

The DAWN Report

January 26, 2012

Emergency Department Visits by Adolescents Involving Narcotic Pain Relievers

In Brief

- Of the 69,236 emergency department (ED) visits for medical emergencies associated with the misuse or abuse of pharmaceuticals by adolescents occurring in 2009, 14 percent (or 9,709 visits) involved narcotic pain relievers
- Among narcotic pain reliever-related ED visits involving drug misuse or abuse, oxycodone products (4,301 visits, or 44 percent) and hydrocodone products (3,771 visits, or 39 percent) were the most commonly involved narcotic pain relievers
- Multiple drugs were implicated in approximately 77 percent of ED visits, with an average of three substances per visit; 10 percent involved five or more drugs
- Among narcotic pain reliever-related ED visits, those by males were more likely to involve illicit drugs than visits by females (46 vs. 25 percent)

Prescription drugs are the second most common type of drug abused by adolescents, outranked only by marijuana.¹ Data from the 2009 National Survey on Drug Use and Health show that approximately 772,000 youths aged 12 to 17 engaged in past month nonmedical use of prescription drugs, with pain relievers being the most frequently misused.¹ Adolescents who misuse prescription drugs often perceive them as being safer than illicit drugs, as well as being easier to obtain, because they can be found in the family medicine cabinet or acquired from friends.^{2,3} Adolescents who misuse prescription pain relievers often combine these medications with marijuana, other prescription drugs, and/or alcohol, which can cause dangerous drug interactions.^{4,5} For instance, alcohol or prescription drugs that have a sedative effect can alter breathing and heart rates when combined with pain relievers.⁶

Narcotic pain relievers are prescription pain relievers that are chemically similar to heroin, which acts on brain receptors to produce euphoria, or “a high,” as well as provide relief from pain. In addition, some narcotic pain relievers (e.g., methadone) are used to treat drug addiction.⁶ Excess doses can lead to drowsiness, confusion, breathing problems, and death; long-term use can lead to dependence.⁶ Nationally, emergency department (ED) visits involving narcotic pain relievers taken for any reason increased 155 percent between 2004 and 2009, and drug overdose deaths increased nearly fourfold over a decade.^{7,8} Prevention of misuse or abuse of these potent prescription drugs among adolescents may help curtail increasing trends.

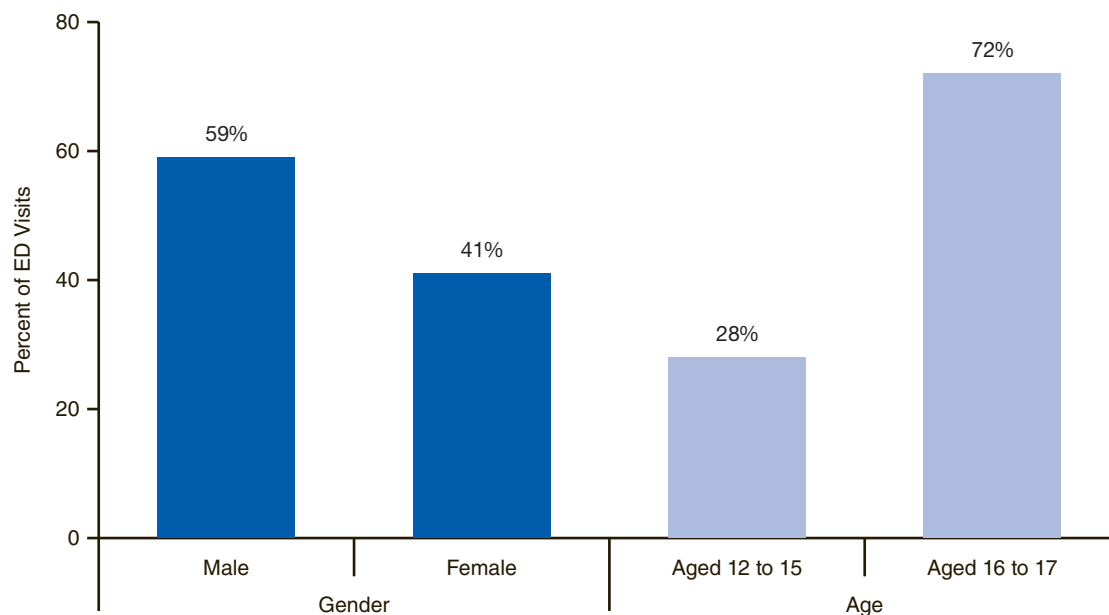
ED data can provide information to help health professionals and policy makers understand the impact of misuse or abuse of prescription pain relievers among adolescents. The Drug Abuse Warning Network (DAWN) is a public health surveillance system that monitors drug-related ED visits in the United States. 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. This issue of *The DAWN Report* focuses on drug misuse or abuse ED visits by 12 to 17 year olds (hereafter referred to as “adolescents”) involving narcotic pain relievers.^{9,10} Misuse or abuse is defined in DAWN to broadly include all ED visits associated with nonmedical use of pharmaceuticals,¹¹ illicit drug use, and any alcohol use. In the following sections, only narcotic pain reliever-related ED visits involving drug misuse or abuse by adolescents are described.

