

Vaping Can Be Addictive and May Lure Teenagers to Smoking, Science Panel Concludes

By SHEILA KAPLANJAN. 23, 2018

WASHINGTON — A national panel of public health experts concluded in a report released on Tuesday that vaping with e-cigarettes that contain nicotine can be addictive and that teenagers who use the devices may be at higher risk of smoking.

Whether teenage use of e-cigarettes leads to conventional smoking has been intensely debated in the United States and elsewhere. While the industry argues that vaping is [not a steppingstone](#) to conventional cigarettes or addiction, some antismoking advocates contend that young people become hooked on nicotine, and are enticed to use cancer-causing tobacco-based cigarettes over time.

The new report by the National Academies of Sciences, Engineering and Medicine is the most comprehensive analysis of existing research on e-cigarettes. The report also cited conclusive proof that the devices are safer than traditional smoking products and may help smokers quit, citing conclusive proof that switching can reduce smokers' exposure to deadly tar, dangerous chemicals and other carcinogens.

But it stopped short of declaring that e-cigarettes are safe, noting there are no long-term scientific studies of the devices' addictive potential or their effects on the heart, lungs or on reproduction.

The panel found evidence among studies it reviewed that vaping may prompt teenagers or young adults to try regular cigarettes, putting them at higher risk for addiction, but that any significant linkage between e-cigarettes and long-term smoking has not been established. It said it was unable to determine whether young

“When it got down to answering the questions about what the impacts on health are, there is still a lot to be learned,” said David Eaton, of the University of Washington, who led the committee that reviewed existing research and issued the report. “E-cigarettes cannot be simply categorized as either beneficial or harmful.”

The report was commissioned in 2016, after the F.D.A. gained the authority to regulate tobacco products that had previously been outside its jurisdiction, such as e-cigarettes and cigars.

Mitch Zeller, head of the agency's tobacco division, said the committee was assigned to assess the existing science, and to point out gaps in research. The report will aid the agency in its review of applications for lower-risk tobacco products and the potential harm or benefits those pose to individuals and the public.

On Wednesday, an F.D.A. advisory panel will review an application from Philip Morris International for iQOS, an electronic device that, unlike e-cigarettes, contains tobacco in a stick that the company says heats it but does not burn it. It releases nicotine vapor, which the company says is less hazardous than smoke. If approved, Philip Morris would be the first company allowed by the government to claim its product is less harmful than cigarettes.

Also this week, on Friday, the agency's new nicotine steering committee will hold a public hearing on over-the-counter therapeutic products, among them gums, patches and lozenges, designed to help smokers quit.

Cessation was one area where the committee's report did give the booming e-cigarette industry some good news. It pointed out the benefits for smokers trying to quit. But people who continue to smoke cigarettes, alternating with e-cigarettes, do not gain the same health benefits, the committee said. That's especially important given that most adults who vape also still smoke or use other tobacco products. The report also said the evidence was limited on whether e-cigarettes were effective for quitting smoking.

While there is no evidence at this time that e-cigarettes or their components cause cancer, the committee recommended more long-term research. Some e-cigarettes contain chemicals and metals whose long-term effects — including on pregnancy — also need further study, the committee said.

Smoking rates among adults and teenagers have declined significantly over the last few decades. In 2015, the last year for which the Centers for Disease Control and Prevention has statistics, about 37 million Americans, 15 percent of adults aged 18 and older, smoked cigarettes. The number has declined from nearly 21 percent of every 100 adults in 2005; and 42 percent in 1965.

With that decline, the e-cigarette industry has emerged as a potential substitute and Big Tobacco has been among the device developers enjoying new profits from the tobacco alternatives. Bonnie Herzog, a Wells Fargo tobacco analyst, predicted the industry will grow about 15 percent to \$5.1 billion in retail sales in the United States, in 2018.

The vaping industry, as well as traditional tobacco companies, are gearing up for a lengthy fight with the F.D.A. over the campaign by the agency's commissioner, Dr. Scott Gottlieb, to slash levels of nicotine in traditional cigarettes to nonaddictive or minimally addictive levels.

Dr. Gottlieb is expected to issue an initial proposal, calling for public comment on lower nicotine levels, in the near future.

