



Health Policy Brief

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The Changing Landscape: Tobacco and Marijuana Use Among Young Adults in California

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“In 2018, 1.66 million young adults in California were currently using at least one form of cigarette, e-cigarette, or marijuana products.”

SUMMARY: Use of tobacco products in any form and long-term recreational marijuana¹ use among young adults can be harmful to their health and well-being, according to the National Academies of Sciences, Engineering, and Medicine. This policy brief summarizes findings from the California Health Interview Survey (CHIS) that describe use of, reasons for, and preferences for tobacco and marijuana use among young adults amid a changing policy landscape. In 2018, 1.66 million young adults (ages 18 to 25) in California were using at least one form of cigarette, electronic cigarette

(e-cigarette), or marijuana product. Cigarette smoking, which had remained flat after a continued decade-long decline, was offset in 2018 by escalating use of e-cigarettes and marijuana among young adults: E-cigarette use climbed 48%, and marijuana use rose by 19% over one year. In 2018, only 1 in 5 young adults (19%) in the state reported using e-cigarettes as a means of quitting, replacing, or reducing cigarette smoking. Flavored cigarettes and e-cigarettes were popular, with nearly 8 in 10 young adults (77.8%) reporting that they were vaping flavored e-cigarettes.

Young adults are particularly at risk for harm and addiction, as the use of tobacco products in any form and long-term recreational marijuana use¹ can be harmful to their health and well-being.² The use of electronic cigarettes (e-cigarettes) and marijuana among young adults can harm the developing brain, which continues to develop until about age 25.³ Use in early adulthood also increases the risk of future addiction to other drugs.^{2,3}

Effective January 1, 2018, California legalized recreational marijuana for individuals ages 21 and over, but commensurately fortified a policy environment that discouraged smoking and vaping. As of June 2016, the sale of tobacco products and e-cigarettes to

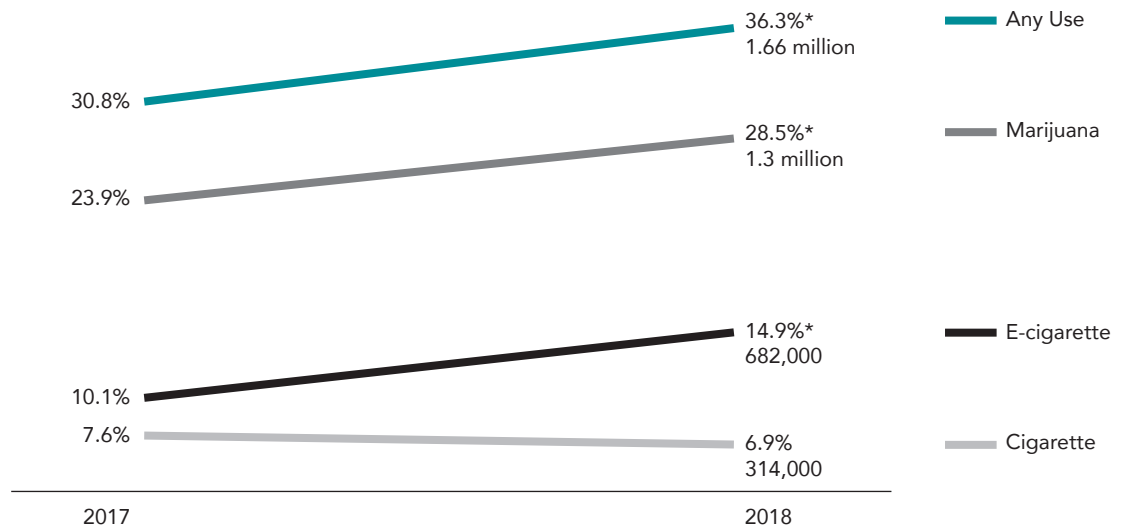
persons under 21 was prohibited in California; in addition, e-cigarettes became included in California’s smoke-free laws, thereby prohibiting them in workplaces and many public spaces. In 2017, the cigarette tax was raised from 87 cents to \$2.87 per pack to disincentivize the purchasing behavior of California’s smokers. Since 2019, some cities in California have banned the sale of e-cigarettes.⁴

In this policy brief, we focus on current use (that is, any use in the past 30 days) of cigarettes, e-cigarettes, and marijuana among Californians ages 18 to 25. We present overall trends in current use between 2017 and 2018, then present detailed data from 2018 on patterns of use by sociodemographic groups. We also examine the use of flavored products such as menthol cigarettes and flavored e-cigarettes, reasons for e-cigarette use, and modes of marijuana consumption. The

ⁱ This policy brief uses the term “marijuana” rather than “cannabis” because California Health Interview Survey respondents were asked about “marijuana.”

