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Vaping, hookah use by US teens declines for first time

ANN ARBOR—Teens are lighting up less often when it comes to e-cigarettes and hookahs.

A new study finds that the percentage of U.S. teens who vape declined in 2016—the first significant reversal of a rapid rise in adolescent vaping. The rate grew from near-zero levels of use in 2011 to one of the most common forms of adolescent substance use by 2015, researchers said.

From 2015 to 2016, the percentage of adolescents who vaped in the last 30 days declined from 16 percent to 13 percent among 12th-grade students, from 14 percent to 11 percent among 10th-grade students, and from 8 percent to 6 percent among 8th-grade students. Each of these declines was statistically significant.

These findings come from the University of Michigan's Monitoring the Future study, which tracks trends in substance use among students in 12th, 10th and 8th grades. Each year the national study, now in its 42nd year, surveys 40,000 to 50,000 students in about 400 public and private secondary schools throughout the United States.

The survey includes questions on the use of vaping devices, which are battery-powered devices with a heating element that produce an aerosol, or vapor, inhaled by users. The vapors come in thousands of flavors, including options such as bubble gum and milk chocolate cream, which are likely attractive to younger teens.

"Whether adolescent vaping has peaked or only paused is something we will be able to determine in the coming years," said Richard Miech, a senior investigator in the Monitoring the Future project. "In the past, we have seen new drugs follow a pattern in which use increases at a fast pace during a honeymoon period and then reverses course and declines as knowledge of the substance's drawbacks became known."

Adolescents associated slightly greater potential harm with vaping in 2016 than they did the previous year, although overall they don't see them as particularly dangerous to use.

E-cigarettes are the most common vaping device, and from 2015 to 2016, the percentage of adolescents who believe that regular e-cigarette use poses a risk of harm increased from 16 percent to 18 percent in 12th grade, from 17 percent to 19 percent in 10th grade, and from 19 percent to 21 percent in 8th grade.

One potential harm of vaping is that it may lead to use of regular cigarettes. Miech, who has written on the subject, notes that an increasing number of studies show that vaping predicts future cigarette smoking, even among adolescents who had little predisposition to smoke when they started vaping.

"Vaping may lead to friendship networks that encourage vapers to smoke," he said. "Also, vapers may come to believe the dangers of smoking are exaggerated if they do not experience any immediate health consequences from vaping."

Hookah use

Hookah use among U.S. 12th-grade students also declined in 2016, the first significant drop since the survey began tracking hookah use in 2010. From 2015 to 2016, use of a hookah in the past 12 months fell by more than one-third, from 20 percent to 13 percent among 12th-grade students (the survey tracks use only among 12th-grade students).

A hookah user breathes in through a mouthpiece attached to a rubber hose in order to inhale tobacco smoke that passes through water. The tobacco smoke inhaled by a hookah user is just as dangerous as cigarette smoke.

"Hookah use and vaping are two alternative cigarette products that rank among the most commonly used among U.S. youth," Miech said. "The decline in their use is important so that any reduction in cigarette smoking among U.S. teens is a real reduction in nicotine consumption, and not just a change from one form of nicotine use to another."

Cigarettes

Cigarette smoking among teens in grades 12, 10 and 8 continued a decades long decline in 2016 and reached the lowest levels recorded since annual tracking began 42 years ago. From 2015 to 2016, the percentage of youth who smoked in the past 30 days fell from 11.4 percent to 10.5 percent among 12th-grade students, from 6.3 percent to 4.9 percent among 10th-grade students, and from 3.6 percent to 2.6 percent among 8th-grade students. The one-year declines in 10th and 8th grade were statistically significant.

"Since the peak year in 1997, the proportion of students currently smoking has dropped by more than three quarters—an extremely important development for the health and

longevity of this generation of Americans," said Lloyd Johnston, the principal investigator of the study.

Such a reduction can translate eventually into preventing hundreds of thousands of premature deaths as well as many serious diseases, he said. More than 400,000 Americans per year are estimated to die prematurely as a result of smoking cigarettes.

Concerted efforts to reduce youth smoking appear to be paying off. These have included increased taxes on tobacco products, restrictions on advertising and promotion, limiting where smoking is permitted, broad based anti-smoking ad campaigns, educational programs in schools, removal of added flavoring to cigarettes (except menthol), and quit smoking programs and products becoming more available. Increases in the price of cigarettes charged by manufacturers have also played an important role.

"While the improvements in the smoking numbers for just this one year are important, of course, the longer term declines are much more so," Johnston said. "Since teen smoking reached a peak around 1996-1997, the levels of past 30-day smoking have fallen by nearly 80 percent among 8th- and 10th-graders, and by more than 70 percent among 12th-graders. Further, the proportional declines in daily smoking are even larger."

One important cause of these declines in current smoking is that many fewer young people today have ever started to smoke. In 1996, 49 percent of 8th-graders said they had tried cigarettes, but by 2016 only 10 percent said they had done so—a drop of almost 80 percent in smoking initiation over the past two decades.

Illicit Drugs and Alcohol

Declines in almost all illicit drugs took place in 2016, including marijuana use among 8th- and 10th-grade students, synthetic marijuana and ecstasy. Alcohol use, including binge drinking, also declined. These findings, along with more results on these and other substances, are presented in a companion news release: myumi.ch/JYX4A

The findings summarized here will be published in January in a forthcoming volume. The statistical breakdown by states are not available.

[Tables and figures](#)
[Monitoring the Future](#)