Maryland
DEPARTMENT OF HEALTH

26th Annual Maryland State Cancer Control Conference: *Maryland Tobacco Prevention and Control Updates*

Dawn Berkowitz, MPH, CHES
Director, Center for Tobacco Prevention and Control

November 14, 2019

Presentation Overview

- Recent Accomplishments: T-21
- Updates: Maryland Tobacco Quitline and Cessation Efforts
- Youth Tobacco Use, Vaping, Effects, and Resources
- Adult Tobacco Use and Disease
- Vaping-Associated Lung Injury

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Restricting Youth Access

Tobacco 21

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Maryland Becomes 13th State to Pass Tobacco 21 Legislation

MARYLAND Department of Health

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

May 16, 2019

Media Contact:
Brittany Fowler, Deputy Director, Office of Communications, 410-767-1368
Deidre McCabe, Director, Office of Communications, 410-767-3536

Maryland becomes 13th state to raise minimum legal sales age for tobacco products to 21
MDH will launch statewide campaign to get the word out

Baltimore, MD — The Maryland Department of Health applauds the Maryland General Assembly and Governor Larry Hogan for passing legislation (House Bill 1169) increasing the age from 18 to 21 for the sales of tobacco products and electronic smoking devices (ESDs). Over the coming months, MDH will launch a statewide campaign to get the word out to young adults under age 21 and retailers about the new law, which goes into effect Oct. 1, 2019.

MDH Secretary Robert R. Neall said the state has been tracking a troubling increase in tobacco use in recent years among youth and young adults, particularly since the introduction of e-cigarettes, also referred to as vapes and other names. Maryland's Tobacco 21 law covers e-cigarettes, taking the important step of defining them as tobacco products.

"We know most smokers start when they are underage and their brains are still developing," Neall said. "This can quickly lead to nicotine addiction and also make them more susceptible to other addictions. This is a public health crisis that needs to be addressed immediately."

Maryland's new law covers all individuals under the age of 21, with the exception of *active duty* military age 18 to 20. Approximately 780,000 Marylanders use tobacco products, most of them starting before age 21. This new law aims to protect the 255,000 Marylanders between ages 18 to 20 from developing a nicotine addiction.

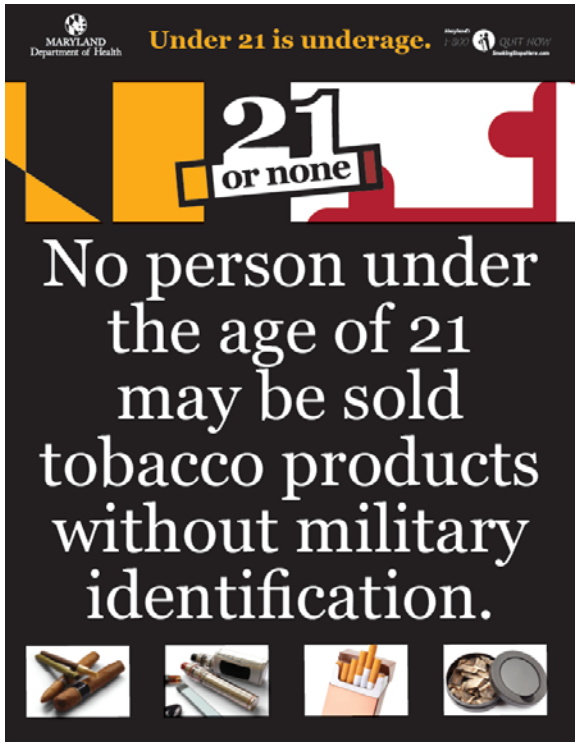
Nationally, from 2017 to 2018, use of tobacco products grew by nearly 40 percent among U.S. high school students, with the use of electronic smoking devices increasing by 78 percent. This increase equates to an *additional* 1.5 million tobacco users nationwide.

"Maryland data show that electronic smoking devices are by far the most commonly used product among our high school students," said Dawn Berkowitz, director of MDH's Center for Tobacco Prevention and Control. "Most of these popular candy- and fruit-flavored products that are attractive to youth contain high levels of nicotine. In addition to addiction, the nicotine in these products leads to reduced impulse control, attention deficit, and other learning and mood disorders in youth and young adults. It's troubling that we often hear of older high school students supplying these tobacco products to their younger peers."

T-21: Key Points

TOBACCO
~~eighteen~~ twenty-one

- **Effective Date:** October 1, 2019.
- **Raises the minimum sales age to 21 for all tobacco products**, including electronic smoking devices (e.g., e-cigarettes, vapes, pod devices such as JUUL®, e-liquids, and component parts and accessories).
- **"Electronic Smoking Devices" (ESDs)** are now included in the term "tobacco product."
- The **only exemption to this law is for *active duty* military personnel**. These individuals must be 18 or older and present valid military identification.
- **There is no "grandfather," phase-in, or grace period** for individuals who are 18 years of age prior to 10/1/19.
- **Retailers are required to post signs** in their establishments.



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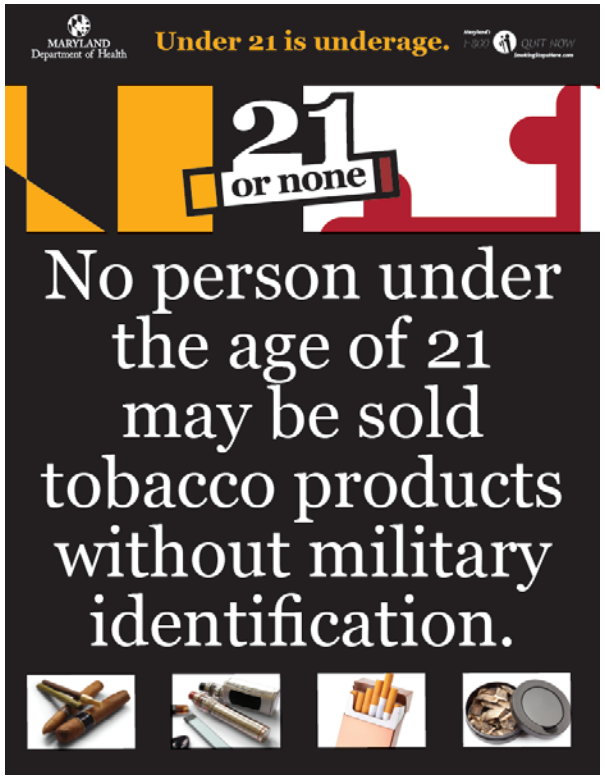
Source: http://www.law.umaryland.edu/programs/publichealth/documents/MGATobacco.pdf

Signage for Retailers

- Posters and window clings include the **required language** for retailers to display in stores
- Table tents to be placed near cash registers
- FAQs and signage available for download and free to order at www.notobaccosalestominors.com

Window Cling



Poster

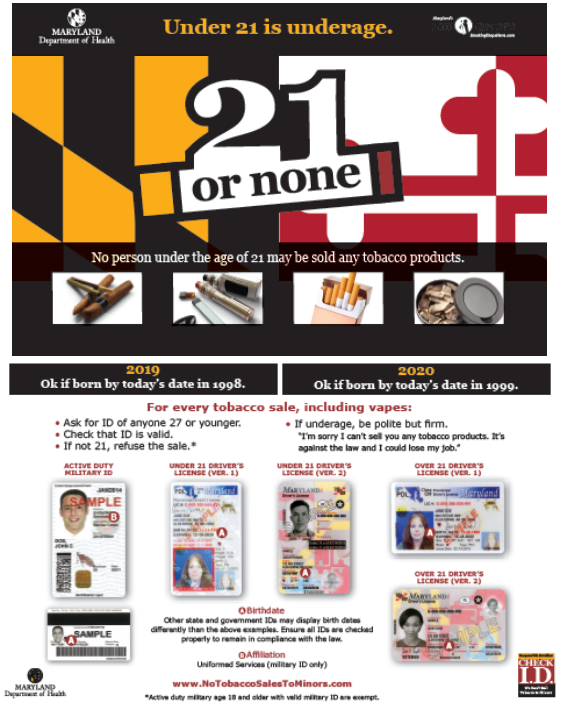


Table Tent

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Tobacco 21 in the News and Retailer Survey

MARYLAND
Department of Health

Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

September 25, 2019

Media Contact:

Deidre McCabe, Director, Office of Communications, 410-767-3536 or

Maureen Regan, Deputy Director, Office of Communications, 410-767-8649

Maryland Health Department reaches out to retailers across the state preparing for change in tobacco sales law

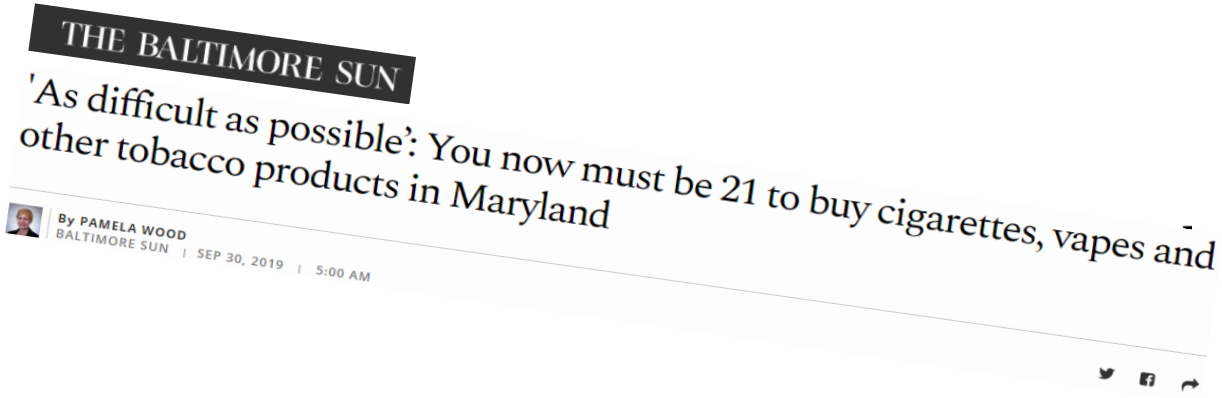
- 4,000 retailers across the state were invited at random to participate in an online survey to assess readiness and awareness of Tobacco 21
- The survey closed September 30
- More than 400 retailers responded, exceeding the 10% target
- A follow up survey is planned for spring 2020

The Washington Post
Democracy Dies in Darkness

Maryland Politics

Maryland law curbing nicotine sales to youths takes effect amid vaping concerns

September 29, 2019 at 3:00 p.m. EDT



THE BALTIMORE SUN

'As difficult as possible': You now must be 21 to buy cigarettes, vapes and other tobacco products in Maryland

By PAMELA WOOD
BALTIMORE SUN | SEP 30, 2019 | 5:00 AM

Promoting Quitting

MDH Cessation Efforts

Maryland
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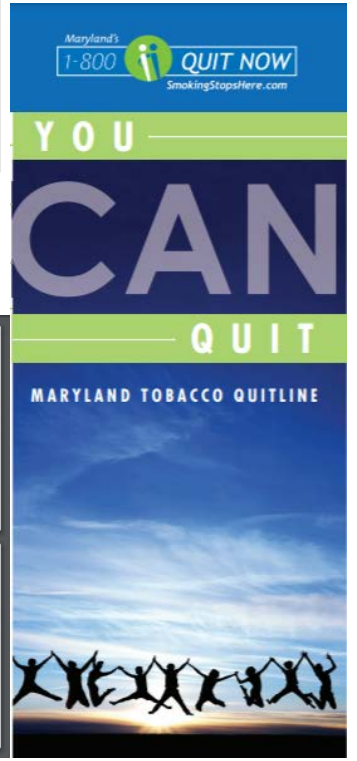
The Maryland Tobacco Quitline

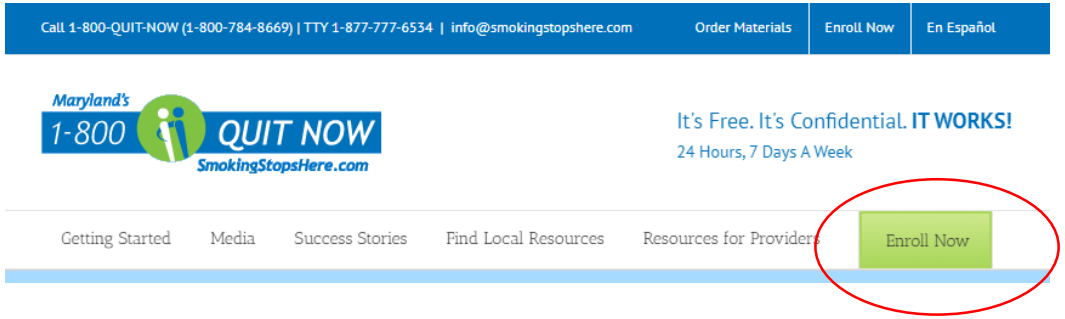
The Maryland Tobacco Quitline					
Trained Quit Coaches	A free supply of NRT, while supplies last	Specialized programs for youth, pregnant women, Medicaid	Phone, web-based, and text support services	Information for non-smokers seeking to help friends, families, patients, and clients	Referrals to Local Health Departments

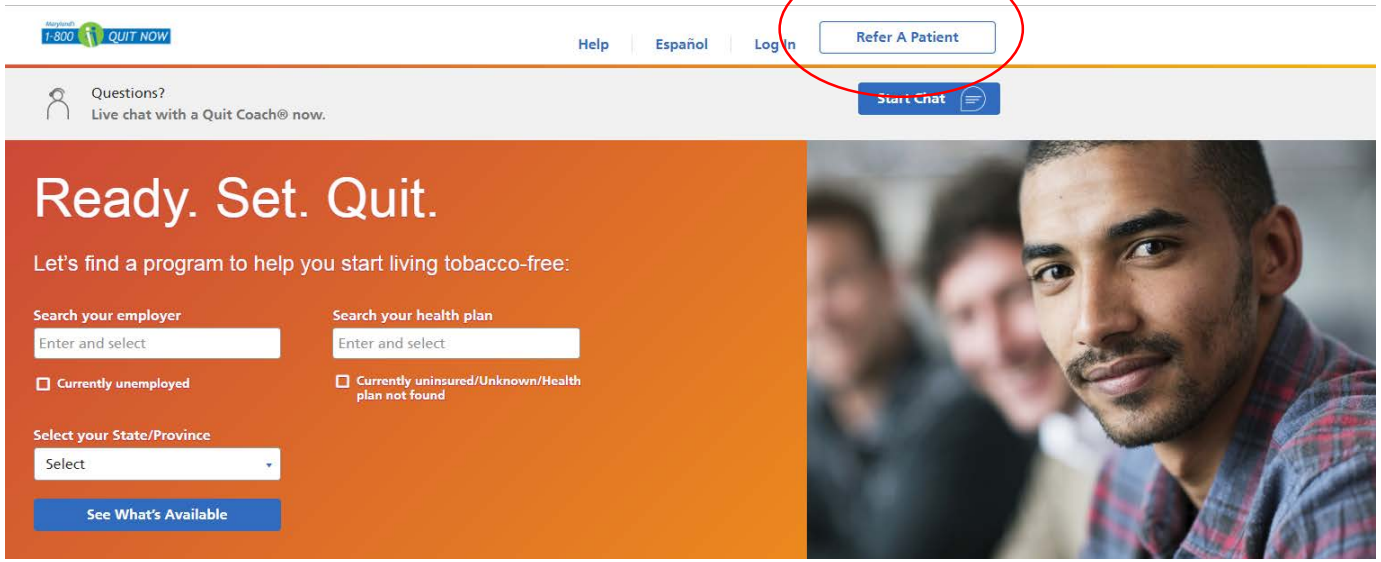
Free tobacco treatment available 24/7 to all Maryland residents over the age of 13



