Drug Abuse Warning Network

The DAWN Report

May 12, 2011

Trends in Emergency Department Visits for Drug-Related Suicide Attempts among Females: 2005 and 2009

In Brief

- Between 2005 and 2009, emergency department (ED) visits for suicide attempts made by females aged 50 or older increased 49 percent (from 11,235 visits in 2005 to 16,754 visits in 2009)
- ED visits for suicide attempts involving alcohol or illicit drugs remained stable from 2005 to 2009 among females; however, visits involving certain pharmaceutical drugs increased during this time period
- Among females, ED visits for suicide attempts involving drugs to treat anxiety and insomnia increased 56 percent from 2005 to 2009 (from 32,426 visits to 50,548 visits)
- ED visits for suicide attempts involving hydrocodone products and oxycodone products increased (67 and 210 percent, respectively) from 2005 to 2009

Suicide ranks 7th in the top 10 leading causes of death for females aged 12 to 65, making suicide prevention among women a public health priority.[1] Although men have higher suicide death rates, women are treated for attempted suicide more often than men.[1] More than 215,000 emergency department (ED) visits involving intentional self-harm were made by females in 2009,[1] and females were involved in 3 out of 5 ED visits for drug-related suicide attempts.[2] Because suicide attempts are a risk factor for subsequent suicide attempts,[3] the ED may represent a key opportunity for mental health intervention.

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 data

The DAWN Report is published periodically by the Center for Behavioral Health Statistics and Quality (formerly the Office of Applied Studies), Substance Abuse and Mental Health Services Administration (**SAMHSA**).

can be used to examine ED visits for drug-related suicide attempts. Although DAWN includes only suicide attempts that involve drugs, these attempts are not limited to drug overdoses. If there is drug involvement in a suicide attempt by other means (e.g., a patient cuts his or her wrists while smoking marijuana), 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); also excluded are suicide attempts involving just alcohol for patients aged 21 or older. This issue of *The DAWN Report* describes trends in ED visits for drug-related suicide attempts among females from 2005 to 2009.

