

The DAWN Report

May 13, 2010

Emergency Department Visits for Drug-related Suicide Attempts by Adolescents: 2008

Suicide is a major public health problem and a tragedy for all involved—family, friends, neighbors, colleagues, and communities. With about 1,000 completed suicides per year among

persons aged 12 to 17, suicide ranks as the third leading cause of death among youths in this age range.¹ Behind the statistics on completed suicides are still more troubling numbers on suicide ideation and attempts. The 2007 Youth Risk Behavior Surveillance System (YRBSS) indicated that 14.5 percent of all high school students (grades 9 through 12) seriously considered attempting suicide in the past year, 11.3 percent made a suicide plan, 6.9 percent attempted suicide, and 2.0 percent had their suicide attempt treated by a doctor or nurse.²

The Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related emergency department (ED) visits in the United States.^{3,4} 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 data can be used to examine ED visits for drug-related suicide attempts. Although DAWN includes only suicide attempts that involve drugs, these attempts

In Brief

- During 2008, nearly one tenth (8.8 percent) of drug-related emergency department (ED) visits made by adolescents aged 12 to 17 involved suicide attempts
- Almost three of every four (72.3 percent) ED visits for drug-related suicide attempts among adolescents were made by females
- Pharmaceuticals were involved in 95.4 percent of drug-related suicide attempts among adolescents
- More than three fourths (77.0 percent) of the ED visits for drug-related suicide attempts among adolescents ended with evidence of follow-up care

are not limited to drug overdoses. If there is drug involvement in a suicide attempt by other means (e.g., cut wrists while drinking alcohol), the case is included as drug related. Excluded are suicide attempts with no drug involvement and suicide-related behaviors other than actual attempts (e.g., suicidal ideation or suicidal thoughts). This issue of *The DAWN Report* focuses on drug-related ED visits involving suicide attempts among adolescents aged 12 to 17; subsequent reports will focus on visits involving suicide attempts among other age groups.

Overview

During 2008, an estimated 263,871 drug-related ED visits were made by adolescents. Nearly one tenth of these (8.8 percent, or 23,124 visits) involved a suicide attempt. Many of the ED visits involved multiple drugs, with an overall average of 1.8 drugs (including alcohol) per ED visit (2.0 for males; 1.7 for females). Females accounted for nearly three fourths (72.3 percent) of the ED visits for drug-related suicide attempts among adolescents.

Drugs Involved in ED Visit

Pharmaceuticals were involved in 95.4 percent of ED visits for drug-related suicide attempts among adolescents (Table 1). Alcohol, sometimes combined with other drugs, was involved in about 1 in 10 (11.4 percent) of these visits, while illicit drugs were involved in 8.8 percent of ED visits.⁵ Anti-anxiety drugs were involved in 26.2 percent of the visits, and almost half of those visits were accounted for by benzodiazepines (12.6 percent). Antidepressants were involved in 23.0 percent of visits, and more than half of those visits were accounted for by selective serotonin reuptake inhibitors (e.g., fluoxetine). A smaller percentage of visits involved narcotic painkillers (e.g., oxycodone) and attention-deficit/hyperactivity disorder (ADHD) stimulants (e.g., methylphenidate) (5.1 and 1.5 percent of visits, respectively). Pain medications containing acetaminophen, ibuprofen, or aspirin as their main ingredient were involved in 25.4, 14.9, and 4.2 percent of ED visits for drug-related suicide attempts, respectively. Other prescription and over-the-counter (OTC) pharmaceuticals involved in suicide attempts were all found at levels less than 5 percent, and usually less than 1 percent (data not shown).

The drugs involved in ED visits for drug-related suicide attempts varied by gender (Figure 1). For example, antipsychotic drugs (e.g., quetiapine) were indicated in 14.3 percent of visits by males compared with 4.8 percent of visits by females, whereas acetaminophen products were indicated in 28.5 percent of ED visits by females compared with 17.1 percent of visits by males.

