

Flavored Tobacco Restrictions Reduce Youth Access & Tobacco Use



In November 2019, Massachusetts became the first state to restrict the sale of all flavored tobacco products, including menthol cigarettes, followed by California in 2022, when voters upheld the state's law from a tobacco industry-funded ballot challenge. Several other states have restrictions on the sale of flavored e-cigarettes. In addition, over 420 localities across the U.S. have enacted restrictions on the sale of flavored tobacco products, although laws differ in their application to specific products and store types. Over 220 of these communities restrict the sale of menthol cigarettes, in addition to other flavored tobacco products.¹

Research shows that comprehensive and well-enforced flavor restrictions reduce youth access to and use of tobacco by removing from store shelves the products that are most attractive to youth and the products that youth use most often. Youth and young adults who live in a state or locality with a flavor tobacco restriction have lower tobacco use and flavored tobacco use than those who live in an area without a flavored tobacco restriction, with the strongest protective effect for those who live in area with a comprehensive flavored tobacco restriction.²

"Sales restrictions on flavored products in the United States and Canada have been shown to reduce (1) sales of tobacco products, (2) the odds of youth trying flavored tobacco products, (3) the odds of youth ever using tobacco products, and (4) youth current use of tobacco products, particularly when the restrictions apply to all flavors in all tobacco products."

"Given the disproportionate burden of menthol cigarette use among some population groups, removing menthol cigarettes from the marketplace should also reduce disparities in tobacco initiation, nicotine dependence, cessation success, and tobacco-related health outcomes, especially if policies are comprehensive and equitably implemented."

-U.S. Surgeon General³

Massachusetts

Statewide Policy

In September 2019, Massachusetts issued a temporary emergency ban on all e-cigarette sales. This was followed by a permanent sales restriction on all flavored e-cigarette sales effective November 2019. Effective June 2020, Massachusetts also prohibited the sale of all other flavored tobacco products. Preliminary data show declines in both youth and adult tobacco use following implementation of Massachusetts' comprehensive law restricting the sale of all flavored tobacco products:

- According to the Massachusetts Youth Health Survey, from 2019 to 2023, youth e-cigarette use declined from 32% to 16%, cigarette use declined from 4.3% to 3.2%, and cigar use declined from 4.7% to 2.1%.⁴
- Using data from the Youth Risk Behavior Survey and Behavioral Risk Factor Surveillance System, a study found that Massachusetts' flavored restriction was associated with significant declines in youth and young adult e-cigarette use.⁵
- Using data from the Behavioral Risk Factor Surveillance System (BRFSS) survey, researchers found that ending the sale of menthol cigarettes reduced smoking prevalence in Massachusetts by 11.9% between June 2020 and January 2023.⁶

Flavored Tobacco Restrictions Reduce Youth Access & Tobacco Use

- Researchers estimate that smoking declines due to the law will save the state nearly \$200 million dollars in health care costs over the first ten years. These savings will come from reductions in lung cancer cases, heart attacks, and strokes, as well as fewer smoking-related birth/pregnancy complications and medical costs for their children during their first year of life. They also estimated that the law will reduce Medicaid costs by over \$43 million within ten years.⁷
- Data from the BRFSS also shows that the proportion of adult smokers in Massachusetts using menthol cigarettes has declined from 37.5% in 2019 to 22.2% in 2023.⁸
- A Massachusetts Department of Public Health online survey found that Black smokers were significantly more likely than white smokers to make a past year quit attempt in 2022 (55% vs. 30%).⁹ The survey also found that 57% of Black smokers and 53% of white smokers reported that the law made it more difficult to access menthol products.¹⁰ BRFSS data also show that there has been an increase in successful cessation among Black and Hispanic smokers. Finally, the law led to an increase in menthol smokers who completed coaching calls through the Quitline.¹¹



Massachusetts' law also led to a reduction in e-cigarette and cigarette sales, with high compliance and no evidence of significant or sustained increases in cross-border sales.

- According to a study in *JAMA Network Open*, Massachusetts' prohibition on flavored e-cigarettes was associated with an 88.91% reduction in total e-cigarette sales between December 2019 and December 2020, compared to states without a flavor restriction.¹²
- In the first year following Massachusetts' menthol cigarette restriction, total cigarette sales decreased by 17.2% (18.5 million packs) compared to the previous year, including a 97.1% decrease in menthol cigarette sales.¹³ Compared to other states, Massachusetts' statewide menthol ban was associated with a statistically significant decrease in state-level menthol as well as overall cigarette sales.¹⁴ As with e-cigarettes, this suggests that many menthol smokers quit or switched to other non-cigarette tobacco products, rather than switching to non-menthol cigarettes.
- The decline in cigarette sales in Massachusetts dramatically outweighed any increase in border states, showing that the policy is working as intended to reduce access to and use of menthol cigarettes. A study published in *JAMA Network Open* found that there was a net decrease of 2.32 million packs per month across Massachusetts and its bordering states over the first year of policy implementation.¹⁵ Another study concluded that the law had "no significant impact on cross-border sales in neighboring states where menthol cigarettes are sold."¹⁶

Local Policies

Research shows that local-level policies passed before the statewide law had an impact on reducing youth use and access to flavored tobacco products.