The Maryland Tobacco Quitline

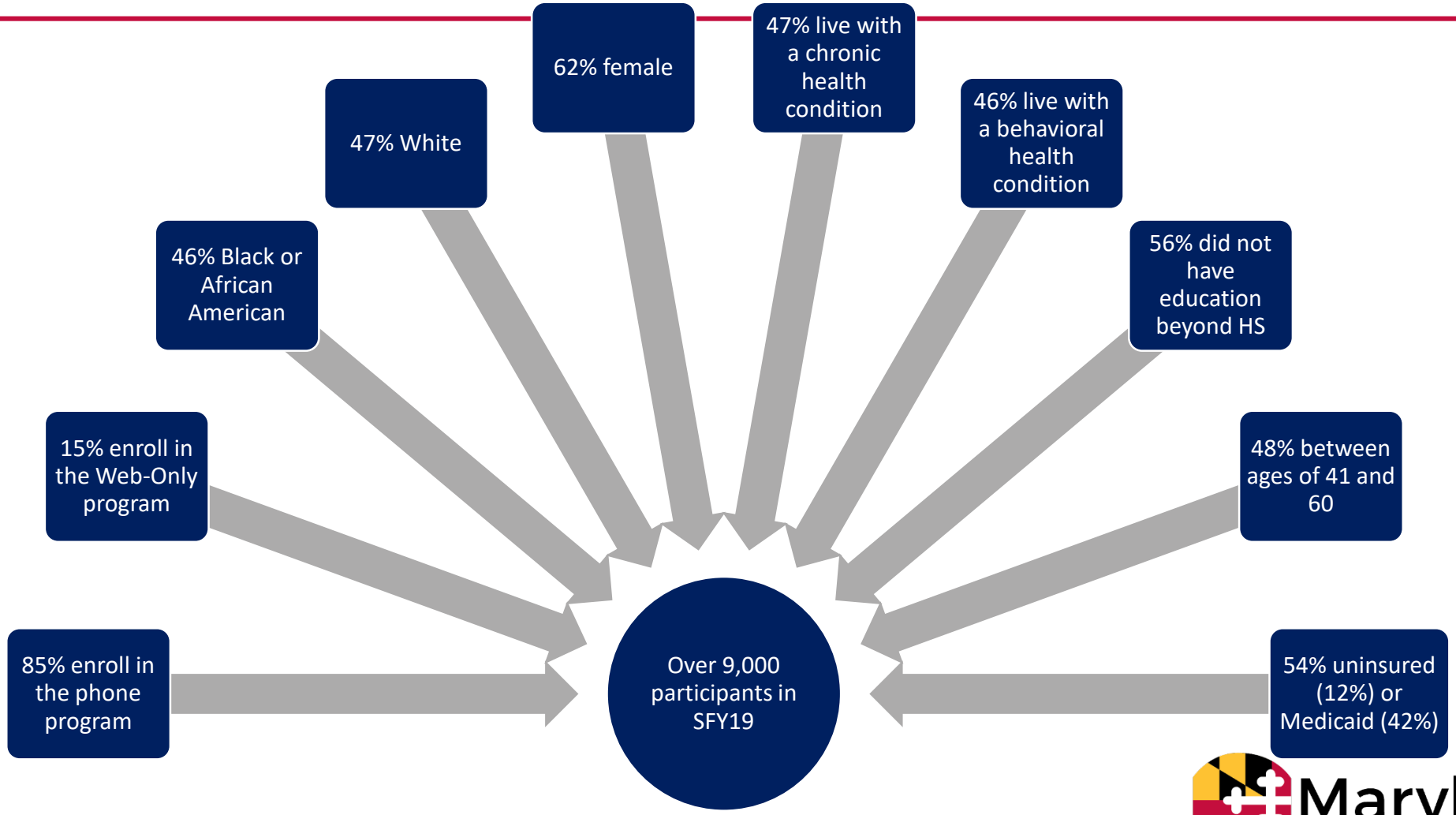
- When a Maryland resident calls the Quitline, they'll talk with a professional trained to help them quit using tobacco, including e-cigarettes and vapes.
- The Maryland Tobacco Quitline has a 7x higher quit rate than quitting on your own and over a 93% satisfaction rate.
- Visit https://smokingstopshere.com, to learn more about:
  - Referring patients to the Quitline via fax, web, or e-referral
  - Free training and resources
  - Free tobacco cessation materials available for download and order





Source: Optum. Maryland Tobacco Quitline Evaluation Report, unpublished

The Maryland Tobacco Quitline



Source: Optum. Maryland Tobacco Quitline Evaluation Report, unpublished

MDH Health System Initiatives

- Provide effective cessation interventions through building and maintaining relationships with healthcare systems/key stakeholders
- Institute change in health care systems serving low income, low educational attainment and those with behavioral health issues
- Implement Public Health Service Guideline Strategies:
  - Integrate tobacco user screening systems into EMRs
  - Provide system level training, cessation resources/materials, and feedback to providers
  - Staff an on-site dedicated tobacco dependence treatment coordinator
  - Promote hospital policies that support/provide inpatient tobacco dependence services

CURRENT PARTNERS

- **Anne Arundel Health System**
- **Sheppard Pratt**
- **Johns Hopkins Health System**
- **Mosaic Community Services**
- **Cecil County Health Department**
- **University of Maryland Tobacco Health and Tx (THAT) Clinic**
- **University of Maryland School of Medicine**

YOUTH

Tobacco Trends

Tobacco Data

Maryland
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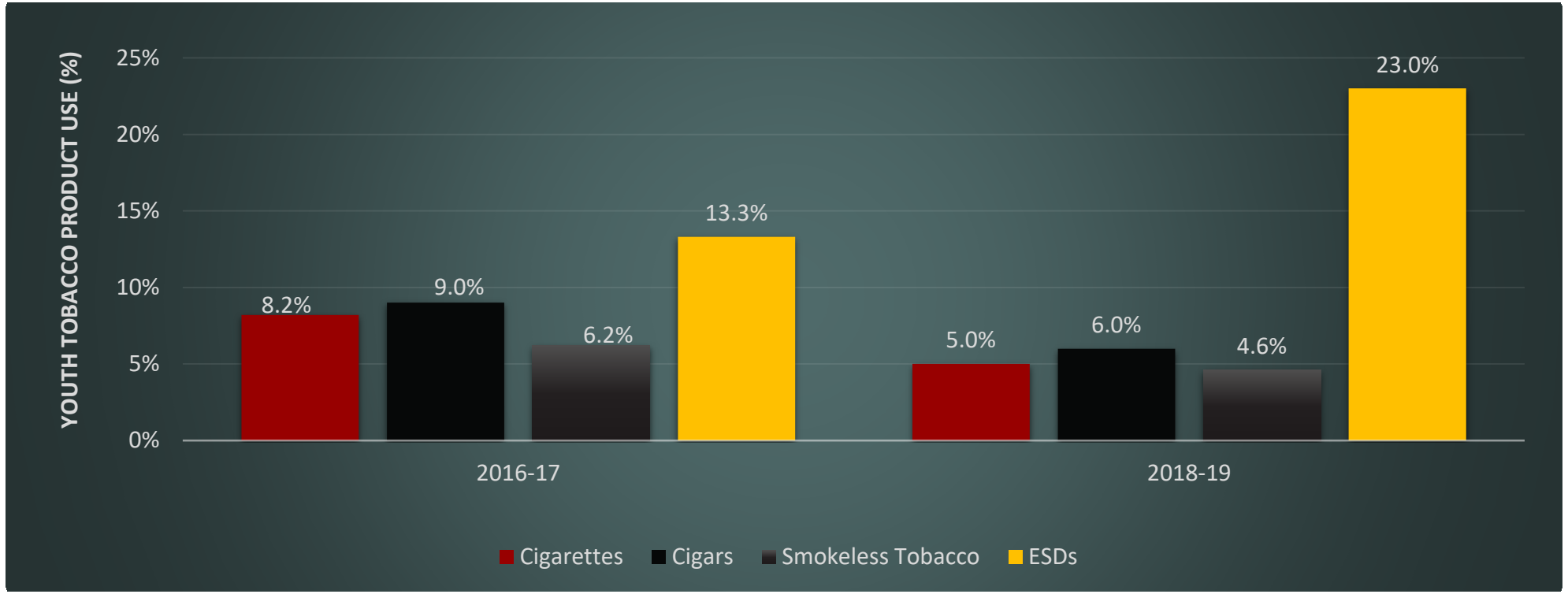
Tobacco Use Among Maryland High School Youth: 2016-17 and 2018-19

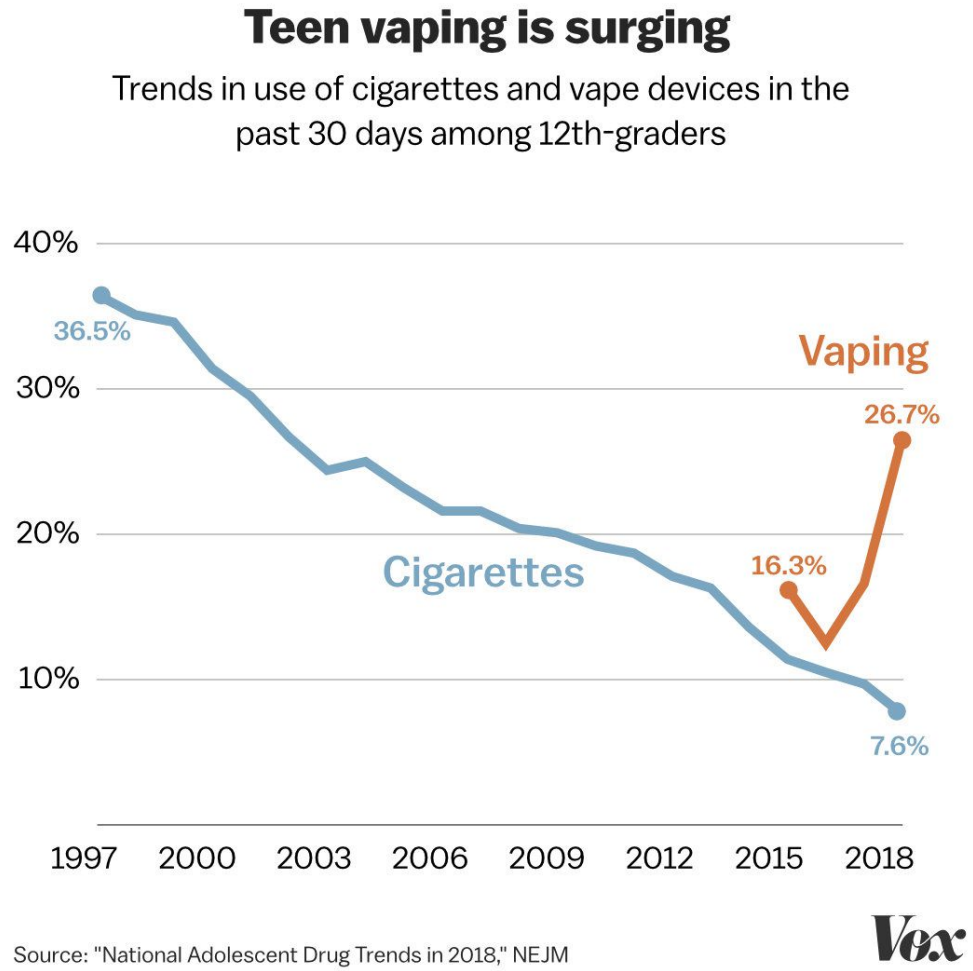
Youth Tobacco Product Use , Maryland YRBS/YTS



Maryland DEPARTMENT OF HEALTH

Source: Maryland Department of Health. YRBS/YTS 2019. Unpublished.

Trends in Youth E-Cigarette Use



Cigarette smoking rates have steadily declined

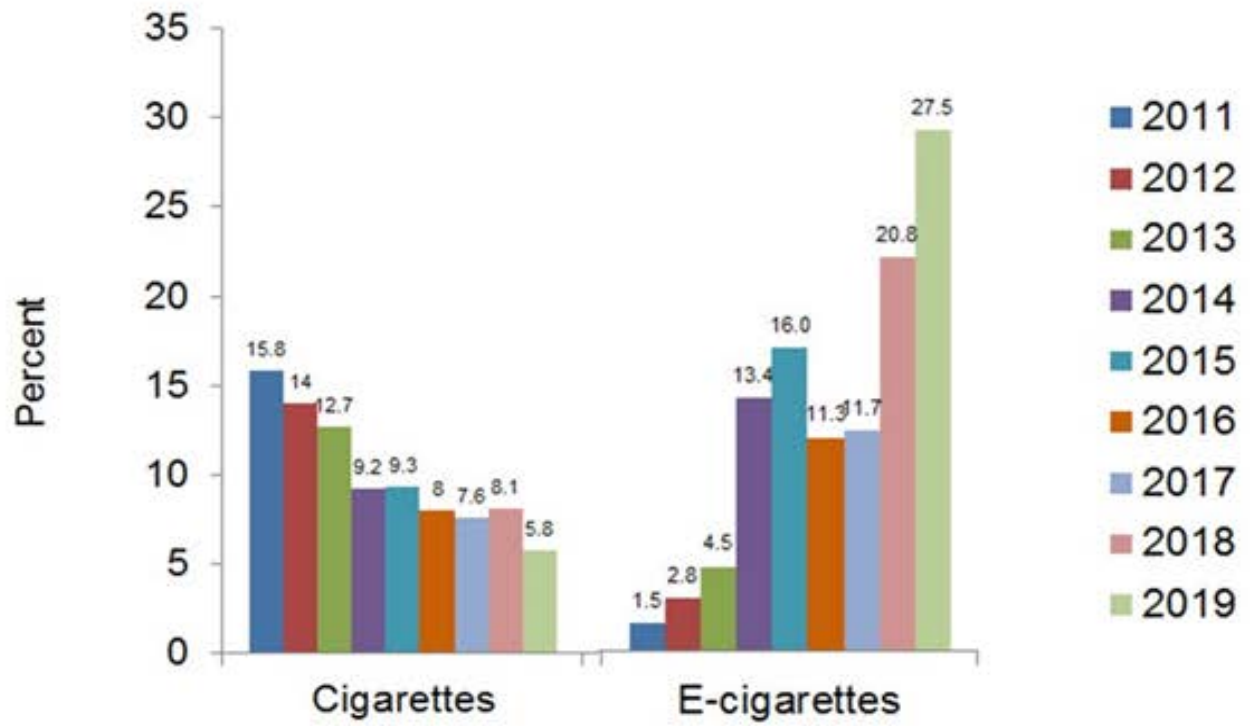
Electronic Smoking Device (ESD) use increased by nearly 80% among HS youth 2017-2018

