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University of Maryland, College Park

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CESAR is pleased to provide this 2011 Annual Volume of the *CESAR FAX*. To assist you in using this volume, the Table of Contents indexes the 2011 issues by title and subject area.

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Since the first fax transmission to 150 recipients on February 17, 1992, the *CESAR FAX* audience has grown tremendously. The *CESAR FAX* transitioned from fax to email as its primary dissemination method in 2004, and is now being sent to more than 5,800 recipients worldwide. The *CESAR FAX* continues to provide timely and relevant substance abuse information in an easy-to-read format.

CESAR FAX
Volume 20 (2011)

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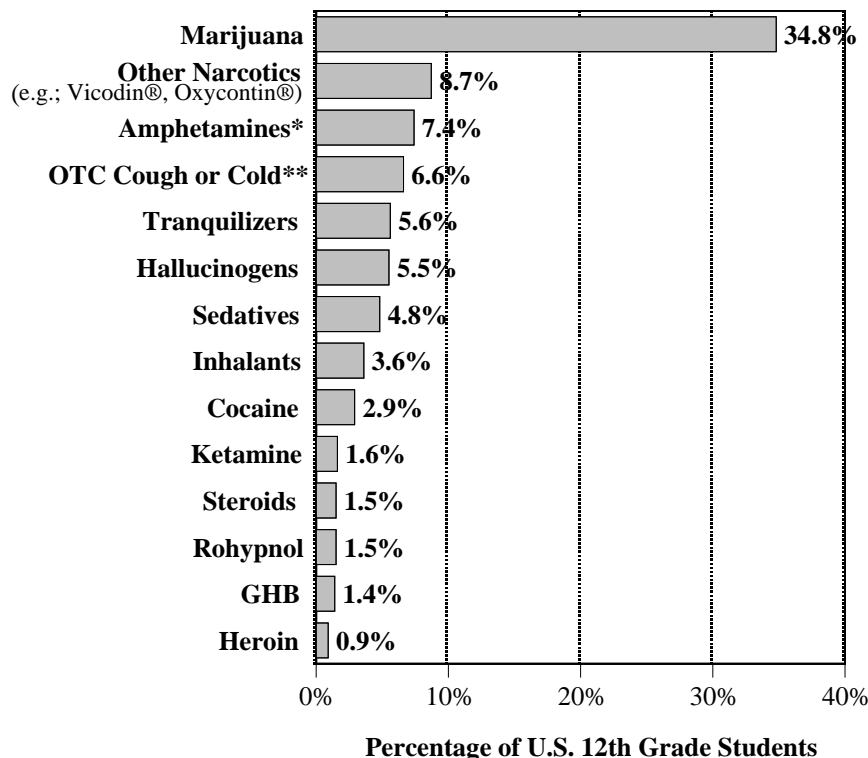
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Slightly More Than One-Third of High School Seniors Used Marijuana in the Past Year

Marijuana continues to be the most prevalent illicit drug (other than alcohol) used by U.S. high school seniors, according to data from the 2010 Monitoring the Future Study. Slightly more than one-third (34.8%) of 12th grade students reported using marijuana in the past year. The nonmedical use of narcotic drugs (such as Vicodin[®] and OxyContin[®]) was reported by 8.7% of 12th graders, followed by amphetamines (7.4%), over-the-counter cough or cold medications used solely to get high (6.6%), tranquilizers (5.6%), and hallucinogens (5.5%). All other drugs were used by 5% or less of 12th graders.

Percentage of U.S. 12th Grade Students Reporting Past Year Use of Drugs (Other Than Alcohol and Tobacco), 2010



*Amphetamines include Adderall[®] (6.5%), Ritalin[®] (2.7%), and methamphetamine (1%). Hallucinogens include salvia (5.5%), ecstasy (4.5%), LSD (2.6%), and PCP (1.0%).

**Used for the explicit purpose of getting high.

SOURCE: Adapted by CESAR from University of Michigan, "Marijuana Use if Rising; Ecstasy Use Is Beginning to Rise; and Alcohol Use is Declining Among U.S. Teens," Monitoring the Future press release, December 14, 2010. Available online at <http://www.monitoringthefuture.org/data/10data.html#2010data-drugs>.

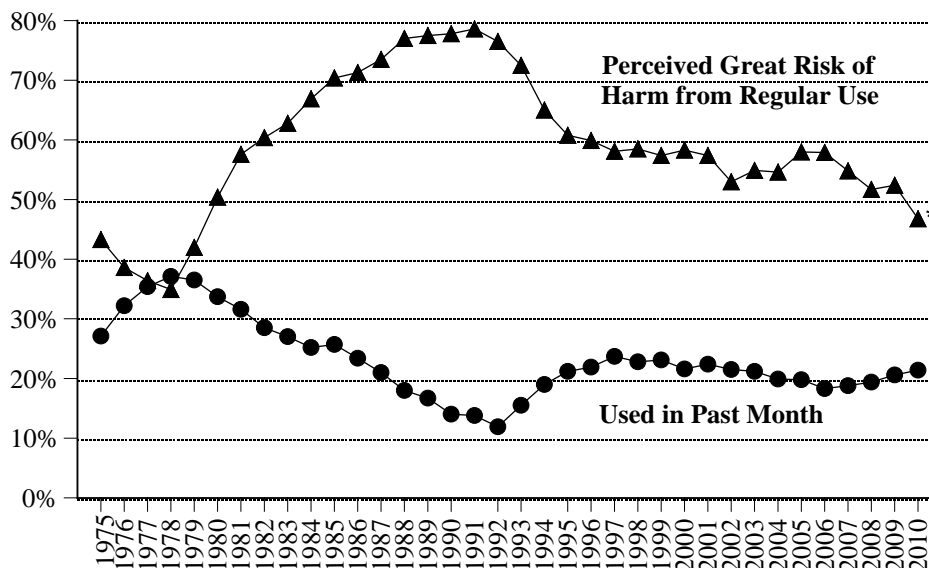
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Marijuana Use Continues to Increase as Perceived Risk of Use Decreases Among U.S. High School Seniors

The percentage of U.S. high school seniors reporting past month marijuana use continues to slowly increase, according to data from the 2010 Monitoring the Future (MTF) study. In 2010, 21.4% of 12th graders reported using marijuana in the past month, continuing a trend of slight increases that have occurred each year since 2007 (see figure below). While the current prevalence of marijuana use is far below the peak of 37.1% in 1978, it has returned to a level not seen since 2002. According to Lloyd Johnston, the principal investigator of the study, while “this upward shift is not yet very large, its duration and pervasiveness leave no doubt in our minds that it is real” (p 2). One possible explanation for this increase in marijuana use may be that the perceived risk of harm from marijuana use has decreased in recent years. The percentage of high school seniors who thought there was a great risk of harm from using marijuana decreased from 52.4% to 46.8%* in 2010—the lowest level since 1979.

Percentage of U.S. Twelfth Grade Students Reporting Past Month Marijuana Use and a Perceived Great Risk of Harm from Regular Marijuana Use, 1975-2010



NOTES: Similar trends in marijuana use have occurred among 8th and 10th grade students. Marijuana use among 8th graders increased from 5.8% in 2008, to 6.5% in 2009, to 8.0%* in 2010. Marijuana use among 10th graders increased from 13.8% in 2008 to 15.9% in 2009 to 16.7% in 2010.

*Difference between 2009 and 2010 is statistically significant ($p \leq .01$).

SOURCE: Adapted by CESAR from University of Michigan, “Marijuana Use is Rising; Ecstasy Use is Beginning to Rise; and Alcohol Use is Declining Among U.S. Teens,” Monitoring the Future press release, December 14, 2010. Available online at <http://www.monitoringthefuture.org/data/10data.html#2010data-drugs>.

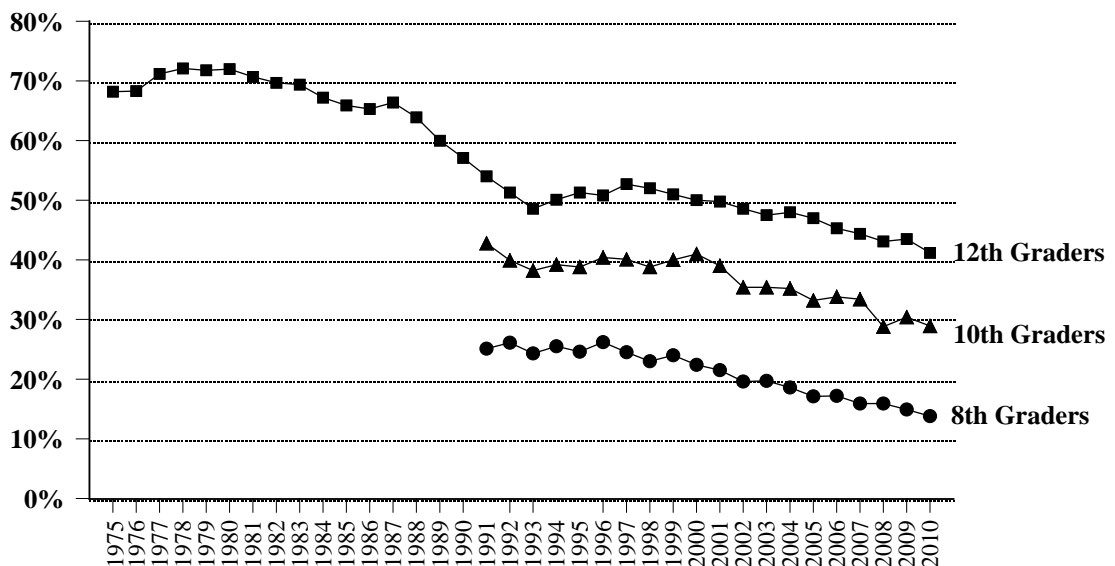
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Past Month Alcohol Use Among U.S. 8th, 10th, and 12th Graders Reaches Record Low

The percentage of 8th, 10th, and 12th graders reporting past month use of alcohol reached record lows* in 2010, according to data from the national Monitoring the Future study. Less than one-half (41.2%) of 12th graders reported drinking at least one sip of alcohol in the past month in 2010, compared to the peak prevalence of 72.1% in 1978. Past month prevalence rates among 8th (13.8%) and 10th (28.9%) graders are also at the lowest levels since these grades were first included in the study in 1991 (see figure below). In addition, binge drinking—drinking five or more drinks in a row at least once in the two weeks prior to the survey—also continues to decrease in all three grades (data not shown). For example, 23.2% of 12th graders reported binge drinking in 2010, compared to the peak of 41.4% in 1981.

Percentage of U.S. 8th, 10th, and 12th Grade Students Reporting Past Month Alcohol Use, 1975-2010



*The Monitoring the Future survey began surveying 12th graders in 1975. Surveys of 8th and 10th graders were added in 1991.

SOURCE: Adapted by CESAR from University of Michigan, "Marijuana Use Is Rising; Ecstasy Use Is Beginning to Rise; and Alcohol Use is Declining Among U.S. Teens," Monitoring the Future press release, December 14, 2010. Available online at <http://www.monitoringthefuture.org/data/10data.html#2010data-drugs>.

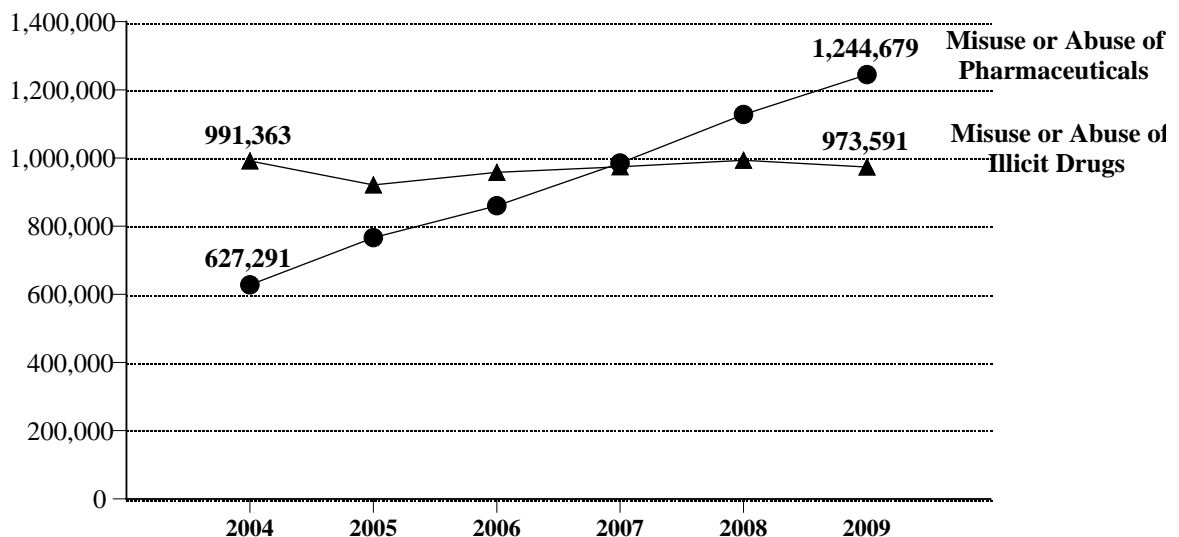
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Estimated Number of Emergency Department Visits for Misuse or Abuse of Pharmaceuticals Nearly Doubles from 2004 to 2009

The estimated number of emergency department (ED) visits involving the misuse or abuse of pharmaceuticals increased significantly from 2004 to 2009, according to data from the Drug Abuse Warning Network (DAWN). Nearly 630,000 ED visits in 2004 were related to the misuse or abuse of pharmaceuticals, compared to more than 1.2 million in 2009. In 2009, approximately one-half (48%) of these pharmaceutical misuse or abuse visits involved pain relievers,* and more than one-third (35%) involved drugs to treat insomnia and anxiety. In contrast, the number of ED visits involving illicit drug use was relatively stable over the same time period (see figure below). There were 973,591 ED visits related to the misuse or abuse of illicit drugs in 2009, primarily for cocaine (43%) and marijuana (39%). According to the authors, these findings highlight the “importance of heightening emergency room medical staff’s awareness of nonmedical use of pharmaceuticals, because these personnel might be the first responders to people in need of intervention and treatment” (p. 7).

Estimated Number of Drug-Related Emergency Department Visits Related to the Misuse or Abuse of Pharmaceuticals and Illicit Drugs, 2004 to 2009



*The 2009 National Survey on Drug Use and Health (NSDUH) found that 14% of U.S. residents reported lifetime nonmedical use of prescription pain relievers (see *CESAR FAX*, Volume 19, Issue 45). In addition, treatment admissions involving pain reliever abuse increased fourfold from 1998 to 2008 (see *CESAR FAX*, Volume 19, Issue 28).

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration (SAMHSA), “Highlights of the 2009 Drug Abuse Warning Network (DAWN) Findings on Drug-Related Emergency Department Visits,” *The DAWN Report*, December 28, 2010. Available online at https://dawninfo.samhsa.gov/files/SpecTopics/DAWN2010_SR034.pdf.

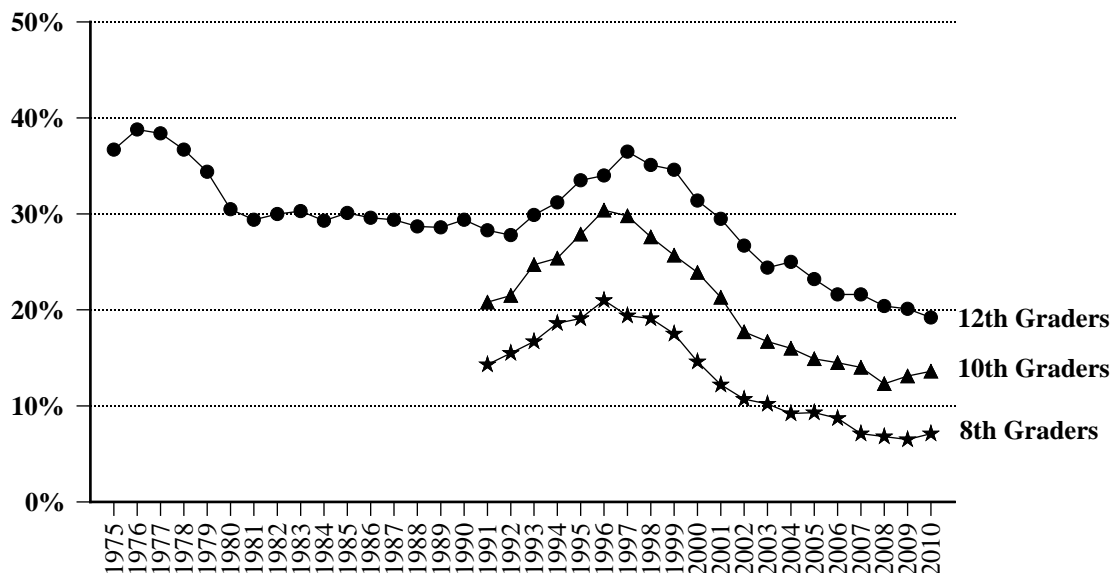
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Current Cigarette Use Continues to Decrease Among U.S. 12th Graders; Decrease in Use Among 8th and 10th Grade Students May Have Stalled

Current cigarette use among high school seniors continues to decrease, according to data from the 2010 *Monitoring the Future* study. In 2010, 19% of 12th grade students reported smoking cigarettes in the past 30 days, down from the most recent peak of 37% in 1997. Current prevalence rates of cigarette use among 8th (7%) and 10th (14%) graders are also far below their peak rates. However, smoking rates among these younger students appear to have leveled off in recent years, suggesting that the decrease that began in 1997 may have stalled (see figure below). The authors note that while these long-term decreases in smoking are encouraging, “there are still significant proportions of teens putting themselves at risk for a host of serious diseases and premature death because they are taking up cigarette smoking” (p. 2).

**Percentage of U.S. 8th, 10th, and 12th Grade Students
Reporting Cigarette Use in the Past 30 Days, 1975 to 2010**



SOURCE: Adapted by CESAR from University of Michigan, “Smoking Stops Declining and Shows Signs of Increasing Among Younger Teens,” *Press Release*, 12/14/2010. Available online at <http://www.monitoringthefuture.org/data/10data.html#2010data-cigs>.

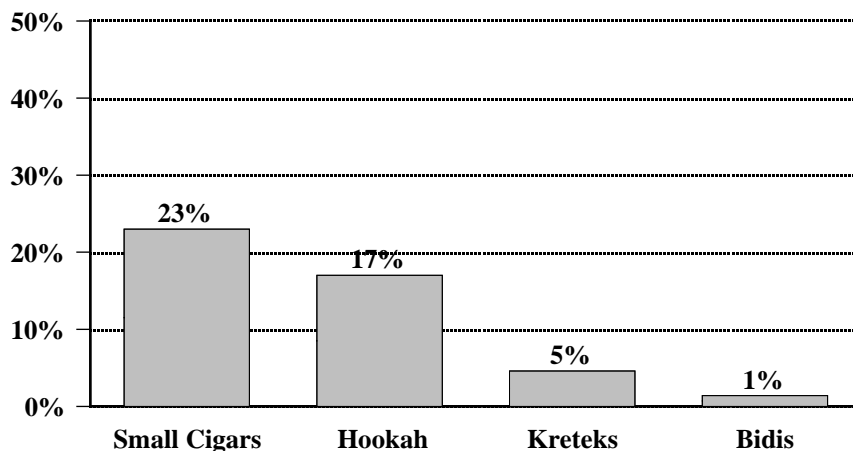
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Around One-Fifth of U.S. High School Seniors Report Using Small Cigars or Hookah in the Past Year

While cigarettes continue to be the most prevalent form of tobacco used among 12th graders, a significant number report using other types of tobacco products. Questions about smoking small cigars and smoking tobacco using a hookah water pipe were included in the national *Monitoring the Future* survey for the first time in 2010. More than one-fifth (23%) of 12th graders reported smoking small cigars* in the past year, and 17% reported smoking tobacco in a hookah water pipe. Less frequently used tobacco products were kreteks (clove cigarettes) and bidis (small brown flavored cigarettes wrapped in tendu leaf). These alternative tobacco products, which are inexpensive and trendy, may be assumed to be safer than regular cigarettes. Like all tobacco products, however, multiple health risks are associated with their use.** *Monitoring the Future* researchers “will continue to monitor these . . . forms of tobacco consumption to see if they represent a growing problem among youth” (p. 4).

Percentage of U.S. 12th Grade Students Reporting Past Year Use of Tobacco Products, 2010



*Small cigars are cigars that resemble cigarettes in size, shape, and packaging. They may or may not have filters, and are sold in packs of five, 10 or 20.

**See *CESAR FAX*, Volume 17, Issues 22 and 23 for more information about smoking tobacco with a hookah. See *CESAR FAX*, Volume 8, Issue 41 for more information on bidis).

