Drug overdose death rates in the United States have more than tripled since 1990 and have never been higher.

Although many types of prescription drugs are abused, there is currently a growing, deadly epidemic of prescription painkiller abuse. In fact, prescription and over-the-counter (OTC) drugs are, after marijuana (and alcohol), the most commonly abused substances by Americans 14 and older.

The classes of prescription drugs most commonly abused are: opioid pain relievers, such as Vicodin or OxyContin; stimulants for treating Attention Deficit Hyperactivity Disorder (ADHD), such as Adderall, Concerta, or Ritalin; and central nervous system (CNS) depressants for relieving anxiety, such as Valium or Xanax. This newsletter focuses on the latest trends and information about opioids from the CDC and NIH.

Opioids

Opioids are medications that relieve pain. They reduce the intensity of pain signals reaching the brain and affect those brain areas controlling emotion, which diminishes the effects of a painful stimulus. Medications that fall within this class include hydrocodone (e.g., Vicodin), oxycodone (e.g., OxyContin, Percocet), morphine (e.g., Kadian, Avinza), codeine, and related drugs. Hydrocodone products are the most commonly prescribed for a variety of painful conditions, including dental and injury-related pain. Morphine is often used before and after surgical procedures to alleviate severe pain. Codeine, on the other hand, is often prescribed for mild pain.

People often think that prescription drugs are safer than illicit drugs, but that’s only true when they are taken exactly as prescribed and for the purpose intended. When abused, prescription and OTC drugs can be addictive and put abusers at risk for other adverse health effects, including overdose—especially when taken along with other drugs or alcohol.
How Opioids Affect the Brain and Body

Opioids act by attaching to specific proteins called opioid receptors, which are found in the brain, spinal cord, gastrointestinal tract, and other organs in the body. When these drugs attach to their receptors, they reduce the perception of pain. Opioids can also produce drowsiness, mental confusion, nausea, constipation, and, depending upon the amount of drug taken, can depress respiration. Some people experience a euphoric response to opioid medications, since these drugs also affect the brain regions involved in reward. Those who abuse opioids may seek to intensify their experience by taking the drug in ways other than those prescribed. For example, OxyContin is an oral medication used to treat moderate to severe pain through a slow, steady release of the opioid. People who abuse OxyContin may snort or inject it, thereby increasing their risk for serious medical complications, including overdose.
**Dependence vs. Addiction**

Physical dependence occurs because of normal adaptations to chronic exposure to a drug and is not the same as addiction. Addiction, which can include physical dependence, is distinguished by compulsive drug seeking and use despite sometimes devastating consequences.

Someone who is physically dependent on a medication will experience withdrawal symptoms when use of the drug is abruptly reduced or stopped. These symptoms can be mild or severe (depending on the drug) and can usually be managed medically or avoided by using a slow drug taper.

Dependence is often accompanied by tolerance, or the need to take higher doses of a medication to get the same effect. When tolerance occurs, it can be difficult for a physician to evaluate whether a patient is developing a drug problem, or has a real medical need for higher doses to control their symptoms. For this reason, physicians need to be vigilant and attentive to their patients’ symptoms and level of functioning to treat them appropriately.

**How Prescription Drugs Are Abused**

Prescription drugs may be abused in one or more of the following ways:

- **Taking a medication that has been prescribed for somebody else.**
  Unaware of the dangers of sharing medications, people often unknowingly contribute to this form of abuse by sharing their unused pain relievers with their family members. Most teenagers who abuse prescription drugs are given them for free by a friend or relative.

- **Taking a drug in a higher quantity or in another manner than prescribed.** Most prescription drugs are dispensed orally in tablets, but abusers sometimes crush the tablets and snort or inject the powder. This hastens the entry of the drug into the bloodstream and the brain and amplifies its effects.

- **Taking a drug for another purpose than prescribed.** All of the drug types mentioned can produce pleasurable effects at sufficient quantities, so taking them for the purpose of getting high is one of the main reasons people abuse them.

