



FLAVORED E-CIGARETTES HOOK KIDS

In recent years, tobacco companies have significantly stepped up the introduction and marketing of flavored non-cigarette tobacco products, especially e-cigarettes. These products are widely available and popular with kids. Flavored e-cigarettes are undermining the nation's overall efforts to reduce youth tobacco use and putting a new generation of kids at risk of nicotine addiction and the serious health harms that result from tobacco use.

Electronic Cigarettes Are the Most Popular Tobacco Product Among Youth

Given the dramatic growth in the availability and marketing of e-cigarettes, it is no surprise that e-cigarettes have been the most commonly used tobacco product among youth since 2014. Youth e-cigarette use remains a serious public health concern, with over 2.1 million youth, including 10% of US high schoolers, reporting current e-cigarette use in 2023.¹ Each day, more than 4,300 kids (under 18) try e-cigarettes for the first time.²

Youth are not just experimenting with e-cigarettes, but using them on a frequent basis, an indicator of serious addiction. In 2023, 39.7% of high school e-cigarette users reported vaping on 20 or more days/month, and 29.9% reported daily use. In total, over half a million middle and high school students are vaping every single day.³ According to the FDA, "Teens who vape may end up addicted to nicotine faster than teens who smoke cigarettes. This is because vapes may expose users to more nicotine and may be used more frequently. Plus, e-cigarettes may come in flavors that appeal to youth. Appealing flavors may cause teens to vape longer and more often, putting them at risk for nicotine addiction."⁴

E-Cigarettes are Widely Available in Kid-Friendly Flavors

Internal tobacco industry documents show that tobacco companies have a long history of using flavors to reduce the harshness of their products to make them more appealing to new users, almost all of whom are under age 18.⁵ Not surprisingly, the youth e-cigarette epidemic coincided with an explosion of sweet-flavored e-cigarette products. As of 2017, researchers had identified more than 15,500 unique e-cigarette flavors available online.⁶



In February 2020, the FDA restricted some flavors in cartridge-based e-cigarettes, but exempted menthol-flavored e-cigarettes and left flavored e-liquids and disposable e-cigarettes widely available in every imaginable flavor. Data show that youth quickly migrated to the flavored products that were exempt from the FDA's policy. As a result, sales of these exempted products has grown substantially:

- From February 2, 2020, to December 31, 2023, disposable e-cigarette sales increased by 212.4% (4.1 million units to 12.7 million units); their unit share increased from 26.2% to 57.2% of total e-cigarette sales. As of December 31, 2023, 77.3% of disposable sales were of flavors other than tobacco, mint, menthol, and clear/other cooling.⁷
- From February 2, 2020, to December 31, 2023, overall menthol-flavored e-cigarette sales increased by 19.9% (5.2 million units to 6.2 million units), including a 20.8% increase in menthol-

flavored cartridge sales (4.8 million units to 5.8 million units). As of December 31, 2023, menthol-flavored e-cigarette sales accounted for 27.8% of the overall e-cigarette market and 61.0% of the prefilled cartridge market.⁸

Flavored E-Cigarettes Are Popular Among Youth

Flavors play a major role in youth use of e-cigarettes because they mask the taste of tobacco and make it easier for new users to initiate use. In addition, many youth perceive flavored tobacco products to be less harmful.⁹ The 2016 Surgeon General Report on e-cigarettes concluded that flavors are among the most commonly cited reasons for using e-cigarettes among youth and young adults.¹⁰

- The 2023 NYTS found that nearly 90% of youth e-cigarette users use flavored products. Among youth e-cigarette users, the most commonly used flavor types were fruit (63.4%), candy/desserts/other sweets (35.0%), mint (27.8%) and menthol (20.1%). In addition to mint and menthol, flavored e-cigarettes with other cooling agents—often marketed as “ice” or “iced”—have also become popular with youth. In 2023, 57.9% of youth e-cigarette users reported using a flavor that included the word “ice” or “iced.”¹¹
- Data from the 2016-2017 wave of the PATH study it found that 70.3% say they use e-cigarettes “because they come in flavors I like.”¹²
- While fruit and mint flavors are now prohibited in cartridge-based e-cigarettes, disposable e-cigarettes come in a wide array of kid-friendly flavors, like cotton candy, strawberry, and mint, which have become increasingly popular among kids. In 2023, 60.7% of youth e-cigarette users reported using disposable e-cigarettes. Among current youth users of flavored disposable e-cigarettes, the most popular flavor types are fruit (70.5%) and candy, desserts, and other sweets (39.8%).¹³

E-Cigarette Use Increases Risk for Smoking

Flavored tobacco products play a key role in enticing new users, particularly kids, to a lifetime of addiction. There is growing concern that use of e-cigarettes may function as a gateway to the use of more dangerous, combustible tobacco products.

- A 2018 report by the National Academies of Science, Engineering and Medicine (NASEM) concluded that, “There is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.”¹⁴
- A nationally representative analysis found that from 2013 to 2016, youth e-cigarette use was associated with more than four times the odds of trying cigarettes and nearly three times the odds of current cigarette use. The researchers estimate that this translates to over 43,000 current youth cigarette smokers who might not have become smokers without e-cigarettes.¹⁵

While youth cigarette smoking is at a record low, youth e-cigarette use has undermined progress in reducing overall youth tobacco use.