The new report reflects the complexity of the issues surrounding e-cigarettes and the balancing act regulators face over the pros and cons of the alternatives to conventional cigarettes.

Adam Leventhal, a professor of preventive medicine at the University of Southern California, and an author of the report, said his group did an exhaustive literature search, reviewing all studies on youths and e-cigarette use from around the world. Of those, 10 studies were deemed strong enough to address the question. But they did not show that using e-cigarettes caused teens to move on to tobacco, only that the use of e-cigarettes was associated with later smoking of at least one traditional cigarette. The report noted that more than 11 percent of all high school students — nearly 1.7 million youths — reported using e-cigarettes within the past month.

“The evidence was substantial that this association was consistent across a number of research methodologies, age ranges, locations, and research groups in and outside the U.S.,” Mr. Leventhal said.

This conclusion is at odds with the findings of the British Royal College of Physicians, which asserts that e-cigarettes are not a gateway to smoking.

“Concerns about e-cigarettes helping to recruit a new generation of tobacco smokers through a gateway effect are, at least to date, unfounded,” the organization notes on its website.

More intriguing was the newest report's finding of moderate evidence that youths who use e-cigarettes before trying tobacco are more likely to become more frequent and intense smokers.

Critics have long contended that the flavored liquids for the devices are luring adolescents to the habit, at a time when nicotine is especially hazardous for their brain development. Three of the top-selling flavors at e-liquid.com, a large online retailer, include “Unicorn Milk” (strawberries and cream), “TNT” (strawberry, apple and peach) and “I Love Donuts” (blueberries and pastry).

The authors of the new report cite conclusive evidence that vaping can be addictive, and that exposure to nicotine from e-cigarettes is highly variable, depends on the characteristics of the device, as well as how it is used. They also cited conclusive proof that in addition to nicotine, most e-cigarettes contain and emit potentially toxic substances.

In terms of second-hand vapor, the committee said there was conclusive evidence that e-cigarette use increases airborne concentrations of particulate matter and nicotine indoors.

The report concluded that much of the current research on e-cigarettes is flawed, either in methodology or because of industry-financed bias. In addition, the levels of nicotine and other chemicals, including metals, vary in e-cigarettes from brand to brand.

“And for kids who initiate on e-cigarettes, there's a great chance of intensive use of cigarettes. As the regulator, we've got to factor all that in,” Mr. Zeller said.

In July, the [F.D.A. delayed the deadline](#) at least four years for e-cigarette companies to apply for approval to keep their products on the market, largely by showing some public health benefit.

Several major tobacco companies that produce e-cigarettes declined to comment on the report. R.J. Reynolds Tobacco Company issued a statement saying it was encouraged by the report's findings, and highlighted the committee's point that e-cigarettes “are likely to be far less harmful than conventional cigarettes.”

But public health advocates who objected to the July delay said this report gave them further concern.

“What the report demonstrates is that despite the popularity of e-cigarettes, little is known about their overall health effects, and there is wide variability from product to product,” said Matthew L. Myers, president of Campaign for Tobacco-Free Kids. “That makes the case even stronger for F.D.A. regulation.”

The vaping industry was cautiously optimistic about the report. Gregory Conley, president of the American Vaping Association, a nonprofit that advocates for vapor products, said the findings were consistent with those reached by the Royal College of Physicians and other institutions in Britain that have issued reports indicating e-cigarettes are less dangerous than traditional smoking and help with cessation.

“In the wake of this report, it is more apparent than ever that true leadership is needed in public health to ensure that adult smokers have access to truthful information about the benefits of switching to smoke-free products,” he said.

As for the F.D.A., Dr. Gottlieb said the report would play a critical role.

“We need to put novel products like e-cigarettes through an appropriate series of regulatory gates to fully evaluate their risks and maximize their potential benefits,” he said.

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QUESTIONS:

1. According to recent studies, it is estimated that as many as 38% of high schoolers have vaped at least once. How accurate do you feel this number is?
2. Who could benefit from the use of electronic cigarettes? WHY?
3. Do you feel this describes most users of e-cigarettes?
4. What are the greatest hazards associated with e-cigarette use?
5. How does “big tobacco” view the e-cigarette issue and current reports on its safety?
6. What is your opinion on what the FDA should do concerning the testing and regulation of e-cigarettes?