SOURCE: Adapted by CESAR from University of Michigan, “Smoking Stops Declining and Shows Signs of Increasing Among Younger Teens,” *Press Release*, 12/14/2010. Available online at <http://www.monitoringthefuture.org/data/10data.html#2010data-cigs>.

A Weekly FAX from the Center for Substance Abuse Research

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Alcohol-Related Content Pervasive on Facebook; Most Accessible to Underage Users

Much of the alcohol-related content on Facebook is easily accessible by the approximately one-third of users who are under the age of 21, according to a qualitative study conducted by the Marin Institute. Despite guidelines requiring age restrictions, the study found that content promoting alcohol and dangerous drinking was accessible by underage users across all five of the most popular Facebook features—advertisements, pages, applications, events, and groups.

Advertisements: Alcohol companies can buy ad space on Facebook, which allows them to access user's profile information and target their ads to specific audiences. One out of every eight ads were alcohol related and all alcohol-related ads were displayed to under-21 users.

Pages: Facebook pages are customizable profiles that can be made by an organization, product, or public personality. Facebook users can become fans of pages or "like" them, leaving the user with an affiliation to that topic. The ten top selling beer brands had 93 pages with a total of more than 1.1 million fans, while the ten top selling spirit brands had 334 pages for spirit brands with more than 3.2 million fans. Only 50% of the pages reviewed restricted access based on age. Six of the twelve top beer and spirit brands were accessible to under 21 users, allowing them to become a fan and receive marketing messages.

Applications: Facebook applications are designed for interactive behavior—users can play games, take quizzes and rate brands. More than 500 Facebook applications are associated with the term alcohol. Four of the six alcohol applications reviewed by the study were accessible to underage users, allowing them to send virtual alcohol shots to other Facebook friends and be a virtual bartender.

Events: Facebook events allow companies to advertise a time, location and description of special occasion. Many events are ads for nightclubs, concerts or sporting events sponsored by an alcohol brand or companies. More than 4,400 events were found associated with the five best selling beer and liquor brands. There were no age restrictions found for these events.

Groups: Facebook groups can be created by any Facebook user about almost any topic. Once an individual user joins the group it is displayed on that member's profile. Groups have their own discussion boards, photos, videos, event listings, and web links. When searching Facebook groups using the term "alcohol," more than 58,000 results appear. Each group reviewed by the study advertised alcohol with hyperlinks, photos, and graphics; none of the groups were restricted based on age.

The study concludes that "Facebook's policies regarding alcohol ads and alcohol-related content in Pages, Applications, Events, and Groups do not effectively protect its users from exposure" (p. 3). The study authors recommend that Facebook stop accepting paid advertisements for alcohol products; stop allowing alcohol-related pages, applications, events and groups; and hire external monitors to enforce these regulations. They also suggest that "the alcohol industry must also question its affiliation with Facebook as a marketing tool when content so blatantly violates many of the industry's own advertising guidelines" (p. 4).

SOURCE: Adapted by CESAR from Mart, S., Mergendoller, J., Simon, M., "Alcohol Promotion on Facebook," *The Journal of Global Drug Policy and Practice*, 3(3), 2009. Available online at <http://globaldrugpolicy.org/3/3/1.php>.

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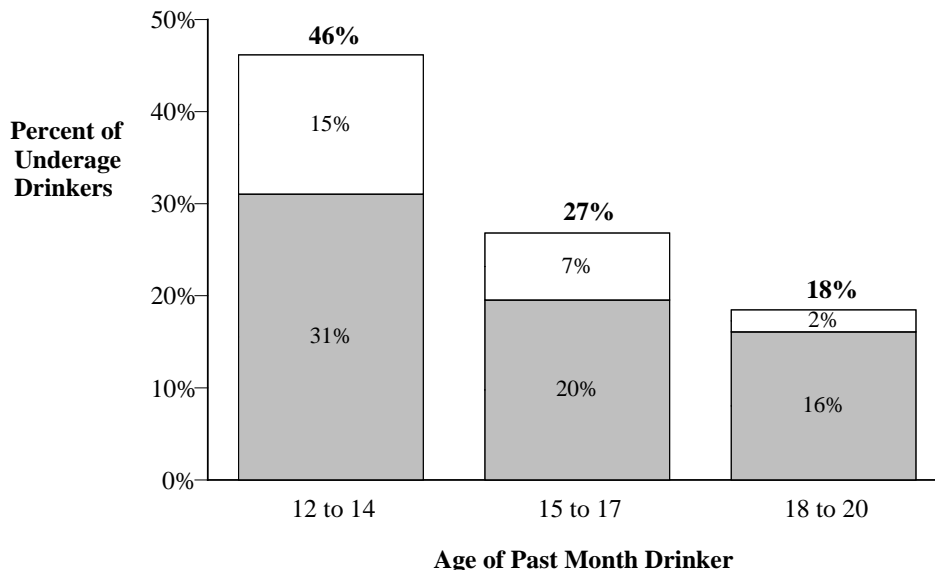
University of Maryland, College Park

Young Drinkers Ages 12 to 14 More Likely to Obtain Alcohol from Family or Home Than Other Underage Drinkers

Young drinkers are more likely than other underage drinkers to get alcohol from their family, according to data from the most recent National Survey on Drug Use and Health. Nearly one-half of youths ages 12 to 14 who drank alcohol in the past month obtained the alcohol from a parent, guardian, or other adult family member* (31%) or took the alcohol from their own home (15%). In contrast, 27% of underage drinkers ages 15 to 17 and 18% of those ages 18 to 20 reported getting alcohol from family or their home the last time they drank. These findings suggest the need for increased parental education on the effects of early alcohol use as well as increased monitoring of the presence of alcohol in the home.

Percentage of Current Underage Drinkers Who Reported Getting Alcohol from Their Family/Home the Last Time They Drank, by Age, 2009

■ Got from Parent/Guardian or Adult Family Member* □ Took from Own Home



*Includes obtaining alcohol for free from parent/guardian or adult family member and paying a parent/guardian or adult family member to purchase it.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration (SAMHSA), Office of Applied Studies, *Results from the 2009 National Survey on Drug Use and Health: Volume I. Summary of National Findings*, 2010. Available online at <http://oas.samhsa.gov/NSDUH/2k9NSDUH/2k9ResultsP.pdf>.

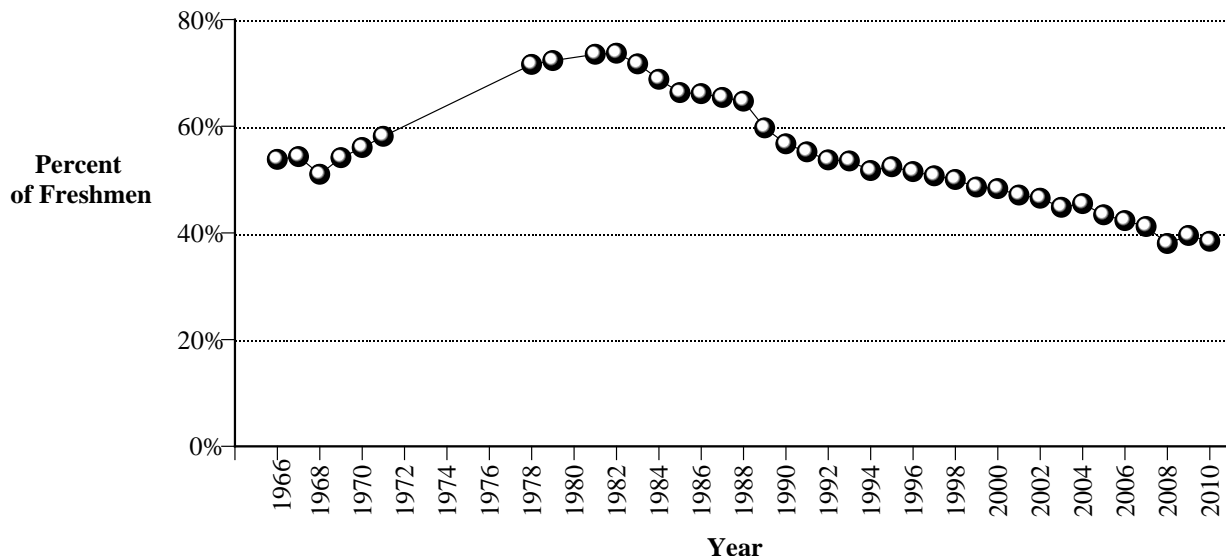
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Occasional or Frequent Beer Drinking in the Past Year Among College Freshmen Remains at Record Low Levels

The percentage of U.S. college freshmen reporting that they drank beer occasionally or frequently in the past year has declined significantly since the early 1980s, according to data from the Cooperative Institutional Research Program's annual college freshman survey. In 1982, 73.7% of college freshmen reported drinking beer in the year before entering college. Since then this rate has declined nearly every year, reaching a record low of 38.0% in 2008. In 2009 and 2010 the percentages remained nearly the same, at 39.5% and 38.4%, respectively. While the decline in beer consumption over the past three decades is encouraging, the fact that more than one-third of college freshmen report drinking beer in the year before entering college is a cause for concern.

**Percentage of U.S. College Freshmen Reporting Occasional or Frequent Beer Use
in the Year Prior to the Survey, 1966-2010***



*The question about beer use was not asked in the 1972 to 1977 and 1980 year surveys.

NOTE: The 2010 results are based on the responses of 201,818 first-time, full-time, freshmen at 279 U.S. baccalaureate colleges and universities. The survey is typically administered during the freshmen orientation process. The data have been statistically adjusted to reflect the responses of the 1.5 million first-time, full-time students entering four-year college and universities as first-year students in 2010.

SOURCE: Adapted by CESAR from data from the Higher Education Research Institute (HERI), Cooperative Institutional Research Program (CIRP), *The Freshman Survey*. For additional information, contact the Higher Education Research Institute at heri@ucla.edu.

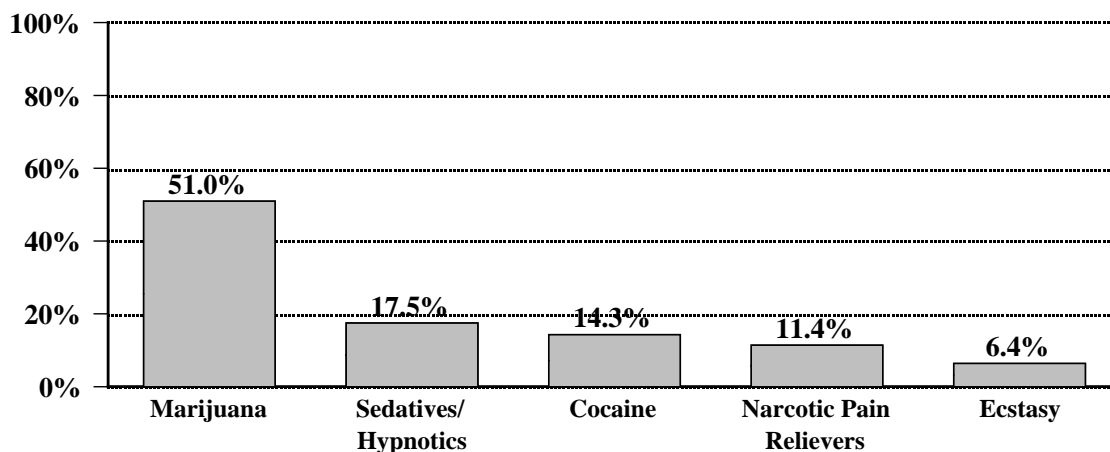
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University of Maryland, College Park

Emergency Department Data Reveals Opportunity to Intervene with Underage Alcohol and Other Drug Users

Nearly one-third (30.5%) of alcohol-related emergency department (ED) visits made by underage youth and young adults also involved illicit or pharmaceutical drugs in 2009, according to data from the Drug Abuse Warning Network (DAWN). The most prevalent drug reported was marijuana (51.0%), followed by sedatives/hypnotics (17.5%), cocaine (14.3%), and narcotic pain relievers (11.4%). Slightly more than 6% of underage alcohol-related ED visits involved ecstasy—more than twice as many as in 2008. All other drugs made up less than 5%. The study also found that nearly two-thirds (64.4%) of these visits that involved other drugs did not receive any follow-up care, 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. According to the authors, these findings suggest 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.”

Percentage of Youth and Young Adults Under Age 21 Reporting Alcohol-Related ED Visits Involving Other Drugs (Illicit and Pharmaceutical), 2009



NOTE: Percentages do not sum to 100% because each ED visit may involve more than one substance.

SOURCE: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN), *National Estimates of Drug-Related Emergency Department Visits, 2004-2009*, online at <https://dawninfo.samhsa.gov/data> (accessed 3/25/11); and SAMHSA, “Emergency Department Visits Involving Underage Alcohol Use in Combination with Other Drugs,” *The Dawn Report*, 2011. Available online at <http://www.oas.samhsa.gov/2k11/DAWN025/AlcDrugsComboHTML.pdf>.

CESAR FAX Not Published on 3/21/11

Please note that no CESAR FAX issue was published last Monday because the University was closed for Spring Break.

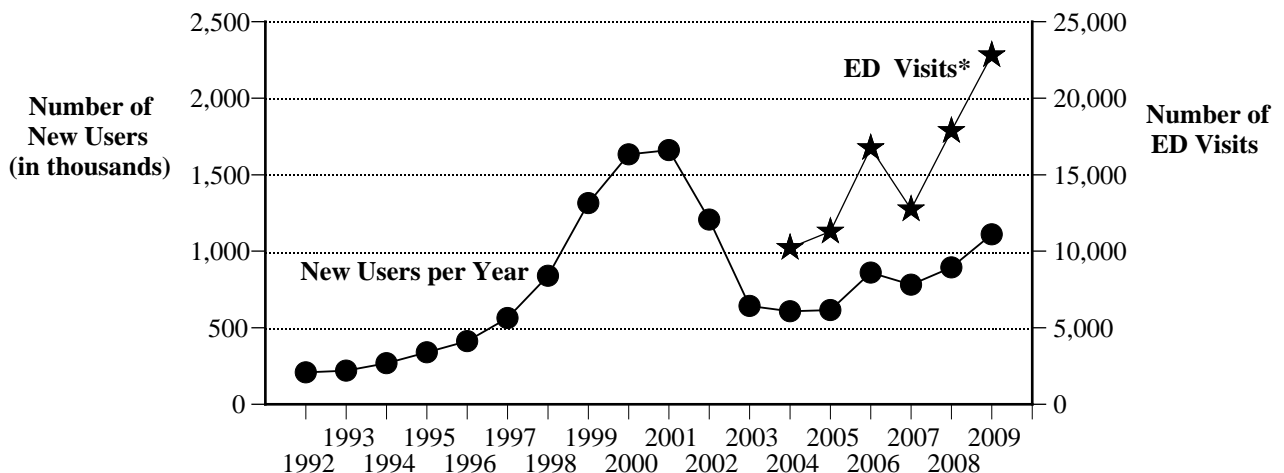
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University of Maryland, College Park

Resurgence in Ecstasy Use on the Horizon?

Several indicators suggest that there may be a resurgence in ecstasy use in the coming years. There were an estimated 1.1 million new ecstasy users in 2009, according to data from the National Survey on Drug Use and Health (NSDUH). This is an increase of 83% from the most recent low incidence rate of 607,000 in 2004. By comparison, there were an estimated 1.6 million new users at the height of the ecstasy epidemic a decade ago. Changes in incidence are often leading indicators of emerging patterns of substance use, and there was a statistically significant increase in the estimated number of past year ecstasy users from 2008 (2.1 million) to 2009 (2.8 million; data not shown). In addition, the number of ecstasy-related emergency department (ED) visits has nearly doubled since 2007 (from 12,748 to 22,816). CESAR will continue to monitor these and other indicators for changes in ecstasy use.

Estimated Number (in thousands) of New Ecstasy Users per Year (ages 12 or older) and Estimated Number of Ecstasy-Related ED Visits, 1992 to 2009



*Data on ecstasy-related ED visits prior to 2004 is not comparable to current DAWN ED data because of a major redesign that altered most of DAWN's core features (e.g., design of the hospital sample, drug-related cases eligible, data items submitted on these cases, protocol for case finding and quality assurance).

NOTES: Estimates from 1992 to 2001 were produced using combined data from the 2002-2004 NSDUH and are based on questions on age and month at first use, the respondent's date of birth, and the interview date. Estimates from 2002 to 2009 refer to initiation in the 12 months prior to the survey, and are produced independently based on the data from the survey conducted that year. Ecstasy-related ED visits are those in which ecstasy was involved as either a direct cause or a contributing factor to the visit.

SOURCES: Adapted by CESAR from Substance Abuse and Mental Health Services Administration (SAMHSA), *Results from the 2009 National Survey on Drug Use and Health: Detailed Tables*, 2010 (available online at <http://oas.samhsa.gov/WebOnly.htm#NSDUHtabs>); SAMHSA, *Results from the 2004 National Survey on Drug Use and Health: Detailed Tables*, 2005 (available online at <http://oas.samhsa.gov/nsduh/reports.htm#2k4>); and SAMHSA, *National Estimates of Drug-Related Emergency Department Visits, 2004-2009*, online at <https://dawninfo.samhsa.gov/data>, accessed 3/29/11.

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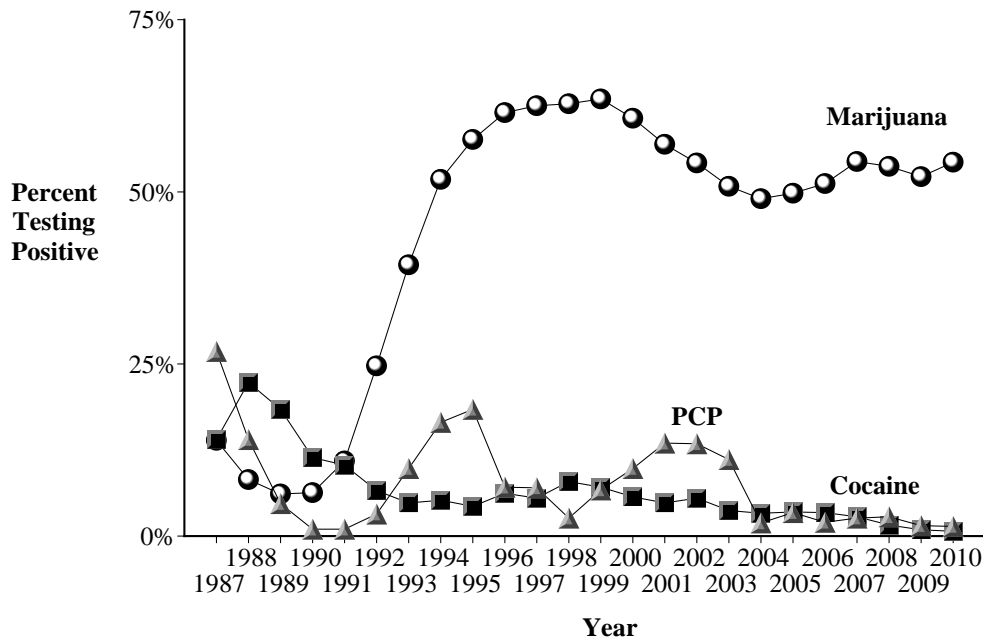
University of Maryland, College Park

Marijuana Remains Drug Most Commonly Detected Among D.C. Juvenile Arrestees; Recent Decreases in Marijuana Use May Have Stalled

While marijuana continues to be the drug most commonly detected among Washington, D.C. juvenile arrestees, the recent decreases in use appear to have stalled. According to data from the D.C. Pretrial Services Agency, the percentage of juvenile arrestees testing positive for marijuana increased from the most recent low of 49.6% in 2004 to 54.4% in 2007. From 2007 to 2009, the percent testing positive decreased to 52.2%, followed by a slight increase in marijuana positive rates in 2010 to 54.3%. In contrast, less than 2% of D.C. juvenile arrestees tested positive for either cocaine or PCP in 2010.

Percentage of Washington, D.C., Juvenile Arrestees Testing Positive by Urinalysis for Marijuana, Cocaine, and PCP, 1987 to 2010

(N ranged from 1,896 tested specimens in 2002 to 4,449 in 1988; N=2,103 in 2010)



NOTE: Since August, 2006, D.C. juvenile arrestees have also been tested for amphetamines. The percentage testing positive for amphetamines was 0.6% in 2006; 2.7% in 2007; 1.8% in 2008; 0.9% in 2009; and 0.4% in 2010.

SOURCE: Adapted by CESAR from data from the District of Columbia Pretrial Services Agency. For more information, contact Jerome Robinson, Director of Forensic Research, D.C. Pretrial Services Agency, at jerome.robinson@csosa.gov.

