

PUBLIC HEALTH ALERTS | IN PARTNERSHIP WITH CIDRAP

E-Cigarette and Nicotine Pouch Use Among Youth, United States, 2025

Elizabeth L. Seaman Jones, Ph.D., M.H.S.,¹ Jamie Cordova, M.P.H.,¹ Nina Hoffmeyer, M.P.H.,¹ Lauren R. Pacek, Ph.D.,^{2,3} Cristine D. Delnevo, Ph.D., M.P.H.,^{2,4} Michael A. Tynan, M.P.H.,¹ and Kristy Marynak, Ph.D., M.P.P.¹

Abstract

The e-cigarette and nicotine pouch product landscape changes rapidly. Using publicly available data from the 2025 National Youth Tobacco Survey, we assessed prevalence, flavors, and brands of e-cigarettes and nicotine pouches used by U.S. middle and high school students. E-cigarettes were the most common tobacco product reportedly used, followed by nicotine pouches. Nearly all youth who used e-cigarettes or nicotine pouches used flavored products, especially fruit-flavored e-cigarettes and mint-flavored nicotine pouches. Geek Bar was the e-cigarette brand and ZYN the nicotine pouch brand most frequently used among youth in 2025. Multilevel youth tobacco prevention efforts, including consistent surveillance, remain critical.

The Public Health Alerts section in *NEJM Evidence* is in partnership with the Center for Infectious Disease Research and Policy (CIDRAP) at the University of Minnesota.



Introduction

The e-cigarette and nicotine pouch product landscape changes rapidly. Manufacturers continue to introduce new brands and flavors in violation of federal regulations,^{1,2} and marketing tactics include unproven health claims and youth-oriented images and flavors.^{3,4} Given that there are no safe tobacco products,^{3,5} preventing any tobacco product use among youth is an important public health objective. Nicotine is addictive, and exposure during adolescence can harm brain development.³

E-cigarettes have been the most commonly reported tobacco product used among U.S. middle and high school students since 2014⁵; nicotine pouches (small microfiber pouches filled with nicotine powder and consumed orally) emerged as the second most common tobacco product reported as currently used in 2024.⁵ Prevalence estimates from the 2025 National Youth Tobacco Survey (NYTS) have been published.⁶ This report focuses on prevalence, flavors, and brands of e-cigarettes and nicotine pouches used by U.S. middle and high school students using data from the 2025 NYTS. The NYTS is a publicly available, de-identified data set, and this analysis was not subject to institutional review board review.

Investigation and Outcomes

NYTS is an annual, cross-sectional, school-based survey of students in middle school (grades 6–8) and high school (grades 9–12), conducted among 23,630 students from January 6,

The author affiliations are listed at the end of the article.

Elizabeth L. Seaman Jones
can be contacted at ejones@cdcfoundation.org.

Table 1. Estimated E-cigarette and Nicotine Pouch Use and Selected Behaviors According to School Level, National Youth Tobacco Survey, 2025.

