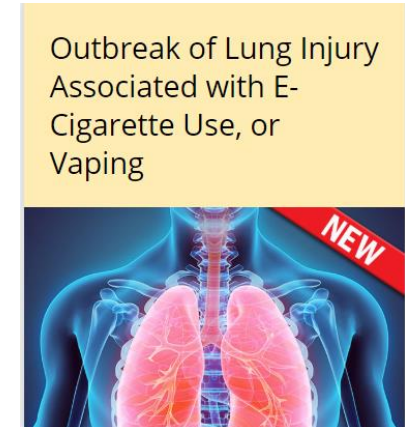
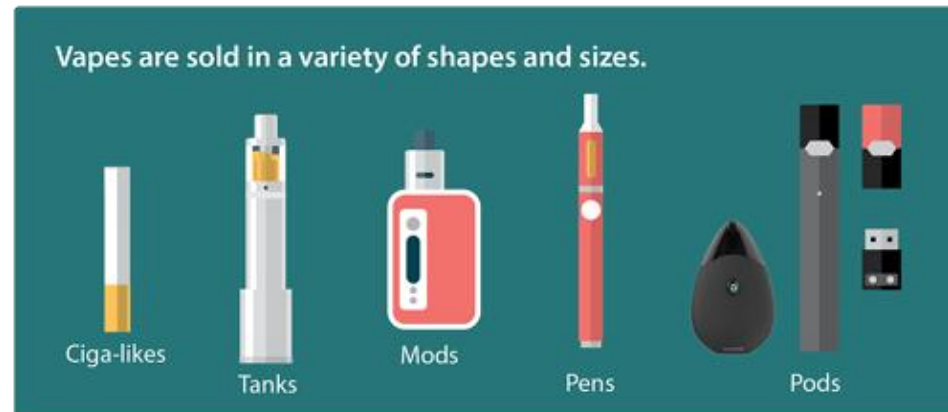
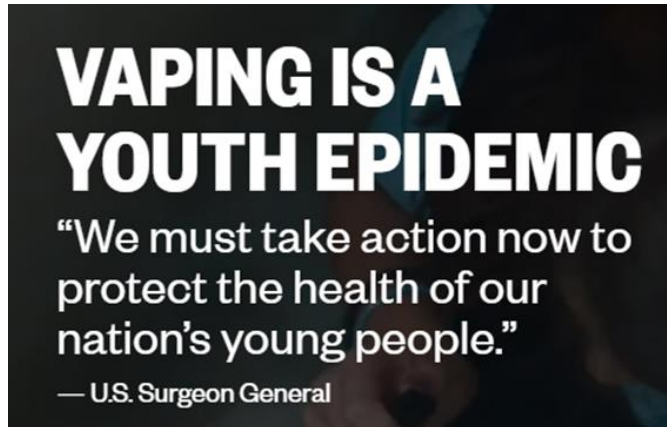


Understanding the New Vaping Epidemic for California



Elisa Tong, Associate Professor of Internal Medicine, UC Davis

Kimberlee Homer Vagadori, Project Director, California Youth Advocacy Network

1950-60s: Evidence Cigarettes Cause Cancer

Industry Marketing and Public Relations: Creating Doubt in 1954

1964 Surgeon General Report

According to repeated nationwide surveys,


More Doctors Smoke **CAMELS** than any other cigarette!

Doctors in every branch of medicine were asked, "What cigarette do you smoke?" The brand named most was Camel!


You'll enjoy Camels for the same reasons so many doctors enjoy them. Camels have cool, cool *midnotes*, pack after pack, and a flavor unmatched by any other cigarette.

Make this sensible test: Smoke only Camels for 30 days and see how well Camels please your taste, how well they suit your throat as your steady smoke. You'll see how enjoyable a cigarette can be!


THE DOCTORS' CHOICE IS AMERICA'S CHOICE!




HELEN GIBSON says: "I pick Camels. They taste just as good as they look!"



JOHN HENRI says: "I get more pleasure from Camels than from any brand."



DAVID HELLER says: "Camels smoke just fine!"



For 30 days, test Camels in your "T-Zone" (T for Throat, T for Taste).

A Frank Statement to Cigarette Smokers

RECENT REPORTS of experiments with mice have given wide publicity to a theory that cigarette smoking is in some way linked with lung cancer in human beings.

Although conducted by doctors of professional standing, these experiments were not regarded as conclusive in the field of cancer research. However, we do not believe that any serious medical research, even though its results are inconclusive should be disregarded or lightly dismissed.

At the same time, we feel it is in the public interest to call attention to the fact that serious doctors and research scientists have publicly questioned the claimed significance of these experiments.

Distinguished authorities point out:

1. That medical research of recent years indicates *many* possible causes of lung cancer.
2. That there is no agreement among the authorities regarding what the cause is.
3. That there is no proof that cigarette smoking is one of the causes.
4. That statistics purporting to link cigarette smoking with the disease could apply with equal force to any one of many other aspects of modern life. Indeed the validity of the statistics themselves is questioned by numerous scientists.

We accept an interest in people's health as a basic responsibility, paramount to every other consideration in our business.

We believe the products we make are not injurious to health.

We always have and always will cooperate closely with those whose task it is to safeguard the public health.

For more than 300 years tobacco has given solace, relaxation, and enjoyment to mankind. As one time or another during those years critics have held it responsible for practically every disease of the human body. One by one these charges have been abandoned for lack of evidence.

Regardless of the record of the past, the fact the cigarette smoking today should *com* be expected as a cause of a serious disease is a matter of deep concern to us.

Many people have asked us what we are doing to meet the public's concern aroused by the recent reports. Here is the answer:

1. We are providing aid and assistance to the research effort into all phases of tobacco use and health. This just financial aid will of course be in addition to what is already being contributed by individual companies.
2. For this purpose we are establishing a joint industry group consisting initially of the undersigned. This group will be known as **TOBACCO INDUSTRY RESEARCH COMMITTEE**.
3. In charge of the research activities of the Committee will be a scientist of unimpeachable integrity and national repute. In addition there will be an Advisory Board of scientific disinterested men in the cigarette industry. A group of disinterested men from medicine, science, and education will be invited to serve on this Board. These scientists will advise the Committee on its research activities.

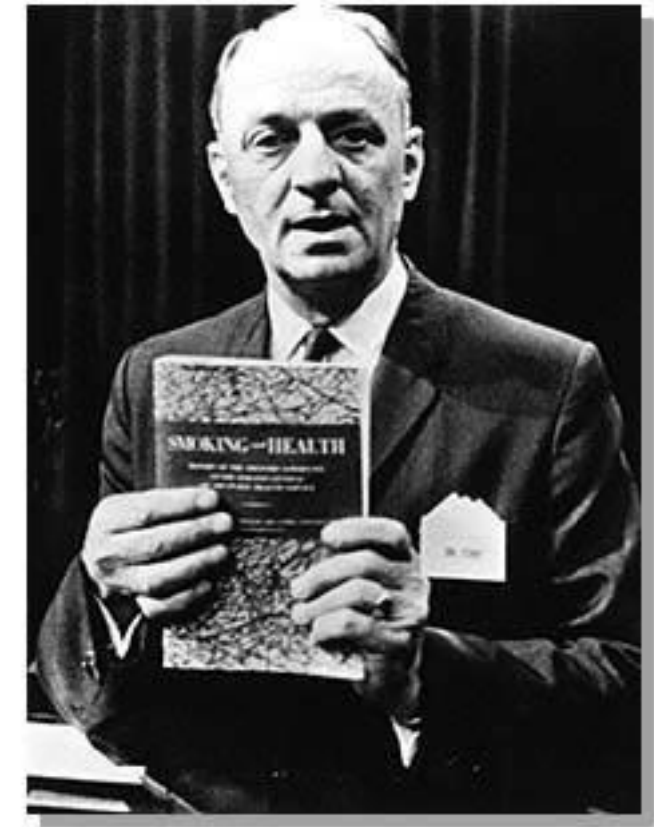
This statement is being issued because we believe the people are entitled to know where we stand on this matter and what we intend to do about it.