Overview and Demographics

In 2009, pharmaceuticals were involved in 69,236 ED visits made by adolescents for medical emergencies associated with the misuse or abuse of drugs; of these, 14 percent (or 9,709 visits) involved narcotic pain relievers. The majority (72 percent) were made by patients aged 16 or 17, and 59 percent of visits were made by males (Figure 1).

Figure 1. Demographic Characteristics of Narcotic Pain Reliever-Related Emergency Department (ED) Visits by Adolescents Involving Misuse or Abuse of Drugs, by Gender and Age: 2009



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

Types of Narcotic Pain Relievers

Among ED visits by adolescents, the two most commonly identified types of narcotic pain relievers were oxycodone products (4,301 visits, or 44 percent) and hydrocodone products (3,771 visits, or 39 percent) (Table 1). The next most commonly involved narcotic pain reliever was methadone (887 visits, or 9 percent).

Drug Combinations

An average of three substances were involved in narcotic pain reliever-related ED visits made by adolescents. About 23 percent of these visits involved one drug, 25 percent involved two drugs, 28 percent involved three drugs, 13 percent involved four drugs, and 10 percent involved five or more drugs. One in six visits (16 percent) involved two or more narcotic pain relievers.

Approximately half (53 percent) of ED visits also involved other pharmaceuticals (Figure 2).

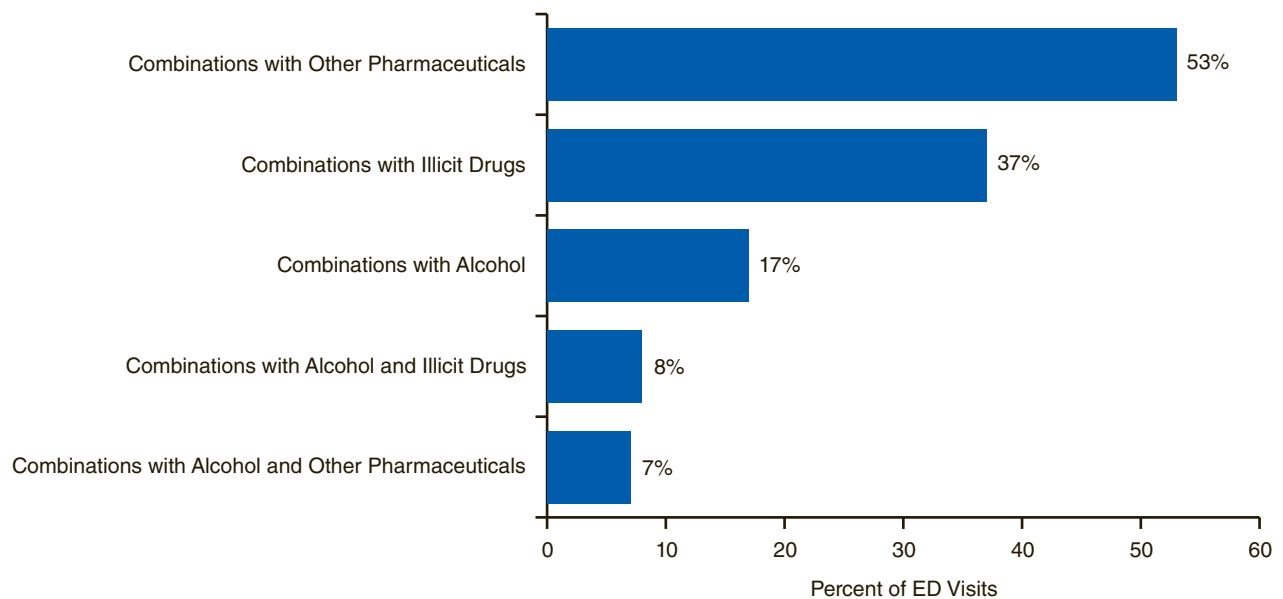
Table 1. Narcotic Pain Relievers Involved in Emergency Department (ED) Visits by Adolescents Involving Misuse or Abuse of Drugs: 2009

Drug Category	Estimated Number of ED Visits	Percent of ED Visits*
Total ED Visits	9,709	100
Oxycodone Products	4,301	44
Hydrocodone Products	3,771	39
Methadone	887	9
Codeine Products	641	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.

