

MONITORING THE FUTURE



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Tables summarizing the estimates discussed below, as well as additional information, are [here](#).

The findings summarized here will be published by the end of January in the publication “Monitoring the Future National Survey Results on Drug Use, 1975-2019: Overview, Key Findings on Adolescent Drug Use,” which will be available at the project [website](#).

## National Adolescent Drug Trends in 2019: Findings Released

### Marijuana Vaping Surges

ANN ARBOR— Increases in adolescent *marijuana vaping* from 2018 to 2019 ranked among the largest single-year increases ever observed by Monitoring the Future in the past 45 years among all outcomes ever measured. In 2019 the percentage of adolescents who had vaped marijuana in the last 12 months was 21% in 12<sup>th</sup> grade, 19% in 10<sup>th</sup> grade, and 7% in 8<sup>th</sup> grade.

In 12<sup>th</sup> grade the prevalence of marijuana vaping increased 7.7 percentage points in 2019, which is the second largest increase in 12-month substance use ever recorded in this grade (the largest increase was last year, with the 10.9% absolute increase in nicotine vaping). In 10<sup>th</sup> grade the increase was 7.0 percentage points in 2019, which is also the second largest ever observed in the 29 years that the study has tracked past 12-month substance use in this grade (the largest increase was last year, with the 8.9% absolute increase in nicotine vaping from 2017 to 2018).

For all secondary students the increases in marijuana vaping translate into at least one million additional marijuana vapers in 2019 as compared to 2018.

These results come from the annual Monitoring the Future study, which has annually tracked dozens of substance use outcomes among U.S. adolescents since 1975 for 12<sup>th</sup> grade students and since 1991 for 10<sup>th</sup> and 8<sup>th</sup> grade students. The project is conducted by a team of researchers at the University of Michigan and is funded by the National Institute on Drug Abuse. The record increases in vaping noted here are out of more than 1,000 reported year-to-year changes in past 12-month substance use outcomes for 12<sup>th</sup> grade students, and more than 700 for 10<sup>th</sup> and 8<sup>th</sup> grade students.

These results for marijuana vaping appear in *JAMA*, the flagship journal of the American Medical Association, in a publication released on their website today (12/18/19). Additional results are available on the project website at [www.monitoringthefuture.org](http://www.monitoringthefuture.org).

# Nicotine Vaping Surges

*Nicotine vaping* in the last 12 months also significantly increased in 2019. This increase occurred on top of last year's increase in nicotine vaping, which was the largest increase ever recorded by MTF in 12<sup>th</sup> and 10<sup>th</sup> grade. In 12<sup>th</sup> grade 35% of students reported vaping nicotine in the last 12 months, a significant increase of 5.6 percentage points from 2018. In 10<sup>th</sup> grade 31% of students reported vaping nicotine in the last 12 months, a significant increase of 6.1 percentage points from 2018. And in 8<sup>th</sup> grade 17% reported vaping nicotine in the last 12 months, which is a significant increase of 5.6% from 2018. These [results](#) appear in the *New England Journal of Medicine*, and additional results are available at the project website.

“Current policies and procedures to prevent youth vaping clearly aren't enough,” said Richard Miech, the lead investigator of the project. “We need new policies and strategies to prevent unscrupulous businesses from making billions of dollars by addicting children to nicotine. Because the vaping industry is quickly evolving, new, additional, vaping-specific strategies may well be needed in the years to come in order to keep vaping devices out of the hands of youth.”

## Daily Marijuana Use Increases among Youngest Adolescents

*Daily marijuana use*, defined as use on 20 or more occasions in the past 30 days by any method, significantly increased in 10<sup>th</sup> and 8<sup>th</sup> grade. In 10<sup>th</sup> grade it increased by 1.3 percentage points to 4.8%, which is the highest prevalence for this outcome ever measured by MTF since tracking began for this grade in 1991. In 8<sup>th</sup> grade prevalence increased by 0.6 percentage points to 1.3%, which is the highest level ever tracked by the survey since tracking began for this grade in 1991 (it ties with the year 2011). If these 8<sup>th</sup> and 10<sup>th</sup> grade student continue their high levels of marijuana use, then increased levels in 12<sup>th</sup> grade should appear in a year or two.