An estimated 3.5M youth are current ESD users

Source: https://www.vox.com/2019/1/25/18194953/vape-juul-e-cigarette-marketing

National Data on Youth Use of Tobacco Products

NATIONAL YOUTH TOBACCO SURVEY*: YOUTH USE OF E-CIGARETTES CONTINUES TO CLIMB

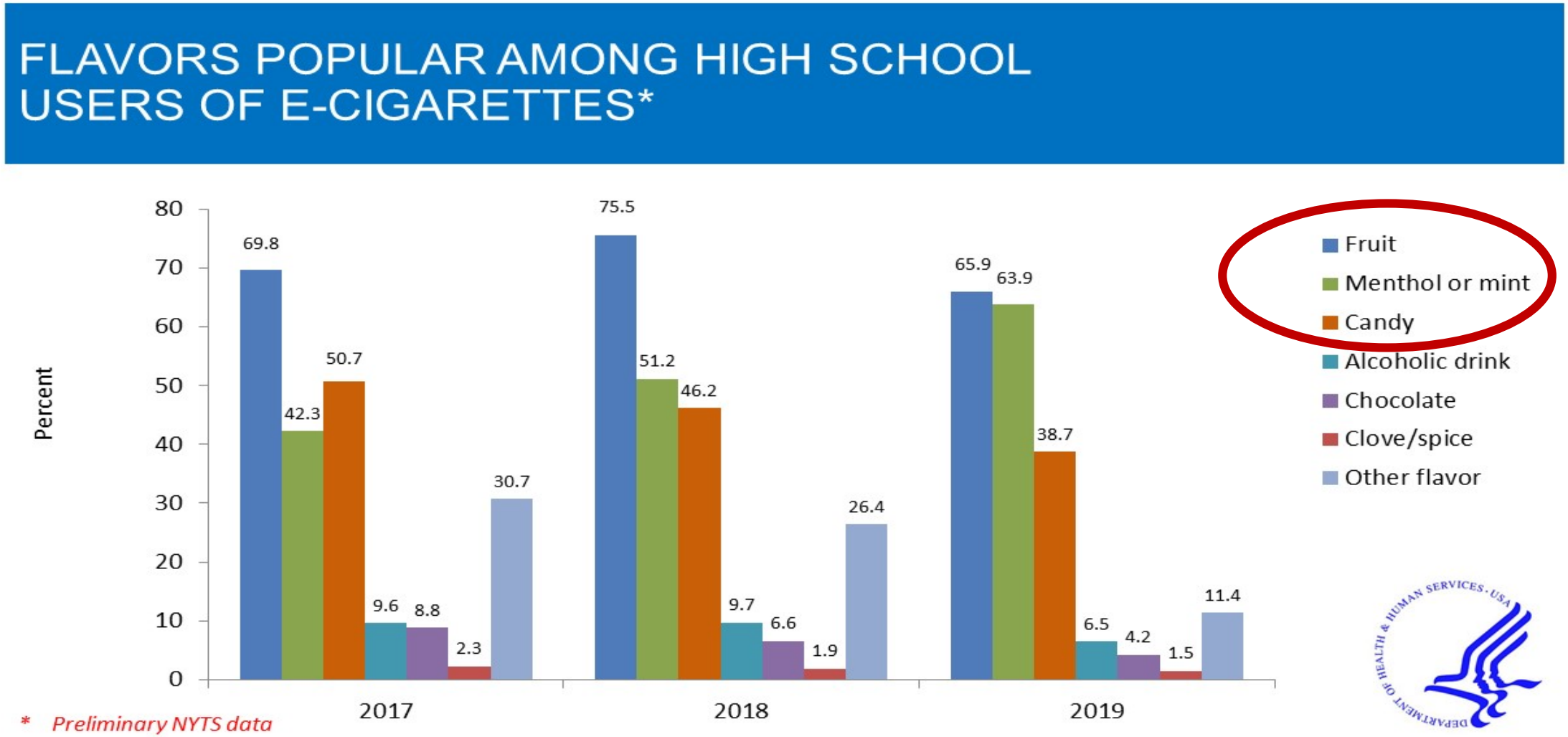


* *Preliminary data*

* Reported use within 30 days preceding administration of survey.

Source: https://www.fda.gov/news-events/press-announcements/trump-administration-combating-epidemic-youth-e-cigarette-use-plan-clear-market-unauthorized-non September 2019

National Data on Youth Use of Tobacco Products

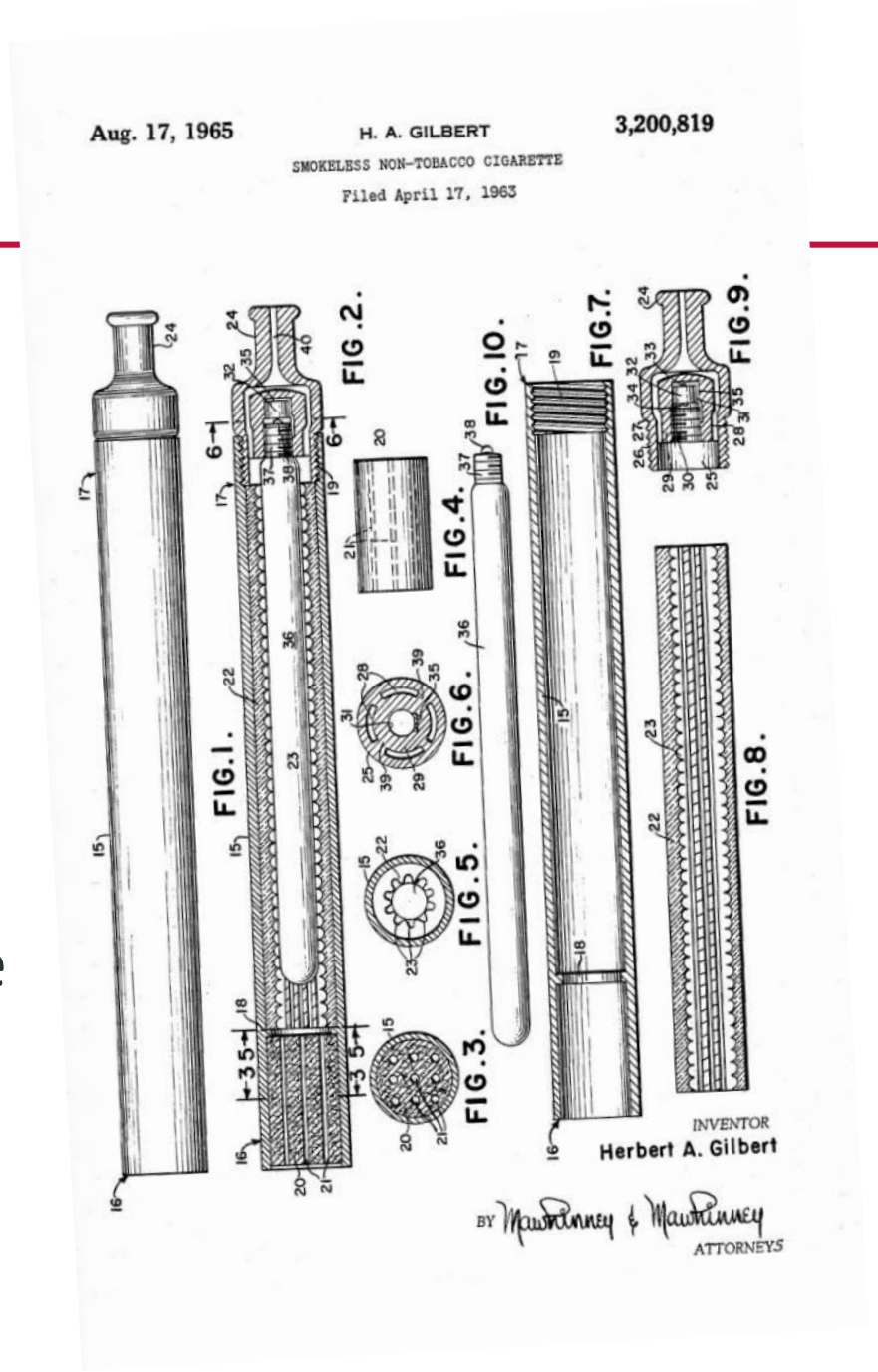


Source: https://www.fda.gov/news-events/press-announcements/trump-administration-combating-epidemic-youth-e-cigarette-use-plan-clear-market-unauthorized-non September 2019

HOW DID WE GET HERE?

History of E-Cigarettes

- First (long-expired) patent by Herbert Gilbert, developed in 1963
  - Called “The Smokeless”
  - Nicotine-free
  - Ten flavors, including mint, rum, and cinnamon
  - Couldn’t sell it
- Contemporary e-cigarette invented by a Chinese pharmacist, Hon Lik, in 2003


Aug. 17, 1965 H. A. GILBERT 3,200,819

SMOKELESS NON-TOBACCO CIGARETTE

Filed April 17, 1963

FIG. 1. FIG. 2. FIG. 3. FIG. 4. FIG. 5. FIG. 6. FIG. 7. FIG. 8. FIG. 9. FIG. 10.

INVENTOR

Herbert A. Gilbert

BY Mawhinney & Mawhinney

ATTORNEYS

“Cigalikes” hit U.S. market in 2006

2009

- “blu” e-cigarettes founded in N. Carolina
- CA passes bill banning sale of e-cigarettes; Governor Schwarzenegger vetoes the bill
- Tobacco Control Act gives FDA authority to regulate e-cigarettes
- FDA issues press release discouraging the use of e-cigarettes

FDA Consumer Health Information
www.fda.gov/consumer

FDA Warns of Health Risk Posed by E-Cigarettes

The Food and Drug Administration (FDA) has joined other health experts to warn consumers about potential health risks associated with electronic cigarettes.

Also known as “e-cigarettes,” electronic cigarettes are battery-operated devices designed to look like and to be used in the same manner as conventional cigarettes.

Sold online and in many shopping malls, the devices generally contain cartridges filled with nicotine, flavor, and other chemicals. They turn nicotine, which is highly addictive, and other chemicals into a vapor that is inhaled by the user.

“The FDA is concerned about the safety of these products and how they are marketed to the public,” says Margaret A. Hamburg, M.D., commissioner of food and drugs.

The agency is concerned that

- e-cigarettes can increase nicotine addiction among young people and may lead kids to try other tobacco products, including conventional cigarettes, which are known to cause disease and lead to premature death
- the products may contain ingredients that are known to be toxic to humans
- because clinical studies about the safety and efficacy of these products for their intended use have not been

An e-cigarette inserted into its charger. E-cigarettes are electronic devices used to deliver nicotine to the user in vapor form.

FDA

FDA

Air is drawn through an e-cigarette during a laboratory procedure that simulates a smoker taking a puff. The resulting vapor is tested.

…consumers have no way of knowing whether e-cigarettes are safe; what types or concentrations of potentially hazardous chemicals, or what dose of nicotine they are inhaling when using these products

History of E-Cigarettes: 2010-2011

- First VapeFest, VapeCon, VapeStock (Richmond, VA and Cleawater Beach, FL)

- First studies report e-cigarettes may help smokers quit

- FDA announces it will regulate e-cigarettes like cigarettes and other tobacco products *(not drug/devices)*

Electronic Cigarettes As a Smoking-Cessation Tool
Results from an Online Survey

Michael B. Siegel, MD, MPH, Kerry L. Tanwar, BA, Kathleen S. Wood, MPH

This activity is available for CME credit. See page A4 for information.

Background: Electronic cigarettes (e-cigarettes) are battery-powered devices that deliver nicotine without any combustion or smoke. These devices have generated much publicity among the smoking-cessation community and support from dedicated users; however, little is known about the efficacy of the device as a smoking-cessation tool.

Purpose: This study aimed to examine the effectiveness of e-cigarettes for smoking cessation using a survey of smokers who had tried e-cigarettes.

Methods: Using as a sampling frame a cohort of all first-time purchasers of a particular brand of e-cigarettes during a 2-week period, a cross-sectional, online survey was conducted in 2010 to describe e-cigarette use patterns and their effectiveness as a smoking-cessation tool. There were 222 respondents, with a survey response rate of 4.5%. The primary outcome variable was the point prevalence of smoking abstinence at 6 months after initial e-cigarette purchase.

Results: The primary finding was that the 6-month point prevalence of smoking abstinence among the e-cigarette users in the sample was 31.0% (95% CI=24.8%, 37.2%). A large percentage of respondents reported a reduction in the number of cigarettes they smoked (66.8%) and almost half reported abstinence from smoking for a period of time (48.8%). Those respondents using e-cigarettes more than 20 times per day had a quit rate of 70.0%. Of respondents who were not smoking at 6 months, 34.3% were not using e-cigarettes or any nicotine-containing products at the time.

Conclusions: Findings suggest that e-cigarettes may hold promise as a smoking-cessation method and that they are worthy of further study using more-rigorous research designs.
(Am J Prev Med 2011;40(4):472–475) © 2011 American Journal of Preventive Medicine

Introduction

Electronic cigarettes (e-cigarettes) are battery-powered devices that deliver nicotine without any combustion or smoke. Use and awareness of e-cigarettes has dramatically increased over the past 3 years.[1–3] Ayers et al.,[3] in this issue of the *American Journal of Preventive Medicine*, report that Internet searchers for e-cigarettes in the U.S. now exceed those for any other smoking alternative, nicotine replacement, or smoking-cessation product. Although e-cigarettes have generated much support from dedicated users, little is known about the efficacy of the device as a smoking-cessation tool.

From the Department of Community Health Sciences, Boston University School of Public Health, Boston, Massachusetts
Address correspondence to: Michael B. Siegel, MD, MPH, Department of Community Health Sciences, Boston University School of Public Health, 801 Massachusetts Avenue, 3rd Floor, Boston MA 02118. E-mail: mbsiegel@bu.edu.
0749-3797/$17.00
doi: 10.1016/j.amepre.2010.12.006

Most smoking-cessation methods focus on one component of smoking: nicotine addiction. However, even with the assistance of medications that treat nicotine addiction, the success rate for quitting remains low. Based on a Cochrane review of seven studies[4–9] that measured smoking cessation using nicotine replacement therapy (NRT), the average 6-month point prevalence of smoking abstinence is only 17.8%, and the 6-month point prevalence of smoking abstinence in the pooled data from these studies is only 11.9%.

Several studies[10,11] have suggested that physical and behavioral stimuli—such as merely holding a cigarette—can reduce the craving to smoke, even in the absence of nicotine delivery. Given that both nicotine and smoking-related cues appear to influence cigarette craving, e-cigarettes may present a unique opportunity to promote smoking cessation. Two preliminary studies[12–14] provide evidence that e-cigarette use suppresses the urge to smoke.