TOBACCO INDUSTRY RESEARCH COMMITTEE

5406 EMPIRE STATE BUILDING, NEW YORK 1, N. Y.

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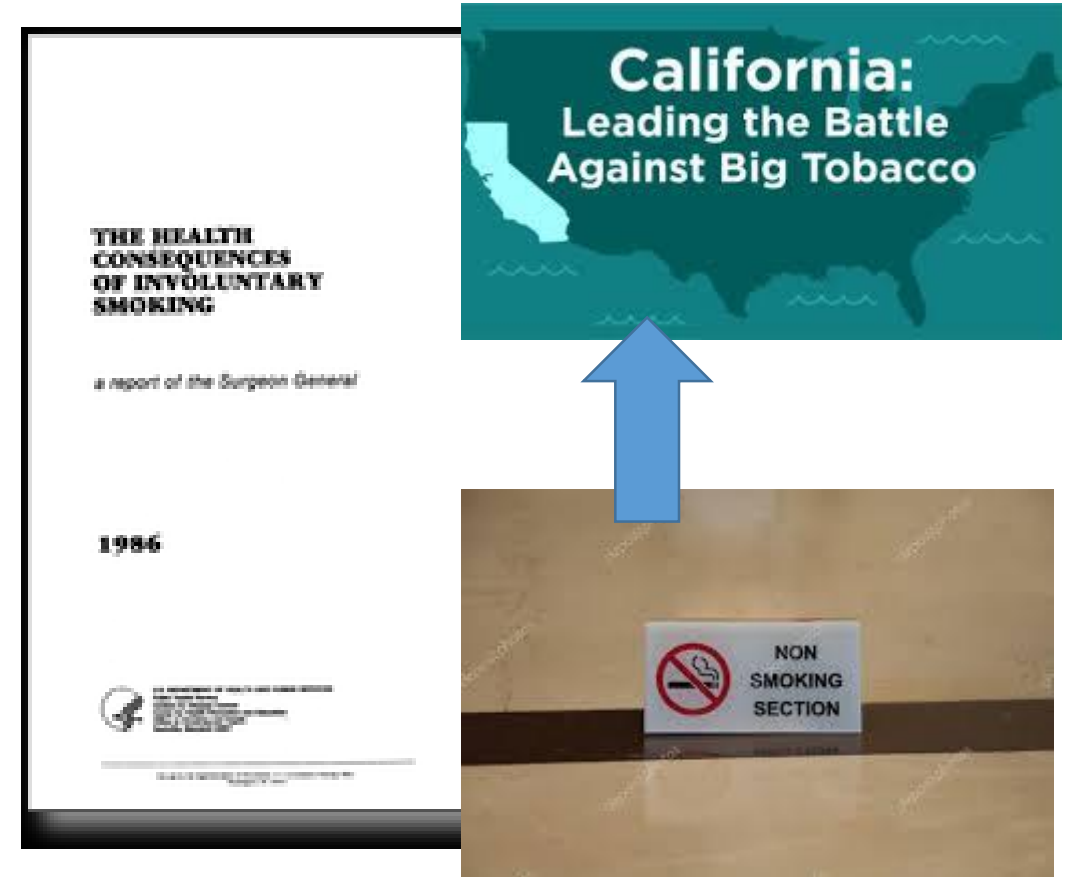
1970s-80s: Health Concerns including for Nonsmokers

Industry Advertising “Low Tar” as Less Harm



tobaccofreeflorida.com/timeline/

1986 Surgeon General Report: Secondhand Smoke



2006 US DOJ: Racketeer Influenced and Corrupt Organizations

The Industry “**continues to engage in and execute...50 year scheme to defraud public**” on health effects and marketing to children

“**Corrective**” statements aired in 2017-8, but only 40% of US adults aware JAMA Netw Open 2019

- **Addictiveness** of smoking and nicotine
- Lack of health benefits from smoking “low tar”, “light”, “ultra light”, “mild”, and “natural” cigarettes (**deceptively marketed as less harmful**)
- **Manipulation** of cigarette design and composition to ensure optimum nicotine delivery
- **Adverse health effects** of smoking & **exposure to secondhand smoke**



Manipulation of Cigarette Design and Composition to Ensure Optimum Nicotine Delivery

Cigarette companies control the impact and delivery of nicotine in many ways, including designing filters and selecting cigarette paper to maximize the ingestion of nicotine, and adding ammonia to make the cigarette taste less harsh, and controlling the physical and chemical make-up of the tobacco blend.



There is no safe level of exposure to secondhand smoke.

Under court order, paid for by Lorillard, Altria, Philip Morris USA, and R.J. Reynolds Tobacco.

These corrective statements began appearing in November 2017 in both newspapers and on TV. These advertisements are a good reminder that the tobacco industry only cares about profits. To learn more, [click here](#).

2009 Food & Drug Administration Regulation

Authority to **regulate** the manufacture, distribution, and marketing of tobacco products

- **Approval needed** to market, make cessation or reduced harm claims

FDA **banned flavors in cigarettes** except menthol

- Cigarillos, little cigars, e-cigarettes are not “cigarettes”

Moratorium on 2016 e-cigarette regulation until 2022 → now 2020

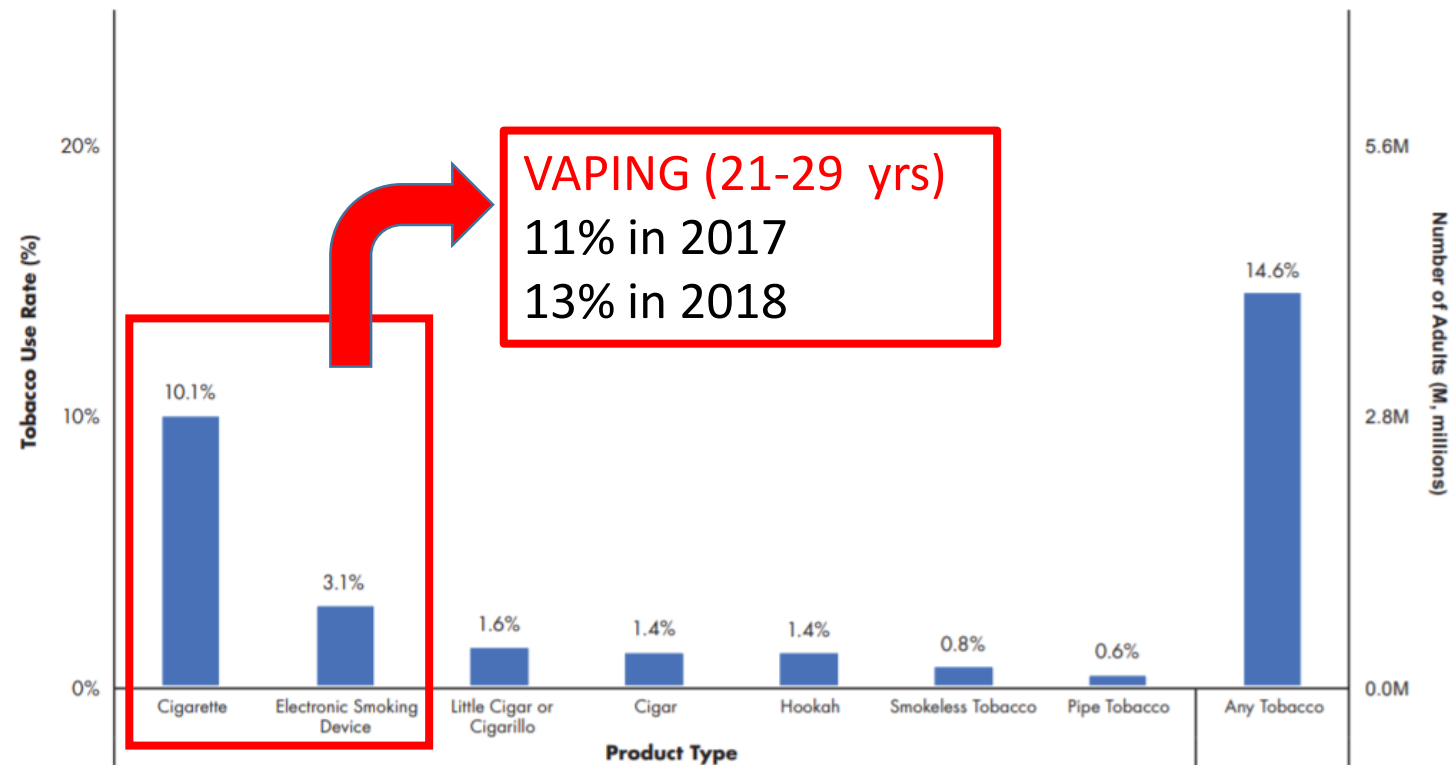


CA Smoking Declining but Vaping & Marijuana Rising

ADULT TOBACCO USE

Despite the decline in cigarette smoking rate, approximately four million adults in California currently use or had used a tobacco product in the past 30 days (Figure 8).⁹ The number of adult tobacco users in California exceeds the population in 23 states.¹⁰