- Counties with greater implementation of flavored tobacco product restrictions (restricting flavored non-cigarette tobacco products to adult-only retailers) were associated with reductions in the likelihood of current e-cigarette use and a decrease in the frequency of cigarette use among users.¹⁷
- **Boston's** law restricting the sale of flavored non-cigarette tobacco products led to high compliance, fewer flavor advertisements and reduced demand for flavored products. Store assessments conducted 8-10 months after implementation found that 14.4% of stores were selling flavored products, compared to 100% before the law was implemented. Flavor advertisements were present in 28% of retailers at follow-up, compared to 58.9% before the law. After the law, 64% of retailers reported that customers only asked for flavored products a few times a week or did not ask at all.¹⁸

Flavored Tobacco Restrictions Reduce Youth Access & Tobacco Use

- After implementing flavored tobacco restrictions, **Salem** and **Attleboro** experienced significantly smaller increases in current use of flavored and nonflavored tobacco products, compared to Gloucester, a locality with similar demographics but no flavored tobacco restriction.¹⁹

California

Statewide Policy

In December 2022, California implemented a statewide law prohibiting the sale of most flavored tobacco products. Data show the law is working to reduce sales of flavored tobacco. In the first 18 months, California's law was associated with a 37% reduction in overall e-cigarettes sales (measured as average quarterly nicotine milligrams sold per capita), compared to control states. The law was also associated with a 10.6% reduction in cigarette pack sales per capita, including a 94.9% reduction in menthol cigarette sales, compared to control states. The same study found did not find any statistically significant increases in sales in bordering states, suggesting that cross-border sales were negligible.²⁰ Youth and young adults were more likely to perceive it to be difficult to purchase flavored e-cigarettes, menthol cigarettes and flavored cigars following the law.²¹

Local Policies

Research demonstrates that local flavor bans in California are associated with reductions in youth e-cigarette use.²² In 2017, the **San Francisco** Board of Supervisors enacted a comprehensive ban on all flavored tobacco products, which was upheld by city voters in June 2018. The San Francisco Department of Public Health's outreach and retailer education efforts extended through the fall of 2018. Between January and December 2019, compliance was 80%, compared to 18% in December 2018.²³ Sales data show that flavored tobacco product sales decreased by 96% in San Francisco after implementation of the city law in early 2019. Total tobacco sales also significantly decreased over the same period, suggesting consumers did not broadly switch to unflavored tobacco products. The study concluded, "A reduction in total tobacco sales in SF suggests there was not a one-to-one substitution of tobacco/unflavored products for flavored products."²⁴

In 2018, **Oakland** restricted the sale of all flavored tobacco products to adult-only tobacco retailers. From 2017 to 2019, high school e-cigarette use in Oakland declined from 11.2% to 8.0% and high school smoking declined from 4.4% to 2.4%.²⁵ Oakland later strengthened its law to remove the retailer exemptions.

New York

Statewide Policy

In May 2020, New York implemented a statewide restriction on the sale of flavored e-cigarettes. According to a study in *JAMA Network Open*, New York's sales restriction on flavored e-cigarettes was associated with a 30.65% reduction in monthly average e-cigarette sales between June 14 and December 27, 2020, compared to control states. A reduction in total e-cigarette sales suggests that not all e-cigarette users who purchased non-tobacco-flavored e-cigarettes switched to tobacco-flavored e-cigarettes after policy implementation.²⁶ Contrary to industry claims that e-cigarette flavor restrictions will lead to increases in smoking, data show that cigarette sales continue to decline in New York and declines were *even greater* in the years following the law prohibiting flavored e-cigarette sales than the year before.²⁷ A research study found that cigarette sales trends in New York were no different than a control state during the same time period, indicating that the law did not lead to substitution with cigarettes.²⁸

New York City, NY

New York City restricted sales of flavored tobacco products (excluding e-cigarettes and menthol cigarettes) in 2009 and began enforcement in November 2010. In 2020, New York City's law was strengthened to prohibit flavored e-cigarettes. Retailer scanner data through 2012 showed sale of all flavored cigar, smokeless and pipe/roll-your-own tobacco declined by 87%. These declines were coupled with only minor increases in the sale of non-flavored cigars and pipe/roll-your-own tobacco (5% and 4%, respectively).²⁹ Out