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History of E-Cigarettes: Early blu ads (2012)

2013-2014: Second Gen, Social Media and Flavor Explosion

- New generation products…
  - R.J. Reynolds launches VUSE
  - Altria launches MarkTen

VUSE
Solo - Original
E-Cigarette Kit

- Social media – YouTube, Snapchat, Instagram
- Celeb endorsements and social media marketing
- 7,700 unique flavors exist, mostly fruit or candy

Vape Juice & Cartomizer Flavors

Satisfying Vaping Flavors Created with High-Quality Ingredients

History of E-Cigarettes, 2015-2016: Pax Labs Juul takes off

June 1, 2015: Pax Labs launches the Juul with a party in New York City.

2016: Juul sales skyrocket 700%.

An ad on Juul's website from 2016.

History of E-Cigarettes: Late 2017-early 2018

FDA NEWS RELEASE

Results from 2018 National Youth Tobacco Survey show dramatic increase in e-cigarette use among youth over past year

Sharp rise in e-cigarette use results in uptick in overall tobacco product use; prompts new, forceful steps by FDA to firmly confront and reverse youth epidemic

FDA STATEMENT

Statement from FDA Commissioner Scott Gottlieb, M.D., on new steps to address epidemic of youth e-cigarette use

'Juuling': The most widespread phenomenon you've never heard of

SUZANNE KREITER/GLOBE STAFF

A Juul e-cigarette for sale at Fast Eddie's Smoke Shop. Shoppers must be 21 years of age.

By Beth Teitell | GLOBE STAFF NOVEMBER 16, 2017

New E-Cigarette Popular Among Kids, Easy To Conceal From Parents

By Jon Delano December 13, 2017 at 12:06 am CBS Pittsburgh

MENS FITNESS Training Nutrition Women Lifestyle Videos More

TECHNOLOGY

Pax Juul: The iPhone of E-cigs?

The startup behind one of the most popular vaporizers in the world has made an e-cigarette.

The Juul, a trendy vape that resembles a flash drive and can be charged in a laptop's USB port, accounted for 33% of the e-cigarette market as of late 2017, according to

USNews NEWS » Sections Opinion Photos Best Countries Best States Healthiest Communities The Report

HOME / NEWS / HEALTH CARE NEWS

Study: Potentially Toxic Level of Metals Found in E-Cigarettes

Researchers found chemicals in e-cigarettes that can lead to cancer and brain damage.

By Alexa Lardieri, Staff Writer Feb. 23, 2018, at 8:52 a.m.

YOUR HEALTH

Teenagers Embrace JUUL, Saying It's Discreet Enough To Vape In Class

December 4, 2017 · 11:58 AM ET

npr

HEALTH • PUBLIC HEALTH

Teens Are 'Juuling' At School. Here's What That Means

TIME HEALTH

March 27, 2018

A Closer Look at JUUL and its Rise to Popularity

Marketing Appeal: Discreet, Flavored, Affordable, Shareable

A Juul starter kit comes with the device, a charger and four pods of a flavored 5% nicotine solution. CREDIT: Juul Labs PHOTO: JUUL

Our JUUL Flavor Multipack contains one JUULpod each of Virginia Tobacco, Mint, Mango, and Creme.

Each pack contains 4 pods.

$15.99

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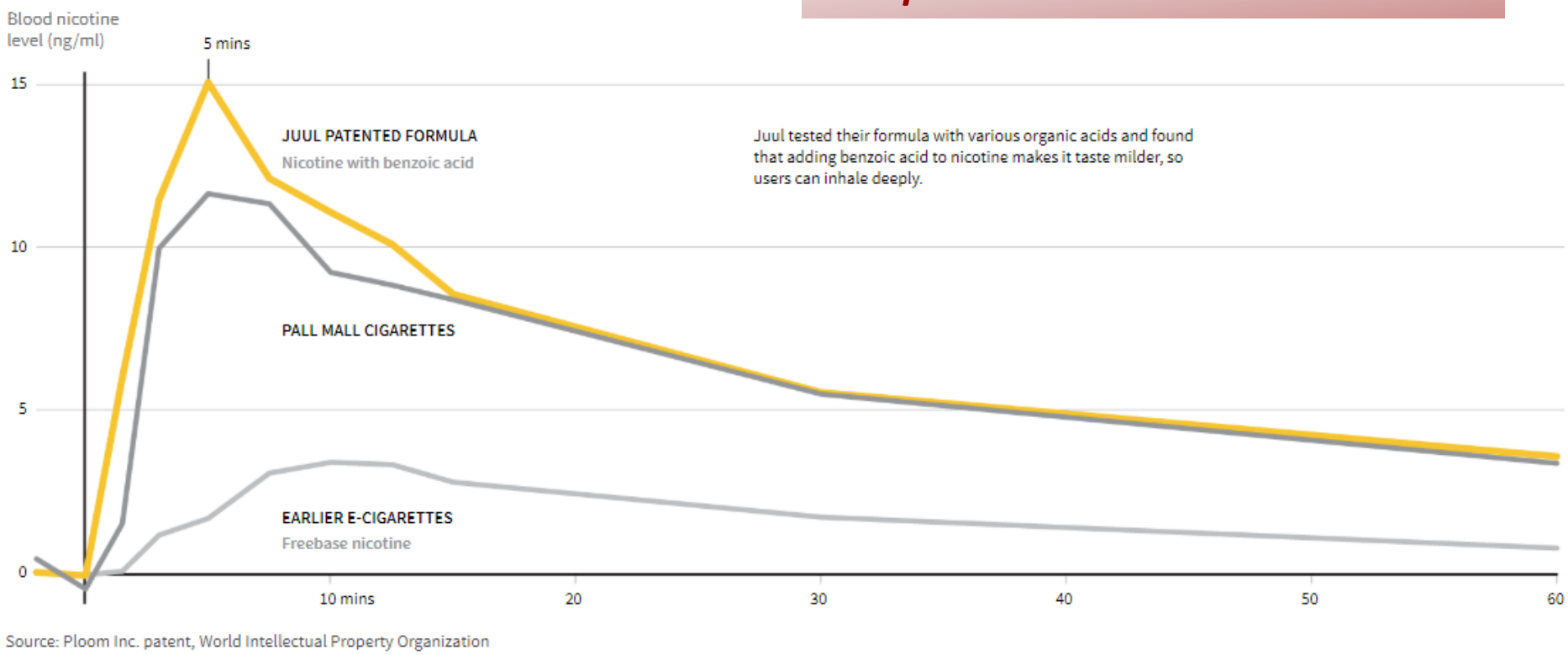
JUUL's Rise to Popularity…"First hit is crucial"

- Original e-cigs contained liquid "freebase" nicotine
- Taste was too caustic at levels high enough to mimic cigarettes
- Used RJR research to experiment with organic acids to neutralize bitterness by reducing pH level, eventually landing on benzoic acid to develop nicotine "salts"
- More direct path to lungs, propels nicotine to brain through bloodstream



Proposed "kill switch" abandoned

Source: https://www.reuters.com/investigates/special-report/juul-ecigarette/

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JUULs Rise to Popularity: Big Buzz, No Burn

What makes JUUL unique?
"We accommodate cigarette-like strength nicotine levels via $JUULsalts^{TM}$…"

Why is JUUL vapor intensely satisfying?
"By regulating … our proprietary $JUULsalts^{TM}$ flavor formula…

JUUL
Higher content than most e-liquids

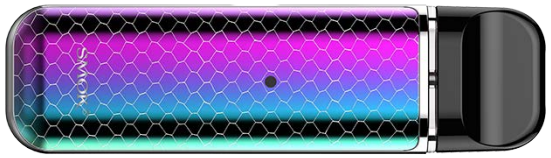
"Each JUULpod contains 59mg/mL of nicotine per pod, approximately equivalent to 1 pack of cigarettes or 200 puffs." – JUUL website

- Considerably higher nicotine than traditional e-cigarettes.
- Contain nicotine 'salts' to create a smoother, stronger hit.
- Increases the 'buzz' and reduces the burn.

JUUL does NOT sell and NEVER has sold any pods that are nicotine-free.

Source: https://support.juulvapor.com/home/learn/faqs/juulpods-juice

JUULs Rise to Popularity: Easily concealable



Novo Smoke

Suorin Drop

Suorin Air

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Rise in Popularity: JUUL Labs Expansion

Late 2017, JUUL sales represented 1/3 of e-cigarette market at $225,000,000

Late 2018, JUUL held 76% market share and was valued at $38B, after Altria purchases 35% share for $12.8B

CNBC Tobacco giant Altria takes 35% stake in Juul, valuing e-cigarette company at $38 b... SHARE

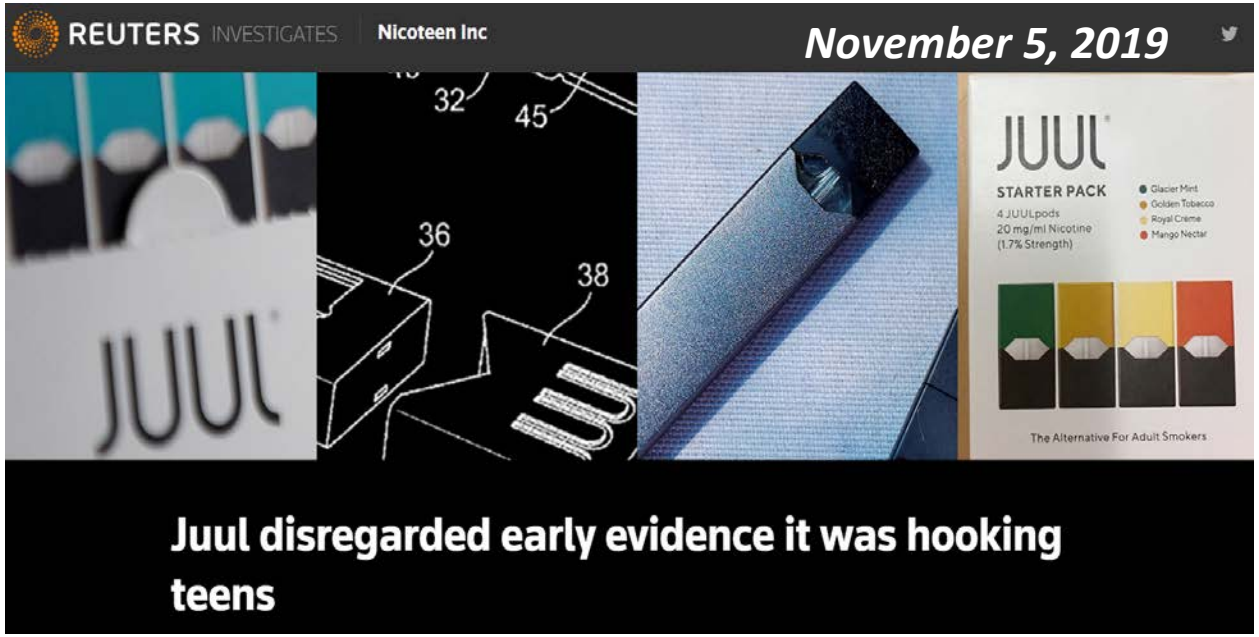
HEALTH AND SCIENCE

Tobacco giant Altria takes 35% stake in Juul, valuing e-cigarette company at $38 billion

PUBLISHED THU, DEC 20 2018•7:04 AM EST | UPDATED THU, DEC 20 2018•4:43 PM EST

JUUL's Rise to Popularity

- Used youthful models in ads.
- Emphasized addictive qualities of its product to retailers, while downplaying addictiveness to customers.
- "Relentless" sales team offered buy-backs to retailers and profit margins 3x higher than on cigarettes.
- Emphasized affordability due to no sales tax.



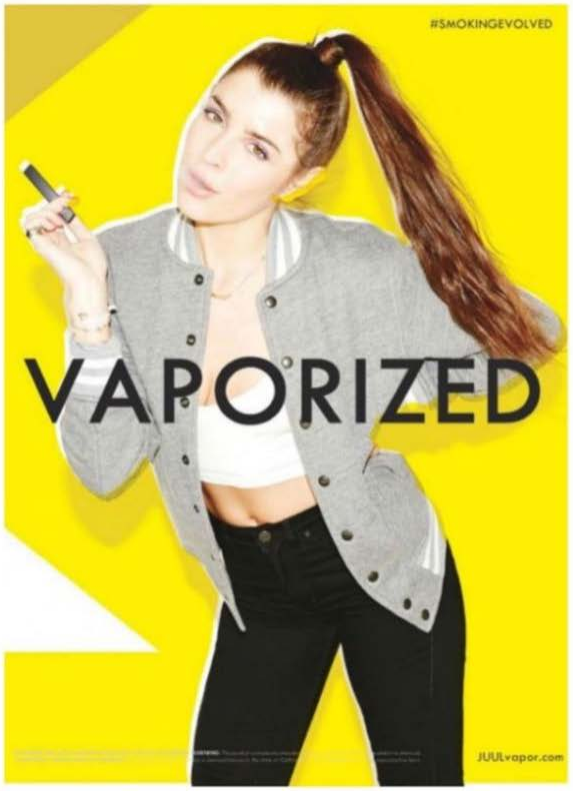
JUUL's Rise to Popularity

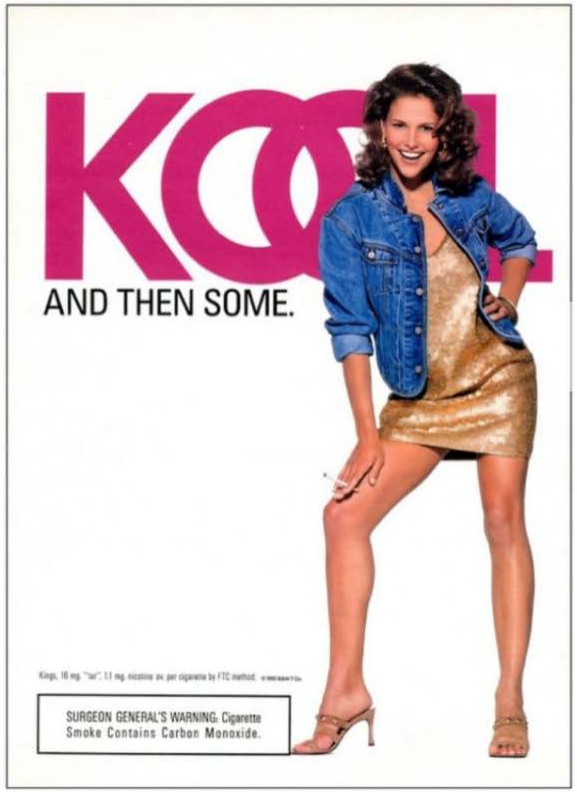
"If you think Marlboros are bad because they're addictive, then this is like a Marlboro on steroids"