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

Figure 2. Selected Drug Combinations Involved in Narcotic Pain Reliever-Related Emergency Department (ED) Visits by Adolescents Involving Misuse or Abuse of Drugs*: 2009



* Because multiple drugs may be involved in each visit, percentages may add to more than 100 percent.

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

Among these, drugs used to treat anxiety and insomnia were the most common (38 percent, or 3,704 visits), followed by nonnarcotic pain relievers (9 percent, or 840 visits) (data not shown).

Illicit drugs were involved in 37 percent of ED visits. The most frequently identified illicit drug was marijuana (34 percent, or 3,325 visits).

Alcohol was involved in approximately 17 percent of visits. Alcohol and illicit drugs were combined with narcotic pain relievers in 8 percent of these visits while alcohol and other pharmaceuticals were combined with narcotic pain relievers in 7 percent of these visits.

Drug Combinations by Gender

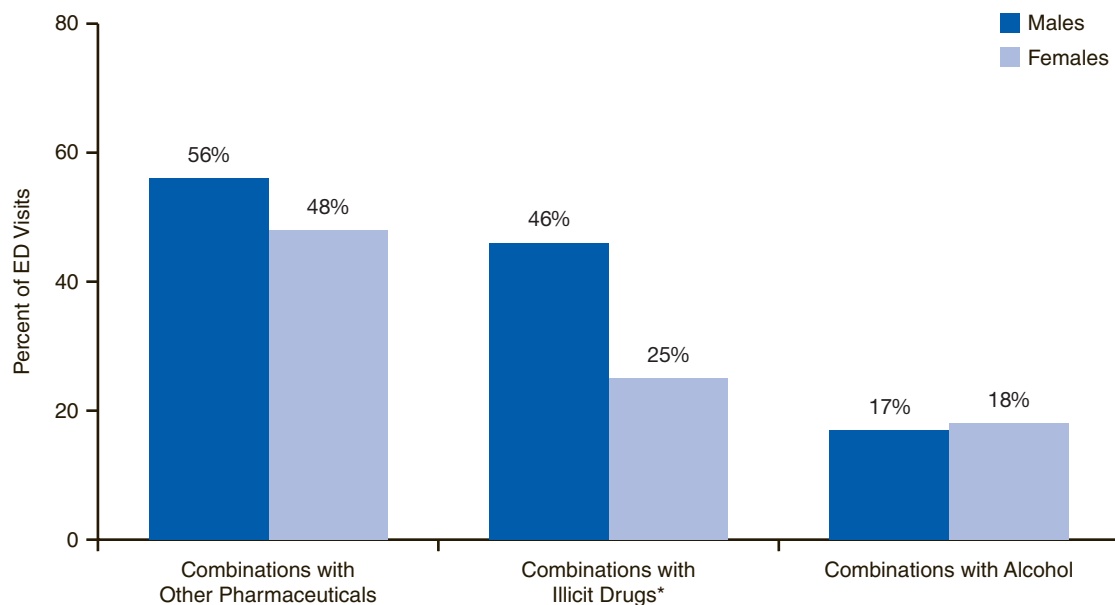
Among narcotic pain reliever-related ED visits by adolescents, no significant differences between males and females were evident for visits involving pharmaceutical combinations (56 vs. 48 percent) or alcohol combinations (17 vs. 18 percent) (Figure 3). However, visits by males were more likely to combine illicit drugs with narcotic pain

relievers than visits by females (46 vs. 25 percent), especially in visits involving marijuana (44 vs. 20 percent).

Discussion

Because narcotic pain relievers are legally manufactured, regulated, and prescribed by physicians, adolescents may perceive their use as a less risky way to get high than using illicit drugs; however, misuse or abuse of these powerful medications can lead to dangerous health consequences.⁶ Raising awareness among health professionals regarding the magnitude of the problems associated with prescription drug misuse or abuse can help make prevention a priority in health care settings. Prior to prescribing narcotic pain relievers to adolescents, physicians should screen patients for substance abuse problems. All patients who are prescribed narcotic pain relievers should be instructed to safely store and dispose of the medication, especially if the patient's household includes adolescents or children.⁸ The

Figure 3. Selected Drug Combinations Involved in Narcotic Pain Reliever-Related Emergency Department (ED) Visits by Adolescents Involving Misuse or Abuse of Drugs, by Gender: 2009



* The difference between males and females was statistically significant at the .05 level.

