

New The DAWN Report

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DRUG ABUSE WARNING NETWORK

Disposition of Emergency Department Visits for Drug-Related Suicide Attempts by Adolescents: 2004

In Brief

According to the Drug Abuse Warning Network (DAWN):

- In 2004, there were over 15,000 emergency department (ED) visits by adolescents aged 12 to 17 whose suicide attempts involved drugs.
- Almost three quarters of these drug-related suicide attempts were serious enough to merit the patient's admission to the same hospital or transfer to another health care facility.
- Pain medications were involved in about half of the suicide attempts.
- Antidepressants or other psychotherapeutic medications were involved in over 40 percent of the suicide attempts by adolescents who were admitted to the hospital. DAWN data do not distinguish which of the patients had been prescribed antidepressants to treat a preexisting condition.

Suicide in adolescence is a major public health problem. According to the Centers for Disease Control and Prevention (CDC), 9 percent of students in public and private high schools in 2003 had attempted suicide in the past year, and 3 percent of students reported needing medical treatment after their suicide attempt.¹

Given approximately 15.6 million high school students in the United States, this translates to over 1.3 million suicide attempts, thousands of which would have been handled in hospital emergency departments (EDs).² Therefore, EDs are an important setting for interventions, as well as for referrals and medical treatment of suicidal adolescents.

This report uses 2004 data from the Drug Abuse Warning Network (DAWN) to examine the outcome (i.e., disposition) of ED visits caused by drug-related suicide attempts by persons aged 12 to 17. DAWN is a public health surveillance system that measures drug-related ED visits in the United States. Data are collected from a nationally representative sample of short-term, general, non-Federal hospitals across the Nation. Specialty hospitals, including children's hospitals, are not included in the DAWN sample.

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. For each drug-related

ED visit, information is gathered about the number and types of drugs involved, including illicit drugs, prescription and over-the-counter medications, nutritional supplements, inhalants, and alcohol (which is an illegal drug for persons under age 21). DAWN also collects demographic information about the patients, their diagnoses, and their disposition after discharge from the ED.

An examination of the disposition of ED visits caused by drug-related suicide attempts can provide insights into the severity of the attempts and help to identify the need for services to address adolescent suicide attempts.

Incidence and Types of Disposition

In 2004, there were an estimated 15,299 ED visits associated with drug-related suicide attempts among persons aged 12 to 17 in the United States. These suicide attempts involved an average of 1.7 drugs, with half of the suicide attempts involving only one drug, and 7 percent involving four or more drugs. The majority of the adolescent patients were either admitted to the

Table 1. Disposition of ED Visits Involving Drug-Related Suicide Attempts by Adolescents Aged 12 to 17: 2004

Disposition	Estimated number of ED visits*	Percent of total visits
Treated and released	3,940	26%
Discharged home	3,037	
Released to police/jail	...	
Referred to detox/treatment	828	
Admitted to same hospital	5,097	33%
ICU/critical care	2,311	
Surgery	...	
Chemical dependency/detox	...	
Psychiatric unit	822	
Other inpatient unit	1,962	
All other dispositions	6,263	41%
Transferred	6,032	
Left against medical advice	...	
Died	...	
Other	...	
Total	15,299	100%

Note: Three dots (...) indicate that an estimate with an RSE greater than 50% or an estimate less than 30 has been suppressed.

*Does not sum to total due to rounding.

Source: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (09/2005 update).

same hospital or were transferred to another health care facility after discharge from the ED (Table 1).

According to DAWN, very few adolescents treated in EDs for drug-related suicide attempts died in the ED. In 2004, DAWN received no reports of deaths in the ED for drug-related suicide attempts involving adolescents. However, this is based solely on ED records, which do not include patients who died before coming to the ED or after leaving the ED.

Patients Treated and Released

An estimated 3,940 (26 percent) of adolescents whose suicide attempt involved drugs were released after treatment in the ED (Table 1). Of these, 77 percent were discharged home, while 21 percent were referred to a detoxification/substance abuse treatment program.

On average, 1.9 drugs were involved in the suicide attempts of adolescent patients who were treated and released. Half of these suicide attempts involved at least one pain medication. The pain medications containing opiates (i.e., opioid analgesics), such as hydrocodone and oxycodone, were involved in 36 percent of these visits (Table 2). They were followed by nonsteroidal anti-inflammatory agents (NSAIDs) (29 percent), such as ibuprofen.

Psychotherapeutic medications were involved in 38 percent of cases that were treated and released. Antidepressants were the most frequent, involved in 28 percent of the visits. The DAWN data do not distinguish which of the patients had been prescribed antidepressants to treat preexisting depression and other mental health problems.

Additionally, 18 percent of the cases that were treated and released involved at least one illicit drug, which was almost always alcohol or marijuana. In 97 percent of the cases involving alcohol, it was combined with another drug.