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**The Spectrum of Prescription Drug Abuse**

- **Taking someone else’s prescription to self-medicate**
- **Taking a prescription medication in a way other than prescribed**
- **Taking a medication to get high**

MISUSE .................................................. ABUSE
How Prescription Drugs Affect the Brain

Taken as intended, prescription drugs safely treat specific mental or physical symptoms. But when taken in different quantities or when such symptoms aren’t present, they may affect the brain in ways very similar to illicit drugs.

For example, opioid pain relievers such as OxyContin attach to the same cell receptors targeted by illegal opioids like heroin. Prescription depressants (Valium or Xanax) produce sedating or calming effects in the same manner as the club drugs GHB and rohypnol. And when taken in very high doses, dextromethorphan, a common active ingredient found in many over-the-counter cough suppressant cold medicines, acts on the same cell receptors as PCP or ketamine, producing similar out-of-body experiences.

When abused, all of these classes of drugs directly or indirectly cause a pleasurable increase in the amount of dopamine in the brain’s reward pathway. Repeatedly seeking to experience that feeling can lead to addiction.

Other Health Effects of Prescription Drugs

Opioids can produce drowsiness, cause constipation, and—depending upon the amount taken—depress breathing. The latter effect makes opioids particularly dangerous, especially when they are snorted or injected or combined with other drugs or alcohol. More people die from overdoses of prescription opioids than from all other drugs combined, including heroin and cocaine (see graph below).

Deaths from Opioid Pain Relievers Exceed Those from All Illegal Drugs

Source: CDC, Morbidity and Mortality Weekly Report, 60(43): 1489, 2011
Prescription Opioid Abuse: A First Step to Heroin Use?

Prescription opioid pain medications such as OxyContin and Vicodin can have effects similar to heroin when taken in doses or in ways other than prescribed, and research now suggests that abuse of these drugs may actually open the door to heroin abuse.

Nearly half of young people who inject heroin surveyed in three recent studies reported abusing prescription opioids before starting to use heroin. Some individuals reported taking up heroin because it is cheaper and easier to obtain than prescription opioids.

Many of these young people also report that crushing prescription opioid pills to snort or inject the powder provided their initiation into these methods of drug administration.

Symptoms of Overdose

**Danger signs to watch for:**

- **Slow breathing** (less than ten breaths a minute is really serious trouble)
- **Small, pinpoint pupils**
- **Confusion**
- **Being tired, nodding off, or passing out**
- **Dizziness**
- **Weakness**
- **Apathy** (they don’t care about anything)
- **Cold and clammy skin**
- **Nausea**
- **Vomiting**
- **Seizures**

A lot of these symptoms can make people think a person is drunk, and they may be tempted to let them sleep it off, or tell their parents they had too much to drink.

**DON’T – Your friend could go to sleep and never wake up.**

- **Make an anonymous call to 911 or your friend’s parents** if you’re too scared to identify yourself. - Try to get your friend to respond to you by calling out his/her name.
- **Make your friend wake up and talk to you.**
- **Shake him/her if you have to.** Otherwise, your friend could suffer brain damage, fall into a coma, or die.

Addiction can be a living death

- **If you abuse prescription pain relievers and are lucky enough to cheat death, you’re still in big trouble.** Prescription pain relievers can be addictive. The longer you take them, the more your body needs. Try to stop, and you could experience withdrawal symptoms.
- **Addiction to prescription pain relievers is like being hooked on heroin and the withdrawal isn’t much different:** bone and muscle pain, diarrhea, vomiting, cold flashes and insomnia.

- If you, or someone you know, is abusing or is addicted, get professional help. You can also ask for help from parents, doctors, relatives, teachers, or school guidance counselors. Substance abuse ruins lives. Don’t let it happen to your friends – or you

To find a publicly funded treatment center in your State, please call 1-800-662-HELP or visit www.findtreatment.samhsa.gov.