

# Unintentional Drug Poisoning in the United States



## Background

A poisoning occurs when a person's exposure to a natural or manmade substance has an undesirable effect. A drug poisoning occurs when that substance is an illegal, prescription, or over-the-counter drug. Most fatal poisonings in the United States result from drug poisoning.

Poisoning can be classified as:

- self-harm or suicide when the person wants to harm himself;
- assault or homicide when the person wants to harm another; and
- unintentional, also known as "accidental," when no harm is intended. Unintentional drug poisoning includes drug overdoses resulting from drug misuse, drug abuse, and taking too much of a drug for medical reasons.

This document summarizes the most recent information about deaths and emergency department (ED) visits resulting from drug poisoning. Information about deaths comes from death certificates for deaths in 2006. Information about emergency department visits comes from a national surveillance system, the Drug Abuse Warning Network (DAWN), operated by the Substance Abuse and Mental Health Services Administration (SAMHSA).

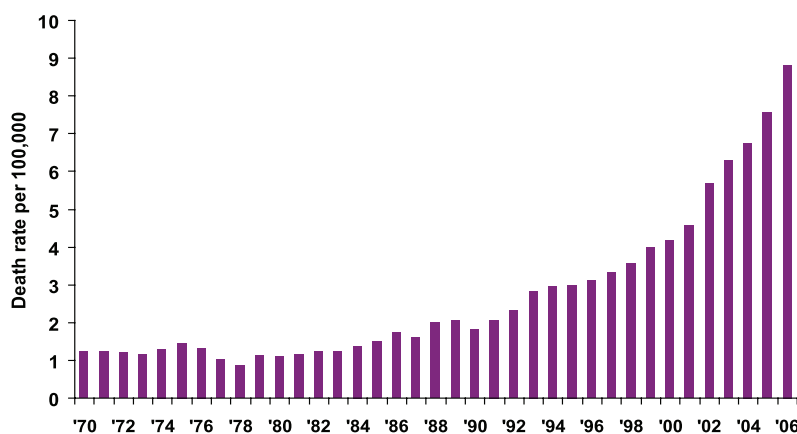
## Drug overdose death rates in the United States have never been higher

- Drug overdose death rates have risen steadily in the United States since 1970. (See Figure 1)
- In 2006, 26,400 unintentional drug overdose deaths occurred in the United States.
- Drug overdose deaths were second only to motor vehicle crash deaths among leading causes of unintentional injury death in 2006 in the United States.

Rates have increased roughly five-fold since 1990.

- Age-adjusted rates of drug overdose death for whites surpassed those among African Americans in 2003.

Figure 1: Rate of unintentional drug overdose death in the United States, 1970-2006



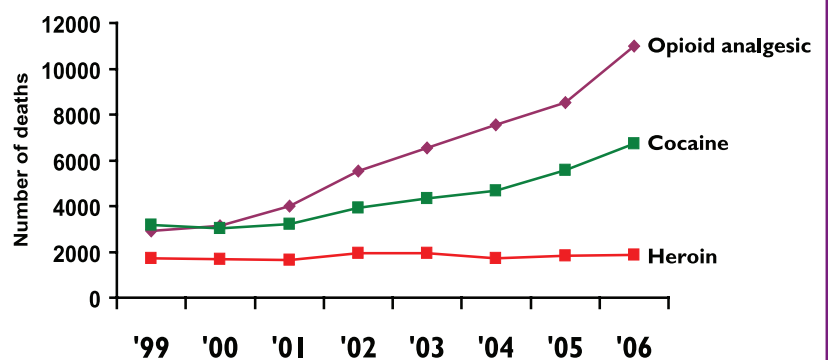
Source: National Vital Statistics System

## The increase in drug overdose death rates is largely because of prescription opioid painkillers

- Among deaths attributed to drugs, the most common drug categories are cocaine, heroin, and a type of prescription drug called opioid painkillers.
- “Opioids” are synthetic versions of opium. They have the ability to reduce pain but can also suppress breathing to a fatal degree when taken in excess. Examples of opioids are oxycodone (OxyContin®), hydrocodone (Vicodin®), and methadone.
- There has been at least a 10-fold increase in the medical use of opioid painkillers during the last 15 years because of a movement toward more aggressive management of pain.
- Because opioids cause euphoria, they have been associated increasingly with nonmedical, recreational use. Opioids are now widely available in illicit markets in the United States.

In 2006, the number of deaths involving opioid analgesics was 1.63 times the number involving cocaine and 5.88 times the number involving heroin.