- James F. Pankow, Chemistry and Engineering Professor

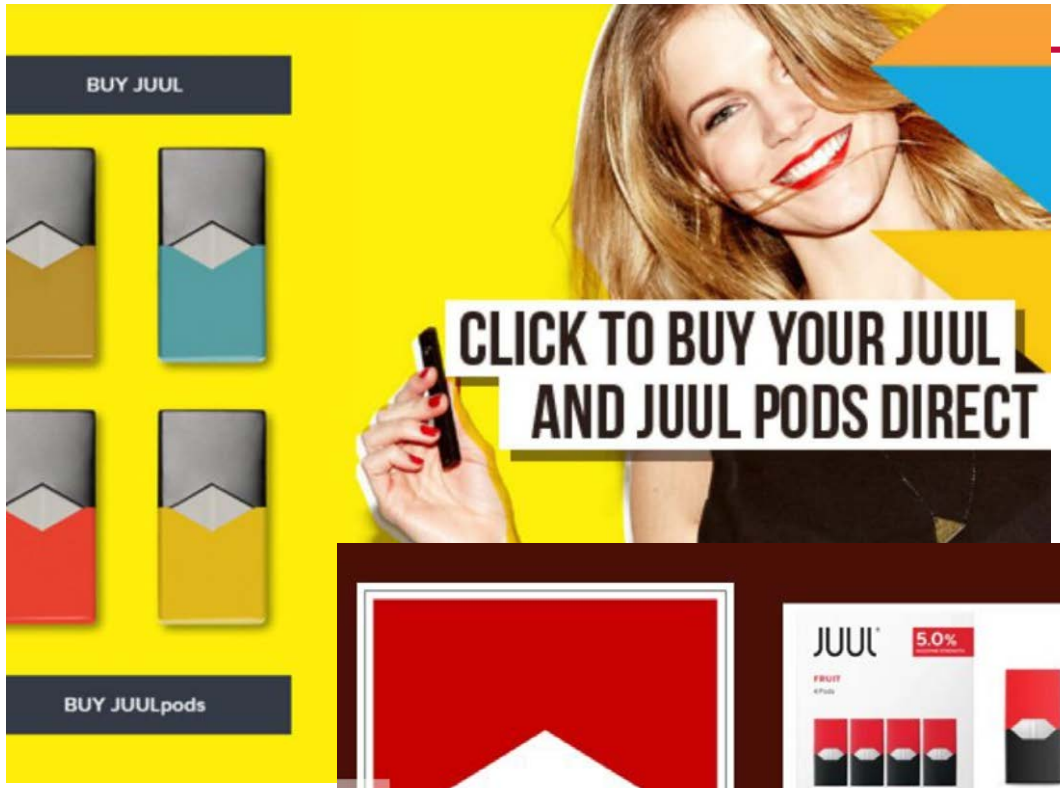
"…first-time Juul users becoming addicted within two months, compared to two years or more for a smoker…"

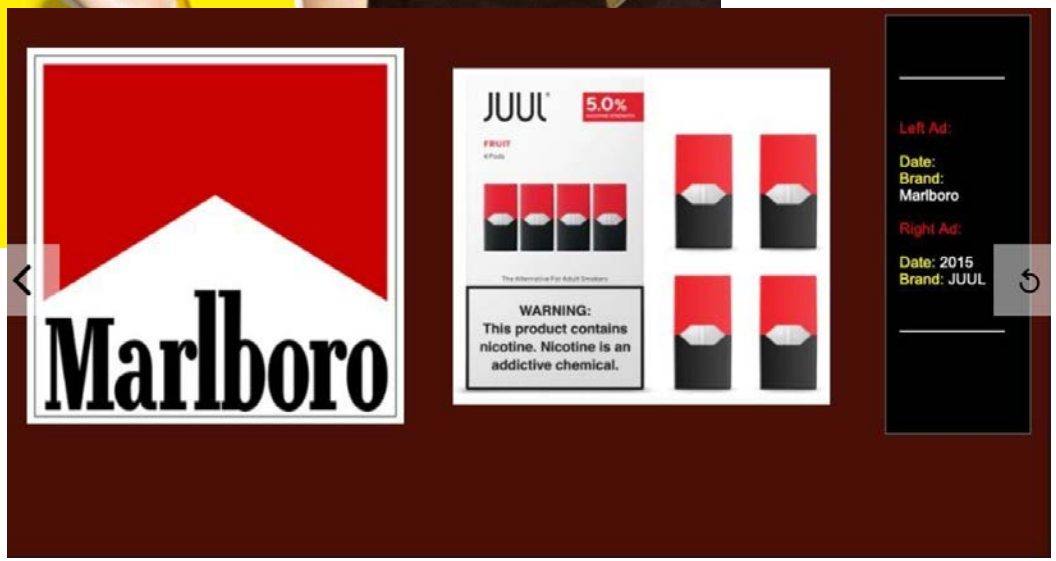
- Dr. Susanne Tanski, American Academy of Pediatrics





JUUL's Rise to Popularity





Designs reminiscent of Marlboro, Apple, and high technology

JUUL's Increasing Popularity: Addiction

LIMITED EDITION:
BLUSH GOLD DEVICE KIT
(May 2018)

NEW EDITION:
SILVER DEVICE KIT
(July 2018)

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JUUL's Increasing Popularity: Addiction

JUUL DEVICES

Not your average vapor product.

SLATE JUUL DEVICE
~~$34.99~~ $14.99
★ ★ ★ ★ ★ (1585)

ADD TO CART

LEARN MORE

SILVER JUUL DEVICE
~~$34.99~~ $14.99
★ ★ ★ ★ ★ (1585)

ADD TO CART

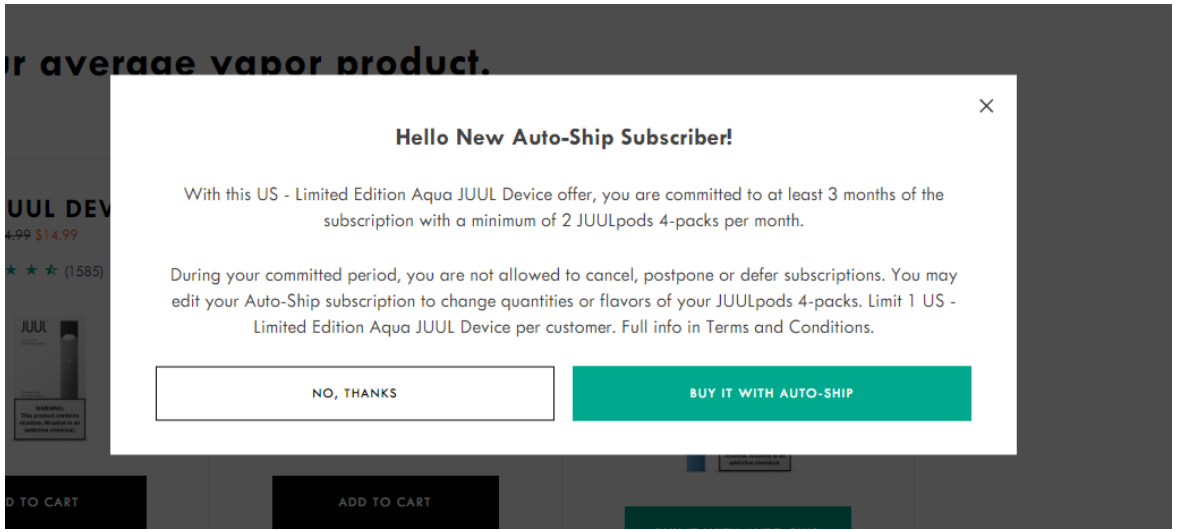
LEARN MORE

LIMITED EDITION AQUA JUUL DEVICE
~~$34.99~~ $9.99
★ ★ ★ ★ ★ (128)

BUY IT WITH AUTO-SHIP

LEARN MORE

- *No end point*
- *No weaning regimen*
- *"Gillette razor-and-blade" model*



https://www.juul.com/shop, accessed 10/18/19

RISKS OF ESD USE

Tobacco Trends

Why do we care?

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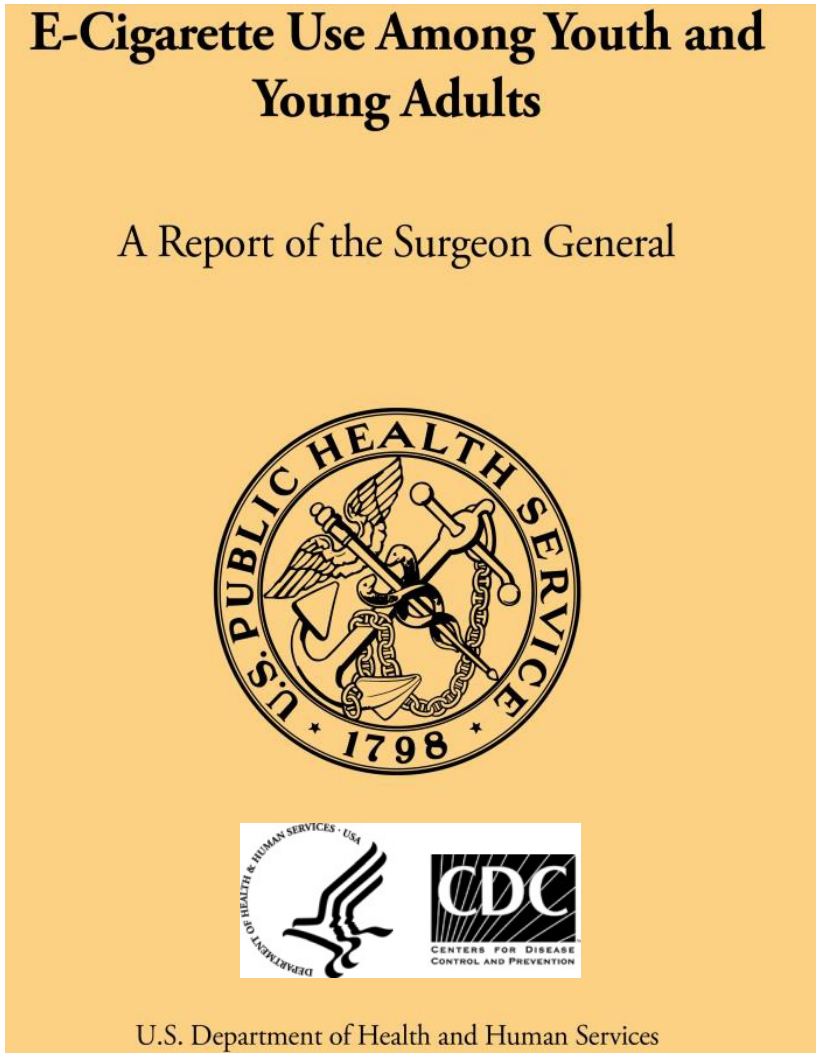
What's the Risk? First Surgeon General's Report on E-Cigarettes



- December 8th, 2016: 298 page report released
- Identified e-cigarettes as the next evolution of tobacco products
- Creating a new generation of Americans at risk of nicotine addiction
- Recognized e-cigs as a public health concern, particularly due to the growing trends in ESD use among youth and young adults

Report is a call for action to reduce use among young people.

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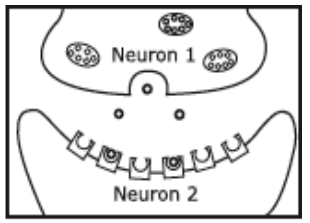
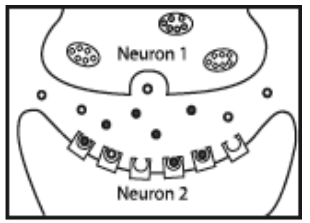
What's the Risk? Nicotine Harms the Developing Brain

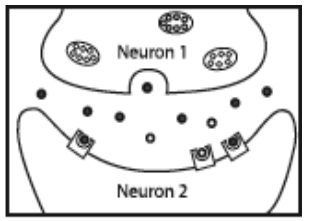
- Adolescents can get addicted more easily than adults as their brains are still developing until age 25-26.
- The developing brain is in "constant flux, forming new neural pathways that govern how people learn, control impulses, and form emotions."
- Nicotine can prime the adolescent brain for addiction.
- Early onset of substance abuse, including tobacco use, is associated with greater severity of addiction in adulthood.
- Can lead to mood disorders and reduced attention span.



Nonsmoker



New Smoker



Addicted Smoker

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https://www.reuters.com/investigates/special-report/juul-ecigarette/

What's the Risk? Nicotine Hijacks the Developing Brain

- Early exposure to nicotine hijacks brain development, training the mind to fixate on acquiring nicotine instead of forming connections that control mood disorders and impulsive behavior.
- This interruption impacts parts of the brain that control risk-taking, correlating nicotine addiction with later drug use.

"Rather than your brain getting pleasure from exercising or relationships, your brain becomes rewired to get pleasure from nicotine,"

- Bonnie Halpern-Felsher, Professor of Pediatrics, Stanford Medical School.

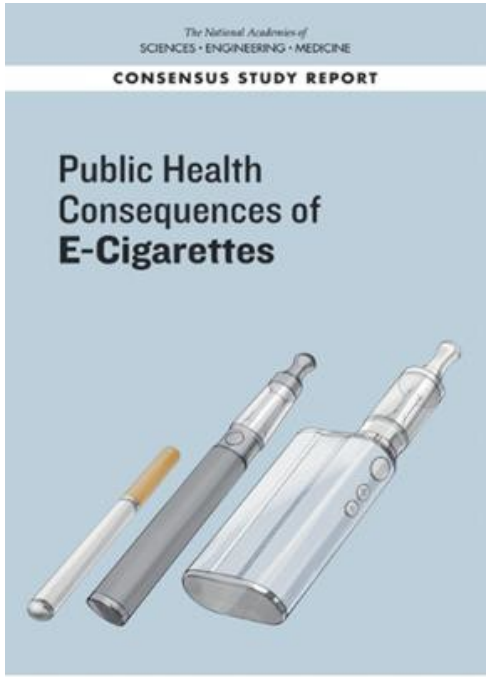
"very, very addictive product" + developing brain = dangerous implications

Your brain on Juul

https://www.reuters.com/investigates/special-report/juul-ecigarette/

What's the Risk? Public Health Consequences of E-cigarettes

- There is **conclusive evidence** that in addition to nicotine, most e-cigarettes contain and emit numerous potentially toxic substances.
- There is **conclusive evidence** that e-cigarettes can explode and cause burns and projectile injuries.
- There is **conclusive evidence** that intentional or accidental exposure to e-liquids (from drinking, eye contact, or skin contact) can result in adverse health effects such as seizures, anoxic brain injury, vomiting, and lactic acidosis.
- There is **conclusive evidence** that intentionally or accidentally ingesting e-liquids can be fatal.