Health Effects of Flavored E-Cigarettes

Flavored e-cigarettes contain nicotine, the highly addictive chemical that makes it so easy to get hooked on tobacco products and so hard to quit. According to the Surgeon General, “The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.”¹⁶ Flavorings in e-cigarettes can also pose additional health hazards. According to the Surgeon General, “while some of the flavorings used in e-cigarettes are generally recognized as safe for ingestion as food, the health effects of their inhalation are generally unknown” and noted that some of the flavorings found in e-cigarettes have been shown to cause serious lung disease when inhaled.¹⁷ An article in the *Journal of the American Medical Association* raised concerns that the chemical flavorings found in some e-cigarettes and e-liquids could cause respiratory damage when the e-cigarette aerosol is inhaled deeply into the lungs.¹⁸

-
- ¹ Birdsey J., et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023," *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.
- ² Substance Abuse and Mental Health Services Administration (SAMHSA), HHS, Results from the 2022 National Survey on Drug Use and Health, NSDUH: Detailed Tables, Table 4.10A, <https://www.samhsa.gov/data/report/2022-nsduh-detailed-tables>.
- ³ Birdsey J., et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023," *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.
- ⁴ FDA Center for Tobacco Products, *Resources for Professionals About Vaping & E-Cigarettes: A Toolkit for Working with Youth*, <https://digitalmedia.hhs.gov/tobacco/hosted/Vaping-ECigarettes-Youth-Toolkit.pdf>.
- ⁵ HHS, *Preventing Tobacco Use Among Youth and Young Adults, A Report of the Surgeon General*, 2012, <http://www.cdc.gov/Features/YouthTobaccoUse/>.
- ⁶ Zhu, S-H, et al., "Evolution of Electronic Cigarette Brands from 2013-2014 to 2016-2017: Analysis of Brand Websites," *Journal of Medical Internet Research*, 20(3), published online March 12, 2018.
- ⁷ CDC Foundation & Information Resources, Inc., "Monitoring U.S. E-Cigarette Sales: National Trends," <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.
- ⁸ CDC Foundation & Information Resources, Inc., "Monitoring U.S. E-Cigarette Sales: National Trends," <https://www.cdcfoundation.org/programs/monitoring-e-cigarette-use-among-youth>. Data from Information Resources, Inc. (IRI), which includes e-cigarette sales data from convenience stores, gas stations and other retail store chains. Sales from the internet and tobacco-specialty stores, including vape shops, are not included.
- ⁹ Huang, L.-L., et al., "Impact of Non-menthol Flavours in Tobacco Products on Perceptions and Use Among Youth, Young Adults and Adults: A Systematic Review," *Tobacco Control*, 26(6):709-719, 2017. Kowitz, S.D., et al., "Perceptions and Experiences With Flavored Non-Menthol Tobacco Products: A Systematic Review of Qualitative Studies," *International Journal of Environmental Research and Public Health*, 14(4):338, 2017. Pepper, JK, et al., "Adolescents' interest in trying flavoured e-cigarettes," *Tobacco Control*, 25: ii62-ii66, published online September 15, 2016. Dai, H, et al., "Flavored electronic cigarette use and smoking among youth," *Pediatrics*, 138(6): November 2016.
- ¹⁰ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ¹¹ Birdsey J., et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023," *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.
- ¹² FDA, "Modifications to Compliance Policy for Certain Deemed Products: Guidance for Industry, Draft Guidance," March 13, 2019, <https://www.fda.gov/media/121384/download>. While the methodology is not comparable to the PATH study, the 2019 NYTS found that 68.8% of middle and high school e-cigarette users had used a flavored tobacco product in the past month. Wang, TW, et al., "Tobacco Product Use and Associated Factors Among Middle and High School Students—United States, 2019," *MMWR*, 68(12): December 6, 2019, <https://www.cdc.gov/mmwr/volumes/68/ss/pdfs/ss6812a1-H.pdf>.
- ¹³ Birdsey J., et al. "Tobacco Product Use Among U.S. Middle and High School Students — National Youth Tobacco Survey, 2023," *MMWR*, 72(44): 1173–1182, November 3, 2023, <https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a1.htm>.
- ¹⁴ National Academies of Sciences, Engineering, and Medicine. 2018. *Public health consequences of e-cigarettes*. Washington, DC: The National Academies Press. <http://nationalacademies.org/hmd/Reports/2018/public-health-consequences-of-e-cigarettes.aspx>.
- ¹⁵ Berry, KM, et al., "Association of Electronic Cigarette Use with Subsequent Initiation of Tobacco Cigarettes in US Youths," *JAMA Network Open*, 2(2), published online February 1, 2019.
- ¹⁶ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ¹⁷ HHS, *E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General*. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
- ¹⁸ Barrington-Trimis, JL, Samet, JM, & McConnell, R, "Flavorings in Electronic Cigarettes: An Unrecognized Respiratory Health Hazard?" *The Journal of the American Medical Association*, doi:10.1001/jama.2014.14830, published online November 10, 2014.