

The best Rx for teens addicted to vaping? No one knows

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In this April 11, 2018, file photo, a high school student uses a vaping device near a school campus in Cambridge, Mass. U.S. health officials are scrambling to keep e-cigarettes away from teenagers amid an epidemic of underage use. But doctors face a new dilemma: there are few effective options for weening young people off nicotine vaping devices like Juul. (AP Photo/Steven Senne, File)

The nation's top health authorities agree: Teen vaping is an epidemic that

now affects some 3.6 million underage users of Juul and other e-cigarettes. But no one seems to know the best way to help teenagers who may be addicted to nicotine.

E-cigarettes are now the top high-risk substance used by teenagers, according to the latest U.S. figures, which show that Juul and similar products have quickly outpaced cigarettes, alcohol, marijuana and other substances that have been tracked over more than four decades.

The handheld devices heat a liquid solution that usually contains nicotine into an inhalable vapor. Federal law prohibits sales to those under 18, though many high schoolers report getting them from older students or online.

In recent months, government officials have rolled out a series of proposals aimed at keeping the products away from youngsters, including tightening sales in convenience stores and online. In November, vaping giant Juul voluntarily shut down its Facebook and Instagram accounts and pulled several flavors out of retail stores.

But there's been little discussion of how to treat nicotine addiction in children as young as 11 years old. While some adolescents should be able to quit unaided, experts say many will be hampered by withdrawal symptoms, including anxiety, irritability, difficulty concentrating and loss of appetite.

Physicians who treat young people now face a series of dilemmas: The anti-smoking therapies on the market—such as nicotine patches and gums—are not approved for children, due to lack of testing or ineffective results. And young people view the habit as far less risky, which poses another hurdle to quitting.

The harshness of cigarette smoke often limits how much teenagers

inhale, sometimes discouraging them from picking up the habit altogether. That deterrent doesn't exist with e-cigarette vapor, which is typically much smoother, according to experts.

Kicking any addiction requires discipline, patience and a willingness to follow a treatment plan—something that doesn't come easily to many young people, experts said.

"Teenagers have their own ideas of what might work for them, and they're going to do what they do," said Susanne Tanski, a tobacco prevention expert with the American Academy of Pediatrics. "But we desperately need studies to figure out what's going to work with this population."

Since debuting in the U.S. in 2007, e-cigarettes and other vaping devices have grown into a \$6.6 billion business. Driving the recent surge in underage use are small, easy-to-conceal devices like Juul, which vaporizes a high-nicotine solution sold in flavors such as creme, mango and cucumber. Despite industry worries of a crackdown on flavors, the FDA has taken no steps to ban the array of candy and fruit varieties that companies use to differentiate their offerings.



In this April 10, 2018, file photo, a high school principal displays vaping devices that were confiscated from students in such places as restrooms or hallways at the school in Massachusetts. U.S. health officials are scrambling to keep e-cigarettes away from teenagers amid an epidemic of underage use. But doctors face a new dilemma: there are few effective options for weaning young people off nicotine vaping devices like Juul. (AP Photo/Steven Senne, File)

E-cigarettes have become a scourge in U.S. schools, with students often vaping in the bathroom or between classes. One in 5 five high schoolers reported vaping in the last month, according to 2018 federal survey figures.

Juul and other brands are pitched to adult smokers as a way to quit smoking, but there's been little research on that claim or their long-term health effects, particularly in young people. Nicotine can affect learning, memory and attention in the teenage brain, but there's virtually no research on how e-cigarette vapor affects lungs, which do not fully

mature until the 20s.

"It's frightening for me as a pediatrician because I really feel like there's this uncontrolled experiment happening with our young people," Tanski said. "They don't perceive the harm, and we can't show them what it's going to be."

Tanski and other experts will meet this Friday at the Food and Drug Administration to discuss the potential role for pharmaceutical therapies and non-prescription medications such as nicotine gums and patches.

Regulators acknowledge they are starting from square one: The FDA "is not aware of any research examining either drug or behavioral interventions" to help e-cigarette users quit, the agency noted in its announcement.

The FDA will also hear from researchers, vaping executives, parents and teenagers.

"We want to make sure our voices are heard and that—most importantly—our kids' voices are heard," said Meredith Berkman, who plans to speak at the meeting with her 10th-grade son.

Berkman said she first realized her son and his friends were "Juuling" last year when she heard them repeatedly opening and closing his bedroom window. With two other New York City mothers, she formed the group Parents Against Vaping E-cigarettes, which is asking the FDA to ban all e-cigarette flavors.

"Unless the flavors are off the market, kids are going to continue to be seduced by these highly addictive nicotine-delivery systems like Juul," Berkman said.

Quitting smoking is notoriously difficult, even for adults with access to various aids and programs. More than 55 percent of adult smokers try to quit each year, yet only about 7 percent succeed, according to government figures.



In this Dec. 20, 2018, file photo, a man displays his Juul electronic cigarette while shopping at a convenience store in Hoboken, N.J. U.S. health officials are scrambling to keep e-cigarettes away from teenagers amid an epidemic of underage use. But doctors face a new dilemma: there are few effective options for weening young people off nicotine vaping devices like Juul. (AP Photo/Julio Cortez, File)

Nicotine gums, patches and lozenges are available over-the-counter for those 18 and older, and are occasionally prescribed "off-label" for younger patients. They provide low levels of nicotine to help control cravings. Prescription drugs include Zyban, an antidepressant, and

Chantix, which blocks the effects of nicotine on the brain. But neither has shown positive results in teenagers, and both carry worrisome side effects, including suicidal thinking for Zyban and nausea and abnormal dreams for Chantix.

That leaves counseling as the go-to option for teenagers trying to quit cigarettes.

In November, Colorado dropped the minimum eligibility age for its quit-smoking hotline from 15 to 12, in response to the explosion in vaping among students as low as 6th grade. The state's underage vaping rate is the highest in the U.S., with 1 in 4 high school students reportedly using the products, according to federal data. The state's over-the-phone and online programs provide free coaching to help users create a quit plan, manage cravings and avoid relapse.

But even counseling has shown only "limited evidence" in helping teenagers, according to an exhaustive review of the medical literature published in 2017.

Still, addiction specialists see growing demand for such programs, particularly group sessions that often have the most promising results.

Addiction psychiatrist Jonathan Avery says he gets four to five calls a week from pediatricians referring patients or asking about treatment options. One of the biggest problems is an education gap—many doctors haven't heard of Juul and don't even recognize the vaping devices brought in by parents.

On the other side, teenagers are often "suspicious" when he informs them that they are inhaling a highly addictive substance, said Avery, of New York-Presbyterian Hospital.

About two-thirds of U.S. teenagers do not realize that Juul contains nicotine, according to a recent survey by the Truth Initiative, an anti-smoking advocacy group.

The U.S. Surgeon General, Jerome Adams, hammered that point home in a rare public advisory last month. He said even his 14-year-old son believed that e-cigarette vapor was essentially harmless.

"Youth like my son have no clue what's in these products most of the time," he said.

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