

# The DAWN Report

March 8, 2011

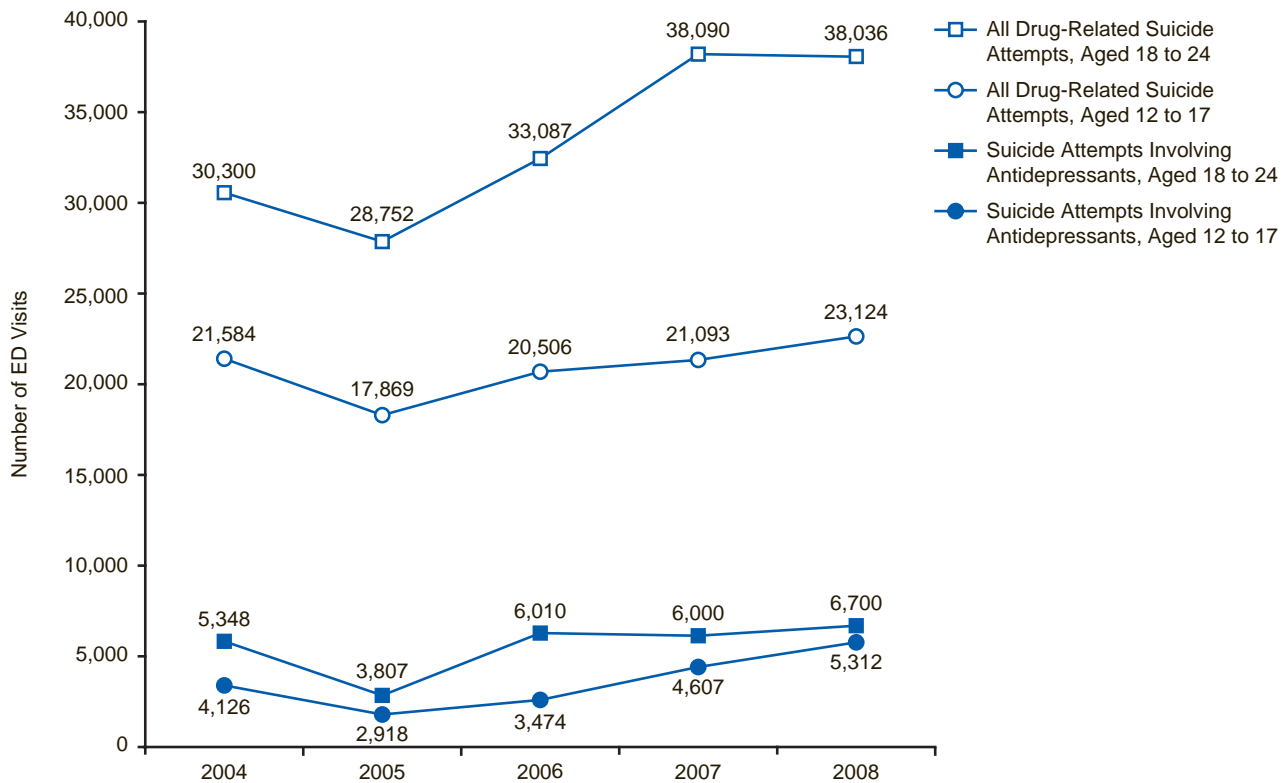
## Emergency Department Visits for Drug-Related Suicide Attempts Involving Antidepressants by Adolescents and Young Adults: 2004 to 2008

### In Brief

- In 2008, adolescents made 23,124 visits to the emergency department (ED) for drug-related suicide attempts, and young adults made 38,036 such visits; of these visits, 23.0 percent (5,312 visits) among adolescents and 17.6 percent (6,700 visits) among young adults involved antidepressants
- Among ED visits for suicide attempts involving antidepressants, more than two thirds of visits by adolescents (68.4 percent) and more than three fourths of visits by young adults (78.0 percent) involved other substances in addition to antidepressants
- One tenth (10.2 percent) of visits by adolescents and nearly one fourth (22.6 percent) of those made by young adults involved antidepressants in combination with alcohol
- One third (32.9 percent) of visits for drug-related suicide attempts made by adolescents and one half (49.4 percent) of visits made by young adults resulted in hospitalization

