

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This project was undertaken with the financial support of the International Harm Reduction Development program of the Open Society Institute and the Government of Canada provided through the Canadian International Development Agency (CIDA).

The views expressed herein are those of the authors, and do not necessarily reflect the views of the Open Society Institute or CIDA.

Projet réalisé avec l'appui financier du Programme International du Développement de la Réduction des Méfaits de l'Open Society Institute et du gouvernement du Canada agissant par l'entremise de l'Agence canadienne de développement international (ACDI).

Acknowledgments

This field guide would not have been possible without the work of drug user activists and harm reductionists in many cities around the world. In particular, we thank our colleagues who had the patience to teach us about overdose, answer our questions, and be an inspiration, including Dan Bigg, Douglas Bruce, Luciano Colonna, Philip Coffin, Amanda Davila, Daliah Heller, Emalie Huriaux, Caroline Rath, Sharon Stancliff, John Welch, Nancy Worthington, Rachel McLean, and Pete Morse. This book benefited greatly from the ideas, comments, and general hard work of Dasha Ocheret and Anya Sarang of the Russian Harm Reduction Network. Thanks to Sophie Pinkham and Daniel Wolfe for their help in editing the manual.

Portions of the guide draw on these resources:

- *Overdose Prevention and Survival: The Straight Dope Series*
Harm Reduction Coalition, www.harmreduction.org
- *Getting Off Right: A Safety Manual for Injection Drug Users*
Harm Reduction Coalition, www.harmreduction.org
- *Opiate Overdose Prevention and Response Curriculum*
Lower East Side Harm Reduction Center, www.leshrc.org

The tips for trainers included in chapter 10 came from John Welch, Emalie Huriaux, Caroline Rath, and Matt Curtis. Mikhail Torban provided an overview of drug overdose in Eastern Europe and Central Asia.

This is the second book of a field guide series for drug user activist organizations and harm reduction workers in Eastern Europe. More guides are available at www.soros.org/harm-reduction.

NOTE

While the content of this book has been reviewed by physicians in the United States and Russia, the information is for educational purposes and is not intended as a substitute for professional medical advice. The authors of this book strongly recommend that emergency medical personnel are contacted immediately to respond to an overdose.

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1. Preface

*By Dan Bigg**

Overdose has reached our friends, seemingly in near random ways, and taken their lives. In response we develop superstitions to protect ourselves. We avoid people, places, and things associated with overdose—except the drugs themselves. We use home remedies—walk people around, throw them in the shower, slap them, put ice on their crotches, inject them with salt or milk or a stimulant like coke or speed. While these approaches may possibly have worked once or twice to avoid a lethal breathing posture or to help someone avoid throwing up into their lungs, what they really have in common is the strong and admirable desire to save a life. In an overdose emergency, despite a lack of accurate information and materials about overdose prevention and response, people using drugs wanted to save the life of a family member, a friend, or another drug user in need. This is the true character of drug users.

* Dan Bigg is executive director of the Chicago Recovery Alliance, a pioneering American harm reduction organization. Dan was the architect of the first naloxone distribution project in the United States, and worked for several years as an advisor to new harm reduction organizations in Eastern Europe.

The approach to overdose prevention and response described in this guide book is based on information, techniques, and medications that have been used in modern medicine for decades. The philosophy of harm reduction brings this proven, lifesaving technology into practice where it is truly needed: among drug users, where overdoses first occur and opportunities for intervention are the greatest.

I am a co-founder and the current director of the Chicago Recovery Alliance, a harm reduction organization that provides comprehensive services to drug users in the Chicago area, including distributing 35,000 syringes per week. I, too, have seen friends die needlessly from overdose, and because of this I champion efforts to give drug users the power to prevent and effectively respond to overdoses when and where they occur. In Chicago, heroin users, motivated by the overdose death of our brother John, first learned about naloxone (an antidote to opioid overdose) and brought it into our world in 1997. Between 1997 and 1999, Chicago Recovery Alliance started the first program in the United States to train drug users in overdose prevention and response. The program is working, and fatal overdose deaths in the Chicago area dropped from 466 in 2000 to 324 in 2003. As of March 2009, people trained by our organization have reported 1,011 successful overdose reversals. In John's memory, we hope you harness the techniques described here.

The information in this field guide will help you make sense of what might have looked like random flashes of lightning, killing some but sparing others. You may also become angry as you realize that these tools have been around for many years and, despite minimal cost and little capacity for misuse, have been kept from drug users. Whatever the reasons for this state of affairs, we must take responsibility for sharing this open secret. None of what you will read here was hidden, yet we may have imagined such care for ourselves impossible or have been too overcome with shame, isolation, and self-loathing to bring it into our world. The fact is, *no one deserves to die because of their drug use*. We can learn to protect ourselves and our communities from overdose—and respond effectively when it does happen—to ensure that we are around to be part of life together.

2. Introduction

This book, created by experienced overdose trainers and reviewed by peers and medical professionals, is intended as a resource for the development and implementation of overdose prevention and response programs by drug user activist groups and harm reduction organizations in Eastern Europe and Central Asia. It combines practical information about overdose risk with strategies for preventing, identifying, and responding effectively. It includes descriptions of commonly used drugs, sample training curricula, and a collection of “tips from the field” from experienced overdose trainers and harm reduction experts. We hope it will empower people who use drugs, harm reduction organizations, social workers, family and friends of drug users, and all others interested in acting to prevent and respond to overdose.

By the time you finish reading this guide, you will understand:

- What happens to the body during an overdose
- What kinds of drugs can cause overdose, and how drugs can interact with each other
- How to recognize an overdose
- How to respond by supporting someone during and after an overdose (providing rescue breathing, administering naloxone, and calling for help)
- How to use this information to talk to your peers, provide training to others, and set up overdose programs in your community

3. Drug Overdose in Eastern Europe and Central Asia

By Dr. Mikhail Torban*

The first thing noticed by anyone who looks at the issue of overdose in the former Soviet countries is the grand scale of the problem. Recent data show that at least 7,500 people died from drug overdose in 2006 in Russia alone.¹ A regional survey on overdose in Latvia, Kyrgyzstan, Romania, Russia, Tajikistan, and Ukraine conducted by the Eurasian Harm Reduction Network² in 2008 suggests overdose to be a major cause of mortality among people who use drugs.

For many reasons, there are no truly reliable statistics on overdose incidence and mortality in the region. But surveys among people

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1 Koshkina, E.A. "Drug Use Associated Mortality by Medical Statistics Data." Presentation at Petrozavodsk. 2008

2 Eurasian Harm Reduction Network. *Overdose: A Major Cause of Preventable Death in Central and Eastern Europe and Central Asia. Recommendations and Overview of the Situation in Latvia, Kyrgyzstan, Romania, Russia and Tajikistan.* 2008. Available online at www.harm-reduction.org.

who use drugs show it to be a tragically common occurrence. One published study,³ for example, interviewed 763 injection drug users in 16 Russian cities. Nearly two in three of them had experienced overdose themselves, while more than 80 percent had witnessed an overdose and 15 percent had witnessed a fatal overdose. A majority of the people interviewed felt that they were not prepared to respond effectively to overdose.

Concerned about the situation, staff of the Bekhterev Institute investigated overdose in St. Petersburg during 2006 and 2007. We interviewed 60 people who used drugs, and a number of people representing ambulance staff, police, and narcologists.

Our investigation found that 65 percent of overdose cases took place at home or at a friend's home. In 70 percent of cases, the people present at the time of an overdose were friends and acquaintances who also use drugs, which suggests that there is usually someone who could help. Throughout the region, many drug users live with their parents, but these parents often know nothing about how to recognize overdose and what to do to help. That is why it is very important to teach them (to give them this book for instance) what to do in the event of overdose—it is very basic information that can save many lives.

In examining what drugs people were using at the time of overdose, heroin and other opiates were most common. A significant number of overdose deaths occurred in people who combined heroin use with alcohol or pills. According to medical examiner reports in Leningrad oblast from 2001 to 2005, 65 percent of people who died from overdose had alcohol in their blood.

3 Sergeev, Boris, Andrey Karpats, Anya Sarang and Mikhail Tikhonov. "Prevalence and Circumstances of Opiate Overdose Among Injection Drug Users in the Russian Federation." *Journal of Urban Health*, vol. 80, no. 2 (2003).

Importantly, according to our research about 42 percent of overdoses occurred soon after a person had left drug treatment or had been incarcerated. These individuals came back home, used their usual dose, and had an overdose. Many of the people we interviewed also said they often used drugs in a rush, especially if they lived with relatives or somebody was at home. In such situations it may be harder to calculate the dose and to inject slowly, and the risk of overdose increases.

The great majority of our respondents tried to help when witnessing an overdose, by giving rescue breathing or through physical stimulation. Very few people reported doing nothing, though in only 25 percent of cases did people call an ambulance. Perhaps surprisingly, when we asked if people had encountered situations when ambulance staff called the police, the answer was always no, except when someone had died. In addition, our respondents reported that in all cases in which an ambulance arrived in time, the overdose victim was revived. We heard from police that we interviewed that they have no intention of arresting either victims or witnesses. Clearly, given the widespread fear by people who use drugs that police will respond to overdose calls, and conflicting information from other cities, more study is needed. But our research nonetheless reinforces the importance of calling for medical aid as soon as an overdose occurs.

Now, in Russia and other former Soviet countries, a number of organizations are organizing overdose prevention projects and providing trainings for people who use drugs. Some projects are also distributing free naloxone, a medication that safely reverses opioid overdose, and which is difficult to buy through the pharmacy system. We have received very good feedback from people who use drugs about the work of such projects in places like Samara and Naberzhnye Chelny in Russia, and Khorog in Tajikistan. More programs like these are urgently needed, alongside further research and more reliable data collection systems, if we are to impact the overdose epidemic in our region.

4. Overdose Background and Basics

Overdose happens when a person takes more of a drug or combination of drugs than the body can handle. As a consequence, the central nervous system (CNS) is not able to control basic life functions. The person may pass out, stop breathing, have heart failure, or experience seizures. Overdose can be fatal, although in a majority of cases it is not. However, there are ways to prevent overdose from happening and ways to respond if it does. The difference between life and death in the event of an overdose greatly depends on how witnesses react and take care of the person who has overdosed.

