

# The DAWN Report

November 3, 2011

## Drug-Related Emergency Department Visits Attributed to Intentional Poisoning

### In Brief

- In 2009, there were an estimated 14,720 emergency department (ED) visits attributed to intentional drug poisoning
- Three quarters (73 percent) of drug-related ED visits attributed to intentional poisoning were made by patients aged 21 or older
- Females accounted for nearly two thirds of drug-related ED visits attributed to intentional poisoning (63 percent)
- Approximately 60 percent of these ED visits in 2009 involved unidentified drugs, and a similar percentage involved alcohol in combination with other drugs

Intentional poisoning can be a direct attempt to hurt someone or an attempt to render that person defenseless against other types of crime. Detecting this type of activity is difficult because a victim often is unable to recall what took place, and the intent of the suspect cannot be confirmed. Research has shown that victims often have been drinking alcohol, which impairs their ability to recognize dangerous situations and suspicious behavior of other individuals.<sup>1</sup> Depending on the drug or combination of drugs taken, victims may experience drowsiness and loss of consciousness, leaving them vulnerable to crimes such as robbery, physical assault, or sexual assault.<sup>2,3</sup>

In 2009, poison control centers in the United States received more than 7,700 reports of intentional poisoning by another person, and in 2007, the Centers for Disease Control and Prevention's National Center for Injury Prevention and Control

reported 85 homicide poisoning deaths.<sup>4,5</sup> While information for other drug-facilitated crimes is sparse, it has been estimated that approximately 3 million American women have experienced drug-facilitated rape in their lifetime.<sup>6</sup> These statistics understate the extent to which drugs are used for intentionally impairing or harming others for two reasons: (1) drugs commonly used for this purpose may leave the body quickly and thus cannot be detected, and (2) individuals who suspect they have been intentionally drugged may not seek immediate medical attention. Although few data sources provide insight into incidents of intentional poisoning, data from emergency department (ED) visits can provide information about the types of drugs involved when individuals who believe they have been drugged seek emergency care.

The Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related ED visits in the United States. To be a DAWN case, the ED visit must have involved a drug, either as the direct cause of the visit or as a contributing factor. DAWN includes drug-related ED visits attributed to intentional poisoning, which is classified as such when a patient's ED medical chart indicates that she or he was deliberately drugged by another person with the intent of causing harm (e.g., drug-facilitated sexual assault). It should be noted that, within these cases, toxicology tests may not always be conducted. When toxicology screens are conducted, drug identification may not be feasible because (1) ED staff may not know for which particular drug(s) to screen and (2) some drugs metabolize quickly so that a toxicology screen would have had to be conducted fairly soon after ingestion. This issue of *The DAWN Report* presents findings from 2009 regarding ED visits attributed to intentional poisoning across all ages and the types of drugs involved with those visits.

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## Overview

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Of the estimated 4.6 million drug-related ED visits in 2009, approximately 14,720 visits were attributed to intentional poisoning. Almost three quarters (73 percent) of these visits were made by patients aged 21 or older, a proportion that corresponds to the percentage of the general population in this age group.<sup>7</sup> Females accounted for nearly two thirds of these visits (63 percent).

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## Drugs Involved in ED Visits

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ED visits attributed to intentional poisoning can involve both identified and unidentified drugs. In 2009, approximately 60 percent of such ED visits involved unidentified drugs (Table 1). For this report, the "unidentified drug" category includes 6,253 visits for which patients lacked knowledge about the specific drug that was given to them (e.g., "a date rape drug") and 2,532 visits that involved a drug to which DAWN was unable to assign a code (e.g., ambiguous slang names, foreign drug names). Overall, 37 percent of ED visits attributed to intentional poisoning involved unidentified drugs combined with alcohol, 19 percent involved unidentified drugs only, and 7 percent involved unidentified drugs combined with identified illicit drugs. About two thirds of ED visits (68 percent) attributed to intentional poisoning involved more than one drug (including alcohol and unidentified drugs), with an overall average of two drugs per ED visit.

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## Alcohol Involvement

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Approximately three in five (60 percent) drug-related ED visits attributed to intentional poisoning involved alcohol in combination with other drugs (Figure 1). Alcohol was combined with unidentified drugs in 37 percent of these visits, with illicit drugs in 17 percent, and with pharmaceuticals in 12 percent. It should be noted that DAWN does not collect data from ED visits in which alcohol is the only substance unless the patient is aged 20

or younger, and these visits are not included in the intentional poisoning cases.