January 23, 2018

Source: New Report One of the Most Comprehensive Studies on Health Effects of E- Cigarettes; Finds That Using E-Cigarettes May Lead Youth to Start Smoking, Adults to Stop Smoking
http://www8.nationalacademies.org/onpinews/newsitem.aspx?RecordID=24952&_ga=2.227315540.810940964.1516640363-1933305849.1453397105

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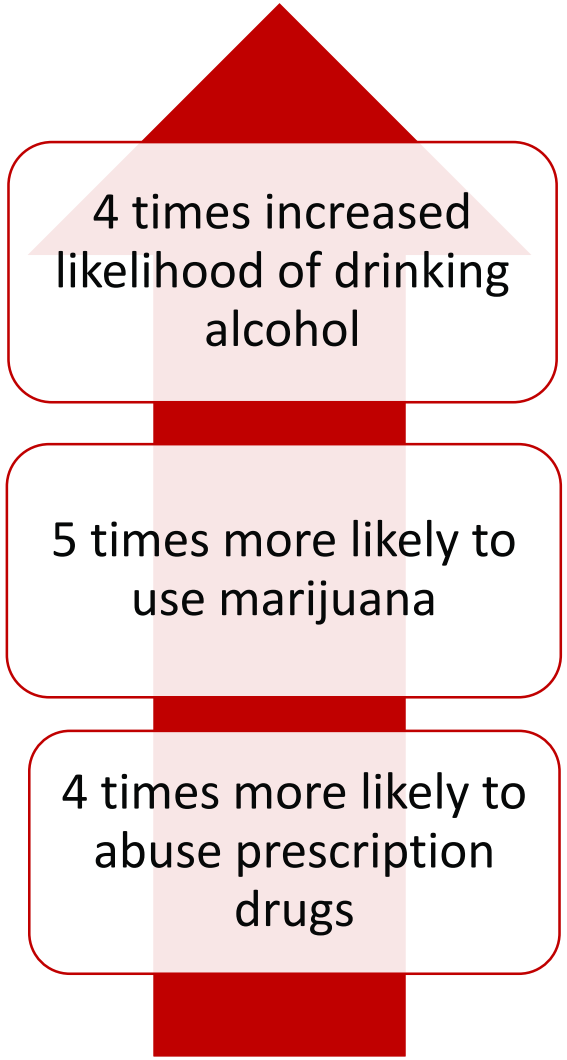
What's the Risk: Increased Likelihood of Engaging in Other Risky Behaviors

Youth ESD users and Dual Use

- 34% of youth ESD users also use cigarettes
- 35% also use cigars
- 25% also use smokeless tobacco.



Source: Maryland Department of Health. Monitoring Changing Tobacco Use Behaviors: 2000 - 2016. May 2018.

What's the Risk? Aerosol vs Vapor

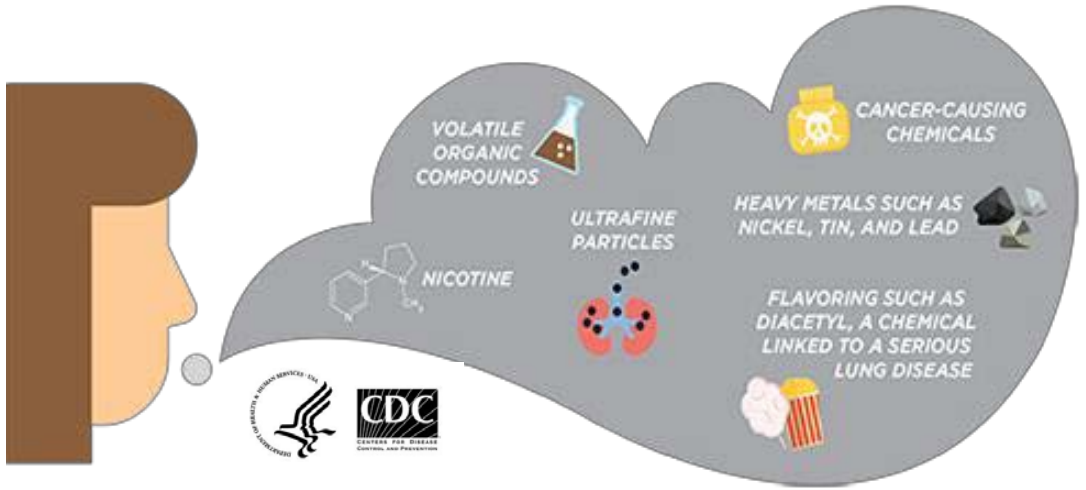
E-cigarettes emit aerosol, not harmless water vapor.

What Is in E-cigarette Aerosol?

- E-cigarette aerosol is NOT harmless "water vapor."
- The e-cigarette aerosol that users breathe from the device and exhale can contain harmful and potentially harmful substances, including:
  - Nicotine
  - Ultrafine particles that can be inhaled deep into the lungs
  - Flavorings such as diacetyl, a chemical linked to a serious lung disease
  - Volatile organic compounds
  - Cancer-causing chemicals
  - Heavy metals such as nickel, tin, and lead[1]
- The aerosol that users inhale and exhale from e-cigarettes can expose both themselves and bystanders to 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.[3]

CDC Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

What's the Risk? Popcorn Lung: a perfect recipe of flavor and aerosol



- Popcorn factory employees who were always tired, wheezing, and out of breath were diagnosed with bronchiolitis obliterans, or more commonly known as, "popcorn lung."
- "Popcorn lung" is a serious lung disease that causes coughing, wheezing and shortness of breath.
- It is caused by diacetyl – the chemical giving popcorn it's 'buttery' flavor.
- While major popcorn manufacturers removed diacetyl from their products, it is **still found in combustible cigarettes and e-cigarette flavorings and aerosol**.

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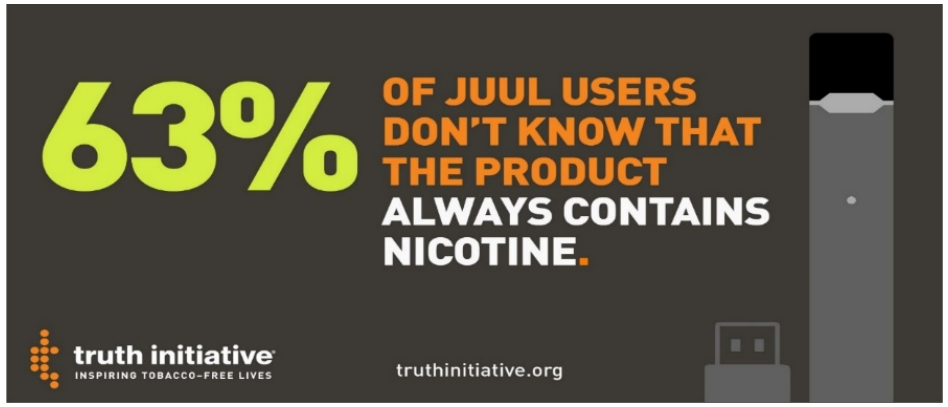
Source: http://www.lung.org/about-us/blog/2016/07/popcorn-lung-risk-ecigs.html?; https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html

What's the Risk? Misinformation, Poison, and Cigarette Smoking



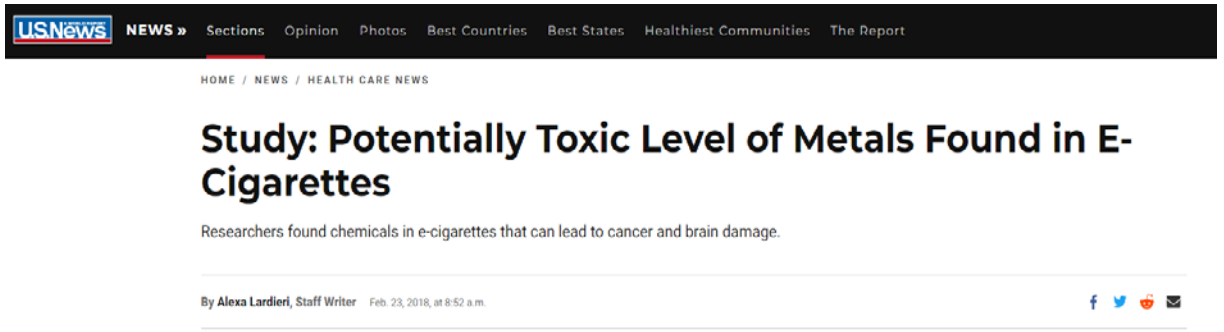
Maryland Poison Center
UNIVERSITY OF MARYLAND SCHOOL OF PHARMACY

180 e-cigarette device and liquid nicotine cases 2015-2018.

In 2018, 47% of cases were children under 6 years old.

NIH National Institute for Drug Abuse, 2016

A 2016 study found that over half of the labels on e-cigarette liquid nicotine did not accurately reflect the levels of nicotine found in the products. Actual nicotine levels in some products were 172% higher than labeled.



Combatting the Problem

Prevention and Cessation Resources

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Resources: MDH Consolidated Webpage on Vaping

https://phpa.health.maryland.gov/ohpetup/Pages/VapeHelp.aspx

Key Resources on E-Cigarettes and Vaping

What We Know

- E-cigarettes are not safe for youth.[1]
- Between 2017 and 2018, high school use of e-cigarettes/vapes increased 78 percent, leading the U.S. Surgeon General to call youth use an "epidemic".
- Nicotine is the primary agent in both regular cigarettes and e-cigarettes, and there's nicotine in most flavored e-cigarettes.
- Nicotine can harm adolescent brain development, which continues into the early to mid-20s, negatively impacting memory, learning, and attention.[1]
- Young adults who use e-cigarettes are four times more likely to begin smoking regular cigarettes within 18 months compared to those who do not use e-cigarettes.[2]
- E-cigarettes produce a chemical-filled aerosol, *not* "harmless" water vapor.[1]

What Resources Are Available

- For Young People
- For Parents
- For Teachers and School Administrators
- For Healthcare Providers

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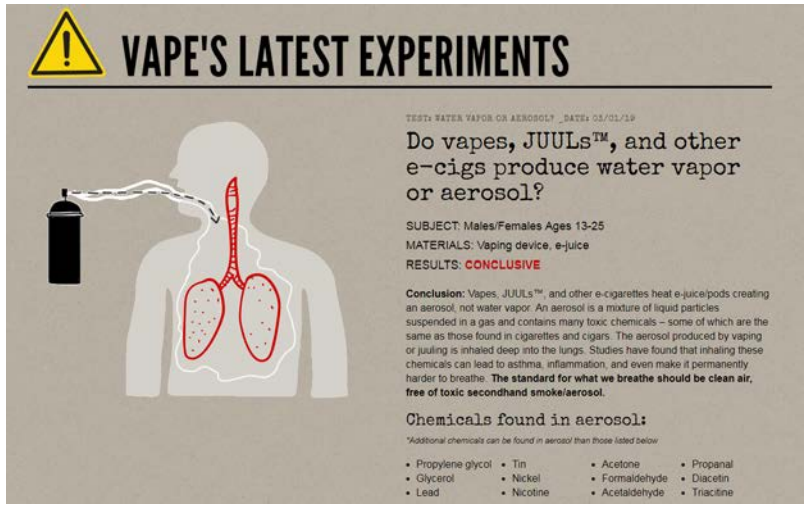
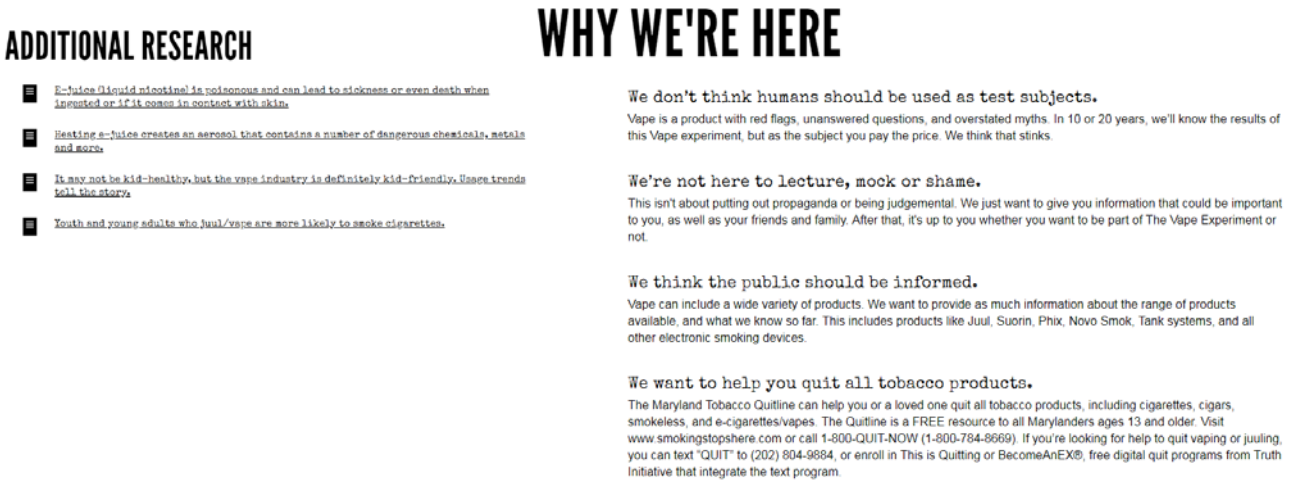
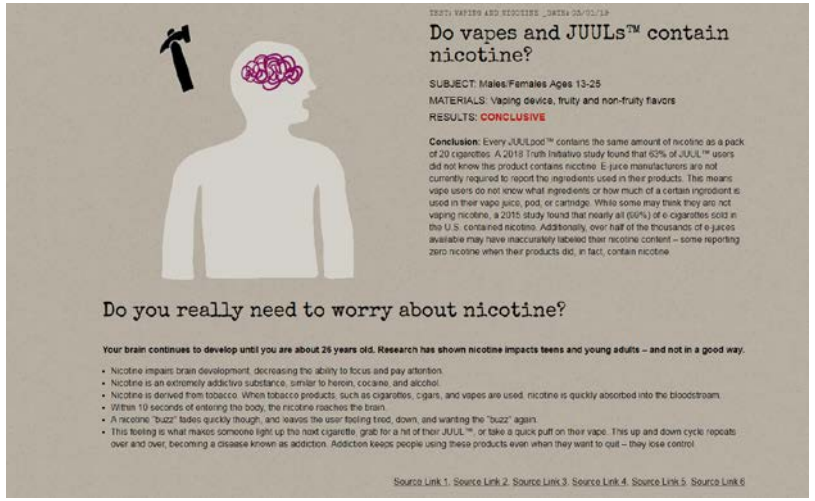
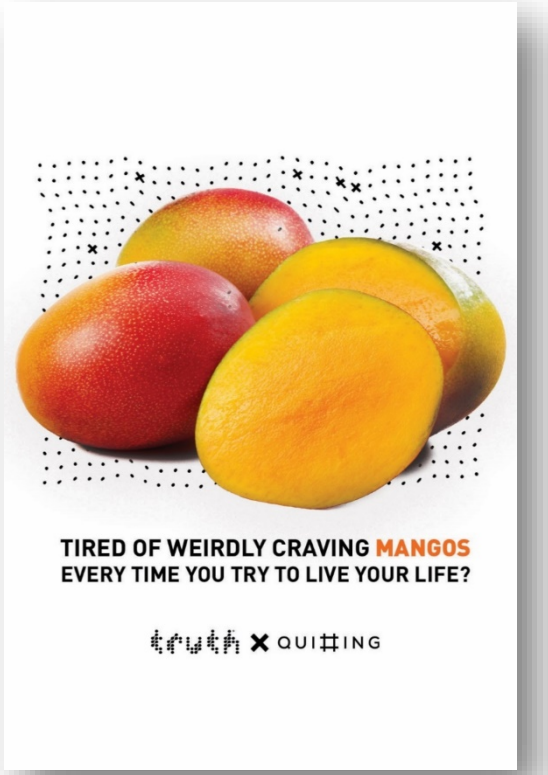
Resources: *www.TheVapeExperiment.com*

