



Policy Statement:

Preventing Tobacco/Oral Nicotine Use to Promote Oral Health

Association of State and Territorial Dental Directors Adopted: June 2024

Summary

This statement provides information about the impacts on oral health and overall health of nicotine-containing products (including combustible tobacco cigarettes, pipes, cigars, and various types of smokeless tobacco as well as electronic cigarettes), along with guidance documents and resources that identify selected effective strategies designed to assist states, territories and communities in prevention and control efforts of their use. While cannabis is another product that is smoked, its impacts are beyond the scope of this statement as is the chewing of betel nuts.

Nicotine, the addictive substance common to these products, is harmful to organs and systems throughout the body. Tobacco and other nicotine-containing products' impact on oral health includes increased risk of mouth, lip, cheek, and throat cancer, particularly when combined with alcohol use, as well as increased risk for gum disease, oral mucosa (soft tissue) lesions, tooth loss, and gingival (gum) recession. Use of these products has been associated with various cancers as well as with heart disease, stroke, emphysema, bronchitis, and chronic airway obstruction.

Despite decades of action to reduce tobacco use, it remains a leading, preventable cause of chronic illness and premature death in the U.S. Although adverse impacts on health and oral health are well-known, tobacco products continue to be developed and marketed to a diverse and young audience; use typically starts during adolescence and young adulthood. Adding flavors to and marketing tobacco products to young people has been documented since at least 2004; the appeal of flavored products has been identified as the leading reason for youth tobacco use.

In addition to negative health impacts, wastes from tobacco products pollute water, air, and land with toxic chemicals, heavy metals, and residual nicotine, which in turn harms humans, waterways, and wildlife. E-cigarettes also introduce plastic nicotine salts, heavy metals, lead, mercury, and flammable lithium-ion batteries; e-cigarette waste does not biodegrade even under severe conditions. Populations living adjacent to where this waste ends up are also populations that have been targeted by the tobacco industry. These populations also tend to have worse access to quality medical and oral health care.

Decades of evidence-based approaches across policy, education, and program areas, support efforts to prevent tobacco use and efforts for current tobacco users' treatment. Strategies include: (1) fully funding state tobacco prevention and control programs; (2) preventing initiation of tobacco use among youth and young adults with evidence-based and culturally appropriate programming; (3) supporting tobacco

prevention, cessation and intervention programming; (4) eliminating secondhand smoke exposure; (5) identifying and eliminating tobacco-related health disparities; and (6) promoting mass media education campaigns. These efforts and similar initiatives are also relevant to strategies to prevent most use of other nicotine-containing products.

State/Territorial Oral Health Programs (S/TOHP) serve potential roles in influencing those impacts, through data collection and dissemination, participation in policymaking, collaboration with other health agency programs and with partners such as oral health coalitions, public health associations, dental and medical health professional organizations, educators, community health organizations such as FQHCs and others. A cost-effective approach to promoting overall health in evidence-based practice interventions is to incorporate tobacco and oral nicotine use prevention strategies into oral health promotion efforts.

Problem

Introduction. All tobacco and other nicotine-containing products, including combustible cigarettes, pipes, cigars, smokeless tobacco (e.g., chew, snuff, Iqmik or “blackbull” [see below]) and electronic cigarettes (vape), harm organs and systems throughout the body. These products’ impact on oral health includes increased risk of mouth, lip, cheek, and throat cancer, particularly when combined with alcohol use, as well as increased risk for gum disease, oral mucosa lesions, tooth loss, and gum recession. Use of tobacco in particular has been associated with various cancers, as well as with heart disease, stroke, emphysema, bronchitis, and chronic airway obstruction.^{1,2,3} This paper refers to “tobacco use” as a general term unless “smoke” or “smoking” is clearly the focus; similarly, “nicotine-containing products” is used as a general term.

Nicotine is the addictive drug found in tobacco and related products; a stimulant, it has numerous negative health impacts. Nicotine restricts blood flow to the gums, which impairs the mouth’s ability to fight infection and heal, thus contributing to the development of periodontal (gum) disease and gingivitis, and a higher risk of tooth loss. It raises cholesterol levels and thus increases the risk for heart disease and stroke.^{4,5}

Tobacco use. Tobacco use typically starts during adolescence and young adulthood.⁶ Data from a national study reported in 2022 show that 95% of adults who smoke tobacco started by age 21. Tobacco use among high school students in 2022 was 16.5%; among middle school students, it was 4.5%.⁷ Across the U.S., rates of youth tobacco use peaked in 1996-1997. In 1998, when states settled their lawsuit (*Tobacco Master Settlement Agreement*, detailed below) against the tobacco industry, rates started to decline, and were held steadily low for nearly a decade.⁸ However, with the advent of electronic cigarettes, and a plethora of smokeless tobacco products, youth tobacco use rates have increased. According to data collected in 2021, 18.7% of U.S. adults reported using any tobacco product; although cigarette smoking decreased during 2020–2021, e-cigarette use increased.⁹

Flavored products. Flavored products include cigarettes, smokeless tobacco products, electronic cigarettes, flavored cigars, and flavored nicotine pouches. Adding flavors to and marketing tobacco products to young people has been documented since at least 2004.^{10,11} In an extensive study of

flavored tobacco product use among US youth aged 12–17 conducted in 2013–2014, 80.8 percent of middle and high school youth reported that the first tobacco product they used was flavored; the appeal of flavored products was the leading reason for youth tobacco use.¹²

