

# The DAWN Report

January 13, 2011

## Emergency Department Visits Involving Underage Alcohol Use in Combination with Other Drugs

Annual surveys, such as the National Survey on Drug Use and Health (NSDUH), show widespread use of alcohol among adolescents and young adults under the legal drinking age of 21. For example, 2009 NSDUH

data showed that more than one half (52.2 percent) of young people aged 12 to 20 reported that they had consumed at least one alcoholic drink in their lifetime, 44.6 percent had consumed alcohol in the past year, 27.2 percent had consumed alcohol in the past month, and 18.1 percent reported binge alcohol use (i.e., drank five or more drinks on the same occasion on at least 1 day in the 30 days prior to the survey).<sup>1</sup> In addition, 17.5 percent of underage drinkers reported that they had used illicit drugs within 2 hours of their last drinking occasion, a rate more than 3 times as high as that of drinkers aged 21 or older (5.0 percent). Among underage drinkers who reported illicit drug use within 2 hours of their last drinking occasion, marijuana was the most commonly reported drug used (16.9 percent).<sup>2</sup>

The use of alcohol in combination with illicit and other drugs is of particular concern given the potentially dangerous additive or interactive effects that may result.<sup>3</sup> Research shows that the use of alcohol in combination with other drugs is associated with a variety of negative outcomes such as overdose, suicide, risky sexual behavior, alcohol dependence, depression, and social consequences such as legal, work, and health problems.<sup>4</sup>

One resource that can monitor the consequences of concurrent drug and alcohol use among youth and young adults is the Drug Abuse Warning Network (DAWN). DAWN is a public health

### In Brief

- Of the estimated 188,981 alcohol-related emergency department (ED) visits made by patients aged 12 to 20 in 2008, 70.0 percent involved alcohol only, and 30.0 percent involved alcohol in combination with other drugs
- Illicit drug use was indicated in more than two thirds (68.4 percent), and pharmaceutical drugs were involved in more than one half (55.1 percent) of ED visits involving alcohol in combination with other drugs among patients aged 12 to 20
- Among adolescents aged 12 to 17, 3 in 10 (30.2 percent) alcohol-related ED visits made by females involved other drugs, whereas more than 2 in 10 (22.9 percent) of such visits were made by males; among young adults aged 18 to 20, about one third of such visits made by both males (31.9 percent) and females (33.3 percent) involved other drugs
- Of patients aged 12 to 20 who made alcohol-related ED visits involving other drugs, nearly two thirds (64.5 percent) had no evidence of follow-up care

surveillance system that monitors drug-related emergency department (ED) visits in the United States.<sup>5</sup> 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 includes ED visits for underage persons involving alcohol only and alcohol in combination with other drug(s) and can therefore be used to examine underage alcohol use that results in ED visits. Using 2008 DAWN data, this issue of *The DAWN Report* focuses on ED visits involving alcohol in combination with other drugs among persons under the legal drinking age of 21, including adolescents (aged 12 to 17) and young adults (aged 18 to 20).

## Overview

Of the estimated 188,981 alcohol-related ED visits made by patients aged 12 to 20 in 2008, 70.0 percent involved alcohol only, and 30.0 percent involved alcohol in combination with other drugs. More than two thirds (68.4 percent) of visits involving both alcohol and drugs were related to illicit drugs (Figure 1). Marijuana was the most common illicit drug reported (57.3 percent), followed by cocaine (13.3 percent), illicit stimulants (i.e., amphetamines and methamphetamines; 4.9 percent), and heroin (3.9 percent).

Pharmaceutical drug use was indicated in more than one half (55.1 percent) of underage alcohol-related ED visits involving other drugs (Figure 2). Examination of selected pharmaceutical drugs reveals that 17.8 percent of alcohol-related ED visits involved drugs that treat anxiety or insomnia (e.g., benzodiazepines and barbiturates), 15.3 percent involved narcotic pain relievers (e.g., codeine and hydrocodone), 7.2 percent involved antidepressants or antipsychotics, and 5.3 percent involved acetaminophen products, and 2.6 percent involved ibuprofen products.