Patients Admitted to the Hospital

In an estimated 5,097 (33 percent) of the drug-related suicide attempts, the patient was admitted to the hospital upon discharge from the ED (Table 1). Almost half of these patients were moved to an intensive care unit (ICU) or critical care unit.

The suicide attempts of adolescents who were admitted to the hospital involved an average of 1.7 drugs. Pain relievers were implicated in over half of these cases. These were primarily opioid analgesics (24 percent) and pain medications containing acetaminophen

(32 percent) (Table 2). NSAIDs and aspirin compounds also were involved to a lesser extent. Pain medications containing opioids are obtainable only by prescription. Analgesics containing acetaminophen, ibuprofen, or aspirin, while widely available, can be toxic if misused.

Psychotherapeutic drugs were implicated in over 40 percent of the suicide attempts by adolescents who were admitted to the hospital. Antidepressants were the most frequently used psychotherapeutic, involved in 27 percent of these suicide attempts.

Approximately 16 percent of the suicide attempt cases that were admitted involved an illicit drug. Alcohol was involved in most of these visits, almost always used in combination with another drug. The interaction between alcohol and medications can increase the medication's toxicity, especially if it is a central nervous system depressant.³ Marijuana was involved in only 5 percent of the cases that were admitted to the hospital.

All Other Dispositions

Other dispositions accounted for an estimated 6,263 (41 percent) of the adolescent suicide-related ED visits that involved drugs. Almost all (96 percent) of these patients were transferred to another health care facility (Table 1).

Patients transferred to another facility. Thirty-nine percent of adolescent drug-related suicide attempt cases were transferred to another health care facility

after discharge from the ED. The suicide attempts of these patients involved, on average, 1.7 drugs. Pain medications were involved in over half of these visits. The prevalence of pain medications among transferred patients was similar to the prevalence among patients with other dispositions. The most commonly involved pain medications were the NSAIDs (21 percent), followed by the acetaminophen/combination drugs (18 percent) (Table 2).

Psychotherapeutic drugs were involved in 29 percent of the suicide attempts by adolescent patients who were transferred to another medical facility. The anti-anxiety/sedative medications were involved in as many visits as the antidepressants (12 percent).

One quarter of all the suicide-related ED visits that were transferred to another facility involved at least one illicit substance, primarily alcohol (17 percent) or marijuana (8 percent). The majority of patients whose suicide attempt involved alcohol as the only drug were transferred to another facility.

Notes

1. Grunbaum, J. A., Kann, L., Kinchen, S., Ross, J., Hawkins, J., Lowry, R., Harris, W. A., McManus, T., Chyen, D., & Collins, J. (2004). Youth risk behavior surveillance—United States, 2003. *Morbidity and Mortality Weekly Report CDC Surveillance Summaries*, 53(SS02), 1–96.
2. U.S. Department of Education, National Center for Education Statistics. Digest of Education Statistics, 2004. Retrieved February 1, 2006, from Table 2 at http://nces.ed.gov/programs/digest/d04/tables/dt04_002.asp.
3. National Institute on Alcohol Abuse and Alcoholism. Harmful Interactions: Mixing Alcohol with Medicines. Retrieved February 3, 2006, from <http://pubs.niaaa.nih.gov/publications/Medicine/medicine.htm>.

Table 2. Selected Substances Involved in Adolescent Suicide-Related ED Visits, by Disposition: 2004

Drug category	Percent of treated and released cases	Percent of admitted to same hospital cases	Percent of transferred to another facility cases
Any illicit substance (including alcohol)	18%	16%	25%
Alcohol	13%	12%	17%
Marijuana	12%	5%	8%
Any psychotherapeutic medication	38%	43%	29%
Antidepressants	28%	27%	12%
Antipsychotics	3%	6%	6%
Anti-anxiety agents, sedatives, and hypnotics	12%	9%	12%
Any pain medication	51%	55%	52%
Opioid analgesics	36%	24%	8%
Nonsteroidal anti-inflammatory drugs (NSAIDs)	29%	19%	21%
Aspirin/combinations	8%	10%	11%
Acetaminophen/combinations	17%	32%	18%

Source: Office of Applied Studies, SAMHSA, Drug Abuse Warning Network, 2004 (09/2005 update).

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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 or death related to recent drug use is included in DAWN. All types of drugs—licit and illicit—are covered. Alcohol is included for adults when it occurs with another drug. Alcohol is always included for minors. DAWN's method of classifying drugs was derived from the Multum *Lexicon*, Copyright © 2005, Multum Information Services, Inc. The Multum Licensing Agreement can be found in DAWN annual publications and at <http://www.multum.com/license.htm>.

DAWN is one of three major surveys conducted by the Substance Abuse and Mental Health Services Administration's Office of Applied Studies (SAMHSA/OAS). For information on other OAS 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>.