

How vaping stacks up: E-cigarettes have benefits, but vapor has addictive nicotine

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Viewed as an epidemic by some and a lifesaver by others, vaping became an issue in Decatur last month as the City Council expanded its smoking ordinance to include e-cigarette use.

“They’re worried about vaping when we’re inhaling smoke from industries and dumping chemicals into our river?” said Alexis Thrasher, a vaping enthusiast and co-owner of Vape Kloudz on Sixth Avenue Southeast. “There must be something better they can do with their time.”

Thrasher says vaping helped her stop smoking cigarettes, a claim that’s consistent with research published last week in the *New England Journal of Medicine*. The study found that e-cigarettes are nearly twice as effective as nicotine gums and patches in helping smokers kick the habit. Thrasher’s view is the benefits of e-cigarettes in weaning people off cigarettes far outweigh the negatives.

“I smoked for 30 years and picked up a vape as a joke 5½ years ago, and I haven’t picked up a cigarette since,” Thrasher said. “The majority of our people, that’s what they have used it for.”

While the health risks associated with inhaling e-cigarette vapor are debated, there’s little question that tobacco smoke is far more toxic.

That’s the good news. The bad news: Nicotine, usually an ingredient in the e-cigarette vapor, is addictive. Some research also suggests vaping serves as a gateway to cigarettes, especially for teens.

A typical start-up vaping kit — about \$40 at local stores — includes the e-cigarette, a USB battery charger and a flavored liquid used to create the inhalable aerosol. The typical e-cigarette, about the size of a cigar, has three pieces: a mouthpiece, a compartment that includes a tank for the e-juice and a heating element to vaporize it, and a battery compartment. After putting liquid in the tank, the user rapidly pushes a button five times to activate the heating element and then puffs away.

A report in November by the Centers for Disease Control and Prevention found a 78 percent increase in vaping by U.S. high school students from 2017 to 2018, with 3.6 million high school and middle school students now using e-cigarettes. Twenty-one percent of high school students and 5 percent of middle school students were current users, according to the 2018 survey.

Dwight Satterfield, deputy superintendent of school safety and student services at Decatur City Schools, said DCS is not immune from the national trend.

DCS performs random tests for nicotine, alcohol and drugs on the 65 percent of high school students who drive to school or who participate in competitive extracurricular activities like sports and band. In January, he said, 40 students were tested and five were positive for nicotine. Of those, four said they used JUUL-brand e-cigarettes. If representative, that would suggest 10 percent of DCS high-schoolers vape. The numbers could be higher, as these students knew that testing was a possibility.

“I wouldn’t say it’s a major issue, but we’ve definitely seen an uptick,” Satterfield said, “especially in JUULing.”

While most vaping devices are shaped roughly like a cigarette, the JUULs that have become popular among young people are smaller and look like USB flash drives.

“We’ll find them on students’ key chains,” Satterfield said. “It’s easier for them to be less conspicuous with the JUULs.”

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A school in Nebraska recently prohibited students from bringing USB drives to school, in an effort to reduce vaping.

Complicating detection efforts is the fact that vapes lack the distinctive smell of cigarettes. A Florida school district routinely takes a dog trained to detect e-cigarettes into the cafeteria.

“It used to be we could go into a bathroom and smell smoke” Satterfield said. “This you can’t necessarily smell.”

DCS does not discipline students who test positive for nicotine, Satterfield said, but it notifies their parents and provides them with literature on the dangers of nicotine.

Since 2013, Alabama has prohibited the sale of e-cigarettes to people under 19.

“I literally card everybody that’s under 30 when they walk in the door,” said Thrasher, who has been in business five years. “We’re two blocks from Decatur High School. They can walk in the door, but then they get carded.”

The U.S. Food and Drug Administration assumed regulatory jurisdiction over e-cigarettes as tobacco products in 2016, but it had signaled it would delay significant regulatory control until 2022. FDA Commissioner Scott Gottlieb has said he doesn't want to over-regulate an emerging industry that could provide a safer option for smokers.

The dramatic increase in teen smokers over the last two years, however, could change that. The FDA last month began limiting the availability of flavors other than mint, menthol and tobacco, the idea being that those flavors are used in cigarettes and thus are more likely to appeal to those trying to quit smoking. The flavor restrictions do not apply to e-cigarettes sold in age-restricted stores.

Thousands of other flavors are marketed, including many — such as bubble gum, gummy bear, mango and chocolate — that seem aimed at young people.

"I will not allow a generation of children to become addicted to nicotine through e-cigarettes. We won't let this pool of kids, a pool of future potential smokers, of future disease and death, to continue to build," Gottlieb said in a statement.

Adolescents are especially vulnerable to the risks of e-cigarettes, said Elisa Trucco, director of the Research on Adolescent and Child Health Lab at Florida International University. The extent of the health risk of some substances in e-cigarettes is unclear, she said, but nicotine — present in most e-cigarettes — is well understood.

"The brain develops until age 25," Trucco said. "Given that the areas of reward, memory and executive functioning are still developing, nicotine can have a deleterious effect on these developing structures."

The habit-forming characteristics of nicotine increase the risk for young people, she said.

"It's an addictive substance, so once you start taking it you're going to crave more and more of it," Trucco said. "If adolescents start using vaping devices, they may be more likely to transition to regular cigarette use. The concern is they're more likely to follow this path of nicotine dependence through these devices."

Even without the tar and hundreds of other toxic substances that make cigarettes especially dangerous, nicotine poses health risks. The U.S. surgeon general warns against nicotine, as studies show it can lead to hypertension, diabetes and infertility. In pregnant women, it can lead to stillbirths and premature births.

The dangers of e-cigarettes, however, appear to pale relative to tobacco cigarettes.

The 8,600 smoking-related deaths each year in Alabama make smoking the state's leading cause of preventable death, according to the American Lung Association. According to the state's 2015-2020 Alabama State Plan for Tobacco Prevention and Control, 8,200 youths in the state become smokers each year, and about 50 percent eventually will die of smoking-related diseases.

The compelling evidence that vaping helps people quit smoking, balanced against the ill-defined harm vaping poses, means governments should be slow to regulate it, according to policy analyst Vanessa Brown Calder at the libertarian Cato Institute. She's skeptical about ordinances like the one recently passed in Decatur that lump e-cigarettes into existing smoking ordinances.

"When you have a substance like this which actually does hold benefits for people, I think you really need to be careful in placing restrictions on the use of it," Calder said. "You're not just eliminating harm, but you're also eliminating potential benefits. I think governments should wait on more of the facts to come in before making any sweeping decisions."

The Decatur smoking ordinance, amended Jan. 22 to include e-cigarettes, bans vaping in any "public place," which is broadly defined to include bars, restaurants, stores and any other enclosed areas where the public is permitted.

The lone council no vote came from Councilman Charles Kirby, but he said Friday his objection solely involved who should regulate vaping, not whether it should be regulated.

"It's a problem in our society. It's an addiction," Kirby said. "But I don't think cities are equipped to deal with it. It's a health issue and something needs to be done about it, but that's the responsibility of state government," Kirby said.

The goals of promoting e-cigarettes as a safer alternative for smokers and keeping them out of the hands of adolescents could be in conflict, according to Trucco.

"The rates of use are pretty much in parallel to the perception of risk. If the perception of risk decreases, then adolescents are more likely to use the substance," Trucco said. "The concern is that if these products are aimed at people who want to stop smoking, presented as a comparatively harmless substance, then adolescents will figure it's not a big deal if they use them, too."