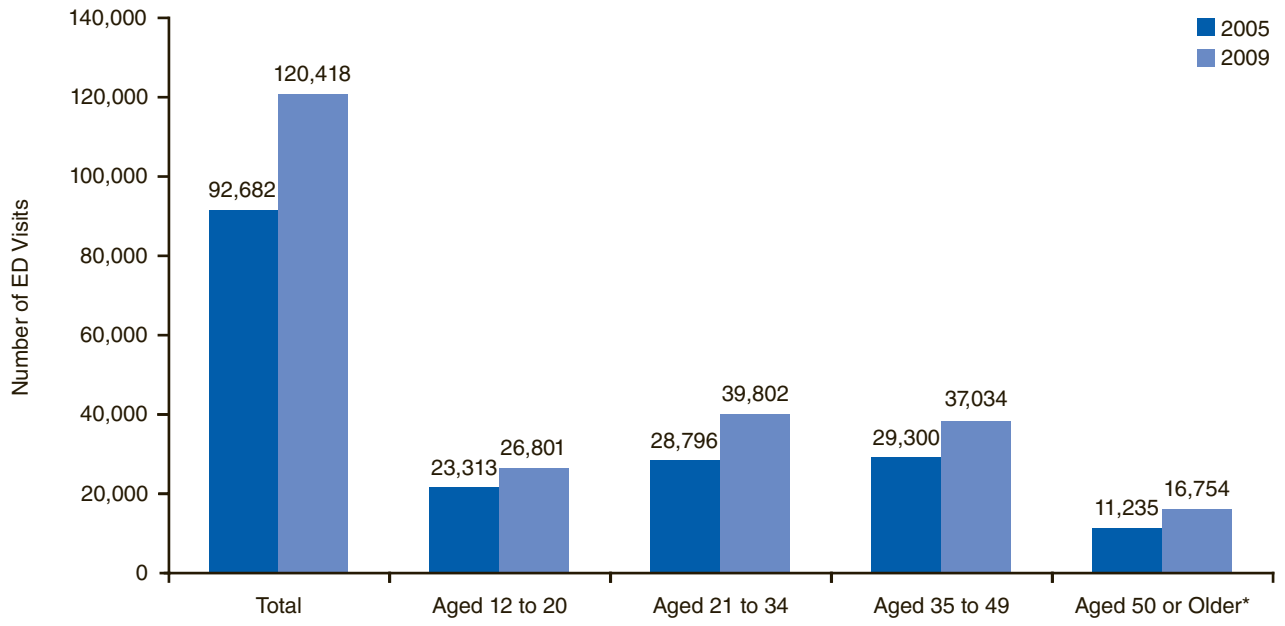
Overview

The number of ED visits for drug-related suicide attempts among females was stable each year from 2005 (92,682 visits) to 2009 (120,418 visits) (Figure 1). By age group, only females aged 50 or older had a statistically significant increase in the number of visits. Among that age group, the number of visits increased 49 percent (from 11,235 visits in 2005 to 16,754 visits in 2009). This increase reflects the overall population growth of women aged 50 or older, rather than an increase in the rate of ED visits for drug-related suicide attempts (23.8 ED visits per 100,000 population in 2005 and 32.3 visits per 100,000 population in 2009).

Alcohol and Drug Involvement Trends

The numbers of ED visits for drug-related suicide attempts among females show that across the drugs examined, most showed modest increases, although only a few differences were statistically significant (Table 1). For example, ED visits for suicide attempts involving illicit drugs remained relatively stable between 2005 and 2009 (14,924 and 16,530 visits, respectively), as did visits for

Figure 1. Emergency Department (ED) Visits for Drug-Related Suicide Attempts among Females, by Age Group: 2005 and 2009



*The change from 2005 to 2009 in women aged 50 or older was statistically significant at the .05 level.

Source: 2005 to 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

suicide attempts involving pharmaceuticals overall (88,527 and 116,201 visits, respectively). However, visits involving several drugs that treat anxiety and insomnia and specific narcotic pain relievers (i.e., hydrocodone products and oxycodone products) increased significantly during this time period. Findings with respect to these particular drugs are discussed in the subsequent sections.

Trends in Visits Involving Drugs to Treat Anxiety and Insomnia

Among females, ED visits for suicide attempts involving drugs to treat anxiety and insomnia increased 56 percent from 2005 to 2009 (from 32,426 visits to 50,548 visits) (Table 1). Visits involving benzodiazepines—a specific class of drug used to treat anxiety and insomnia—increased 67 percent; visits involving clonazepam, a type of benzodiazepine, increased 84 percent. Statistically significant increases in visits involving clonazepam were seen for two age groups: those aged 21 to 34 and those aged 50 or older (Figure 2).

ED visits for suicide attempts involving zolpidem (e.g., Ambien®)—a drug to treat insomnia—increased 158 percent among females between 2005 and 2009 (from 3,177 visits to 8,190 visits). By age group, statistically significant increases in visits involving this drug were only seen among patients aged 35 to 49 (Figure 2).

Table 1. Emergency Department (ED) Visits for Drug-Related Suicide Attempts among Females, by Drug Category: 2005 and 2009

Drug Category and Selected Drugs	Estimated Number of ED Visits in 2005	Estimated Number of ED Visits in 2009	Percent Increase from 2005 to 2009
Total ED Visits	92,682	120,418	29.9
Pharmaceuticals	88,527	116,201	31.3
Central Nervous System Medications	67,127	90,191	34.4
Drugs That Treat Anxiety and Insomnia*	32,426	50,548	55.9
Benzodiazepines*	21,575	36,093	67.3
Alprazolam	8,298	13,787	66.1
Clonazepam*	6,127	11,277	84.0
Miscellaneous Drugs That Treat Anxiety and Insomnia	11,214	19,561	74.4
Diphenhydramine	4,308	6,296	46.1
Zolpidem*	3,177	8,190	157.8
Pain Relievers	36,563	47,838	30.8
Acetaminophen Products	15,079	15,517	2.9
Narcotic Pain Relievers	10,746	17,348	61.4
Hydrocodone Products*	4,613	7,715	67.2
Oxycodone Products*	1,895	5,875	210.1
Ibuprofen Products	8,170	11,192	37.0
Psychotherapeutic Medications	24,593	32,986	34.1
Antidepressants	18,328	23,483	28.1
Antipsychotics	9,205	14,749	60.2
Alcohol**	28,293	32,464	14.7
Illicit Drugs	14,924	16,530	10.8

*Percent increases are statistically significant at the .05 level.