Sales of mint and other flavored prefilled nicotine product cartridges effectively ended in January 2020 with a policy issued by the U.S. Food and Drug Administration (FDA) prioritizing enforcement of limits on sales of flavored e-cigarette products because of their appeal to teens and young adults. However, unit sales of disposable e-cigarettes, in fruit, sweet, and other flavors designed entirely for one-time use, increased by 46.6% between January 2020 and December 2022.^{13,14} The FDA ruling followed findings from the 2019 National Youth Tobacco Survey (NYTS) on e-cigarette use, showing that an estimated 4.1 million high schoolers and 1.2 million middle school students were then currently using e-cigarettes.¹⁵

Menthol flavoring, long used in cigarettes, makes it easier for youth to start smoking and become addicted to tobacco.¹⁶ A cooling anesthetic, menthol masks the harsh taste of tobacco and numbs the throat, making the smoke easier to inhale more deeply.¹⁷ People who smoke menthol cigarettes are also less likely to successfully quit smoking than other people who smoke.¹⁸ Half of youth who have ever tried smoking started with menthol cigarettes.¹⁹ Together, these properties mean menthol cigarettes make smoking easier to start, harder to quit, and more damaging to health.

Use of tobacco and nicotine-containing products in behaviors and addiction. Use of tobacco and nicotine-containing product behaviors, i.e., smoking, chewing, vaping, etc., among adolescents and young adults are influenced by biological, psychosocial, and environmental system factors.²⁰ These systems are not isolated; rather, they interact in complex ways as behavioral reinforcements or deterrents. For example, social constructs and cultural norms define the boundaries of what behaviors are acceptable within a specific group or setting. The gateway hypothesis recognizes that adolescent exposure to tobacco or nicotine can lead to subsequent abuse of these and other substances.²¹ Prioritizing the relationship between addictive behaviors and psychosocial, environmental, or biological factors is crucial in developing effective prevention and treatment strategies.

The use of flavored nicotine-containing products is particularly problematic for youth because their brains are still developing. Exposure to nicotine during brain development can increase the risk for emotional and behavioral health challenges, and addictions to other substances later in life.²² Data show relationships between cigarette and alcohol use, and risk for use of other drugs, such as cannabis^a, heroin, and cocaine.²³ In a 2011 national survey, more than 90% of adult cocaine users smoked cigarettes before they began using cocaine.²⁴ In a 2011 study, researchers found a proposed biological mechanism to explain the association: nicotine reprograms the expression pattern of specific genes associated with addiction (that is, nicotine dependence), ultimately altering the behavioral response to cocaine, and increasing the risk for addiction.²⁵

^a As of May 2024, cannabis is not legal federally, although recreational use is legal in 24 states, DC, Guam, and the Northern Mariana Islands. Medical use may be allowed by 38 states, the District of Columbia (DC), Puerto Rico, Guam, and the U.S. Virgin Islands. Nine additional states allow for “limited access medical cannabis;” three states and one territory do not allow for the use of medical marijuana or low-THC cannabis. ([Congressional Research Service](#))

Smokeless tobacco products. Use of smokeless tobacco products (is relatively low compared to smoked cigarettes and e-cigarettes; however, one 1.2 ounce container of chewing tobacco can release as much nicotine as 60 cigarettes.⁹ The concentrations of nitrosamines (cancer-causing chemicals found in tobacco and tobacco smoke) in smokeless tobacco products vary. These products are associated with cancer of the mouth, pharynx, esophagus, stomach, and pancreas. In addition to nicotine and other harmful ingredients found in these products, the manner of consumption – chewing and pressing wads of tobacco product against the mouth lining and swallowing nicotine extract (“juice”) – increases the risk of mouth and throat cancer.²⁶ Southwestern Alaska Native people use Iqmik, also known as blackbull, a homemade form of smokeless tobacco made from a mixture of fungus ashes and commercial tobacco. Like other forms of smokeless tobacco, Iqmik contains nicotine and may increase risk for addiction, cancer, gum disease, and complications during pregnancy.²⁷

Electronic cigarettes. Electronic cigarettes (e-cigarettes) use salts or a liquid solution that is vaporized to create an inhalable aerosol containing nicotine, flavorings, and other chemicals.²⁸ Propylene glycol, the carrier product in the liquid used in e-cigarettes, breaks down into chemicals that are toxic to tooth enamel and the soft tissues of the mouth and airway. Evaluation of e-cigarette aerosols found they have similar physio-chemical properties (e.g., viscosity) to high-sucrose, gelatinous candies, and acidic drinks; data suggest that cariogenic (decay-causing) potential may increase as a result of the combination of the liquids and some classes of chemicals in sweet flavors.²⁹

Propylene glycol attaches to water molecules in the mouth, which can lead to xerostomia (dry mouth), further exacerbating oral health issues, such as tooth decay and periodontal (gum) disease. Along with the effects of nicotine, there is some evidence that chemicals in e-cigarettes change microorganisms in the mouth and may impact the oral microbiome (the community of microorganisms, predominantly found in the mouth).³⁰ Further, e-cigarette flavoring is made of vegetable glycerin. When eaten, vegetable glycerin is not of concern to oral health but when smoked, in combination with flavorings, it causes tooth enamel (the outer layer of a tooth) to weaken, increasing the adhesion of microbes to tooth enamel and biofilm in the mouth. Since vegetable glycerin is viscous and sticky, it also feeds the bacteria that stick to the teeth.⁵