## LSD Levels Increase

*LSD* showed significant increases in 30-day prevalence in grades 10 and 12. Though in absolute terms the levels are low (1.1% and 1.4%, respectively), they are the highest levels seen since 2000. We will be watching this drug in future years.

## Substances Remaining Steady

*Marijuana use* in any form (e.g., smoking, eating, or vaping) in the last 12 months held steady in 2019 at 36% in 12<sup>th</sup> grade, 29% in 10<sup>th</sup> grade, and 12% in 8<sup>th</sup> grade.

*Any illicit drug* use in the previous 12 months inched upward, but not significantly so, in 2019. In 12<sup>th</sup> grade annual prevalence was 38%, in 10<sup>th</sup> grade it was 31%, and in 8<sup>th</sup> grade it was 15%. In each grade these levels are higher than the lows of the early 1990s and lower than the high points reached in the late 1990s.

Many of the individual illicit drugs also remained steady in 2019 and showed no significant changes in prevalence. These include *hallucinogens*, *cocaine*, *MDMA* (“ecstasy”, “Molly”), *cocaine*, and *heroin*.

## Substances with Declining Prevalence

Misuse of *prescription opioids* is reported only for 12<sup>th</sup> grade students; it continued a decade-long decline in 2019. Use in the past 12 months decreased 0.7% to 2.7% in 2019 (statistically significant; [Table 2](#)), and is now less than a third of the 9.5% prevalence recorded in 2004.

The annual prevalence of nonmedical use of *amphetamines* significantly declined in 2019 among 12<sup>th</sup> grade students from 5.5% to 4.5% ([Table 2](#)). Use has declined steadily since 2013, when prevalence was 9.2%.

Use of **any prescription drug** among 12<sup>th</sup> graders declined in 2019, driven in large part by the declines in use of prescription opioids and amphetamines. Prevalence fell 1.3 percentage points to 8.6%, which is the lowest level recorded. It is half the level of 17.1% in 2005 when this outcome was first tracked.

**Cigarette smoking** by teens in 2019 showed some interruption in its substantial long-term decline, with only the 12<sup>th</sup> graders showing much further decline. This pattern of change is consistent with a cohort effect still working its way up the age spectrum as younger, lighter smoking cohorts replace older ones. That pattern continued this year with significant declines again only among 12<sup>th</sup> graders in *30-day*, *daily*, and *half-pack-per-day* prevalence rates, but no further declines in grade 8 and grade 10. *Thirty-day* prevalence fell by a significant 1.9 percentage points among 12 graders to 5.7%, a historical low, but showed no significant change in 8<sup>th</sup> or 10<sup>th</sup> grade. In 2019 *daily* smoking prevalence was also down significantly among 12<sup>th</sup> graders (-1.3 percentage points to 2.4%), but again showed no significant change in grade 8 (-0.1 points) or 10 (-0.5 points). Nevertheless, all grades showed some decline this year, reaching historic lows in 10<sup>th</sup> and 12<sup>th</sup> grade since use was first measured in all three grades in 1991.

The proportional declines from peak levels of cigarette smoking by adolescents are dramatic. For example, daily smoking has fallen 93%, 93% and 90% in grades 8, 10 and 12, respectively. In just the past five years the rate of daily smoking has fallen by between 44% and 66 % in each of the three grades. The implications of these dramatic declines in cigarette smoking are enormous for the health and longevity of this generation of young people—that is, unless the rapid increase in vaping nicotine begins to seriously offset these gains.