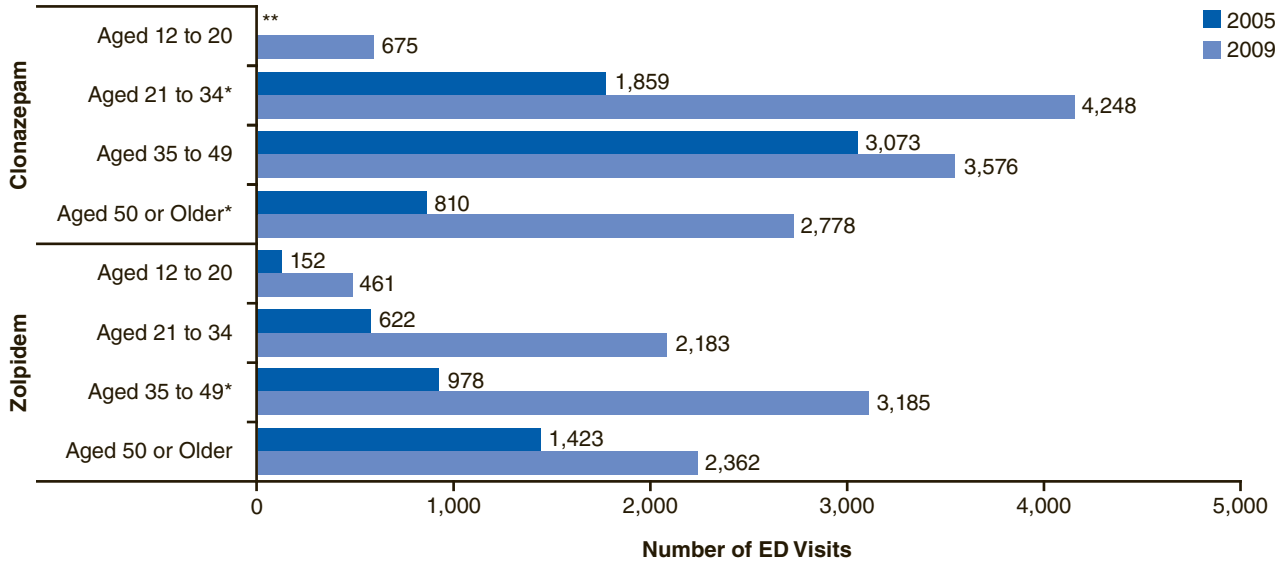
**Alcohol involvement includes use of alcohol in combination with other drugs for patients of all ages and use of alcohol only for persons aged 20 or younger.

Source: 2005 and 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Trends in Visits Involving Narcotic Pain Relievers

ED visits for suicide attempts involving narcotic pain relievers in general among females did not show any statistically significant differences between 2005 and 2009; however, there were significant increases involving particular types of these drugs during this period (Table 1). Specifically, visits involving hydrocodone products increased 67 percent (from 4,613 visits in 2005 to 7,715 visits in 2009) and visits involving oxycodone products increased 210 percent (from 1,895 visits in 2005 to 5,875 visits in 2009).

Figure 2. Emergency Department (ED) Visits for Female Suicide Attempts Involving Selected Drugs That Treat Anxiety and Insomnia, by Age Group: 2005 and 2009