A small but well-structured cross-sectional survey of young adults conducted in 2018 found that nicotine dependence levels were more than two times higher among e-cigarette users compared to traditional tobacco smokers, and that among individuals who used both, nicotine dependence levels were higher when using an e-cigarette than when using traditional cigarettes. An increase in the risk of addiction may be related to the increased use of e-cigarettes in times and places where smoking is prohibited.³¹

A 2017 study (reported in 2018) demonstrated that adolescent e-cigarette users experience nicotine dependence; scores on a self-assessment instrument were higher for those who were older, had started using e-cigarettes at earlier ages, used them more frequently, used nicotine e-liquid (i.e., liquid for use inside an e-cigarette), and currently smoked cigarettes. Even within stated limitations (self-reported data), “findings suggest that adolescent e-cigarette use can induce nicotine dependence, which could promote escalating e-cigarette use and/or the use of tobacco products, and highlight the need for adolescent-focused e-cigarette prevention and regulatory efforts.”³²

Although incidents are relatively uncommon, electronic smoking devices can cause injuries to the mouth from batteries exploding, resulting in broken jaws, permanent tooth loss, and soft tissue damage.^{33,34,35} In addition to the damage caused by the initial trauma, such injuries can then impact ability to eat solid food, potentially worsening chronic oral health conditions and overall health.

Second- and third-hand tobacco smoke. Secondhand tobacco smoke is harmful to health. There is no risk-free level of exposure to secondhand smoke; it contains more than 7,000 chemicals, hundreds of which are toxic and about 70 of which can cause cancer. Breathing secondhand smoke can have immediate adverse effects on blood and blood vessels, increasing the risk of heart attack. Even brief exposure to secondhand smoke can damage the lining of blood vessels and cause blood platelets to become stickier, leading to increased risk.³⁶ A cross-sectional study using data from the National Health and Nutrition Examination Survey (NHANES) found that secondhand smoke exposure increases the risk of developing gum disease by nearly 30 percent.³⁷

Adults and children who are exposed to secondhand smoke are at an increased risk for acute respiratory infections such as pneumonia and bronchitis, severe asthma, and respiratory symptoms. These infections can result in the increased use of corticosteroids and bronchodilators, which can decrease salivary pH and increase salivary viscosity, and contribute to the development of tooth decay. In addition, the use of inhalers can negatively affect tissues resulting in dry mouth, periodontal disease, and fungal infections.³⁸ Exposure to thirdhand smoke, the residue left on surfaces in spaces where smoking has occurred, also poses similar respiratory health risks.³⁹ In addition, an examination of 2018-2019 National Survey of Children's Health data on home exposure to second and third-hand tobacco smoke, dental health, and oral health care visits found these children at greater odds to have chronic or frequent oral health problems than those not exposed.⁴⁰

Environmental impacts. Although scientific studies on the environmental impacts of e-cigarettes are limited, disposal poses a potentially long-term environmental threat because of their material composition; their electronic components mean that discarded e-cigarettes are e-waste.^{41,42} Tobacco product wastes also pollute water, air, and land with toxic chemicals, heavy metals, and residual nicotine, which in turn harms humans, waterways, and wildlife.⁴³ While all tobacco products contribute to pollution, e-cigarettes also introduce plastic nicotine salts, heavy metals, lead, mercury and flammable lithium-ion batteries. E-cigarette waste does not biodegrade even under severe conditions, so e-cigarettes left on the street eventually break down into microplastics and chemicals that flow into the storm drains to pollute waterways and impact wildlife.

Targeted Marketing: Populations that live adjacent to where this waste ends up also are populations that tend to be targeted by the tobacco industry. The industry has a long history of marketing its products to already disadvantaged and marginalized populations, including people with lower incomes, those living in rural areas, Black, Indigenous and People of Color, people with mental, developmental, and behavioral health challenges, and women.^{44,45} While the tobacco plant has been traditionally used by Native American communities for spiritual and medicinal purposes for generations, the criminalization of Native American ceremonies using traditional tobacco for cultural and religious purposes resulted in targeted advertising of commercial tobacco, such as smoking cigarettes.⁴⁶

Tobacco industry documents reveal aggressive marketing, including cheaper prices, increased retail density, and more advertising of menthol cigarettes in Black neighborhoods.⁴⁷ This marketing works: 85% of Black adults who smoke use menthol cigarettes, compared with 27% of White smokers.⁴⁸ The tobacco industry has also targeted the lesbian, gay, and bisexual community with predatory advertising in LGBTQ+ magazines and sponsorships of local Pride events and celebrations.⁴⁹ These populations also tend to have worse access to quality medical and oral health care.^{50,51}

Method

Decades of evidence-based approaches across policy, education, and program areas support efforts to prevent use and cessation of tobacco and other nicotine-containing products. Significant guides for this work were:

- [Best Practices for Comprehensive Tobacco Control Programs – 2007](#) and the later iteration, [Best Practices for Comprehensive Tobacco Control Programs—2014](#), outline programmatic guidance for implementing recommendations to reduce tobacco use; the [Guide to Community Preventive Services](#) identifies evidence-based, effective tobacco control recommendations and helped inform the development of this guidance.
- The [U.S. Public Health Service Clinical Practice Guideline Treating Tobacco Use and Dependence: 2008 Update](#) identifies effective tobacco dependence treatments and practices.
- [World Health Organization’s Report on the Global Tobacco Epidemic, 2008: The MPOWER Package](#) mirrors the recommendations of other documents by providing a strategic framework of evidence-based, high-impact interventions that have proven effective.
- [Healthy People 2030](#) provides a framework and outlines national objectives for ending the tobacco use epidemic, and also addresses [e-cigarette use](#).

