INSTITUTE FOR SOCIAL RESEARCH
UNIVERSITY OF MICHIGAN

Tables summarizing estimates for the drugs discussed below, as well as additional drugs, are here:
https://goo.gl/w78A5e
The findings summarized here will be published by the end of January in a forthcoming volume.

National Adolescent Drug Trends in 2017: Findings Released

Marijuana Use Edges Upward

ANN ARBOR—**Marijuana use** among adolescents edged upward in 2017, the first significant increase in seven years. Overall, past-year use of marijuana significantly increased by 1.3% to 24% in 2017 for 8th, 10th, and 12th graders combined. Specifically, in 8th, 10th, and 12th grades the respective increases were 0.8% (to 10.1%), 1.6% (to 25.5%) and 1.5% (to 37.1%). The increase is statistically significant when all three grades are combined.

"This increase has been expected by many" said Richard Miech, the Principal Investigator of the study. "Historically marijuana use has gone up as adolescents see less risk of harm in using it. We've found that the risk adolescents see in marijuana use has been steadily going down for years to the point that it is now at the lowest level we've seen in four decades."

The results come from the annual Monitoring the Future study, now in its 43rd year. About 45,000 students in some 380 public and private secondary schools have been surveyed each year in this U.S. national study, designed and conducted by research scientists at the University of Michigan's Institute for Social Research and funded by the National Institute on Drug Abuse. Students in grades 8, 10 and 12 are surveyed.

This increase in marijuana drove trends in **any illicit drug use** in the past year. In both 12th and 10th grade this measure increased (although the increase was not statistically significant), while use of **any illicit drug use other than marijuana** declined (although the decrease was not statistically significant). In 8th grade neither of these drug use measures significantly changed, although they both increased slightly.

First-Ever U.S. Standard Estimates for Vaping of Nicotine, Marijuana, and Flavoring

The 2017 survey also reports first-ever national, standard estimates of **nicotine vaping, marijuana vaping, flavoring-only vaping, and any vaping**. Previously, no national study has published estimates for vaping of specific substances for the standard time periods of past 30 days, past year, and lifetime.

Levels of **marijuana vaping** are considerable. One in ten 12th grade students vaped marijuana in the past year, and levels were 8% and 3% for 10th and 8th grade students, respectively. These annual levels are about the same as the levels for *lifetime* prevalence[1] of vaping marijuana use, indicating that almost all marijuana vaping had occurred within one year of the survey.

Levels of ***nicotine vaping*** are also considerable, with 19% of 12th grade students vaping nicotine in the past year. The annual prevalence levels were 16% and 8% for 10th and 8th grade students, respectively. It is also possible that additional students are getting nicotine in what they vape but are not aware of it, so these are lower bound estimates.

Levels of ***overall vaping*** were similar in 2017 to their previous levels in 2016, although the measures are not directly comparable. Updated vaping questions in 2017 asked about vaping of specific substances, while in previous years vaping questions were about any vaping in general. With this caveat, the percentage of students in 2017 who reported vaping flavoring, marijuana, or nicotine was similar to those who reported that they had vaped anything in 2016, with the two respective percentages for use in the past 30 days at 17% in 2017and 13% in 2016 among 12th grade students, 13% and 11% for 10th grade students, and 7% and 6% for 8th grade students.

"These findings emphasize that vaping has progressed well beyond a cigarette alternative," said Richard Miech. "Vaping has become a new delivery device for a number of substances, and this number will likely increase in the years to come."

Cigarettes and Several Other Tobacco Products Decline in Use

Cigarette smoking by teens continued to decline in 2017. For the three grades combined, all measures (lifetime, 30-day, daily, and half-pack/day) are at historic lows since first measured in all three grades in 1991. Since the peak levels reached in the mid-1990s, lifetime prevalence has fallen by 71%, 30-day prevalence by 81%, daily prevalence by 86%, and current half-pack-a-day prevalence by 91%. The prevalence of smoking a half-pack-per-day in the 30 days before the survey now stands at just 0.2% for 8th graders, 0.7% for 10th graders, and 1.7% for 12th graders.

 "The health implications of these dramatic declines in smoking are enormous for this generation of young people" says Lloyd Johnston, the previous director of the study. "Long-term increases in perceived risk and personal disapproval of smoking have accompanied these changes, as has a long-term drop in the perceived availability of cigarettes to these age groups."

Lifetime prevalence and daily prevalence both fell significantly in 2017; 30-day prevalence fell, but not significantly, and half-pack-a day prevalence held steady at low levels.

