

Youth and Young Adult Vaping in New York City

Due to decades of public health and community efforts, cigarette smoking rates are low among young New York City (NYC) residents: in 2023, 4% among public high school students^A and 2% among young adults.^B However, companies continue to develop new products, such as e-cigarettes¹ (vapes), making dependence on commercial nicotine products a reality for young New Yorkers. In fact in 2022-2023, 77% of NYC young adults who reported vaping had never smoked cigarettes.^B Vapes come in many forms, but they all heat liquids (e-liquids) into aerosol. E-liquids usually contain nicotine, flavors, and other chemicals.

Vape companies use attractive packaging, flavors, and social media influencers; this may make vapes seem

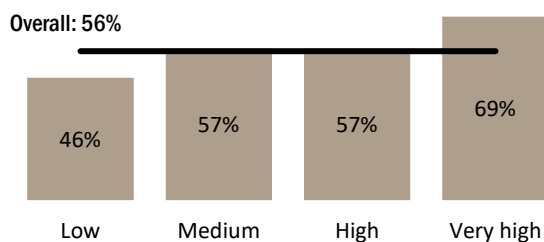
harmless, but they are not.¹ Vaping (using e-cigarettes) exposes people to toxic and cancer-causing chemicals. Also, some popular vapes contain as much nicotine as 200 to 300 cigarettes.¹ Nicotine is particularly addictive for teens and young adults since their brains are still developing.¹ For young people, nicotine can negatively affect memory, concentration, and learning. Nicotine withdrawal can also negatively affect mental health,¹ adding to other stressors youth may face.

To limit harms of vaping products, NYC has passed sales laws such as requiring a license, having a minimum age of sale, and prohibiting sale of flavored products.² The City has also sued companies and distributors that are not complying with retail laws. This report describes who is affected by vaping products and in what ways, and can inform continued action to address this threat.

Environmental and industry factors contribute to youth and young adults vaping

Violations for selling flavored e-cigarettes were more common in neighborhoods with more young residents

Percentage of retailers found in violation by proportion of residents ages 24 or younger in New York City neighborhoods, 2023



UHF neighborhoods by proportion of residents ages 24 or younger

The United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes. UHF neighborhoods were categorized into four groups based on the proportion of residents ages 24 or younger: Low = 16.6% - ≤24.1%; Medium = >24.1% - ≤27.8%; High = >27.8% - ≤30.7%; Very high = >30.7% - ≤36.9%.

Sources: NYC Department of Consumer and Worker Protection, 2023.

- Companies use flavor as a key strategy to hook young people on e-cigarettes and tobacco. They aggressively market these products in thousands of varieties and flavors, including many designed to look and taste like candy or sweets.³
- In 2020, NYC banned the sale of flavored e-cigarettes to combat these predatory marketing tactics. To monitor adherence to tobacco sales laws, the NYC Department of Consumer and Worker Protection conducts thousands of retail inspections each year.
- Flavored e-cigarette products remain widely available in NYC e-cigarette retailers. In 2023, 56% of retailers inspected were found to be selling flavored e-cigarette products.^C
- Violations for selling flavored e-cigarettes were more common in neighborhoods with greater proportions of residents ages 24 or younger (69% of retailers in neighborhoods with the highest proportion of young residents received a violation vs. 46% of retailers in neighborhoods with the lowest proportion).

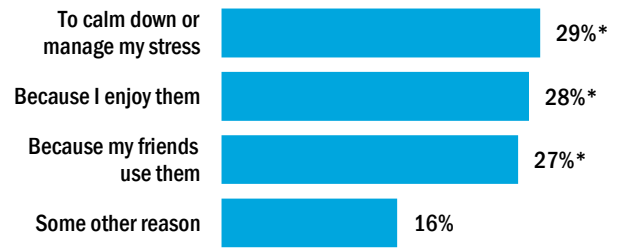
Data sources: A. **Youth Risk Behavior Survey (YRBS)** 2017-2023: The YRBS is a biennial self-administered, anonymous survey conducted in NYC public high schools (including public charter schools) by the NYC Health Department and the NYC Public Schools. For more survey details, visit <https://www.nyc.gov/site/doh/data/data-sets/nyc-youth-risk-behavior-survey.page>.

B. **Community Health Survey (CHS)** 2014-2017, 2019-2023: CHS is conducted annually by the NYC Health Department with approximately 9,000 to 10,000 non-institutionalized adults ages 18 and older. Estimates are not age-adjusted. From 2002 to 2020, the CHS was a telephone-based survey in which randomly selected NYC phone numbers were dialed and trained interviewers conducted the survey by telephone. Since 2021, the CHS has used a random sample of NYC mailing addresses, with mailings sent to households asking the adult with the most recent birthday to take the survey, and most surveys are self-completed online. This substantial methodology change means that data from 2021 and later are not comparable to earlier years; interpret changes between the two periods with caution. Most analyses combined two years of data to increase power for subgroup analysis. For more survey details, visit nyc.gov/health/survey.