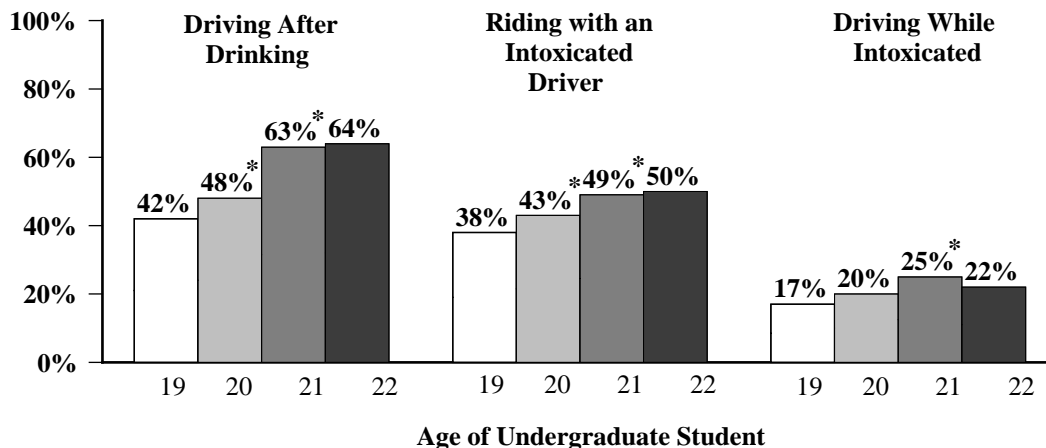
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Alcohol-Related Traffic Risk Behaviors Common Among College Students; Increase Significantly When They Reach Age 21

College students are significantly more likely to drink and drive after they turn 21, according to the College Life Study, a longitudinal study of undergraduate students attending a large mid-Atlantic university. Nearly one-half of underage students with access to a car admitted to driving after having had anything to drink. This percentage increased to 63% and 64% at ages 21 and 22 (see figure below). Similar increases at age 21 were found for riding with an intoxicated driver and driving while intoxicated. In addition, males were more likely than females to engage in any of these alcohol-related traffic risk behaviors. The authors suggests that it is time for “increased levels of high visibility enforcement to occur on or around college campuses” and that college campuses should “embrace and enforce zero tolerance policies that actively deter alcohol-related traffic risk behaviors” (p. 1477).

**Percentage of College Students With Access to a Car Reporting
Alcohol-Related Traffic Risk Behaviors in the Past 12 Months, by Age, 2005-2008**
(N=1,253)



*Denotes statistically significant change from the preceding year ($p < .05$).

SOURCES: Adapted by CESAR from Beck, K. H., Kasperski, S. J., Caldeira, K. M., Vincent, K. B., O’Grady, K. E., and Arria, A. M., “Trends in Alcohol-Related Traffic Risk Behaviors Among College Students,” *Alcoholism: Clinical & Experimental Research*, 34(8):1472-1478, 2010; and The Center on Young Adult Health and Development, “Trends in Alcohol-Related Traffic Risk Behaviors Among College Students,” *Research Brief*, 2010. For more information contact Amelia M. Arria at aarria@umd.edu.

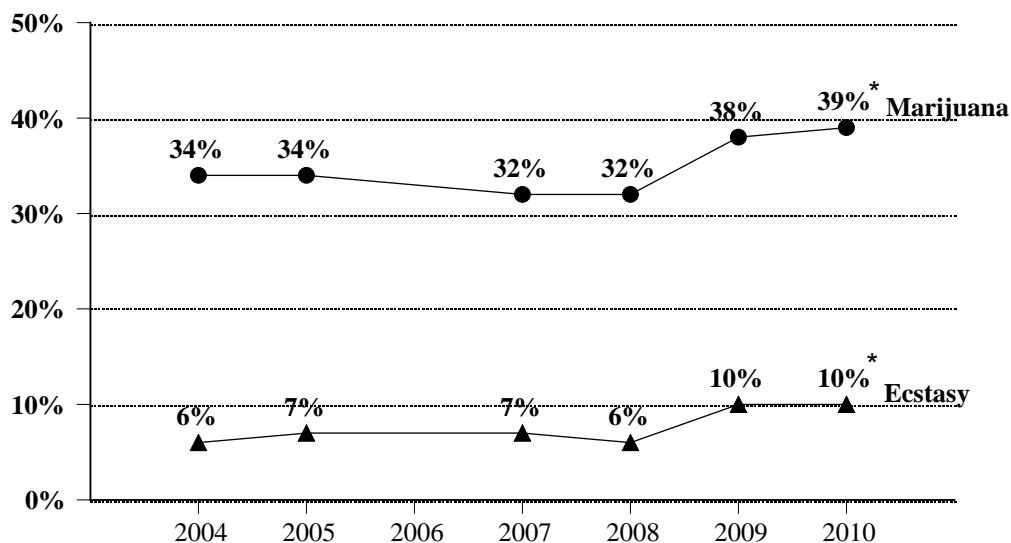
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University of Maryland, College Park

Marijuana and Ecstasy Use Increase Among U.S. High School Students

Marijuana and ecstasy use among U.S. high school students has increased since 2008, according to data from the 2010 Partnership Attitude Tracking Study. The percentage of high school students who reported using marijuana in the past year increased from 32% in 2008 to 39% in 2010. While the percentage of high school students reporting ecstasy use remains relatively low in comparison, there was an increase in use in recent years (from 6% to 7% between 2004 and 2008 to 10% in 2009 and 2010). Other indicators of marijuana and ecstasy use and related-consequences have shown similar increases in recent years (see *CESAR FAX*, Volume 20, Issue 12 and Volume 20, Issue 3).

**Percentage of High School Students Reporting
Past Year Marijuana or Ecstasy Use, 2004 to 2010**



*Statistically significant change from 2008 ($p < .05$).

NOTES: The 2010 survey, conducted by GfK Roper Public Affairs & Corporate Communications, surveyed 2,544 high school students in grades 9-12 between March and June 2010. Data from 2006 were omitted because the investigators believe them to be inaccurate due to sampling error.

SOURCE: Adapted by CESAR from The Partnership at Drugfree.org and the MetLife Foundation, *2010 Partnership Attitude Tracking Study*, 2011. Available online at <http://www.drugfree.org/newsroom/full-report-and-key-findings-2010>.

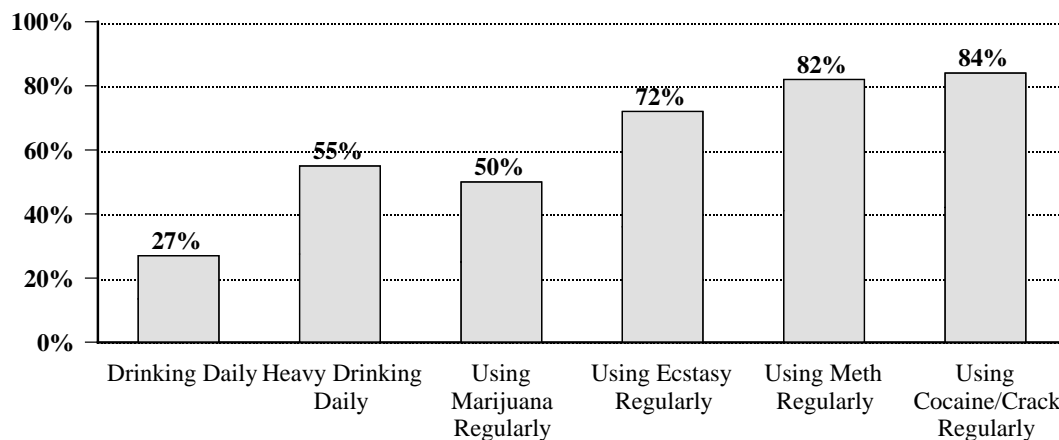
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Less Than One-Third of High School Students Perceive a Great Risk in Drinking Daily

High school students are less likely to report a great risk in drinking nearly every day than in the regular use of illicit drugs, according to data from the 2010 Partnership Attitude Tracking Study. Less than one-third (27%) of high school students report that they think there is a great risk in drinking one or two drinks nearly every day and only 55% see a great risk in drinking four or more drinks nearly every day. One-half of students perceive a great risk in using marijuana regularly. The perceived risk of regular use of other illicit drugs is much higher, ranging from 72% to 84% (see figure below). The survey also found that only 31% of students disapprove of teens their age getting drunk (data not shown). Previous research on high school students has shown that teens' decreased perceptions of risk and disapproval of alcohol and drug use are related to increases in use (see *CESAR FAX*, Volume 20, Issue 12).

Percentage of U.S. High School Students Reporting a "Great Risk" in Using Alcohol and Illicit Drugs, 2010



NOTES: The 2010 survey, conducted by GfK Roper Public Affairs & Corporate Communications, surveyed 2,544 high school students in grades 9-12 between March and June 2010. Data from 2006 were omitted because the investigators believe them to be inaccurate due to sampling error.

SOURCE: Adapted by CESAR from The Partnership at Drugfree.org and the MetLife Foundation, *2010 Partnership Attitude Tracking Study*, 2011. Available online at <http://www.drugfree.org/newsroom/full-report-and-key-findings-2010>.

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DEA Temporarily Classifies Synthetic Marijuana as a Schedule I Drug

Synthetic marijuana packaged as incense or potpourri has spurred more than 4,500 “fake pot” calls to U.S. poison centers since 2010, prompting the Drug Enforcement Administration to recently temporarily classify it as a Schedule I drug.

What is synthetic marijuana? Synthetic marijuana is a blend of herbs and plant material sprayed with one or more synthetic cannabinoids, synthesized chemical compounds that bind to the same cannabinoid receptors as THC. Synthetic cannabinoids were originally created in a lab as potential pharmaceutical agents.

What are other names for synthetic marijuana? The most recognizable brand names are Spice and K2. More than 100 other brand names have been identified, including Blaze, Fire ‘n’ Ice, G-Force, Solar Flare, and Yucatan Fire.

Where is synthetic marijuana sold? Synthetic marijuana is packaged in small pouches or packets and sold as herbal incense or potpourri that is labeled “Not for Human Consumption.” Until the recent DEA ban, it was legally sold in head shops, smoke shops, liquor stores, convenience stores, gas stations, and over the internet.

Who uses synthetic marijuana? Qualitative evidence suggests that the primary users are teenagers and young adults as well as cannabis users. According to the DEA, a major private toxicology laboratory reported that 30% to 35% of specimens submitted by juvenile probation departments were positive for synthetic marijuana.

What are the effects of synthetic marijuana use? Research as to the potency and side effects is new and limited. However, it appears that the psychoactive effects of synthetic marijuana are similar to marijuana, and there is some evidence that synthetic marijuana may even be more potent depending on the specific synthetic cannabinoid. Adverse effects include increased heart rate and blood pressure, extreme anxiety, agitation, disorientation, paranoia, hallucinations, vomiting, and tremors. There were 2,874 calls received by U.S. poison centers about synthetic marijuana products in 2010. As of April 20, 2011, 1,639 calls had been received in 2011.

Can you become dependent on synthetic marijuana? The limited research available to date indicates that synthetic marijuana may have the potential for dependence. There has been one documented case of dependency based on both DSM-IV and ICD-10 criteria, including tolerance and physical withdrawal symptoms. The European Monitoring Centre for Drugs and Drug Addiction suggests that “it seems tolerance to these synthetic cannabinoids may develop fairly fast, and arguably this might be associated with relatively high potential to cause dependence” (p. 12).

Can it be detected by drug tests? While synthetic marijuana will not be detected by standard drug tests that screen for marijuana, several national laboratories offer tests for synthetic cannabinoids.

What are the current laws regarding synthetic marijuana in the U.S.? As of May 4, 2011, 24 states have enacted legislation and 24 states have legislation pending banning one or more synthetic cannabinoids. In March 2011, the DEA temporarily classified five of the synthetic cannabinoids used in synthetic marijuana as Schedule I drugs, which is reserved for those substances with high potential for abuse, no accepted medical use for treatment in the U.S., and a lack of accepted safety use of the drug under medical supervision. This classification can last up to one year, with a 6-month extension, allowing the DEA and the U.S. Department of Health and Human Services time to determine whether these chemicals should be permanently controlled. Based on Europe’s experience with regulating synthetic marijuana, it is possible that current laws will be circumvented by the production and use of new synthetic cannabinoids not covered by current legislation.

SOURCE: A complete list of sources is available by accessing the PDF version of this issue online at www.cesar.umd.edu.

CESAR FAX Volume 20, Issue 17 (May 9, 2011)
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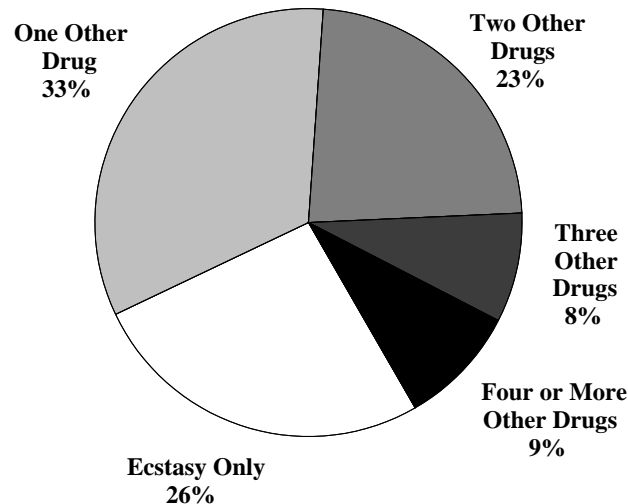
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University of Maryland, College Park

Majority of U.S. Ecstasy-Related Emergency Department Visits Also Involve Other Drugs

Nearly three-fourths of ecstasy-related emergency department (ED) visits in 2009 also involved other drugs, according to data from the Drug Abuse Warning Network (DAWN). Of the estimated 22,816 ecstasy-related ED visits in 2009, approximately one-fourth (26%) involved ecstasy only. One-third involved one other drug, 23% involved two other drugs, and 18% involved three or more drugs. The drugs most commonly involved were alcohol, marijuana, and cocaine (data not shown). These findings, combined with recent increases in indicators of ecstasy use (see CESAR FAX, Volume 20, Issue 12), highlight the importance of prevention efforts focusing on the “potentially dangerous consequences not only of ecstasy alone, but also of ecstasy in combination with other drugs.” Since the majority of ecstasy-related ED visits in 2009 were made by patients age 18 to 29, the authors suggest that the use of social networking sites “may be the most effective mechanism for both reaching and persuading potential users to abstain from use of ecstasy and other illicit drugs” (p. 5).

Number of Drugs Involved in Emergency Department (ED) Visits Involving Ecstasy, 2009



NOTES: Ecstasy-related ED visits are those in which ecstasy was involved as either a direct cause or a contributing factor to the visit.

SOURCES: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN), *National Estimates of Drug-Related Emergency Department Visits, 2004-2009*, online at https://dawninfo.samhsa.gov/data/ed/Nation/Nation_2009_Illicit.xls (accessed 5/13/11); and SAMHSA, “Emergency Department Visits Involving Ecstasy,” *The Dawn Report*, 2011. Available online at <http://www.oas.samhsa.gov/2k11/DAWN027/EcstasyHTML.pdf>.

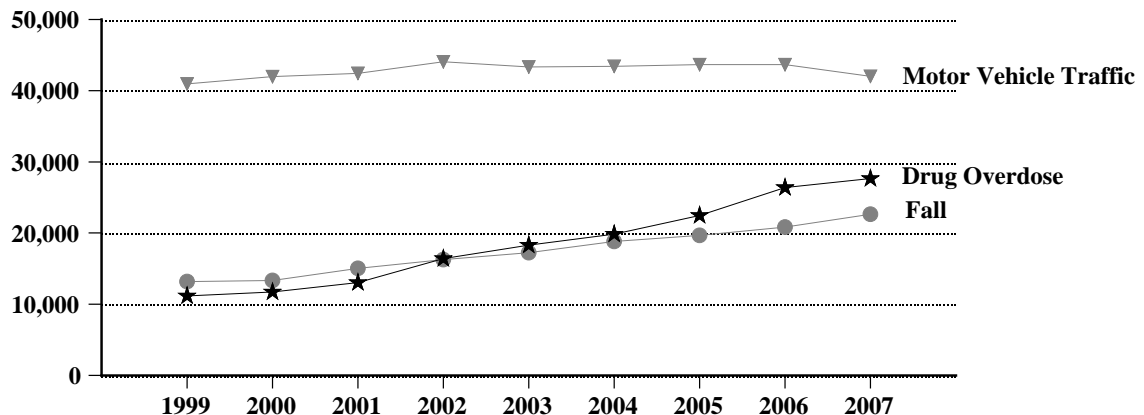
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University of Maryland, College Park

Unintentional Drug Overdose Deaths Continue to Increase; Now Second Leading Cause of Unintentional Deaths

While motor vehicle traffic accidents continue to be the leading cause of unintentional deaths in the United States (comprising 42,031 or 34% of all such deaths in 2007), drug overdose deaths have been rapidly increasing. According to the Centers for Disease Control and Prevention, there were 27,658 unintentional drug overdose deaths in 2007, more than double the 11,155 deaths in 1999. Drug overdose deaths now account for 24% of all unintentional deaths and surpass falls as the second leading cause of unintentional deaths. Unintentional drug overdoses include those resulting from illegal, prescription, and over-the-counter drug misuse, abuse, taking too much for medical reasons, and accidental ingestion (such as by a toddler). The most common drug categories involved in drug overdose deaths are prescription opioids, cocaine and heroin.

**Number of Deaths from Unintentional Injuries in the United States,
by Top Three Causes, 1999-2007**



NOTES: Motor-vehicle traffic deaths include pedestrians, pedal cyclists, or occupants, and involve any type of motor vehicle on public roads.

Drug overdose deaths include accidental poisoning by and exposure to narcotics, hallucinogens, antiepileptics, sedative-hypnotics, antiparkinsonisms, psychotropics, nonopioid analgesics, antipyretics, antirheumatics, other drugs acting on the autonomic nervous system, and other and unspecified drugs, medicaments, and biological substances (ICD-10 codes X40-X44).

Mortality data prior to 1999 cannot be compared with data from 1999 and after due to significant changes in the coding of mortality data in 1999.

SOURCE: Adapted by CESAR from Centers for Disease Control and Prevention (CDC), National Center for Injury Prevention and Control (NCIPC), *Unintentional Drug Poisoning in the United States*, 2010 (available online at <http://www.cdc.gov/HomeandRecreationalSafety/pdf/poison-issue-brief.pdf>); and CDC, NCIPC, Web-based Injury Statistics Query and Reporting System (WISQARS), accessed 5/17/2011 (available online at <http://www.cdc.gov/ncipc/WISQARS>).

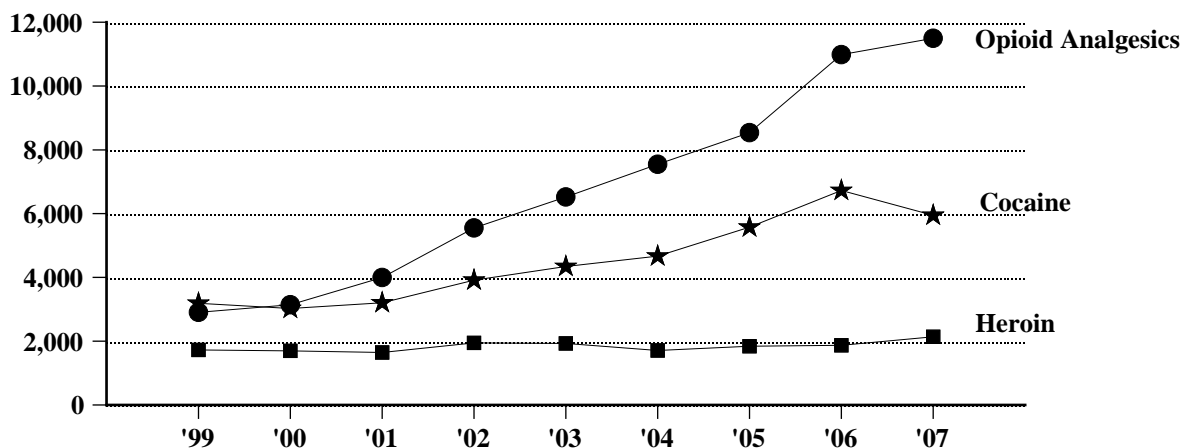
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Number of Unintentional Opioid Analgesic Overdose Deaths Increases Fourfold Since 1999; Responsible for More Than Cocaine and Heroin Combined

The number of opioid analgesic deaths in the United States has nearly quadrupled over the past decade, according to data from the CDC's National Vital Statistics System. There were 2,901 unintentional drug deaths involving opioid analgesics¹ in 1999, compared to 11,499 in 2007 (the most recent year for which data are available). There were nearly twice as many deaths in 2007 involving opioid analgesics than deaths involving cocaine, and more than five times as many than those involving heroin. In fact, opioid analgesics have been responsible for more unintentional drug overdose deaths in the United States than cocaine and heroin combined since 2003. Unintentional drug overdoses deaths are the second leading cause of all unintentional deaths in the U.S., after motor vehicle-related deaths (see *CESAR FAX*, Volume 20, Issue 19).

