Understanding the New Vaping Epidemic for California

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VAPING IS A YOUTH EPIDEMIC
“We must take action now to protect the health of our nation’s young people.”
— U.S. Surgeon General

Vapes are sold in a variety of shapes and sizes.

Outbreak of Lung Injury Associated with E-Cigarette Use, or Vaping
1950-60s: Evidence Cigarettes Cause Cancer

Industry Marketing and Public Relations: Creating Doubt in 1954

A Frank Statement to Cigarette Smokers

1964 Surgeon General Report

1970s-80s: Health Concerns including for Nonsmokers

Industry Advertising “Low Tar” as Less Harm

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

www.tobaccofreekids.org/what-we-do/industry-watch/doj; Chido-Amajuoyi JAMA Netw Open 2019
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

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%

Vaping (21-29 yrs)
- 11% in 2017
- 13% in 2018

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:

- Volatile organic compounds
- Ultrafine particles
- Heavy metals such as nickel, tin, and lead
- Cancer-causing chemicals
- Flavoring such as diacetyl, a chemical linked to a serious lung disease

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**

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

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

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

TODAY'S MARIJUANA IS MUCH STRONGER
THC concentration in commonly cultivated marijuana plants has increased threefold between 1995 and 2014.
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

www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html; MMWR 10/11/19
Secondhand Smoke Exposure in Nonsmokers

The U.S. Surgeon General concluded that aerosol from e-cigarettes can contain harmful substances.

E-cigarette use in public places can:
- Expose bystanders to secondhand aerosol
- Make enforcement of smokefree policies challenging
- Influence the acceptability of tobacco use

YOUR RISK IS ON THE RISE
Secondhand smoke exposure has skyrocketed over the last two years

86% increase in Secondhand Marijuana Exposure*

67% increase in Secondhand Vape Exposure*

OVER 50% OF CALIFORNIANS ARE STILL EXPOSED TO SECONDHAND TOBACCO SMOKE.*

www.cdc.gov/tobacco/infographics/secondhand-smoke/index.htm#aerosol; tobacofreeca.com/secondhand-dangers/#smokefree-policies
Help to Quit Tobacco

ASK about tobacco use and exposure
ADVISE to quit and about health harms
REFER to counseling support and offer medications

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)
  • Buproprion, varenicline

“Insufficient evidence” to recommend e-cigs
Youth, Young Adults and Vaping

Current Use

Vaping Concerns
Youth use of e-cigarettes greater than any other tobacco product

Decrease in use of e-cigarettes since 2015 but slight increase since 2017

And then in 2018
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


* Preliminary data
* Reported use within 30 days preceding administration of survey
National Youth Tobacco Survey*: Popular Flavors Among High School E-Cigarette Users

* Preliminary data

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

**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.

YOUTH FLAVORED TOBACCO USE

One in eight California high school students currently use any tobacco product,\textsuperscript{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

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

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*
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
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