Flavored Tobacco Restrictions Reduce Youth Access & Tobacco Use

of over 75,000 compliance checks conducted from 2010 to 2015, the New York City Department of Community Affairs found only a 4.1% violation rate.³⁰ Data from the New York City YRBS shows that New York City teens in 2013 had 37% lower odds of ever-trying flavored tobacco products and 28% lower odds of ever using tobacco products than teens in 2010. The percent of New York City teens who reported ever use of flavored tobacco products or use of any tobacco products declined significantly after the policy was implemented (from 19.6% in 2010 to 15.6% in 2013; a 20% decline).³¹

Rhode Island

Statewide Policy

In October 2019, Rhode Island implemented a temporary emergency ban on all flavored e-cigarette sales. This was followed by a permanent sales restriction on all flavored e-cigarette sales effective March 2020. Effective January 1, 2025, Rhode Island's flavor restriction was amended to exempt menthol-flavored e-cigarettes.

- Monthly e-cigarette total unit sales decreased by 51.3% from October 13, 2019 to December 29, 2024, including a 92.4% decrease in flavored e-cigarette sales. After Rhode Island amended its law to exempt menthol e-cigarettes, the market share of menthol e-cigarettes increased to 39.3% (as of March 2026).³²
- Cigarette sales declined in the first six months following the flavored e-cigarette restriction, but temporarily increased in the following six months, coinciding with implementation of Massachusetts' menthol cigarette ban. However, this increase represented a small fraction of the total decline in menthol cigarette sales in Massachusetts, and cigarette sales in Rhode Island have since resumed declines consistent with historic trends.³³

Providence, RI

In January 2013, Providence began enforcement on its sales restriction on flavored non-cigarette tobacco products (except mint, menthol and wintergreen). Sales data from 2012 to 2016 show that sales of cigars with explicit flavor names (e.g., Cherry) declined by 93%. However, sales of concept-flavor cigars (e.g., Jazz) increased by 74%, resulting in a 51% overall decline in flavored cigar sales.³⁴

Minnesota

Local Policies

In 2016, both **Minneapolis** and **St. Paul** implemented laws restricting all flavored non-cigarette tobacco products to adult-only retailers. In both Minneapolis and St. Paul, significantly fewer convenience and grocery stores sold flavored tobacco after policy implementation. In Minneapolis, availability was reduced from 85.4% of retailers before implementation to 39% after 5 months and 15.4% after 14 months. In St. Paul, availability was reduced from 97.3% of retailers before implementation to 8.1% after 2 months. While Minneapolis saw a decrease in the sale of concept-flavor (e.g., "Blue") cigars (from 80.5% to 61.5%), St. Paul had an increase (from 67.6% to 81.1%).³⁵ From 2014 to 2017, youth e-cigarette use in the Twin Cities increased by a much lesser extent than the rest of Minnesota (34.1% vs. 114% increase), suggesting that these policies attenuated the increases in e-cigarette use that occurred in the rest of the state.³⁶

In 2018, **Minneapolis** and **St. Paul** implemented stronger laws that included restrictions on menthol cigarettes, but they added liquor stores to the definition of exempted retailers. In the same year, **Duluth** and **Falcon Heights** implemented comprehensive flavored tobacco bans with no retailer exemptions. Compliance has been high across all four cities, with only eight retailers found to be non-compliant. Minneapolis and St. Paul's policies led to 76% and 62% reductions in the number of retailers selling menthol cigarettes, respectively, whereas Duluth and Falcon Heights saw larger reductions (95% and 100% respectively) because they did not allow for retailer exemptions.³⁷ From 2016 to 2019, e-cigarette use and any tobacco use increased by a lesser extent in the Twin Cities area than the rest of Minnesota, and combustible use prevalence decreased to a greater extent in the Twin Cities than the rest of the state.³⁸

International Evidence

Canada

In October 2017, Canada banned menthol cigarettes nationwide, although most provinces had banned menthol cigarettes prior to the nationwide law. A study from the International Tobacco Control Policy Evaluation Project (ITC), using longitudinal surveys of Canadian smokers in seven provinces from 2016-2018, found that after implementation of the law, menthol smokers were more likely to try to quit than non-menthol smokers (59% vs. 49%), and were twice as likely to have quit smoking for at least six months (12% vs. 6%).³⁹

Earlier studies of Ontario's provincial menthol ban found that the law was associated with significant reductions in menthol cigarette sales and total cigarette sales⁴⁰ In addition, the law was associated with increases in quit attempts and cessation:

