

The NSDUH Report

March 25, 2010

Adolescent Inhalant Use and Selected Respiratory Conditions

Inhalants are legal, everyday products—such as spray paints, glue, and gasoline—the vapors of which can be inhaled intentionally to get high. When used as intended, these products are harmless; however, when they are used as inhalants, they become potentially toxic and sometimes lethal. Inhalants, which are breathed in through the nose

or mouth in a variety of ways, are absorbed quickly through the lungs into the bloodstream. The user experiences a rapid but short-lived intoxication.

Inhalant use has an array of negative effects on the body, including the respiratory system.^{1,2} Inhalants can irritate the breathing passages, sometimes provoking severe coughing, painful inflammation, and nosebleeds. They also can depress the central nervous system and thereby dangerously hinder the activity of the nerves that control breathing. Additionally, inhaling for an extended time from a bag or balloon may cause a dangerous shortage of oxygen in the lungs. The resulting respiratory insufficiencies may cause unconsciousness, coma, or death. Given the effects of inhalants on the respiratory system, use of these substances may be particularly devastating for adolescents with respiratory problems, such as asthma, bronchitis, pneumonia, and sinusitis.

The National Survey on Drug Use and Health (NSDUH) asks respondents aged 12 or older to report on their use of inhalants during the lifetime, past year, and past month. Inhalants are defined in the survey as “liquids, sprays, and gases that people sniff or inhale to get high or to make them feel good.” NSDUH also asks respondents to report on four types of respiratory conditions—asthma, bronchitis, pneumonia, and sinusitis—during the 12 months before the survey interview.³ This issue of *The NSDUH Report* examines inhalant use and the four selected respiratory conditions among youths aged 12 to 17 (i.e., adolescents). All findings are annual averages from combined 2006 to 2008 NSDUH data.

In Brief

- Combined 2006 to 2008 data indicate that an estimated 1.0 million adolescents aged 12 to 17 (4.1 percent) used an inhalant in the past year
- Nearly one tenth (9.8 percent) of adolescents had asthma in the past year, 3.2 percent had bronchitis, 0.9 percent had pneumonia, and 0.8 percent had sinusitis; at least one of these respiratory conditions was indicated by 13.5 percent of adolescents
- Approximately 143,000 adolescents (0.6 percent) both used inhalants and had at least one of the four respiratory conditions in the past year
- Nearly 1 in 20 adolescents with at least one of the four respiratory conditions in the past year (4.4 percent) also used an inhalant in the past year

Figure 1. Past Year Inhalant Use among Adolescents, by Demographic Characteristics: 2006 to 2008

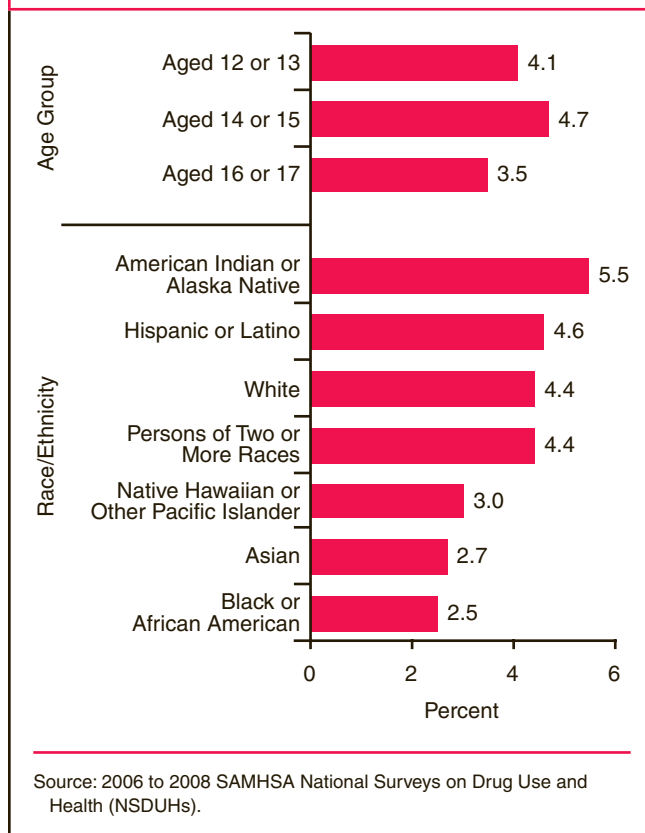
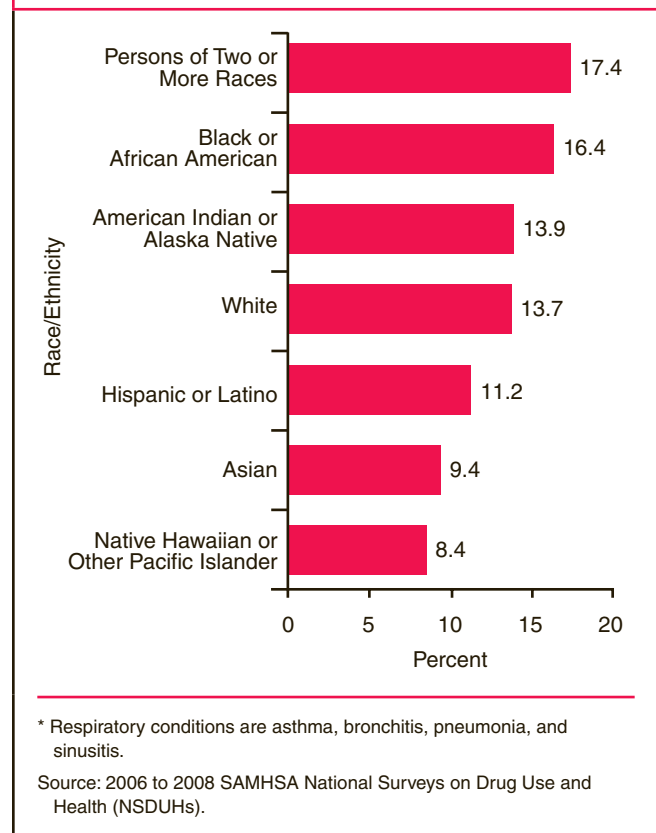