Exhibit 1

Trends in Current Use of Cigarettes, E-Cigarettes, or Marijuana, Adults Ages 18-25, California, 2017 and 2018



Source: 2017 and 2018 California Health Interview Surveys

* Differences between 2017 and 2018 were statistically significant at $p < 0.05$.

“Current e-cigarette use climbed by 48% and current marijuana use rose by 19% among young adults between 2017 and 2018.”

population-based insights on young adults give us an important picture of cigarette, e-cigarette, and marijuana use and behaviors, informing the design of policies aimed at curbing use of these products by young adults.

Trends in Tobacco and Marijuana Use

In 2018, 1.66 million young adults (ages 18-25) in California were currently using at least one form of cigarette, e-cigarette, or marijuana products: 314,000 smoked cigarettes, 682,000 used (vaped) e-cigarettes, and 1.3 million used marijuana. After a decade-long decline in smoking, there was no statistically significant change in cigarette use between 2017 and 2018 (Exhibit 1). In contrast, there was escalating use of e-cigarettes and marijuana. Between 2017 and 2018, current e-cigarette use (vaping) climbed by 48% among young adults, and current marijuana use rose by 19%. The proportion of young adults currently using any of these products increased by 18% between 2017 and 2018 (Exhibit 1).

Use by Age, Gender, Race/Ethnicity, and Income

Exhibit 2 presents patterns of current use of cigarettes, e-cigarettes, and marijuana by age, gender, race/ethnicity, and income.

- Young adults ages 18-20 are smoking cigarettes at significantly lower rates (4.6%) than young adults ages 21-25 (8.6%).
- A wide and significant male-female difference is seen in e-cigarette use (9.3 percentage points), with male e-cigarette use nearly double female e-cigarette use. Any use of cigarettes, e-cigarettes, or marijuana is also significantly higher for males than females.
- Young adults who are white have higher rates of cigarette and e-cigarette use than those who are Latinx. Approximately 27% of young adult Latinx, whites, and Asians use marijuana.

Sociodemographic Patterns of Current Use of Cigarettes, E-Cigarettes, and Marijuana, Adults Ages 18-25, California, 2018

Exhibit 2

	Percent of Population Ages 18-25	Cigarette	E-Cigarette	Marijuana	Any Use of Cigarettes/E-Cigarettes/Marijuana
Total		6.9%	14.9%	28.5%	36.3%
Age					
18-20	43%	4.6% ^a	16.7%	27.0%	35.9%
21-25	57%	8.6%	13.6%	29.6%	36.6%
Gender					
Male	51%	7.8%	19.5%	31.8%	40.9%
Female	49%	5.9%	10.2% ^b	25.1%	31.6% ^b
Race/Ethnicity*					
Latinx	30%	4.9% ^c	10.4% ^c	27.1%	32.1%
White	27%	10.5%	19.0%	27.6%	38.4%
Asian	17%	NR	16.0%	27.1%	35.4%
African American	5%	NR	NR	38.1%	43.6%
Other Single Race/Multiracial	21%	NR	16.4%	30.8%	38.9%
Income as % of Federal Poverty Level					
0-200% FPL	43%	8.0%	10.1% ^d	27.1%	33.0%
>200% FPL	57%	6.0%	18.5%	29.5%	38.8%

Source: 2018 California Health Interview Survey

NR: Not reported due to instability of estimate.

* Race tabulation is based on the UCLA Center for Health Policy Research tabulation "racehp2_p1," which classifies multiracial individuals and Latinx individuals according to their reported primary race identification. Other Single Race/Multiracial includes individuals who report Other Race, American Indian/Alaska Native, Native Hawaiian/Pacific Islander, or more than one race. Estimates for American Indian/Alaska Native and Native Hawaiian/Pacific Islander were unstable for reporting.

a Significantly different from 21-25-year-olds at $p < 0.05$.

b Significantly different from males at $p < 0.05$.

c Significantly different from whites at $p < 0.05$.

d Significantly different from income >200%FPL at $p < 0.05$.