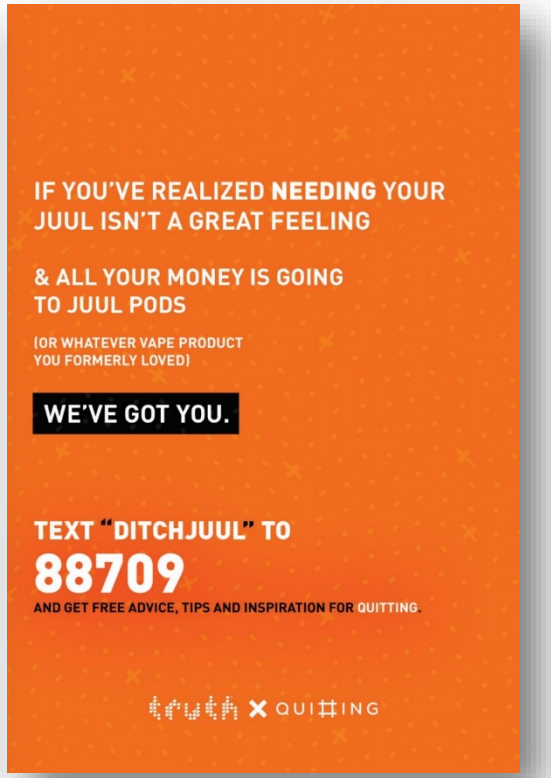






Resources: Texting – This is Quitting and *Smoke-Free Teen*





Youth and young adults can access the new e-cigarette quit program by texting "DITCHJUUL" to 88709. Parents and other adults looking to help young people quit should text "QUIT" to (202) 899-7550.

truth × QUITTING THIS IS QUITTING

- Smoke-free Teen is provided by the U.S. Department of Health and Human Services, as part of SmokeFree.gov.
- Free texting program and App for those looking to quit tobacco.
- Specific tips about quitting vaping can be found at https://teen.smokefree.gov/quit-vaping.
  - These tips include how to quit, how to handle the first day without vaping, dealing with cravings, and coping strategies for anxiety, stress, and depression.

smokefreeteen

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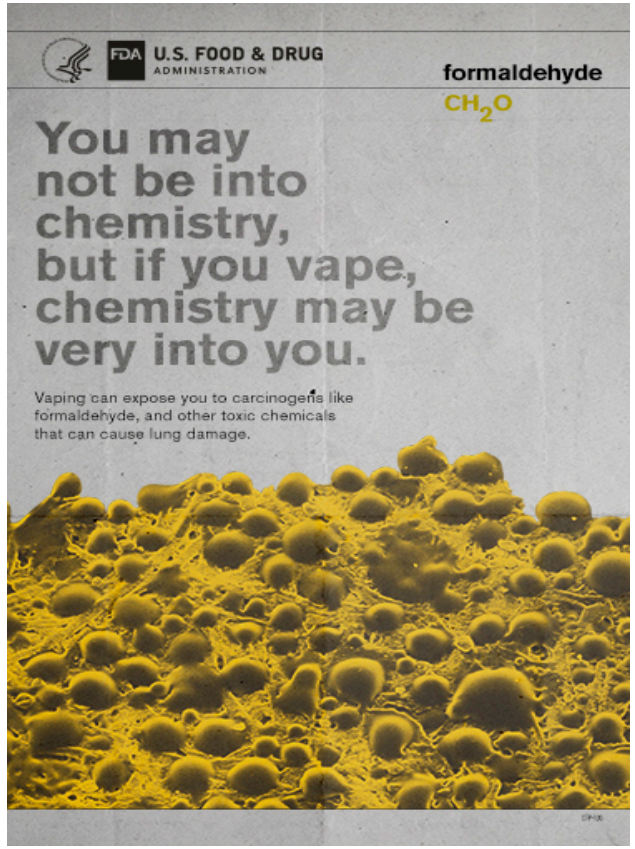
Resources: FDA Counter-marketing Efforts

Free Resources available to order or download from https://digitalmedia.hhs.gov/tobacco



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Resources: Counter-marketing Efforts

FDA "The Real Cost" Youth E-Cigarette Prevention Campaign

[redacted]

Truth Initiative: SAFER ≠ SAFE Campaign

Truth Initiative: Doug the Pug

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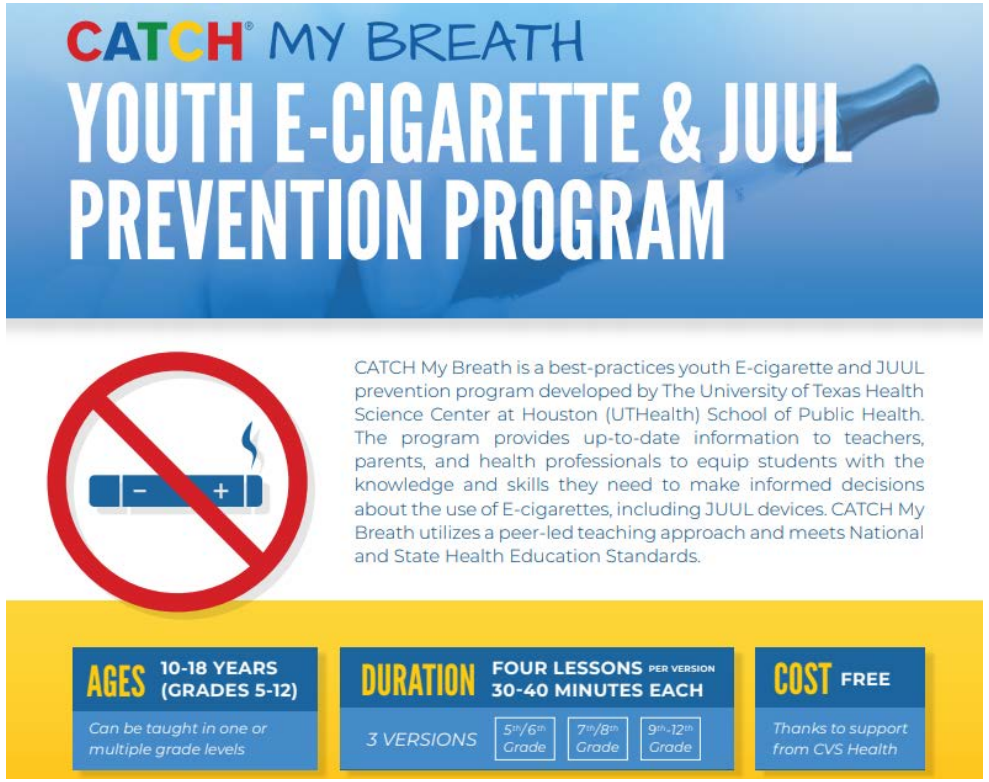
Resources: Vaping Curriculum and Alternative to Suspension Programs



American Lung Association: INDEPTH

AMERICAN LUNG ASSOCIATION®

Stanford MEDICINE | Tobacco Prevention Toolkit

Modules for tobacco and nicotine education

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ADULT

Tobacco Trends

Tobacco Data

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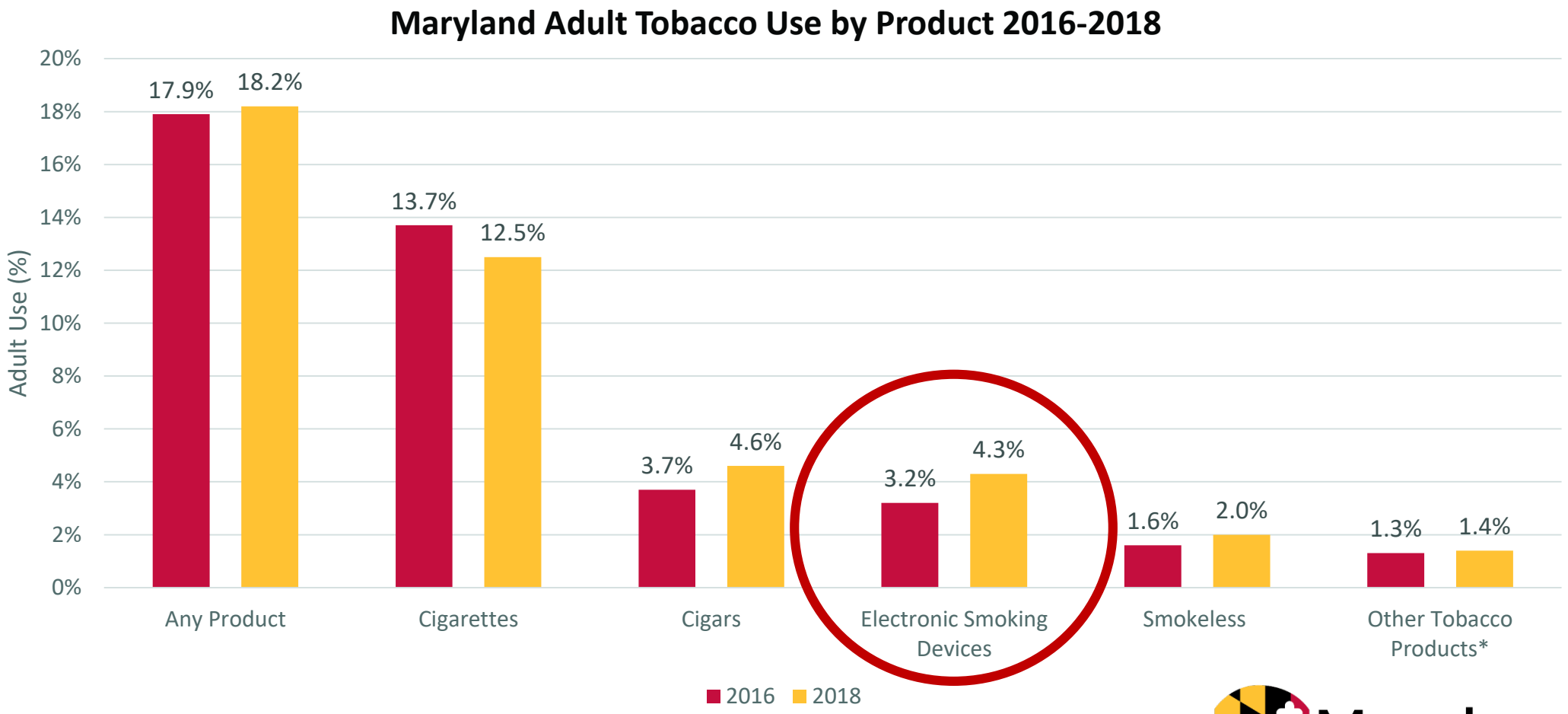
Maryland Data on Current Adult Use of Tobacco Products 2016-2018



* Other Tobacco Products: Pipes, hookah, bidis, kreteks, or dissolvable tobacco products

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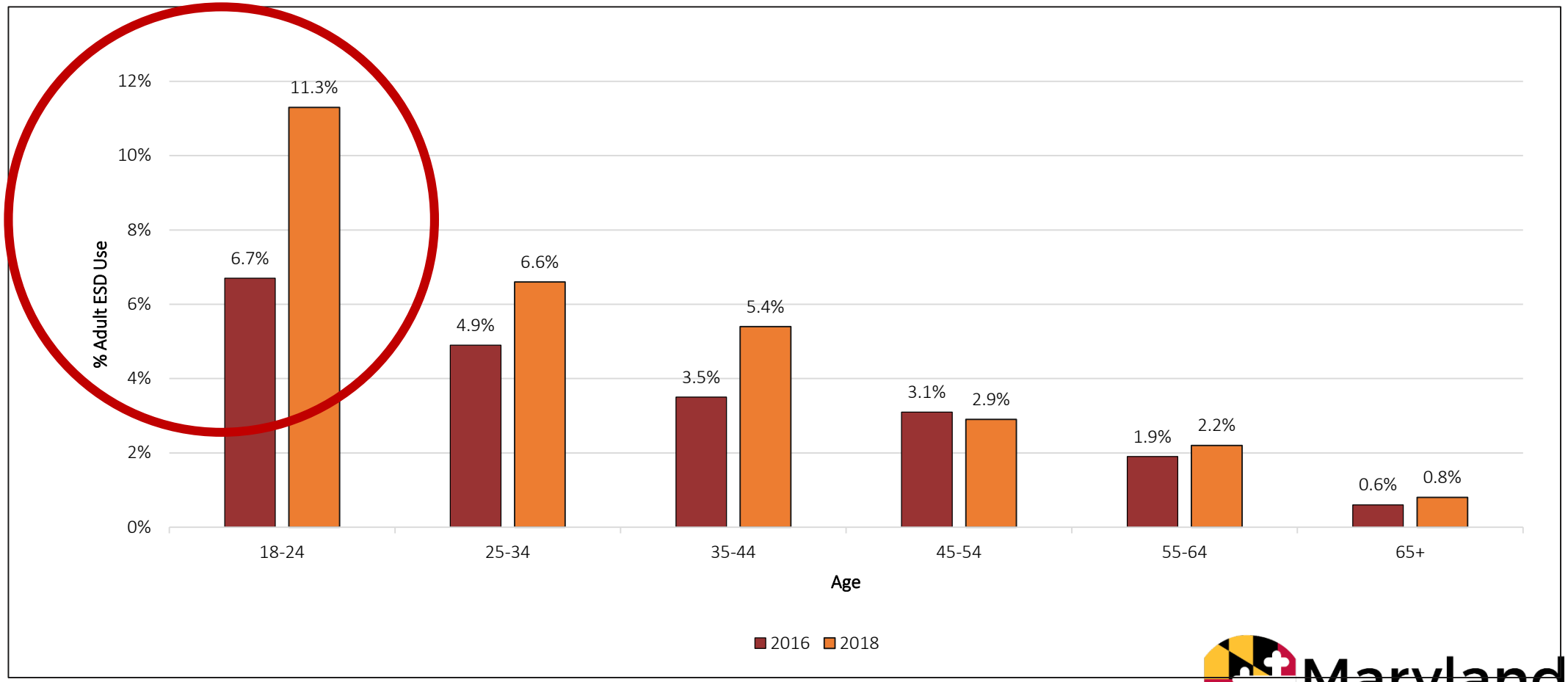
Source: Maryland Department of Health. Adult BRFSS 2018. Unpublished.

Maryland Data on Current Adult Use of Electronic Smoking Devices, 2016-2018



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Source: Maryland Department of Health. Adult BRFSS 2018. Unpublished.