Figure 2: Unintentional drug overdose deaths by major type of drug, United States, 1999-2006



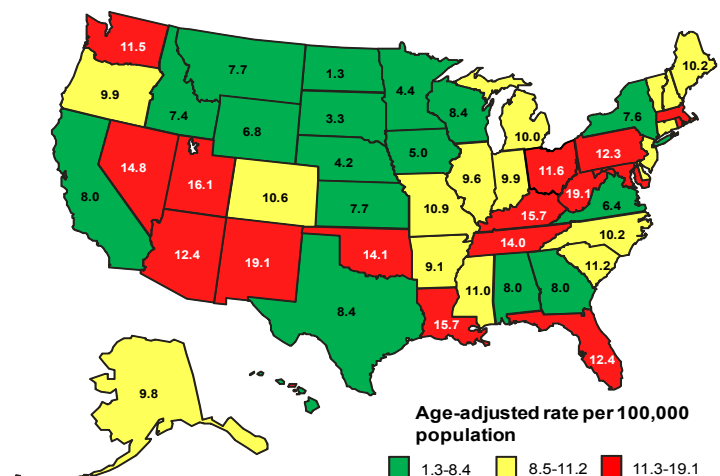
Source: National Vital Statistics System

By 2006, opioids were involved in more overdose deaths than heroin and cocaine combined. (See Figure 2)

## Overall drug overdose death rates in the United States vary by state and region

- States in the Appalachian region and the Southwest have the highest death rates. (See Figure 3)
- The highest drug overdose death rates were found in New Mexico and West Virginia, which were nearly 15 times that of the state with the lowest drug overdose death rate, North Dakota.
- In 2006, states such as California and New York had some of the lowest overall death rates among all states because of low opioid overdose rates. In contrast, in the early 1990s these states had some of the highest overall rates, largely because of high heroin and cocaine overdose rates.

Figure 3: Drug Overdose Death Rates by State, 2006

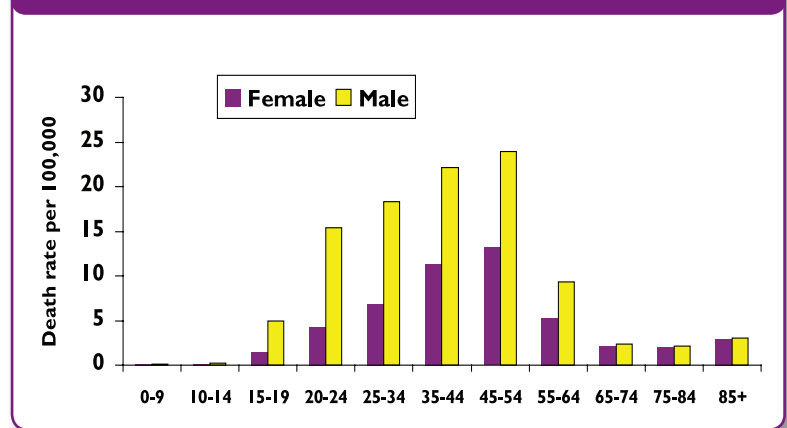


Source: National Vital Statistics System

## Men and middle-aged people are more likely to die from drug overdose

- In 2006, 17,740 drug overdose deaths occurred among males and 8,660 among females. Male rates exceed female rates in every age group. Men have historically had higher rates of substance abuse than women. (See Figure 4)
- Male rates have doubled and female rates have nearly tripled since 1999.
- For both sexes, the highest rates were in the 45-54 years old age group. Rates increase dramatically between the 15-19 and 20-24 years age groups as teenagers attend college or move away from home.
- After age 64, the male and female rates become comparable, probably as a result of the reduction in rates of substance abuse with age.

Figure 4: Drug overdose mortality rates by sex and age group, United States, 2006



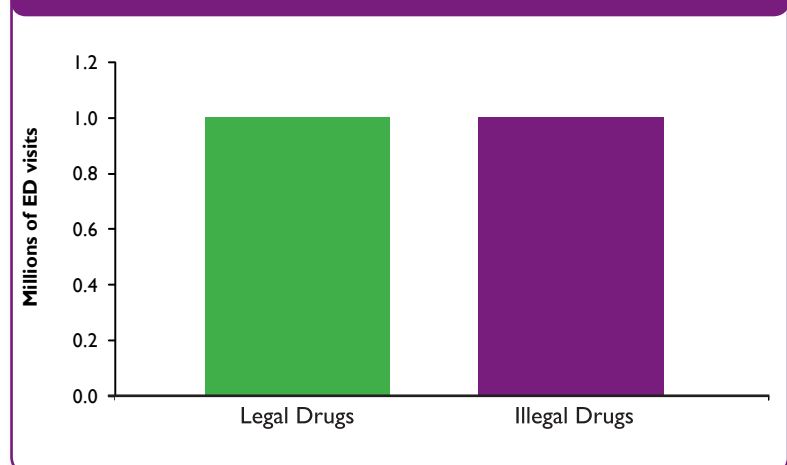
Source: National Vital Statistics System