These documents and other publications identify guidance and strategies designed to assist states, territories and communities in effective tobacco use prevention and control in efforts to reduce the health and economic burden of tobacco use and includes key areas for action. Strategies include: (1) fully funding tobacco prevention and control programs^b; (2) preventing initial use of tobacco and nicotine products among youth and young adults with evidence-based and culturally appropriate programming; (3) supporting prevention, cessation and intervention programming; (4) eliminating secondhand smoke exposure; (5) identifying and eliminating tobacco- and nicotine-related health disparities; and (6) promoting mass media education campaigns on tobacco and nicotine product use. Although the focus is on tobacco products, these strategies are relevant to other nicotine-containing products.

Nicotine replacement therapy (NRT), often recommended, can help people stop smoking, vaping or using non-combustible nicotine-containing products (chew, pouches, etc.) while minimizing exposure to

^b An explanation of “fully funding tobacco control programs” can be found in the “Best Practices” documents noted above.

nicotine-related carcinogens. Types of NRT include nicotine patches, gum, lozenges, oral inhalers, nasal sprays as well as prescription pill medicines. Of these, some also carry risks; nicotine gum restricts blood flow, which can increase the risk of developing gum disease, or cause dry mouth and gum sores. Lozenges, which resemble hard candy, pose a risk for broken restorations or cracked teeth. Further discussion of NRT is beyond the scope of this document.⁵²

Fully fund state/territorial prevention and control programs

Fund state/territorial tobacco prevention and control programs at U.S. CDC recommended funding levels (see footnote on previous page): Funding can come from increasing tobacco taxes, equalizing taxes across tobacco products, and/or protecting states'/territories' annual payments from the Tobacco Master Settlement Agreement (MSA) to ensure they are used for tobacco prevention and treatment. How tax revenue is used varies by state/territory; some use it to offset health related expenses or support health promotion programming, but others direct the revenue into their General Fund.

The MSA, intended primarily to reduce smoking in the U.S., especially in youth, was signed in 1998 by 52 state and territory Attorneys General to settle dozens of lawsuits to recover billions of dollars in health care costs associated with treating smoking-related illnesses, particularly among underserved and uninsured populations.^c Provisions of the MSA addressed restrictions on tobacco advertising, marketing, and promotions and also aimed to eliminate tobacco company practices that obscure tobacco's health risks, and provided money that states/territories could choose to use to fund smoking prevention programs.

By 2010, 18 states, the District of Columbia, and three U.S. territories "securitized" their future payments by trading a "potentially risky future stream of payments for a certain lump-sum payment," and securing bonds; rather than waiting each year for MSA payments, they receive a lump sum of cash up front, which has been used to finance capital improvements, fund health-care projects, and other purposes.⁵³ Despite policy outcomes that contributed to a 50% reduction of cigarette use in the U.S. between 1998 and 2019, however, the MSA allows states/territories to use the funds for any purpose – that is, without specifying promotion of public health priorities. According to the Association of State and Territorial Health Officials (ASTHO), less than 3% of the \$27 billion states/territories collected from tobacco settlements and taxes in fiscal 2022 was spent on programs to prevent children from smoking and to help smokers quit.²⁸

JUUL Labs, an American [electronic cigarette company](#), began marketing e-cigarettes in 2015. In 2020, Attorneys General from five states began an investigation in 39 states of the company's marketing and sales practices, resulting in a multistate settlement (similar to the MSA) requiring a substantial payment, marketing and content restrictions, and other measures intended to limit appeal to youth. In 2022, [one analysis](#) found that JUUL's share of the market had reached 37 percent. Another agreement was settled in April of 2023 to address claims in seven other states and resulted in additional compensation and requirements. ASTHO published an analysis of the settlement and reviewed recommendations from the [Public Health Law Center](#) for [public health strategies](#) to address youth vaping.²⁸

^c Florida, Minnesota, Mississippi, and Texas were not signatories to the MSA; they have their own individual tobacco settlements which were settled prior to the MSA.

Prevent initiation of nicotine products use among youth and young adults

Prioritizing strategies that prevent youth from starting to use tobacco and other nicotine products will reduce the health and economic burden of tobacco and nicotine addiction. Ending the sale of flavored products is one such strategy.⁵⁴ Comprehensive policies that end the sale of all flavored tobacco and nicotine products to youth, with effective enforcement, can have the strongest impact for reducing youth use – both initiation and sustained use.⁵⁵ The use of evidence-based or evidence-informed, and culturally- and demographically-appropriate prevention and treatment programming, informed by youth and adult engagement during campaign development, increases the likelihood of programming effectiveness.⁵⁶

Support tobacco and nicotine-containing products use prevention, cessation, and intervention programming

Strategies to decrease use and increase tobacco and nicotine-containing products use prevention, cessation and intervention programs include mass media campaigns in combination with mobile phone-based interventions, web-based support, provider reminders when used alone or with provider education, and reducing out-of-pocket costs for evidence-based treatments. Telephone-based [Quitlink](#) (1-800-QUIT NOW) is an effective tobacco use intervention especially when coupled with social support and problem-solving strategies; many states participate. Text messaging programs such as the National Cancer Institute's [SmokefreeTXT](#) program and National Jewish Health [My Life. My Quit™](#) that are intended for youth and young adults have also been shown to be effective in reducing tobacco use.