It is important to remember that anyone can overdose. First-time users, long-time users, old people, young people, and everyone in between are susceptible. There is no exact formula for determining how much of a certain drug, or combination of drugs, will lead to an overdose. Individual characteristics such as a person's weight, health, tolerance for a drug at a particular time, drug potency, route of administration, and speed of use all play a role in determining how much a person's body can handle. This will be discussed in more detail later in the guide book. The amount of a drug (or drug combination) that causes a person to overdose can fluctuate, so users should be advised that there is no such thing as a real "safe dose."

The Central Nervous System

The central nervous system includes the brain and spinal cord, and controls your behavior, your body's ability to move, and basic functions like breathing, heartbeat, sleep, sweating, and many other things. All drugs that people take to get high affect the central nervous system, and when we talk about “stimulant” or “depressant” drugs, we're talking about what they do to chemicals in the brain.

What happens to the body during an overdose?

What happens in the body during an overdose is determined by what kind of drug is overwhelming the body's systems. The primary distinction necessary for understanding overdose is the distinction between “depressants” (drugs that slow down CNS processes) and “stimulants” (drugs that speed up CNS processes).

Basically, depressants act by slowing down the body. Widely used depressant drugs include opiates (such as heroin, methadone, and opium), benzodiazepines (such as Valium and Klonopin), barbiturates (such as phenobarbital), and alcohol. A person overdosing on depressants may fall into an extended “nod out,” become unresponsive or unconscious, have difficulty or stop breathing, or vomit. **Fatal overdose is most often the result of breathing failure**, and sometimes raspy and infrequent breathing is a sign of a problem.

On the other hand, stimulants speed up CNS processes, such as heart rate and breathing. A stimulant overdose occurs when a person has a seizure, or when the heart beats so fast that it gives out and causes a heart attack or stroke. Generally speaking, stimulant

overdoses appear to be much less common than opioid overdoses. The extreme agitation or panic that some people commonly refer to as “stimulant overdose,” while unpleasant, are NOT symptoms of a true overdose, and are more accurately described as a product of several factors, often including the drug itself as well as lack of sleep or dehydration. A person experiencing a true stimulant overdose may stop breathing, have seizures, or suddenly collapse or lose consciousness. Widely used stimulant drugs include cocaine and amphetamine-type stimulants (ATS), including “speed” (vint, boltushka), methamphetamine (pervitin, crystal), and ecstasy.

In the case of both stimulant and depressant overdose, the biggest problem occurs when a person cannot breathe adequately. If a person cannot breathe, oxygen cannot get to the brain. It takes only a few minutes without oxygen for the brain to suffer serious, often fatal damage.

Many drugs are unlikely to cause fatal overdose

There are many, many drugs that people take to get high or deal with problems, but relatively few can cause fatal overdose (or any overdose at all). It is essentially impossible, for example, to overdose on any kind of cannabis, which is one of the least toxic drugs known. Psychedelic drugs such as LSD or “magic mushrooms” also cannot, in general, cause overdose. They will, however, severely disorient someone if taken in high doses, and can cause dangerous behavior. Benzodiazepines such as fenazepam, nitrazepam, and lorazepam—commonly prescribed as anti-anxiety medications and often taken recreationally—rarely cause fatal overdose on their own except in extremely high doses.

The drugs with the greatest potential to cause fatal overdose are depressant (mostly opioids) and stimulant drugs that are injected, including heroin; shirka, khanka, cherny, and other home-made

opiates; methamphetamine; cocaine; and amphetamine-type stimulants. Barbiturate pills (such as Seconal or Amytal) can cause fatal overdose, though in the past 30 years barbiturates have largely been replaced by benzodiazepines in most countries.

Mixing increases risk. Drugs that may be low risk for overdose alone, especially drugs with the same effects, can greatly increase risk of overdose when combined. Drinking alcohol or taking benzodiazepines with heroin or other depressants is much riskier than using heroin alone. Mixing benzodiazepenes with other CNS depressants, including alcohol, can also be extremely dangerous.

Drug classes and categories

Depressants and stimulants can be further broken down into drug classes. The following chart lists commonly used drugs by class.

Drugs by Class			
Depressants (Downers)			Stimulants (Uppers)
Opioids (Opiates)	Benzodiazepines	Sedatives/Tranquilizers	
Heroin (tar, "China White")	Fenazepam	Alcohol	Methamphetamine (vint, pervitin)
Methodone	Nitrazepam	Antidepressants	Cocaine
Kustarnye	Diazepam (Valium,	Barbiturates	MDMA (Ecstasy)
Injectable Opiates (Shirka, khanka, cherny, semena, etc.)	Relanium, Seduksen)		Amphetamine-Type Stimulants (speed, jeff, boltushka, etc.)
Morphine	Clonazepam (Klonopin)		
Codeine	Lorazepam (Ativan, Merlit)		
(terpincod, tetralgin, etc.)	Chlordiazepoxide (Librium)		
Tramadol	Alprazolam (Xanax)		
Fentanyl			

Opioids refer to a group of natural and synthetic chemical substances that work by binding to the body’s opioid receptors, primarily in the central nervous system and gastrointestinal tract. Opioids are often used in medicine because they are the most effective medications for pain relief.

Opioids differ in both their strength and in the length of time they act on your body. Both the length of time a drug stays in the body and the strength of a drug have important implications for the overdose risk associated with that drug when used alone or in combination with other drugs.

Opioid drug	DURATION	Potency
Methadone	24–32 hours	++++
Heroin	6–8 hours	+++++
Oxycodone (OxyContin)	12 hours	++++
Tramadol	6–14 hours	+
Demerol	2–4 hours	++
Morphine	3–6 hours	+++
Khanka, Shirka (in Ukraine), and other acetylated opium drugs	4–6 hours	Highly variable, but usually less than heroin

This table is adapted with permission from the Lower East Side Harm Reduction Center’s “Opiate Overdose Prevention and Response Curriculum” developed in 2004.

Stimulants or “uppers” are a class of drugs that increase alertness and awareness by speeding up the nervous system, including heart rate and breathing, by increasing the levels of neurotransmitters like serotonin and dopamine in the body. Many also produce a feeling of euphoria. They include a wide variety of both prescription and illegal drugs that are mostly synthesized from chemicals found in plants like ephedrine and coca, though illegally produced stimulants

often are cut with other substances or contain sometimes dangerous byproducts depending on how they are made.

Drug	Duration	Potency
Methamphetamine	12+ hours	++++
Amphetamine-Type Stimulants	Highly variable	Highly variable
Cocaine	0.5–2 hours	+++
MDMA	3–5 hours	++
Efedron	0.5–2 hours	+++

Although other kinds of psychoactive drugs are rarely implicated in fatal overdose on their own, many are often dangerous in combination with opioids or stimulants. For more on this, please see chapter eight for descriptions of specific street and prescription drugs, including pertinent overdose risk factors and prevention tips.

5. Overdose Prevention

“It is best not to assume that users know everything about risk factors just because they have been around a long time.”

—Caroline Rath,
Opioid Overdose Prevention Coordinator,
Harm Reduction Coalition

This chapter looks at factors that lead to overdose and discusses ways in which overdose risk can be minimized. In general, any person who uses drugs should consider the following seven tips:

1. Understand your tolerance and be aware of when it might be lower (for example, when you have not been using for a while).
2. Avoid mixing drugs, and mixing drugs and alcohol.
3. Recognize that medications prescribed by a doctor may interact with street drugs and cause an overdose.
4. Take care of your health: eat well, drink plenty of water, and sleep.
5. If you have a new dealer or unfamiliar supply, use a small amount at first to see how strong it is.
6. Avoid using alone: if you overdose, you want someone around to help.
7. You're less likely to overdose from snorting or smoking drugs than injecting them.

Factors that can increase overdose risk and strategies to prevent overdose

Tolerance

A person's tolerance for a drug (or combination of drugs) can change for a variety of reasons. If a person has gained or lost weight, started taking new medications, is experiencing depression or exhaustion, or is beginning to use again after a period of abstinence, his body may not be able to handle the same dose that it is used to taking. The body's tolerance decreases when there is not regular access to drugs. People should be especially mindful of reduced tolerance when resuming use after incarceration, drug treatment, detox, or a self-imposed hiatus. It is likely that a smaller dose than they previously used will get them high, and that the usual dose may cause overdose. It is always important to consider if your body or life have undergone any changes that might alter how your drugs affect you. If you are using a drug for the first time, be extremely careful, as you have no idea of your tolerance.

Strategies to reduce overdose risk when your tolerance has decreased:

1. Take control of your own drug preparation and intake. It is likely that a smaller dose will get you high.
2. Divide your normal dose in half, do a tester shot, and allow the drugs time to take effect before you do more.
3. Consider changing your route of administration to something that gets you high more slowly. If you usually inject, try snorting.
4. Take special care to use with someone else who knows how to help in case you overdose.

Mixing drugs

Mixing drugs of the same class like opiates, pills, and alcohol (all depressants) together can be very dangerous and is one of the most common reasons for overdose. Mixing intensifies the high but also greatly increases overdose risk. Mixing drugs also may increase the risk for passing out and vomiting, which can block a person's airway if he or she chokes. Mixing drugs of different classes (i.e.: mixing stimulants and depressants) is also dangerous. Mixing prescription drugs with street drugs (as mentioned above) should be avoided if possible.

Strategies for reducing overdose risk related to mixing drugs:

1. Avoid mixing drugs that have the same effects. For example do not mix opiates with alcohol or pills (all depressants), and do not mix methamphetamine with cocaine (both stimulants).
2. If mixing drugs with different effects, reduce the amount of all drugs used and use slowly.
3. Try to always use the drug that comes on more slowly (like pills) first and wait for it to take effect *before* taking drugs that come on very fast (like anything you inject or smoke). This will help you judge how high you are before you take something that could cause an overdose.

Mixing drugs and alcohol

Alcohol plays an important role in the majority of mixed substance overdoses and should be taken very seriously. Alcohol should not be discounted as a powerful sedative, especially when mixed with other depressants such as opiates and benzodiazepines. In addition, the

dehydration caused by many stimulant drugs may be made much worse by consuming alcohol.