### Illicit Drug Involvement

Nearly one third (30 percent) of drug-related ED visits attributed to intentional poisoning involved illicit drugs (Table 2). The specific illicit drugs most commonly identified in ED visits attributed to intentional poisoning include marijuana (7 percent), stimulants (6 percent), cocaine (5 percent), and Ecstasy (5 percent). With respect to drug combinations, about 9 percent of ED visits attributed to intentional poisoning involved illicit drugs only, 17 percent involved illicit drugs and alcohol, and 7 percent involved illicit drugs and unidentified drugs (Figure 2).

### Pharmaceutical Involvement

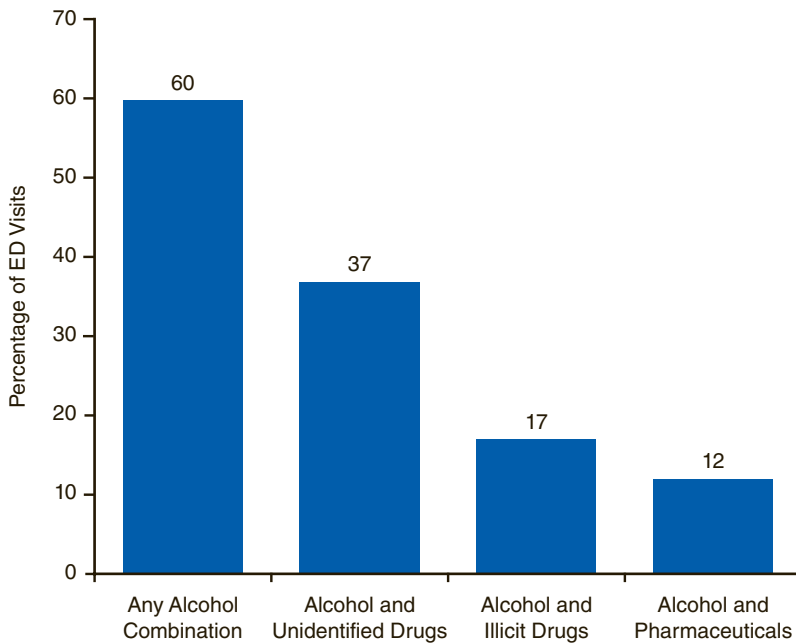
About one fifth (21 percent) of drug-related ED visits attributed to intentional poisoning involved pharmaceutical drugs (Table 2). Drugs that treat anxiety and insomnia were the most common pharmaceuticals (14 percent), followed by pain relievers (7 percent). Among ED visits attributed to intentional poisoning, about 7 percent involved pharmaceuticals only, 12 percent involved pharmaceuticals and alcohol, and 1 percent involved pharmaceuticals and unidentified drugs (Tables 1 and 2).

**Table 1. Drug-Related Emergency Department (ED) Visits Attributed to Intentional Poisoning, Unidentified Drugs Only and in Combination: 2009**

Drug Category	Estimated Number of ED Visits	Percentage of Visits*
<b>Total ED Visits</b>	<b>14,720</b>	<b>100</b>
Any Unidentified Drug	8,785	60
Unidentified Drugs Only	2,857	19
Combinations of Unidentified Drugs with Other Drugs or Alcohol	5,928	40
Unidentified Drugs and Alcohol	5,513	37
Unidentified Drugs and Illicit Drugs	1,039	7
Unidentified Drugs and Pharmaceuticals	219	1

\* Because multiple drugs may be involved in each visit, estimates of visits by drug may add to more than the total, and percentages may add to more than 100 percent.  
Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

**Figure 1. Alcohol Combinations\* Involved in Emergency Department (ED) Visits Attributed to Intentional Poisoning: 2009**



\* Because multiple drugs may be involved in each visit, percentages for each category may add to more than the overall percentage of alcohol combinations.  
Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

## Disposition of ED Visits

Most drug-related ED visits resulted in the patient being treated and released from the ED (84 percent) (Figure 3). The rest of the visits resulted in the patient either being admitted to the hospital (5 percent) or having some other disposition (11 percent), such as being transferred to another medical facility or leaving against medical advice.

## Discussion

Various combinations of identified (e.g., alcohol and illicit drugs) and unidentified drugs were involved in ED visits attributed to intentional poisoning. Some drugs can be mixed easily in alcohol, which can both amplify the drugs' effects and also provide a surreptitious method to poison unsuspecting victims and render them vulnerable. In this report, 6 out of 10 ED visits attributed to intentional poisoning involved drugs combined with alcohol. Also, in 60 percent of the visits, patients did not know what specific drugs were given to them.