Antidepressants commonly are prescribed by health care professionals to treat symptoms of depression. In the 1990s, health practitioners increasingly prescribed antidepressants, and many newer formulations were determined to be safe for use by children and adolescents. In fact, research has shown that suicide rates for youths have been decreasing, and some scientists have credited the widespread use of antidepressants for this decline.<sup>1</sup> However, in the past decade, concerns about the safety of antidepressants prompted the U.S. Food and Drug Administration to provide a warning label about the increased risk for suicidal thoughts and behavior among patients younger than 25.<sup>2</sup> Because suicide is the third leading cause of death for adolescents and young adults,<sup>3</sup> a high-profile debate on the risks and benefits of antidepressant use in this population soon followed. However, suicides are difficult to study, and many clinical trials have been inconclusive.

**Figure 1. Number of Emergency Department (ED) Visits for Drug-Related Suicide Attempts Involving Antidepressants by Adolescents and Young Adults: 2004 to 2008**



Source: 2004 to 2008 estimates from the 2008 SAMHSA Drug Abuse Warning Network (DAWN).

National statistical studies shed light on suicide attempts in general among this younger population and provide some background about these attempts. Past year suicide attempts were reported by 6.3 percent of high school students, 0.9 percent of college undergraduates, and 0.3 percent of graduate students.<sup>4,5</sup> Of those who attempted suicide, 30 percent (approximately 300,000) of high school students, 19 percent (approximately 13,990) of college undergraduates, and 28 percent (approximately 1,874) of graduate students reported that they required medical attention for a suicide attempt.<sup>4,5,6,7</sup> Drug overdoses were involved in about half of suicide attempts among college students.<sup>8</sup>

Because suicide attempts often require emergency medical services, emergency department (ED) data can provide valuable information about this issue. Among ED visits for suicide attempts or intentional self-harm, adolescents aged 12 to 17 made an average of 60,885 visits per year between 2004 and 2008, of

which 73.3 percent were made by females.<sup>3</sup> There was an average of 85,452 such visits among young adults aged 18 to 24 between those same years, of which 56.0 percent were made by females.<sup>9</sup> However, with respect to ED visits involving drug-related suicide attempts in particular, 2008 data show that adolescents made 23,124 visits and young adults made 38,036 visits; gender patterns were similar across these ED visits overall.<sup>10,11</sup>

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, an ED visit must have involved a drug, either as the direct cause of the visit or as a contributing factor. DAWN includes only ED visits for suicide attempts that involve either drugs or alcohol in combination with drugs, so these suicide attempts are not limited to drug overdoses. If there is drug involvement in a suicide attempt by other means (e.g., a patient takes sleeping pills and alcohol and then deliberately

**Table 1. Drug Combinations Involved in Emergency Department (ED) Visits for Drug-Related Suicide Attempts Involving Antidepressants by Adolescents and Young Adults: Annual Averages from 2004 to 2008**

Drug Category	Estimated Number of ED Visits per Year,* Persons Aged 12 to 17	Percentage of Visits,* Persons Aged 12 to 17	Estimated Number of ED Visits per Year,* Persons Aged 18 to 24	Percentage of Visits,* Persons Aged 18 to 24
<b>Average Annual ED Visits</b>	4,087	100.0	5,573	100.0
Antidepressants Only	1,291	31.6	1,224	22.0
Antidepressants in Combination with Other Drugs	2,796	68.4	4,349	78.0
Alcohol	415	10.2	1,261	22.6
Illicit Drugs	362	8.9	829	14.9
Marijuana	310	7.6	399	7.2
Other Pharmaceuticals	2,402	58.8	3,429	61.5
Drugs That Treat Anxiety and Insomnia	790	19.3	1,487	26.7
Pain Relievers	1,253	30.6	1,281	23.0
Narcotic Pain Relievers	228	5.6	422	7.6
Acetaminophen Products	399	9.8	440	7.9
Ibuprofen Products	495	12.1	332	6.0
Antipsychotics	546	13.4	905	16.2
Anticonvulsants	362	8.9	675	12.1