Figure 8. Tobacco use rate among California adults by product type, 2017



Note: Restricted to respondents aged 18 or older. Cigarette and electronic smoking device use are based on self-reported current use. Cigar, hookah, little cigar or cigarillo, pipe tobacco, or smokeless tobacco use are based on self-reported past 30-day use. Any tobacco use is based on current use of cigarette or electronic smoking device or past 30-day use of cigar, hookah, little cigar or cigarillo, hookah, pipe tobacco, or smokeless tobacco. Source: Behavioral Risk Factor Surveillance System, 2017. Sacramento, CA: California Department of Public Health; October 2018.

MARIJUANA USE IN ADULTS (2016-2018)

Overall (18-64 yrs)

- 9% → 11% → 15%

Young Adults (21-29 yrs)

- 12% → 17% → 27%

CO-USE TOBACCO

Overall (18-64 yrs)

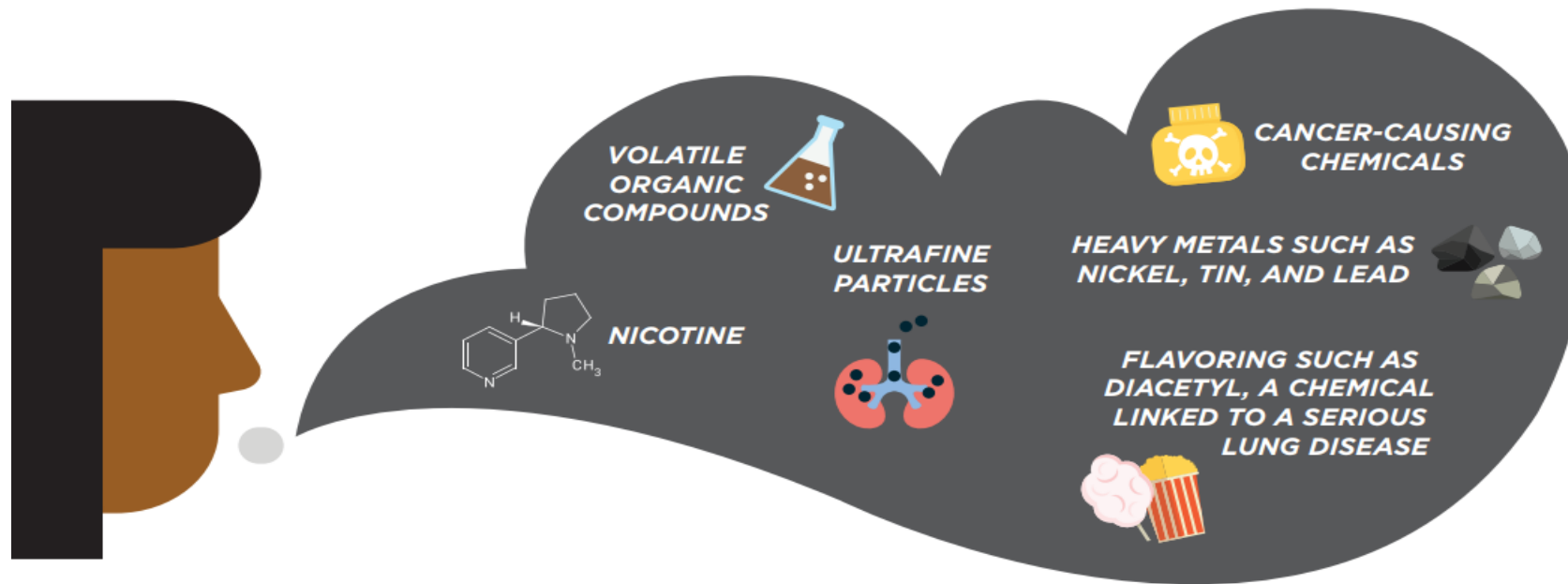
- 4% → 4% → 7%

Young Adults (21-29 yrs)

- 6% → 9% → 12%

What's in the Aerosol? NOT Water "Vapor"

THE E-CIGARETTE AEROSOL THAT USERS BREATHE FROM THE DEVICE AND EXHALE CAN CONTAIN HARMFUL AND POTENTIALLY HARMFUL SUBSTANCES:



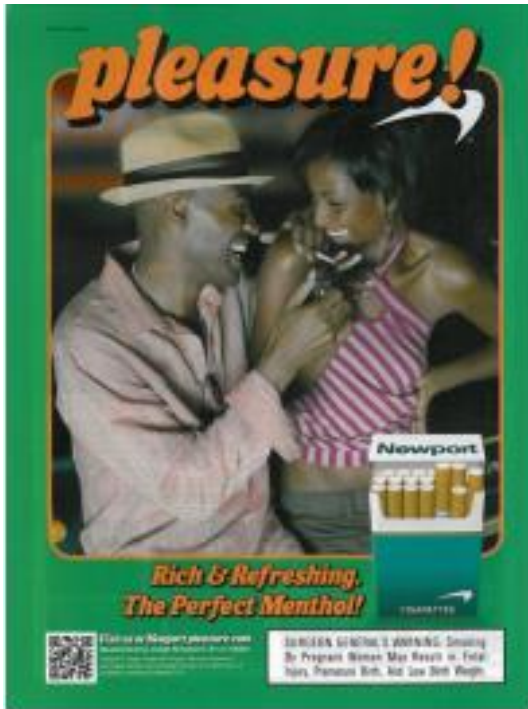
It is difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.

**Less
Harmful
Ingredients
≠
Safe
Product**

**Growing
scientific
evidence of
health harms**

Flavors: Marketing + Health Risks

MENTHOL



Newport advertisement in
Essence Magazine, February 2015
Image courtesy of TrinketsandTrash.Org

Initiate & Inhale

- Numbs the throat, deeper inhalation

Harder to quit

- Acts on nicotine receptors
(Ton 2015; Levy 2011)

Health effects

- Pulegones (now banned as food additive) (Jabba 2019)
- Toxic to blood vessel cells
(Wu 2019)



CHEMICALS TO EAT NOT BREATHE

Cinnamon, vanilla, fruit,
& butter or mixed flavors

- Toxic to white blood cells
(Muthumalage 2018)
- Toxic to blood vessel cells
(Wu 2019)
- Cinnamaldehyde impairs lung function (Muthumalage 2018)

Diacetyl (in 75% e-liquids)

- bronchiolitis obliterans
(popcorn lung)