Discharge from the ED

Overall, more than three fourths (77.0 percent) of the ED visits for drug-related suicide attempts among adolescents

Table 1. Selected Substances* Involved in Emergency Department (ED) Visits for Drug-related Suicide Attempts among Adolescents: 2008

Drug Category	Estimated Number of ED Visits**	Percentage of Visits**
Total ED Visits	23,124	100.0
Major Substances of Abuse	3,609	15.6
Alcohol	2,633	11.4
Illicit Drugs	2,041	8.8
Marijuana	1,709	7.4
Pharmaceuticals	22,065	95.4
Anti-anxiety Drugs (e.g., Anxiolytics, Sedatives, and Hypnotics)	6,058	26.2
Benzodiazepines (e.g., Alprazolam)	2,915	12.6
Antidepressants	5,312	23.0
Selective Serotonin Reuptake Inhibitors	3,242	14.0
Antipsychotics (e.g., Quetiapine)	1,710	7.4
Narcotic Painkillers (e.g., Oxycodone)	1,181	5.1
Central Nervous System Stimulants (e.g., Attention-deficit/Hyperactivity Disorder Drugs)	346	1.5
Acetaminophen Products	5,863	25.4
Ibuprofen Products	3,453	14.9
Aspirin Products	966	4.2

* Other drugs involved in suicide attempts were all found at levels less than 5 percent, and usually less than 1 percent; therefore, data are not shown.

** 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.

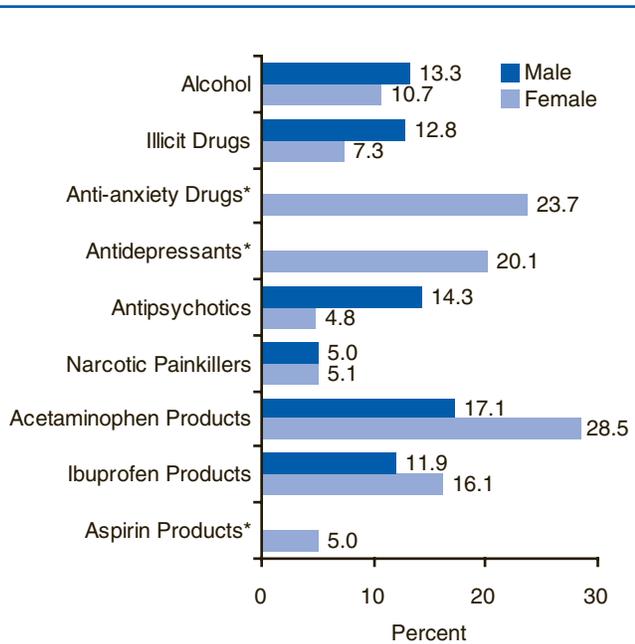
Source: 2008 (08/2009 update) SAMHSA Drug Abuse Warning Network (DAWN).

ended with evidence of follow-up care. The likelihood of follow-up varied by the types of drugs involved, ranging from a high of 90.2 percent for visits involving prescription antidepressants to a low of 52.4 percent for visits involving ibuprofen products (Figure 2). Follow-up care is defined broadly to include admission to an inpatient unit in the hospital, transfer to another health care facility, or referral to detoxification.