Oral health professionals can promote tobacco treatment by implementing the Public Health Service (PHS) Clinical Practice Guideline [Treating Tobacco Use and Dependence: 2008 Update](#). They can use the Agency for Healthcare Research and Quality's [5As model](#) (ASK, ADVISE, ASSESS, ASSIST, ARRANGE) or abbreviated 3A's (ASK, ADVISE, ASSIST) to assess the nicotine dependence of patients and willingness to quit. Motivational interviewing strategies including the use of the [5Rs](#) as described by the PHS guidelines (Relevance, Risks, Rewards, Roadblocks and Repetition) can be used in combination with the 3As or 5As to improve the effectiveness of brief intervention counseling.⁵⁷ Implementation of brief intervention strategies by oral health professionals has been shown to be effective in increasing treatment attempts and improving patients' health.⁵⁸ In addition, the California Oral Health Technical Assistance Center ([COHTAC](#)) has compiled a list of resources for dental professionals to use in the dental setting around tobacco cessation, including resources from the American Academy of Pediatrics, the American Dental Association, and the American Dental Hygienists' Association.

Another [example](#) of an intervention is the [Great American Smokeout](#), hosted annually by the [American Cancer Society](#) for more than 40 years on the third Thursday of November.

S/TOHP can collaborate with partners within and external to state health agencies to publicize and promote any of these and other strategies. Partners include oral health coalitions, dental and medical professional associations, state primary care associations, and others. Community-based oral health programs are well positioned to assist in reaching specific populations. Dental professionals can use a CDT code, D1320, for tobacco counseling. As of 2023, the American Academy of Pediatric Dentistry

found that this code was “recognized and reimbursed” by Medicaid programs in 15 states. It was recognized but not reimbursed in eight states, and not recognized in 28.⁵⁹

ASTDD’s 2024 Synopses of State Dental Public Health Programs asked about collaboration between state oral health programs and chronic disease programs. Thirty-two states reported collaborating on tobacco issues, 24 on vaping, and 27 around oral cancer, for which tobacco use has been identified as a significant risk factor.⁶⁰

Eliminate secondhand smoke exposure

Strategies to reduce secondhand smoke exposure include comprehensive smoke-free policies (e.g., indoor, public spaces). Such policies will also reduce exposure to third-hand smoke. Smoke-free policies reduce tobacco use among workers and in the community in general.

Identify and eliminate tobacco-and nicotine related disparities

Certain populations experience disproportionate health and economic burdens from tobacco and nicotine-containing products use and secondhand smoke exposure. Measuring the differences in patterns, prevention, and treatment of these products; examining differences in the risk, incidence, morbidity and mortality, and the burden of related illness; and assessing system capacity, infrastructure and resources will identify populations with related disparities. S/TOHPs can engage with partners to reach identified populations in appropriate languages and in a culturally competent manner; these are important strategies to meet the needs of certain population groups, eliminate related disparities, and increase health equity.

Promote mass media education campaigns

Perceptions about the harms of tobacco use are shifting, particularly among youth, and about e-cigarettes and smokeless tobacco products as well.⁶¹ Approximately 33% of U.S. youth believe e-cigarettes are less harmful than combustible cigarettes. Among youth tobacco users, that percentage increases to seventy-five percent.⁶² Engaging various types of media, including streaming services, social platforms, television, and radio to educate about health impacts of all tobacco use could be effective for preventing youth tobacco addiction. In 2008, the National Cancer Institute concluded that mass media campaigns designed to discourage tobacco use can change youth attitudes about tobacco use, curb smoking initiation, and encourage adult cessation.⁶³

In summary, use of tobacco and nicotine-containing products remains a significant health issue in the U.S., with consequential implications for oral health despite measurable progress since the first Surgeon General’s report on smoking and health in 1964.⁵ Adverse impacts on health and oral health are well-known, but these products have continued to be developed and marketed. S/TOHPs have potential roles in influencing impacts through data collection and dissemination, participation in policymaking, professional and community education, collaboration with other state/territorial health agency programs, and with partners such as oral health coalitions, public health associations, dental and medical health professional organizations, educators, community health organizations, and others.

Policy Statement

ASTDD endorses and fully supports evidence-based state, territorial and community practice interventions to reduce the use of all tobacco and nicotine-containing products, and to eliminate exposure to second- and third-hand smoke. ASTDD supports fully funding comprehensive prevention and control programs, increasing the unit price of products, implementing comprehensive smoking bans and tobacco and nicotine-containing product sales and use restrictions, implementing policies to restrict youth access to these products, along with promoting mass media campaigns, telephone- and mobile phone or text-based quit services and other evidence-based interventions. A cost-effective approach to promoting overall health in evidence-based state and community practice interventions is to incorporate tobacco and oral nicotine use prevention strategies into oral health promotion efforts.

