Nicotine pouches first appeared in the U.S. in 2015 and are part of a broader range of oral nicotine products including nicotine gums, lozenges and snus. These products are made differently than traditional smokeless products as they contain nicotine and flavorings but not tobacco leaf. Traditional tobacco manufacturers first began to market these products, but smaller companies have begun to market them as well. Sales of nicotine pouches have skyrocketed in recent years. Nicotine pouch products raise new questions about potential health risks and public health impacts, including youth uptake and addiction. These products are flavored and easy to conceal – two of the characteristics of e-cigarettes that led to their popularity among youth. In addition, current marketing and social media trends with the products are a cause for concern, as they appear to mimic patterns seen with JUUL e-cigarettes that led to the sudden surge in youth e-cigarette use.

What are Nicotine Pouches?

Nicotine pouch products contain nicotine, water, flavoring and sodium carbonate inside a small cellulose envelope. The pouches are placed inside the mouth between the lip and gum and nicotine absorption occurs through the lining of the mouth. Nicotine pouches are distinguished from the smokeless tobacco product snus (a spitless, moist tobacco pouch) because they do not contain tobacco leaf. Because they are so small and do not require spitting, their use is very discrete and can easily be concealed.

These products are available in a range of nicotine levels and flavors. They use either nicotine derived from tobacco or synthetic nicotine. Most nicotine pouches are available in a range of nicotine strengths, typically between 1.5 and 8 mg per pouch, but some products have been found to contain up to nearly 50 mg of nicotine per pouch. A study analyzing contents of nicotine pouches purchased in Atlanta found a wide range of nicotine in the free nicotine form, which can increase nicotine absorption and make the products more addictive. Overall, studies show that some nicotine pouches can deliver similar levels of nicotine as cigarettes or traditional smokeless tobacco products.

Because these products do not contain tobacco leaf, additives are used to create flavors. Flavor options range from minty (i.e., spearmint, wintergreen, cinnamon) to fruity (i.e., citrus, cherry, mango). Some products also use synthetic cooling agents like WS-3, a chemical that may reduce the harshness of nicotine and may enhance the sensory experience of using pouches.

Containers typically contain 15 to 20 nicotine pouches. Labeling of nicotine content is not consistent across brands – some brands list the milligrams of nicotine per pouch, while others merely describe the relative strength, such as using symbols or descriptive words like “strong.”

Nicotine Pouch Market in the U.S.

All of the major tobacco companies in the U.S. sell nicotine pouches that use tobacco-derived nicotine and are offered in a range of nicotine strengths and flavors. Other manufacturers also make nicotine pouches using tobacco-derived nicotine or synthetic nicotine.

Examples of nicotine pouch brands.
In the U.S., manufacturers must obtain a marketing authorization from the U.S. Food and Drug Administration (FDA) to sell nicotine pouches, regardless of the nicotine source. If tobacco-derived nicotine pouch products were on the market before August 2016 and manufacturers submitted applications for those products by September 2020, then FDA has not been taking enforcement action against them while the agency reviews the applications. Manufacturers selling pouch products using synthetic nicotine were supposed to have submitted marketing applications by May 2022. As of May 2024, all the major companies had submitted applications for review, but FDA has yet to issue marketing authorizations on any nicotine pouch product.

Sales of nicotine pouches have grown dramatically since their introduction in 2015. Goldman Sachs’ analysis of Nielsen market data through May 18, 2024 show that nicotine pouches generated $2.8 billion in sales in the last 52 weeks. The nicotine pouch category makes up about a quarter of the smokeless market (28.8% of dollar sales of all smokeless tobacco products), and 5.2% of dollar sales of the total tobacco market. Unlike other tobacco product categories that have seen sales declines, smokeless tobacco product sales increased by more than 10% in the past year, driven by nicotine pouches – and more specifically, Philip Morris International’s Zyn pouches. Zyn is by far the leading nicotine pouch brand, with sales having increased over 75% in the last year. Other brands fall far behind, including Altria’s On!, Swisher’s Rogue, and Reynolds Americans’ Velo.7

While mint-flavored pouches are the most commonly sold flavor, sales of fruit-flavored pouches saw the most rapid increase of all flavor categories during 2016-2020.8 During 2019-2022, sales of products containing 8mg of nicotine increased most rapidly, though products with 2mg, 4mg, and 6mg nicotine levels were more commonly sold.9

