

FOR EMBARGOED RELEASE

Thursday, December 14, 2017

12:01 a.m. EST

Contact: NIDA Press Office

301-443-6245

media@nida.nih.gov

Vaping popular among teens; opioid misuse at historic lows

NIH's 2017 Monitoring the Future survey shows both vaping and marijuana are more popular than traditional cigarettes or pain reliever misuse

Nearly 1 in 3 students in 12th grade report past year use of some kind of vaping device, raising concerns about the impact on their health. What they say is in the device, however, ranges from nicotine, to marijuana, to “just flavoring.” The survey also suggests that use of hookahs and regular cigarettes is declining. These findings come from the 2017 Monitoring the Future (MTF) survey of eighth, 10th and 12th graders in schools nationwide, reported today by the director of the National Institute on Drug Abuse (NIDA), part of the National Institutes of Health, along with scientists from the University of Michigan, who conduct the annual research. The survey asks teens about “any vaping” to measure their use of electronic vaporizers. It is important to note that some research suggests that many teens do not actually know what is in the device they are using, and even if they read the label, not all labeling is consistent or accurate.



NIDA Director Dr. Nora Volkow discusses the 2017 MTF Survey Results

The survey shows that 27.8 percent of high school seniors reported “vaping” in the year prior to the survey, which was taken in the beginning of 2017. When asked what they thought was in the mist they inhaled the last time they used the vaping device, 51.8 percent of 12th graders said, “just flavoring,” 32.8 percent said “nicotine,” and 11.1 percent said “marijuana” or “hash oil.” The survey also asks about vaping with specific substances during the past month. Among 12th graders, more than 1 in 10 say they use nicotine, and about 1 in 20 report using marijuana in the device.

| Past Month Use | 8th Graders | 10th Graders | 12th graders |
|-------------------------|--------------------|---------------------|---------------------|
| Any vaping | 6.6% | 13.1% | 16.6% |
| Vaping Nicotine | 3.5% | 8.2% | 11.0% |
| Vaping Marijuana | 1.6% | 4.3% | 4.9% |
| Vaping “Just Flavoring” | 5.3% | 9.2% | 9.7% |

“We are especially concerned because the survey shows that some of the teens using these devices are first-time nicotine users,” said Nora D. Volkow, M.D., director of NIDA. “Recent research suggests that some of them could move on to regular cigarette smoking, so it is critical that we intervene with evidence-based efforts to prevent youth from using these products.”

The survey also indicates that while opioid overdose rates remain high among adults, teens are misusing opioid pain medications less frequently than a decade ago, and are at historic lows with some of the commonly used pain medications. For example, past year misuse of the opioid pain reliever Vicodin among high school seniors dropped to its lowest point since the survey began measuring it in 2002, and it is now at just 2 percent. This compares to last year’s 2.9 percent, and reflects a long-term decline from a peak of 10.5 percent in 2003.

In overall pain medication misuse, described as “narcotics other than heroin” in the survey, past year misuse has dropped significantly among 12th graders since its survey peak in 2004—to 4.2 percent from 9.5 percent. Interestingly, teens also think these drugs are not as easy to get as they used to be. Only 35.8 percent of 12th graders said they were easily available in the 2017 survey, compared to more than 54 percent in 2010.

“The decline in both the misuse and perceived availability of opioid medications may reflect recent public health initiatives to discourage opioid misuse to address this crisis,” added Volkow. “However, with each new class of teens entering the challenging years of middle and high school, we must remain vigilant in our prevention efforts targeting young people, the adults who nurture and influence them, and the health care providers who treat them.”

The 2017 survey also confirms the recent trend that daily marijuana use has become as, or more, popular than daily cigarette smoking among teens, representing a dramatic flip in use between these two drugs since the survey began in 1975. In the past decade, daily marijuana use among 12th graders has remained relatively consistent, but daily cigarette smoking has dropped.

| 12th graders daily drug activity | 2017 | Change |
|---|-------------|---------------------------|
| Cigarette Smoking | 4.2% | 24.6% (1997–highest year) |
| Marijuana Use | 5.9% | 1.9% (1992–lowest year) |

When combining responses in all three grades, data suggest past year marijuana use is up slightly to 23.9 percent, from 22.6 percent last year, but similar to 2015 rates (23.7 percent). However, because overall marijuana rates remain stable, researchers continue to carefully monitor any potential trends as they emerge. The survey indicates that significantly fewer teens now disapprove of regular marijuana use, with 64.7 percent of 12th graders voicing disapproval, compared to 68.5 percent last year. The survey reports that high school seniors in states with medical marijuana laws are more likely to have vaped marijuana and consumed marijuana edibles than their counterparts without such laws. For example, survey data suggests that 16.7 percent of 12th graders in states with medical marijuana laws report consuming edibles, compared to 8.3 percent in states without such laws.

