

# The NSDUH Report

January 10, 2008

## Misuse of Over-the-Counter Cough and Cold Medications among Persons Aged 12 to 25

### In Brief

- In 2006, about 3.1 million persons aged 12 to 25 (5.3 percent) had ever used an over-the-counter (OTC) cough and cold medication to get high (i.e., “misused” the drug), and nearly 1 million (1.7 percent) had done so in the past year
- Among youths aged 12 to 17, females were more likely than males to have misused OTC cough and cold medications in the past year, but among young adults aged 18 to 25, males were more likely than females to have misused these medications
- Among persons aged 12 to 25 who had misused an OTC cough and cold medication in the past year, 30.5 percent misused a NyQuil® product, 18.1 percent misused a Coricidin® product, and 17.8 percent misused a Robitussin® product

The cough suppressant dextromethorphan (DXM) is found in more than 140 cough and cold medications that are available without a prescription (i.e., “over-the-counter,” or OTC) in the United States and is generally safe when taken at the recommended doses.<sup>1</sup> When taken in large amounts, however, DXM can produce hallucinations or dissociative, “out-of-body” experiences similar to those caused by the hallucinogens phencyclidine (PCP) and ketamine and can cause other adverse health effects.<sup>2-4</sup> Abuse of DXM among American youths aged 12 to 17 and young adults aged 18 to 25 has become a matter of concern in a number of States and metropolitan areas due to increased poison control calls involving DXM.<sup>5</sup>

The 2006 National Survey on Drug Use and Health (NSDUH) asks persons aged 12 or older questions related to their use of OTC cough or cold medications during their lifetime (“lifetime” or “ever used”) and the past 12 months (“past year use”) for the purpose of getting high (“misuse”).

Persons who reported that they used OTC cough or cold medications to get high in the past year were asked to specify the names of up to five OTC medications that they had used for this purpose.

This report examines the prevalence and patterns of the use of OTC cough and cold medications to get high among persons aged 12 to 25, the age group with the highest rates of such use.<sup>6</sup> This report also examines the specific OTC cough and cold medications that were most commonly misused in the past year and the use of selected illicit drugs among persons who misused OTC cough and cold medications in their lifetime. Findings presented in this report are based on 2006 NSDUH data.

### Lifetime Misuse of OTC Cough and Cold Medications

About 3.1 million persons aged 12 to 25 (5.3 percent) had misused OTC cough and cold medications at least once in their lifetime (Table 1). Young adults aged 18 to 25 were more likely than youths aged 12 to 17 to have misused OTC cough and cold medications in their lifetime (6.5 vs. 3.7 percent).

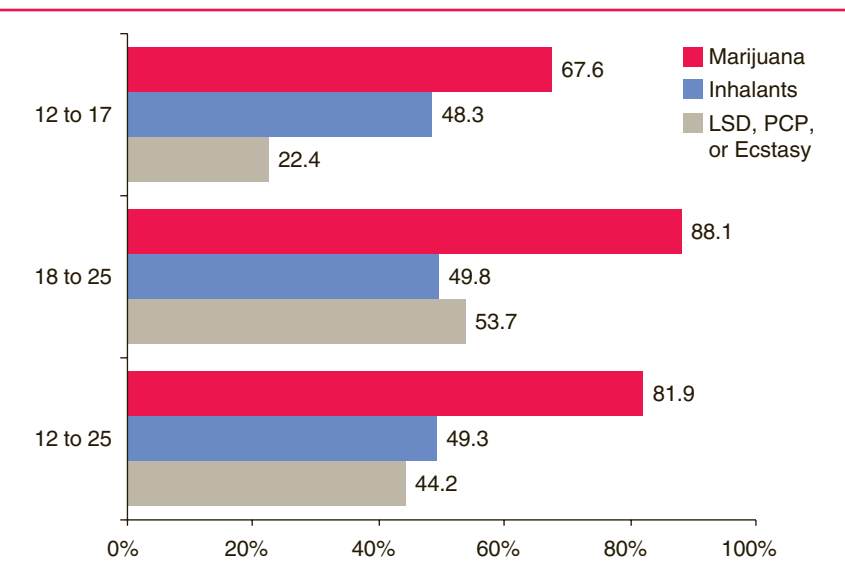
Among persons aged 12 to 25 who had ever misused OTC cough and cold medications, 81.9 percent also were lifetime users of marijuana (Figure 1). Slightly less than half were lifetime users of the hallucinogens LSD, PCP, or Ecstasy (44.2 percent) or were lifetime users of inhalants (49.3 percent). Youths and young adults who had ever misused OTC cough and cold medications had comparable lifetime rates of inhalant use. However, young adults who had ever misused OTC cough and cold medications were more likely than the corresponding youths to have ever used marijuana or the hallucinogens LSD, PCP, or Ecstasy. Males aged 12 to 25 who had ever misused OTC cough and cold medications were more likely than