Awareness and Use of Nicotine Pouches

Youth Use. The 2023 National Youth Tobacco Survey (NYTS) data show that 1.5% of middle and high schoolers (400,000 youth) used nicotine pouches in the past 30 days (current use). Nearly 87% of youth pouch users (340,000 youth) use flavored nicotine pouches. Mint (50.8%) was by far the most popular flavor among youth nicotine pouch users, followed by menthol (23.9%) and fruit (20.5%).10

Analysis of 2021 NYTS data showed that more than one-third of middle and high school students – 9.4 million youth – had ever heard of nicotine pouches.11 Several studies of youth and young adults have demonstrated that current users of nicotine pouches also currently use other forms of tobacco (multi- or dual use), particularly cigarettes, smokeless tobacco, or e-cigarettes.12

A study in southern California found that high schoolers who did not use tobacco were more willing to use oral nicotine products (a category that is dominated by nicotine pouches) than other smokeless tobacco products and showed slight preference for mint- over fruit-flavored products – findings that are reinforced by the 2023 NYTS data. Adolescents who were younger, female, and LGBTQ+ were more willing to use these products compared to their counterparts. Willingness to use tobacco is linked to future initiation.13

Media reports have raised concerns about increasing numbers of high schoolers using nicotine pouches, particularly Zyn.14 In an announcement about enforcement actions against more than 100 stores for selling flavored Zyn to underage youth, FDA unequivocally stated, “Youth use of any tobacco products, including nicotine pouches, is unsafe.”15

Adult Use. National surveys currently do not report adult prevalence rates for nicotine pouches. Industry data show that most of the people using nicotine pouches are those who use or used other smokeless tobacco products rather than people who switched from smoking.16

Marketing Nicotine Pouches

While the U.S. Federal Trade Commission began collecting data on nicotine pouch sales in 2020 as part of its annual reports on marketing and promotional spending by the major smokeless tobacco companies, the reports do not break out these expenditures for nicotine pouches. A study looking at advertising
spending in print magazines, newspapers, TV and radio, outdoor signs, and the internet between January 2018 and April 2020 found that by August 2019, monthly ad spending for oral nicotine products, dominated by nicotine pouches, exceeded that of traditional smokeless tobacco products. A separate study found that between January 2019 and September 2021, Swedish Match (Zyn), Reynolds American (Velo), and Altria (On!) spent nearly $25 million on ads for their products. Most of the ads were on the radio or TV, and featured themes such as freedom, innovation, and flavors.

The theme of freedom echoes messaging that smokeless tobacco companies have used for decades. Many companies show nicotine pouches as products that can be used by smokers in places where smoking is not allowed, for example, on an airplane. Altria and Reynolds American have run advertisements of their pouch products alongside their cigarettes, such as a banner ad for On! on the Marlboro cigarette website or combining Velo and Camel cigarettes in direct email. This type of cross-promotion and messages of freedom or convenience encourages smokers to dual (or poly)-use products by using these smokeless products in certain situations but continuing to smoke otherwise, rather than switching completely to pouches or quitting smoking altogether. Studies showing prevalent dual use among those who use nicotine pouches indicates that this strategy is working.

Some companies making nicotine pouches with tobacco-derived nicotine advertise these products as “tobacco-free” because they do not contain tobacco leaf. For instance, Zyn uses the tagline “tobacco-free nicotine pouches” and claims on its website that the products provide a “cleaner nicotine experience.” At the same time, some synthetic nicotine products are also marketed as “tobacco-free” because they claim to use nicotine derived from non-tobacco sources. Research shows that, for synthetic nicotine pouches particularly, the term “tobacco-free” reduces risk perceptions, which can increase the appeal of and intentions to use these products, particularly among susceptible populations like young people.

These products are appearing more extensively on social media, either driven by tobacco companies or in more organic ways. A 2023 report by the Campaign for Tobacco-Free Kids, #SponsoredbyBigTobacco: Tobacco & Nicotine Marketing on Social Media, documented how British American Tobacco’s social media marketing of its Velo nicotine pouch product reached an estimated 252 million people in 32 countries, including the United States, with 39% of the audience under the age of 25, including over 10 million teens worldwide, between January 2018 and October 2023. So-called “Zynfluencers” post trendy videos online visible by almost anyone, and the use of popular hashtags make Zyn-related content easy to find.