Inhalant use—the one category of drug use that is typically higher among younger students—is back up to 2015 levels among eighth graders, measured at 4.7 percent, compared to 3.8 percent in 2016. However, rates are still low, showing a significant decline from peak rates in 1995, when 12.8 percent of eighth graders reported using an inhalant to get high in the past year.

Overall, illicit drug use other than marijuana and inhalants, remains the lowest in the history of the survey in all three grades, with 13.3 percent of 12th graders reporting past year use, compared to 9.4 percent of 10th graders and 5.8 percent of eighth graders. These successes

underscore the importance of continuing evidence-based prevention programs targeting children approaching their teenage years.

After years of steady decline, binge drinking appears to have leveled off this year, and public health researchers will be closely watching these behaviors in the coming years. However, rates are still down significantly from the survey's peak years. Binge drinking is defined as having five or more drinks in a row sometime in the last two weeks.

| Binge Drinking | 2017 | Peak Year of Survey |
|-----------------------|-------------|----------------------------|
| 12th graders | 16.6% | 31.5% (1998) |
| 10th graders | 9.8% | 24.1% (2000) |
| 8th graders | 3.7% | 13.3% (1996) |

“While binge drinking among eighth, 10th, and 12th grade students remains well below the levels seen a decade ago, the downward trend in binge drinking appears to have slowed somewhat in recent years,” said George F. Koob, Ph.D., director of the National Institute on Alcohol Abuse and Alcoholism. “This may signal a need for more emphasis on alcohol prevention strategies in this age group.”



Monitoring the Future has been conducted by researchers at the Institute for Social Research at the University of Michigan at Ann Arbor since 1975, expanding the study periodically to include additional grades and topic areas. It is the only large-scale federal government survey that releases findings the same year the data is collected.

Other highlights from the 2017 survey:

Illegal and Illicit Drugs:

- Reported heroin and methamphetamine use remain very low among the nation's teens at less than 0.5 percent in past year measures.
- Cocaine use remains low in teen students. For example, 12th graders report past year use at 2.7 percent, after a peak of 6.2 percent in 1999.
- Past year use of anabolic steroids, which peaked at 2.5 percent among the nation's 12th graders in 2004, is now at 1.1 percent.
- Past year use of LSD among 12th graders is at 3.3 percent, reflecting a modest but significant increase in the past five years. Use still remains lower compared to its peak in 1996 of 8.8 percent.
- Past year use of K2/Spice, referred to as “synthetic marijuana” in the survey, was reported at 3.7 percent among 12th graders, down from 11.3 percent five years ago. There was a significant drop in past year use among eighth graders, from 2.7 percent in 2016 to 2 percent this year.

Other Prescription Drugs:

- Reflecting an historic low, high school seniors reported past year misuse of the prescription opioid Oxycontin at 2.7 percent, compared to 5.5 percent at its peak in 2005.
- Misuse of prescription stimulants, commonly prescribed for ADHD symptoms, is mostly stable compared to last year, with 5.5 percent of 12th graders reporting past year misuse

of Adderall. In fact, this represents a significant drop for this age group from five years ago when misuse peaked at 7.6 percent.

- Past year misuse of the therapeutic stimulant Ritalin among 12th graders is at 1.3 percent, nearly a record low since 2001 when it was first measured at 5.1 percent. There was a significant decline this year among eighth graders' past year misuse, reported at 0.4 percent in 2017, down from 0.8 percent last year, and significantly down from 2.9 percent in 2001.