Strategies for reducing overdose risk related to mixing drugs and alcohol:

1. Avoid mixing alcohol with street drugs.
2. If you decide to mix, set an amount of each drug and an amount of alcohol that you believe are safe for you, and do not exceed that amount.
3. If drinking and injecting together, inject before drinking and wait for it to take effect before beginning to drink. This will help you gauge how much alcohol you can safely consume.
4. Eat regularly and drink plenty of water to help the body metabolize.

Accumulation

Sometimes a person overdoses because she simply did too much in too short an amount of time. If the drugs (including alcohol) build up in the body faster than the body can metabolize them, this can lead to overdose. Especially in the cases of cocaine and long-lasting benzodiazepines, it is tempting to re-dose before the body is ready because the high often wears off before the drug is sufficiently cleared from the body.

Strategies for users to reduce overdose risk due to accumulation:

1. Let your drugs take effect before using more to avoid overwhelming the body.
2. Before you begin using, plan how much you will use during that session, and do not exceed that amount. If you have more than you decide to use in that session, put the rest away where you will not be tempted to go to it and surpass your limit.
3. Be aware of how long the drugs (and alcohol) you are using stay in your body to avoid a surprise buildup and overdose.
4. If drinking alcohol and injecting drugs at the same time, inject your dose first before you drink. This way you can better control the amount of alcohol you consume after the shot has taken effect in your body.
5. Wait as long as possible before re-dosing. If others are around, ask them to remind you to wait.

Past overdose events

Recent research has shown that people who have overdosed in the past are at much greater risk of future overdose. One study⁴ among 772 heroin, crack, and cocaine users in New York City found that respondents who had overdosed in the six months before the study were 28 times more likely to have had one or more earlier overdose experiences.

If you have overdosed in the past, know that you may be at greater risk in the future. Stay well informed about prevention measures.

4 Coffin, Phillip O., Melissa Tracy et. al. "Identifying Injection Drug Users at Risk of Nonfatal Overdose." *Academic Emergency Medicine* 14(7): 616–23 (2007).

Strategies for harm reduction programs and medical personnel:

1. Overdose programs should highlight the risk of repeat overdoses, and prioritize outreach for education and naloxone distribution to target people with past overdose experience.
2. Emergency physicians, who are often present in overdose revival, should incorporate a standard post-overdose protocol in their work, which may include providing overdose prevention and response education, dispensing naloxone, and/or referring the patient to opioid agonist therapy such as methadone or buprenorphine, which have been shown to significantly reduce overdose risk.

Health status

Weakness due to recent illness, dehydration, or under-nutrition will likely make the body unable to handle the same dose as a healthy body. Overdose is more likely if the liver and/or kidneys are not working well. In the case of poor health, a smaller dose will likely produce a significant high, and a normal dose may cause overdose.

Strategies for users to reduce the risk of overdose during periods of poor health:

1. If you feel ill or have been diagnosed with a medical condition such as hepatitis that may affect your body's ability to process drugs, avoid using drugs or take a smaller amount than usual.
2. Read the instructions on any legal medications you are taking for possible drug interactions.
3. Stay hydrated and fed, and rest as much as possible.

Using street drugs while on methadone or buprenorphine

If prescribed the appropriate dose of methadone or buprenorphine by a doctor, patients in medication assisted drug treatment should not feel symptoms of withdrawal or extreme craving for street drugs. However, while using only the prescribed dose of methadone or buprenorphine, the patient is unlikely to experience a high. The use of street drugs or alcohol on top of methadone or buprenorphine increases overdose risk, especially with methadone. Methadone is a relatively long lasting and potent opiate. Adding other depressants can greatly impede the body's ability to breathe.

Strategies to reduce overdose risk while on substitution therapy:

1. Avoid or limit the use of other depressants such as alcohol, opiates, benzos, or sedatives when on methadone or buprenorphine.
2. If using street drugs or alcohol on top of methadone or buprenorphine use much less than before you began treatment.

Inconsistent drug quality and potency

There is no “quality control” for street drugs, so it is hard to tell what you are getting. Especially in areas where the drug scene is heavily policed or drug supply is inconsistent, it is likely that the strength and quality of the drugs available varies greatly from day to day. A person's regular amount may lead to overdose if the drugs are unexpectedly strong. Every time there is a new dealer or a new batch of drugs on the scene, the drug's strength can change.

Strategies for reducing overdose risk related to inconsistent quality:

1. Carefully check out any new product. Does it taste, smell, and look normal?
2. If you are unsure about the strength, try injecting a very small amount or snort the first bit to gauge the strength.
3. Try to find a regular dealer and source that you trust enough to talk to him or her about the product.
4. Talk to other buyers about the strength of their drugs.

Using alone

Using alone does not cause an overdose, but it does increase the chance that if a person does overdose, she will die because no one is around to help. There are many reasons people use alone: fear of the police, hiding use from family and friends, or just wanting or needing to use when no one else happens to be around. However, it is strongly recommended that drug use be conducted in a safe space with people you know and trust, and that an overdose plan be discussed in advance of any drug use.

Strategies to reduce overdose risk associated with using alone:

1. Think carefully through each step of drug taking. Is your tolerance low for any reason? Should you use less today?
2. Put together a support team of people who know that you use. Let them know if you are going to use alone, and ask them to check in on you.
3. If you are alone and afraid you are overdosing, call a trusted person or ambulance if you still can and unlock the door to wherever you are.

Route of administration

The route of drug administration determines how quickly the drug takes effect. Intravenous injection will affect the body more quickly and intensely than snorting, smoking, or “skin popping” (subcutaneous injecting) the same amount. Switching to injection from snorting or smoking can increase overdose risk. Also, “slamming” (pushing in the entire shot quickly and at once) is more likely to cause overdose than a slower injection technique.

Strategies for reducing overdose risk associated with changing administration route:

1. If switching to injection from snorting or smoking, use a smaller dose to achieve the same high and avoid overdose.
2. Avoid slamming your shot if possible. Instead, register the shot and then do multiple shorter pushes of the plunger so that you can begin to feel how it affects you.
3. If using benzos or other drugs that come in pill form, consider taking the pills orally instead of shooting them, especially if you are mixing pills with other drugs or alcohol. Aside from reducing overdose risk, taking pills orally reduces the risk of abscesses or other infections related to shooting them. Always remember to take the pills and wait for them to take effect before drinking alcohol or using other drugs. This way you can moderate your use.
4. Being able to inject one type of drug without overdose does not mean that your body will be able to handle injection of any and all substances you may use. Tailor the route you use to the drug’s strength and your experience using it.

Drug interactions with antiretrovirals and other prescription medications

Because both illegal and legally prescribed drugs are very often metabolized by the same systems in the body, there is great potential for interactions to occur when using illegal and prescription medicines at the same time. Although not well understood—drug companies almost never sponsor studies of how illegal drugs might interact with their products—these interactions can be dangerous. Different drugs used in HIV and tuberculosis treatment, for example, can increase the risk of overdose or cause withdrawal symptoms in people dependent on opioids because of how they affect the body's ability to process illegal drugs. In Eastern Europe and Central Asia, this may be becoming a bigger issue as HIV and tuberculosis treatments become more available to people who use drugs.

The bottom line is that **if you are receiving antiretroviral therapy and are taking other legal or illegal drugs, it's always best to talk to your doctor.** For more information about risks related to particular ARVs and other medications, see chapter eight.

6. Recognizing Overdose

It is sometimes difficult to determine if a person is in the danger zone for overdose. This section provides tips for recognizing if a person is overdosing and requires help.

An overdose rarely sets in immediately the way it is portrayed in the movies. The case of finding a person with a needle still in their arm, for example, is uncommon. Instead, most overdoses set in over the course of hours, as a person's body slowly shuts down and breathing becomes more labored (in opioid overdose) or repeated use of a drug over hours or days overwhelms normal cardiovascular function (in the case of stimulant drugs). It is important to stay with and monitor a person who is very high to make sure she does not go into an overdose as the drugs take full effect. Symptoms that may indicate an overdose is happening or is likely to happen are different for stimulant versus depressant drugs, and there is also a distinction between true stimulant overdose and stimulant "poisoning." See the chart *Symptoms of Overdose* for warning signs of each.

Symptoms of Overdose	
<p>Depressants</p> <ul style="list-style-type: none"> • Awake, but cannot speak • Slow heartbeat and pulse • Slow breathing • Blue lips and/or fingernails • Gurgling, raspy breathing • Choking sounds • Passing out • Throwing up • Pale face • Limp body 	<p>Stimulant Poisoning</p> <ul style="list-style-type: none"> • Extreme agitation or anxiety • Foaming at mouth • Very rapid heartbeat, pulse • Elevated body temperature • Quick, shallow breathing • Chest pain, pressure • Choking or gurgling sounds • Throwing up <p>Stimulant Overdose</p> <ul style="list-style-type: none"> • Suddenly collapsing or passing out • Shaking, seizure • Heart attack • Stroke

Chart adapted from *Overdose Prevention and Survival: The Straight Dope Series*. Available at www.harmreduction.org.

Recognizing stimulant overdose

Stimulants (like methamphetamine, amphetamines, and cocaine) speed up the body, which causes increases in heartbeat, blood pressure, and body temperature. A person who has truly overdosed on stimulants will collapse, and their heart or breathing may stop, or they may have a seizure. Other symptoms associated with intensive stimulant use, including extreme agitation or aggression, should not be mistaken for an overdose, but may be a sign that something is going wrong. Complaints of chest pain, shortness of breath, disorientation, and panic may be warning signs of an impending overdose and you should intervene or seek medical attention.

Recognizing depressant/opiate overdose

Depressants like opioids, benzos, or sedatives (like alcohol or tranquilizers) slow down the heart rate and breathing. A person

overdosing on depressants may exhibit any of the symptoms in the chart on page 32.

A person who is overdosing will not necessarily exhibit ALL of these symptoms, but any of these symptoms is a reason to closely monitor the person and be ready for action. When a person is overdosing, he might not be aware of what is going on, so it is important for those around him to be familiar with warning signs.

