

Prescription Drugs

Friends, Colleagues, and Parents:

Prescription drug abuse is an emerging problem in our country, and one that is showing an increasing trend. What is most disturbing about this trend is that teenagers and young adults are counted among those who use these drugs nonmedically—which include prescription pain relievers, stimulants, sedatives, and tranquilizers.

According to the National Institute on Drug Abuse's (NIDA's) 2004 Monitoring the Future survey, 9.3 percent of

12th-graders reported using Vicodin without a prescription in the past year, and 5.0 percent reported using OxyContin. Another recent survey reports that approximately 48 million people—about 20 percent of the U.S. population—aged 12 or older had used prescription drugs for nonmedical reasons in their lifetimes.

Elderly persons are particularly vulnerable to prescription drug abuse and misuse; as a group, they are prescribed more medications than their younger counterparts, placing them at higher risk for misuse, dependence, and addiction.

Accessibility to the drugs is likely a contributing factor to this growing trend. More people are being prescribed medications today, for a variety of health reasons. This increase in prescriptions means more pills in our medicine cabinets. To add to this supply, many people also are obtaining medications illegally through Web sites that do not require a physician's prescription. While most online pharmacies are lawful businesses providing an important healthcare service, others, however, are not. In fact, some sites provide medications without proper identity verification.

Prescription drugs can have great medical benefits when taken under the supervision of a physician. However, their inappropriate use can lead to addiction. As a physician, I want to raise awareness in the healthcare community about the potential for prescription drug abuse. I also want to ask caretakers to safeguard their prescribed medications so that young people in their households do not have easy access to them.

NIDA is continuing to invest resources in researching this topic. We currently are testing medications for the treatment of prescription opioid abuse through our Clinical Trials Network. For more information on prescription drug abuse, as well as other drugs of abuse, please visit the NIDA Web site, www.drugabuse.gov, or call the National Clearinghouse for Alcohol and Drug Information at 1-800-729-6686.

Sincerely,



Nora D. Volkow, M.D.
Director

What is prescription drug abuse?

Although most people take prescription medications responsibly, there has been an increase in the nonmedical use or, as NIDA refers to it in this report, abuse of prescription drugs in the United States.

What are the concerns?

A number of published reports indicate that prescription drug abuse is on the rise in the United States. According to the 2003 National Survey on Drug Use and Health, 6.3 million Americans aged 12 and older have used prescription medications for nonmedical purposes in the prior 30 days.

An estimated—

- 4.7 million used pain relievers
- 1.8 million used tranquilizers
- 1.2 million used stimulants
- 0.3 million used sedatives

The number of new nonmedical users of pain relievers increased drastically—from 573,000 in 1990 to 2.5 million in 2000. Overall, men and women have roughly similar rates of nonmedical use of prescription drugs (an exception is found among 12–17-year-olds, with more females likely to abuse these drugs).

The Drug Abuse Warning Network (DAWN), which monitors drug mentions (medications *and* drugs of abuse) from emergency departments (EDs) across the Nation, recently reported that two of the most frequently mentioned prescription medications in drug abuse-related cases are benzodiazepines (e.g., Valium, Xanax, Klonopin, and Ativan) and opioid pain relievers (e.g., oxycodone, hydrocodone, morphine, methadone, and combinations that include these drugs). In 2002, benzodiazepines accounted for 100,784 ED visits categorized as drug abuse-related cases and opioid pain relievers accounted for more than 119,000. Between 1994 and 2002, ED reports of hydrocodone and oxycodone overdoses increased by 170 percent and 450 percent, respectively. While ED visits attributed to drug addiction have been increasing, suicide-related visits have remained stable since 1995.

What types of prescription medications are commonly abused?

Several classes of medications that are commonly abused include opioids, central nervous system (CNS) depressants, and stimulants. Certain over-the-counter (OTC) medicines can also be abused when not taken as directed. It is important to note that many prescription drugs or OTC medications can produce dangerous health effects when taken concurrently or taken with alcohol.