Swedish Match offers a very generous rewards program, allowing people to redeem points acquired from Zyn purchases for iPads, Apple Watches, Dyson hair stylers, and
previously, Zyn-branded items like towels. These types of loyalty or continuity programs can encourage repeat purchases and some offer large point incentives to recruit additional registrants, including new users. One study found many social media posts about prizes obtained through these reward programs by young women, a potentially new customer base for these products. Other studies have documented how rewards programs from cigarette companies, like “Camel Cash” and “Marlboro Miles,” that require people to collect points through purchases and redeem them for products are particularly successful in capturing the loyalty of youth, incentivizing them to experiment with cigarettes, progress to regular smoking, and smoke more.

The impact of nicotine pouch marketing on young people is no different than the research on other tobacco product marketing. Studies show increased willingness to try and buy nicotine pouches – specifically Zyn – based on the marketing among youth and young adults. Youth expressing that they liked the marketing even “a little bit” was enough to increase the odds of buying Zyn.

**Health Risks Associated with Nicotine Pouches**

Because pouches don’t contain tobacco leaf, there may be differences in health harms from traditional smokeless tobacco products. Although the tobacco industry markets emerging nicotine products as “clean” and “reduced-harm” products, the short- and long-term health impacts of nicotine pouches are unknown. They have not been on the market long enough to be extensively studied under real-world conditions, and there is very little independent evidence demonstrating that these products have resulted in or encouraged complete switching among adults who smoke. The majority of currently available evidence on potential health effects is industry-funded, and the tobacco industry has a long history of funding research to support its business objectives.

The nicotine in the pouches raises particular concern for addiction and harm to pregnant women and adolescents. Nicotine exposure during adolescence can harm the developing brain which continues to develop until about age 25. Nicotine exposure during adolescence can impact learning, memory, and attention. According to the CDC, nicotine also primes the brain for addiction to other drugs. The U.S. Surgeon General concluded that “The use of products containing nicotine in any form among youth, including in e-cigarettes, is unsafe.” There is no evidence demonstrating that recreational nicotine pouches are a safe or effective way to quit smoking.

While levels of some toxicants in nicotine pouches may be lower than in cigarettes and smokeless tobacco, some studies have found levels of formaldehyde in nicotine pouches comparable to cigarettes and smokeless tobacco. Patterns of use may also impact health risks. For instance, media has reported that some people, including young people, use multiple pouches simultaneously, which means that research on pouch contents or single pouches may not provide a true representation of exposure to nicotine and toxicants.

Other reported side effects from using nicotine pouches include gum irritation, and researchers have raised concerns about other constituents in the pouches potentially causing other oral health problems.

Further research on the long- and short-term effects of nicotine pouch use and the effects on cessation and initiation of tobacco products is required to better understand their effects at an individual and population public health level.

**Regulating Nicotine Pouches**

Nicotine pouches (regardless of the source of nicotine) are regulated by FDA and are subject to requirements such as submitting premarket review applications. FDA is currently reviewing applications for nicotine pouches submitted by major tobacco companies, and the agency has not taken enforcement actions against nicotine pouches with pending applications.
States should make sure that nicotine pouches are included in state definitions for tobacco products or smokeless tobacco products so that state tobacco policies, including sales restrictions on flavored products, will apply to them.

**Campaign for Tobacco-Free Kids, June 25, 2024**

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16. PMI, CAGNY Conference, February 21, 2024, https://philipmorrisinternational.gcs-web.com/static-files/02acf04a-b35c-48a1-9dc4-457f3e6ca097, slide 25 showing that 36% of Zyn users primarily used traditional oral tobacco products, compared to 25% of those who smoked cigarettes and 25% of those who used e-cigarettes. “We believe oral nicotine is taking most of its share from traditional smokeless tobacco, but is also benefiting from increased poly-usage across nicotine categories.” Goldman Sachs, Americas Tobacco: Nielsen Data thru 1/19: Total nicotine volume pressure continues as pricing holds strong, December 14, 2023, “…the oral nicotine category continues to take share, especially from traditional moist snuff.”


