

National Survey on Drug Use and Health

The NSDUH Report

March 16, 2009

Trends in Adolescent Inhalant Use: 2002 to 2007

In Brief

- The percentage of adolescents (i.e., youths aged 12 to 17) who used inhalants in the past year was lower in 2007 (3.9 percent) than in 2003, 2004, and 2005 (4.5, 4.6, and 4.5 percent, respectively)
- Among adolescents who used inhalants for the first time in the past year (i.e., past year initiates), the rate of use of nitrous oxide or "whippits" declined between 2002 and 2007 among both genders (males: 40.2 to 20.2 percent; females: 22.3 to 12.2 percent)
- In 2007, 17.2 percent of adolescents who initiated illicit drug use during the past year indicated that inhalants were the first drug that they used; this rate remained relatively stable between 2002 and 2007

Adolescents have easy access to some dangerous substances—ordinary household products such as glue, shoe polish, and aerosol sprays. These products are safe when used as intended, but they can be dangerous and even deadly when sniffed or "huffed" to get high. Preventing and treating inhalant use problems, as well as raising awareness about the dangers of inhalant use, are important ongoing goals of the Substance Abuse and Mental Health Services Administration (SAMHSA). Monitoring trends in inhalant use is vital to assessing policies intended to reduce inhalant use.

This issue of *The NSDUH Report* examines trends in the use, dependence or abuse,¹ and initiation of inhalants among adolescents (i.e., youths aged 12 to 17). The National Survey on Drug Use and Health (NSDUH) defines inhalants as "liquids, sprays, and gases that people sniff or inhale to get high or to make them feel good." NSDUH collects data not only about the use of any inhalant, but also about the use of specific types of inhalants. Respondents who used inhalants were asked when they first used them, and responses to this question were used to identify persons who had initiated use in the 12 months before the survey. This report uses data from the 2002 through 2007 NSDUHs.

Use and Dependence or Abuse

In 2007, almost 1.0 million adolescents used inhalants in the past year; this represents 3.9 percent of adolescents, which was lower than the rate in 2003, 2004, and 2005 (4.5, 4.6, and 4.5 percent, respectively) (Figure 1). Past year dependence on or abuse of inhalants remained relatively stable between 2002 and 2007, with 0.4 percent of adolescents (around 99,000 persons) meeting the criteria for dependence or abuse in 2007.

Figure 1. Trends in Past Year Inhalant Use and Dependence or Abuse among Adolescents: 2002 to 2007

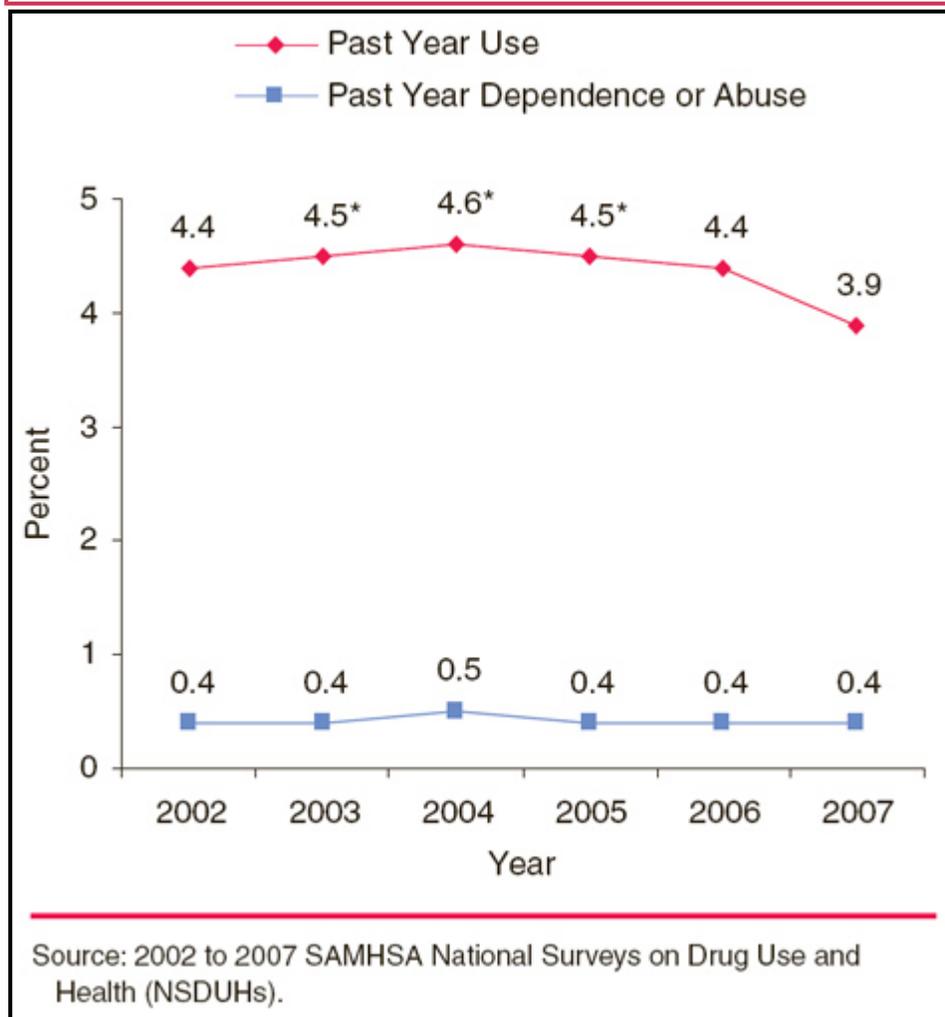


Figure 1 Table. Trends in Past Year Inhalant Use and Dependence or Abuse among Adolescents: 2002 to 2007