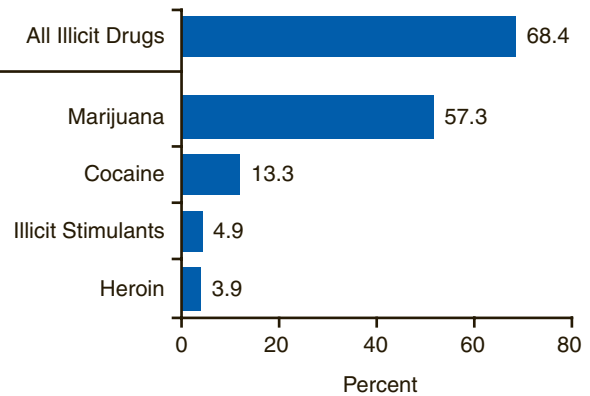
## Gender, Age, and Race/Ethnicity

There was little difference by gender or age in ED visits involving alcohol in combination with other drugs among underage patients. Specifically, 28.7 percent of alcohol-related ED visits made by male patients aged 12 to 20 also involved other drugs, compared with 31.9 percent of alcohol-related ED visits made by female patients (Table 1). More than one fourth (26.3 percent) of alcohol-related ED visits made by adolescents aged 12 to 17 involved other drugs, compared with nearly one third (32.4 percent) of such visits made by young adults aged 18 to 20.

Among adolescents aged 12 to 17, 3 in 10 (30.2 percent) alcohol-related ED visits made by females involved other drugs, whereas more than 2 in 10 (22.9 percent) of such visits were made by males. Among young adults aged 18 to 20, about one third of such visits made by both males (31.9 percent) and females (33.3 percent) involved other drugs.

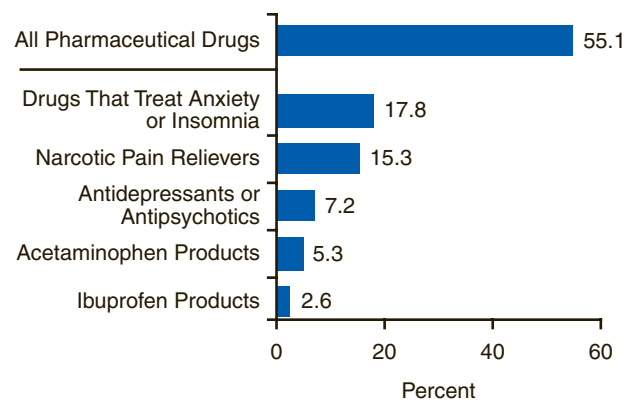
ED visits involving concurrent alcohol and drug use among adolescents and young adults were similar by race/ethnicity. Specifically, 32.2 percent of alcohol-related

**Figure 1. Illicit Drugs Reported with Alcohol-Related Emergency Department (ED) Visits Made by Patients Aged 12 to 20: 2008**



Source: 2008 SAMHSA Drug Abuse Warning Network (DAWN).

**Figure 2. Pharmaceutical Drugs Reported with Alcohol-Related Emergency Department (ED) Visits Made by Patients Aged 12 to 20: 2008**



Source: 2008 SAMHSA Drug Abuse Warning Network (DAWN).

**Table 1. Alcohol-Related Emergency Department (ED) Visits Involving Other Drugs, by Gender, Race/Ethnicity, and Age Group: Percentages, 2008**

Demographic Characteristic	12 to 20	12 to 17	18 to 20
Total	30.0	26.3	32.4
Males	28.7	22.9	31.9
Females	31.9	30.2	33.3
Non-Hispanic White	32.2	27.0	35.3
Non-Hispanic Black	28.7	23.4	31.8
Hispanic	29.4	28.4	30.4

Source: 2008 SAMHSA Drug Abuse Warning Network (DAWN).

ED visits made by non-Hispanic white patients involved other drugs, 28.7 percent of such visits made by non-Hispanic black patients involved other drugs, and 29.4 percent of visits made by Hispanic patients involved other drugs (Table 1).

Among adolescents aged 12 to 17, the percentage of alcohol-related ED visits involving other drugs was 27.0 percent for non-Hispanic white patients, 23.4 percent for non-Hispanic black patients, and 28.4 percent for Hispanic patients (Table 1). Among young adults aged 18 to 20, the percentage of alcohol-related ED visits involving other drugs was 35.3 percent for white patients, 31.8 percent for black patients, and 30.4 percent for Hispanic patients.

## Follow-up Care after Discharge from the ED

Follow-up care in DAWN is defined as admission to an inpatient unit in the hospital, transfer to another health care facility, or referral to a detoxification program or substance abuse treatment. Of patients aged 12 to 20 who made alcohol-related ED visits involving other drugs, nearly two thirds (64.5 percent) had no evidence of follow-up care (Table 2). More alcohol-related ED visits made by adolescents aged 12 to 17 had evidence of follow-up care than those visits made by young adults aged 18 to 20 (44.0 vs. 31.0 percent). However, it is notable that less than one half of such visits made by these patients had evidence of follow-up care, regardless of gender and age.