Figure 2. At Least One of the Selected Respiratory Conditions* in the Past Year among Adolescents, by Race/Ethnicity: 2006 to 2008



Inhalant Use

An estimated 2.4 million adolescents (9.7 percent) used an inhalant during their lifetime, and 1.0 million adolescents (4.1 percent) used an inhalant in the past year. On any given day in the past year, 44,000 adolescents used inhalants.⁴

Rates of past year inhalant use were slightly higher among females than among males (4.3 vs. 3.9 percent) and among those aged 14 or 15 than among those aged 12 or 13 and those aged 16 or 17 (4.7 vs. 4.1 and 3.5 percent, respectively) (Figure 1). Asians and blacks were less likely than American Indians or Alaska Natives, Hispanics, whites, and persons of two or more races to have used an inhalant in the past year.

Selected Respiratory Conditions

Nearly one tenth (9.8 percent) of adolescents had been told by a doctor or other medical professional that they had asthma in the past year, 3.2 percent had been told that they had bronchitis, 0.9 percent had been told that they had pneumonia, and 0.8 percent had been told that they had sinusitis. At least one of these respiratory conditions was indicated by 13.5 percent of adolescents.

Male and female adolescents were equally likely to have had at least one of the four respiratory conditions, and there were no differences by age group (data not shown). However, rates varied by racial/ethnic group, ranging from a high of 17.4 percent among adolescents of two or more races to a low of 8.4 percent among Native Hawaiian or other Pacific Islander adolescents (Figure 2).

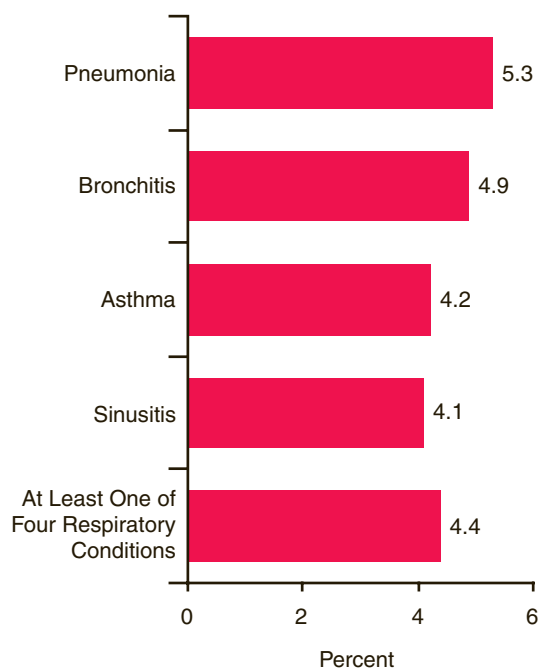
Inhalant Use and Respiratory Conditions

Approximately 143,000 adolescents (0.6 percent) both used inhalants and had at least one of the four respiratory conditions in the past year.

Nearly 1 in 20 adolescents with at least one of the respiratory conditions in the past year (4.4 percent) also used an inhalant in the past year (Figure 3); this is similar to the rate of 4.1 percent found among adolescents overall. An estimated 5.3 percent of those who had pneumonia, 4.9 percent of those who had bronchitis, 4.2 percent of those who had asthma, and 4.1 percent of those who had sinusitis used inhalants in the past year.