Measure	Overall		High School		Middle School	
	Estimated No. of Users*	Weighted % (95% CI)†	Estimated No. of Users*	Weighted % (95% CI)†	Estimated No. of Users*	Weighted % (95% CI)†
E-cigarettes						
Ever e-cigarette use among all students	3,730,000	13.4 (12.3–14.7)	2,860,000	17.9 (16.4–19.5)	850,000	7.2 (6.0–8.7)
Current e-cigarette use among all students‡	1,440,000	5.2 (4.7–5.9)	1,130,000	7.1 (6.3–8.1)	300,000	2.6 (2.1–3.2)
Among students currently using e-cigarettes						
Daily e-cigarette use during previous 30 days	390,000	27.5 (24.6–30.6)	330,000	29.6 (26.1–33.3)	50,000	17.2 (12.6–23.2)
Use of disposable devices during previous 30 days§	930,000	66.3 (62.1–70.2)	780,000	70.7 (66.1–75.0)	140,000	51.2 (43.7–58.6)
Top brands used in past 30 days¶						
Geek Bar (including Geek Bar Pulse)	880,000	64.1 (60.1–68.0)	720,000	66.3 (61.4–70.8)	150,000	54.7 (46.4–62.7)
Elf Bar (including EBDesign, EBCreate)	290,000	21.5 (18.3–25.0)	200,000	19.3 (16.0–23.1)	70,000	27.2 (21.2–34.2)
Lost Mary	270,000	19.8 (16.1–24.2)	200,000	18.7 (14.6–23.7)	60,000	21.3 (15.2–29.0)
Raz	270,000	19.5 (15.4–24.4)	200,000	18.6 (13.9–24.6)	50,000	20.1 (13.6–28.7)
Vuse	220,000	15.9 (11.9–21.0)	170,000	16.1 (11.5–22.0)	30,000	12.4 (7.8–19.1)
Flavored e-cigarette use						
Any flavor other than tobacco flavored or unflavored	1,290,000	89.4 (86.9–91.5)	1,020,000	90.7 (87.6–93.1)	250,000	84.3 (78.5–88.7)
Fruit flavor use during previous 30 days	840,000	62.1 (57.3–66.6)	660,000	61.8 (56.0–67.3)	160,000	61.3 (54.0–68.0)
Candy, desserts, or other sweets flavor use during previous 30 days	440,000	32.8 (29.8–35.9)	340,000	32.1 (28.7–35.7)	80,000	32.8 (25.1–41.5)
Mint flavor use during previous 30 days	400,000	29.7 (26.0–33.8)	320,000	29.9 (25.8–34.4)	70,000	27.0 (19.8–35.6)
Menthol flavor use during previous 30 days	210,000	15.5 (12.2–19.5)	160,000	15.6 (11.8–20.3)	30,000	11.4 (7.4–17.1)
Nicotine pouches						
Ever nicotine pouch use among all students	1,020,000	4.1 (3.3–4.9)	840,000	5.7 (4.7–7.1)	180,000	1.7 (1.3–2.3)
Current nicotine pouch use among all students‡	460,000	1.7 (1.4–2.1)	350,000	2.3 (1.8–2.9)	100,000	0.9 (0.7–1.2)
Among students currently using nicotine pouches						
Daily nicotine pouch use during previous 30 days	80,000	17.6 (14.5–21.3)	60,000	17.9 (14.0–22.6)	10,000	15.6 (10.7–22.3)
Top brands used in past 30 days¶						
ZYN	310,000	69.2 (62.2–75.5)	260,000	77.1 (70.0–83.0)	40,000	43.8 (31.2–57.2)
on!	60,000	14.6 (11.3–18.7)	40,000	13.9 (10.6–18.1)	—**	—**
Rogue	50,000	12.3 (9.4–15.9)	40,000	13.8 (10.8–17.6)	—**	—**
Grizzly	40,000	9.1 (6.5–12.7)	20,000	7.9 (4.8–12.6)	10,000	13.5 (8.1–21.6)
Flavored nicotine pouch use						
Any flavor other than tobacco flavored or unflavored	410,000	90.8 (86.6–93.7)	320,000	92.1 (86.7–95.4)	90,000	86.3 (76.0–92.6)
Mint flavor use during previous 30 days	260,000	60.9 (55.1–66.4)	220,000	64.9 (58.6–70.8)	40,000	47.6 (36.6–58.9)
Fruit flavor use during previous 30 days	110,000	25.0 (19.4–31.7)	80,000	24.1 (17.8–31.7)	20,000	27.8 (17.7–40.8)
Menthol flavor use during previous 30 days	70,000	18.1 (13.8–23.4)	60,000	20.1 (15.1–26.1)	10,000	11.1 (7.4–16.3)

* Estimated number of students was rounded down to the nearest 10,000 persons to be consistent with prior National Youth Tobacco Survey reporting. Subgroup estimates might not sum to overall population estimates because of rounding or exclusion of students who currently used e-cigarettes and who did not respond to individual survey items reported.

† Confidence intervals have not been adjusted for multiple comparisons and should not be used in place of hypothesis testing.

‡ Current use was assessed with the question “During the past 30 days, on how many days did you use [e-cigarettes/a nicotine pouch]?”

§ Device type was assessed with the question “Which of the following best describes the type of e-cigarette you have used in the past 30 days? If you have used more than one type, please think about the one you use most often.”