Such possibilities highlight the importance of heightening public awareness of the potential use of drugs for intentional poisoning in group settings—such as bars, dance clubs, and concerts—in which alcohol or drugs are often consumed. Informational campaigns can educate people about the risks involved with leaving beverages unattended and accepting alcoholic beverages or drugs from others, either from strangers or from people they know. These messages may be especially important for young adults who are not of legal drinking age and are therefore more open to accepting a “free” drink. Likewise, individuals consuming recreational drugs should be aware that the drugs they are using may have been adulterated with other substances that could have unexpected, potentially hazardous side effects. In situations and venues in which alcohol and drugs might be used, prevention campaigns could

**Table 2. Selected Drugs and Drug Combinations Involved in Emergency Department (ED) Visits Attributed to Intentional Poisoning: 2009**

Drug Category	Estimated Number of ED Visits	Percentage of Visits*
<b>Total ED Visits</b>	<b>14,720</b>	<b>100</b>
Alcohol**	8,788	60
Illicit Drugs	4,368	30
Marijuana	1,001	7
Stimulants	861	6
Cocaine	782	5
Ecstasy (or MDMA)	706	5
Pharmaceuticals	3,128	21
Drugs That Treat Anxiety and Insomnia	1,989	14
Benzodiazepines	1,128	8
Pain Relievers	1,091	7
Alcohol and Drug Combinations	6,719	46
Alcohol and Illicit Drugs	2,446	17
Alcohol and Pharmaceuticals	1,708	12
Illicit Drugs Only	1,374	9
Illicit Drugs and Pharmaceuticals	***	***
Pharmaceuticals Only	1,028	7

\* Because multiple drugs may be involved in each visit, estimates of visits by drug may add to more than the total, and percentages may add to more than 100 percent.

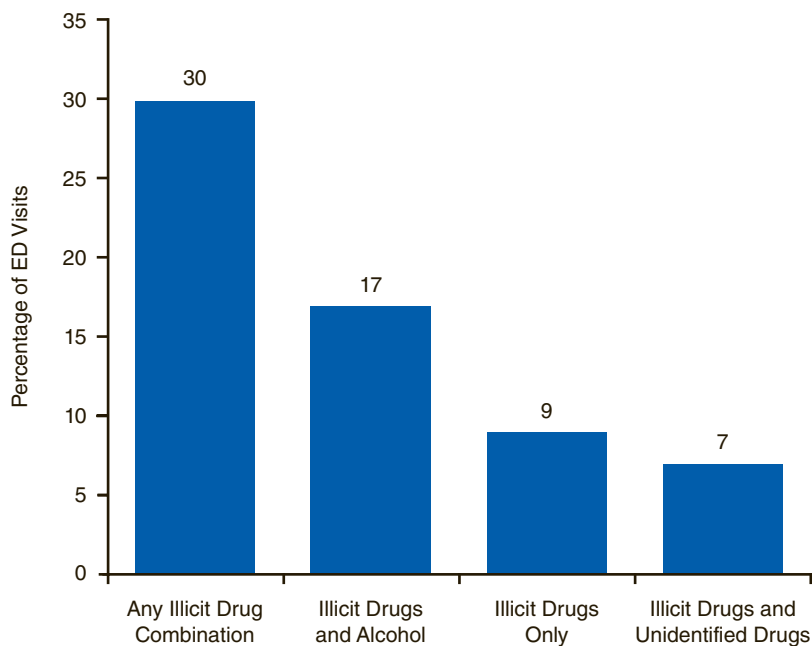
\*\* The alcohol category includes visits involving alcohol combined with another drug(s) and excludes visits in which alcohol was the only drug.

\*\*\*The estimate for illicit drug and pharmaceutical combinations is suppressed because of low statistical precision.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

encourage friends to use the “buddy system” to ensure safety. Educational public service messages could instruct individuals to seek medical care immediately if a poisoning is suspected. Immediate action is critical because it can alert medical staff to evaluate the possibility of drug-induced adverse effects promptly.

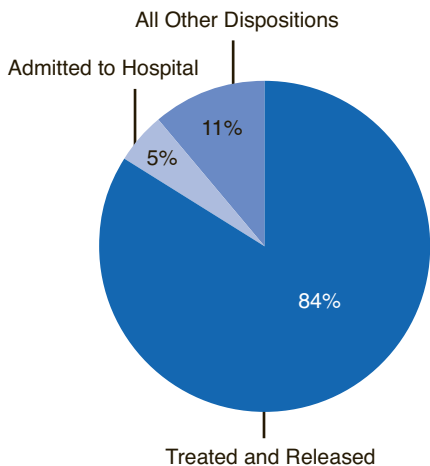
**Figure 2. Types of Illicit Drug Combinations\* Involved in Emergency Department (ED) Visits Attributed to Intentional Poisoning: 2009**



\* Because multiple drugs may be involved in each visit, percentages for each category may add to more than the overall percentage of drug combinations involving at least one illicit drug.

Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

**Figure 3. Drug-Related Emergency Department (ED) Visits Attributed to Intentional Poisoning, by Visit Disposition: 2009**



Source: 2009 SAMHSA Drug Abuse Warning Network (DAWN).

**End Notes**

- <sup>1</sup> Abbey, A., BeShears, R., Clinton-Sherrod, A. M., & McAuslan, P. (2004). Similarities and differences in women’s sexual assault experiences based on tactics used by the perpetrator. *Psychology of Women Quarterly*, 28(4), 323-332.
- <sup>2</sup> National Institute on Drug Abuse. (2010). *NIDA InfoFacts: Club drugs (GHB, ketamine, and Rohypnol)*. Bethesda, MD: Author. [Available at <http://www.drugabuse.gov/infofacts/clubdrugs.html>]
- <sup>3</sup> Office of Women’s Health, U.S. Department of Health and Human Services. (2008). *Date rape drugs: Frequently asked questions*. Bethesda, MD: Author. [Available as a PDF at <http://www.womenshealth.gov/publications/our-publications/fact-sheet/date-rape-drugs.pdf>]
- <sup>4</sup> Bronstein, A. C., Spyker, D. A., Cantilena, L. R., Jr., Green, J. L., Rumack, B. H., & Giffin, S. L. (2010). 2009 annual report of the American Association of Poison Control Centers’ National Poison Data System (NPDS): 27th annual report. *Clinical Toxicology*, 48, 979-1178.
- <sup>5</sup> National Center for Injury Prevention and Control. (2010). *WISQARS injury mortality reports, 1999-2007*. Retrieved from [http://webappa.cdc.gov/sasweb/ncipc/mortrate10\\_sy.html](http://webappa.cdc.gov/sasweb/ncipc/mortrate10_sy.html)
- <sup>6</sup> Kilpatrick, D. G., Resnick, H. S., Ruggiero, K. J., Conoscenti, L. M., & McCauley, J. (2007). *Drug-facilitated, incapacitated, and forcible rape: A national study*. Charleston, SC: National Crime Victims Research & Treatment Center. [Available as a PDF at <https://www.ncjrs.gov/pdffiles1/nij/grants/219181.pdf>]
- <sup>7</sup> U.S. Census Bureau. (2011, June). Table 1: Population by age and sex: 2010. *Current Population Survey: 2010 annual social and economic supplement*. Washington, DC: Author. [Available at [http://www.census.gov/population/www/socdemo/age/age\\_sex\\_2010.html](http://www.census.gov/population/www/socdemo/age/age_sex_2010.html)]

**Suggested Citation**

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Findings from SAMHSA's 2009 Drug Abuse Warning Network (DAWN)

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The Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related morbidity and mortality. DAWN uses a probability sample of hospitals to produce estimates of drug-related emergency department (ED) visits for the United States and selected metropolitan areas annually. DAWN also produces annual profiles of drug-related deaths reviewed by medical examiners or coroners in selected metropolitan areas and States.

Any ED visit related to recent drug use is included in DAWN. All types of drugs—licit (such as pharmaceuticals) and illicit—are covered. Alcohol involvement is documented for patients of all ages if it occurs with another drug. Alcohol is considered an illicit drug for minors and is documented even if no other drug is involved. The classification of drugs used in DAWN is derived from the Multum *Lexicon*, copyright 2010 Lexi-Comp, Inc., and/or Cerner Multum, Inc. The Multum Licensing Agreement governing use of the *Lexicon* can be found at [http://dawninfo.samhsa.gov/drug\\_vocab](http://dawninfo.samhsa.gov/drug_vocab).

DAWN is one of three major surveys conducted by the Substance Abuse and Mental Health Services Administration's Center for Behavioral Health Statistics and Quality (SAMHSA/CBHSQ). For more information on other CBHSQ surveys, go to <http://www.oas.samhsa.gov/>. SAMHSA has contracts with Westat (Rockville, MD) and RTI International (Research Triangle Park, NC) to operate the DAWN system and produce publications.

For publications and additional information about DAWN, go to <http://DAWNinfo.samhsa.gov/>.



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