Trend	2002	2003	2004	2005	2006	2007
Past Year Use	4.4%	4.5% *	4.6% *	4.5% *	4.4%	3.9%
Past Year Dependence or Abuse	0.4%	0.4%	0.5%	0.4%	0.4%	0.4%

Source: 2002 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

Past Year Initiation of Inhalant Use

In 2007, 2.1 percent of adolescents who had not previously used inhalants began using them during the 12 months prior to the survey (Figure 2). This rate was lower than the rates of initiation for 2002, 2003, 2004, and 2005.

Figure 2. Trends in Past Year Initiation of Inhalants among Adolescents Who Had Not Previously Used Inhalants: 2002 to 2007**

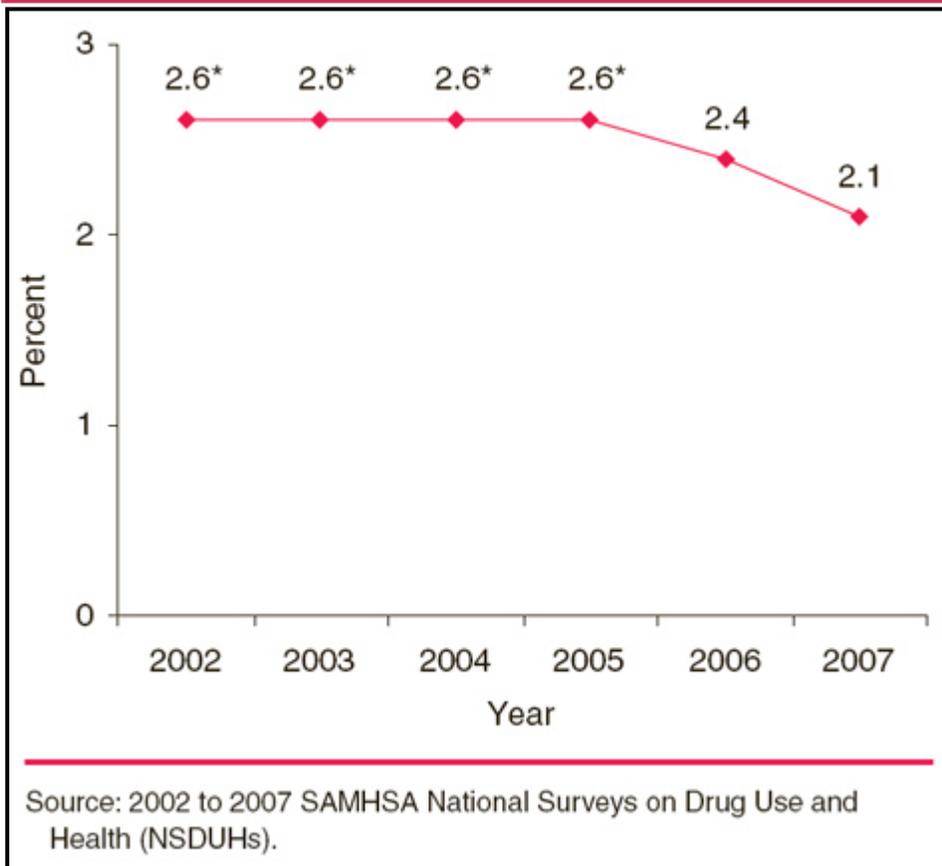


Figure 2 Table. Trends in Past Year Initiation of Inhalants among Adolescents Who Had Not Previously Used Inhalants: 2002 to 2007**

Trend	2002	2003	2004	2005	2006	2007
Past Year Initiation of Inhalants	2.6%*	2.6%*	2.6%*	2.6%*	2.4%	2.1%

Source: 2002 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

NSDUH also provides data on the first illicit drug initiated among past year initiates.² In 2007, 17.2 percent of past year illicit drug initiates indicated that inhalants were the first drug that they used (Table 1). Marijuana was the first drug used by 56.3 percent of past year illicit drug initiates; nonmedically used prescription-type drugs were the first type of drug used by 23.5 percent of past year

illicit drug initiates. These rates remained relatively stable between 2002 and 2007.