## Discussion

This report showed that 3 in 10 ED visits made by underage drinkers involved other drugs—primarily illicit drugs—and the findings point to the importance of monitoring drug-related ED visits among underage drinkers. Continued surveillance and reporting of ED data can be a first step in raising awareness—particularly among youths and parents—about the dangers posed

**Table 2. Evidence of Follow-up Care for Alcohol-Related Emergency Department (ED) Visits Involving Other Drugs, by Gender and Age Group: Percentages, 2008**

Demographic Characteristic	Follow-up, Aged 12 to 20	No Follow-up, Aged 12 to 20	Follow-up, Aged 12 to 17	No Follow-up, Aged 12 to 17	Follow-up, Aged 18 to 20	No Follow-up, Aged 18 to 20
<b>Total</b>	35.5	64.5	44.0	56.0	31.0	69.0
Males	34.6	65.4	42.2	57.8	31.5	68.5
Females	36.8	63.2	45.6	54.4	30.3	69.7

Source: 2008 SAMHSA Drug Abuse Warning Network (DAWN).

by and the physical harm that may result from the concurrent use of alcohol and drugs.

The relative absence of differences based on gender, age, and race/ethnicity suggests that a general prevention approach may be as effective as a targeted approach to address this problem among adolescents and young adults. From a public health perspective, the lack of evidence of follow-up care for underage drinkers who made an ED visit—whether they were involved with other drugs or not<sup>6</sup>—suggests that ED health care providers may be missing an excellent opportunity to intervene with underage drinkers to prevent or reduce their use of alcohol and drugs.

Specifically, staff can conduct brief interventions in the ED to immediately address the concurrent use of alcohol and drugs. Moreover, ED health providers may be especially well-placed to identify youth who may be in need of further substance abuse assessment or treatment and to provide subsequent referrals. Finally, it is critical for ED staff to be knowledgeable about the community's available treatment options so that they can provide appropriate referrals to patients. In areas with diverse treatment options, it may be especially beneficial for ED staff to connect these youth with treatment programs that specialize in treating adolescents and young adults or with programs that can address concurrent drug and alcohol abuse.

## End Notes

- Office of Applied Studies. (2010). *Results from the 2009 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/NSDUH/2k9NSDUH/tabs/TOC.htm>]
- Office of Applied Studies. (2010). *Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of national findings (HHS Publication No. SMA 10-4586Findings, NSDUH Series H-38A)*. Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/NSDUH/2k9NSDUH/2k9Results.htm>]
- Martin, C. S. (2008). Timing of alcohol and other drug use. *Alcohol Research & Health*, 31(2), 96-99. [Available as a PDF at <http://pubs.niaaa.nih.gov/publications/arih312/96-99.pdf>]
- Midanik, L. T., Tam, T. W., & Weisner, C. (2007). Concurrent and simultaneous drug and alcohol use: Results of the 2000 National Alcohol Survey. *Drug and Alcohol Dependence*, 90, 72-80.
- 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.
- Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (July 29, 2010). *The DAWN Report: Emergency department visits involving underage alcohol use: 2008*. Rockville, MD. [Available at <http://oas.samhsa.gov/2k10/DAWN005/UnderageDrinking.htm>]

## Suggested Citation

Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. (January 13, 2011). *The DAWN Report: Emergency Department Visits Involving Underage Alcohol Use in Combination with Other Drugs*. Rockville, MD.

**For change of address, corrections, or to be removed from this list, please e-mail: [shortreports@samhsa.hhs.gov](mailto:shortreports@samhsa.hhs.gov).**

---

Findings from SAMHSA's 2008 Drug Abuse Warning Network (DAWN)

## Emergency Department Visits Involving Underage Alcohol Use in Combination with Other Drugs

- Of the estimated 188,981 alcohol-related emergency department (ED) visits made by patients aged 12 to 20 in 2008, 70.0 percent involved alcohol only, and 30.0 percent involved alcohol in combination with other drugs
- Illicit drug use was indicated in more than two thirds (68.4 percent), and pharmaceutical drugs were involved in more than one half (55.1 percent) of ED visits involving alcohol in combination with other drugs among patients aged 12 to 20
- Among adolescents aged 12 to 17, 3 in 10 (30.2 percent) alcohol-related ED visits made by females involved other drugs, whereas more than 2 in 10 (22.9 percent) of such visits were made by males; among young adults aged 18 to 20, about one third of such visits made by both males (31.9 percent) and females (33.3 percent) involved other drugs
- Of patients aged 12 to 20 who made alcohol-related ED visits involving other drugs, nearly two thirds (64.5 percent) had no evidence of follow-up care

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. 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 <http://DAWNinfo.samhsa.gov/>.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES  
Substance Abuse & Mental Health Services Administration  
Center for Behavioral Health Statistics and Quality  
[www.samhsa.gov](http://www.samhsa.gov)