- Only e-cigarette rates differ significantly by income: Young adults with incomes at or below 200% of the federal poverty level (FPL) use e-cigarettes at lower rates than young adults with incomes greater than 200% FPL.

Multiple Methods of Marijuana Use

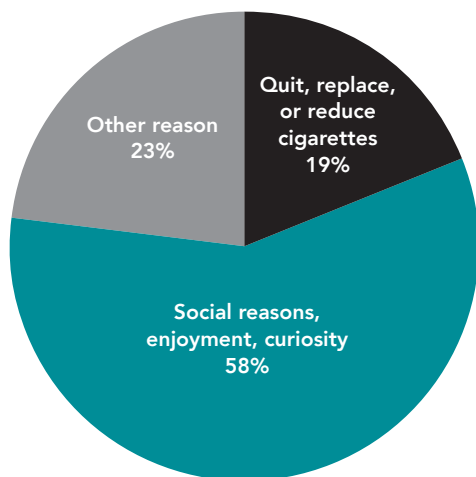
Marijuana users tend to use multiple methods of consumption, with only 22.2% of young adult current users reporting that they use a single method. The many methods of consuming marijuana include smoking, vaporizing, dabbing, eating, or drinking. Dabs contain a higher concentration of marijuana that can be smoked or vaped.

Among young adult current marijuana users, 81% reported smoking marijuana with a joint, bong, or pipe, followed by vaping at 47%, use of a blunt at 43%, eating or drinking at 35%, and dabbing at 23%. Preferences by gender are comparable, with the exception that more young women than young men significantly eat/drink marijuana (45% vs. 28%). We also examined preferences of marijuana use by age and found that methods of marijuana use among young adults ages 18-20 are similar to the methods used by those ages 21-25.

“Marijuana users tend to use multiple methods of consumption, with only 22.2% of young adult current users reporting that they use a single method.”

Exhibit 3

Main Reasons for Current Use of E-Cigarettes, Adults Ages 18-25, California, 2018



Source: 2018 California Health Interview Survey

“Over three-quarters of young adult e-cigarette users used flavored e-cigarettes in 2018.”

Surge in E-Cigarette Use

E-cigarettes had the largest increase (48%) in use between 2017 and 2018 (Exhibit 1) and had significant differences in use by gender, race/ethnicity, and income in 2018 (Exhibit 2).

Of the 682,000 young adults who were current e-cigarette users in 2018, fewer than 1 in 5 (19%) reported using e-cigarettes for quitting, replacing, or reducing cigarette smoking (Exhibit 3). A majority (58%) of young adults reported social reasons, enjoyment, and curiosity as top reasons for vaping.

Preference for Flavored/Menthol Products

Almost 4 in 10 (36.8%; 116,000) young adults who were currently smoking cigarettes in 2018 usually smoked menthol cigarettes. Of these 116,000 menthol cigarette smokers, about 30% (34,000) were underage users (ages 18-20).

Young adults preferred vaping flavored e-cigarettes—candy, fruit, and other flavors. Among current young adult e-cigarette users in 2018, over three-quarters (77.8%, or about 531,000) used flavored e-cigarettes.

Underage Use

Underage young adults (ages 18-20) in California are subject to tobacco and marijuana purchase restrictions. In 2018, of the 314,000 young adults who reported currently smoking cigarettes, 89,000 were underage smokers. Of the 682,000 young adults who reported currently using e-cigarettes, 326,000 were underage; of the 1.3 million young adults who reported currently using marijuana, 527,000 were underage.

Conclusions

Over the period from 2017 to 2018, California saw a tremendous increase in e-cigarette and marijuana use among young adults, while cigarette smoking remained flat. Significant differences by gender, race/ethnicity, and income were observed in e-cigarette use.