Number of U.S. Unintentional Drug Overdose Deaths by Top Three Causes, 1999-2007



¹Opioid analgesics are categorized as methadone (ICD-10 code T40.3), other opioids (T40.2), and other synthetic narcotics (T40.4).

SOURCES: Adapted by CESAR from Paulozzi, L.J., Weisler, R.H., and Patkar, A.A., "A National Epidemic of Unintentional Prescription Opioid Overdose Deaths: How Physicians Can Help Control It," *Journal of Clinical Psychiatry*, published online ahead of print, April 19, 2011; and Centers for Disease Control and Prevention, personal communication, 5/20/2011.

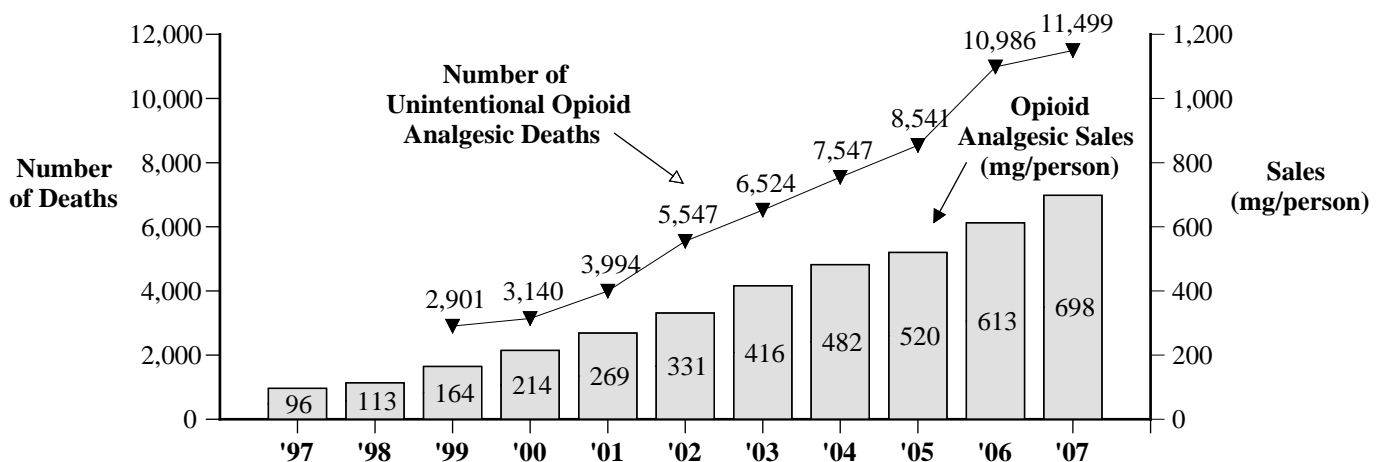
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Increases in Unintentional Overdose Deaths Involving Opioid Analgesics Mirror Rise in Per Capita Sales of These Drugs

Sales of opioid analgesics, such as oxycodone and hydrocodone, have increased more than 600% since 1997, according to data from the Drug Enforcement Administration (DEA). Opioid analgesic sales increased from 96 milligrams per person in 1997 to 698 milligrams per person in 2007. During the same time period, the number of unintentional deaths involving opioid analgesics quadrupled, from 2,901 in 1999 to 11,499 in 2007 (the most recent year for which data are available). The increase in deaths and sales are highly correlated ($r=0.99$), supporting previous research¹ showing a strong, statistically significant correlation between states with the highest drug-poisoning mortality rates and states with the highest overall per capita sales of opioid analgesics. These findings suggest that the increased sales of opioid analgesics over the past decade may have inadvertently contributed to increases in opioid analgesic overdose deaths.

**Number of Unintentional Overdose Deaths Involving Opioid Analgesics and
Per Capita Sales of Opioid Analgesics (in Morphine Equivalents),
United States, 1997 to 2007**



¹Paulozzi, L.G., and Ryan, G.W., "Opioid Analgesics and Rates of Fatal Drug Poisoning in the United States," *American Journal of Preventive Medicine* 31(6):506-511, 2006.

NOTES: Sales data are from the DEA's Automated Reports and Consolidated Orders System (ARCOS), which requires manufacturers and distributors to report the number of grams of each monitored substance distributed to pharmacies, practitioners, hospitals, teaching institutions, and narcotics treatment programs. The amounts of each opioid analgesic drug were converted into morphine equivalents. Death data are from the CDC's National Vital Statistics System (NVSS), multiple causes of death dataset.

SOURCES: Adapted by CESAR from Paulozzi, L.J., Weisler, R.H., and Patkar, A.A., "A National Epidemic of Unintentional Prescription Opioid Overdose Deaths: How Physicians Can Help Control It," [published online ahead of print April 19, 2011], *Journal of Clinical Psychiatry*, 2011; and Baldwin, G. and Paulozzi, L.J., *The Epidemic of Prescription Drug Overdoses*, PowerPoint presentation provided by NCIPC, 5/23/2011.

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Buprenorphine Treatment for Opioid Dependence

Buprenorphine is a synthetic opioid that is used for pain management and was approved in 2002 to treat opioid dependence. This issue of the CESAR FAX answers frequently asked questions about buprenorphine. Future issues will provide more detailed information on buprenorphine retail distribution, potential diversion, and adverse effects of misuse.

What are the forms of buprenorphine? Although there are several forms of buprenorphine (including Buprenex®, an injectable liquid used for pain treatment), only Subutex® and Suboxone® have been approved for opioid addiction treatment. Subutex, which is also available in a generic form, contains buprenorphine alone and is usually given during the first few days of treatment. Suboxone contains both buprenorphine and naloxone, and is typically used during the maintenance phase of treatment. Naloxone is included to discourage abuse; when this drug is injected or snorted it blocks the effects of opioids and precipitates withdrawal symptoms.

What does buprenorphine look like? Subutex is an oval white tablet and the generic version is a round white tablet. Suboxone is available as an hexagonal orange tablet and as a film. Both products are dissolved under the tongue.

How does buprenorphine compare to methadone? Both methadone and buprenorphine are approved to treat opioid addiction. However, buprenorphine has weaker opioid effects, is less likely to result in overdose, and produces a lower level of physical dependence. Methadone must be dispensed by a federally regulated Opioid Treatment Program (OTP), while buprenorphine is currently the only opioid medication that can be prescribed for opioid treatment outside the OTP setting (e.g., in a certified physician's office). A patient can receive a 30-day take home dose of buprenorphine shortly after beginning treatment. In contrast, methadone patients must visit an OTP for daily dosing and must comply with treatment for two years to be eligible to receive a 30-day take home dose.

Who can prescribe buprenorphine? Physicians who have received buprenorphine training and obtained a federally approved waiver can prescribe Subutex and Suboxone or approved generic equivalents. The number of patients receiving a prescription for Subutex or Suboxone from U.S. outpatient retail pharmacies increased from slightly less than 20,000 in 2003 to more than 600,000 in 2009. In 2009, 97% of these prescriptions were for Suboxone, up from 77% in 2003.

Is buprenorphine being diverted? Numerous data sources indicate that buprenorphine, known on the street as Bupe, Subs, Subbies, and Orange Guys, is being diverted for use by those who do not have a prescription. Law enforcement authorities in Maine, Massachusetts, New York, and West Virginia are reporting an increase in seizures of buprenorphine together with other controlled prescription drugs. The estimated number of buprenorphine drug items analyzed by state and local forensic law enforcement labs in the U.S. has increased from 21 in 2003 to 8,172 in 2009. Buprenorphine has been smuggled into state prisons, including those in Maine, Massachusetts, New Jersey, New Mexico, Pennsylvania, and Vermont. The number of emergency department visits related to the nonmedical use of buprenorphine has increased from 4,440 in 2006 to 14,266 in 2009.

How is buprenorphine abused? Buprenorphine is abused by injecting or snorting the crushed tablets. While the naloxone in Suboxone provides some protection from abuse, the DEA reports that Suboxone is being abused by snorting.

What are the adverse effects of buprenorphine abuse? According to the manufacturer's safety information for Suboxone, buprenorphine "can cause serious life-threatening respiratory depression and death, particularly when taken by the intravenous (IV) route in combination with benzodiazepines or other central nervous system (CNS) depressants (i.e., sedatives, tranquilizers, or alcohol)." They also note that "intravenous misuse or taking [Suboxone] . . . before the effects of full-agonist opioids (e.g., heroin, hydrocodone, methadone, morphine, oxycodone) have subsided is highly likely to cause opioid withdrawal symptoms." In addition, "chronic use of buprenorphine can cause physical dependence."

SOURCE: A complete list of sources is available by accessing the PDF version of this issue online at www.cesar.umd.edu. For more information, contact Erin Artigiani at erin@cesar.umd.edu or 301-405-9794.

CESAR FAX Volume 20, Issue 22 (June 13, 2011)
“Buprenorphine Treatment for Opioid Dependence”

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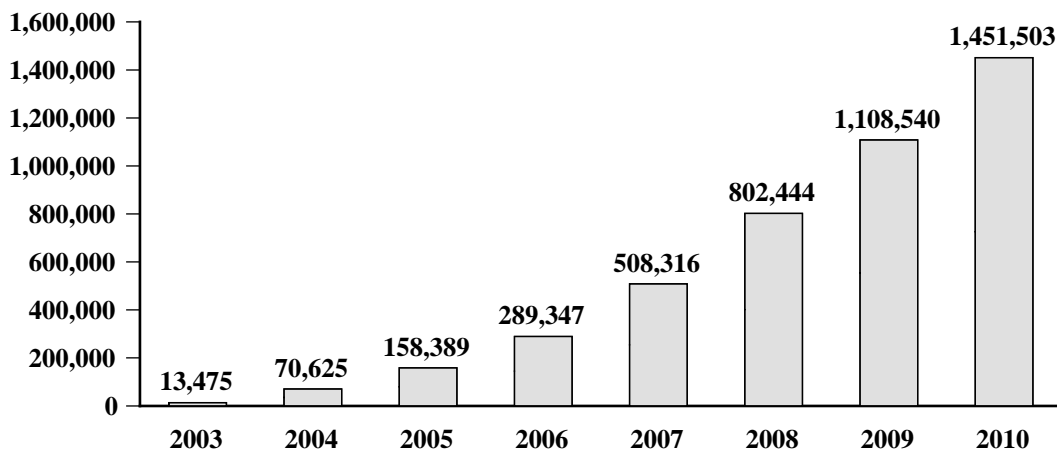
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U.S. Retail Distribution of Buprenorphine Approaches 1.5 Million Grams

After buprenorphine was approved to treat opioid dependence in 2002 (see *CESAR FAX*, Volume 20, Issue 22), the DEA's Automation of Reports and Consolidated Orders System (ARCOS) began tracking the retail distribution of this synthetic opioid. ARCOS monitors "controlled substance activity from the point of manufacture and/or distribution to the point of sale to the retail level registrant (e.g., pharmacies, hospitals, practitioners, teaching institutions, researchers, analytical labs, importers/exporters, and narcotic treatment programs)" (Leonhart, p. 3). The number of grams of buprenorphine distributed to these retail outlets has increased from 13,475 in 2003 to 1,451,503 in 2010. Previous research has found that increases in sales of other opioid analgesics are correlated with increases in unintentional overdose deaths involving these drugs (see *CESAR FAX*, Volume 20, Issue 21).

Number of Grams of Buprenorphine Distributed to Retail Outlets, 2003-2010



NOTES: ARCOS does not capture transaction information from these retail outlets to end users. ARCOS tracks all Schedule I and II materials (manufacturers and distributors); Schedule III narcotic and gamma-hydroxybutyric acid (GHB) materials (manufacturers and distributors); and selected Schedule III and IV psychotropic drugs (manufacturers only).

SOURCES: Adapted by CESAR from U.S. Drug Enforcement Agency (DEA), Office of Diversion Control, *Special Report: Methadone and Buprenorphine, 2003-2008, 2009* (2003-2006 ARCOS data); DEA, ARCOS data requests 2/17/2009 (2007 data), 1/25/2010 (2008 data), 4/14/2010 (2009 data), 5/2/2011 (2010 data); DEA, Office of Diversion Control, Automation of Reports and Consolidated Orders System (ARCOS) website (<http://www.deadiversion.usdoj.gov/arcons/index.html>), accessed 6/17/11; and Leonhart, M., "Warning: The Growing Danger of Prescription Drug Diversion," *Statement before the Subcommittee on Commerce, Manufacturing and Trade Committee on Energy and Commerce, U.S. House of Representatives*, 4/14/11.

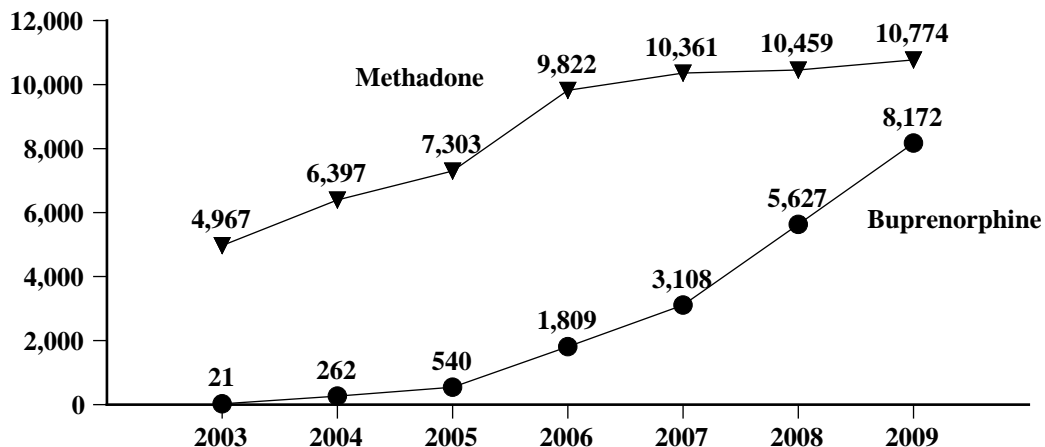
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Number of Law Enforcement-Seized Buprenorphine Items Analyzed by U.S. Labs Increases Dramatically

The estimated number of buprenorphine drug items secured in law enforcement operations and analyzed by state and local forensic laboratories has increased dramatically since 2003, according to data from National Forensic Laboratory Information System (NFLIS). NFLIS, a Drug Enforcement Administration (DEA) program, provides a means to monitor the diversion of legitimately marketed drugs into illicit channels. Since 2003, the number of buprenorphine drug items analyzed has increased from 21 to 8,172. In comparison, the number of methadone drug items seized and analyzed nearly doubled from 2003 to 2006, then only increased 9% from 2006 to 2009. According to the DEA, “While methadone is still more prevalent in terms of reporting in NFLIS, buprenorphine has increased at a sharper rate, indicating a need for continued monitoring. This is especially true considering the level at which buprenorphine is being distributed and prescribed for legal medical purposes” (p. 10) (see *CESAR FAX*, Volume 20, Issue 23 for more information on retail sales of buprenorphine).

Estimated Number of Total Methadone and Buprenorphine Drug Items Analyzed by State and Local Forensic Laboratories in the U.S., 2003-2009



NOTES: NFLIS includes drug chemistry results from completed analyses only. Drug evidence secured by law enforcement but not analyzed by laboratories is not included in the database. State and local policies related to the enforcement and prosecution of specific drugs may affect drug evidence submissions to laboratories for analysis. Laboratory policies and procedures for handling drug evidence may also vary. For example, some analyze all evidence submitted, while others analyze only selected items.

SOURCES: Adapted by CESAR from U.S. Drug Enforcement Agency (DEA), Office of Diversion Control, *Special Report: Methadone and Buprenorphine, 2003-2008, 2009* (online at http://www.dea diversion.usdoj.gov/nflis/methadone_buprenorphine_srpt.pdf); and DEA, Office of Diversion Control, *National Forensic Laboratory Information System (NFLIS) Year 2009 Annual Report, 2010* (online at http://www.dea diversion.usdoj.gov/nflis/2009annual_rpt.pdf).

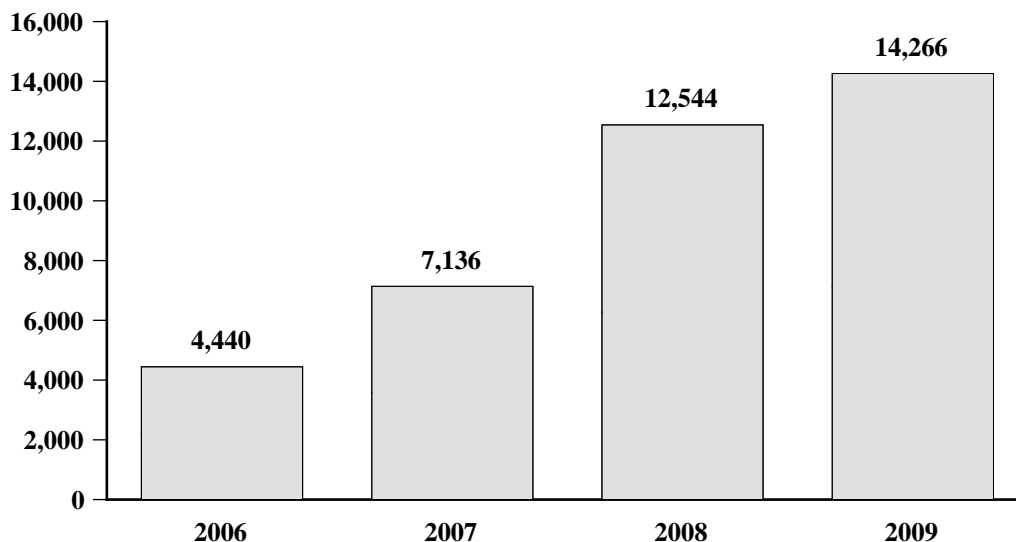
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Number of U.S. Emergency Department Visits Related to the Nonmedical Use of Buprenorphine More Than Triples Since 2006

The estimated number of emergency department visits related to the nonmedical use of buprenorphine more than tripled from 2006 to 2009, according to data from Drug Abuse Warning Network (DAWN). In 2006, the nonmedical use of buprenorphine was involved as either a direct cause or a contributing factor in an estimated 4,440 emergency department visits, compared to 14,266 in 2009. These increases parallel increases in the number of law-enforcement-seized buprenorphine items analyzed by state and local forensic laboratories (see *CESAR FAX*, Volume 20, Issue 24).

Estimated Number of U.S. Emergency Department Visits Related to the Nonmedical Use of Buprenorphine, 2006-2009



NOTES: Buprenorphine-related emergency department visits are those in which buprenorphine was involved as either a direct cause or a contributing factor to the visit. Nonmedical use of buprenorphine includes taking more than the prescribed dose; taking buprenorphine prescribed for another individual; deliberate poisoning with buprenorphine by another person; and documented misuse or abuse of buprenorphine.

SOURCE: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN), *National Estimates of Drug-Related Emergency Department Visits, 2004-2009*, online at https://dawninfo.samhsa.gov/data/ed/Nation/Nation_2009_NMUP.xls (accessed 6/23/11).

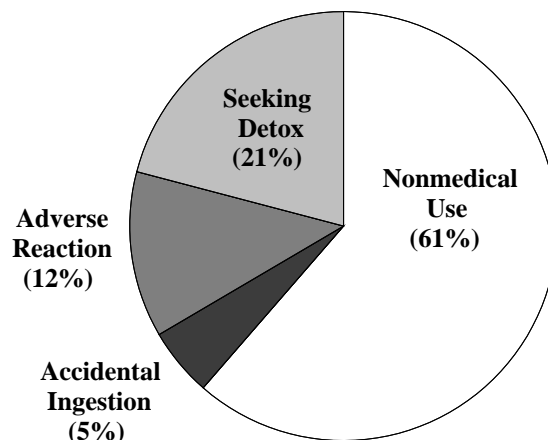
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61% of Buprenorphine-Related Emergency Department Visits for Nonmedical Use

More than half of buprenorphine-related emergency department visits in the U.S. are for nonmedical use of the drug, according to data from the Drug Abuse Warning Network (DAWN). Of the estimated 23,450 emergency department visits in 2009 in which buprenorphine was involved as either a direct cause or a contributing factor to the visit, 61% were for nonmedical use of the drug. Approximately one-fifth of the visits were related to seeking detoxification, 12% for adverse reactions, and 5% for accidental ingestion. The estimated number of emergency department visits related to the nonmedical use of buprenorphine has more than tripled since 2006 (see *CESAR FAX*, Volume 20, Issue 25).