High Potency in New Nicotine, Marijuana

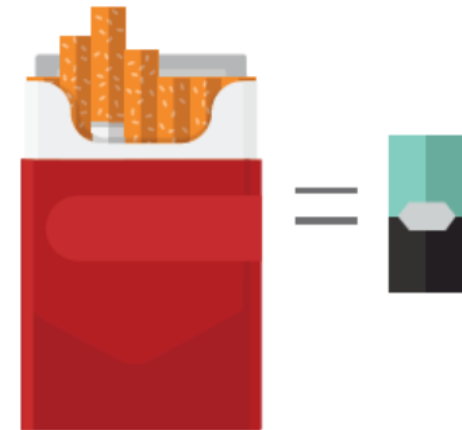


Surgeon General Warnings to Young Adults for E-Cigarettes and Marijuana

- Brain develops until 25 years old

Nicotine is not harmless

- Cardiovascular, seizures, ingestion

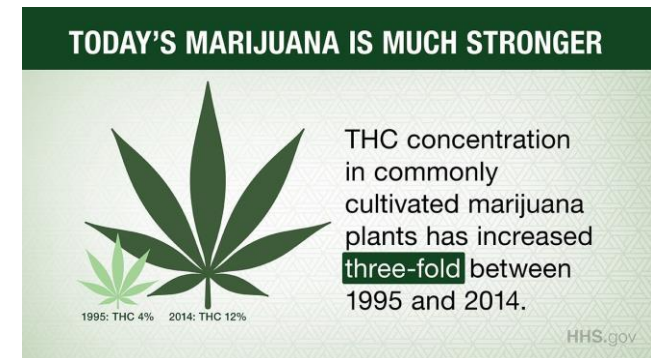


New Nicotine Salts

According to the manufacturer, a single JUUL pod contains as much nicotine as a pack of 20 regular cigarettes.

High potency

- New nicotine salts: high bioavailability
- THC concentrations 3x higher



CDC: Vaping Associated Pulmonary Injury



Investigation to Date

1,299 cases (10/8/19)

26 deaths

- Median age: 49 years (17-75 years)

No single product or substance has been linked to all cases (573 below)

- 78% report THC; 32% exclusively
- 58% report nicotine; 13% exclusively

CDC Recommends to People

- Should not use vaping products with THC, consider for nicotine too
- Should not buy vaping products off the street, or modify or add substances

Regardless of investigation

- Should not vape in youth, young adults, pregnant, non-tobacco user
- No safe tobacco product
- THC associated with wide range of health effects, esp heavy use

Secondhand Smoke Exposure in Nonsmokers



Help to Quit Tobacco

ASK about tobacco use and exposure

ADVISE to quit and about health harms

REFER to counseling support and offer medications

**“Insufficient evidence”
to recommend e-cigs**



California Smokers' Helpline

Free help to quit **vaping** or smoking



7 FDA-approved Tobacco Cessation Aids

Nicotine Replacement Therapy

- Patch, lozenge, gum
- Nasal spray, inhaler (not into lungs)

Pills (prescription)

- Bupropion, varenicline





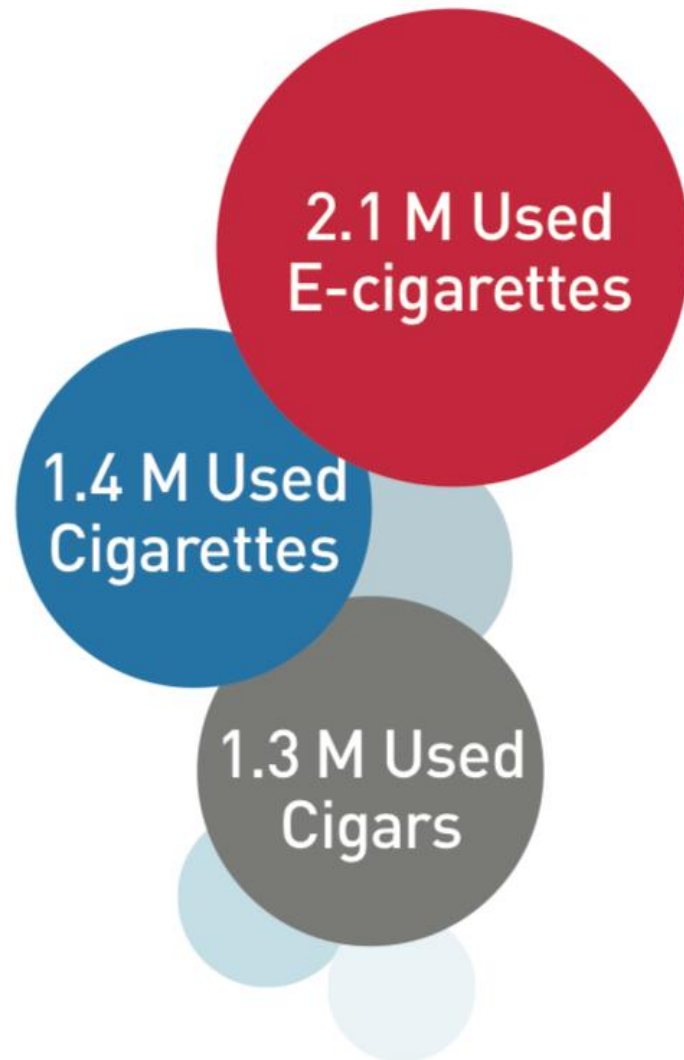
Youth, Young Adults and Vaping

Current Use
Vaping Concerns



Most Used Tobacco Products in 2017

E-cigarettes continue to be the most commonly used tobacco product among middle and high school students.



National Data

- Youth use of e-cigarettes greater than any other tobacco product
- Decrease in use of e-cigarettes since 2015 but slight increase since 2017

Source: Wang TW, Gentzke A, Sharapova S, Cullen KA, Ambrose BK, Jamal A. Tobacco product use among middle and high school students—United States, 2011-2017. MMWR Morb Mortal Wkly Rep. 2018;67.

#

And then in 2018

PUBLIC HEALTH

Surgeon General Warns Youth Vaping Is Now An 'Epidemic'