## Among emergency department visits for the misuse or abuse of drugs, legal drugs have caught up with illegal drugs

- The Drug Abuse Warning Network (DAWN) estimates ED visits caused by illicit drugs or the nonmedical use of legal drugs, which includes taking more than the prescribed amount, taking drugs prescribed for someone else, or substance abuse. Nonmedical use by this definition does not include use of drugs to harm oneself, e.g., suicide attempts, or unintentional ingestions.

ED visits for the nonmedical use of prescription and over-the-counter drugs are now comparable to ED visits for use of illicit drugs like heroin and cocaine.

Figure 5: Estimated numbers of ED visits involving legal drugs used nonmedically and illegal drugs, United States, 2008



Source: Drug Abuse Warning Network

- In 2008, DAWN estimates show that prescription or over-the-counter drugs used nonmedically were involved in 1.0 million ED visits, and illicit drugs were involved in 1.0 million visits (See Figure 5). Among the legal drugs, the most common drug categories involved were psychotherapeutic drugs, especially sedatives and antidepressants, and drugs acting on the central nervous system, especially opioid painkillers. Opioid painkillers were associated with approximately 306,000 visits and benzodiazepines (a type of sedative) with 272,000 visits.
- Among illicit drugs, cocaine was involved in 482,000 visits, and heroin was involved in 201,000 visits.
- People who abuse opioids have direct health care costs more than eight times those of nonabusers. A conservative estimate of the costs to society of prescription opioid abuse in the United States was \$8.6 billion in 2001 (\$9.5 billion in 2005 dollars).

# Recommendations

*The following recommendations are not founded in evidence-based research but are based on promising interventions and expert opinion. Additional research is needed to understand the impact of these interventions on decreasing unintentional drug poisoning and on health care costs. All of the following recommendations should be implemented in concert and collaboration with public health entities and other relevant stakeholders.*

## Health Care Providers

- Use opioid medications for acute or chronic pain only after determining that alternative therapies do not deliver adequate pain relief. The lowest effective dose of opioids should be used.
- In addition to behavioral screening and use of patient contracts, consider random, periodic, targeted urine testing for opioids and other drugs for any patient less than 65 years old with noncancer pain who is being treated with opioids for more than six weeks.
- If a patient's dosage has increased to  $\geq 120$  morphine milligram equivalents per day without substantial improvement in pain and function, seek a consult from a pain specialist.
- Do not prescribe long-acting or controlled-release opioids (e.g., OxyContin®, fentanyl patches, and methadone) for acute pain.
- Periodically request a report from your state prescription drug monitoring program on the prescribing of opioids to your patients by other providers.

## Private Insurance Providers and Pharmacy Benefit Managers (PBMs)

- Identify patients using opioids for noncancer pain who 1) receive a total of 120 or more morphine milligram equivalents of opioids per day from two or more sources; 2) show inappropriate patterns of usage such as multiple prescriptions for the same medication from different providers; or 3) also use a sedative-hypnotic. Notify the prescribing providers about such patients.
- For patients whose use of multiple providers cannot be justified on medical grounds, insurers and PBMs should only reimburse opioid prescription claims from a single designated physician and a single designated pharmacy.

## State and Federal Agencies

- To the extent permitted by applicable law, state prescription drug monitoring programs should routinely send reports to providers on patients less than 65 years old if they are being treated with opioids for more than 6 weeks by two or more providers or if there are signs of inappropriate use of controlled substances. (If legal authority to do so does not exist, work toward obtaining that authority.)
- To the extent permitted by applicable law, state and federal benefits programs should consider monitoring prescription claims information for signs of inappropriate use of controlled substances by patients. For patients whose use of multiple providers cannot be justified on medical grounds, such programs should consider reimbursing opioid prescription claims from a single designated physician and a single designated pharmacy.
- State and federal agencies should work to improve the availability of substance abuse treatment services.

## For More Information on Unintentional Drug Poisonings in the United States, go to:

Centers for Disease Control and Prevention [www.cdc.gov](http://www.cdc.gov)

National Center for Injury Prevention and Control  
[www.cdc.gov/HomeandRecreationalSafety/Poisoning/index.html](http://www.cdc.gov/HomeandRecreationalSafety/Poisoning/index.html)

Call: 1-800-CDC-INFO (232-4636) | TTY: 1-888-232-6348