- In addition to promoting flavors, e-cigarette companies have adopted many other marketing tactics used by the tobacco industry — such as emphasizing sex appeal, rebellion, and glamour.³ Early vape ads also used emotionally appealing messages promoting happiness and friendship, and marketed vaping as a way to avoid bad moods or to experience positive sensations.⁴
- In 2023, 13 to 17 year olds reported that their main reason for vaping was “to calm down or manage stress” (29%*), “because I enjoyed them” (28%*), or “because my friends used them” (27%*).^D
- These reasons reflect broader societal issues such as youth mental health challenges and stress, peer pressure, and how the vape industry has designed and marketed appealing and addictive products (e.g., sweet flavors and high nicotine content).

The reasons that youth vape are complex and will require a multipronged approach to address

Prevalence of the main reason for vaping among youth 13-17 years old who vaped, 2023



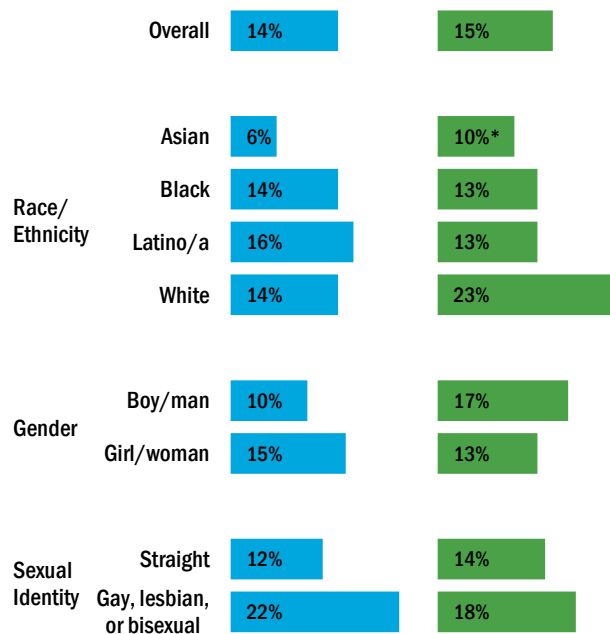
Includes youth who reported any vaping in the past 12 months. “Some other reason” includes to quit or cut down on smoking regular cigarettes, because they don't bother non-tobacco users, and an unspecified reason.

*Estimate should be interpreted with caution due to wide 95% confidence interval.

Sources: NYC Teen Mental Health Survey, 2023.

Vaping products threaten progress made on tobacco use among young New Yorkers

Vaping prevalence among public high school students (2023)^A and young adults ages 18 to 24 (2022-2023)^B varies across race and ethnicity, gender, and sexual identity



Vaping includes any use in the past 30 days.

*Estimate should be interpreted with caution due to large relative standard error. White, Black, and Asian race categories exclude Latino ethnicity. Latino includes Hispanic or Latino of any race.

Sources: NYC Youth Risk Behavior Survey 2023 and NYC Community Health Survey 2022-2023.

- The prevalence of vaping decreased among public high school students from its peak in 2017 (17%) to 2023 (14%) but this decrease was not experienced equally among all racial and ethnic groups. While the prevalence of vaping decreased among Latino (19% to 16%), Asian (11% to 6%), and white (27% to 14%) students, vaping did not decrease among Black students (11% to 14%).^A
- In 2023, the prevalence of vaping was more than twice as high among Black (14%), Latino (16%) and white students (14%) than among Asian students (6%). Vaping prevalence was higher among girls (15%) than boys (10%). Gay, lesbian, or bisexual (GLB) students were almost twice as likely to vape (22%) as straight students (12%).^A
- In contrast to public high school students, vaping among young adults ages 18 to 24 increased from 2014 (4%) to 2020 (9%). In 2022-23, 15% of young adults vaped.^B
- In 2022-2023, the prevalence of vaping was higher among white young adults (23%) than among Black (13%), Latino (13%), or Asian (10%*) young adults.^B This difference may reflect marketing tactics used by JUUL and other vape brands in the 2010s, when these white young adults were teens.⁵
- Compared with cigarette smoking, vaping among youth was over three times more likely (4% vs. 14%) and over seven times more likely among young adults (2% vs. 15%).^{A, B}

Note: *Estimate should be interpreted with caution. Estimate’s Relative Standard Error (a measure of estimate precision) is greater than 30%, or the 95% Confidence Interval half-width is greater than 10 or the sample size is too small, making the estimate potentially unreliable.