¶ Students currently using e-cigarettes or nicotine pouches were asked, “During the past 30 days, what [e-cigarette/nicotine pouch] brands did you use? (Select one or more).” Those who selected “some other brand(s) not listed here” could provide a write-in response; write-in responses were recoded into valid responses where possible.

|| Students currently using e-cigarettes or nicotine pouches were asked, “In the past 30 days when you used [e-cigarettes/nicotine pouches], what flavors did you use? (Select one or more).” Those who selected “Some other flavor not listed here” could provide a write-in response; write-in responses were recoded into valid responses where possible. Those who reported use of tobacco-flavored or unflavored only were classified as “exclusive use of tobacco-flavored or unflavored,” those who indicated at least one non-tobacco flavor were classified as “any flavor other than tobacco-flavored or unflavored” and those who provided no valid responses were classified as “Unspecified.”

** “—” indicates data were unreliable because of an unweighted denominator <50 or a relative SE >30% and are not presented in the table.

2025, to April 4, 2025.⁷ The 2025 survey had an average school response rate of 36.0% and an average student response rate of 82.6%.⁷ Product use definitions and analytic strategies consistent with those employed in previous reports^{5,8} were used to provide comparable national estimates. Ever and current (past 30-day) e-cigarette and nicotine pouch use, frequency of use, and brands and flavors used in the past 30 days were assessed.

Weighted prevalence estimates, population estimates, and 95% logit confidence intervals were calculated in SAS version 9.4 and SAS-callable SUDAAN version 11.0.4 (SAS Institute and RTI International, respectively). Confidence intervals have not been adjusted for multiple comparisons and should not be used in place of hypothesis testing.

In 2025, an estimated 13.4% of U.S. youth reported ever using e-cigarettes, corresponding to 3,730,000 young people (high school, 17.9%; middle school, 7.2%) (Table 1),

and 5.2% reported current e-cigarette use, corresponding to 1,440,000 young people (high school, 7.1%; middle school, 2.6%). Among students who reported currently using e-cigarettes, 27.5% reported daily use, and 66.3% reported using disposable products. Geek Bar, including Geek Bar Pulse (both, Shenzhen Geekvape Technology), was the brand most commonly used in the past 30 days (64.1%), followed by Elf Bar (21.5%; Shenzhen iMiracle Technology), Lost Mary (19.8%; Shenzhen iMiracle Technology), Raz (19.5%; Shenzhen Geekvape Technology), and Vuse (15.9%; R.J. Reynolds Vapor Company). Among youth who currently used e-cigarettes, 89.4% used non-tobacco flavors. Individual flavors were queried as a select-all-that-apply question. The most commonly used e-cigarette flavor was fruit (62.1%), followed by candy, desserts, or other sweets (32.8%), mint (29.7%), and menthol (15.5%) (Fig. 1).

In 2025, an estimated 4.1% of U.S. youth reported ever using nicotine pouches, corresponding to 1,020,000 young