There are a number of other products that contain tobacco, including smokeless tobacco, Snus, dissolvable tobacco, hookah (smoking from a water pipe), little cigars (both flavored and unflavored), and large cigars. In general, the use of most of them among adolescents has been in decline.

**Smokeless Tobacco.** *Thirty-day* prevalence in the use of smokeless tobacco peaked in the early 1990s and has been in decline since. *Daily* prevalence for smokeless tobacco is now down to less than 1.2% in all three grades.

**Snus.** *Annual* prevalence of using snus—one type of smokeless tobacco—has fallen steadily since it was first included in the survey in 2012. It has fallen by between a third and a half, including a significant 2.1 percentage point decline in 2019 in 12<sup>th</sup> grade.

**Dissolvable Tobacco.** In 2019 the *annual* prevalence for dissolvable tobacco—another form of smokeless tobacco—was less than 1.7% in all three grades. The rate declined nonsignificantly in the upper grades in 2019.

**Hookah.** Smoking using a hookah pipe became popular for a while among 12<sup>th</sup> graders, with *annual* prevalence rising from 17% in 2010 (when first measured) to 23% by 2014. However, since then it has declined to 5.6% in 2019, including a significant 2.2 percentage point decline this year.

**Little Cigars.** Flavored little cigars and regular little cigars were added to the study in 2014. Both have shown a modest decline in *30-day* prevalence since then, with the flavored ones consistently the more popular among adolescents. Their 30-day prevalence has fallen from peak levels by between a third and a half.

**Large Cigars.** Introduced into the questionnaires in 2014, large cigars were never very popular with adolescents, and their past 30-day use has fallen considerably in the past five years.

According to the investigators the good news is that adolescent use of all of these tobacco products discussed above, which are potential alternatives to cigarette smoking, has been in decline in recent years. However, the declines for a number of them appear to have slowed. Further, the declines in cigarette smoking appear to have ended in the lower grades but continue among the 12<sup>th</sup> graders, consistent with a cohort effect.

## The decline in adolescent alcohol use ends, but with substantial gains over the longer term.

MTF has a number of questions about *alcohol use*, including consuming it in large quantities and getting drunk. In general, alcohol use by adolescents has been in a long-term decline that first began in the 1980s and was interrupted for a few years during the relapse phase in the substance use epidemic in the 1990s. The key findings for 2019 follow.

After a long period of decline, the use of alcohol among adolescents appears to be stabilizing. Low points in use were observed earliest among 8<sup>th</sup> graders, followed by 10<sup>th</sup> graders, and then 12<sup>th</sup> graders, consistent with a cohort effect. In 2019 there were no further significant declines observed in any of the three grades under study in the prevalence of *lifetime, annual, 30-day, or daily* use, or in *binge drinking* (defined as having five or more drinks in a row). The only statistically significant change in any of these measures was a small increase of 0.5 percentage points for daily use among 12<sup>th</sup> graders, from 1.2% in 2018 to 1.7% in 2019. This leveling followed a long period of substantial decline in adolescent drinking. For example, the *two-week prevalence* of binge drinking has fallen from peak levels in the mid-to-late 1990s by between 54% and 71% in each of the three grades. Likewise, self-reports of getting drunk in the prior thirty days did not significantly change in 2019, but declined considerably in prior years.

Measures of *extreme binge drinking* were first introduced in 2005 in questionnaires completed only by 12<sup>th</sup> graders. They were asked about (a) having 10 or more drinks in a row on one or more occasions in the prior two weeks and (b) having 15 or more drinks in a row during the same period. Both of these measures have shown considerable declines of nearly two-thirds since their peak rates observed in 2006. Both measures showed a nonsignificant increase in 2019 in 8<sup>th</sup> and 12<sup>th</sup> grade, and no change in 10<sup>th</sup> grade. (It should be noted that these questions occur on only one of the six questionnaire forms administered to 12<sup>th</sup> graders, making the year-to-year estimates less stable.)