Data sources: C. Department of Consumer and Worker Protection (DCWP) Inspections and Charges 2023: Included data on inspections conducted by and charges issued by DCWP. In 2023, 6,446 e-cigarette retailer inspections were identified in the dataset.

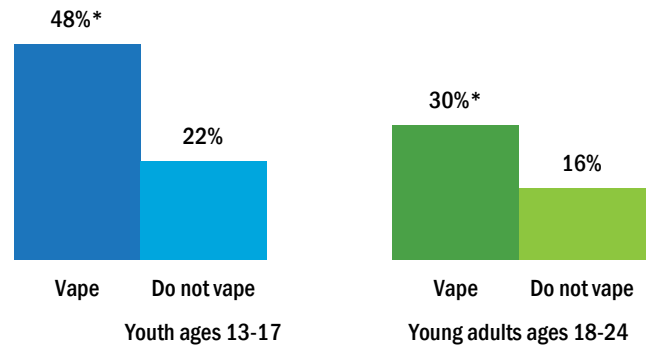
D. Teen Mental Health Survey (TMHS) 2023: TMHS was conducted with teenagers ages 13 to 17 who live in NYC. Parents or guardians took a survey about mental health and gave the NYC Health Department permission to invite their teenager to take the survey. The 2023 TMHS included 2,557 respondents. Data are weighted to the NYC residential population ages 13 to 17.

Vaping, mental health, and other substance use are connected; most youth who vape want to stop

- The symptoms of nicotine withdrawal can be uncomfortable. Symptoms may include anxiety, irritability, and depressed mood. Anyone who is dependent on nicotine can experience these withdrawal symptoms when they are not vaping, which may compound existing stress and mental health symptoms.
- In 2023, among youth ages 13 to 17 years, depression was more than twice as common among those who vaped (48%*) than among those who did not vape (22%).^D
- In 2021-2022, depression was almost twice as common among young adults who vaped (30%*) compared with young adults who did not vape (16%).^B
- Nicotine may also affect how the developing brain processes other drugs, such as alcohol and cannabis (marijuana).⁶ Most youth and young adults who vape also use other drugs. In 2023, 59% of public high school students who vaped reported using cannabis in the past 30 days^A and in 2022-2023, 64% of young adults who vaped reported using cannabis in the past 12 months.^B

Youth and young adults who vape experience depression at higher rates than those who do not vape

Current depression by vaping status among youth ages 13 to 17 (2023)^D and young adults ages 18 to 24 (2021-2022)^B in New York City



For youth, vaping includes those who reported any vaping in the past 12 months. For young adults, vaping includes those who reported any use of an e-cigarette or vape product in the past 30 days.
 *Estimate should be interpreted with caution due to wide 95% confidence interval
 Sources: NYC Teen Mental Health Survey 2023, NYC Community Health Survey 2021-2022.

Eight in 10 high school students in New York City who vape want to quit somewhat/a lot or a little



Vaping includes students who vaped on at least 1 day during the past 30 days.
 Sources: Youth Tobacco Survey, 2022.

- Among high school students who vaped, about half (52%) were interested in quitting “somewhat” or “a lot.” Additionally, about a quarter were interested in quitting “a little” (27%).^E
- This may reflect that vaping has an overall negative impact on them but also highlights potential interest in receiving treatment, as well as opportunity to provide support.

Data sources: E. Youth Tobacco Survey (YTS) 2022: YTS has been conducted biennially since 2000 by the New York State Department of Health Bureau of Tobacco Control. Students in grades 6 to 12 from public, parochial, and private schools across NYS are sampled. The dataset includes an indicator that allows for NYC-specific estimates. The 2022 YTS included 1,231 respondents in NYC high schools.

Definitions: UHF: United Hospital Fund classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes. For more information visit <http://www1.nyc.gov/assets/doh/downloads/pdf/ah/zipcodetable>. For analysis of retailer inspections and violations, UHF neighborhoods were grouped into quartiles based on the proportion of residents 24 years or younger (derived from NYC Department of Health and Mental Hygiene population estimates, modified from US Census Bureau population estimates, 2020-2023. Updated September 2024.).

Vaping: Use of e-cigarettes or vapes that contain nicotine; does not include vaping cannabis. Includes youth (YRBS) who vaped at least one day in the past 30 days or young adults (CHS) who vaped every day or some days in the past 30 days.

Smoking: Smoked cigarettes at least one day in the past 30 days (YRBS) or smoked at least 100 cigarettes in their entire life and currently smoke every day or some days (CHS).

Depression: Identified as youth or young adults scoring 10 to 24 points on the Patient Health Questionnaire (PHQ)-8. This eight-question screening instrument assesses self-reported depressive symptom frequencies over the past two weeks on a scale ranging from 0 (not at all) to 3 (nearly every day).