December 18, 2018 · 12:08 PM ET



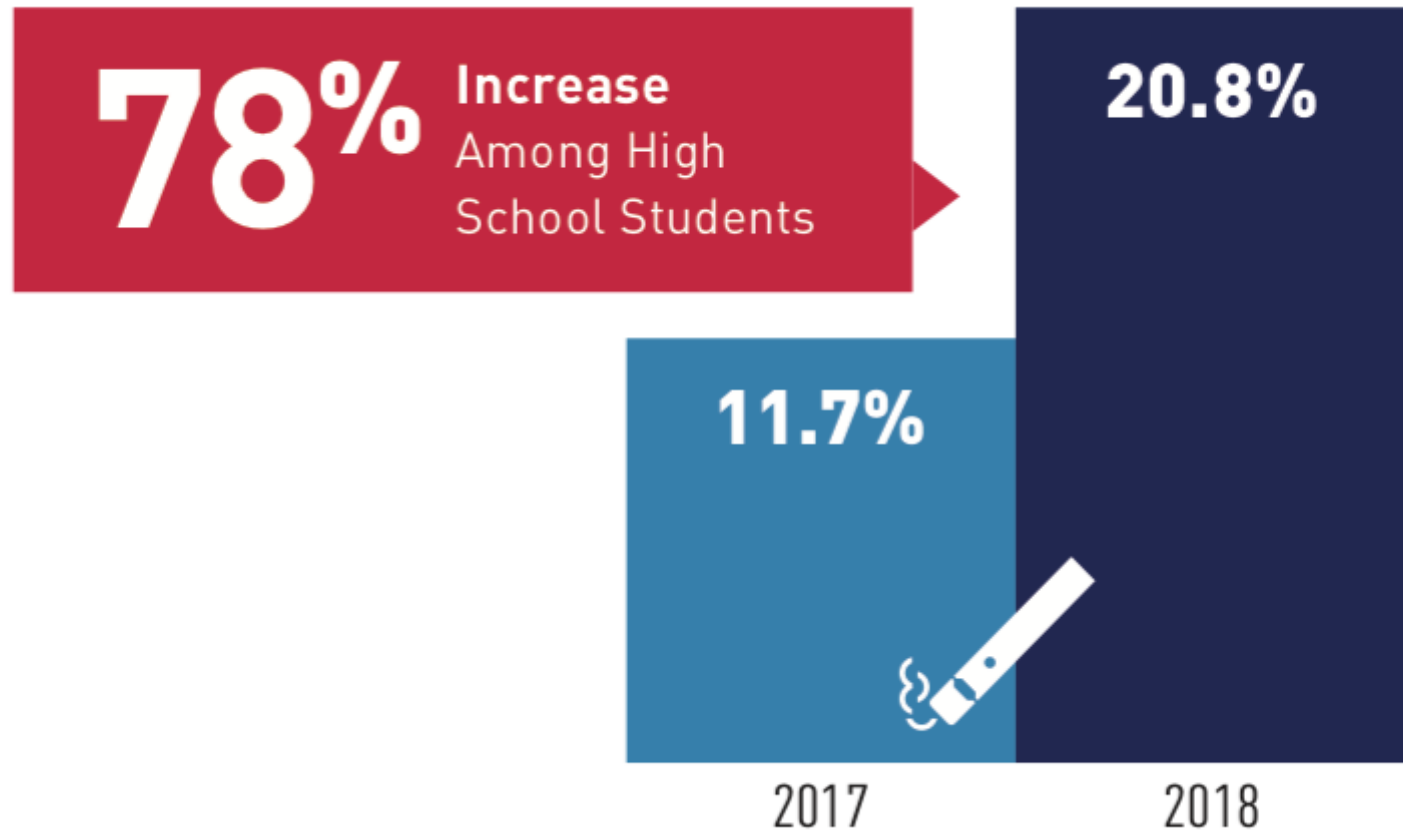
ROB STEIN



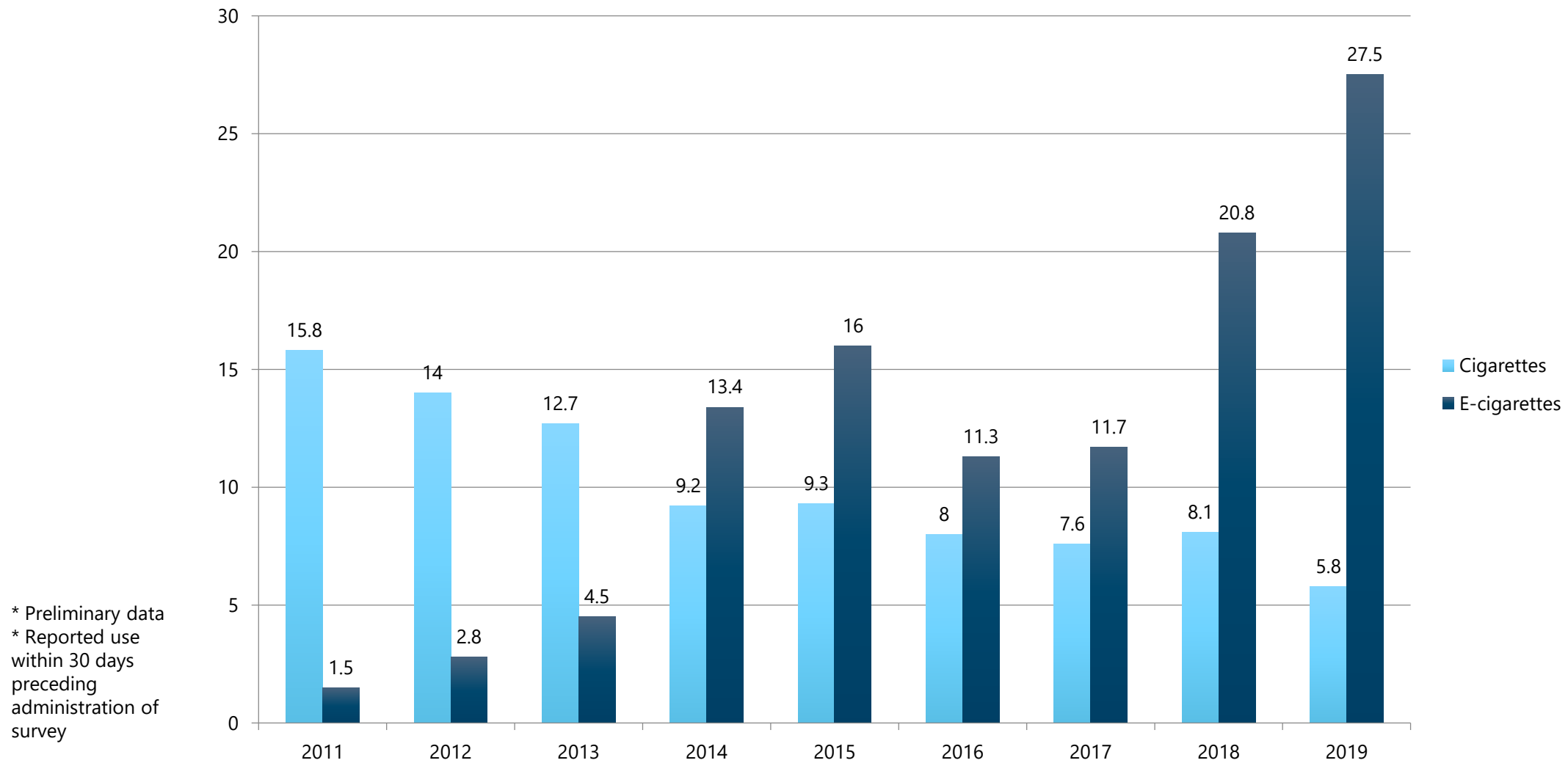
U.S. Surgeon General Dr. Jerome Adams said Tuesday that local restrictions, including bans on indoor vaping, are needed to reduce youth e-cigarette use.

Eric Baradat/AFP/Getty Images

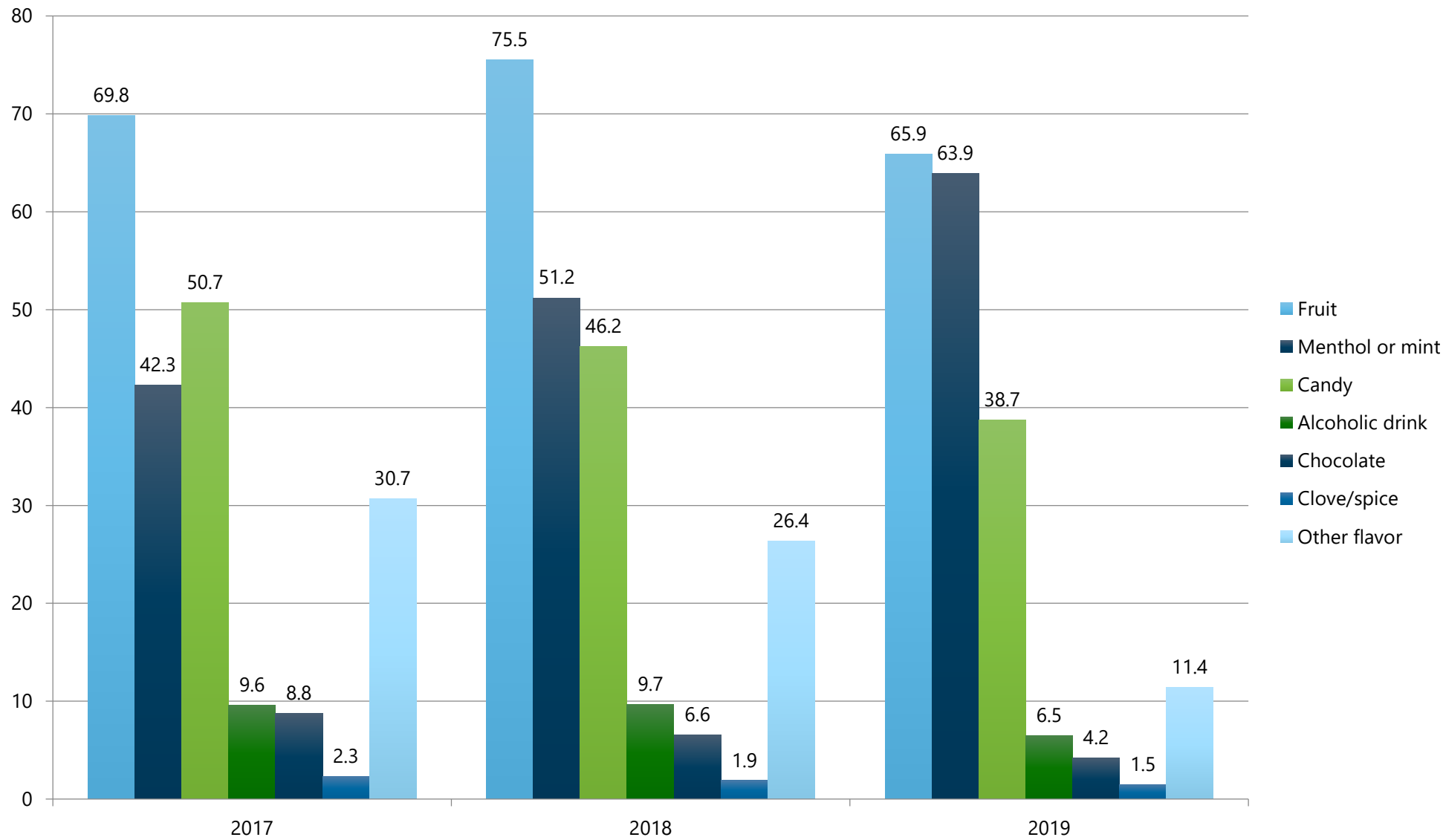
SURGE IN YOUTH CURRENT E-CIGARETTE USE — 1.5 Million More Students Used E-Cigarettes in 2018 vs 2017