Other Tobacco Products:

- Hookah smoking has dropped for the second year in a row with 10.1 percent of seniors reporting past year use compared to 13 percent last year, down from 22.9 percent in 2014. The survey began measuring hookah smoking in 2010.
- As for little cigars, 13.3 percent of high school seniors say they smoked little cigars in the past year, from a peak of 23.1 percent in 2010, when it was first included in the survey.

Attitudes and Availability:

The survey also measures attitudes about drug use, including perceived availability and harmfulness, as well as disapproval of specific drugs. Generally, attitudes grow more favorable towards drug use as teens get older.

- In 2017, 79.8 percent of eighth graders said they disapprove of regularly vaping nicotine, but that number drops to 71.8 percent among 12th graders.
- Only 14.1 percent of 12th graders see “great risk” in smoking marijuana occasionally, down from 17.1 percent last year and a staggering drop from 40.6 percent in 1991, but similar to rates when the survey was started in 1975 (18.1 percent).
- There was a significant change in how eighth graders view K2/Spice (which the survey calls “synthetic marijuana”). In 2017, 23 percent said trying it once or twice would put users at great risk, compared to 27.5 percent in 2016.
- The survey indicated that 23.3 percent of 10th graders say it is easy to get tranquilizers, up from 20.5 percent last year.

Overall, 43,703 students from 360 public and private schools participated in this year's MTF survey. Since 1975, the survey has measured how teens report their drug, alcohol, and cigarette use and related attitudes in 12th graders nationwide. Eighth and 10th graders were added to the survey in 1991. Survey participants generally report their drug use behaviors across three time periods: lifetime, past year, and past month. Questions are also asked about daily cigarette and marijuana use. NIDA has provided funding for the survey since its inception to a team of investigators at the University of Michigan at Ann Arbor, currently led by Dr. Richard Miech. MTF is funded under grant number DA001411. Additional information on the MTF Survey can be found at www.drugabuse.gov/drugpages/MTF.html. The University of Michigan press release can be found at <http://monitoringthefuture.org>.

MTF is one of three major surveys supported by the U.S. Department of Health and Human Services that provide data on substance use among youth. The others are the National Survey on Drug Use and Health and the Youth Risk Behavior Survey.

The National Survey on Drug Use and Health, supported by the Substance Abuse and Mental Health Services Administration, is the primary source of statistical information on substance use

in the U.S. population 12 years of age and older. More information is available at: <http://www.samhsa.gov/data/population-data-nsduh>.

The Youth Risk Behavior Survey, part of HHS's Centers for Disease Control and Prevention's (CDC) Youth Risk Behavior Surveillance System, is a school-based survey that collects data from students in grades nine–12. The survey includes questions on a wide variety of health-related risk behaviors, including substance abuse. More information is available at www.cdc.gov/HealthyYouth/yrbs/index.htm. Additionally, the National Youth Tobacco Survey, a school-based survey of U.S. students in grades six–12 conducted by the CDC in collaboration with the Food and Drug Administration, collects data on the use of multiple tobacco products, including e-cigarettes. More information is available at www.cdc.gov/tobacco/data_statistics/surveys/NYTS/.

Follow Monitoring the Future 2017 news on Twitter at [@NIDANews](https://twitter.com/NIDANews), or join the conversation by using: [#MTF2017](https://twitter.com/MTF2017). Additional survey results can be found at www.hhs.gov/news. Information on all the surveyed drugs can be found on NIDA's Web site: www.drugabuse.gov.

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The National Institute on Drug Abuse (NIDA) is a component of the National Institutes of Health, U.S. Department of Health and Human Services. NIDA supports most of the world's research on the health aspects of drug abuse and addiction. The Institute carries out a large variety of programs to inform policy and improve practice. Fact sheets on the health effects of drugs of abuse and information on NIDA research and other activities can be found at <http://www.drugabuse.gov>, which is now compatible with your smartphone, iPad or tablet. To order publications in English or Spanish, call NIDA's DrugPubs research dissemination center at 1-877-NIDA-NIH or 240-645-0228 (TDD) or email requests to drugpubs@nida.nih.gov. Online ordering is available at <http://drugpubs.drugabuse.gov>. NIDA's media guide can be found at <http://drugabuse.gov/mediaguide/>, and its easy-to-read website can be found at <http://www.easyread.drugabuse.gov>

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