**Table 1. Misuse of Over-the-Counter (OTC) Cough or Cold Medications in the Lifetime and the Past Year among Persons Aged 12 to 25, by Demographic Characteristics: 2006**

Demographic Characteristic	Lifetime		Past Year	
	Percent	Standard Error	Percent	Standard Error
Total Aged 12 to 25	5.3	0.15	1.7	0.08
<b>Age Group</b>				
12 to 17	3.7	0.16	1.9	0.12
18 to 25	6.5	0.24	1.6	0.12
<b>Gender</b>				
Male	5.6	0.22	1.7	0.12
Female	4.9	0.20	1.7	0.12
<b>Age Group, by Gender</b>				
12 to 17, Male	3.0	0.20	1.5	0.14
12 to 17, Female	4.3	0.24	2.3	0.18
18 to 25, Male	7.7	0.35	1.8	0.17
18 to 25, Female	5.4	0.29	1.3	0.16
<b>Race/Ethnicity*</b>				
White	6.2	0.20	2.1	0.12
Black or African American	2.5	0.29	0.6	0.13
Hispanic or Latino	4.7	0.36	1.4	0.18

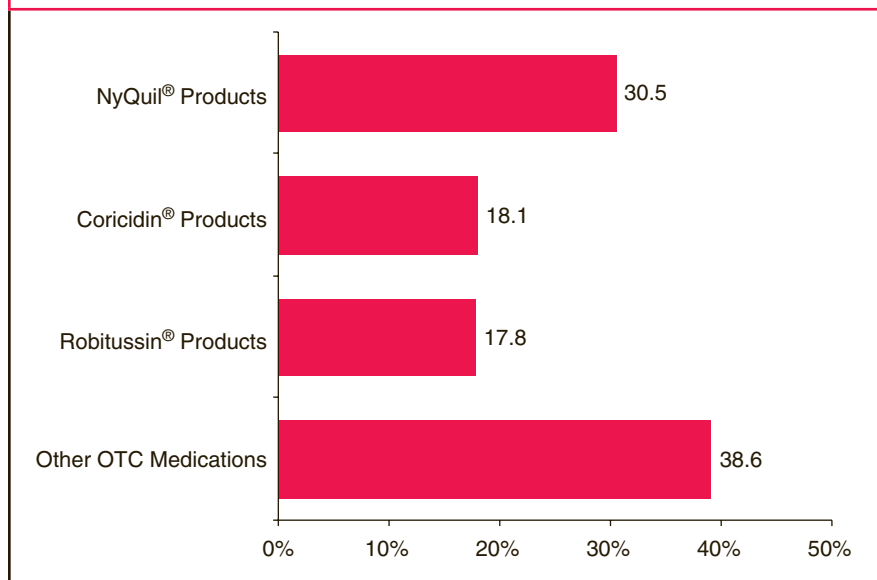
Source: SAMHSA, 2006 NSDUH.

**Figure 1. Percentages of Lifetime Illicit Drug Use among Persons Aged 12 to 25 Who Had Ever Misused Over-the-Counter (OTC) Cough and Cold Medications, by Age Group: 2006**



Source: SAMHSA, 2006 NSDUH.

**Figure 2. Percentages of Use of Specific Over-the-Counter (OTC) Cough or Cold Medications in the Past Year among Past Year OTC Cough and Cold Medication Misusers Aged 12 to 25: 2006\*\***



Source: SAMHSA, 2006 NSDUH.

their female counterparts to have used LSD, PCP, or Ecstasy (data not shown). Males and females who had ever misused these medications had similar rates of lifetime use of marijuana and inhalants.

### Past Year Misuse of OTC Cough and Cold Medications<sup>7</sup>

Nearly 1 million persons aged 12 to 25 (1.7 percent) misused OTC cough and cold medications in the past year (Table 1). Unlike the pattern for lifetime misuse, youths aged 12 to 17 were more likely than young adults aged 18 to 25 to have misused OTC cough and cold medications in the past year (1.9 vs. 1.6 percent). Males and females aged 12 to 25 had the same rate of past year misuse of these medications (1.7 percent). When examined separately for adolescents and young adults, however, the patterns varied by gender. Among youths aged 12 to 17, females were more likely than males to have misused OTC cough and cold medications in the past year (2.3 vs. 1.5 percent). Among young adults aged 18

to 25, however, males were more likely than females to have misused these medications (1.8 vs. 1.3 percent).