Smokeless tobacco also showed a continuing decline this year with 30-day prevalence reaching a low point for the three grades individually and combined. It has fallen for the grades combined by nearly two-thirds, from 9.7% in 1992 to 3.5% in 2017, including a non-significant drop in 2017 of 0.7%.

Snus, a form of smokeless tobacco, showed a significant decline in use this year for the three grades combined (annual prevalence fell from 3.6% to 2.6%).

Use of a ***hookah pipe*** to smoke tobacco had been increasing earlier in the decade and reached a substantial proportion of the age group, but annual prevalence has fallen by more than half since 2014, from 23% to 10% in 2017 for the three grades combined (including a significant decline this year of 2.9 percentage points). "The use of hookah appears to be fading out," conclude the investigators.

Use of both ***flavored little cigars*** and ***regular little cigars*** is down modestly since first being measured in all three grades in 2014, but did not continue to decline this year. Thirty-day prevalence is at 5.4% for flavored and 3.7% for regular little cigars.

Alcohol Use Levels, After a Long Decline

In general, alcohol use by adolescents has been in a long-term decline that actually first began in the 1980s and was interrupted for a few years during the relapse phase in the substance use epidemic in the 1990s.

In 2017, however, lifetime prevalence, annual prevalence, 30-day prevalence, and daily prevalence all showed little or no change with no significant changes for any grade or for the three grades combined. This is the first time this has happened in many years and may herald the end of the long-term decline in adolescent alcohol use. It is worth noting, however, that prior to this year lifetime prevalence and annual prevalence for the three grades combined both trended down by roughly four-tenths from the peak levels of use reached in the mid-1990s; 30-day prevalence is down by about one-half since then; and daily prevalence is now down by two-thirds. "These are dramatic declines for such a culturally ingrained behavior and good news to many parents," note the investigators. "However, we saw no further declines in 2017."

Two measures of heavy alcohol use--having **been drunk** in the past 30 days and **binge drinking** (having had five or more drinks in a row at least once in the prior two weeks)—similarly have trended down by over half from their peak rates reached in the mid-to-late-1990s. However, the decline did not continue into 2017. In 2017 binge drinking was reported by 4% of 8th graders, 10%, of 10th graders, and 17% of 12 graders. **Extreme binge drinking**, defined as drinking 10 or more drinks, or even 15 or more drinks, in a row during a single occasion in the past two weeks was added to the study in 2005. Fortunately, both measures have seen a drop of more than half since their peak rates observed in 2006, but here also no further decline this year.

Use of Inhalants Increases among 8th graders

Use of **inhalants** significantly increased among 8th grade students in 2017. Inhalant use includes sniffing glue, gases, or sprays, and is an unusual type of substance use because it is more common among younger than older adolescents. In 2017 the percent of 8th grade students who had ever used inhalants in their lifetime increased 1.2% to 8.9%, a significant increase; use in the past 12 months increased 0.9% to 4.7%, also a significant increase. This upturn may mark the end of a gradual decline that started nearly a decade earlier in 2008.

For some years MTF has warned that inhalant use is primed to increase. Perceptions of risk from using inhalants among 8th graders have been steadily declining since 2010 (Table 8-1), which is often a leading indicator of future increases in prevalence.

Any illicit drug use including inhalants also significantly increased among 8th grade students in 2017. Lifetime use increased 2.7% to 23.3% and past 12 month use increased 2.3% to 15.8%, both significant increases. These increases were driven primarily by the upturn in inhalant use.

Heroin and Opioid Use Remains Low Among Adolescents

The opioid epidemic among adults has received much attention in recent months, and MTF offers the opportunity to see what is happening with opioid use among adolescents. **Heroin** use by adolescents has always been low, and did not significantly change in the 8th, 10th, or 12th grades in 2017, with annual use levels at 0.4% or lower in all three grades.

Misuse of **prescription opioids** is reported only for 12th grade students; it continued a decade-long decline in 2017, although this year's decline was not statistically significant. Use in the past 12 months decreased 0.5% to 4.2% in 2017, and is now at a level that is less than half of the 9.5% prevalence recorded in 2004. **Vicodin**, which has had the highest level of use among the opioid analgesics, showed a significant decline in past 12 month use among

12th graders in 2017 from 2.9% to 2.0%. Its annual prevalence is now at the lowest levels in all three grades observed since it was first included in the study in 2002.

Tables summarizing estimates for the drugs discussed below, as well as additional drugs, are here:
https://goo.gl/6dR3kK
The findings summarized here will be published by the end of January in a forthcoming volume.

[1] Prevalence refers to the percent of the study sample that report using a drug once or more during a given period—i.e.in their lifetime, past 12 months [annual prevalence], past 30 days, and daily in the past 30 days.