Table 1. Trends for First Drug Initiated in the Past Year among Adolescents Who Initiated Illicit Drug Use in the Past Year: 2002 to 2007**

First Drug Initiated***	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)
Marijuana and Hashish	59.9%	57.6%	57.3%	55.0%	57.1%	56.3%
Nonmedical Use of Prescription-Type Drugs	22.2%	20.4%	21.3%	22.0%	22.0%	23.5%
Inhalants	14.5%	19.4%	19.2%	19.6%	17.4%	17.2%
Hallucinogens	2.9%	2.3%	2.1%	2.5%	3.0%	2.3%
Cocaine	0.7%	0.4%	0.5%	1.0%	0.9%	0.8%

Source: 2002 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

Use of Specific Inhalants among Past Year Inhalant Initiates

Among past year inhalant initiates, the percentage using most specific types of inhalants in 2007 did not differ significantly from the percentage in 2002 (Table 2); however, there were a few exceptions. Among past year inhalant initiates, use of nitrous oxide or "whippits" was lower in 2007 than in 2002 (16.3 vs. 31.6 percent), and use of aerosol spray other than spray paint³ was higher in 2007 than 2002 (25.0 vs. 12.6 percent).

Table 2. Trends in Past Year Use of Specific Types of Inhalants among Past Year Inhalant Initiates Aged 12 to 17: 2002 to 2007**

Type of Inhalant	2002 (%)	2003 (%)	2004 (%)	2005 (%)	2006 (%)	2007 (%)
Amyl Nitrite, "Poppers," Locker Room Odorizers, or "Rush"	14.0%	17.0%	12.6%	16.4%	16.5%	19.3%
Correction Fluid, Degreaser, or Cleaning Fluid	15.7%	19.7%	19.6%	19.6%	22.5%	19.3%
Gasoline or Lighter Fluid	26.2%	23.2%	25.3%	26.7%	27.0%	28.1%
Glue, Shoe Polish, or Toluene	32.9%	30.2%	27.6%	31.3%	25.6%	28.8%
Halothane, Ether, or Other Anesthetics	2.9%	2.9%	4.5%	3.4%	4.5%	5.7%
Lacquer Thinner or Other Paint Solvents	13.9%	10.7%	10.8%	13.3%	14.2%	12.8%
Lighter Gases, Such as Butane or Propane	9.3%	9.7%	9.2%	8.1%	7.1%	9.9%
Nitrous Oxide or "Whippits"	31.6%	23.0%	20.1%	21.3%	17.7%	16.3%
Spray Paints	21.4%	23.3%	25.4%	23.9%	28.1%	25.1%
Aerosol Sprays Other than Spray Paints [±]	12.6%	17.6%	23.6%	25.4%	23.5%	25.0%

Source: 2002 to 2007 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

Discussion

Although the rates of inhalant use and inhalant initiation appeared to be on a downward trend, particularly since 2005, the rates of dependence on or abuse of these substances remained stable between 2002 and 2007. Rates of use of specific types of inhalants among past year initiates generally did not differ significantly from 2002 to 2007, although a few types showed significant changes. Use of nitrous oxide or "whippits" decreased by half, and use of aerosol sprays other than spray paints doubled. Over the period from 2002 to 2007, 15 to 20 percent of past year illicit drug initiates indicated that inhalants were the first illicit drug they had used.

These findings highlight the ongoing need for prevention and treatment of inhalant use and abuse. Continuing efforts are needed among adolescents and their parents, other family members, teachers, service providers, and policymakers to increase awareness of the dangers of inhalant use. Awareness campaigns and prevention efforts may need targeted messages about the use of specific inhalants, such as aerosol air fresheners, aerosol sprays, and aerosol cleaning products.

End Notes

¹ Substance dependence or abuse is defined using criteria in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV), which includes symptoms such as withdrawal, tolerance, use in dangerous situations, trouble with the law, and interference in major obligations at work, school, or home during the past year.

² Illicit drugs refer to marijuana/hashish, cocaine (including crack), inhalants, hallucinogens, heroin, or prescription-type drugs used nonmedically.

³ Aerosol sprays other than spray paint include products such as aerosol air fresheners, aerosol spray, and aerosol cleaning products (e.g., dusting sprays, furniture polish). The aerosol propellants in these products are commonly chlorofluorocarbons. By contrast, nitrous oxide is used as a propellant for whipped cream and is available in 2-inch tapered cylinders called "whippits" that are used to pressurize home whipped-cream charging bottles.

Figure and Table Notes

* Difference between this estimate and 2007 estimate is statistically significant at the .05 level.

** Past year initiates are defined as adolescents who used a drug for the first time during the 12 months prior to the survey.

*** First drug initiated is based on the date of the first use for each drug, with imputation for the day of the month and for the month of the year, if not reported. Respondents may be counted in more than one drug category if they reported initiating multiple drugs on the same day the first time that they used drugs.

+ See End Note 3.

Suggested Citation

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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 2002 to 2007 data used in this report are based on information obtained from 136,449 persons aged 12 to 17. The survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their place of residence.

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Information on the most recent NSDUH is available in the following publication:

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NSDUH_136

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