- **Opioids.** Opioids are commonly prescribed to treat pain. Examples of prescription opioids include morphine (Kadian, Avinza), codeine, oxycodone (e.g., OxyContin, Percodan, Percocet), hydrocodone (Lortab, Lorcet, Vicodin), propoxyphene (Darvon), fentanyl (Duragesic), and hydromorphone (Dilaudid). Opioids work in the brain to diminish the perception of pain. Opioids also can produce a sense of euphoria by affecting pleasure centers in the brain. This is often intensified when opioids are taken by routes other than those prescribed.¹ For example, OxyContin can be crushed and snorted, or injected intravenously—this can enhance the euphoric effects, while at the same time increasing the risk for serious medical consequences, such as overdose.
- **CNS Depressants.** CNS depressants commonly are prescribed to treat anxiety and sleep disorders because of their ability to slow normal brain function. These medications include barbiturates, such as mephobarbital (Mebaral), pentobarbital sodium (Nembutal), butalbital (Fioricet), and benzodiazepines such as diazepam (Valium), chlordiazepoxide HCl (Librium), alprazolam (Xanax), triazolam (Halcion), and others.
- **Stimulants.** Stimulants, including dextroamphetamine (Dexedrine and Adderall) and methylphenidate (Ritalin and Concerta), are used primarily to treat attention deficit hyperactivity disorder, attention deficit disorder, and narcolepsy. These stimulants increase the amount of certain chemicals in the brain and peripheral nervous system. This can lead to increased blood pressure and heart rate, and increased blood glucose.

¹ This does not apply only to opioids. Changes in routes of administration also contribute to the abuse of other prescription medications, and this practice can lead to serious medical consequences.

WHAT IS ADDICTION?

Addiction is a complex brain disease, characterized by compulsive drug seeking and use, despite harmful consequences.

WHAT IS PHYSICAL DEPENDENCE?

Chronic use of many medications, including use for legitimate medical reasons, can result in physical dependence—a state in which the body adapts to the presence of the drug. This can include tolerance, which means that a user must take higher doses to achieve the same initial drug effect. Withdrawal symptoms may occur when a user abruptly stops taking the drug. Although people who are addicted to a variety of drugs often experience tolerance and withdrawal symptoms, *physical dependence alone is not the same as addiction.*

OVER-THE-COUNTER (OTC) MEDICINES

OTC medicines, including sleep aids such as doxylamine (Unisom), antihistamines such as diphenhydramine (Benadryl) and dimenhydrinate (Gravol or Dramamine), and cough suppressants containing dextromethorphan (DXM), have been abused for their psychoactive effects.

Who is most vulnerable?

- **Adolescents.** According to the 2003 National Survey on Drug Use and Health, 9.2 percent of youth aged 12–17 had used a prescription psychotherapeutic drug for nonmedical reasons in the past year and 4.0 percent were current users. Prescription opioids are a particularly serious problem in this age group. NIDA's 2004 Monitoring the Future survey of 8th-, 10th-, and 12th-graders found that 5.0 percent of 12th-graders reported abusing OxyContin in the past year, and 9.3 percent reported abusing Vicodin, making Vicodin one of the most commonly abused prescription drugs in this population. Another troubling trend is the recent phenomena known as “pharming,” where young people mix prescription medications and ingest some or all of them at once, unaware of potentially severe drug interactions.
- **Elderly Adults.** Although persons 65 years of age and above comprise only 13 percent of the population, they are prescribed approximately one-third of all medications in the United States. In addition, older patients are likely to be prescribed more long-term prescriptions, as well as multiple prescriptions, which could potentially result in unintentional misuse. A large percentage of older adults also use OTC medicines and dietary supplements, along with prescription medications, which could lead to dangerous results. The elderly also are at risk for prescription drug abuse, in which they intentionally take medications that are not medically necessary. Because of high rates of comorbid illnesses among the elderly, changes in drug metabolism with age, and the potential for drug interactions, prescription and OTC drug abuse or misuse can have more adverse health consequences among this age group.

What can we do?