National Youth Tobacco Survey*: Youth Use of E-Cigarettes Continues to Climb



National Youth Tobacco Survey*: Popular Flavors Among High School E-Cigarette Users



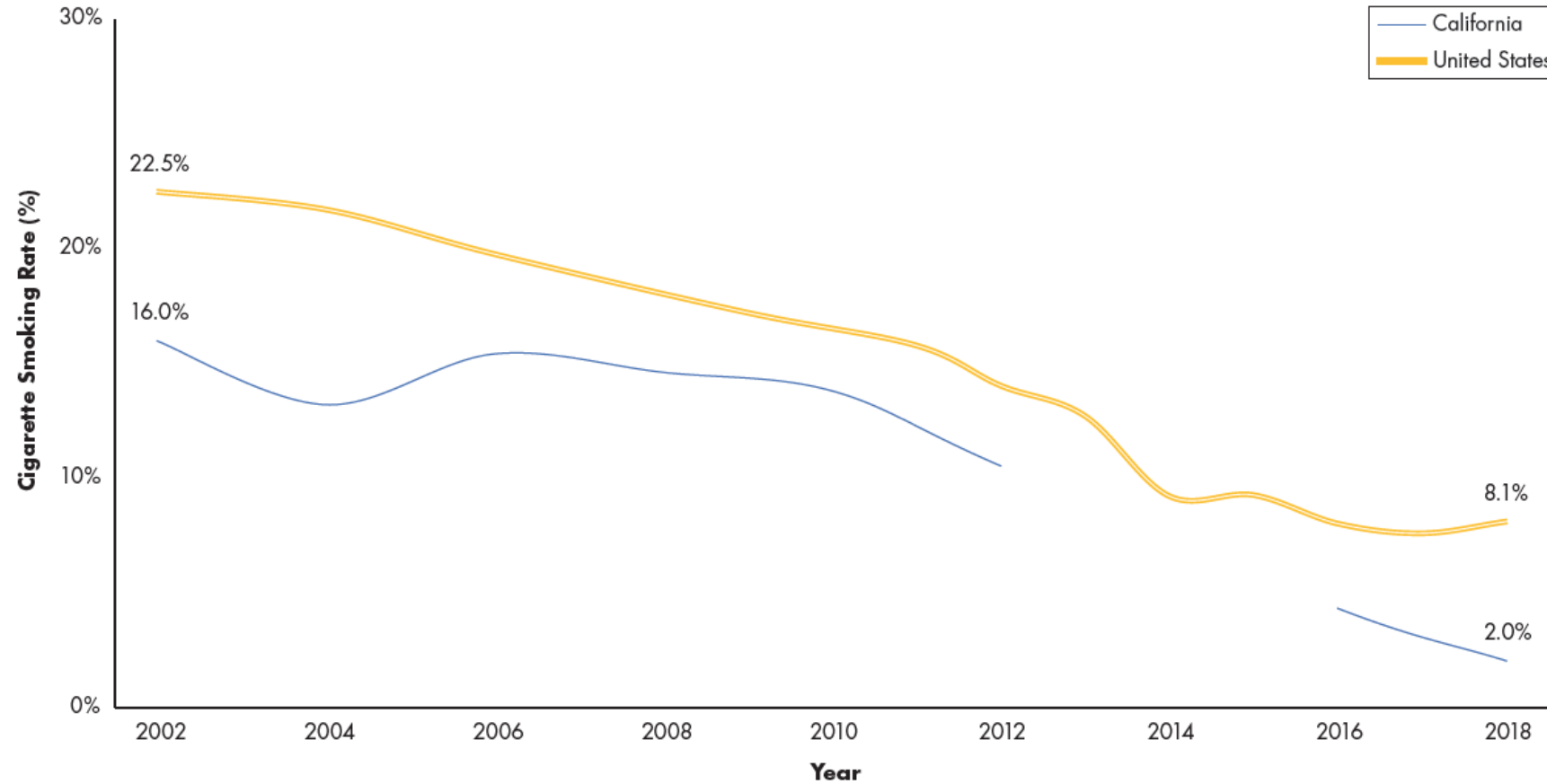
* Preliminary data

Source: United States Health and Human Services. (2019). Trump administration combating epidemic of youth e-cigarette use with plan to clear market of unauthorized, non-tobacco flavored e-cigarette products. Retrieved from <https://www.hhs.gov/about/news/2019/09/11/trump-administration-combating-epidemic-youth-ecigarette-use-plan-clear-market.html>

YOUTH CIGARETTE USE

Since 2000, youth cigarette smoking rate in both California and the United States decreased considerably (Figure 12).^{13,14} California reported its lowest high school cigarette smoking rate in 2018 at 2.0 percent.¹²