If a person is not breathing or turning blue, he requires immediate help. Do not wait for him to “get over it” or start breathing again on his own. If a person is not breathing, begin performing rescue breathing immediately. It only takes a few minutes without breathing for a person to die.

Using noise and pain to assess overdose

If a person is not exhibiting immediate warning signs such as shallow breathing or turning blue, a good way to determine if she is in the danger zone for overdose is by using noise or minor pain to see if she is alert. If she does not respond to a normal tone of voice, try calling her name even louder and shaking her a little. If she responds, try to get her up and walk her around. If not, see if she responds to minor pain stimulus like pinching her earlobes or pressing and rubbing your knuckles across her sternum. Unresponsiveness to noise or pain is a sign that the person may be overdosing.

As mentioned above, overdose can take a few hours to set in. A person can slip from being very high into an overdose without warning. Make sure to continue to check on anyone you think might be at risk to ensure the person is still breathing. If possible, get the person up and walk her around. If she is on the ground, lay her on her side in case of vomiting. Assessing a person for signs of overdose once is not enough. Stay alert, and keep checking in!

Sternum rub



PHOTO: CHRISTOPHER JONS

Breathing check



PHOTO: CHRISTOPHER JONS

To check for breathing, put your ear near the person's mouth and nose to listen for breath sounds while watching the chest to see if it is rising and falling consistently.

7. Responding to an Overdose

This section describes the steps, tools, and strategies you can use to revive someone suffering from an opioid—or other drug overdose. Trying to help someone who is overdosing can be a scary and stressful experience, even for people who have responded to many overdoses or experienced overdose themselves. The first thing to keep in mind, though, is that if handled properly the great majority of overdoses will not be fatal or cause lasting harm. Don't panic! There are simple steps you can take that will be effective in most situations.

To some extent, every overdose is unique: as we have seen earlier in this manual, what happens during an overdose will depend on what drug(s) the person has taken, whether he is on any medications that might impact the overdose, his general state of health, and other factors. However, because the most dangerous kinds of overdose will usually involve either opioid or stimulant drugs—and opioid and stimulant overdoses are different—the sections below focus mainly on those kinds of overdose.

Step-by-Step: How to Respond to an Opioid Overdose

If you think someone is overdosing, then following these basic steps will allow you to respond effectively to most overdoses:

1. **Rescue Breathing:** If the person is breathing very little or not at all, the best and most important thing you can do is get oxygen into their lungs.
2. **Call for Help:** If possible, immediately call for an ambulance or medical personnel. Professionals are the best help in an overdose situation.
3. **Use Naloxone if Available:** Naloxone is an opioid overdose antidote. Make an intramuscular injection in the upper arm or thigh.
4. **Evaluate the Situation:** Is the person breathing yet? Do they still need rescue breathing or another shot of naloxone? Are they waking up? Keep monitoring the situation until the person is completely stable, and repeat steps if necessary.

Step 1: Provide Rescue Breathing

If someone is suffering from overdose, especially opioid overdose, getting oxygen into their body until they can start breathing on their own again is the *most* important thing you can do. Even without the help of an ambulance or access to naloxone, you can effectively respond to most overdoses just by performing rescue breathing and monitoring the person.

The first step in making sure someone has enough oxygen is to check if there is something obstructing her breathing. Open the person's mouth and make sure that there is no food or chewing gum in the way, or anything else she might choke on. If necessary, use your finger to get stuff out.

Next, you should put her body in a position that makes it easy to breathe. If you need to leave the person to call for help or any other reason, or if you are simply monitoring her, you should put her in the recovery position: the person is laid on their side, with one leg pulled up for support and the head tilted downward. In this position, the person's face will face downward enough that she will be very unlikely to choke if she vomits, and will otherwise be unlikely to hurt herself.

Mouth sweep



PHOTO: CHRISTOPHER JONS

Recovery position



PHOTO: MATT CURTIS

Recovery position



PHOTO: MATT CURTIS

Recovery position



PHOTO: MATT CURTIS

Recovery position



PHOTO: MATT CURTIS

What NOT to do:

- Don't leave someone who's overdosing alone except if you absolutely must leave the area to call for help—he could stop breathing and die.
- Don't put him in a bath—he could drown.
- Don't give him anything to drink or induce vomiting—he could choke.

Knowing when you need to perform rescue breathing is crucial. Everyone needs roughly 12 breaths per minute to get enough oxygen to survive—that's about one breath every five seconds. If you are with someone who is not breathing at all, or is breathing very shallowly and infrequently, you can perform rescue breathing, also known as mouth-to-mouth resuscitation.

Follow these steps to perform rescue breathing:

1. Lay the person who is overdosing flat on his or her back.
2. Supporting the back of the head with one hand, tilt the head back and chin up. You want to create a straight line from the mouth down the windpipe to the lungs in order to make the best path for oxygen to get into the person.
3. Pinch the nose shut so that no air will escape.
4. Take a deep breath, and then place your own mouth over the other person's mouth, making a tight seal with your lips. If available, you can also use a breathing mask, which is often distributed by harm reduction organizations through overdose programs.
5. Gently exhale completely into the other person's mouth. If you are doing it correctly, you should be able to see his chest rise as the air goes into him.
6. Breathe every three to four seconds, and repeat at least five times before taking a break to assess whether he is now breathing on his own.

You should repeat these steps until the person is breathing on his own, even if you use naloxone. If the person's lips or fingers have turned blue, you should see them returning to normal color as you perform rescue breathing. You are keeping him alive until the overdose passes or help arrives.

Rescue Breathing



PHOTO: CHRISTOPHER JONS



PHOTO: CHRISTOPHER JONS

Tip for Trainers

Training People on Rescue Breathing

Rescue breathing can be a little harder than it might seem. Since this is the MOST important tool for responding to opioid overdose, you should spend as much time as is needed to make sure people understand how to do rescue breathing properly. If you have the resources, getting a “CPR dummy” for use in trainings is a great way for people to practice. Sometimes it’s possible to even get one donated from your local Red Cross. If you don’t have a CPR dummy, make sure to be clear about getting a good mouth-to-mouth seal, how to breathe, and what signs to look for to know that rescue breathing is working.

Step 2: Call for Help

As soon as the person suffering from an overdose is stabilized with rescue breathing, or if someone else is helping you respond, call an ambulance to provide professional medical attention.

In the right circumstances, emergency medical workers will be able to provide the best care, especially if the person overdosing is suffering other kinds of complications. Unfortunately, as we know, we don’t always have the right circumstances. In Russia and other Eastern European countries, ambulances may be very slow to respond or not come at all to certain neighborhoods; ambulance workers may have little or no training in overdose response and may not have naloxone available; and they may have very negative attitudes toward people who use drugs or involve the police in unhelpful ways. Nonetheless, if you are able to call for an ambulance, there are a few strategies you can use which may help:

- When calling an ambulance, you don't necessarily need to say it's an overdose: Just say that you're with a friend who isn't breathing. In many places, emergency services will prioritize such calls. When the ambulance arrives, however, it's always better to be clear and precise about what's happened and what drugs the person took. If you feel safe enough to tell the truth, this will help the ambulance workers respond better.
- If you're worried about the police coming, dispose any illegal drugs or paraphernalia in order to reduce the likelihood of arrest or other problems.
- Remember, if you must leave the person who is overdosing, even for a minute to make a phone call, be sure to put him in the recovery position. If you must leave altogether because of fear of police or other problems, be sure to call for help first, leave the person in the recovery position, and leave the door open so that help can get in.

Step 3: Administer Naloxone if Available

If you know or suspect that someone has overdosed on heroin or other opiate drugs, injecting the person with naloxone as part of your response to the situation is an extremely effective way to reverse the overdose. First used by emergency medical personnel in the 1960s, naloxone has become more common as a medicine distributed by harm reduction organizations as a means of preventing overdose fatalities. In recent years, this has been done at many programs in the United States, Western Europe, and Australia, and now is beginning to be offered by programs in Eastern Europe and Central Asia.

What is Naloxone?

Naloxone—also known by the brand name Narcan—is a safe, highly effective antidote to opioid overdose. Chemically speaking, it's an opioid antagonist, which binds to the same receptors in the body

that receive heroin, shirka, and other opiates. Naloxone binds to the receptors much more efficiently than opioid drugs, but has no effect except that it “kicks out” the heroin and reverses the respiratory depression that leads to death from overdose. Naloxone can be administered by intramuscular or intravenous injection, and can also be absorbed by mucous membranes in the nose (among other places). It usually takes one to five minutes to work. It cannot get you high and has no potential for abuse. Consequently, naloxone is not a controlled substance, though in most countries it does require a doctor’s prescription.

It is important to note that naloxone has no effect at all except in the presence of opioid drugs. If you give it to someone who’s overdosing on vint—or just some random person on the street—it would be like injecting them with water.

Naloxone is usually active in the body for 60–90 minutes, which is a much shorter period than most opioid drugs. Because of this, it’s possible that an overdose could return after the naloxone wears off. Fortunately, this seems to be very rare, but it is important to monitor someone who has overdosed for a couple hours afterward to make sure he or she is OK.

Aside from reversing opioid overdose, naloxone may cause mild-to-severe withdrawal symptoms for someone dependent on opiates, because it temporarily blocks opioid drugs from affecting the body. Naloxone does not, however, remove opiates from the body, and as the naloxone wears off, the person who has overdosed will start to feel comfortable again as the opiates still in her system are able to reach their receptors.

Naloxone



PHOTO: DAN BIGG



PHOTO: CHRISTOPHER JONS

Using Naloxone

Naloxone comes in a variety of different forms. In Russia and Eastern Europe, it's most commonly found in 1 ml glass ampules, but some manufacturers make vials (ranging from 1 to 10 ml), various kinds of pre-loaded syringes, and even an intranasal variety that's squirted up the nose. In most all cases, the drug will be the same potency: 0.4 mg of naloxone per 1 ml of liquid. Although there are different ways to administer naloxone, in Eastern Europe and Central Asia the most appropriate method will be by intramuscular injection because of the kind of naloxone most commonly available. The standard dose in overdose is 1–2 ml by intramuscular injection, repeated if necessary.