Healthcare providers, primary care physicians, pharmacists, and patients themselves, can all play a role in identifying and preventing prescription drug abuse.

Physicians. Because most people visit their primary care physician at least once every 2 years, primary care physicians are in a unique position—not only to prescribe medications, but to identify prescription drug abuse and help the patient find treatment. Screening for prescription drug abuse should be incorporated into every routine medical visit. Doctors can begin by asking questions about substance abuse history, current prescription and OTC use, and reasons for use. Further, doctors should also be aware of other potential signs of abuse, such as rapid increases in the amount of

medication the patient reportedly needs, or refill requests before the refill date.

Pharmacists. It is a pharmacist's responsibility to provide clear information on how to take medications appropriately, describe possible effects, and warn of possible drug interactions. The pharmacist also can be part of the first line of defense in recognizing prescription drug abuse. By monitoring prescriptions for falsification or alterations and being aware of potential “doctor shopping” (where patients get multiple prescriptions from different doctors), pharmacists play a valuable role in prevention.

Patients. There are also steps a patient can take to ensure the appropriate use of prescription medications. Patients should always follow the directions, be aware of potential interactions, never stop or change a dose on their own, and never take another person's prescription. Patients should also inform their healthcare professionals about current prescription and OTC medicines they are taking, along with any dietary or herbal supplements they might be taking.

What are the treatments for prescription drug abuse?

Years of research have shown that addiction to any drug, illicit or prescribed, like other chronic diseases, can be treated effectively. However, no single type of treatment is appropriate for all individuals with addictions. To be successful, treatment must take into account the type of drug used as well as the needs of the user. Treatment may incorporate several behavioral and pharmacological components, as well as detoxification. Because drug abuse is a chronic and relapsing disease, multiple courses of treatment may be needed for patients to make a full recovery.

There are two main categories of drug addiction treatment—behavioral and pharmacological.

Behavioral Treatment

Behavioral drug abuse treatments—such as individual counseling, group or family counseling, contingency management, and cognitive-behavioral therapy—teach patients how to stop using drugs, how to handle cravings, how to prevent a relapse, and how to handle a relapse if one should occur. When delivered effectively, behavioral treatments also can help patients improve their personal relationships and ability to function at work and within the community.

Pharmacological Treatment

Some addictions, such as opioid addiction, can be treated with medications. Methadone and buprenorphine currently are used to treat heroin addiction, but they also may prove useful in treating addiction to pain relievers. Further research is needed to determine whether these medications will provide an effective treatment for prescription drug abuse.

Please visit www.drugabuse.gov/drug-pages/prescription.html for more information on the health effects of prescription drugs. NIDA's "Selected Prescription Drugs with Potential for Abuse" chart is available online at www.drugabuse.gov/DrugPages/PrescripDrugsChart.html.

National Clearinghouse for Alcohol and Drug Information (NCADI): 1-800-729-6686



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Research shows that a combination of both behavioral and pharmacological treatments is the most effective strategy, especially for treating opioid addiction.

What are some of the problems with prescribing pain medications?

There is a fine balance between under-prescribing and over-prescribing pain relievers, particularly opioids.

The data available to us so far suggests that the risk of becoming addicted to prescription pain medication is minimal in those who are treated on a short-term basis. The risk for patients with chronic pain is less well understood. Some studies have shown that those most vulnerable to becoming addicted to prescription pain medications have a history of psychological disorders, prior substance abuse problems, or a family history of these disorders.

Pain management for patients who have substance abuse disorders is particularly challenging for the medical profession. However, these patients still can be successfully treated with opioid pain medications; they may need to be admitted to a treatment or recovery program and monitored closely if prescribed controlled substances for pain.

Developing effective treatments for addiction and pain medications that are less likely to be abused is a priority for NIDA. For example, the medication buprenorphine/naloxone (marketed as Suboxone), developed by NIDA in collaboration with the pharmaceutical industry for the treatment of opioid addiction, may provide an alternative treatment for pain that has less potential for abuse than other pain medications. However, further research is needed before this practice can be recommended.

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