Types of U.S. Buprenorphine-Related Emergency Department Visits, 2009 (N=23,450)



NOTES: *Nonmedical use* of buprenorphine includes taking more than the prescribed dose; taking buprenorphine prescribed for another individual; deliberate poisoning with buprenorphine by another person; and documented misuse or abuse of buprenorphine. *Accidental ingestion* includes childhood drug poisonings, individuals who take the wrong medication by mistake, and a caregiver administering the wrong medicine by mistake. It does not include a patient taking more medicine than directed because the patient forgot to take it earlier. *Adverse reaction* includes visits related to adverse reactions, side effects, drug-drug interactions, and drug-alcohol interactions resulting from using buprenorphine for therapeutic purposes. *Seeking detox* includes patients seeking substance abuse treatment, drug rehabilitation, or medical clearance for admission to a drug treatment or detoxification unit. Suicide attempts are not included because the number of buprenorphine-related ED visits categorized as suicide attempts did not meet DAWN's standards of precision (i.e., the estimate had a standard of error greater than 50% or the unweighted count or estimate was less than 30). Percentages do not sum to 100 due to rounding and the exclusion of data not categorized as these four types of visits.

SOURCE: Adapted by CESAR from data from the Substance Abuse and Mental Health Services Administration (SAMHSA), *Drug Abuse Warning Network, 2009: Selected Tables of National Estimates of Drug-Related Emergency Department Visits*, online at <https://dawninfo.samhsa.gov/data/default.asp?met=All> (accessed 6/23/11).

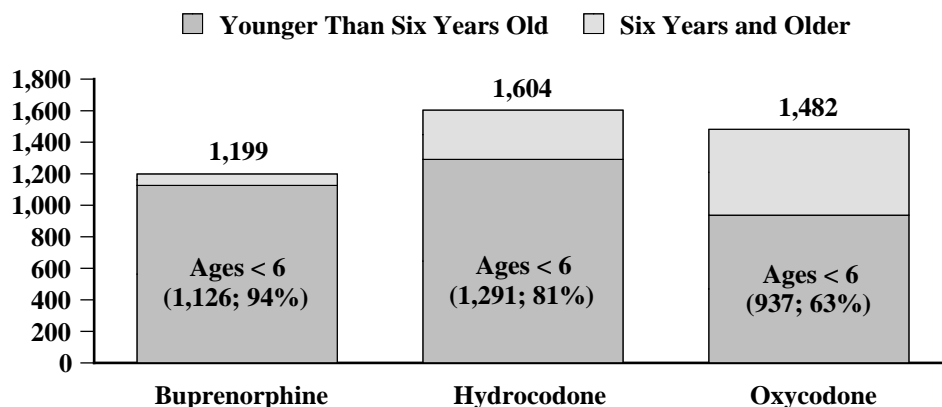
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Nearly All Emergency Department Visits for the Accidental Ingestion of Buprenorphine Occur in Children Under the Age of Six

There were an estimated 1,199 emergency department (ED) visits related to the accidental ingestion of buprenorphine in 2009—more than double the number of visits in 2008 and representing 5% of all buprenorphine-related ED visits in 2009 (see *CESAR FAX*, Volume 20, Issue 26). According to data from the Drug Abuse Warning System (DAWN), 94% of these accidental ingestion visits involved children under the age of six, compared to 81% for hydrocodone and 63% for oxycodone¹ (see figure below). In addition to the increasing availability of buprenorphine (see *CESAR FAX*, Volume 20, Issue 23), the tablet formulation's resemblance to candy may also be a factor in the high rate of accidental ingestion by children. A recent study of buprenorphine exposure in toddlers admitted to a pediatric intensive care unit in the northeast United States² concluded that “the sublingual buprenorphine resemblance to candy in appearance and taste may pose a special risk to toddlers and lead to more severe intoxication from chewing, rather than swallowing, the tablet” (p. e103). It is possible that the sublingual film version of Suboxone approved in 2010 may have a lower risk of accidental ingestion than the tablet because it is packaged in a single-dose, child-resistant pouch.

Estimated Number of U.S. Emergency Department Visits Related to the Accidental Ingestion of Buprenorphine, Hydrocodone, and Oxycodone, 2009



¹Estimates for accidental exposure visits for other narcotic analgesics, including methadone, were unavailable because the estimate either had a relative standard error greater than 50% or an unweighted count or estimate less than 30.

²Pedapati, E. and Bateman, S.T., “Toddlers Requiring Pediatric Intensive Care Unit Admission Following At-Home Exposure to Buprenorphine/Naloxone,” *Pediatric Critical Care Medicine*, 12(2):e102-e107, 2011.

NOTES: Accidental ingestion includes childhood drug poisonings, individuals who take the wrong medication by mistake, and a caregiver administering the wrong medicine by mistake. It does not include a patient taking more medicine than directed because the patient forgot to take it earlier.

SOURCE: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN), *National Estimates of Drug-Related Emergency Department Visits, 2004-2009: Accidental Ingestion Visits*, online at https://dawninfo.samhsa.gov/data/ed/Nation/Nation_2009_Accidental.xls (accessed 7/11/11).

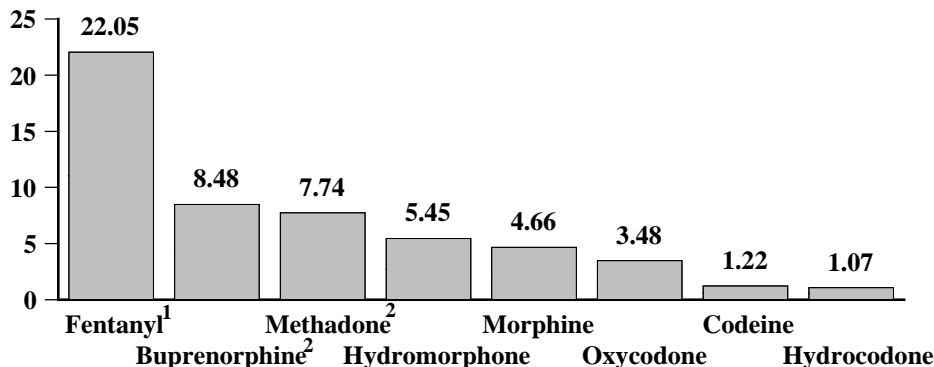
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Fentanyl and Buprenorphine Have Higher Rates of Nonmedical Use ED Visits per Dosage Units Distributed to Dispensing or Retail Institutions Than Other Opioids

While the estimated number of emergency department (ED) visits related to the nonmedical use of buprenorphine has been increasing (see *CESAR FAX*, Volume 20, Issue 25), the magnitude of these visits is small compared to that of other opioids. For example, there were 14,266 ED visits for nonmedical use of buprenorphine in 2009, compared to 86,258 for hydrocodone and 148,449 for oxycodone. However, after controlling for the number of dosage units (DUs) distributed to dispensing and retail institutions, buprenorphine ranks second only to fentanyl¹ in the rate of ED visits for nonmedical use. In 2009, there were 22.05 ED visits for nonmedical use of fentanyl for every 100,000 DUs of fentanyl distributed to dispensing and retail institutions, compared to 8.48 for buprenorphine², 7.74 for methadone² and 5.45 for hydromorphone. All other opioids had rates of less than 5 per 100,000 DUs (see figure below).

Estimated Rate of Emergency Department (ED) Visits Related to Nonmedical Use of Eight Opioids (Rate per 100,000 Dosage Units Distributed to Dispensing or Retail Institutions), U.S., 2009



¹One possible reason for the higher rate of fentanyl ED visits may be that fentanyl used nonmedically is often clandestinely produced and/or mixed with heroin or cocaine (Source: www.nida.nih.gov/drugpages/fentanyl.html).

²One possible reason for the higher rate of buprenorphine and methadone ED visits may be that these drugs are frequently prescribed to opioid dependent persons, who are at a higher risk for drug misuse.

NOTES: Nonmedical use includes taking more than the prescribed dose; taking a drug prescribed for another individual; deliberate poisoning by another person; and documented misuse or abuse of a drug. Data on dosage units distributed to dispensing and retail institutions is from the DEA's Automated Reports and Consolidated Orders System (ARCOS), which requires manufacturers and distributors to report the number of grams of monitored substances distributed to dispensing and retail institutions. Dispensing and retail institutions include pharmacies, practitioners, hospitals, teaching institutions, and narcotics treatment programs. Dosage units are the standard unit in which a medication is prescribed (e.g., pill, tablet, patch).

SOURCES: Adapted by CESAR from data from Substance Abuse and Mental Health Services Administration (SAMHSA), Drug Abuse Warning Network (DAWN), *National Estimates of Drug-Related Emergency Department Visits, 2004-2009: Nonmedical Use of Pharmaceuticals Visits*, online at https://dawninfo.samhsa.gov/data/ed/Nation/Nation_2009_NMUP.xls (accessed 7/20/11); and U.S. Drug Enforcement Agency (DEA), Office of Diversion Control, Automation of Reports and Consolidated Orders System (ARCOS) 2009 data requests (4/13/2010).

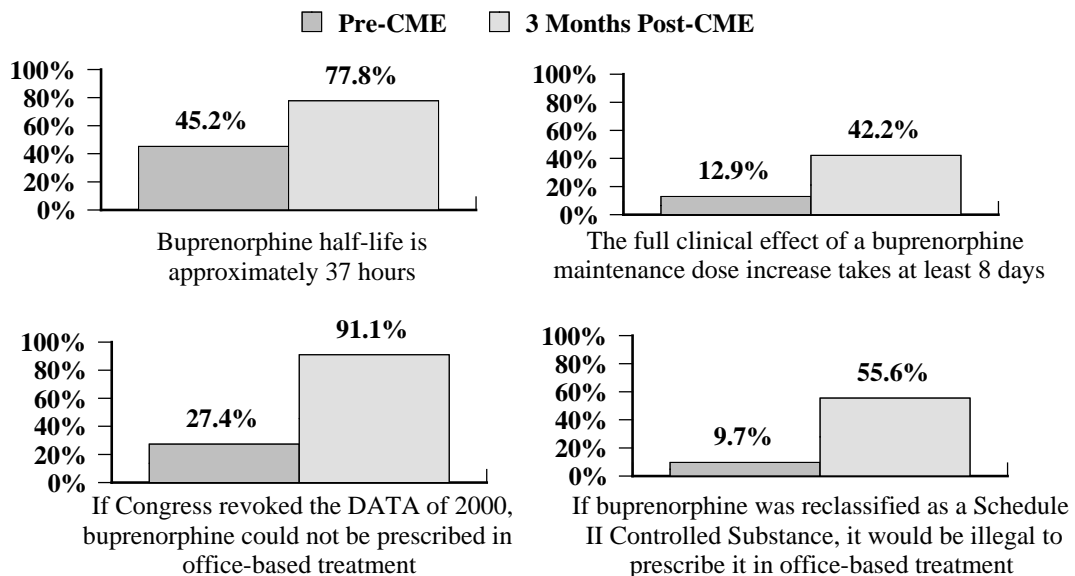
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Continuing Medical Education Improves Buprenorphine-Waivered Physicians' Knowledge and Practice Behaviors

In order to prescribe buprenorphine for opioid addiction, a physician must complete an 8 hour class and receive a federally approved waiver. However, a recent study has found that waived physicians may have limited knowledge of buprenorphine pharmacology and legislative issues and that additional continuing medical education (CME) training might improve their understanding. Physicians in two U.S. regions with indicators of buprenorphine misuse/diversion were surveyed before and three months after attending a free CME on the best medical practices recommended for office-based buprenorphine treatment. Knowledge of buprenorphine pharmacology and legislative issues significantly increased after the CME. For example, the percentage of physicians who knew that the full clinical effect of a buprenorphine maintenance dose increase takes at least 8 days increased from 12.9% before the CME to 42.2% after the CME (see figure below). In addition, the doctors reported significant improvement in 10 clinical practice behaviors, including examination for track marks/intranasal erythema; performance of random pill counts; discussions of diversion with patients; and use of random urine drug testing (data not shown). According to the authors, "certification trainings in [office-based opioid dependence treatment], although essential and relevant to practice, typically occur before a doctor begins treating patients—before they have understood or had the opportunity to identify practice challenges or the limitations of their knowledge in the context of delivering the treatment themselves" (p. 8). They suggest that mandatory, ongoing buprenorphine education for buprenorphine-waivered physicians "has the potential to improve patient care and the public health" and "may decrease risk of buprenorphine misuse and diversion from practices" (p. 8; p. 1).

Percentage of Buprenorphine-Waivered Physicians Knowing the Correct Answer to Buprenorphine Pharmacology and Legislative Issues, Pre- and 3 Months Post-CME



NOTE: All differences in the figure are significant at $p < .05$.

SOURCE: Adapted by CESAR from Lofwall, M.R., Wunsch, M.J., Nuzzo, P.A., and Walsh, S.L., "Efficacy of Continuing Medical Education to Reduce the Risk of Buprenorphine Diversion," *Journal of Substance Abuse Treatment*, In Press, 2011. For more information, contact Dr. Michelle Lofwall at michelle.lofwall@uky.edu.

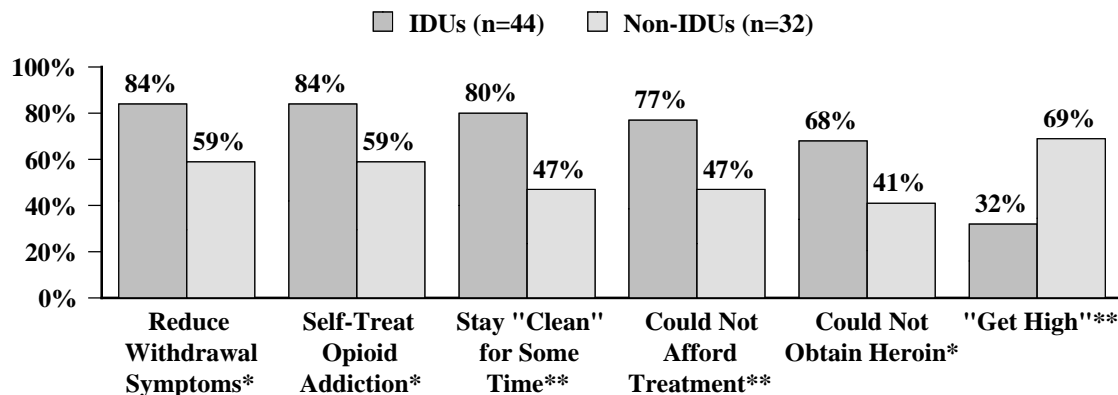
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Small Rhode Island Study Finds IDUs More Likely to Use Diverted Buprenorphine/Naloxone to Self-Medicate; Non-IDUs More Likely to Use to Get High

The motivation for using diverted buprenorphine/naloxone varies significantly between injecting drug users (IDUs) and non-IDUs, according to data from a study of self-reported adult opioid users in Providence, Rhode Island. Overall, approximately three-fourths (76%) of opioid users reported obtaining buprenorphine/naloxone illicitly. IDUs were significantly more likely than non-IDUs to report using diverted buprenorphine/naloxone for self-medication reasons, such as to reduce withdrawal symptoms or to self-treat opioid addiction (see figure below). In contrast, non-IDUs were significantly more likely than IDUs to report using diverted buprenorphine/naloxone to get high (69% vs. 32%). The authors suggest that these differences may be because IDUs have a greater severity of dependence—they were more likely to report high frequency opioid use, a history of enrollment in methadone maintenance treatment, and utilization of detoxification services. The authors also note that “The number of opioid users in our sample who reported having ever used buprenorphine/naloxone to ‘get high’ is surprising, given that buprenorphine/naloxone is a partial opioid agonist that is not expected to produce euphoria in regular users with a tolerance to opioids. It is possible that some participants, particularly noninjecting opioid users, did not use opioids regularly enough to develop significant tolerance” (p. 5).

Motivation for Using Diverted Buprenorphine/Naloxone Among Opioid Users, Rhode Island, 2009



* P < 0.05; ** p < 0.01

EDITOR'S NOTE: While these findings are limited by the fact that this study used a small convenience sample of opioid users from one area of Providence, we believe the results are noteworthy because they are the first to suggest that individual drug use patterns and the severity of opioid dependence may be related to an individual's motivation for using diverted buprenorphine.

NOTE: Adults who self-reported opioid use in the previous 30 days were recruited in Providence between August and November 2009 from a fixed-site syringe exchange program and by outreach workers recruiting from areas they identified to have high concentrations of active opioid users.

SOURCE: Adapted by CESAR from data from Bazazi, A.R., Yokell, M., Fu, J.J., Rich, J.D., Zaller, N.D., "Illicit Use of Buprenorphine/Naloxone Among Injecting and Noninjecting Opioid Users," *Journal of Addiction Medicine*, Published Ahead-of-Print, 2011. For more information, contact Dr. Nickolas Zaller at nzaller@lifespan.org.

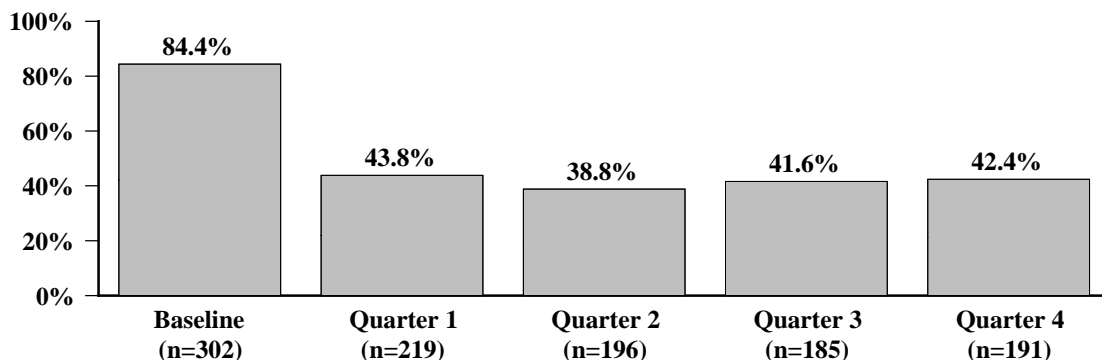
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Multisite Demonstration Project Finds Buprenorphine/Naloxone Effective in Treating Opioid Dependence in HIV-Infected Patients

Buprenorphine/naloxone treatment provided to persons with coexisting opioid dependence and HIV-infection—a population often difficult to treat—can reduce opioid use when provided in HIV treatment settings, according to data from the Buprenorphine and Integrated HIV Care Model Demonstration Project (BHIVES). This multisite study provided an 8-hour buprenorphine training for physicians and clinical staff at all nine HIV treatment sites as well as other forms of support, including monthly technical assistance conference calls and a listserv for discussion of clinical issues and dissemination of clinical support materials, annual meetings, and site visits. The study found that 48% of HIV-infected persons continued to receive buprenorphine/naloxone treatment one year after beginning treatment (data not shown) and that self-reported* illicit opioid use decreased from 84.4% at baseline (prior to treatment) to 42% one year later (see figure below). The authors conclude that while these results “demonstrate the feasibility of providing buprenorphine/naloxone treatment in a variety of HIV primary care settings,” further research on strategies to improve retention and the impact of varying intensities of urine toxicology monitoring are warranted (p. S37).

Percentage of HIV-Infected Persons Receiving Buprenorphine/Naloxone Treatment for Opioid Dependence Self-Reporting Illicit Opioid Use in the Year Post-Treatment Initiation, Nine U.S. BHIVES HIV Clinic Sites, 2005-2007



*Urinalysis data were not included as a measure of illicit opioid use because sites were not consistent in their timing or use of objective urine toxicology analysis. Current guidelines on the use of buprenorphine/naloxone in the treatment of opioid dependence recommend monthly urine screening for those with demonstrated abstinence, and more frequent screening in patients with ongoing illicit drug use. Despite the fact that all sites included protocols that planned for urine screening on a monthly basis, urinalysis was conducted less frequently than once a month after the first quarter of the study. According to the authors, these findings “raise possibility that there are structural or attitudinal barriers to conducting urine toxicology screening as planned and as is recommended” (p. S37).

SOURCE: Adapted by CESAR from data from Fiellin, D.A., et al., “Drug Treatment Outcomes Among HIV-Infected Opioid-Dependent Patients Receiving Buprenorphine/Naloxone,” *Journal of Acquired Immune Deficiency Syndromes* 56(S1):S33-S38, 2011. For more information, contact Dr. David A. Fiellin at david.fiellin@yale.edu.