To administer naloxone, follow these steps:

A. Preparation

Make sure the person who is overdosing is being monitored by someone else, or put him in the recovery position, to make sure he doesn't choke while you prepare the naloxone.

Some glass ampules of naloxone, especially those that aren't scored, can be difficult to break open. Two strategies can help with this. Plastic syringe packaging can be wrapped around the neck of the naloxone ampule. Even better, some needle covers are big enough to fit over the neck of the ampule and using one makes opening an ampule very easy. Both these techniques will reduce your risk of cutting your fingers when you break open the ampule; just make sure that you break the ampule low enough so that the needle can be inserted far enough in to draw up the naloxone. Once you've broken open the ampule, insert the needle—ideally using a long, intramuscular needle (usually 3 cm or longer)—and draw up all the naloxone into the syringe. Push the plunger down to clear air from the syringe before injecting, just as you would before injecting drugs.

If you have a vial, remove the cap, and you can insert the needle through the rubber top. If it's a larger vial, you can draw up a little extra naloxone (anywhere from 1-3 ml) to make sure you're giving the person enough that he probably won't need more. If you have a pre-loaded syringe, follow the instructions on the box it came in.

Preparing Naloxone for injection



PHOTO: CHRISTOPHER JONS



PHOTO: CHRISTOPHER JONS

B. Injecting the Naloxone

Inject the naloxone into a big muscle, ideally the upper arm/shoulder or outside of the thigh. It's best not to inject in the butt, since there is relatively more fat and the naloxone will absorb more slowly. Don't waste time trying to inject in a vein

—it's difficult and unnecessary. If possible, remove clothing and clean the injection site with an alcohol swab before injecting, but the needle will easily go through most light clothing.

Injecting Naloxone



PHOTO: CHRISTOPHER JONS



PHOTO: CHRISTOPHER JONS

Tip for Trainers

Practicing with Naloxone

“I think the most important part is that the trainee’s hands are familiar with assembling the syringe, drawing up the naloxone, injecting, etc. Make sure everyone tries this out. Most people I work with have little or no experience with intramuscular injection.”

—John Welch, New York

The hardest thing about using naloxone is probably preparing the injection, especially if you have glass ampules. Even nurses have trouble with these. If possible, whenever you provide overdose training with naloxone, make some ampules and syringes available for demonstration purposes and practice, and teach training participants to draw up naloxone from an ampule or vial. Finally, don’t assume that everyone knows how to make an intramuscular injection – many drug injectors are experts at hitting a vein, but have never injected into a muscle.

If you have enough supplies to practice doing intramuscular injections, you can use a sponge or a piece of fruit (instead of a real person’s arm or thigh) for people to practice injecting into.

C. After You’ve Given the Naloxone

Naloxone will take effect within one to five minutes, usually somewhere in between. During that time, the person who has overdosed still needs to be monitored, and you should continue rescue breathing if he is not breathing well on his own. If the person has not responded to the naloxone after approximately three minutes, you should administer another dose if you have it. If the person does not respond to a second dose, the problem may be something other than an opioid overdose and you should call for help if you haven’t already.

When the naloxone kicks in, you will know it—people usually wake up suddenly, open their eyes, and take a deep breath. Upon waking, the person may be very disoriented, and may feel dopesick and want to use more drugs.

It's important to explain to someone who overdosed what happened, and urge him not to use more drugs. Using more while the naloxone is in his body won't make him feel any better, but it will greatly increase the chances that he overdoses again when the naloxone wears off. Even if he is dopesick, he will start to feel better as soon as the naloxone starts to wear off, in about 30 minutes.

Most Important Facts About Naloxone

- Naloxone is a safe, effective antidote to opioid overdose.
- It has no effect on non-opioid drugs (like vint, valium, LSD, etc).
- Naloxone has no potential for abuse, and has been included on the WHO Model List of Essential Medicines for many years.
- It is given by intramuscular injection; best to inject in the upper arm or thigh.
- A normal dose is 1 to 2 ml (0.4 to 0.8 mg); it is safe to give more, or to repeat dose if the first doesn't work.
- Naloxone may cause withdrawal feelings, especially at higher doses or if given intravenously.
- It takes one to five minutes to act, and lasts for 60-90 minutes; it's possible for overdose to return because naloxone wears off faster than heroin and other opiates. It is important to continue supporting the person for a couple hours following overdose.

Step 4: Evaluating the Situation

Because overdoses are unpredictable and many factors are involved, it's important to monitor and support people who have suffered overdose until medical help has arrived or until you are absolutely sure the overdose has passed—for at least an hour or two if possible. This is especially important if you have used naloxone to revive the person, since the overdose might return after the naloxone wears off. If the overdose continues or comes back, repeat all the steps above until the person has recovered.

What about Chest Compressions (CPR)?

Many people think of rescue breathing being done in conjunction with chest compressions—cardiopulmonary resuscitation or CPR. In most cases of opioid overdose, heart failure will occur from prolonged lack of oxygen if the person is not breathing. Therefore, if you provide rescue breathing and the other steps described above, you should be able to keep the person alive (and his heart beating) until he recovers. For someone whose heart has stopped, chest compressions help pump blood (and oxygen) through the body to keep him alive, and may help the heart start beating again on its own. However, it can sometimes be **dangerous to give chest compressions to someone whose heart is still beating**, and it is possible to fracture someone's ribs by doing so.

Tip for Trainers

Harm reduction organizations are strongly encouraged to organize CPR training for clients and their friends and family, but training should be provided by trained medical personnel. In the context of opioid overdose response training, we recommend that harm reduction organizations emphasize rescue breathing as the most important method of responding. More information on providing chest compressions in case someone's heart has stopped beating is found in this section.

How to Respond to a Stimulant Overdose

As noted, there is often some confusion about whether someone is experiencing a stimulant overdose as opposed to the physical and behavioral symptoms resulting from prolonged or intensive stimulant use without sleep or a sufficient break.

A stimulant overdose leads to seizure, heart attack, or stroke resulting from dangerously elevated body temperature, pulse and blood pressure, and from dehydration and other causes. Other signs that a person may have taken too much of a stimulant drug—including extreme agitation, shaking or chest pains—may be signs of an impending overdose and the person should be monitored and encouraged to discontinue use, and to eat and sleep.

With the exception of naloxone injection, which has no effect on stimulant drugs, all of the steps described in the section on “How to Respond to an Opioid Overdose” will help you respond to a stimulant overdose. In addition, you can use the following directions depending on the situation.

If someone has a seizure, heart attack, or stroke

Always call for an ambulance, because any of these conditions may result in death and it can be difficult for people without medical training to respond. If a person is having a seizure, protect his or her head from bumping into walls, furniture, or the floor. You do not need to put a spoon or other object into the mouth.

If someone’s heart has stopped beating because of stimulant overdose, he could die very quickly. In this case, the American Heart Association, the leading authority on heart health in the United States, now recommends that witnesses to someone having a heart attack perform “hands-only CPR”—that is, CPR using only chest compressions, without rescue breathing. Unlike with an opioid

overdose where breathing is the most important issue, providing chest compressions after someone's heart has stopped may more than double their chance of survival. Hands-only CPR has also recently been shown to be as effective as conventional CPR including rescue breathing.⁵

To provide chest compressions:

1. Place the person flat on her back
2. Put your hands, one over the other, in the center of the person's chest on the sternum—the bone where the ribs comes together.
3. Push hard and fast in the center of the chest, without interruption, until medical help arrives or the person has revived. You should try to provide up to 100 chest compressions per minute—or a little more than 15 every 10 seconds. Compressions should be relatively deep: about 40mm (1.5 inches).

Remember:

If someone's heart has stopped, calling for help and providing chest compressions immediately is the best thing to do. If possible, seek professional CPR training from your local Red Cross or Red Crescent so that you are able to respond as effectively as possible.

5 Sayre, Michael R. et al. "Hands-Only (Compression-Only) Cardiopulmonary Resuscitation: A Call to Action for Bystander Response to Adults Who Experience Out-of-Hospital Sudden Cardiac Arrest. A Science Advisory for the Public From the American Heart Association Emergency Cardiovascular Care Committee." *Circulation*. Mar 31, 2008. Available online at <http://circ.ahajournals.org>.

What about Kordiamin?

Kordiamin—also known as Cordiaminum or Nikethamide—is a cardiopulmonary stimulant used in some countries in the treatment of cardiovascular disease. It can increase someone’s pulse, among other effects. Kordiamin is an injectable, clear or yellowish liquid usually sold in 1 ml ampules in some pharmacies in Eastern Europe and Central Asia, and has long been used as a “street” method or given out by harm reduction programs to treat drug overdose. There is no doubt that kordiamin has been given to people who overdosed and survived. **But there is no scientific evidence showing kordiamin to have any positive effect on overdose**, and in fact the drug is not indicated for that use. If kordiamin is injected into a muscle or under the skin rather than in a vein, it can cause a great deal of pain—potentially causing someone to wake up if he is not totally unconscious. At best, giving it to someone suffering from overdose is unlikely to help. On the other hand, it could make the situation worse by making the heart use more oxygen when someone isn’t breathing enough, or by wasting time when other interventions would work better.

If someone is feeling extremely agitated, nervous or sick

This is probably the result of heavy stimulant use over a period of many hours or days. Although these symptoms may not be life threatening, they are a sign that the person should slow down. Because stimulant drugs increase body temperature, lead to dehydration, and keep people awake, the best things you can do to make someone feel better and avoid more serious consequences are to respond to these symptoms.

- If someone is overheated, put cool, damp washcloths on the back of his neck and/or under his armpits. Make sure the

person drinks plenty of cool water in order to stay hydrated. Drinks like cola (which contains caffeine) or alcohol are not a good idea, since they will actually make the person more dehydrated and may make it harder to go to sleep.

- If the person is very agitated, try to talk to him calmly, and make him feel comfortable and more relaxed. Open a window to let in fresh air. If the person is upset, try gently touching him—a little bit of human contact will often interrupt the worst feelings.
- If the person has not slept in a very long time, she may benefit from a **small** dose of a mild sedative, such as Valium or Xanax. It's not necessary for the person to use a large dose—the body wants to go to sleep, and a small dose will help a lot. It's **NOT** a good idea for someone who has been using stimulants for a prolonged period to take heroin or other strong depressants, which could cause overdose or other dangerous complications.

