



DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention



Poisoning in the United States: Fact Sheet

Overview

A **poison** is any substance that is harmful to your body when ingested (eaten), inhaled (breathed), injected, or absorbed through the skin. Any substance can be poisonous if enough is taken. For this reason, "poisoning" implies that too much of some substance has been taken. This definition does not include adverse reactions to medications taken correctly.

Poisonings are either intentional or unintentional. **Intentional poisoning** is the result of a person taking or giving a substance with the intention of causing harm. Suicide and assault by poisoning fall into this category. If the person taking or giving a substance did not mean to cause harm, then it is an **unintentional poisoning**. Unintentional poisoning includes the use of drugs or chemicals for recreational purposes in excessive amounts, such as an "overdose." It also includes the excessive use of drugs or chemicals for nonrecreational purposes, such as by a toddler. When the distinction between intentional and unintentional is unclear, poisonings are usually labeled "undetermined" in intent.

Information about both lead and carbon monoxide poisoning can be found on other CDC web pages; see [sources of additional information](#) for the relevant websites. Statistics below include poisoning from all substances, including lead and carbon monoxide.

Occurrence

Intentional

- In the United States in 2003, 5,543 (19.3%) of the 28,700 poisoning deaths were intentional; 5,462 were suicides and 81 were homicides (CDC 2005).
- In 2004, intentional poisoning led to about 279,802 emergency department (ED) visits; 272,275 involved self-harm and 7,527 were assaults (CDC 2005).
 - Among these intentional poisoning ED visits, 203,849 (72.8%) resulted in hospitalization or transfer to another facility.
- Self-harm poisoning was the second-leading cause of ED visits for intentional injury in 2004 (CDC 2005).
- That same year, poison control centers reported 205,455 cases where the reason for poison exposure was suspected suicide attempt or assault (Watson et al. 2005).

Unintentional

- In 2003, 19,457 (67.8%) of the 28,700 poisoning deaths in the United States were unintentional, and 3,700 (12.9%) were of undetermined intent (CDC 2005).

- Unintentional poisoning was second only to motor vehicle crashes as a cause of unintentional injury death that same year (CDC 2005).
- In 2004, unintentional poisoning caused about 577,886 emergency department (ED) visits (CDC 2005).
- Almost 25% of these unintentional ED visits resulted in hospitalization or transfer to another facility (CDC 2005).
- In 2004, poison control centers reported about two million unintentional poisoning or poison exposure cases (Watson et al. 2005).

Most common poisons

Intentional

- In 2003, 71.2% of poisoning suicides were caused by drugs—both legal and illegal. The most commonly used drugs identified in drug-related suicides were psychoactive drugs, such as sedatives and antidepressants, followed by opiates and prescription pain medications (WONDER 2006). Most nondrug-related suicides were due to carbon monoxide from motor vehicle exhaust (Strife et al. 2004).
- Most nonfatal, poison-related suicide attempts involved prescription drugs. Among the 121,585 drug-related suicide attempts in the United States in 2004, pain medications, sedatives and hypnotics, and antidepressants were the most common drugs taken. Among pain medications, opioids were the most widely used, while benzodiazepines were the most common sedatives (SAMHSA 2006).

Unintentional

- In 2003, drugs caused 94.3% of the unintentional and undetermined poisoning deaths (WONDER 2006). Opioid pain medications were most commonly involved, followed by cocaine and heroin (Paulozzi et al. 2006).
- Nonfatal poisonings treated in emergency departments that involve “accidentally” taking prescription or over-the-counter drugs primarily affect children. Among such incidents in 2004, pain and cardiovascular medications, antidepressants, and sedative/hypnotics were most commonly ingested. Acetaminophen-containing drugs, nonsteroidal anti-inflammatory drugs, and opioids were the leading types of pain medications (SAMHSA 2006).
- Among those treated in EDs for nonfatal poisonings involving intentional, nonmedical use (such as misuse or abuse) of prescription or over-the-counter drugs in 2004, benzodiazepines and opioid pain medications were used most frequently (SAMHSA 2006).

Costs

- In 2000, poisonings led to \$26 billion in medical expenses and made up 6% of the economic costs of all injuries in the United States.
- Males accounted for 75% of the total costs of poisoning injuries (\$19 billion).
- Females accounted for 25% of the total costs of poisoning injuries (almost \$7 billion) (Finkelstein et al. 2006).

Groups at Risk

Intentional

Among those who commit suicide by poisoning:

- men are 1.3 times more likely than women;
- whites are 3.6 times more likely than blacks; and
- the peak age is 45-49 years old (CDC 2005).

Among those who intentionally harm themselves with poison, receive treatment in emergency departments, and survive:

- women are 1.7 times more likely than men; and
- the peak age is 15-19 years old, and rates decline steadily as age increases (CDC 2005).

Unintentional

Among those who die from unintentional poisoning:

- men are 2.1 times more likely than women;
- Native Americans have the highest death rate;
- whites and blacks have comparable rates; the peak age is 40-44 years of age; and
- the lowest mortality rates are among children less than 15 years old (CDC 2005).

Among people who unintentionally poison themselves, receive treatment in emergency departments and survive:

- men are 1.5 times more likely than women;
- the highest rates are in the 40-44 year old age group, closely followed by the 0-4 and the 85 years and older age groups (CDC 2005).

Sources of Additional Information

Organizations

[American Association of Poison Control Centers, Inc.](#)

National Center for Environmental Health: [Carbon monoxide poisoning](#)

National Center for Environmental Health: [Lead Poisoning Prevention Program](#)

[Substance Abuse and Mental Health Services Administration](#)

Publications

Burt A, Annest JL, Ballesteros MF, Budnitz D. Nonfatal, unintentional medication exposures among young children --- United States, 2001—2003. MMWR 2006;55: 1-5.

Centers for Disease Control and Prevention. Unintentional and undetermined poisoning deaths -- 11 states, 1990-2001. *MMWR* 2004;53:233-8.

References

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. Web-based Injury Statistics Query and Reporting System (WISQARS) [online]. (2005) [cited 2006 Jul 27]. Available from URL: www.cdc.gov/ncipc/wisqars.

Centers for Disease Control and Prevention. Wide-ranging OnLine Data for Epidemiologic Research (WONDER) [online]. (2006) [cited 2006 Jul 27]. Available from URL: <http://wonder.cdc.gov/mortsql.html>.

Finkelstein E, Corso P, Miller T. The incidence and economic costs of injury in the United States. New York: Oxford University Press; 2006.

Watson WA, Litovitz TL, Rogers GC, Klein-Schwartz W, Reid N, Youniss J, et al. 2004 Annual Report of the American Association of Poison Control Centers Toxic Exposures Surveillance System. *American Journal of Emergency Medicine* 2005;23(5):589-666.

Paulozzi LJ, Budnitz DS, Xi Y. Increasing deaths from opioid analgesics in the United States. *Pharmacoepidemiology and Drug Safety* 2006;15:618-27.

Strife B, Paulozzi LJ. To make further progress against carbon monoxide poisoning, focus on motor vehicles. *Injury Prevention* 2004;10:74-5.

Substance Abuse and Mental Health Services Administration (SAMHSA), Office of Applied Studies. Drug Abuse Warning Network, 2004: national estimates of drug-related emergency department visits. DAWN Series D-28, DHHS Publication No. (SMA) 06-4143. Rockville, MD, 2006.