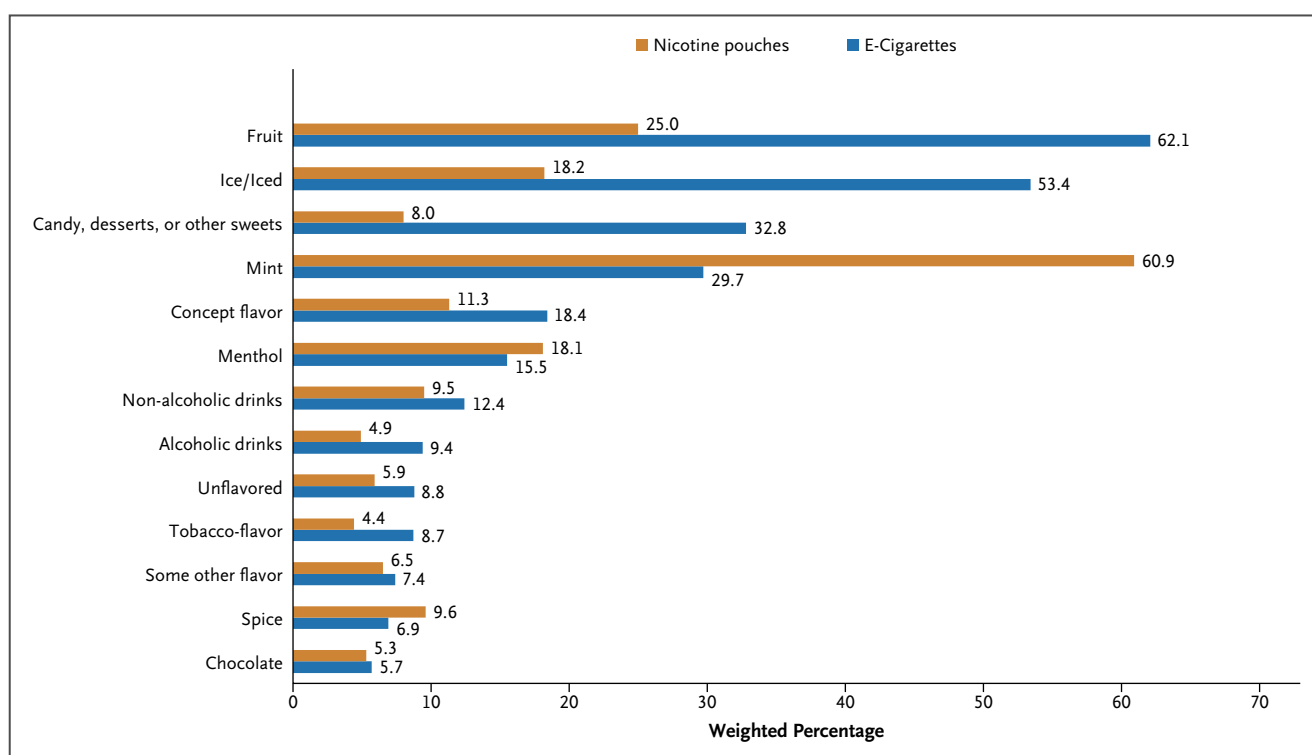


Figure 1. E-cigarette and Nicotine Pouch Flavors Used among High School and Middle School Students Who Reported Current Use, 2025.

Flavor categories included the following: fruit; candy, dessert or other sweets; mint; menthol; some other flavor; non-alcoholic drinks; alcoholic drinks; unflavored; tobacco flavor; spice; and chocolate. These categories were select-all-that-apply answers to the question “In the past 30 days when you used [e-cigarettes/nicotine pouches], what flavors did you use? (Select one or more).” Ice/iced came from answers to the question “Did any of the flavors that you used in the past 30 days have names or descriptions that included the word ‘ice’ or ‘iced’ (for example, blueberry ice or strawberry ice)?” Concept flavor came from answers to the question, “Did any of the flavors that you used in the past 30 days have a name that did not describe a specific flavor, ‘such as solar,’ ‘purple,’ ‘jazz,’ ‘island bash,’ ‘fusion,’ or some other word or phrase?”

people (high school, 5.7%; middle school, 1.7%) ([Table 1](#)); 1.7% reported current nicotine pouch use, corresponding to 460,000 young people (high school, 2.3%; middle school, 0.9%). Among youth reporting current use of nicotine pouches, 17.6% indicated daily use. ZYN (Swedish Match) was the nicotine pouch brand most commonly used among youth (69.2%), followed by on! (14.6%; Altria Group), Rogue (12.3%; Swisher International), and Grizzly (9.1%; Reynolds American). Among youth who used pouches, 90.8% used non-tobacco flavors, most commonly mint (60.9%), followed by fruit (25.0%) and menthol (18.1%) ([Fig. 1](#), [Table 1](#), and Table S1 in the Supplementary Appendix).

Summary and Public Health Implications

Consistent with findings from 2024,⁸ flavored e-cigarette use (especially fruit) and nicotine pouch use (especially mint) remain predominant among students who currently use the products.⁵ However, top e-cigarette brands did seem to change from 2024 to 2025, underscoring the quickly changing product landscape.⁹ Specifically, Geek Bar's novel features include a digital screen that animates during use, which, coupled with flavors and nicotine, may drive appeal and addictiveness among youth. ZYN, which received marketing authorization from the U.S. Food and Drug Administration for 20 products in January 2025 and, in June 2026, received further authorization to market those products as Modified Risk Tobacco Products,¹⁰ remained the nicotine pouch brand most commonly used among youth. This report's limitations include a low school response rate and reliance on self-reported measures subject to recall and reporting biases.