California’s trends in cigarette and e-cigarette smoking are parallel to those observed nationwide.³ What stands out in our findings for California’s young adults ages 18-25 is the following:

- 1.66 million of 4.6 million (36%) young adults in California reported current use of at least one form of cigarette, e-cigarette, or marijuana product in 2018.
- Among young adults, e-cigarette use surged by 48% in a one-year period between 2017 and 2018.
 - Among e-cigarette users, 19% reported vaping to quit, reduce, or replace cigarettes.
- Flavored products were popular among young adult current tobacco users.
 - Among current e-cigarette users, 8 in 10 reported vaping flavored products.
 - Among current cigarette users, 4 in 10 reported usually smoking menthol cigarettes.
- Marijuana use among young adults increased by 19% between 2017 and 2018.

- Underage use (i.e., use among those ages 18-20) was substantial for e-cigarettes and marijuana.
 - About half (48%; 326,000) of young adult current e-cigarette users were underage.
 - More than half a million (40%; 527,000) current marijuana users were underage.

Policy Recommendations

In this changing smoking environment where young adults are experimenting with tobacco, e-cigarettes, and marijuana, policies that affect the access and social environments of all three products should be considered together. Policies need to ensure that young adults do not switch from one product to another because of differential prices, access, and availability across products.⁵

Additionally, state and local jurisdictions must engage and mobilize diverse stakeholders in developing and implementing policy approaches and interventions. Engaging with diverse stakeholders is an important process that can promote equity and reduce health disparities, ensuring that policies and interventions are culturally appropriate and are tailored to the needs of the target communities. Diverse stakeholders can also provide input to ensure that enforcement of policies will not contribute to systemic oppression of priority populations. These actions will also increase the community buy-in and public support essential for the development, implementation, and enforcement of policies. Following are some policy approaches that California should take to ensure that policies are equitably applied throughout California's diverse communities.

Adopt new and effective policies to curtail the surge of emerging products.

State and local governments could implement policy approaches and interventions for e-cigarettes and marijuana that have proved effective in tobacco control. Governor Gavin Newsom has proposed a nicotine tax on

e-cigarettes that would become effective in 2021.⁶ A new statewide tax on e-cigarettes could discourage consumption, based on the evidence concerning cigarette taxes and their effectiveness in reducing cigarette consumption.⁷

Crafting policies that encompass the e-cigarette market, where products and flavors are rapidly changing, presents challenges. Since laws on e-cigarettes are new, there are fewer studies that rigorously measure the effectiveness of policies such as bans on flavored products or prohibition of the sale of e-cigarettes. Nevertheless, the alarming growth in the use of flavored e-cigarettes among young adults has led to policies that ban all flavored nicotine products. In addition to the e-cigarette tax, Governor Newsom's administration has signaled that it supports eliminating the sale of all flavored tobacco products as of January 1, 2021.⁶

In the absence of a current statewide ban, more than 80 local California communities have passed restrictions on the sale of flavored tobacco products.⁸ Some California jurisdictions have gone further, with several enacting policies in 2019 that placed a moratorium or outright prohibition on the sale and distribution of e-cigarettes. These jurisdictions include San Francisco, Sacramento, Los Angeles, Manhattan Beach, and Morro Bay, among others.⁴

Apply effective local policies equitably throughout the state's diverse communities.

Before the adoption of major statewide policies, cities and counties in California had been at the forefront of adopting local tobacco control policies.^{9,10} However, according to a recent report of the American Lung Association (ALA), in 2018, about 50% of Californians still lived in communities unprotected by at least some of these policies.¹⁰ Further, some studies highlight the inherent inequities in the geography of smoke-free policy coverage, as well as the known geographic clustering of tobacco

“About 326,000 young adult current e-cigarette users and more than half a million current marijuana users were underage.”

“It is important to ensure that effective local policies are applied equitably throughout California.”

retailers and advertising in more vulnerable neighborhoods.¹¹⁻¹³ Therefore, it is important to ensure that effective local policies are applied equitably throughout California.

Local jurisdictions and states can set minimum floor price laws (MFPLs) for all tobacco products, prohibit the sale of any tobacco product (e.g., a pack of cigarettes) for less than the set price, and pair MFPLs with minimum pack sizes. The policy could also prohibit the redemption of coupons, price discounts, and other price promotions. Studies have suggested that setting MFPLs and restricting price promotions may prevent youth from uptaking tobacco.¹⁴⁻¹⁶

Cities, counties, and colleges and universities can implement population-level strategies to reduce smoking and the social acceptability of smoking among young adults. A report of the U.S. surgeon general reached this conclusion: “Coordinated, multicomponent interventions that combine mass media campaigns, price increases including those that result from tax increases, school-based policies and programs, and statewide or community-wide changes in smoke-free policies and norms are effective in reducing the initiation, prevalence, and intensity of smoking among youth and young adults.”¹⁷ Given the current smoking environment, it is also important to explicitly include e-cigarettes and marijuana in smoke-free policies—for example, in the smoke-free policies of multi-unit housing, schools, and outdoor dining areas.