Figure 12. Cigarette smoking rate among California youths, 2002 to 2018



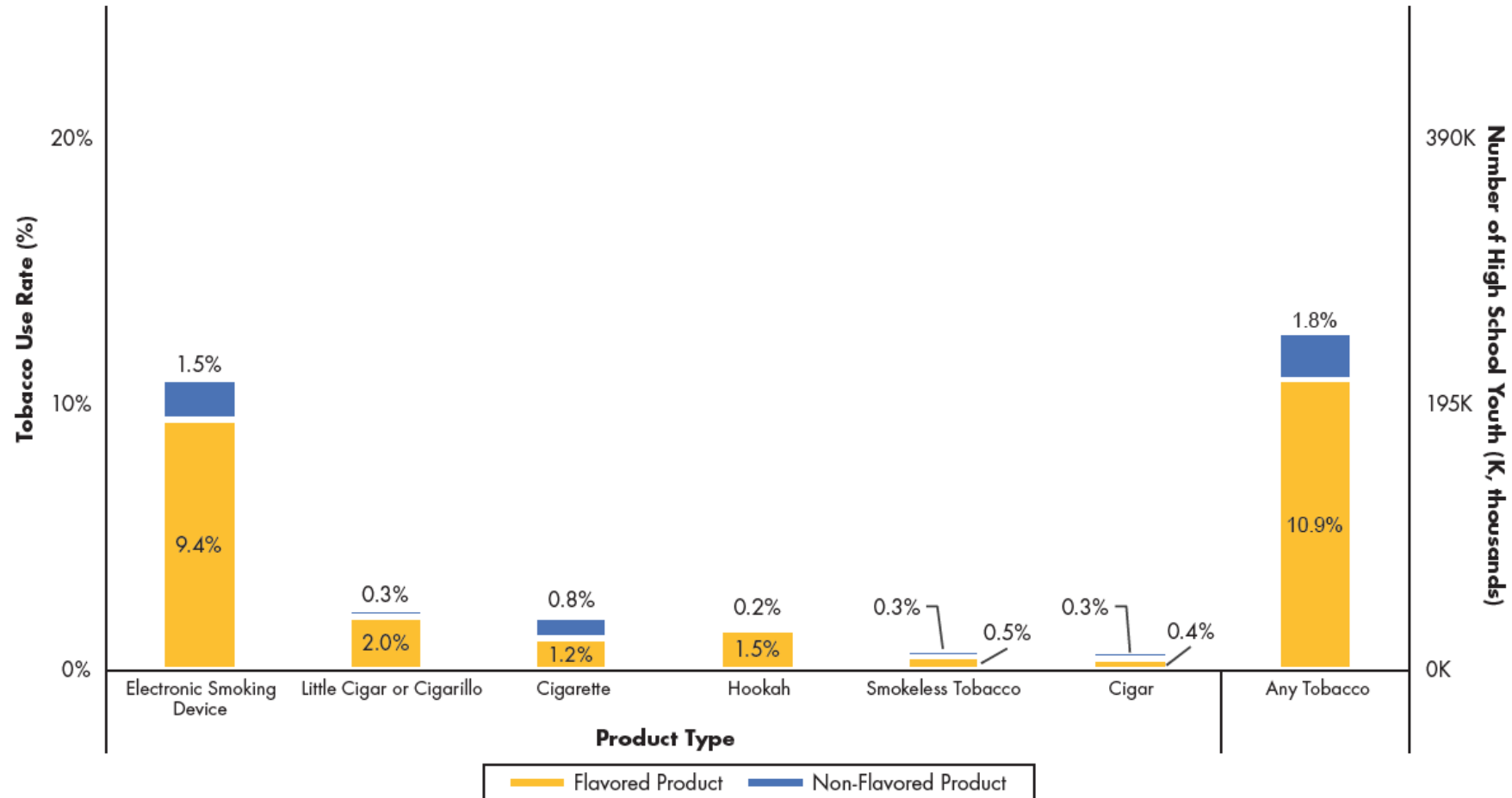
Notes: Respondents were asked to report past 30-day cigarette smoking behavior. The California Student Tobacco Survey was not conducted in 2014. The survey method changed from paper-pencil to online survey in 2016.

Source: Vuong TD, Zhang X, Roeseler A. California Tobacco Facts and Figures 2019. Sacramento, CA: California Department of Public Health; May 2019.

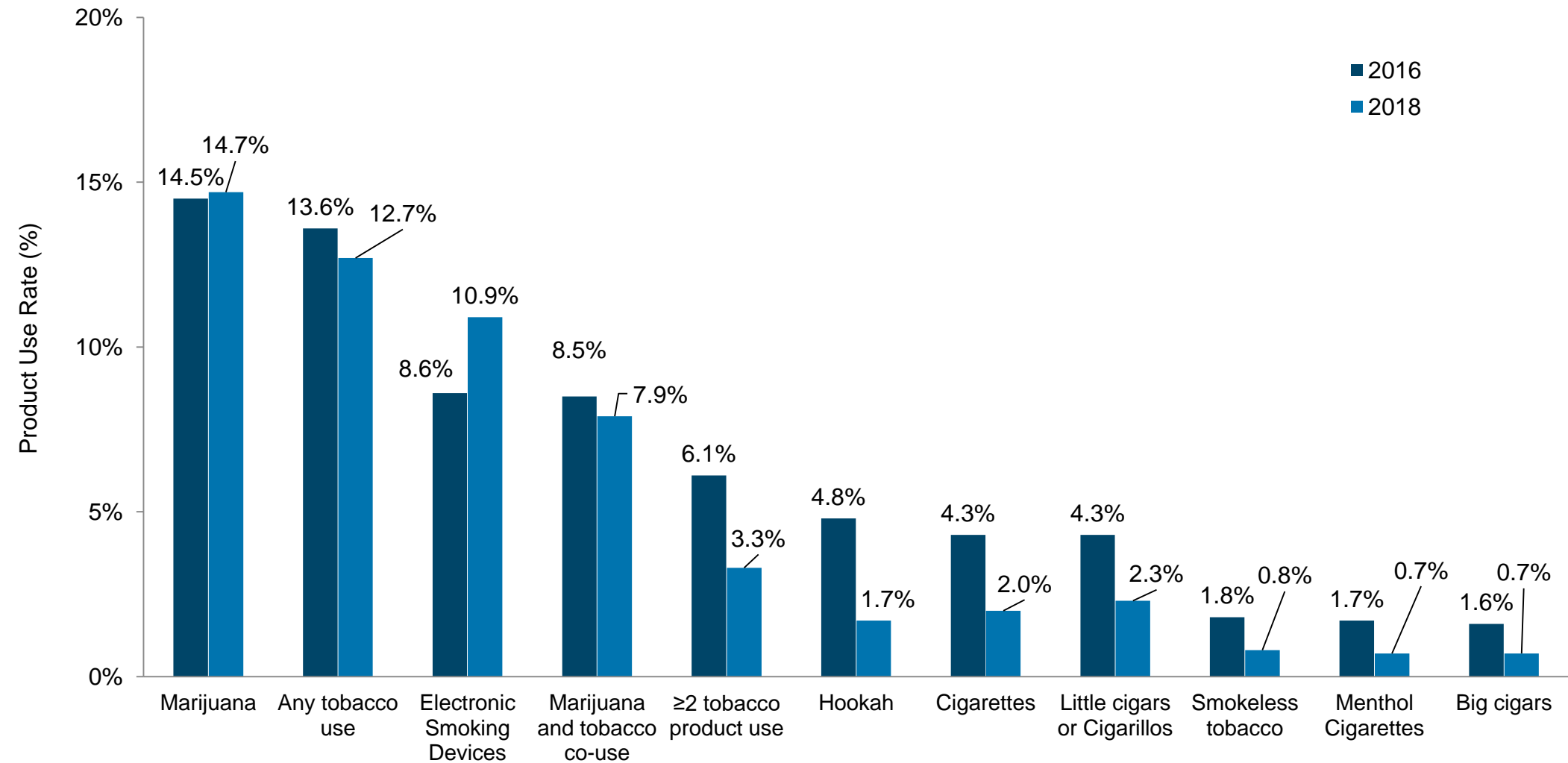
YOUTH FLAVORED TOBACCO USE

One in eight California high school students currently use any tobacco product,¹² with the most used product among all students being electronic smoking devices (10.9 percent). Of those that currently use tobacco, an overwhelming majority use electronic smoking devices (84.3 percent). In addition, 86.4 percent of youth tobacco users reported using flavored tobacco products (Figure 10).

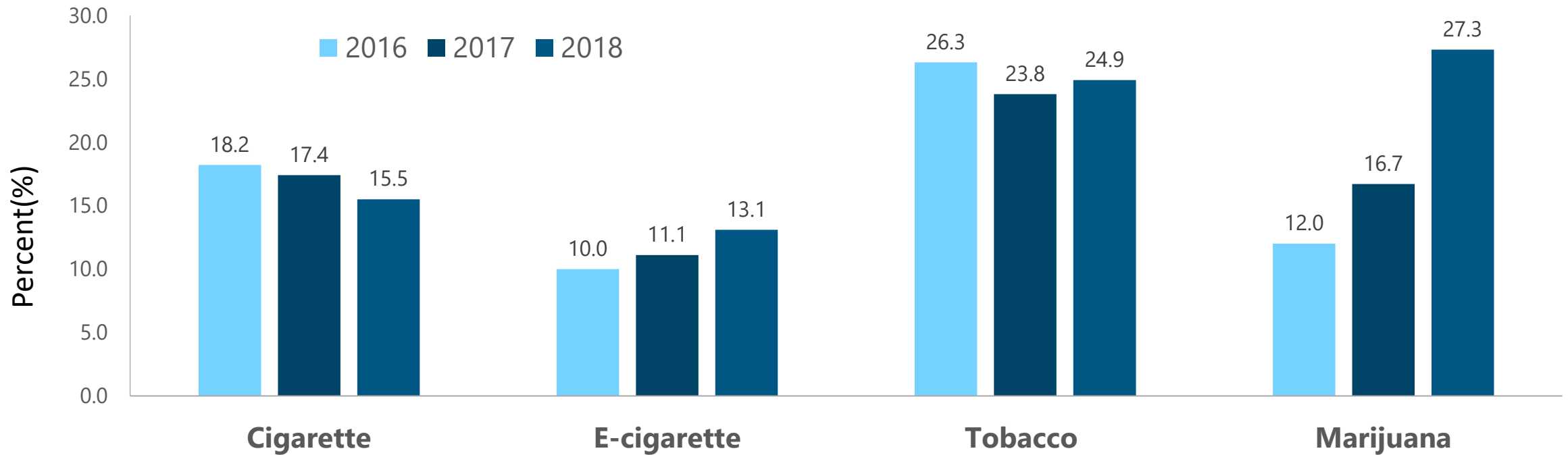
Figure 10. Tobacco use rate among California youth by product type, 2018



California youth marijuana use is higher than electronic cigarette use



California **young adult** past 30 day use of cigarettes, e-cigarettes, tobacco, and marijuana



Data: California Adult Tobacco Survey 2016-2018.