The rate of past year misuse of OTC cough and cold medications among whites aged 12 to 25 (2.1 percent) was about 3 times higher than the rate among blacks (0.6 percent) and was also higher than the rate among Hispanics (1.4 percent).<sup>8</sup> In this age group, Hispanics also were more likely than blacks to be past year misusers. Rates of past year misuse among persons aged 12 to 25 did not differ significantly by county type or region.

Among persons aged 12 to 25 who had misused an OTC cough and cold medication in the past year, 30.5 percent misused a NyQuil® product, 18.1 percent misused a Coricidin® product, and 17.8 percent misused a Robitussin® product (Figure 2). More than 40 percent of the misusers in this age group misused any of a wide variety of other OTC medications.<sup>7</sup>

#### End Notes

<sup>1</sup> National Drug Intelligence Center. (2004, October). *Intelligence Bulletin: DXM (dextromethorphan)* (Product No. 2004-L0424-029).

Washington, DC: U.S. Department of Justice. [Available online at <http://www.usdoj.gov/ndic/topics/ibulls.htm>]

<sup>2</sup> National Institute on Drug Abuse. (2001, March). *Hallucinogens and dissociative drugs, including LSD, PCP, ketamine, dextromethorphan* (NIH Publication No. 01-4209). Rockville, MD: U.S. Department of Health and Human Services, National Institutes of Health. [Available at <http://www.drugabuse.gov/ResearchReports/hallucinogens/hallucinogens.html>]

<sup>3</sup> Baggott, M., Heifets, B., Jones, R. T., Mendelson, J., Sferios, E., & Zehnder, J. (2000). Chemical analysis of Ecstasy pills. *Journal of the American Medical Association*, 284, 2190.

<sup>4</sup> Food and Drug Administration. (2005, May 20). *FDA warns against abuse of dextromethorphan (DXM)* (Talk Paper T05-23). Rockville, MD: National Press Office. [Available at <http://www.fda.gov/bbs/topics/ANSWERS/2005/ANS01360.html>]

<sup>5</sup> Bryner, J. K., Wang, U. K., Hui, J. W., Bedodo, M., MacDougall, C., & Anderson, I. B. (2006). Dextromethorphan abuse in adolescence: An increasing trend: 1999-2004. *Archives of Pediatrics & Adolescent Medicine*, 160, 1217-1222.

<sup>6</sup> According to the 2006 NSDUH, 2.5 percent of persons aged 26 or older had misused OTC cough and cold medications in their lifetime, but only 0.3 percent had done so in the past year.

<sup>7</sup> Persons aged 12 to 25 who reported misuse of only prescription medications, and those who otherwise did not specify misuse of OTC medications, were excluded from the analysis of past year use.

<sup>8</sup> Race/ethnicity categories are determined by combining the responses from two separate questions. For this report, respondents identifying themselves as Hispanic were assigned to the Hispanic group regardless of their racial identification. Respondents identifying themselves as non-Hispanic were grouped according to their racial identification. Thus, "white" refers to those identifying themselves as non-Hispanic and white. Estimates are presented only for white, black, and Hispanic because data for some other racial/ethnic groups are suppressed due to low precision.

#### Table and Figure Notes

\* See Endnote 8.

\*\* Standard errors (SE) are as follows: NyQuil® product (SE = 2.30), Coricidin® product (SE = 1.97), Robitussin® product (SE = 1.83), and Other OTC Medication (SE = 2.23).

#### Suggested Citation

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Research findings from the SAMHSA 2006 National Survey on Drug Use and Health (NSDUH)

## Misuse of Over-the-Counter Cough and Cold Medications among Persons Aged 12 to 25

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The National Survey on Drug Use and Health (NSDUH) is an annual survey sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA). The 2006 data used in this report are based on information obtained from 44,819 persons aged 12 to 25. The survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

*The NSDUH Report* is prepared by the Office of Applied Studies (OAS), SAMHSA, and by RTI International in Research Triangle Park, North Carolina. (RTI International is a trade name of Research Triangle Institute.)

Information on NSDUH used in compiling data for this report is available in the following publication:

Office of Applied Studies. (2007). *Results from the 2006 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 07-4293, NSDUH Series H-32). Rockville, MD: Substance Abuse and Mental Health Services Administration.

Also available online: <http://www.oas.samhsa.gov>.

Because of improvements and modifications to the 2002 NSDUH, estimates from the 2002 through 2006 surveys should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes over time.



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