Race/ethnicity: Latino includes people of Hispanic or Latino origin, as identified by the survey question “Are you Hispanic or Latino/a?” and regardless of reported race. Black, white, and Asian race categories exclude those who identified as Latino. The Asian category additionally includes Native Hawaiians and Pacific Islanders in the young adult dataset (CHS).

Health equity is attainment of the highest level of health and well-being for all people. Not all New Yorkers have the same opportunities to live a healthy life. Achieving health equity requires focused and ongoing societal efforts to address historical and contemporary injustices such as discrimination based on race/ethnicity, and other identities. For more information, visit the World Health Organization’s [Health Equity](#) webpage.

Recommendations



Parents, guardians, and adult family members should:

- Learn about products and have open conversation with kids; visit [nyc.gov/health](https://www.nyc.gov/health) and search “E-cigarettes”.
- Keep spaces (like the home and car) vape- and smoke-free. Consider getting treatment for their own vaping or smoking, if possible; visit [nyc.gov/nycquits](https://www.nyc.gov/nycquits) to make a plan.
- [Learn how to submit a complaint](#) if they suspect illegal sales, like to those under age 21 or flavored products.⁷



Community-based organizations, schools, colleges, public health practitioners, and social service providers that serve youth and young adults should:

- Educate about tobacco and e-cigarette products harms, manipulative marketing, and treatment resources.³
- Strengthen protective factors through trainings for youth and their families about mindfulness practices, resilience and coping skills, as well as social and emotional competencies, and tailor activities to the needs of groups of youth and young adults who are most affected by product use.^{8,9}
- Develop, implement, and enforce [tobacco-free organizational policies](#).¹⁰



Health care providers (in primary care, behavioral health, and oral health settings):

- For youth, provide preventive counseling (for all school-age children), screen for mental health symptoms and product use – not only for tobacco products, but for all substances – and develop a treatment plan for children and families. Consider referring teenagers with complex needs to adolescent specialists.
- For adults, ask about their tobacco use history and offer treatment to everyone who vapes or smokes. Treatment options (including medications) are available, whether an individual wants to quit, reduce use, or avoid use in specific situations (e.g., at home, at school, at work, or in public places).
- For more detailed recommendations, as well as clinical tools and resources, refer to the Health Department’s clinician page (visit [nyc.gov/health](https://www.nyc.gov/health) and search “tobacco treatment”).



Public health researchers, funders, government agencies, and policymakers should:

- Implement and enforce policies that limit access and exposure to products; add safeguards for social media use.
- Support youth prevention and behavioral health services in schools, healthcare, and community settings.
- Conduct surveillance of social media platforms for industry activities and innovations, as well as product misconceptions among youth and young adults.

REFERENCES

1. New York City Department of Health and Mental Hygiene. E-cigarettes. <https://www.nyc.gov/site/doh/health/health-topics/smoking-e-cigarettes.page>
2. New York City Department of Health and Mental Hygiene. Tobacco and E-cigarette Retailers. <https://www.nyc.gov/site/doh/business/food-operators/smoking-legislation.page>
3. New York City Department of Health and Mental Hygiene. DEFEND Guide for Community-based Organizations. 2019. <https://www.nyc.gov/assets/doh/downloads/pdf/smoke/toolkit-guide.pdf>
4. Padon AA, Maloney EK, Cappella JN. Youth-Targeted E-cigarette Marketing in the US. *Tob Regul Sci*. 2017;3(1):95-101. doi:10.18001/TRS.3.1.9
5. Stanford University Research into the Impact of Tobacco Advertising. Collection: Vaporized. <https://tobacco.stanford.edu/pods/juul/vaporized/>
6. New York City Department of Health and Mental Hygiene. Tobacco, E-cigarettes and Alternative Products: A Product Guide for Pediatric Providers. 2020. <https://www.nyc.gov/assets/doh/downloads/pdf/smoke/tobacco-ecig-action-kit-guidance-pediatrics-products-guide.pdf>
7. New York City Department of Health and Mental Hygiene. What New Yorkers Need To Know about Tobacco, E-Cigarette and Cannabis Stores in NYC. 2024. <https://www.nyc.gov/assets/doh/downloads/pdf/smoke/tobacco-cannabis-retail-laws-fact-sheet.pdf>
8. New York City Department of Health and Mental Hygiene. The State of Mental Health of New Yorkers. 2024. <https://www.nyc.gov/assets/doh/downloads/pdf/mh/state-of-mental-health-new-yorkers.pdf>
9. New York City Public Schools. Social-emotional Learning. <https://infohub.nyced.org/in-our-schools/programs/race-and-equity/social-emotional-learning>
10. New York City Department of Health and Mental Hygiene. Countering Tobacco and E-cigarette Industry Influences in Your Community. 2022. <https://www.nyc.gov/assets/doh/downloads/pdf/smoke/countering-tobacco-action-guide.pdf>

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