8. Overdose Risk of Specific Drugs

This section builds on chapters four and five by reviewing basic risk and prevention information about illegal drugs and medications commonly involved in overdose cases.

Overdose Risk of Specific Opioids

Heroin

An overdose of heroin (or any opioid), can cause respiratory failure and lead to death if not properly treated.

The main factors that contribute to the overdose risk associated with heroin are: (1) the variability of the quality and potency of the product available (a “safe shot” might not be safe if the batch is unexpectedly strong); (2) a user’s decreased tolerance due to ill health or a break from use (including after a stint in detox or jail/prison); (3) switching to a more direct administration route without decreasing dose (for example: switching from sniffing to intravenous injection); and (4) mixing heroin with other drugs, especially downers (including alcohol), but also stimulants.

Methadone

Methadone is an opioid most commonly used in a medical setting and prescribed by doctors as part of drug treatment for people dependent on heroin or other opioids, or for pain management. It is used in drug treatment in many countries in Eastern Europe and Central Asia, including all the Baltic countries, Ukraine, Moldova, Kyrgyzstan, Uzbekistan, and others. As you can see in the table on page 19, methadone is a strong opioid that stays in the body for a long period of time. Because methadone does not leave the body as quickly as some other opioids, like heroin or oxycodone, using other depressant drugs or drinking alcohol even many hours after taking methadone can cause overdose.

A main overdose risk with methadone comes from mixing it with other drugs and/or alcohol. If given the appropriate dose by a medical provider, a person receiving methadone usually will not experience a “high,” and should not experience withdrawal symptoms or cravings. For this reason, methadone (as well as buprenorphine) treatment are also strongly associated with decreased risk of overdose. However, “topping off” with something else to achieve a high may lead to overdose.

Injecting methadone (instead of taking a dose orally) may greatly increase overdose risk because significantly more of the drug is absorbed, and much more quickly.

Buprenorphine

Like methadone, buprenorphine is a medication used in treatment of opiate dependency, as well as in pain management. In Eastern Europe, it is used most widely for drug treatment in Ukraine and Uzbekistan. Unlike methadone, buprenorphine is a “partial antagonist”—that is, it has chemical properties like other opioids, but it also has “antagonist” effects which block the ability of other opioids

to bind to the brain. Because of this, the respiratory depressant effects common to all opioids have a “ceiling” (a limit) with buprenorphine, making it extremely difficult to overdose on the medication alone. The one exception to this involves use of benzodiazepines, which appear to destroy the ceiling effect of buprenorphine and make overdose more likely. People using buprenorphine should therefore avoid using benzodiazepines.

Acetylated opium products (shirka, kompot, khanka, cherny, etc.)

Various versions of acetylated opium drugs are widely used in Eastern Europe and Central Asia, mainly by injection. Opium drugs produced this way are often less potent than heroin, but there is still significant overdose risk. Homemade drugs are of notoriously inconsistent quality, as the ingredients and process can differ from batch to batch. It is important to gauge the strength of the drugs and determine the appropriate dose each time before injecting. The amount of drug does not necessarily indicate the potency of the dose, because the “homemade” nature of drug production means that potency can vary widely. As with all opiates, overdose risk increases when drugs like shirka, khanka, or kompot are mixed with other downers, including alcohol.

Tramadol (Ultram)

Tramadol is a synthetic quasi-narcotic painkiller that is prescribed for the treatment of moderate pain, and its effects are similar to those of codeine. In recent years, tramadol has gained popularity as a street drug. Pills are taken either orally or crushed, mixed into a solution and injected. Like other opioids, there is a risk of respiratory failure with high doses of tramadol. There is a serious overdose risk associated with tramadol when it is used in combination with alcohol or other downers. However, on its own the overdose risk

from tramadol is low. People taking SSRI antidepressants (such as Prozac, Paxil, Zoloft, etc.) should not take tramadol due to the possibility of severe adverse reactions.⁶

Benzodiazepines

Benzodiazepines (benzos) are tranquilizers that have various hypnotic, sedative, and muscle relaxing qualities. They also slow the central nervous system. Stimulant users often use benzos to counteract the negative symptoms of “coming down” from stimulants, and some opiate users “top off” with benzos, especially if they have a high tolerance to opiates. Benzos are divided into short-acting (less than 12 hours), medium-acting (12–24 hours), and long-acting (24+ hours) categories. Long-acting benzos have a greater likelihood of accumulating in the body without the user’s knowledge and contributing to overdose risk when combined with other depressants, especially alcohol or opiates. It is important to understand the specific benzo a person is using and how long it will stay in the body. Using benzos alone rarely causes overdose, though it may result in very heavy sedation that lasts a long time.

A major risk of respiratory failure from benzos is due to the combined effects of the pills with other depressants like alcohol and heroin (or other opioids). In the case of an opiate/benzo combined overdose, rescue breathing, naloxone, and monitoring of the person overdosing should be enough to bring the person out of the overdose.

Overdose risk is increased by injecting benzos and opiates together. Instead, it is safer to consume benzos orally in pill form before taking an opiate shot: benzo pills are slower to take effect than an opiate injection, so the user can first take the benzos and then moderate her heroin dose based on how she is feeling.

6 *Tramadol and Health*. Available at http://www.erowid.org/pharms/tramadol/tramadol_health.shtml. Accessed 5 February 2008.

Overdose Risk of Specific Stimulants

Methamphetamine

Methamphetamine is a strong physical and mental stimulant that is available both by prescription and on the street for recreational use. It causes the release of large quantities of neurotransmitters, especially dopamine. Methamphetamine use generally increases heart rate, body temperature, and breathing rate. Homemade/street methamphetamine recipes often use ephedrine-based cold medicines as the main ingredient, as ephedrine can be reduced to methamphetamine by various methods. Common names for methamphetamine in Eastern Europe and Central Asia are pervitin or vint.⁷

Meth users tend to re-dose every 3-8 hours to maintain the euphoria and avoid the “crash” and resultant depression of coming down. The longer the session, the larger the dose needed to produce the desired effects. Although rare, repeated use in this way may result in overdose as the body becomes overheated and dehydrated and intense stimulation results in seizures, heart attack, or stroke. Behavioral problems, including extreme agitation, paranoia, anxiety, or repetitive behavior are the more common results of heavy methamphetamine use in a short period of time.

Amphetamine-Type Stimulants(ATS)

Various versions of “home-made” ATS are used throughout Eastern Europe and Central Asia, primarily by injection. ATS have effects

7 Not all pervitin or vint is actually methamphetamine, but rather various kinds of amphetamines. Ethnographic and laboratory research has shown that the manufacture—and the end-result—of pervitin and vint varies among different countries, cities, or individual “cookers.”

similar to methamphetamine, but are more likely to vary in their duration and potency due to inconsistent recipes and the availability of ingredients. As with any drug of inconsistent quality, the dose does not necessarily predict potency, and users should be careful to assess a batch's potency before use. ATS overdose is rare but results in heart attack, stroke, or seizure.

MDMA (ecstasy)

Ecstasy is a psychoactive drug that is closely related to amphetamines. Ecstasy usually takes 30–60 minutes to take effect, with an intense launch period toward the peak lasting three to four hours. The overdose risk associated with ecstasy alone is low, but people should avoid using ecstasy in combination with other stimulant drugs or if they are taking MAOI anti-depressant medications. **HIV-positive people who take the protease inhibitor Ritonavir should not take ecstasy** because of a potentially life threatening interaction.⁸ Ecstasy is rarely pure and often cut with other stimulants and drugs of other classes. If someone taking ecstasy experiences negative effects or appears to be overdosing, respondents should react based on the person's symptoms, even if they are not characteristic to ecstasy use.

Cocaine

Snorting cocaine usually produces effects within a minute. Injecting or smoking produces effects within a few seconds. The effects of cocaine are quite brief, with the high usually lasting only 20–40 minutes. Because the euphoric feelings produced by cocaine wear off

8 Hales G, Roth N, Smith D. "Possible Fatal Interaction Between Protease Inhibitors and Methamphetamine." *Antivir Ther.* 2000;5:19.; Urbina A, Jones K. "Crystal Methamphetamine, Its Analogues, and HIV Infection: Medical and Psychiatric Aspects of a New Epidemic." *Clin Infect Dis.* 2004;38:890–4

before the entire dose is eliminated from the body, repeated doses, especially in combination with other drugs and alcohol, increase overdose risk because cocaine may accumulate in the body without a person realizing it. Repeated doses should therefore be spaced out as much as possible. Unlike methamphetamine or ATS, cocaine also has direct toxic effects on the heart and circulatory system that make it, in comparison to other stimulants, more dangerous in terms of overdose risk.

Speedballing (known as “kacheli” in Russian) is a slang term for taking stimulants and opiates (usually cocaine and heroin, but often other drugs) at the same time. In general, someone taking a speedball faces the overdose risks associated with each drug. Although not well understood by science, it also appears that overall overdose risk is increased, and in places where speedballing is more common, overdose death statistics usually include a significant number of people who had both heroin and cocaine or other stimulants in their system.

Mixing multiple drugs or drugs and alcohol is more often associated with overdose than single drug use. When using drugs in combination, the user should be clear about the effects of each drug before she uses it and the likelihood of an intense combined effect. When using multiple drugs at once, the dose of each drug should be significantly reduced to account for the intensity of the combination.

Overdose Risk from Drug Interactions with Antiretrovirals and Other Medications

As HIV treatment becomes more accessible to people in Eastern Europe, Central Asia, and other regions where injection drug use is the main route of HIV infection, people who use drugs, harm reduction organizations, and medical personnel need to be aware of possible interactions between antiretroviral medications (ARVs)

and other drugs. Although very little information is available in any country about fatal and nonfatal overdose from interactions with ARVs, we do know that different ARVs have important effects on how the body processes drugs like heroin, methamphetamine, and others.