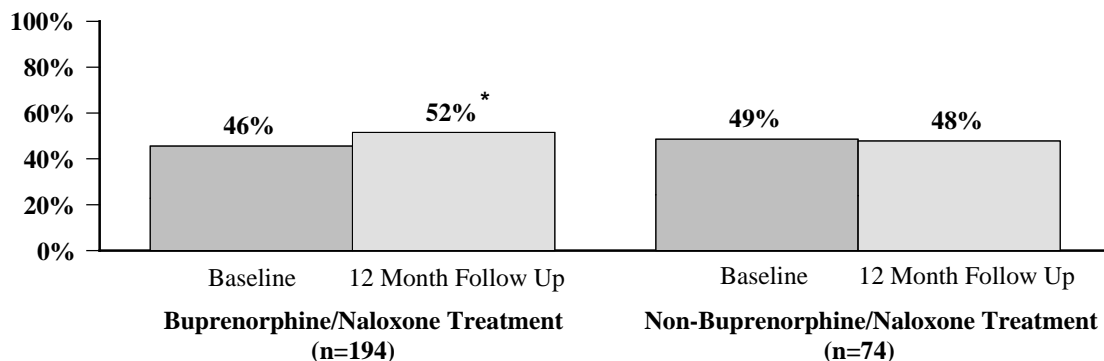
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Buprenorphine/Naloxone Treatment for Opioid Dependence in HIV-Infected Persons Improves Quality of HIV Care Received

A recent multisite study found that buprenorphine can effectively treat opioid dependence in HIV-infected persons (see *CESAR FAX*, Volume 20, Issue 31). This same demonstration project also found that providing buprenorphine treatment for opioid dependence improves the quality of the HIV care received by these individuals. Quality of care indicators (QIs) at nine HIV clinics were evaluated at the initiation of and 12 months after treatment for opioid dependence. The study found that the mean percentage of QIs received (of those that could be received*) increased from 46% to 52% among those being treated with buprenorphine/naloxone (see figure below). Specifically, participants receiving buprenorphine/naloxone increased their receipt of 6 of 16 HIV QIs, including hepatitis A and pneumococcal vaccination, CD4 and viral load monitoring, injection drug use risk reduction counseling, and HIV clinic visits. No differences were seen from baseline to follow up among those referred for other treatments** and those receiving other treatments experienced increased receipt of only 3 of the 16 HIV QIs. Receiving buprenorphine/naloxone treatment was the only variable associated with improvement in quality of HIV care; other variables, such as age, race/ethnicity, gender, and opiate of choice, were not associated with changes in quality of care (data not shown). According to the authors, “integration of office-based [buprenorphine/naloxone] into HIV practices represents one innovation for closing this gap in the quality of HIV care by increasing engagement in and receipt of recommended HIV care” (p. 7).

Mean Percentage of HIV Quality of Care Indicators Received at Baseline and 12 Month Follow Up in Nine U.S. HIV Clinics, by Type of Opioid Treatment, 2005-2007



* $p < 0.001$

*The mean percentage of QIs received was generated by dividing the number of instances in which recommended care was delivered by the number of times participants were eligible to receive recommended care multiplied by 100 and expressed as a percentage. For example, if a person was eligible to receive 10 HIV quality of care indicators over the 12-month period, yet received only 8, the summary quality score for that person was 80%.

**Those who did not receive buprenorphine/naloxone treatment either chose or were assigned off-site methadone maintenance therapy or other treatment based on local site protocols.

SOURCE: Adapted by CESAR from data from Korthuis, P.T., et al., “Improving Adherence to HIV Quality of Care Indicators in Persons with Opioid Dependence: The Role of Buprenorphine,” *Journal of Acquired Immune Deficiency Syndromes*, 56(S1):S83-S90, 2011. For more information, contact Dr. P. Todd Korthuis at korthuis@ohsu.edu.

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University of Maryland, College Park

2011 Media Reports of Buprenorphine Diversion and Misuse

Date	State	Subject	Description
8/19/11	TN	jail/prison	Suboxone® strips and other drugs smuggled into jails in variety of ways (<i>"Contraband Finds Its Way Into Regional Jails In a Variety of Ways," Bristol Herald Courier</i>)
8/4/11	WV	trafficking	Drug ring arrested for selling Oxycodone® and Suboxone (<i>"Investigation Brings 25 Drug Arrests in West Virginia," Cumberland Times-News</i>)
8/1/11	IN	jail/prison	Suboxone smuggled into prison in bra (<i>"Woman Accused of Smuggling Drugs Inside Her Bra at Pendleton Facility," WXIN-TV</i>)
7/27/11	VT	jail/prison, trafficking	Buprenorphine smuggled into prison & street diversion/trafficking (<i>"Suboxone Succeeds in Aiding Opiate Addicts, but Too Many Are Abusing It Instead," Burlington Free Press</i>)
7/19/11	CA	diversion, trafficking	Doctor selling prescriptions for painkillers, including buprenorphine (<i>"Doctor Faces Trial for Selling Prescriptions," City News Service</i>)
7/15/11	NM	jail/prison, trafficking	Law enforcement reports of buprenorphine diversion/trafficking & buprenorphine in jail (<i>"Drug Meant to Treat Heroin Users Being Used to Get High," KOB Eyewitness News 4</i>)
7/13/11	MD	trafficking	Man charged with intent to distribute Suboxone, heroin, cocaine (<i>"Heroin, Cocaine Seized in Traffic Stop," Frederick News-Post</i>)
6/21/11	ME	jail/prison	Suboxone smuggled into state prison (<i>"Ex-Caseworker Fined \$4,500 for Giving Pills, Porn to Inmate," Portland Press Herald</i>)
6/7/11	PA	jail/prison	Inmate had Suboxone smuggled into federal prison (<i>"Federal Inmate Sentenced to Additional 18 Months in Prison for Possessing Contraband," States News Service</i>)
6/5/11	U.S.	jail/prison	National reports of Suboxone smuggled into prisons (<i>"Prison Official: Contraband Smugglers Can Get Creative," The Union Leader</i>)
5/26/11	U.S.	jail/prison	Buprenorphine smuggled into prison (<i>"When Children's Scribbles Hide a Prison Drug," New York Times</i>)
5/26/11	WV	trafficking	Firefighter charged with selling Suboxone (<i>"Firefighter Charged with Selling Drugs," Charleston Gazette</i>)
5/12/11	PA	jail/prison	Prison guard selling Suboxone to inmates (<i>"Charges Against Ex-Prison Guard Forwarded to Court," The Citizens' Voice</i>)
4/7/11	MA	jail/prison	Buprenorphine smuggled into jail (<i>"Deacon Admits Passing Contraband to Inmate," UPI</i>)
3/31/11	NJ	jail/prison	Buprenorphine smuggled into prison (<i>"Final Suspect in Suboxone Investigation at Cape May County Correctional Center Arrested," Targeted News Service</i>)
3/30/11	ME	jail/prison	Buprenorphine smuggled into prison in waistband of pants (<i>"2 Inmates, 2 Women Charged in Drug Operation," Bangor Daily News</i>)
3/22/11	NY	jail/prison	Possession of Suboxone by inmate in prison (<i>"Man to Go Back to Prison After Admitting Drug Possession," Watertown Daily Times</i>)
3/21/11	PA	jail/prison	Suboxone smuggled into prison underneath postage stamps on letters (<i>"Eleven Charged in Operation Postage Stamp," States News Service</i>)
3/16/11	NY	trafficking	Drug ring sold Suboxone and Lortab® to buy cocaine and other drugs (<i>"10 Indicted in Scheme to Obtain Pain Pills to Buy, Sell Street Drugs," Buffalo News</i>)
3/8/11	MA	diversion	Pharmacist charged with stealing Vicodin® and Suboxone from workplace (<i>"CVS Employee Charged with Drug Distribution," States News Service</i>)

SOURCE: CESAR search of LexisNexis Academic database for "All News" in the "United States" with the terms "buprenorphine," "Suboxone," or "Subutex." Only articles describing diversion or misuse were included. Only one article per news report/incident was included.

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Buprenorphine Availability, Diversion, and Misuse: A Summary of the CESAR FAX Series

While research indicates that buprenorphine is an effective drug for treating opioid dependence, the potential for its nonmedical use and related unintended consequences may be going unnoticed. Our recent series of publications on buprenorphine were designed to highlight several indicators of the increased availability, diversion, and misuse of buprenorphine. Following is a summary of the key points of the recent *CESAR FAX* series on buprenorphine, followed by suggested policy changes that may decrease buprenorphine diversion and misuse.

Buprenorphine is an effective treatment for opioid dependence.

In addition to being an effective treatment for opioid dependence in general, recent studies have also found that buprenorphine/naloxone treatment provided in HIV treatment settings to persons with coexisting opioid dependence and HIV-infection—a population often difficult to treat—can reduce opioid use as well as improve the quality of HIV care received. (*Source: CESAR FAX, Vol. 20, Iss. 31 & 32*)

The amount of buprenorphine legally available for distribution and sale has increased.

Distribution of buprenorphine to retail and dispensing institutions (such as pharmacies, hospitals, practitioners, teaching institutions, researchers, analytical labs, and narcotic treatment programs) has increased from 13,475 in 2003 to 1,451,503 in 2010. The number of patients receiving a prescription for Subutex® or Suboxone® from U.S. outpatient retail pharmacies increased from slightly less than 20,000 in 2003 to more than 600,000 in 2009. (*Source: CESAR FAX, Vol. 20, Iss. 22 & 23*)

Buprenorphine diversion and nonmedical use appear to be increasing.

The number of buprenorphine drug items secured in law enforcement operations and analyzed by state and local forensic laboratories has increased from 21 in 2003 to 8,172 in 2009. Buprenorphine has been smuggled into state prisons, including those in Maine, Massachusetts, New Jersey, New Mexico, Pennsylvania, and Vermont. More than one-half of buprenorphine-related emergency department (ED) visits are for the nonmedical use of the drug. The estimated number of ED visits related to the nonmedical use of buprenorphine has more than tripled, from 4,440 in 2006 to 14,266 in 2009. A recent study found that injecting drug users (IDUs) in Rhode Island were more likely to use diverted buprenorphine/naloxone to self-medicate while non-IDUs were more likely to use the diverted drug to get high. Regardless of whether diverted buprenorphine is being used nonmedically to self-treat opiate addiction or to get high, unmonitored use of diverted buprenorphine places users at serious risk for potential adverse health effects, especially when taken in combination with other opioids or with depressants such as sedatives, tranquilizers, or alcohol. (*Source: CESAR FAX, Vol. 20, Iss. 22, 24, 25, 26, 30, & 33*)

Policy changes that may decrease buprenorphine diversion and misuse

The apparent increase in buprenorphine availability, diversion, and nonmedical use suggest the need for buprenorphine policy changes. First, current testing protocols, including those of medical examiners and drug testing programs, should include routine testing for buprenorphine to estimate the full magnitude of and to monitor buprenorphine diversion and misuse. Second, physician education programs for prescribing buprenorphine, especially strategies to detect and deter diversion and misuse, need to be strengthened. A recent study found that waived physicians had limited knowledge of buprenorphine pharmacology and legislative issues, suggesting that the mandatory 8-hour training required to obtain a waiver to prescribe buprenorphine may be inadequate (*See CESAR FAX, Volume 20, Issue 29*). CESAR will continue to monitor the diversion and abuse of buprenorphine and report on developments as they arise.

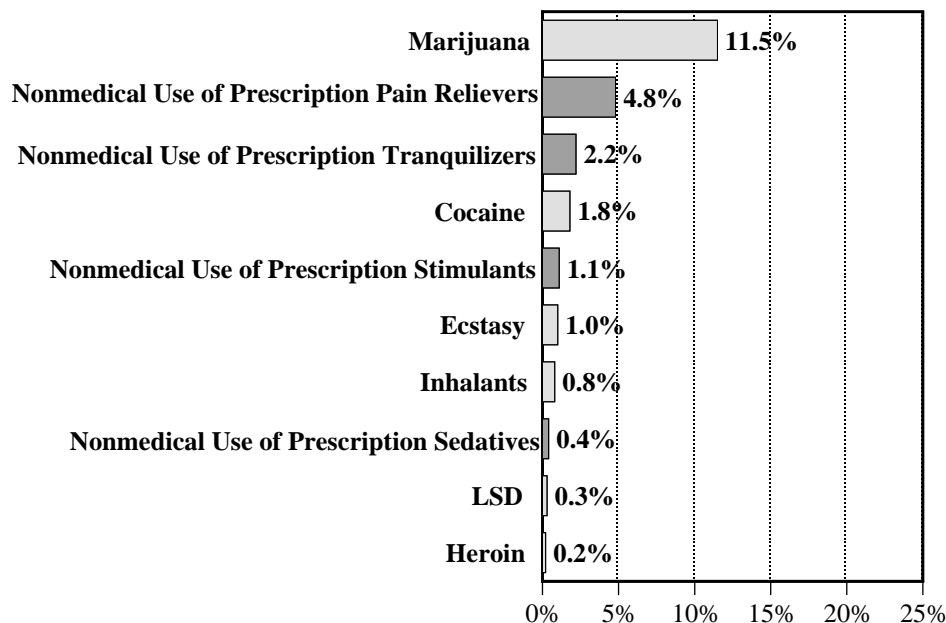
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Nonmedical Use of Prescription Pain Relievers and Tranquilizers More Prevalent in U.S. Than Use of All Types of Illicit Drugs Except Marijuana

U.S. residents continue to be more likely to report the nonmedical use of prescription drugs[†] than the use of almost all types of illicit drugs, according to recently released data from the 2010 National Survey on Drug Use and Health (NSDUH). Approximately 5% of persons ages 12 or older reported using prescription pain relievers nonmedically in the past year and 2% reported the nonmedical use of prescription tranquilizers—more than any type of illicit drug with the exception of marijuana. The nonmedical use of prescription stimulants was slightly less prevalent at 1.1%. All other substances, including ecstasy and prescription sedatives used nonmedically, were used by 1% or less of U.S. residents. These rankings have remained relatively unchanged over the past five years (see *CESAR FAX*, Volume 15, Issue 36).

Percentage of U.S. Residents (Age 12 or Older) Reporting Past Year Substance Use, 2010



[†]Nonmedical use of prescription drugs refers to using a prescription pain reliever, tranquilizer, stimulant, or sedative without a personal prescription or only for the experience or feeling it causes. It also include drugs within these groupings that originally were prescription medications but currently may be manufactured and distributed illegally, such as methamphetamine, which is included under stimulants.

NOTE: NSDUH is representative of the civilian, noninstitutionalized population aged 12 and older living in the U.S., which represents approximately 98% of the population. The survey excludes homeless persons who do not use shelters, military personnel on active duty, and residents of institutional group quarters, such as jails, hospitals, and residential drug treatment centers.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration (SAMHSA), *Results from the 2010 National Household Survey on Drug Use and Health: Detailed Tables*, 2011. Available online at <http://oas.samhsa.gov/NSDUH/2k10NSDUH/tabs/Cover.pdf>.

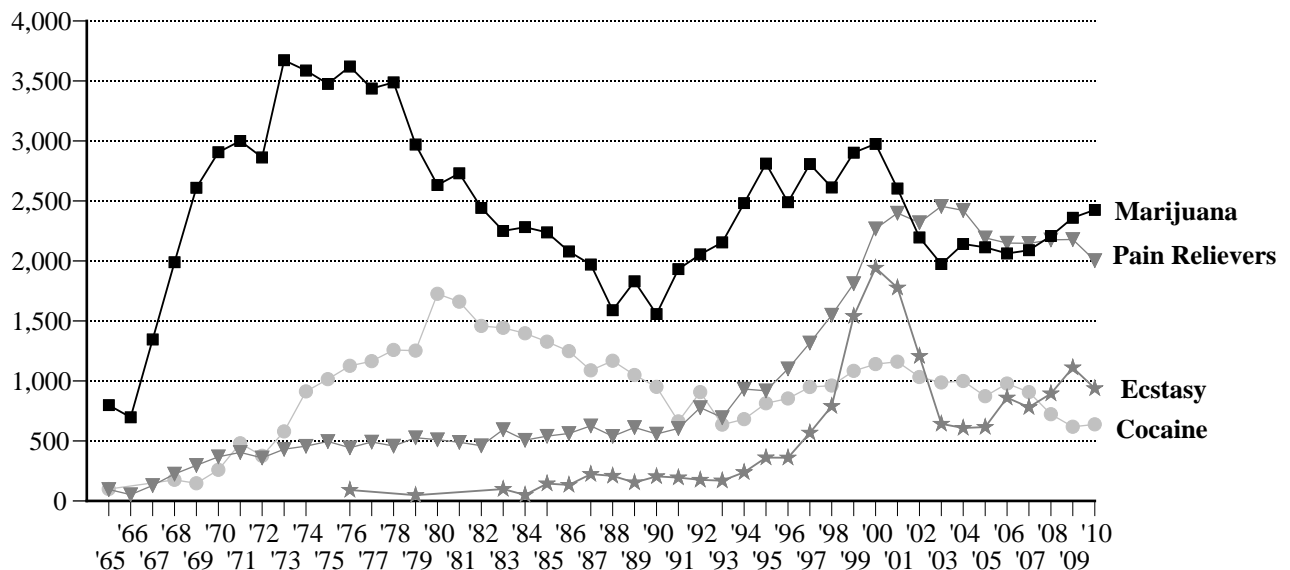
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Number of First Time Users of Marijuana Increasing; Growth in First Time Use of Prescription Pain Relievers and Ecstasy Stable

The estimated number of people using marijuana for the first time appears to be increasing, according to data from the 2010 National Survey on Drug Use and Health (NSDUH). More than 2.4 million persons ages 12 or older used marijuana for the first time in 2010, compared to the most recent low of 2.1 million in 2006. While the number of first-time nonmedical users of prescription pain relievers continues to rival that of marijuana, the 2010 estimate of 2.0 million is significantly lower than most recent high of 2.5 million in 2003. The number of new ecstasy users has been increasing since 2005, reaching slightly more than 1.1 million in 2009. However, there was no significant change between 2009 and 2010. The number of new cocaine users, which had been decreasing steadily since 2001, has not changed significantly since 2008. Changes in initiation levels are often leading indicators of emerging patterns of substance use. Thus, these findings suggest that 1) marijuana use may be making a resurgence; 2) the growth in the misuse of prescription pain relievers and in the use of ecstasy may have slowed; and 3) there are no signs of growth in cocaine use in this population.

Estimated Number (in thousands) of New Users of Marijuana, Pain Relievers*, Ecstasy, and Cocaine per Year, 1965-2010
(U.S. Residents Ages 12 and older)



*Use of pain relievers refers to the nonmedical use of prescription-type pain relievers and does not include over-the-counter drugs.

NOTE: Estimates from 1965 to 2001 are based on initiation data reported during the 2002-2004 NSDUH and may be subject to recall error. Estimates from 2002 to 2009 refer to initiation in the 12 months prior to the survey, and are produced independently based on the data from the survey conducted that year.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration (SAMHSA), *Results from the 2010 National Survey on Drug Use and Health: Detailed Tables, 2011* (<http://oas.samhsa.gov/NSDUH/2k10NSDUH/tabs/Cover.pdf>); and SAMHSA, *Results from the 2004 National Survey on Drug Use and Health: Detailed Tables, 2005* (<http://oas.samhsa.gov/NSDUH/2k4nsduh/2k4tabs/2k4TabsCover.pdf>).

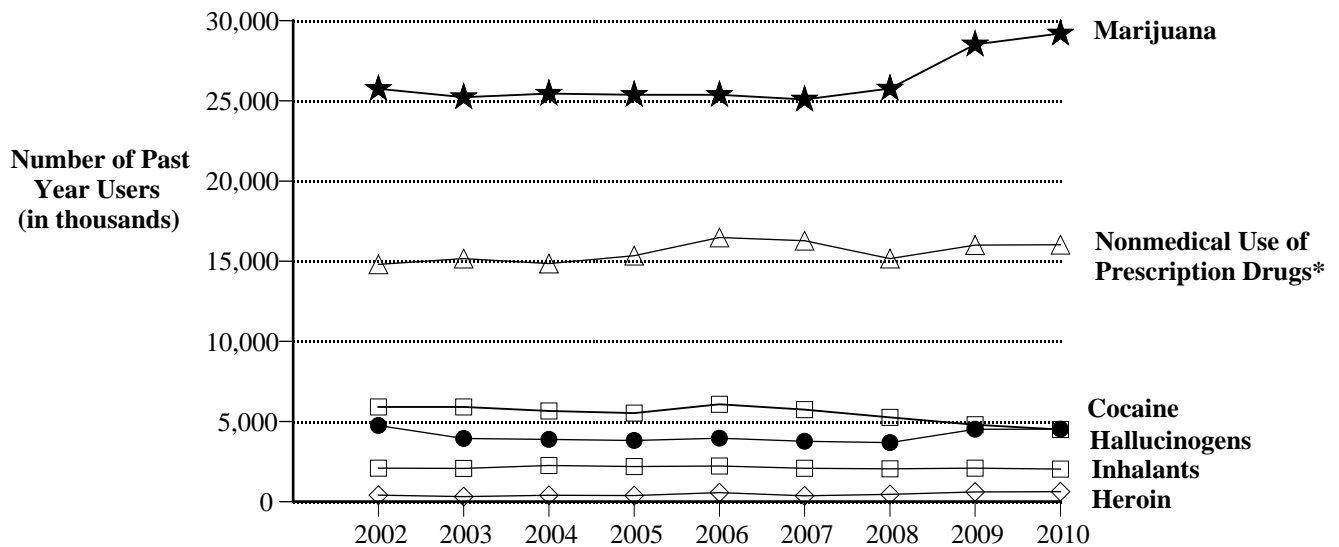
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Estimated Number of U.S. Residents Using Marijuana in the Past Year Increases; Nearly Two Times as Many as the Number of Nonmedical Users of Prescription Drugs

Marijuana and hallucinogens are the only illicit drugs that have shown recent increases in the number of past year users, according to data from the National Survey on Drug Use and Health (NSDUH). An estimated 29.2 million U.S. residents ages 12 and older reported using marijuana in the past year in 2010, compared to 25.8 million in 2008. The number of past year hallucinogen users also increased (from 3.7 million in 2008 to 4.5 million in 2010), primarily due to an increase in the number of ecstasy users. In contrast, the number of nonmedical users of prescription drugs has not increased significantly from year to year since 2006, and the number of cocaine users has decreased (from 5.3 million in 2008 to 4.5 million in 2010). The increases in the number of marijuana and ecstasy users are consistent with recent increases in the number of new users of these drugs (see *CESAR FAX*, Volume 20, Issue 36).