\* 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: 2004 to 2008 estimates from the 2008 SAMHSA Drug Abuse Warning Network (DAWN).

crashes his or her car), the case is included as drug related. However, it should be noted that DAWN does not record all medications currently taken by patients but only records drugs that the ED staff believe were involved in the medical emergency that resulted in the ED visit. To the extent that antidepressants contribute indirectly to the likelihood that a person attempts suicide (e.g., having depression may increase the chance of suicide) but not directly to the medical emergency at hand, DAWN may understate the role of antidepressants.

This issue of *The DAWN Report* focuses on ED visits for drug-related suicide attempts involving antidepressants, focusing on adolescents (persons aged 12 to 17) and young adults (persons aged 18 to 24) by examining recent trends and reporting annual averages based on combined 2004 to 2008 data.

## Overview

Among ED visits for drug-related suicide attempts in 2008, 23.0 percent (5,312 visits) of visits by adolescents and 17.6 percent (6,700 visits) of visits by young adults involved antidepressants. The overall trend data from 2004 to 2008 show no significant changes in the number of ED visits for all drug-related suicide attempts among young adults or adolescents (Figure 1). However, for young adults, there were statistically significant increases in the number of drug-related ED visits for suicide attempts involving antidepressants between 2005 and 2006 (3,807 vs. 6,010 visits) and between 2005 and 2008 (3,807 vs. 6,700 visits).

Between 2004 and 2008, there was an annual average of 9,660 ED visits for drug-related suicide attempts involving antidepressants by adolescents aged 12 to 17 and young adults aged 18 to 24.

**Table 2. Disposition of Emergency Department (ED) Visits for Drug-Related Suicide Attempts Involving Antidepressants by Adolescents and Young Adults: Annual Averages from 2004 to 2008**

Disposition	Estimated Number of ED Visits per Year, Persons Aged 12 to 17	Percentage of Visits, Persons Aged 12 to 17	Estimated Number of ED Visits per Year, Persons Aged 18 to 24	Percentage of Visits, Persons Aged 18 to 24
<b>Treated and Released</b>	<b>1,130</b>	<b>27.6</b>	<b>966</b>	<b>17.3</b>
Discharged Home	814	19.9	769	13.8
Released to Police/Jail	*	*	*	*
Referred to Detox/Treatment	*	*	78	1.4
<b>Admitted to Same Hospital</b>	<b>1,345</b>	<b>32.9</b>	<b>2,751</b>	<b>49.4</b>
Intensive/Critical Care	387	9.5	1,154	20.7
Chemical Dependency/Detox	*	*	*	*
Psychiatric Unit	428	10.5	728	13.1
Other Inpatient Unit	529	12.9	867	15.6
<b>All Other Dispositions</b>	<b>1,612</b>	<b>39.4</b>	<b>1,856</b>	<b>33.3</b>
Transferred	1,551	38.0	1,646	29.5
Left Against Medical Advice	*	*	*	*
Died	*	*	*	*
Other	*	*	152	2.7

\* Estimate suppressed because of low statistical precision.  
 Source: 2004 to 2008 estimates from the 2008 SAMHSA Drug Abuse Warning Network (DAWN).

Between these years, females made up three fourths of visits by adolescents (74.7 percent) and two thirds of visits by young adults (65.2 percent).