Because interactions between ARVs and street drugs can be complicated,⁹ and the medical evidence supporting what we know about interactions is weak, this section is only meant to be a basic introduction to the subject. This section also does not deal with ARVs that may reduce the effects of other drugs (thereby possibly causing withdrawal), or with the effects of street drugs on ARVs. **If you are receiving ARV therapy and are taking any other legal or illegal drugs, it's always best to talk with your doctor.**

How can ARVs increase the risk of overdose?

Any substance taken into the body undergoes metabolism. Metabolism is the chemical process the body uses to break a substance into useful parts and eventually clear it from the body. The speed and efficiency with which metabolism happens affects how long a drug is active in the body and how intensely the drug affects the person taking it.

For many ARVs and most illegal drugs, metabolism takes place mainly in the liver, and is controlled mainly by the CYP450 enzyme system, a group of chemicals in the body that enables the chemical reactions required for metabolism. Certain ARVs inhibit these enzymes that break down drugs like heroin and vint. The result is that the effects of the illegal drug may be stronger and the drug will

9 For a much more detailed discussion of drug interactions and related issues, see *Delivering HIV Care and Treatment for People Who Use Drugs*. Open Society Institute (2006), available online at: www.soros.org/initiatives/health/focus/ihrd/articles_publications/publications/delivering_20060801.

remain in the body longer than for someone not on ARVs. Some ARVs induce enzymes, meaning that heroin or other drugs will clear the body faster, potentially causing withdrawal symptoms; illegal drugs can also affect the metabolism of ARVs. Thus, if you are receiving ARV therapy and using illegal drugs or medications such as methadone or buprenorphine for drug treatment, it's very important that you discuss this with your doctor in order to receive the best, safest treatment available.

ARVs that inhibit metabolism of other drugs

Some or all medications in two classes of ARVs—non-nucleoside reverse transcriptase inhibitors (NNRTIs) and protease inhibitors (PIs)—may cause drugs such as heroin, methadone, or methamphetamine to be metabolized more slowly and might increase the risk of overdose. However, much of what we know about this is based on *in vitro* studies, which often do not accurately predict how drugs will interact in real life. Based on clinical case reports, however, the following medications may contribute to overdose risk when combined with other drugs:

Atazanavir boosted by ritonavir: Recent studies have found that patients receiving the PI atazanavir boosted with ritonavir while in treatment with buprenorphine became over-sedated as a result of PI-buprenorphine interaction.¹⁰ Although there are no documented cases of atazanavir related buprenorphine overdose, this possibility should be a concern.

Protease inhibitors in general (ritonavir, lopinavir, etc): Case reports have shown PIs, which inhibit the CYP450 system, to dangerously interact with methamphetamine and MDMA (“ecstasy”), which may

10 R. Douglas Bruce, Elinore McCance-Katz, et al. “Pharmacokinetic Interactions Between Buprenorphine and Antiretroviral Medications.” *Clinical Infectious Diseases* 2006:43 (Supplement 4), S216–223.

result in overdose. Documented reports exist of overdose deaths associated with ritonavir interaction with both methamphetamine and MDMA.¹¹ As a basic matter, stimulant use is not a good idea for anyone on PI-based ARV plans.

Delavirdine (rescriptor): The NNRTI delavirdine is known to increase blood concentrations of methadone to a degree with some potential for methadone overdose.¹² Patients receiving both methadone and delavirdine should generally have their methadone dose lowered, and doctors should look out for over-sedation or other methadone side effects.

Other effects of ARVs and other medications

Although they do not create risk of overdose, it's important to know that other medications used in treating infections common to people who use drugs in Eastern Europe and Central Asia may interact with illegal drugs. Certain “enzyme inducers” increase the body’s metabolism of opioids. For people dependent on illegal opioids or receiving methadone or buprenorphine therapy, these enzyme inducers may cause moderate to severe withdrawal symptoms unless the opioid dose is increased. Among ARVs, enzyme inducers include nevirapine and efavirenz, as well as ritonavir, tipranavir, and atazanavir. The tuberculosis drug rifampicin (also known as Rifampin, Rifadin, or Rimactane) is also a powerful enzyme inducer, which means that if you are taking it at the same time as methadone, you will likely have to increase your dose.

11 R. Douglas Bruce, Frederick L. Altice, and Gerald H. Friedland. “Pharmacokinetic Interactions Between Drugs of Abuse and Antiretroviral Medications: Implications and Management for Clinical Practice.” *Expert Review of Clinical Pharmacology*, Jan 2008, Vol. 1, No. 1, Pages 115–127.

12 M.N.Gourevitch, G.H. Friedland. “Interactions Between Methadone and Medications Used to Treat HIV Infection: A Review.” *Mount Sinai Journal of Medicine*, October/November 2000.

Another issue to keep in mind is that if patients have increased their opioid dose because of interactions with enzyme inducing medications like efavirenz or rifampicin, it can be dangerous to stop taking the medication without *also* reducing the opioid dose. Without the effect of the medication to increase opioid metabolism, opioid overdose can occur.

Two other commonly prescribed medications used in AIDS treatment are strong enzyme inhibitors and may result in overdose when used in combination with opioid drugs:¹³

- **Fluconazole** is an anti-fungal medication, and is commonly used to treat oral thrush and other fungal infections in people suffering from AIDS.
- **Ciprofloxacin (Cipro)** is possibly the most ubiquitous antibiotic medication in the world, used in the treatment of all kinds of bacterial infections, and often available without a prescription.

Case reports exist of both of these medications causing overdose in people receiving methadone treatment. In general, doctors and patients should be very cautious in prescribing or taking these medications in combination with opioid medications or illegal drugs.

Talk to your doctor if you have concerns about any potential drug interaction. All of these medicines affect metabolism in slightly different ways, and may have different effects on different illegal drugs or medicines in different people.

13 Personal communication with Dr. Douglas Bruce (Yale University AIDS Program) and Dr. Sharon Stancliff (Harm Reduction Coalition), 26 March 2008.

9. Frequently Asked Questions

This section includes common questions about overdose prevention and response.

Question: Am I more likely to overdose if I inject a drug instead of inhaling or swallowing it?

Answer: The short answer to this question is: YES. However, route of administration (injection vs. snorting vs. swallowing) is just one of the factors that determine a drug's overdose risk. For example, intravenous injection of a heroin dose will result in a more immediate intense rush than will snorting an identical dose. The increased intensity of an intravenous injection translates into increased overdose risk, as the heroin is going directly into your bloodstream and is more likely to overwhelm the body. A person's tolerance and the potency of the drugs also contribute to overdose risk. It is important to take your time in preparation and think about how your tolerance is today, and test a bit of the drugs you will use to determine how strong they are. This will help you decide on your dose, decide on your route of administration, and reduce overdose risk.

Question: I do not have naloxone (or don't want to carry naloxone). What can I do without it in case of an opioid overdose?

Answer: RESCUE BREATHING. It is often possible to revive someone from an overdose with simply monitoring and rescue breathing. If you don't have naloxone, follow all the steps described in chapter seven, including, if possible, calling for an ambulance. The most important thing you can do if someone is not breathing is breathe for him until medical help arrives or he starts breathing on his own again.

Question: Does throwing someone in a bathtub full of ice or giving him a shot of salt or milk reverse an overdose?

Answer: Folk remedies like these have been used for years, but are not particularly effective. If naloxone is an option, you should use it first in combination with rescue breathing before trying other options. Although using ice and salt water is well-intentioned, it may waste time that should be spent on rescue breathing, calling an ambulance, or injecting naloxone.

Question: What if I am scared to wait with the person who has overdosed until the ambulance arrives? What if I have to leave?

Answer: Sometimes you cannot stay with a person who is overdosing. If you cannot stay, do as much as you can for the person before you leave, and stay as long as possible. Some important things to do include:

1. calling an ambulance;
2. moving the person to a location where he will be easily found by the ambulance;
3. injecting naloxone if you have it and leaving the vial near the person for the paramedics to see;
4. placing the person in rescue position on their side. **Always put a person into rescue position, call someone, and leave the door unlocked before leaving him or her alone.**

Question: I have just found a person who looks dead. Should I still try to help? Is it too late?

Answer: You can help even if it looks like it's too late. Check for a pulse and look for signs of breathing. Begin rescue breathing if the person is not breathing on her own, and call an ambulance if possible. Inject naloxone if you have it with you. In this case, there is no harm in trying to help if you feel comfortable.

Question: I do not use drugs, but my friends or family do. How can I help make sure they do not overdose?

Answer: First of all, congratulations on being so responsible and caring for your family and friends. There are a number of things you can do to help reduce their risk of overdose, include the following:

1. Talk to your friends and family about what drugs they use, so you know better how to handle the situation in case of an overdose.
2. Discuss an overdose plan with the people you are concerned about. Would they like you to administer naloxone? Call an ambulance? Perform rescue breathing?
3. Ask them to let you know when they are going to use if possible, so you can check on them.
4. Learn to administer naloxone and carry it with you.
5. Learn rescue breathing in case of respiratory failure.

Question: Are naltrexone and naloxone the same thing?

Answer: No. Although the names sound similar the drugs are different and used for different purposes. Naltrexone is a long-acting opioid antagonist medication that is used in addiction treatment (including “rapid detox” programs), though it is increasingly out of favor with doctors. Naltrexone could reverse an opioid overdose, but it is almost never used for this purpose because the much shorter-acting (and less expensive) naloxone is more appropriate.

10. How to Use This Information: A Guide for Trainers

Getting information about overdose to drug users and their friends and family members saves lives. Even if naloxone or other overdose-reversing medications are not available in your city or at your program, getting information out about simple steps to take to reduce overdose risk is incredibly important. Training people about overdose prevention, recognition, and response works well in both one-on-one sessions and in group settings. It is up to the trainer and project staff to determine the right training set up for their clients. Projects may also want to consider providing overdose trainings to family members.

Each person will have specialized needs when discussing overdose, a topic often personal and traumatic in communities with high rates of drug use. Some people may refuse the training and any discussion of the topic, others may want a very quick training with just the basics, and others may engage you in hours of conversation on the subject. People should not be forced to talk about overdose if they are uncomfortable. It is each individual's decision whether he or she would like to receive the training and/or intervene if witnessing an overdose.