Discussion

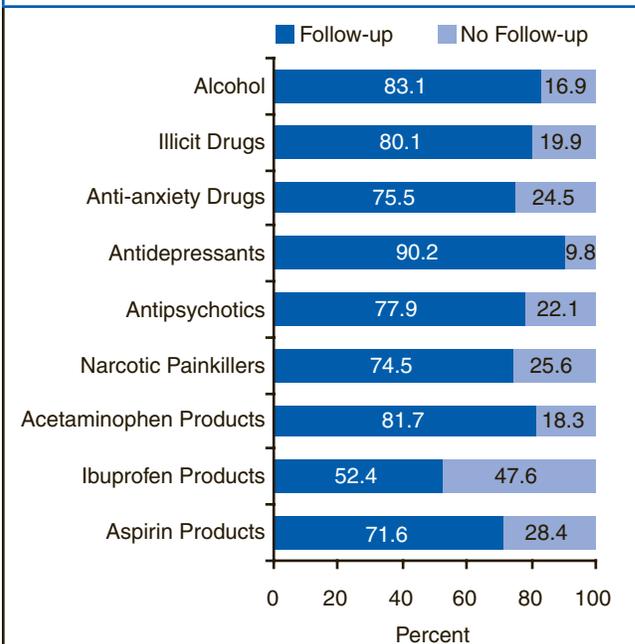
Teen suicide is a major public health problem. One predictor of a future suicide attempt is a previous suicide attempt, and any adolescent who is in an ED because of a suicide attempt should be considered at higher risk for another, possibly fatal,

Figure 1. Selected Substances Involved in Emergency Department (ED) Visits for Drug-related Suicide Attempts among Adolescents, by Gender: 2008



* Estimates for males suppressed because of low precision.
 Source: 2008 (08/2009 update) SAMHSA Drug Abuse Warning Network (DAWN).

Figure 2. Disposition of Emergency Department (ED) Visits Involving Drug-related Suicide Attempts among Adolescents, by Selected Type of Drug Involved*: 2008



* Percentages for each type of drug involved may not add to 100 percent due to rounding.
 Source: 2008 (08/2009 update) SAMHSA Drug Abuse Warning Network (DAWN).

attempt. Thus, EDs afford a unique opportunity to identify at-risk youth and their families and to provide immediate intervention. The findings reported here point to several considerations that may help policymakers, health care professionals, educators, and parents to take advantage of this intervention opportunity.

First, a greater proportion of the ED visits for drug-related suicide attempts were made by adolescent females than males, and the types of drugs involved in the visits varied by gender. Therefore, it may be important to consider these gender differences in managing crises, developing and using brief interventions, and planning aftercare.

Second, an ED visit for a suicide attempt is an opportunity to intervene with the parents/caretakers to educate them about the importance of monitoring the medicines to which the child has access.

Third, it is clear from the findings on ED follow-up that visits entailing less dangerous drugs (e.g., ibuprofen products) receive less follow-up than visits involving prescription drugs such as antidepressants. This may indicate a need to promote awareness among ED professionals and to develop more therapeutic interventions.

End Notes

- 1 National Center for Injury Prevention and Control. (2009). *WISQARS leading causes of deaths reports, 1999-2006*. Retrieved March 4, 2010, from <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html>
- 2 Eaton, D. K., Kann, L., Kinchen, S., Shanklin, S., Ross, J., Hawkins, J., Harris, W. A., Lowry, R., McManus, T., Chyen, D., Lim, C., Brener, N. D., Wechsler, H., & Centers for Disease Control and Prevention (CDC). (2008). Youth risk behavior surveillance—United States, 2007. *Morbidity and Mortality Weekly Report: Surveillance Summaries*, 57(4), 1-131. [Available from <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>]
- 3 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.
- 4 Drugs reported on include illicit drugs, alcohol, prescription drugs, over-the-counter medications, and any other substances prescribed or taken for therapeutic purposes (e.g., nutritional supplements, alternative medications, smoking cessation aids).
- 5 Illicit drugs include (a) illegal drugs such as cocaine, heroin, and marijuana; (b) alcohol, when consumed by a minor; (c) pharmaceuticals known to be frequently abused, such as amphetamines and methamphetamines; and (d) any substance inhaled for its psychoactive effect.

Suggested Citation

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Findings from SAMHSA's 2008 (08/2009 update) 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 and illicit—are covered. Alcohol is included for adults when it occurs with another drug. Alcohol is always reported for minors even if no other drug is present. DAWN's method of classifying drugs was derived from the Multum *Lexicon*, Copyright 2008, Multum Information Services, Inc. The Multum Licensing Agreement can be found in DAWN annual publications 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 more 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/>.



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