- A 1-year follow-up survey found that both daily and occasional menthol smokers were more likely to report having quit smoking (24% and 20% vs 14%) or having made a quit attempt (63% and 62% vs 43%), compared to non-menthol smokers.⁴¹
- A 2-year follow-up survey found that menthol smokers were more likely to report having quit smoking for at least the last 6 months (12% for daily menthol smokers and 10% for occasional menthol smokers), compared to non-menthol smokers (3%), with no significant differences in relapse rates. Menthol smokers also reported more quit attempts than non-menthol smokers. Daily menthol smokers reported an average of 3 quit attempts, compared to 2.6 for occasional menthol smokers and 1.2 for non-menthol smokers.⁴²

Based on this research from Canada and Ontario's bans, researchers estimate that a menthol ban in the United States would lead over 1.3 million smokers to quit, including 381,000 Black smokers.⁴³ It is important to note that menthol cigarettes comprised a much smaller proportion of the Canadian cigarette marketplace (~5%) than the US marketplace (37%), and the demographics of menthol smokers are very different between the two countries.

Europe

In May 2020, the European Union and the United Kingdom banned the sale of menthol cigarettes. Similar to Canada, emerging research shows a positive impact on quitting behaviors. According to data from the Netherlands, pre-ban menthol smokers were significantly more likely to attempt to quit than non-menthol smokers (66.9% vs. 49.6%) and a higher, but non-significant proportion of pre-ban menthol smokers reported quitting (26.1% vs. 14.1%). Researchers estimate that if the 12.0% additional quitting found in the Netherlands were applied to the entire European Union and United Kingdom, there would be more than a million additional quitters.⁴⁴

Claims About Unintended Consequences Are Overstated

Contrary to opponents' claims about unintended consequences of these laws, the overall body of evidence shows that flavor restrictions are an effective tool for reducing tobacco sales and youth tobacco use. Opponents of flavor restrictions, including the tobacco industry, argue that these policies can lead to an increase in smoking among youth and young adults, but the evidence is inconclusive, with studies showing a range of mixed findings. Importantly, smoking rates and cigarette sales continue to decline and are at historic lows in states with and without flavor policies.⁴⁵ States with comprehensive laws that prohibit the sale of all flavored tobacco products, including menthol cigarettes, experience the greatest declines in total cigarette sales. Research also negates industry claims about increased cross-border sales. Data from Massachusetts and California shows that there has not been significant or sustained increase in cross-border sales following implementation of their law.⁴⁶

Strong Enforcement Enhances Impact of Flavor Restrictions

Research points to the importance of strong laws with robust and well-funded enforcement programs, including retailer education and meaningful penalties. Weak enforcement measures and exemptions can reduce compliance and have other unintended consequences. In many localities, the most commonly sold noncompliant products are products with “concept flavors” like “Blue,” “Jazz,” and “Wild Rush,” that don’t explicitly indicate they are flavored. After implementation of California’s flavor restriction, the tobacco industry also introduced e-cigarettes and cigarettes with synthetic coolants that mimic the effects of menthol in an attempt to evade the law.⁴⁷ California subsequently amended its law to prohibit products that illicit a cooling or numbing sensation. The 2024 Surgeon General’s Report recommends that comprehensive flavored tobacco restrictions that account for cooling agents will better protect public health.⁴⁸ A report from the Johns Hopkins University concluded that, “When compliance is high, a comprehensive flavor ban or restriction without exemptions is likely to significantly affect sales of flavored tobacco products” and that, “A comprehensive flavor ban without product, flavor, and retailer exemptions may maximize public health benefits and minimize the opportunity for unintended consequences.”⁴⁹

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³ HHS, *Eliminating Tobacco-Related Disease and Death: Addressing Disparities—A Report of the Surgeon General*, 2024, at 13.

⁴ Massachusetts Department of Public Health, <https://www.mass.gov/info-details/tobacco-use-behaviors-and-secondhand-smoke-exposure#youth-tobacconicotine-use>.

⁵ Cheng, D., et al. (2025). State E-Cigarette Flavor Restrictions and Tobacco Product Use in Youths and Adults. *JAMA Network Open*, 8(7), e2524184-e2524184.

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¹³ CDC Foundation “Changes in US and State Cigarette Sales Following Flavored Tobacco Sales Restrictions,”

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¹⁵ Asare S, et al. Spatial Analysis of Changes in Cigarette Sales in Massachusetts and Bordering States Following the Massachusetts Menthol Flavor Ban. *JAMA Network Open*. 2022 Sep 1;5(9):e2232103.

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Flavored Tobacco Restrictions Reduce Youth Access & Tobacco Use

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