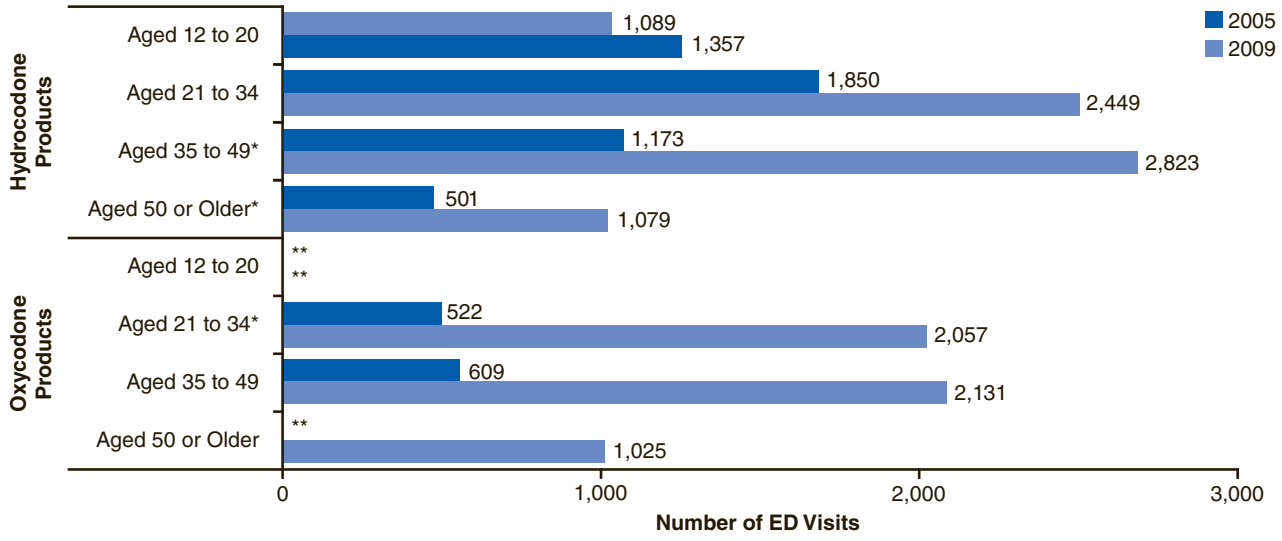


*The change from 2005 to 2009 was statistically significant at the .05 level.

**Estimate suppressed because of low statistical precision.

Source: 2005 and 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

Figure 3. Emergency Department (ED) Visits for Female Suicide Attempts Involving Selected Narcotic Pain Relievers, by Age Group: 2005 and 2009



*The change from 2005 to 2009 was statistically significant at the .05 level.

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Source: 2005 and 2009 estimates from the 2009 SAMHSA Drug Abuse Warning Network (DAWN).

By age group, visits involving hydrocodone products increased significantly only among females in the 35 to 49 age group (Figure 3). Statistically significant increases in visits involving oxycodone products occurred only among female patients aged 21 to 34.

Discussion

Increased knowledge is necessary to inform prevention and intervention efforts to reduce the underlying suicidal risk factors in women. Primary care and other health providers who prescribe drugs can monitor the frequency of requested refills, assess medical need, and refer to mental health services when indicated. Likewise, increased awareness of these trends among ED personnel can help ensure that patients are referred to appropriate mental health and social services, which may reduce the repetition of suicide attempts and address underlying health issues (e.g., depression, anxiety disorders, and domestic violence).

The mental and physical health needs of women vary across the life span, and older women represent one of the Nation's fastest growing populations.[4] Problems such as pain and sleep disorders can lead to increased use of prescription drugs to treat these conditions. Also, older women may experience depression because of health changes or other negative life events. Expanded research on women's aging issues and the potential use of these drugs as a method of, or influence on, suicide attempts is critical.

End Notes

[1] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2011). *Injury prevention & control: Data & statistics (WISQARS).* Retrieved from http://www.cdc.gov/injury/wisqars/index.html

[2] Center for Behavioral Health Statistics and Quality. (2010). *Drug Abuse Warning Network, 2009: Selected tables of drug-related emergency department visits.* Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at https://dawninfo.samhsa.gov/data/]

[3] Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. (2010). *Understanding suicide: Fact sheet.* Retrieved from http://www.cdc.gov/violenceprevention/pdf/Suicide-FactSheet-a.pdf

[4] U.S. Census Bureau. (2010). *The elderly population*. Retrieved from http://www.census.gov/population/www/pop-profile/elderpop.html

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Findings from SAMHSA's 2005 and 2009 Drug Abuse Warning Network (DAWN)

Trends in Emergency Department Visits for Drug-Related Suicide Attempts among Females: 2005 and 2009

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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 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.

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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