The information in this manual about preventing, recognizing, and responding to overdoses should be incorporated into all trainings, whether they last 10 minutes or much longer.

Tips for overdose trainers:

1. Assess the client's knowledge of overdose before starting the training to determine what information will be the most helpful. Ask questions such as "Can you tell me what an overdose is?", "What signs would you look for to tell if someone was overdosing?" or "Have you ever performed rescue breathing or CPR?" Finding out what the person already knows will give the trainer important information about how to run the session. If training a group of people with different amounts of experience with overdose, consider inviting some of the more knowledgeable participants to contribute their own advice and experiences to the training. Participants are sometimes more knowledgeable than the trainer.
2. Prepare a few trainings of different lengths to have on hand. A 10-minute curriculum should include information on the main risk factors for overdose, overdose recognition, rescue breathing, calling an ambulance, and administering naloxone (if applicable). A longer training should include all of this information and time for participants to share their experience with overdose and a discussion of overdose myths and facts. If the client only has 5 minutes, tell her how to recognize an overdose, perform rescue breathing, call an ambulance, and administer naloxone (if applicable).
3. Incorporate interactive segments in the trainings. Pair participants and ask them to take turns role-playing as a person overdosing and as a responder. Ask them to practice looking for signs of overdose, putting each other in rescue position, and preparing for rescue breathing. If sample vials of naloxone are available, participants can practice preparing a naloxone shot.

4. If available, bring in a person who has used naloxone or responded effectively in other ways to an overdose to share his experience with participants.
5. At the end of the training, provide participants with their own overdose kits including two naloxone vials, alcohol pads, a breathing mask, and two clean, new muscle syringes.

Tips for organizations seeking to start overdose prevention/intervention programs:

1. There is overdose work to be done in many different settings. Consider:
 - a. Providing overdose trainings for staff, outreach workers, and clients.
 - b. Teaming up with other AIDS service organizations to advocate for naloxone provision in your city.
 - c. Educating doctors and ambulance personnel on responding to overdose and using naloxone.
 - d. Finding out if the local emergency room/ambulance has naloxone. If not, work with the hospital or local ministry of health to bring it to your area.
 - e. Educating narcology and drug treatment centers, methadone/buprenorphine programs, or prisons and detention centers about overdose prevention and response.
2. Get Prepared!
 - a. Perform local research and data collection about overdose trends in your area to determine what type of program you should start. What do drug users in the area think about overdose and the best ways to prevent it? Are there statistics about who is overdosing? Who is dying from overdose? What do these statistics tell you about who is most at risk?

- b. Prepare your colleagues by making sure they have information about overdose and fully understand the scope and goals of the project.
- c. Inform local leaders and law enforcement if you will be distributing naloxone vials, so they know naloxone is not an illicit drug. Consider providing special training sessions for police.
- d. Find out about getting naloxone to your city, and about distribution rules. Does a company in your country make naloxone? Is it legal to distribute without a prescription? If not, is there a doctor who can prescribe it for your clients?
- e. Perform basic monitoring and evaluation. Keep track of how many clients are trained and given naloxone. Ask clients to report overdose reversals. Monitor local overdose statistics to assess the impact of your program.

Sample Curricula for Overdose Trainings

It's good to remember that every training you do can be a little different, depending on the local drug scene, the knowledge of your trainees, how many people you're training and where the training takes place. You will adapt trainings to your own style over time. And most importantly, you will learn a lot from your trainees, which will allow you to make trainings deeper and more effective as you get experience.

To get things started, you can use or adapt the following sample curricula, which are organized to present the most important information depending on how much time you have for a given training—whether it be a few minutes on street outreach, or a longer group training at a drop-in center. In any case, the point is to be creative, listen to your trainees, and get this important information out into the world!

Just the Basics: 5–15 Minute Training

“Training doesn’t have to be long. It can be done in 10 minutes. I have watched some trainers really drag it out—like if it’s longer it’s more important. But it’s easy to lose people that way.”

—Caroline Rath, Harm Reduction Coalition, New York

1. What is Overdose

Symptoms of opioid versus stimulant overdose.

2. Basic Prevention

Being aware of one’s tolerance, dangers of mixing drugs, being careful with new supplies of drugs of unknown purity.

3. Responding to Overdose I: Essentials

Assessing the situation, rescue breathing, calling an ambulance. Stress the importance of rescue breathing and that it will help reverse most opioid overdoses even in the absence of other help.

4. Responding to Overdose II: Naloxone

What is naloxone, and how do you use it? If you are distributing naloxone, make sure that trainees understand any relevant legal issues, such as the need for a prescription. Make sure that people understand how to make an intramuscular injection.

5. Responding to an Overdose III: Monitoring After an Overdose

Explain that people who have been revived from an overdose may not understand what happened, the importance of not taking more drugs immediately after an overdose, and the potential for someone to fall back into overdose if naloxone was administered and wears off. Ideally, someone who has experienced an overdose should be monitored by medical

professionals (or at least by friends or family) for a couple hours afterward.

Getting Deeper: 30+ Minute Training

“Let your passion for them show and your feelings about drug users dying needlessly enter the training. They may need to understand your motivations for providing the service to trust the information. Congratulate people for caring enough to do this.”—John Welch, Streetwork, New York

1. What is Overdose

Symptoms of opioid versus stimulant overdose. Go into a little more detail than in the 10 minute training. Ask trainees for examples, etc.

2. Discussion of Trainees’ Experience with Overdose

This can help guide the rest of the training. You should recognize that some peoples’ reactions to overdose in the past might not have been perfect—but that’s OK.

Tip: If people are skeptical or say they have successfully used other techniques that are not recommended for overdose reversal (such as salt injection), do not fight with them about the merits of other techniques but stress that what you’re teaching are options that have been tested and proven to work. Respectfully suggest that these are steps they should try first.

3. Overdose Prevention

Being aware of one’s tolerance, dangers of mixing drugs, being careful with new supplies of drugs of unknown purity. Spend more time on this area than in the 10 minute training. For example, ask about trainees’ experiences in understanding and dealing with changes in tolerance. Present at least basic information about possible drug interactions with ARVs, and more if people want to hear it. If your trainees include people

who use stimulants, spend more time here talking about stimulant overdose prevention.

4. Responding to Overdose I: Essentials

Assessing the situation, rescue breathing, calling an ambulance. Especially stress the importance of rescue breathing and that it will help reverse most opioid overdoses even in the absence of other help. Spend more time here discussing how to respond to stimulant poisoning (i.e. someone who is too strung out, anxious, etc.) and stimulant overdose (i.e. actually suffering a heart attack, stroke, etc).

5. Responding to Overdose II: Naloxone

Naloxone (if available): what it is, and how to use it. If you are distributing naloxone, make sure that trainees understand any relevant legal issues, such as the need for a prescription. Make sure that people understand how to make an intramuscular injection.

6. Responding to an Overdose III: Monitoring After an Overdose

Explain that people who have been revived from an overdose may not understand what happened, the importance of not taking more drugs immediately after an overdose, and the potential for someone to fall back into overdose if naloxone was administered and wears off. Ideally, someone who has experienced an overdose should be monitored by medical professionals (or at least by friends or family) for a couple hours afterward.

7. Discussion of Trainees' Feelings and Concerns about Responding to an Overdose

Some people don't want the responsibility of saving a life. Allow it to be their choice, and recognize that in any circumstance, witnessing or responding to an overdose can be very stressful.

The important thing is that through this training they will have new skills to apply if they are willing. In this part, you should also talk about the need for people to plan in advance by talking about overdose and how to respond with their injecting partners or other friends and family.

Super Training: 60–90+ minutes

There are many parts of the training described above that can be expanded on, and all kinds of additional subjects that you could add to an overdose training. Use your judgment as to what is most important in your community. But here are a few suggestions:

1. Teach Trainees How to Teach Others

The more your trainees carry what they've learned into the community, the better your program will be able to reduce overdose deaths. At minimum, you should try to stress the need for trainees to talk about overdose with people who may be around them if they overdose. If you have people who are motivated, consider a second “advanced overdose” training-of-trainers. This could reinforce information from the basic training, include deeper information and discussion on topics not previously covered in detail, and suggestions and role-plays for how to be a good trainer.

2. More Specific Information on Prevention and Response Techniques

Some of the subjects presented in this manual may be a little more difficult for people to understand, or might not be relevant for all trainees. If you have time and people are interested, consider expanding training on topics such as:

- HIV treatment and overdose risks
- CPR training (*if a qualified trainer is available!*)

- Stimulant poisoning and overdose
- More discussion of other kinds of drugs and overdose risk
- Anything else your program participants want!

3. **Safe Injection**

If people are receptive, it's never a bad idea to use every opportunity to reinforce safe injection knowledge for prevention of HIV, hepatitis C, and soft tissue infections. Better injection technique can also help reduce the likelihood of overdose—if people are healthier and their veins are in better condition, they may be less likely to have to rush things or be stressed out when injecting.

4. **How to Start an Overdose Program**

You may have opportunities to provide training to people working in harm reduction organizations, social services, or government medical programs such as a city AIDS center or narcological dispensary. Any place that comes into contact with people who use drugs is an appropriate place to start an overdose program, and people at such organizations may need additional training to understand how to do so. If you are running a program in your own organization, you will have lots of ideas about what is most important to know besides what is presented in this manual, but a few things you should include in such a training are:

- training techniques and trainee recruitment, including different models and locations for trainings;
- supply procurement and storage (naloxone, intramuscular syringes, other items for OD kits, etc.);
- information on naloxone distribution (finding doctors and dealing with prescription requirements, if relevant in your country; other legal matters);

- data collection (keeping track of how many people receive training, program outcomes, participants' successful use of naloxone or other overdose reversal, etc.);
- how to explain overdose programs and build collaboration with local officials, doctors, police, and others etc.

The purpose of this manual is to help you save lives. Please use it as a reference tool, adapt the information to your own needs in any way you think would be useful, and share the knowledge with others. Every fatal overdose is preventable, and our lives and the lives of our clients, our friends, and our families are worth protecting. Together we will make a difference and reduce the devastating impact of overdose in our communities.



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