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

ED visit may represent a particular opportunity for health care providers to educate patients and their family members about the dangers of the misuse or abuse of narcotic pain relievers and, if appropriate, provide referrals to treatment programs specializing in either adolescent substance abuse treatment and/or prescription narcotic drug addiction.

Substance use prevention programs targeting adolescents should work to dispel any myths regarding the safety of using these medications contrary to directions or without a prescription. Sharing any type of prescription medication, even with friends or relatives, should be discouraged. Community prevention efforts can begin with education campaigns that focus on the importance of preventing adolescents from accessing drugs that are not prescribed for them and encouraging parents and caregivers to store their pharmaceuticals in secure locations. Opening up a dialogue with adolescents about this problem may be especially important if an adolescent or a member of his or her family has been prescribed narcotic pain relievers. The Substance Abuse and Mental Health Services Administration (SAMHSA) has developed a toolkit to assist parents with these discussions, which can be accessed at the SAMHSA website: http://www.talkaboutrx.org/rxmonth2009_maximizing.jsp.

End Notes

- ¹ Office of Applied Studies. (2010). *Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of national findings* (NSDUH Series H-38A, HHS Publication No. SMA 10-4586Findings). Rockville, MD: Substance Abuse and Mental Health Services Administration.
- ² Friedman, R. A. (2006). The changing face of teenage drug abuse—the trend toward prescription drugs. *The New England Journal of Medicine*, 354(14), 1448-1450.
- ³ Boyd, C. J., McCabe, S. E., Cranford, J. A., & Young, A. (2006). Adolescents' motivations to abuse prescription medications. *Pediatrics*, 118(6), 2472-2480.
- ⁴ Wu, L.-T., Pilowsky, D. J., & Patkar, A. A. (2008). Non-prescribed use of pain relievers among adolescents in the United States. *Drug and Alcohol Dependence*, 94(1-3), 1-11.
- ⁵ Sung, H., Richter, L., Vaughan, R., Johnson, P. B., & Thom, B. (2005). Nonmedical use of prescription opioids among teenagers in the United States: Trends and correlates. *Journal of Adolescent Health*, 37(1), 44-51.
- ⁶ National Institute on Drug Abuse. (2011, October). *Prescription drugs: Abuse and addiction*. Retrieved from <http://www.drugabuse.gov/publications/research-reports/prescription-drugs>
- ⁷ Substance Abuse and Mental Health Services Administration. (2009). *National estimates of drug-related emergency department visits, 2004-2009* [online data in Excel files]. Rockville, MD: Author. [Available at <http://www.samhsa.gov/data/DAWN.aspx#Dawn>]
- ⁸ Paulozzi, L. J., Jones, C. M., Mack, K. A., & Rudd, R. A. (2011). Vital signs: Overdoses of prescription opioid pain relievers—United States, 1999-2008. *Morbidity and Mortality Weekly Report*, 60, 1-6. [Available at http://www.cdc.gov/mmwr/preview/mmwrhtml/mm60e1101a1.htm?s_cid=mm60e1101a1_w]
- ⁹ Any ED visit for which age was unknown was excluded from the analyses in this report.
- ¹⁰ Narcotic pain relievers in DAWN may include any of the following drugs: buprenorphine (e.g., Buprenex[®], Suboxone[®]), codeine (e.g., Tylenol-Codeine[®]), dihydrocodeine (e.g., Paracodin[®]), fentanyl (e.g., Actiq[®], Duragesic[®], Fentora[®]), hydrocodone (e.g., Anexsia[®], Lortab[®], Vicodin[®]), hydromorphone (e.g., Dilaudid[®]), meperidine (e.g., Demerol[®]), methadone (e.g., Methadose[®], Dolophine[®]), morphine (e.g., Avinza[®], Embeda[®], Kadian[®], MS Contin[®]), opium, oxycodone (e.g., OxyContin[®], Percocet[®], Percodan[®], Roxicodone[®]), pentazocine (e.g., Talwin[®]), phenacetin (e.g., Codempiral[®]), and propoxyphene (e.g., Darvon[®]).
- ¹¹ Nonmedical use includes taking more than the prescribed dose of a prescription medication or more than the recommended dose of an over-the-counter (OTC) medication or supplement; taking a prescription medication prescribed for another individual; being deliberately poisoned with a pharmaceutical by another person; and misusing or abusing a prescription medication, an OTC medication, or a dietary supplement.

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 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://www.samhsa.gov/data/DAWN.aspx>.

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.samhsa.gov/data/>. 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://www.samhsa.gov/data/DAWN.aspx>.



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