Estimated Number (in thousands) of Past Year Users of Marijuana, Prescription Drugs Used Nonmedically, Cocaine, Hallucinogens, Inhalants, and Heroin, U.S. Residents Ages 12 and Older, 2002-2010



*Nonmedical Use of Prescription Drugs includes the nonmedical use of pain relievers, tranquilizers, stimulants, or sedatives and does not include over-the-counter drugs.

NOTE: The NSDUH (previously named the National Household Survey on Drug Abuse) has been conducted since 1971. However, the survey underwent several methodological improvements in 2002 that have affected prevalence estimates. As a result, the 2002 through 2010 estimates are not comparable with estimates from 2001 and earlier surveys.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration, *Results from the 2010 National Survey on Drug Use and Health: Detailed Tables*, 2011. Available online at <http://oas.samhsa.gov/NSDUH/2k10NSDUH/tabs/Cover.pdf>.

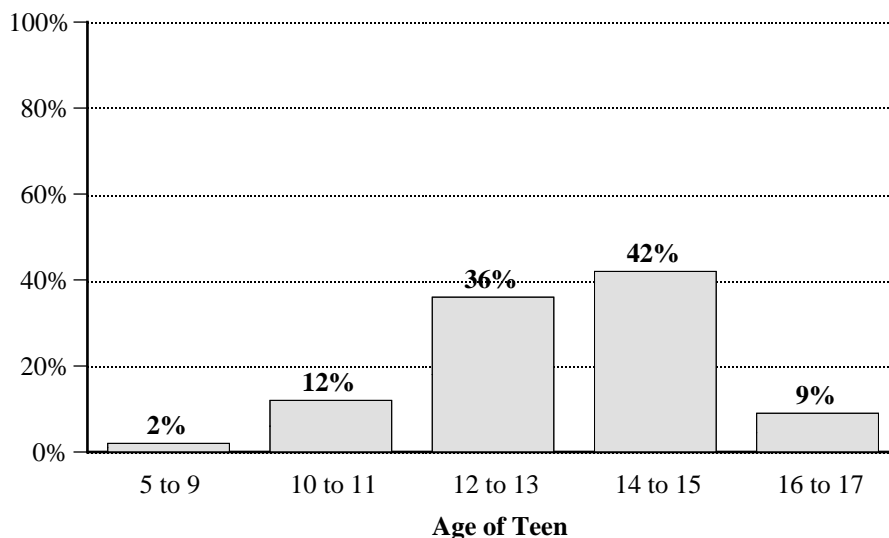
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Forty Percent of U.S. Youth Report Seeing Pictures of Alcohol and Drug Use on Social Networking Sites; Majority Report First Seeing Pictures Before Age 16

Forty percent of U.S. youth report seeing pictures of kids getting drunk, passed out, or using drugs on Facebook, Myspace, or other social networking sites, according to data from a 2011 survey by the National Center on Addiction and Substance Abuse at Columbia University. Of these youth, approximately 90% had first seen such pictures at age 15 or younger. While the majority reported that their first exposure was at age 12 or 13 (36%) and 14 or 15 (42%), more than one in ten reported that their first exposure was as young as 10 or 11. These findings corroborate those of another study that found that much of the alcohol-related content on Facebook is easily accessible by those under the age of 21 (see *CESAR FAX*, Volume 20, Issue 8).

Age U.S. Youth Ages 12 to 17 Report First Seeing Pictures of Kids Drunk, Passed Out, or Using Drugs on a Social Networking Site, 2011*



*Percentages do not sum to 100 due to rounding.

NOTE: Data were collected from an internet-based survey of a nationally representative sample of 1,037 youth ages 12 to 17 from March 27 to April 27, 2011. Sampling error is +/- 3.1 for teens.

SOURCE: Adapted by CESAR from the National Center on Addiction and Substance Abuse at Columbia University, *National Survey of American Attitudes on Substance Abuse XVI: Teens and Parents*, August 2011. Available online at <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/ooc3hqnl.pdf>.

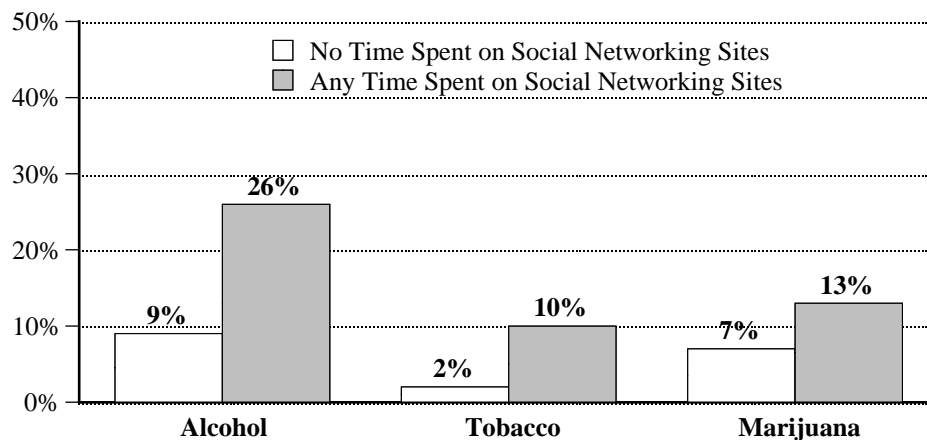
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Teens Who Spend Any Time on Social Networking Sites in a Typical Day More Likely to Report Tobacco, Alcohol, or Marijuana Use

Seventy percent of U.S. teens spend at least some time on a social networking site in a typical day and 29% spend more than an hour online, according to data from a recent survey conducted by the National Center on Addiction and Substance Abuse at Columbia University. While many of the teens visiting these sites report seeing pictures of substance use (see *CESAR FAX*, Volume 20, Issue 38), they also are more likely to use tobacco, alcohol, and marijuana themselves. Teens who spend any time* on a social networking site—such as Facebook or Myspace—are five times more likely to have ever used tobacco, three times more likely to have ever used alcohol, and nearly twice as likely to have ever used marijuana (see figure below). These findings may be due to differences between social networking site users and nonusers., such as age or socioeconomic status. The survey also found that more than one-third (36%) of parents of teens with a social networking page say that they do not monitor it, suggesting that another difference between the groups may be the degree of parental monitoring.

Percent of U.S. Teens Reporting Lifetime Use of Alcohol, Tobacco, or Marijuana, by Time Spent on Social Networking Sites in a Typical Day, 2011



*The survey did not find significant differences in substance use among teens spending 1 to 30 minutes, 31 to 90 minutes, or more than 90 minutes on a social networking site in a typical day.

NOTE: Data were collected from an internet-based survey of a nationally representative sample of 1,037 teens and 528 of their parents from March 27 to April 27, 2011. Sampling error is +/- 3.1 for teens and +/- 4.4 for parents.

SOURCE: Adapted by CESAR from the National Center on Addiction and Substance Abuse at Columbia University, *National Survey of American Attitudes on Substance Abuse XVI: Teens and Parents*, August 2011. Available online at <http://www.casacolumbia.org/download.aspx?path=/UploadedFiles/ooc3hqnl.pdf>.

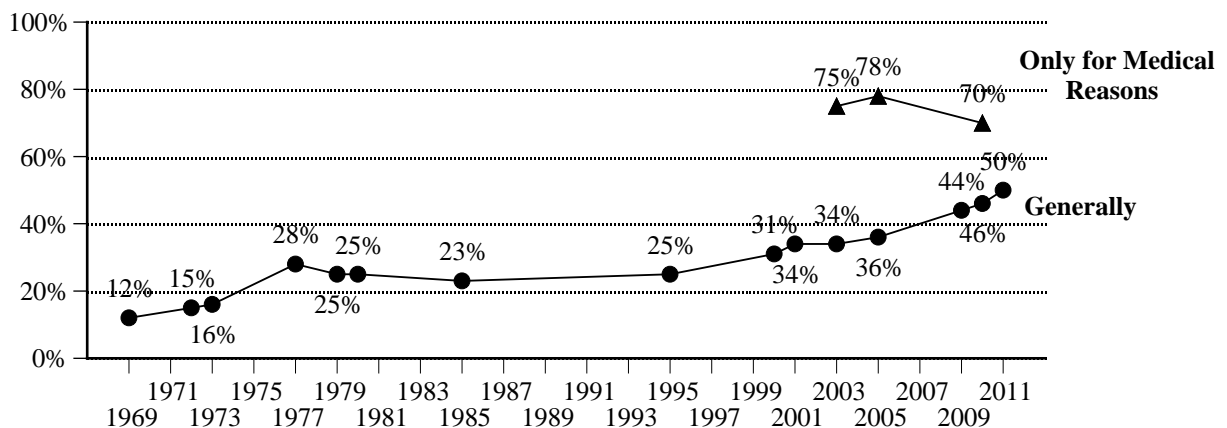
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University of Maryland, College Park

Record High 50% of U.S. Residents Believe Marijuana Use Should Be Legal; Gap Narrows Between Support for Legalization and That for Only Legalizing Medical Marijuana

U.S. residents have consistently been more likely to favor the use of marijuana for medicinal purposes than to favor its legalization generally. For example, 34% of U.S. residents polled by the Gallup organization in 2003 reported that they thought all marijuana use should be made legal, compared to 75% who reported that they favored making it legal for doctors to prescribe marijuana in order to reduce pain and suffering. The most recent Gallup survey indicates that the gap between these views may be closing. In October 2011, one-half of U.S. residents reported that they think marijuana use should be legalized—the highest percentage since the question was first asked in 1969.* In comparison, 70% of Americans supported legalizing marijuana for medical use in 2010 (the most recent year in which this question was asked). While medical marijuana use is legal in 16 states and the District of Columbia,** the manufacturing, distributing, possessing, or marketing of marijuana remains illegal under federal law.

Percentage of U.S. Adult Household Residents Reporting That They Think Marijuana Should Be Made Legal Generally or Only for Medical Reasons, 1969-2011



*Support for legalizing marijuana is inversely correlated with age. For example, 62% of 18 to 29 year olds support legalizing marijuana, compared to 31% of those ages 65 or older.

**Alaska, Arizona, California, Colorado, Delaware, District of Columbia, Hawaii, Maine, Michigan, Montana, Nevada, New Jersey, New Mexico, Oregon, Rhode Island, Vermont, and Washington. Maryland has a limited medical marijuana defense for possession only and is not included in the count of the number of states with medical marijuana laws.

NOTES: 2011 results are based on landline and cellular phone interviews conducted October 6-9, 2011 with a random sample of 1,005 adults ages 18 and older living in the 50 U.S. states and the District of Columbia. Samples are weighted by gender, age, race, Hispanic ethnicity, education, region, adults in the household, and phone status. Margin of error is ± 4 percentage points.

SOURCE: Adapted by CESAR from Gallup, "Record-High 50% of Americans Favor Legalizing Marijuana Use," *Press Release*, October 17, 2011. Available online at <http://www.gallup.com/poll/150149/Record-High-Americans-Favor-Legalizing-Marijuana.aspx>.

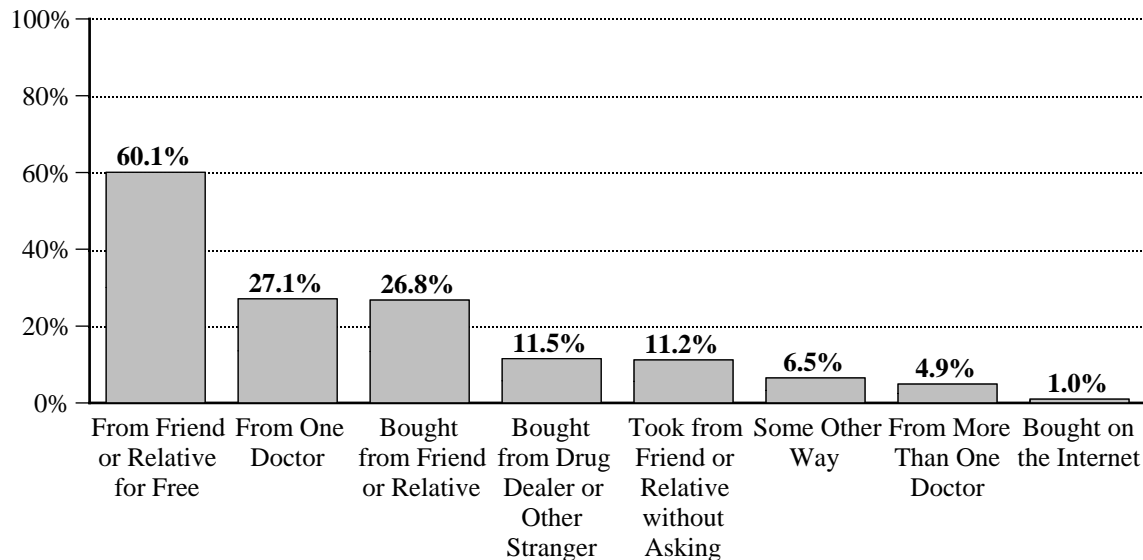
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

***Majority of Nonmedical Users of Prescription Pain Relievers
Get the Drugs from Friends/Relatives or Doctors***

In 2010, 5.1 million people ages 12 and older reported the nonmedical use of prescription pain relievers in the past month, according to data from the National Survey on Drug Use and Health (NSDUH). The majority of these users—60.1%—reported that they obtained the pain relievers free from a friend or relative. The other most commonly mentioned methods were obtaining them from a doctor (27.1% from one doctor and another 4.9% from more than one doctor) and buying them from a friend or relative (26.8%). Among those who used pain relievers nonmedically and indicated that they obtained the drugs from a friend or relative for free, 76.7% indicated that the friend or relative obtained the drugs from just one doctor (data not shown). Only 1% reported buying their prescription pain relievers on the internet. These findings suggest that improving both patient education as well as doctors’ monitoring of patients may help reduce the diversion of prescription pain relievers for nonmedical use.

**Method of Obtaining Prescription Pain Relievers
Reported by Past Month Nonmedical Users Ages 12 or Older
(2009 & 2010 Combined Annual Averages)**



NOTES: Percentages sum to more than 100% because respondents could indicate multiple sources from which they obtained pain relievers for past month nonmedical use. The response options “Wrote a fake prescription” and “Stole from doctor’s office, clinic, hospital, or pharmacy” were reported by less than one percent of those who used prescription pain relievers nonmedically in the past year and are not shown in the figure above.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration, *Results from the 2010 National Survey on Drug Use and Health: Detailed Tables*, 2011. Available online at <http://oas.samhsa.gov/nsduhLatest.htm>.

A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Arrest Rate for Drug Abuse Violations Decreases for Fourth Year in a Row; Still Remains Twice as High as Rates of Early 1980s

The arrest rate for drug abuse violations has decreased for four years in a row, according to data from the national Uniform Crime Reporting (UCR) Program. In 2010, there were 530.8 arrests per 100,000 U.S. residents for drug abuse violations (i.e., selling, manufacturing, or possessing drugs), a 15% decrease from the peak of 632.9 arrests in 2006. Eighteen percent of drug abuse violation arrests in 2010 were for sales or manufacturing, while 82% were for possession. More than half of these drug abuse violation arrests were for marijuana violations. (See next week's issue of the *CESAR FAX* for trend data on the types of drugs that have comprised drug abuse violation arrests over the last 30 years). Despite the recent declines, the 2010 arrest rate for drug abuse violations was twice as high as rates in the early 1980s, and represented more than 1.6 million arrests in 2010.

Arrest Rate for U.S. Drug Abuse Violations, 1980 to 2010



NOTES: 1980 to 2009 rates are from the BJS Arrest Data Analysis Tool. The 2010 rate was calculated using the 2000-2010 intercensal population estimate of 308,745,538.

SOURCES: Adapted by CESAR from Snyder, H. and Mulako-Wangota, J., *Bureau of Justice Statistics Arrest Data Analysis Tool*, online at <http://www.bjs.gov/index.cfm?ty=datool&surl=/arrests/index.cfm> (accessed 11/3/11); and U.S. Department of Justice, Federal Bureau of Investigation, *Crime in the United States, 2010, 2011* (available online at <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s/2010/crime-in-the-u.s.-2010/persons-arrested>).

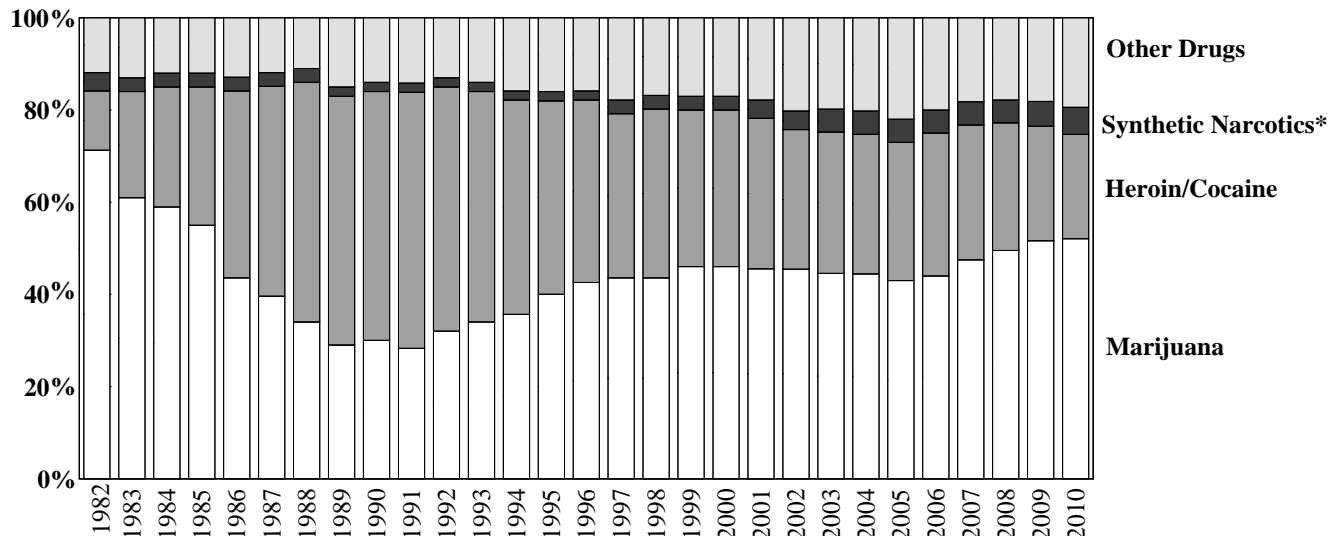
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

Marijuana Arrests Accounted for 52% of All U.S. Drug Abuse Violation Arrests in 2010 While Heroin and Cocaine Arrests Decline

In 1982, nearly three-quarters of arrests for drug abuse violations in the United States were for the sale, manufacturing, or possession of marijuana, compared to 13% for heroin or cocaine violations, according to data from the national Uniform Crime Reporting (UCR) Program. However, by 1990 marijuana comprised slightly less than one-third of all drug abuse arrests, while heroin/cocaine accounted for more than one-half of such arrests. Since then, the proportion of arrests for marijuana and heroin/cocaine violations had once again shifted. In 2010, 52% of all drug abuse arrests were for marijuana (the highest rate since 1985) while 23% were for heroin/cocaine violations (the lowest rate since 1983). These trends likely reflect both changes in prevalence and subsequent enforcement practices. For example, marijuana use peaked in the U.S. during the late 70s and early 80s, reached record lows in the early 90s, and has been increasing again in recent years (see *CESAR FAX*, Volume 20, Issue 36 and Volume 20, Issue 3).

Percent Distribution of Arrests for U.S. Drug Abuse Violations, by Type of Drug, 1982-2010



*The percentage of drug abuse violation arrests for synthetic narcotics was 6% in 2010, and has ranged from 2% (from 1989 to 1996) to 5% (from 2003 to 2009) in previous years.