Evidence suggests that both the prevalence of and the disparities in cigarette smoking might benefit from a reduction in tobacco retailer density, particularly in metropolitan areas.^{16, 18-20} These strategies include preventing clustering of tobacco retailers by:

- prohibiting the issuance of a new tobacco retail license within 1,500 feet of an existing tobacco retailer;

- prohibiting the sale of tobacco products at retailers with pharmacy services;
- capping and winnowing the number of retailers to whom the total number of tobacco retail licenses may be issued within a geographic area, and allowing only one new license for every three that are not renewed or that are revoked due to enforcement violations; and
- prohibiting license issuance and future renewal for any tobacco retailer within 1,000 feet of a school.

Enforce the existing laws and policies.

Equally important to the adoption of new policies is the enforcement of existing policies at both the local and state levels. The findings described in this brief on the underage use of cigarettes, e-cigarettes, and marijuana show that enforcement of existing laws and policies could be further strengthened. Local jurisdictions could regulate suppliers by preventing unlicensed retailers and underage sales of cigarettes, e-cigarettes, and marijuana. Regulation by licensing ordinances could include:

- requiring tobacco and marijuana retailers to pay an annual fee covering administration and enforcement efforts;
- requiring all retailers to obtain a license to sell tobacco or marijuana, with the license renewed annually;
- considering any violation of a state, local, or federal tobacco law to be a violation of the license; and
- creating financial deterrents (e.g., fines and penalties) for violations, as well as license suspension and revocation.

In addition to the policy approaches above, investments in state tobacco control programs that promote education and cessation assistance for young adults have also been found to be effective. Such programs can include educational initiatives targeting young adults and aiming to increase awareness about the potential harm of using cigarettes, e-cigarettes, and marijuana.²¹

In sum, strategies and policy options can be designed and tailored based on the smoking and vaping preferences and behaviors of young adults, as described in this policy brief. In addition to state policies, all California cities and counties have the legal authority to enact policies concerning the use of cigarettes, e-cigarettes, and marijuana. By monitoring and considering the numbers and demographics of users, their preferences, and the types of use across cigarette, e-cigarette, and marijuana products, policies could be formulated to help prevent access to these products for the 4.6 million young adults residing in the state.

Data Source and Methods

Data for this policy brief were drawn from the 2018 California Health Interview Survey (CHIS) in conjunction with data from the 2017-2018 CHIS annual data files.

In this policy brief, we used the responses to several questions to define current users. Specifically, during the CHIS 2017 and 2018 survey cycles, CHIS asked adult respondents: “Have you ever used any type of e-cigarette, vape pen, or e-hookah, such as Blu, NJOY, or Vuse, or any larger devices for vaping, sometimes called vapes, tanks, or mods?” Among those who responded positively, a follow-up question was asked: “During the past 30 days, on how many days did you use electronic cigarettes?”

Similar sets of questions were asked about cigarette smoking and marijuana use. However, the questions differed. For marijuana use, the question was: “Have you ever, even once, tried marijuana or hashish in any form?” Then, to determine marijuana current use, CHIS asked the question: “How long has it been since you last used marijuana or hashish in any form?” To define current cigarette smoking, respondents who answered yes to the CHIS question, “Altogether, have you smoked at least 100 or more cigarettes in your entire lifetime?” were asked: “Do you now smoke cigarettes every day, some days, or not at all?”

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The California Health Interview Survey (CHIS) covers a wide array of health-related topics, including health insurance coverage, health status and behaviors, and access to health care. It is based on interviews conducted continuously throughout the year with respondents from more than 20,000 California households.

CHIS is a collaboration between the UCLA Center for Health Policy Research, California Department of Public Health, California Department of Health Care Services, and the Public Health Institute. For more information about CHIS, please visit chis.ucla.edu.

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