### Antidepressants in Combination with Other Substances

Among ED visits for suicide attempts involving antidepressants, more than two thirds of visits by adolescents (68.4 percent) and more than three fourths of visits by young adults (78.0 percent) involved other substances in addition to antidepressants (Table 1). Other types of pharmaceuticals were the most common drugs used in combination with antidepressants for both age groups (58.8 percent of visits made by adolescents and 61.5 percent of visits made by young adults), and for each group, the most commonly found pharmaceuticals were pain relievers and drugs to treat anxiety and insomnia.

One tenth (10.2 percent) of visits by adolescents and nearly one fourth (22.6 percent) of those made by young adults involved antidepressants in combination with alcohol. Antidepressants in combination with illicit drug use were found in 8.9 percent of visits by adolescents and 14.9 percent of visits by young adults.

### Disposition of ED Visits by Age Group

Among ED visits involving suicide attempts and antidepressants, 27.6 percent of adolescents and 17.3 percent of young adults were treated and released (Table 2). One third (32.9 percent) of visits made by adolescents and one half (49.4 percent) of visits made by young adults resulted in hospitalization. Of those admitted to the hospital, an annual average of 387 visits by adolescents and 1,154 visits by young adults required intensive or critical care, 428 visits by adolescents and 728 visits by young adults required an admission to the psychiatric unit, and 529 visits

by adolescents and 867 visits by young adults were admitted to some other inpatient unit. A sizeable portion of visits made by adolescents (1,551 visits) and young adults (1,646 visits) resulted in the patients being transferred to a different health care facility.

## Discussion

Suicide prevention is essential for reducing one of the leading causes of death among young people. As noted earlier, the increased use of antidepressants by young people was accompanied by reductions in suicide rates; however, suicidal behavior in patients taking antidepressants as directed may still be a cause for great concern, and the debate continues regarding the appropriate use of antidepressants among adolescents and young adults. Further monitoring of drug-related suicide attempts is critical as treatment practices and pharmaceuticals treating mental health conditions evolve.<sup>10,11</sup> Similarly, continued tracking of adverse health effects related to antidepressant use will also be important for ensuring increased patient safety.

For both age cohorts, ED visits for suicide attempts involving antidepressants were more common among females than males. Further research will be needed to confirm whether or not gender differences account for differing susceptibility to suicidal behavior while taking antidepressants.

The majority of suicide attempts among adolescents and young adults that involved antidepressants also involved other drugs, some of which may have been used to deliberately overdose. Before prescribing antidepressants, health professionals can routinely inquire about other prescription medications and consider the potential for overdose, especially for drugs to treat anxiety and insomnia and pain relievers. It is also important to provide appropriate warnings about the dangers of mixing these drugs with alcohol or other drugs (including over-the-counter medications) and to educate parents/caretakers about the potentially harmful effects of antidepressants for this younger population.

## End Notes

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- <sup>9</sup> Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (May 25, 2010). *The DAWN Report: Emergency department visits for drug-related suicide attempts by young adults aged 18 to 24: 2008*. Rockville, MD.
- <sup>10</sup> Barbui, C., Esposito, E., & Cipriani, A. (2009). Selective serotonin reuptake inhibitors and risk of suicide: A systematic review of observational studies. *CMAJ*, 180(3), 291-297.
- <sup>11</sup> Stone, M., Laughren, T., Jones, M. L., Levenson, M., Holland, P. C., Hughes, A., Hammad, T. A., Temple, R., & Rochester, G. (2009). Risk of suicidality in clinical trials of antidepressants in adults: Analysis of proprietary data submitted to US Food and Drug Administration. *BMJ*, 339, b2880. doi: 10.1136/bmj.b2880 [Available as a PDF at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2725270/pdf/bmj.b2880.pdf>]

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Findings from 2004 to 2008 from SAMHSA's 2008 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 always is reported for minors even if no other drug is present. The classification of drugs used in DAWN is derived from the Multum *Lexicon*, copyright 2009, Multum Information Services, 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://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 <https://dawninfo.samhsa.gov/default.asp>.



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