NOTES: The category “heroin/cocaine” includes opium or cocaine and their derivatives (i.e., morphine, heroin, codeine). The category “synthetic narcotics” includes manufactured narcotics that can cause addiction (i.e., Demerol®, methadone, buprenorphine). The category “other drugs” includes all other drugs that do not fall within the other three categories.

SOURCES: Adapted by CESAR from U.S. Department of Justice, Federal Bureau of Investigation, “Arrests for Drug Abuse Violations,” *Crime in the United States, 2010, 2011* (available online at <http://www.fbi.gov/about-us/cjis/ucr/crime-in-the-u.s./2010/crime-in-the-u.s.-2010/persons-arrested>); and U.S. Department of Justice, Bureau of Justice Statistics, “Percent Distribution of Arrests for Drug Abuse Violations,” *Sourcebook of Criminal Justice Statistics Online*, (available online at <http://www.albany.edu/sourcebook/pdf/t4292009.pdf>), accessed 11/03/2011.

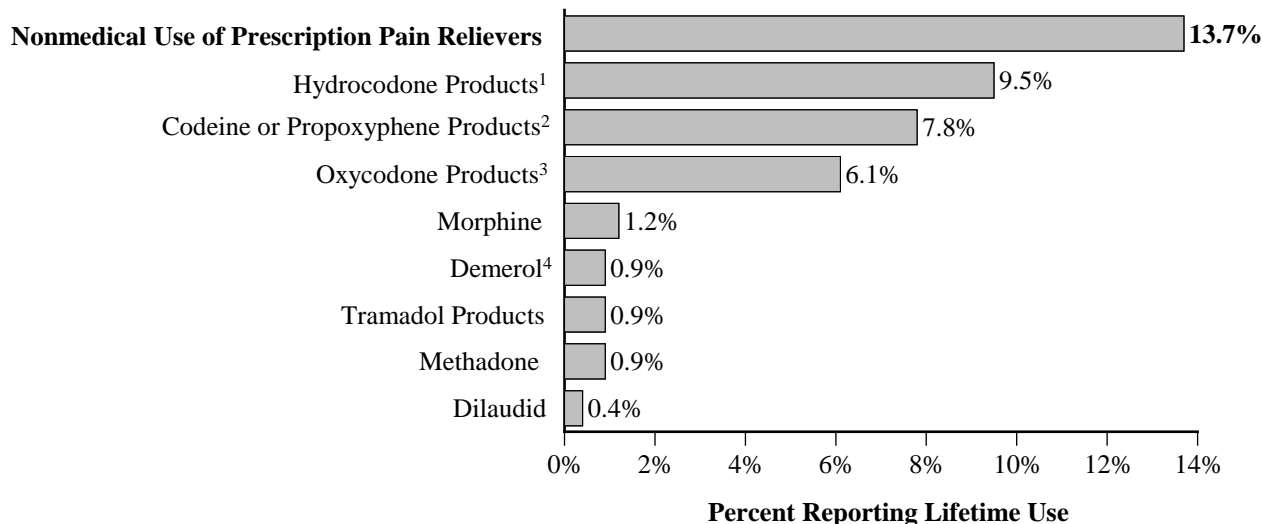
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University of Maryland, College Park

Nearly 14% of U.S. Residents Report Lifetime Nonmedical Use of Prescription Pain Relievers; Hydrocodone, Codeine/Propoxyphene, and Oxycodone Products Most Commonly Used

Nearly 14% of U.S. residents—an estimated 34.8 million people ages 12 and older—report using prescription pain relievers nonmedically at least once in their lifetime, according to data from the 2010 National Survey on Drug Use and Health (NSDUH). Hydrocodone products (9.5%), codeine or propoxyphene products (7.8%), and oxycodone products (6.1%) were the most commonly reported pain relievers. All other pain relievers used nonmedically were reported by less than 2% of U.S. residents (see figure below). The survey also found that residents ages 18 to 25 were more likely to report the nonmedical use of prescription pain relievers than younger and older residents (data not shown). For example, 19% of 18 to 25 year olds reported the nonmedical use of hydrocodone products, compared to 4.7% of 12 to 17 year olds and 8.4% of those ages 26 or older.

Percentage of U.S. Residents Ages 12 and Older Reporting Lifetime Nonmedical Use of Pain Relievers, 2010



¹Includes Vicodin®, Lortab®, Lorcet®, and hydrocodone.

²Includes Darvocet®, Darvon® Tylenol® with codeine, codeine, Phenaphen® with Codeine, propoxyphene and SK-65®.

³Includes Percocet®, Percodan®, Tylox®, and OxyContin®.

⁴Includes tramadol and Ultram®.

NOTES: Respondents could report more than one type of pain reliever used nonmedically in the past year. The NSDUH questionnaire does not ask specifically about all types of prescription pain relievers that could be used nonmedically. For example, buprenorphine, a prescription opioid also used to treat pain and opioid addiction, is not included in the list of specific pain relievers presented to the respondents. Adding buprenorphine to this list would provide important information about any nonmedical use of this drug.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services, *Results from the 2010 National Survey on Drug Use and Health: Detailed Tables*, 2011. Available online at <http://www.samhsa.gov/data/NSDUH/2k10ResultsTables/Web/PDFW/Cover.pdf>.

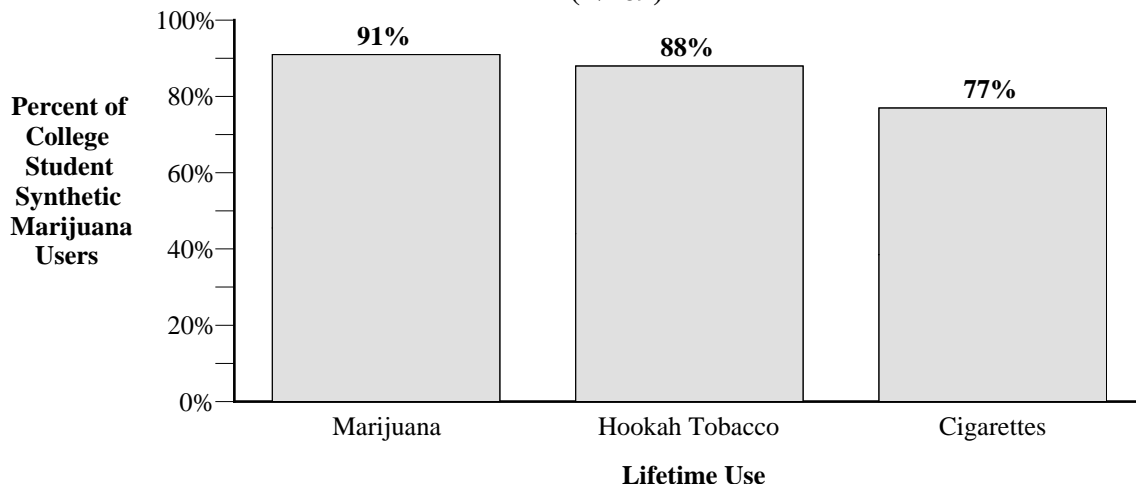
A Weekly FAX from the Center for Substance Abuse Research

University of Maryland, College Park

***Nearly One in Ten College Students Have Ever Used Synthetic Marijuana;
Nearly All Also Report Using Marijuana, Cigarettes, and Hookah***

Nearly one in ten University of Florida college students (8%) reported ever using synthetic marijuana, according to the first study of lifetime prevalence of synthetic marijuana in college students. Synthetic marijuana, also known as K2 or spice, is an herbal blend sprayed with one or more synthetic cannabinoids with effects similar to marijuana when smoked (see *CESAR FAX*, Volume 20, Issue 17 to learn more about synthetic marijuana). Among these synthetic marijuana users, 77% reported smoking cigarettes, 91% reported smoking marijuana, and 88% reported smoking hookah tobacco. In addition, this study found that males and early college students (1st or 2nd year) were more likely to have ever used synthetic marijuana (data not shown). Unfortunately, “the latest national ban of five synthetic cannabinoids does not necessarily indicate the end of K2 or ‘spice’. For example, K2 manufacturers have already started to produce and sell a new generation of K2 products that are claimed to be ‘completely legal everywhere’ (using a similar product with another, not yet illegal, synthetic cannabinoid)” (p. 3).

**Percentage of College Students Who Have Ever Used Synthetic Marijuana Who Also Reported Smoking Cigarettes, Marijuana, or Hookah Tobacco in Their Lifetime, 2010
(N=69)**



NOTE: Data was collected from 852 University of Florida students who responded to an email survey conducted in September 2010.

SOURCE: Adapted by CESAR from Hu, X., Primack, B.A., Barnett, T.E., and Cook, R.L., “College Students and Use of K2: An Emerging Drug of Abuse in Young Persons,” *Substance Abuse Treatment, Prevention, and Policy* 6(16), 2011. Available online at <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3142218>. For more information, contact Xingdi Hu at qmshjwhx@phhp.ufl.edu.

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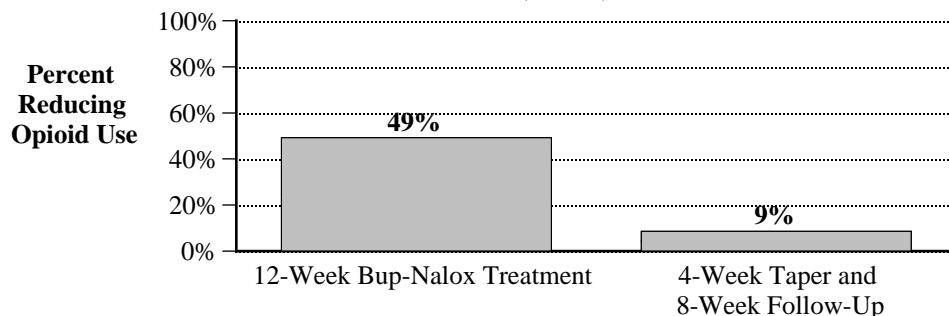
University of Maryland, College Park

Clinical Trial Finds That While Buprenorphine-Naloxone Maintenance Reduced Other Opioid Use Among Those Dependent on Prescription Opioids, 91% Were Not Opioid-Free at Follow-Up

“Patients dependent on prescription opioids . . . are most likely to reduce their opioid use during the first several months of treatment while receiving buprenorphine-naloxone; if tapered off this medication, the likelihood of relapse to opioid use or dropout from treatment is overwhelmingly high” (p. E7).

Long-term buprenorphine-naloxone treatment reduces opioid use by those dependent on prescription painkillers, according to the first randomized, controlled trial using a medication for the treatment of prescription opioid dependence. Nearly one-half (49%) of those receiving 12 weeks of treatment with the opioid buprenorphine-naloxone reduced their use of other opioids.* However, eight weeks after the buprenorphine-naloxone treatment was tapered off and discontinued in accordance with the study protocol, only 9% had reduced their opioid use. Thus 91% of the study participants were not opioid-free at follow-up. According to the authors, “The high rate of unsuccessful outcomes after buprenorphine-naloxone taper is notable in light of the good prognostic characteristics of the population (i.e., largely employed, well educated, relatively brief opioid use histories, and little other current substance abuse) and previous research suggesting that patients dependent on prescription opioids might have better outcomes than those dependent on heroin” (p. E7). The authors suggest that future research look at “what length of buprenorphine-naloxone treatment, if any, would lead to substantially better outcomes after a taper” (p. E7). [Editors Note: The findings of likely relapse after cessation of buprenorphine-naloxone treatment are not surprising to us, as buprenorphine-naloxone treatment consists primarily of replacing one opioid with another and continuing the dependence.]

Percentage of Prescription Opioid-Dependent Persons Reducing Opioid Use After 12 Weeks of Buprenorphine-Naloxone Treatment and 12 Weeks of Taper/Follow-Up (N=360)



*Reduced opioid use was defined as abstaining from other opioids during the final week and during at least 2 of the previous 3 weeks of treatment or taper/follow-up. Abstinence was determined by urine test-verified self-reports; missing urine samples were considered positive for opioids. Opioids tested for included oxycodone, hydrocodone, hydromorphone, morphine, codeine, propoxyphene, and methadone.

SOURCE: Adapted by CESAR from Weiss, R.D., et. al., “Adjunctive Counseling During Brief and Extended Buprenorphine-Naloxone Treatment for Prescription Opioid Dependence.” Archives of General Psychiatry, Online First November 7, 2011. Available online at <http://archpsyc.ama-assn.org/cgi/content/full/archgenpsychiatry.2011.121v1>. For more information, contact Dr. Roger Weiss at rweiss@mclean.harvard.edu.

CESAR FAX Special Series on Buprenorphine

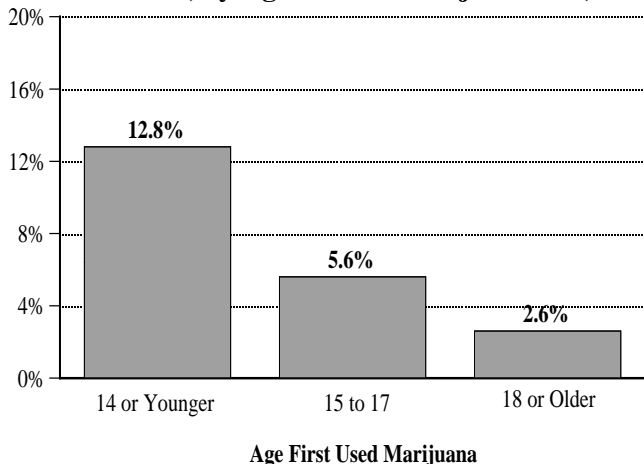
While research indicates that buprenorphine is an effective drug for treating opioid dependence, the potential for its nonmedical use and related unintended consequences may be going unnoticed. This series of publications, available at www.cesar.umd.edu, was designed to highlight several indicators of the increased availability, diversion, and misuse of buprenorphine.

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University of Maryland, College Park**

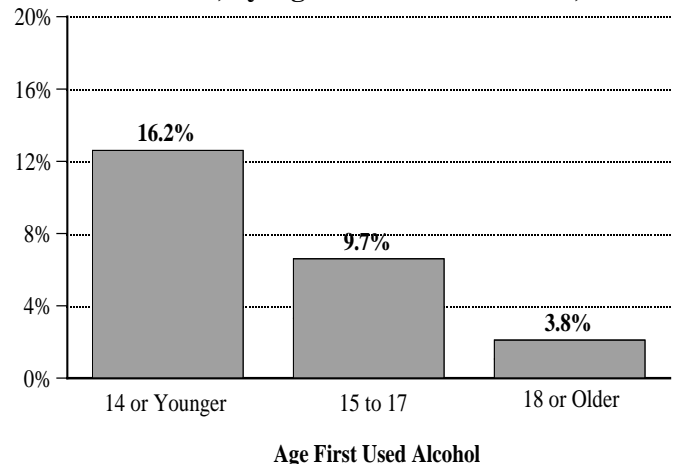
Early Marijuana or Alcohol Use Related to Later Substance Use Disorders

Early marijuana or alcohol use is related to later substance use disorders, according to data from the National Survey on Drug Use and Health (NSDUH). Adults who first used marijuana at age 14 or younger were more than twice as likely to meet the criteria for past year illicit drug abuse or dependence than those who first used marijuana between the ages of 15 and 17 (12.8% vs. 5.6%) and nearly five times more likely than those who started when they were 18 or older (12.8% vs. 2.6%). Similar results were found for early alcohol use; those who first used alcohol at or before the age of 14 were nearly twice as likely to meet the criteria for past year alcohol abuse or dependence than those who started using alcohol between the ages of 15 and 17 (16.2% vs. 9.7%) and more than four times more likely than those who started using alcohol at the age of 18 or older (16.2% vs. 3.8%). While these findings illustrate the need for early alcohol and drug prevention efforts, it is likely that early substance use is an indicator of a disposition to engage in a variety of high-risk behaviors, suggesting that prevention efforts that encompass the whole person may be more effective.

Percentage of Adults (Age 18 or Older) Who Abused or Were Dependent on Illicit Drugs in the Past Year, by Age of First Marijuana Use, 2010



Percentage of Adults (Age 18 or Older) Who Abused or Were Dependent on Alcohol in the Past Year, by Age of First Alcohol Use, 2010



NOTE: Abuse or dependence are defined using DSM-IV criteria.

SOURCE: Adapted by CESAR from Substance Abuse and Mental Health Services Administration, *Results from the 2009 National Survey on Drug Use and Health: Detailed Tables*, 2010. Available online at <http://www.samhsa.gov/data/NSDUH/2k10ResultsTables/Web/PDFW/Sect6peTabs38to40.pdf>.

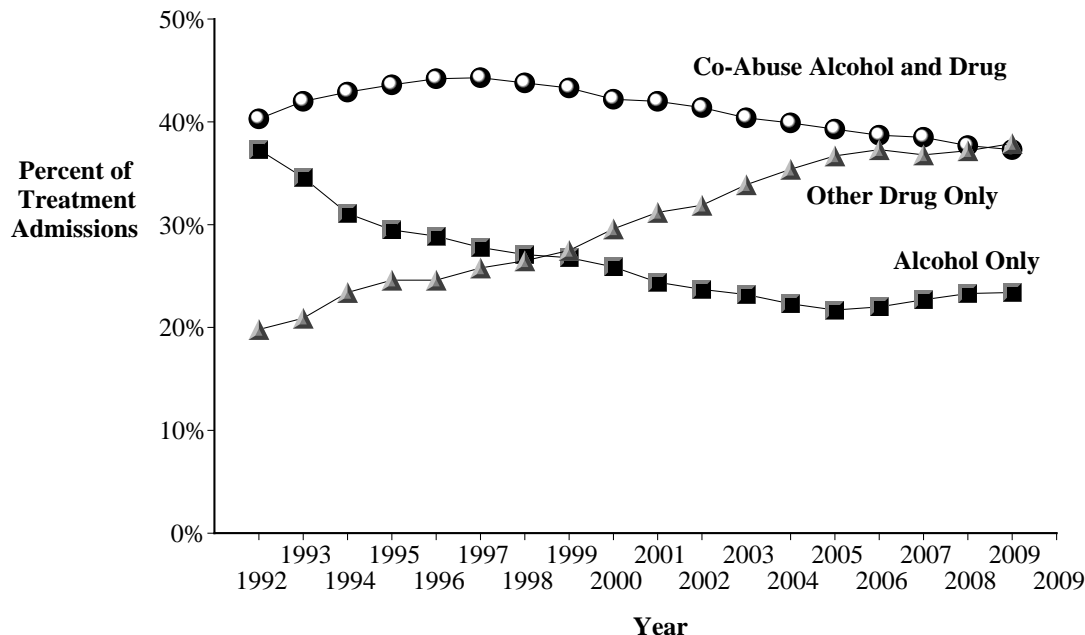
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Alcohol-Only Admissions Comprised 23% of Treatment Admissions in 2009; Nearly 40% of Admissions Were for Drugs Other Than Alcohol

The percentage of substance abuse treatment admissions for drug-only problems has risen since 1992 while the percentage for alcohol-only and the co-abuse of alcohol and drugs has declined, according to the most recent data from the Treatment Episode Data Set (TEDS). The percentage of drug-only treatment admissions increased from 20% in 1992 to 38% in 2009 (the most current year for which data are available). Alcohol-only treatment admissions, which had surpassed drug-only admissions prior to 1999, decreased from 37% to 23% over the same period. The percentage of treatment admissions for the co-abuse of alcohol and other drugs also decreased, from a high of 44% in 1997 to 37% in 2009. While these findings may reflect actual changes in substance abuse and dependence, they may also be the result of other factors, such as changes in insurance policies or access to treatment.

Percentage of U.S. Substance Abuse Treatment Admissions for Alcohol-Only, Other Drug-Only, and Co-Abuse of Alcohol and Other Drugs, 1992 to 2009



NOTE: The Treatment Episode Data Set (TEDS) is a compilation of client-level data routinely collected by the individual State administrative data systems to monitor their substance abuse treatment systems. Generally, facilities that are required to report to the State substance abuse agency (SSA) are those that receive public funds and/or are licensed or certified by the SSA to provide substance abuse treatment (or are administratively tracked for other reasons).

SOURCE: Adapted by CESAR from data from the Substance Abuse and Mental Health Data Archive (SAMHDA), *Quick Table: Treatment Episode Data Set-Admissions (TEDS-A)—Concatenated, 1992 to 2009, Substance Abuse Type by Year (Percents)*, Created 12/16/2011. Available online at <http://www.icpsr.umich.edu/quicktables/quicksetoptions.do?reportKey=25221-all%3A3>.

CESAR Wishes You a Very Happy Holiday Season!

This is the final issue of the *CESAR FAX* for 2011. The *CESAR FAX* will resume with Volume 21, Issue 1 on January 9th, 2012. Thank you for your support during the past year!