Note: In March 2024, the FDA’s Center for Tobacco Products introduced [the Searchable Tobacco Products Database](#), a list of tobacco products, including e-cigarettes, that may be legally marketed in the United States. According to the FDA, “the database is designed to serve the public – especially retailers – by providing this key information in a single location, with easy-to-use search capabilities.” The FDA notes that the database, which will be updated monthly, is not an exhaustive list of all tobacco products that can be legally marketed; also, ASTDD notes that it focuses on tobacco, so it may not be inclusive of all “nicotine-containing products.” An [accompanying page](#) provides additional information about the database, including key terminology, additional context, plain language explanations of the terms and entries in the database, and answers to anticipated questions.

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¹ U.S. Centers for Disease Control and Prevention, Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. [Smoking and tobacco use: Health effects](#).

² Winn, D.M. (2001), Tobacco Use and Oral Disease. *Journal of Dental Education*, 65: 306-312.

³ Pelucchi C, Gallus S, Garavello W, et al. Cancer risk associated with alcohol and tobacco use: focus on upper aerodigestive tract and liver. *Alcohol Res Health*. 2006;29(3):193-8. PMID: 17373408; PMCID: PMC6527045.

⁴ National Heart, Lung, and Blood Institute. How smoking affects the heart and blood vessels. <https://www.nhlbi.nih.gov/health/heart/smoking>

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- ⁵ US Department of Health and Human Services. [The health consequences of smoking—50 years of progress: a report of the surgeon general](#). Atlanta, GA: US Department of Health and Human Services, Centers for Disease Control and Prevention; 2014. Printed with corrections, January 2014.
- ⁶ Barrington-Trimis JL, Braymiller JL, Unger JB, et al. trends in the age of cigarette smoking initiation among young adults in the US From 2002 to 2018. *JAMA Netw Open*. 2020;3(10):e2019022. doi:10.1001/jamanetworkopen.2020.19022.
- ⁷ Park Lee E, Ren C, Cooper M, et al. [Tobacco product use among middle and high school students – United States, 2022](#). *Morbidity and Mortality Weekly Report*, 2022; 71:45.
- ⁸ National Association of Attorneys General. [The Master Settlement Agreement](#). 2023. Accessed October 26, 2023.
- ⁹ Cornelius ME, Loretan CG, Jamal A, et al. Tobacco product use among adults - United States, 2021. *MMWR Morb Mortal Wkly Rep* 2023;72:475–483. DOI: <http://dx.doi.org/10.15585/mmwr.mm7218a1>.
- ¹⁰ Connolly GN. Sweet and spicy flavours: new brands for minorities and youth. *Tob Control*. 2004;13(3):211–2.
- ¹¹ Carpenter CM, Wayne GF, Pauly JL, et al. New cigarette brands with flavors that appeal to youth: tobacco marketing strategies. *Health Affairs*, 2005. 24(6), 1601-1610.
- ¹² Ambrose BK, Day HR, Rostron B, et al. Flavored tobacco product use among US youth aged 12-17 years, 2013-2014. *JAMA*. 2015;314(17):1871–1873.
- ¹³ US Food & Drug Administration. [FDA finalizes enforcement policy on unauthorized flavored cartridge-based e-cigarettes that appeal to children, including fruit and mint](#). January 2, 2020.
- ¹⁴ Ali FR, Seidenberg AB, Crane E, et al. E-cigarette unit sales by product and flavor type, and top-selling brands, United States, 2020–2022. *MMWR Morb Mortal Wkly Rep* 2023;72:672–677.
- ¹⁵ Cullen KA, Gentzke AS, Sawdey MD, et al. E-cigarette use among youth in the United States, 2019. *JAMA*. 2019;322(21):2095–2103. doi:10.1001/jama.2019.18387
- ¹⁶ U.S. Centers for Disease Control and Prevention. Smoking and tobacco use. [Menthol tobacco products](#).
- ¹⁷ Watson CV, Richter P, de Castro BR, et al. Smoking behavior and exposure: results of a menthol cigarette cross-over study. *Am J Health Behav*. 2017;41(3):309-319.
- ¹⁸ Park-Lee E, Ren C, Sawdey MD, et al. Notes from the field: E-cigarette use among middle and high school students - National Youth Tobacco Survey, United States, 2021. *MMWR Morb Mortal Wkly Rep*. 2021 Oct 1;70(39):1387-1389.
- ¹⁹ Cohn AM, Rose SW, D'Silva J, et al. Menthol smoking patterns and smoking perceptions among youth: Findings from the population assessment of tobacco and health study. *Am J Prev Med*. 2019;56(4):e107-e116.
- ²⁰ National Center for Chronic Disease Prevention and Health Promotion (US) Office on Smoking and Health. Preventing tobacco use among youth and young adults: A report of the Surgeon General. Atlanta (GA): Centers for Disease Control and Prevention (US); 2012. 4, Social, Environmental, Cognitive, and Genetic Influences on the Use of Tobacco Among Youth. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK99236/>
- ²¹ Ren M, Lotfipour S. Nicotine gateway effects on adolescent substance use. *West J Emerg Med*. 2019 Aug 20;20(5):696-709. doi: 10.5811/westjem.2019.7.41661. PMID: 31539325; PMCID: PMC6754186.
- ²² Goriounova NA, Mansvelter HD. Short- and long-term consequences of nicotine exposure during adolescence for prefrontal cortex neuronal network function. *Cold Spring Harb Perspect Med*. 2012 Dec 1;2(12):a012120. doi: 10.1101/cshperspect.a012120. PMID: 22983224; PMCID: PMC3543069.
- ²³ Lai S, Lai H, Page JB, et al. The association between cigarette smoking and drug abuse in the United States. *J Addict Dis*. 2000;19(4):11-24.
- ²⁴ National Institutes of Health. [Why nicotine is a gateway drug](#). November 21, 2011.
- ²⁵ Levine A, Huang Y, Drisaldi B, et al. Molecular mechanism for a gateway drug: epigenetic changes initiated by nicotine prime gene expression by cocaine. *Sci Transl Med*. 2011 Nov 2;3(107):107ra109. doi: 10.1126/scitranslmed.3003062. PMID: 22049069; PMCID: PMC4042673.
- ²⁶ IARC Working Group on the Evaluation of Carcinogenic Risks to Humans. Smokeless tobacco and some tobacco-specific n-nitrosamines. Lyon (FR): International Agency for Research on Cancer; 2007. (IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, No. 89.) <https://www.ncbi.nlm.nih.gov/books/NBK326497/>
- ²⁷ Benowitz NL, Renner CC, Lanier AP, et al. Exposure to Nicotine and Carcinogens among Southwestern Alaskan Native Cigarette Smokers and Smokeless Tobacco Users. *Cancer Epidemiol Biomark Prev Publ Am Assoc Cancer Res Cosponsored Am Soc Prev Oncol*. 2012;21(6):934-942. doi:10.1158/1055-9965.EPI-11-1178. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3444141/>.