Note: tobacco include cigarette, e-cigarette, little cigar or cigarillo, cigar, hookah, smokeless, and pipe.



Vaping Nicotine and Marijuana Use Among Young Adults (2017-2018)

30-Day Prevalence

Vaping Nicotine

- College Students
- Increase from 6.1% to 15.5%
- Young Adults Not in College
- Increase from 7.9% to 12.5%

Vaping Marijuana

- College Students
- Increase from 5.2% to 10.9%
- Young Adults Not in College
- No change (8%)



Reasons Youth Vape

1. Friends or family members use them
2. Flavors
3. Beliefs e-cigarettes are less harmful

Source: Centers for Disease Control. (2016). Reasons for Electronic Cigarette Use Among Middle and High School Students – National Youth Tobacco Survey, United States, 2016.



**YOUTH WHO USED JUUL FLAVOR PODS IN
THE PAST 30 DAYS SAID THEY OBTAINED
THE DEVICE IN THE FOLLOWING WAYS.**

74%

PHYSICAL RETAIL
LOCATION



52%

SOCIAL SOURCE



6%

INTERNET



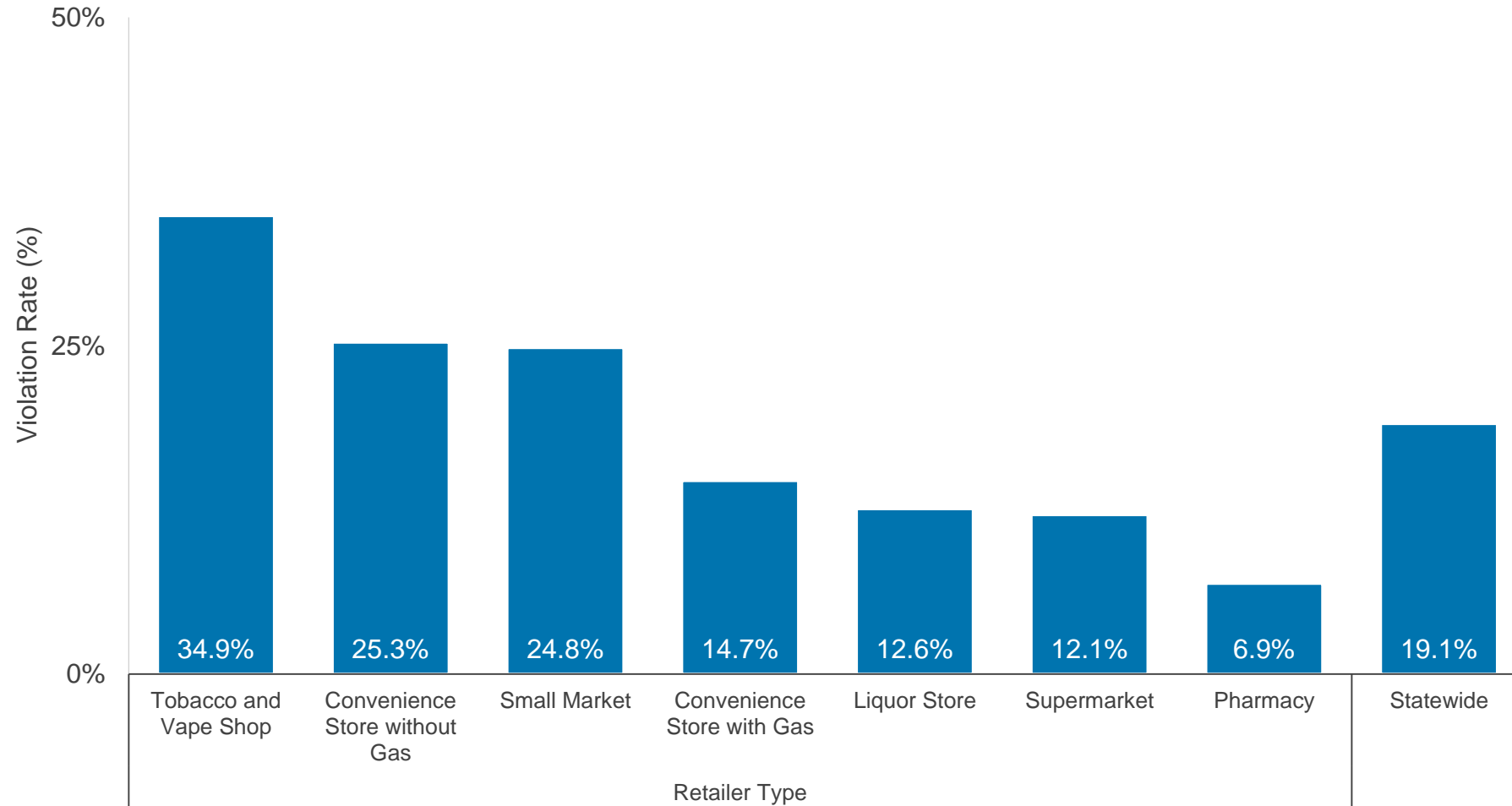
*youth could select multiple answers

truthinitiative.org



truth initiative
INSPIRING TOBACCO-FREE LIVES

One third of tobacco stores and vape shops sold to minors in 2018



Tobacco sold to young adults include cigarettes, cigars, little cigars, or cigarillos, and electronic smoking devices.

Source: Young Adult Tobacco Purchase Survey, 2018. Prepared By: California Department of Public Health, California Tobacco Control Program. Prepared on: July 26, 2018

Concerns

Evolving products leads to changes in use and exposure

Youth and Young Adult Use

E-cigarette use associated with later use of cigarettes and marijuana (gateway)

Products being used by young people who may have not considered using tobacco

Higher rates of e-cigarette use than any other tobacco products

- Cigarette smoking going down, use of new products going up or staying same

Nicotine Exposure

High levels of nicotine in products

Different patterns of use/consumption

Addiction



California City and County Ordinances

Flavored Tobacco Ordinances

- 44 local ordinances prohibiting sale of flavored tobacco products
- 35 prohibit all flavored tobacco
- 9 exempt menthol products
- 1 prohibits flavored tobacco and marijuana, exempts menthol
- 1 prohibits all flavored e-cigarette products

E-Cigarette Ordinances

- 3 city ordinances prohibit sales of electronic smoking devices
- Livermore complete ban with no end date
- San Francisco and Richmond prohibit until products approved by FDA

Tobacco Sales Ordinances

- City of Beverly Hills prohibits sale of all tobacco products
- Exempts three existing cigar bars

SUMMARY

California's Vaping Epidemic

- Lessons from tobacco control: industry tactics, slow federal action
- Health concerns: immediate health effects, flavors, high-potency nicotine and marijuana, VAPI, secondhand smoke, not for quitting
- Youth and young adult vaping use rising rapidly
- California schools, colleges, health systems facing challenges
- Growing local ordinances in major areas