Continued federal, state, and local infrastructure to support youth tobacco prevention, including surveillance of youth tobacco use behaviors, remains critical in the context of rapid changes in tobacco product availability and use. Strategies that may prevent initiation and reduce use among youth include price increases, comprehensive smoke-free laws that include e-cigarettes, countermarketing campaigns, and comprehensive restrictions on the sale of flavored products.⁴

Disclosures

Author disclosures and other supplementary materials are available at evidence.nejm.org.

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the CDC Foundation. The funders had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication. This content is solely the responsibility of the authors and does not necessarily represent the official views of the National Cancer Institute or the U.S. Food and Drug Administration.

The CDC Foundation is funded by the *Bloomberg Initiative to Reduce Tobacco Use* through a grant from Bloomberg Philanthropies. Drs. Pacek and Delnevo were supported in part by grant U01CA278695 from the National Cancer Institute and the US Food and Drug Administration.

Author Affiliations

¹ CDC Foundation, Atlanta, GA, USA

² Rutgers Institute for Nicotine & Tobacco Studies, New Brunswick, NJ, USA

³ Division of General Medicine, Department of Medicine, Rutgers Robert Wood Johnson Medical School, New Brunswick, NJ, USA

⁴ Department of Health Behavior, Society and Policy, Rutgers School of Public Health, Piscataway, NJ, USA

References

1. CDC Foundation. Monitoring E-cigarette sales: national trends through September 2025. January 2026 (<https://tobaccomonitoring.org/wp-content/uploads/2026/01/National-E-Cigarette-Sales-Brief-09.07.25.pdf>).
2. Delnevo CD, Hrywna M. Lessons learned from E-cigarettes should affect FDA regulation of nicotine pouches. *JAMA* 2025;333:373. DOI: [10.1001/jama.2024.23939](https://doi.org/10.1001/jama.2024.23939).
3. U.S. Department of Health and Human Services. E-cigarette use among youth and young adults: a report of the Surgeon General. 2016 (<https://www.ncbi.nlm.nih.gov/books/NBK538680>).
4. U.S. Department of Health and Human Services. Eliminating tobacco-related disease and death: addressing disparities: a report of the Surgeon General. 2024 (<https://www.hhs.gov/sites/default/files/2024-sgr-tobacco-related-health-disparities-full-report.pdf>).
5. Jamal A, Park-Lee E, Birdsey J, et al. Tobacco product use among middle and high school students — National Youth Tobacco Survey, United States, 2024. *MMWR Morb Mortal Wkly Rep* 2024;73:917-924. DOI: [10.15585/mmwr.mm7341a2](https://doi.org/10.15585/mmwr.mm7341a2).
6. Park-Lee E, Dutra LM, Cowan H, et al. Tobacco product use among middle and high school students in the United States: National Youth Tobacco Survey, 2025. *Nicotine Tob Res* 2026 June 23 (Epub ahead of print). DOI: [10.1093/ntr/ntag116](https://doi.org/10.1093/ntr/ntag116).
7. U.S. Food and Drug Administration. Center for Tobacco Products. 2025 National Youth Tobacco Survey: methodology report. December 2025 (<https://www.fda.gov/media/191362/download>).
8. Park-Lee E, Jamal A, Cowan H, et al. Notes from the field: e-cigarette and nicotine pouch use among middle and high school students — United States, 2024. *MMWR Morb Mortal Wkly Rep* 2024;73:774-778. DOI: [10.15585/mmwr.mm7335a3](https://doi.org/10.15585/mmwr.mm7335a3).

9. Ganz O, LaVake M, Barnwell PV, Foulds J, Delnevo CD. Regional variations and market share of FDA-authorised products for top-selling electronic cigarette brands in the USA: 2022–2024. *Tob Control* 2025 May 20 (Epub ahead of print). DOI: [10.1136/tc-2024-058965](#).
10. U.S. Food and Drug Administration. FDA authorizes 20 ZYN nicotine pouches to be marketed with specific modified risk claim. June 30, 2026 (<https://www.fda.gov/tobacco-products/ctp-newsroom/fda-authorizes-20-zyn-nicotine-pouches-be-marketed-specific-modified-risk-claim>).