-
- ²⁸ Ciarlo A, Sannoh M. How states can leverage JUUL settlement funds to promote public health. October 31, 2023. <https://www.astho.org/communications/blog/how-states-can-leverage-juul-settlement-funds-to-promote-public-health/>
- ²⁹ Kim SA, Smith S, Beauchamp C, et al. (2018) Cariogenic potential of sweet flavors in electronic-cigarette liquids. *PLoS ONE* 13(9): e0203717.
- ³⁰ Holliday R, Chaffee BW, Jakubovics NS, et al. Electronic cigarettes and oral health. *Journal of Dental Research*. 2021;100(9):906-913. doi:10.1177/00220345211002116.
- ³¹ Jankowski M, Krzystanek M, Zejda JE, et al. E-Cigarettes are more addictive than traditional cigarettes—a study in highly educated young people. *Int J Environ Res Public Health*. 2019 Jun 27;16(13):2279. doi: 10.3390/ijerph16132279. PMID: 31252671; PMCID: PMC6651627.
- ³² Morean ME, Krishnan-Sarin S, S O'Malley S. Assessing nicotine dependence in adolescent E-cigarette users: The 4-item patient-reported outcomes measurement information system (PROMIS) nicotine dependence item bank for electronic cigarettes. *Drug Alcohol Depend*. 2018 Jul 1;188:60-63. doi: 10.1016/j.drugalcdep.2018.03.029. Epub 2018 Apr 26. Erratum in: *Drug Alcohol Depend*. 2020 Jan 1;206:107602. PMID: 29753155; PMCID: PMC6983293.
- ³³ US Food & Drug Administration. Tips to help avoid vape battery or fire explosions, n.d. <https://tinyurl.com/tkb2dfhf>
- ³⁴ Harrison R, Hicklin D. Electronic cigarette explosions involving the oral cavity. *J Am Dent Assoc*. 2016 Nov;147(11):891-896. doi: 10.1016/j.adaj.2016.03.018. Epub 2016 May 6. PMID: 27158079.
- ³⁵ Rogér JM, Abayon M, Elad S, et al. Oral trauma and tooth avulsion following explosion of e-cigarette. *J Oral Maxillofac Surg*. 2016 Jun;74(6):1181-5. doi: 10.1016/j.joms.2015.12.017. Epub 2016 Jan 7. PMID: 26850869.
- ³⁶ Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion. Health problems caused by secondhand smoke. [Webpage](#).
- ³⁷ Sutton JD, Salas Martinez, ML, Gerkovich MM. (2017), Environmental tobacco smoke and periodontitis in United States non-smokers, 2009 to 2012. *Journal of Periodontology*, 88: 565-574.
- ³⁸ Jan BM, Khayat MA, Bushnag AI, et al. The association between long-term corticosteroids use and dental caries: a systematic review. *Cureus*. 2023 Sep 3;15(9):e44600. doi: 10.7759/cureus.44600. PMID: 37667783; PMCID: PMC10475248.
- ³⁹ National Institute on Drug Abuse. [What are the effects of secondhand and thirdhand tobacco smoke?](#) Accessed 11/09/2023.
- ⁴⁰ Disparities in dental health issues and oral health care visits in US children with tobacco smoke exposure. Mahabee-Gittens EM, Smith HA, Merianos AL. *JADA* 2022;153(4):319-329. <https://doi.org/10.1016/j.adaj.2021.09.00>. Accessed 8/28/2023.
- ⁴¹ Ngambo G, Hanna EG, Gannon J, et al. A scoping review on e-cigarette environmental impacts. *Tob Prev Cessat*. 2023 Oct 2;9:30. doi: 10.18332/tpc/172079. PMID: 37789930; PMCID: PMC10542855.
- ⁴² Hendlin YH. Alert: Public health implications of electronic cigarette waste. *Am J Public Health*. 2018 Nov;108(11):1489-1490. doi: 10.2105/AJPH.2018.304699. PMID: 30303735; PMCID: PMC6187764.
- ⁴³ Wallbank LA, MacKenzie R, Beggs PJ. Environmental impacts of tobacco product waste: International and Australian policy responses. *Ambio*. 2017 Apr;46(3):361-370. doi: 10.1007/s13280-016-0851-0. Epub 2016 Nov 14. PMID: 27844421; PMCID: PMC5347528.
- ⁴⁴ Lee JG, Henriksen L, Rose SW, et al. A systematic review of neighborhood disparities in point-of-sale tobacco marketing. *Am J Public Health*. 2015 Sep;105(9):e8-18. doi: 10.2105/AJPH.2015.302777. Epub 2015 Jul 16. PMID: 26180986; PMCID: PMC4529779.
- ⁴⁵ Grilo G, Crespi E, Cohen JE. A scoping review on disparities in exposure to advertising for e-cigarettes and heated tobacco products and implications for advancing a health equity research agenda. *Int J Equity Health*. 2021 Oct 30;20(1):238. doi: 10.1186/s12939-021-01576-2. PMID: 34717629; PMCID: PMC8557615.
- ⁴⁶ Minnesota Department of Health, Commercial Tobacco Prevention and Control. Traditional tobacco and American Indian communities in Minnesota. <https://tinyurl.com/3hfud4t5>. Accessed June 12, 2024.
- ⁴⁷ Campaign for Tobacco-Free Kids/ Bach, L. [Tobacco company marketing to African Americans](#). December 1, 2023
- ⁴⁸ Delnevo CD, Ganz O, Goodwin RD. Banning menthol cigarettes: a social justice issue long overdue. *Nicotine Tob Res*. 2020(10):1673-1675.
- ⁴⁹ Acosta-Deprez V, Jou J, London M, et al. Tobacco control as an LGBTQ+ issue: knowledge, attitudes, and recommendations from LGBTQ+ community leaders. *Int J Environ Res Public Health*. 2021 May 22;18(11):5546. doi: 10.3390/ijerph18115546. PMID: 34067341; PMCID: PMC8196887.

