

The Food and Drug Administration's e-Cigarette Flavor Restrictions Have Not Gone Far Enough to Curb the Youth e-Cigarette Use Epidemic

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🔗 See also Dasgupta and Morabia, p. 995.

Youth e-cigarette use in the United States has skyrocketed in the past decade. Driven by targeted marketing, high nicotine content, and the availability of flavors appealing to youths,¹ past 30-day use surged among high school students from 1.5% in 2011 to 27.5% in 2019.² To curb youth access and use, the US Food and Drug Administration (FDA) issued an enforcement policy against any flavored, cartridge-based e-cigarettes with tobacco and menthol flavor exemptions in February 2020. The policy was informed by studies showing that most youths preferred flavored cartridge-based e-cigarettes and that few youths use tobacco- and menthol-flavored products. Ever since its announcement, the policy has been criticized for the lack of clarity in flavor definitions and its narrow focus, omitting disposable products, ignoring other product features that appeal to tobacco-naïve and never users (e.g., salt-based nicotine), and leaving

other flavored tobacco products unrestricted.^{3,4}

USUAL FLAVORS UNCHANGED AFTER RESTRICTIONS

In this issue of *AJPH*, Hammond et al. (<https://bit.ly/3PEbxDp>) examine the impact of the policy on trends in the use of flavored e-cigarettes among current e-cigarette users in the United States, Canada, and England. Using data from five waves of the International Tobacco Control Policy Evaluation Project Youth Tobacco and Vaping Survey, their study showed that fruit remained the most often used flavor by youth e-cigarette users after the US federal restrictions on nontobacco, nonmenthol flavors in cartridge-based devices. Their key findings suggest a funneling of cartridge-based e-cigarette users to exempted flavored disposable

products. In addition, the data indicated a widespread noncompliance with the flavor restriction because more than half of cartridge and pod vapers in the United States reported usually using fruit flavors in August 2020. Their findings echo population surveys showing rapidly increasing popularity of disposable e-cigarette use among US youths.⁵ The most recent National Youth Tobacco Survey (NYTS), conducted from January to May 2021, showed that among current youths who were e-cigarette users, 53.7% used disposables and 84.7% used flavored e-cigarettes.⁶

FLAVOR RESTRICTIONS AND E-CIGARETTE USE

The main purpose of the federal flavor restriction is to limit youth access to flavored products and curb the surge of e-cigarette use prevalence. Because of the concern of the comparability of the August 2020 data collected during the pandemic, Hammond et al. did not assess the potential impact of the policy on the accessibility of vaping devices or e-cigarette use prevalence. Although not directly addressing the effects of the federal e-cigarette flavor restriction, a few studies provided estimates on youth e-cigarette use prevalence in 2020 after the release of the FDA's flavor restriction and in 2021. Using data from Monitoring the Future surveys, an earlier study found that the increases in teenage vaping from 2017 to 2019 halted in 2020, and accessibility of vaping products to youths decreased.⁵ NYTS 2021 showed that 11.3% of high school students were current e-cigarette users, much lower than the 19.6% figure in 2020. The 2021 estimation likely was influenced by underreporting among youths participating outside of the classroom; however, among high school

students who took the NYTS 2021 survey in school, 15% reported currently using e-cigarettes, indicating a further decrease in youth e-cigarette use in 2021.

It is unclear whether and to what extent the federal flavor restriction has contributed to the recent decrease in youth e-cigarette use. Data from Monitoring the Future study suggest only a slight decrease in the proportion of current youth e-cigarette users who reported it being fairly easy or very easy to obtain a vaping device or nicotine solution for vaping between 2019 and 2020. Using the national Dynata opt-in online panel collected from January to June 2020, Kreslake et al.⁷ found a significant decrease in e-cigarette use in the past 30 days among youths starting in March 2020. However, they found a similar decrease in the use of flavored disposable e-cigarettes (unaffected by flavor restriction) relative to the use of cartridge-based e-cigarettes. Another study compared young people's e-cigarette risk perception in cities with and without flavored e-cigarette sales restrictions and found no association between e-cigarette flavor policy and risk perception.⁸ Together with the study by Hammond et al., these studies indicate that the impact of federal e-cigarette flavor restriction on the youth e-cigarette epidemic may be quite limited. Although much remains to be clarified, the recent decrease in youth e-cigarette use could have been driven by the widely publicized e-cigarette- and vaping-associated lung injury epidemic during the summer of 2019 and the associated increase in perceived risk of nicotine vaping, Tobacco 21 legislation that restricts adolescent access to all tobacco products, and the pandemic-induced changes in the retail and social environments.^{5,7}

COMPREHENSIVE FLAVOR RESTRICTIONS?

Although the effectiveness of the federal flavor restrictions has been questioned, it remains unclear whether comprehensive flavor restrictions that prohibit non-tobacco-flavored e-cigarettes or all flavored tobacco products may be a better option. Studies that exploited the variation in the comprehensiveness of flavor restrictions between state and local jurisdictions indicated a reduction in flavored and total e-cigarette sales associated with more stringent flavor restrictions.⁹ However, other studies have raised an important concern that reducing youth access to flavored e-cigarettes may motivate substitution of e-cigarettes with traditional cigarettes.¹⁰ Moreover, flavor is also a primary driver of e-cigarette initiation among adult cigarette smokers and may be critical for adult smokers who are otherwise unable to quit cigarette smoking to switch to a potentially safer alternative. Despite the gradual declining prevalence over the past decades, cigarette smoking remains the leading preventable cause of disease, disability, and death in the United States, accounting for close to a half million deaths annually and hundreds of billions of dollars of direct medical costs. More evidence is urgently needed on how flavor restrictions may affect adult smoking and whether flavor restrictions bring a net public health benefit. Public policies should strive for a delicate balance between the risks of e-cigarette use to youths and the potential benefits of e-cigarettes for adult smokers.¹¹ **AJPH**

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PUBLICATION INFORMATION

Full Citation: Xie W. The Food and Drug Administration's e-cigarette flavor restrictions have not gone far enough to curb the youth e-cigarette use epidemic. *Am J Public Health*. 2022;112(7):1009–1010.

Acceptance date: March 1, 2022.

DOI: <https://doi.org/10.2105/AJPH.2022.306822>

CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

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