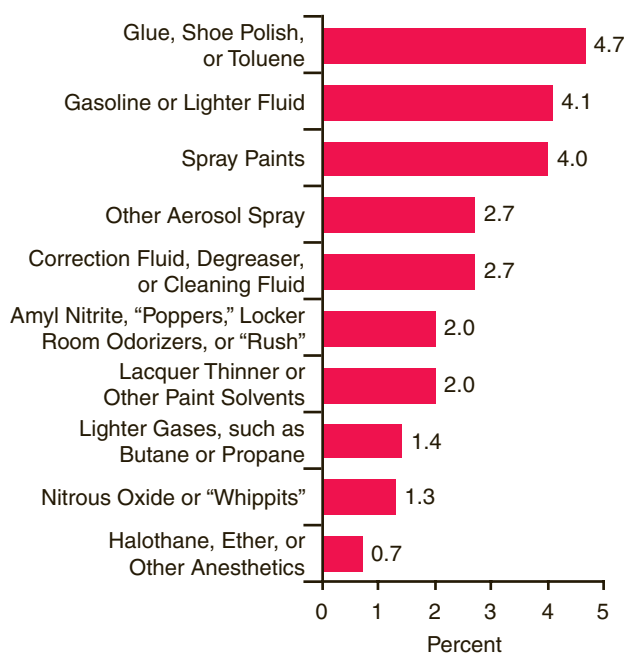
The three types of inhalants most commonly ever used by adolescents with at least one of the four past

Figure 3. Past Year Inhalant Use among Adolescents, by Selected Respiratory Conditions: 2006 to 2008



Source: 2006 to 2008 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

Figure 4. Specific Types of Lifetime Inhalant Use among Adolescents with At Least One of the Selected Respiratory Conditions*: 2006 to 2008



* Respiratory conditions are asthma, bronchitis, pneumonia, and sinusitis.

Source: 2006 to 2008 SAMHSA National Surveys on Drug Use and Health (NSDUHs).

year respiratory conditions were (1) glue, shoe polish, or toluene; (2) gasoline or lighter fluid; and (3) spray paints (Figure 4).^{5,6} These were also generally the most commonly used types of inhalants among those with each type of the selected respiratory conditions (data not shown).

Discussion

Inhalants are easily accessible, cheap, and easy to hide; they are also addictive and deadly. Death can occur at any use, even the first use. An estimated 44,000 adolescents use inhalants and place their lives and health at risk on any given day. Inhalant use may exacerbate existing medical conditions, such as respiratory conditions. Yet adolescents with respiratory conditions are no less likely to use inhalants than those in the general population.

Continuing efforts are needed to educate parents, teachers, physicians, service providers, and policy makers about the dangers and health risks of inhalant use. All prevention efforts directed to adolescents must balance warning against the dangers of inhalant use with not inadvertently introducing adolescents to available substances that have abuse potential.

End Notes

- Williams, J. F., & Storck, M. (2007). Inhalant abuse. *Pediatrics*, 119, 1009-1017.
- American Council for Drug Education. (1999). *Basic facts about drugs: Inhalants*. Retrieved February 8, 2010, from <http://www.acde.org/common/inhalant.htm>
- For each of 20 health conditions included in NSDUH, respondents are asked whether they had been told by a doctor or other medical professional that they had the condition in the past 12 months. Lung cancer and tuberculosis were not included in this analysis because these conditions are rare among youths. Conditions such as the common cold, influenza, and emphysema are not included on the NSDUH questionnaire.
- The number of adolescents who used inhalants "on any given day" is calculated by summing the weighted past month days of use (0 to 30) and dividing by 30.
- For each specific type of inhalant, NSDUH only asks about lifetime use.
- Some respondents reported in "other—specify" questions that they had used asthma or bronchial inhalers to get high; however, these responses were relatively rare.

Suggested Citation

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (March 25, 2010). *The NSDUH Report: Adolescent Inhalant Use and Selected Respiratory Conditions*. Rockville, MD.

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

Findings from the SAMHSA 2006 to 2008 National Surveys on Drug Use and Health (NSDUHs)

Adolescent Inhalant Use and Selected Respiratory Conditions

- Combined 2006 to 2008 data indicate that an estimated 1.0 million adolescents aged 12 to 17 (4.1 percent) used an inhalant in the past year
- Nearly one tenth (9.8 percent) of adolescents had asthma in the past year, 3.2 percent had bronchitis, 0.9 percent had pneumonia, and 0.8 percent had sinusitis; at least one of these respiratory conditions was indicated by 13.5 percent of adolescents
- Approximately 143,000 adolescents (0.6 percent) both used inhalants and had at least one of the four respiratory conditions in the past year
- Nearly 1 in 20 adolescents with at least one of the four respiratory conditions in the past year (4.4 percent) also used an inhalant in the past year

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 to 2008 data used in this report are based on information obtained from 67,850 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.

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 the most recent NSDUH is available in the following publication:

Office of Applied Studies. (2009). *Results from the 2008 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 09-4434, NSDUH Series H-36). Rockville, MD: Substance Abuse and Mental Health Services Administration. Also available online: <http://oas.samhsa.gov>.



U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
Substance Abuse & Mental Health Services Administration
Office of Applied Studies
www.samhsa.gov