-
- ⁵⁰ Sheffer CE, Williams JM, Erwin DO, et al. (2022). Tobacco-related disparities viewed through the lens of intersectionality. *Nicotine & Tobacco Research*, 24(2), 285-288.
- ⁵¹ Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion. Disparities in Oral Health. [Webpage](#).
- ⁵² Office on Smoking and Health, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Tips From Former Smokers. <https://www.cdc.gov/tobacco/campaign/tips/quit-smoking/quit-smoking-medications/how-to-use-quit-smoking-medicines/index.html>
- ⁵³ Public Health Law Center. The master settlement agreement: an overview. November 2018. <https://publichealthlawcenter.org/sites/default/files/resources/MSA-Overview-2018.pdf> Accessed 12/29/23.
- ⁵⁴ Holmes LM, Lempert LK, Ling PM. Flavored tobacco sales restrictions reduce tobacco product availability and retailer advertising. *Int. J. Environ. Res. Public Health*. 2022;19(6).
- ⁵⁵ Satchell T., Diaz MC, Stephens D. et al. The impact of two state-level approaches to restricting the sale of flavored tobacco products. *BMC Public Health* 2022;22:1799.
- ⁵⁶ Substance Abuse and Mental Health Services Administration (SAMHSA): Reducing vaping among youth and young adults. SAMHSA Publication No. PEP20-06-01-003. Rockville, MD: National Mental Health and Substance Use Policy Laboratory, Substance Abuse and Mental Health Services Administration, 2020.
- ⁵⁷ Lindson N, Thompson TP, Ferrey A, et al. Motivational interviewing for smoking cessation. *Cochrane Database Syst Rev*. 2019 Jul 31;7(7):CD006936. doi: 10.1002/14651858.CD006936.pub4. PMID: 31425622; PMCID: PMC6699669.
- ⁵⁸ Gillam DG, Yusuf H. Brief motivational interviewing in dental practice. *Dent J (Basel)*. 2019 May 1;7(2):51. doi: 10.3390/dj7020051. PMID: 31052431; PMCID: PMC6631588.
- ⁵⁹ Noble D, Rawle L, Fosse C. Reimbursement of Dental Services for Children Covered by Medicaid. Chicago, IL: Research & Policy Center, American Academy of Pediatric Dentistry; 2023. https://www.aapd.org/globalassets/reimbursement-medicare-childrens-dental_aapd-rpc_2024.pdf
- ⁶⁰ Association of State and Territorial Dental Directors. 2024 Synopses of state dental public health programs. Data for FY 2022-2023. June 2024. www.astdd.org [Members Only webpage].
- ⁶¹ Strong DR, Messer K, White M, et al. Youth perception of harm and addictiveness of tobacco products: findings from the population assessment of tobacco and health study (wave 1). *Addict Behav*. 2019 May;92:128-135. doi: 10.1016/j.addbeh.2018.12.005. Epub 2019 Jan 3. PMID: 30623806; PMCID: PMC7394550.
- ⁶² Amrock SM, Zakhar J, Zhou S, et al. Perception of e-cigarette harm and its correlation with use among U.S. adolescents. *Nicotine Tob Res*. 2015;17(3):330-6. <https://doi.org/10.1093/ntr/ntu156>.
- ⁶³ National Cancer Institute. The role of the media in promoting and reducing tobacco use. Tobacco Control Monograph No. 19. Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute. NIH Pub. No. 07-6242, June 2008.