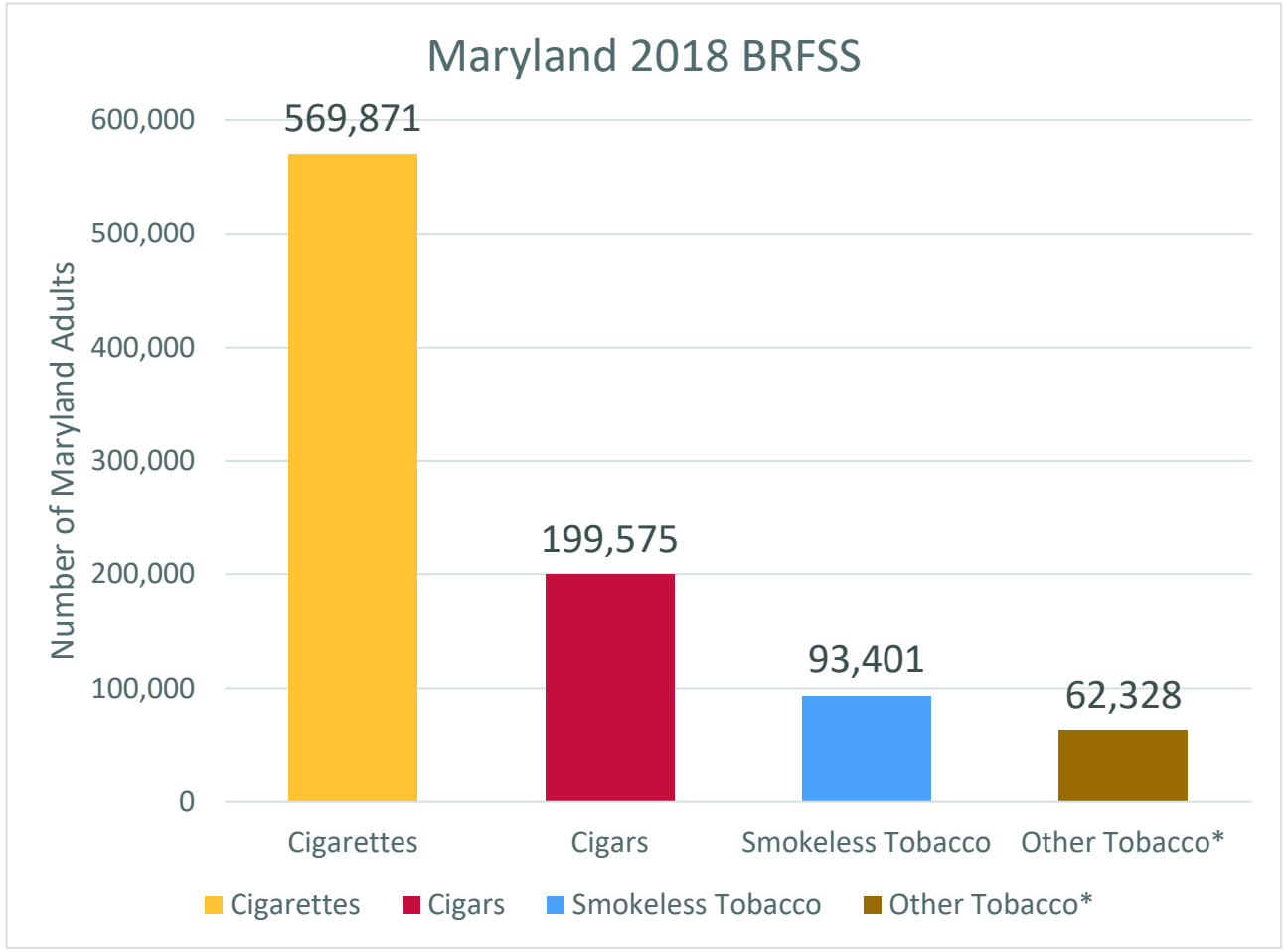
Are E-cigarettes Effective Cessation Aids?

- E-cigarettes are not approved by the FDA as a quit smoking aid.
- Research shows there is limited evidence that e-cigarettes are effective for helping smokers quit.
- Wide range of potential unknown health effects from short- and long-term usage.
- Studies found that most people who use ESDs to quit end up using both traditional and e-cigarettes and may be at increased risk for not being able to quit.
- E-cigarettes do not have a finite end point and many individuals end up with a greater intake of nicotine from ESDs than regular cigarettes.

Source: https://www.mdanderson.org/publications/focused-on-health/can-e-cigarettes-help-you-quit-smoking.h11-1592991.html; https://smokefree.gov/quit-smoking/ecigs-menthol-dip https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/1846627; https://smw.ch/en/resource/jf/journal/file/view/article/smw/en/smw.2016.14271/6d0648152889d91a80aa748082fdee1b785b905a/smw_2016_14271.pdf/; https://www.ncbi.nlm.nih.gov/pubmed/25880947

Adults Using Tobacco Products Other Than ESDs

Tobacco Use Remains the #1 Preventable Cause of Death and Disease in the United States.



- Despite the vaping epidemic, cigarettes are the tobacco products of choice for Maryland adults
- **787,397** adults currently use cigarettes, cigars, smokeless tobacco, or other tobacco products

* Other Tobacco Products: Pipes, hookah, bidis, kreteks, or dissolvable tobacco products

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Maryland Tobacco Use: At a Glance

Centers for Disease Control and Prevention
CDC 24/7: Saving Lives, Protecting People™

$2.71 BILLION	Annual health care costs in Maryland directly caused by smoking
$576.5 MILLION	Medicaid costs caused by smoking in Maryland
$745 PER HOUSEHOLD	Residents' state & federal tax burden from smoking-caused government expenditures
$2.22 BILLION	Smoking-caused productivity losses in Maryland

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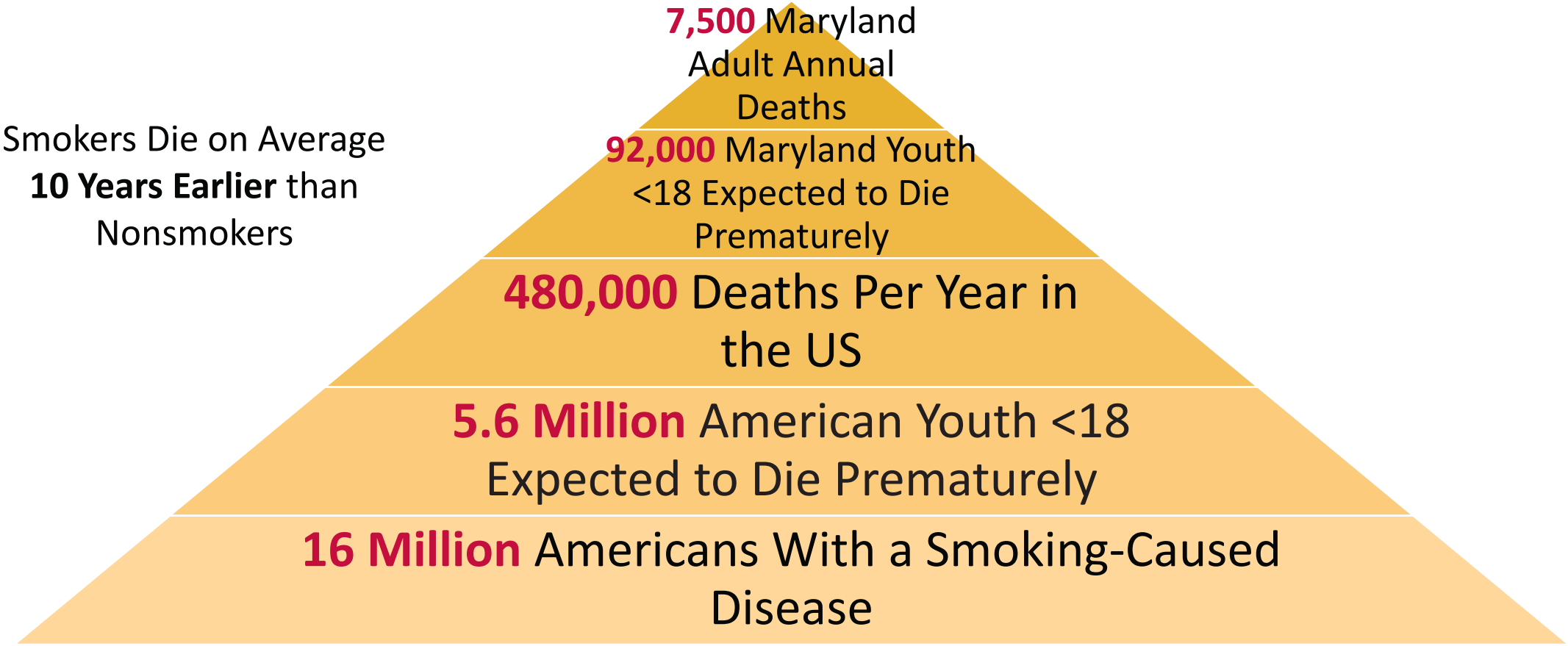
Source: https://www.cdc.gov/tobacco/about/osh/state-fact-sheets/maryland/ Source: Tobacco Free Kids https://www.tobaccofreekids.org/problem/toll-us/maryland

Smoking-Related Morbidity and Mortality

Smokers Die on Average **10 Years Earlier** than Nonsmokers



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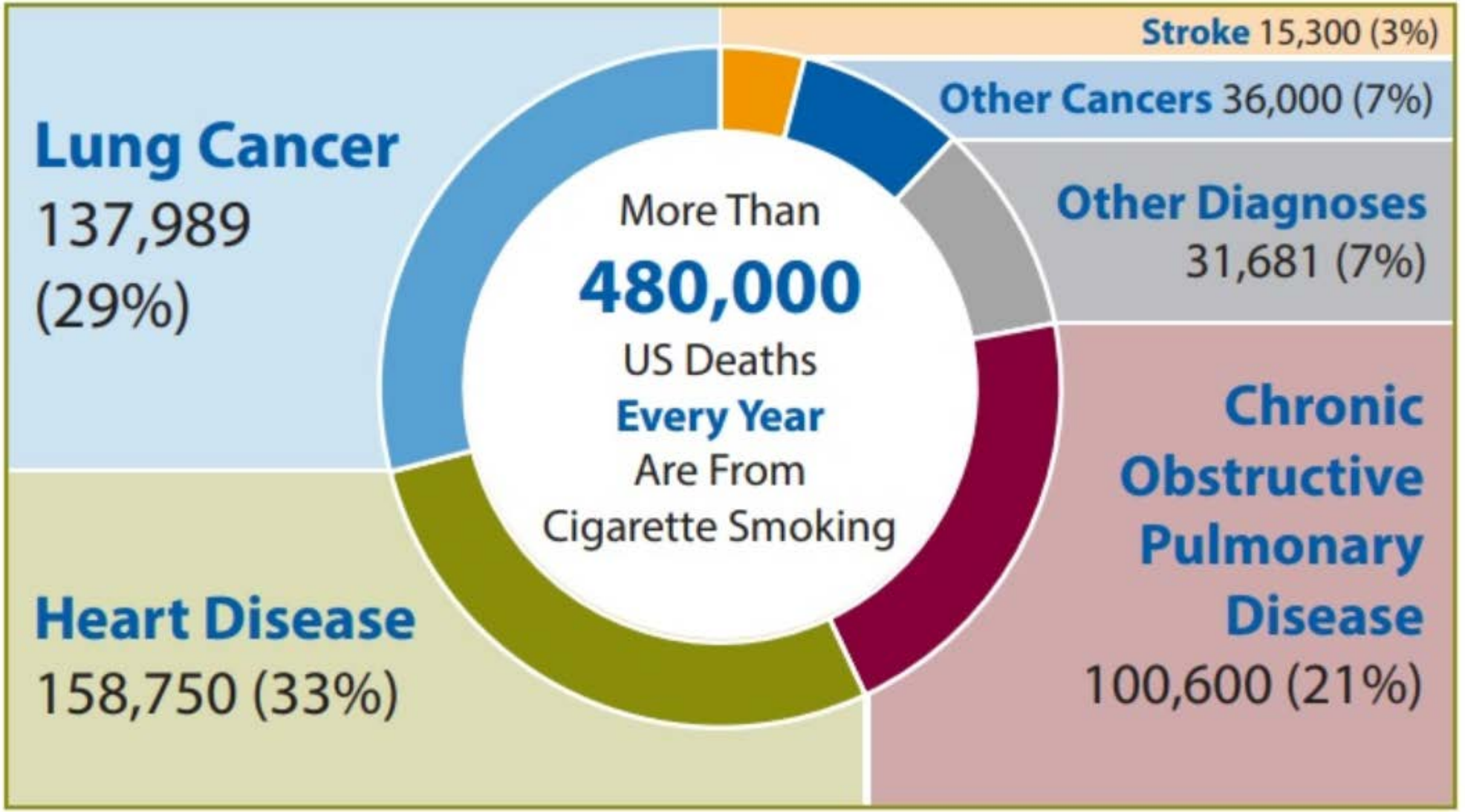
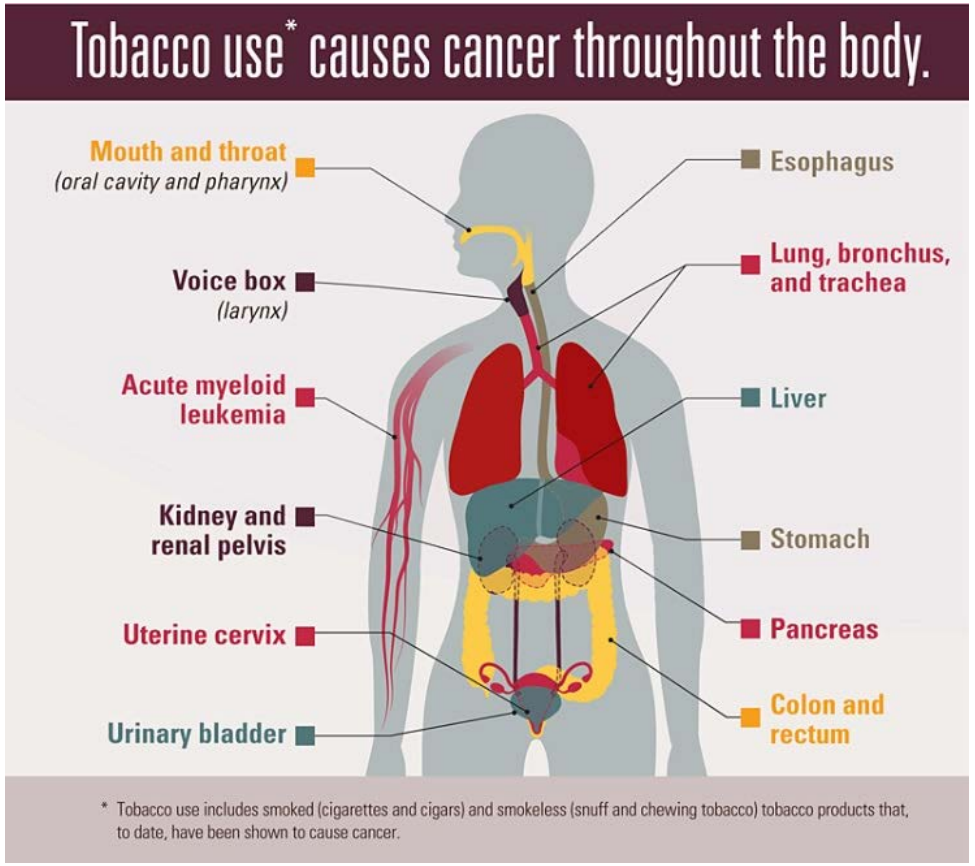
Annual Deaths from Smoking, United States



Note: Average annual number of deaths for adults aged 35 or older, 2005–2009.
Source: 2014 Surgeon General's Report, Table 12.4, page 660.

Cancers Causally Linked to Smoking

- Tobacco Products cause about **9** of every **10** cases of lung cancer
- Lung cancer is the **leading cause of cancer death** in both men and women in Maryland
- **27.3%** of Maryland cancer deaths are attributable to smoking



Sources: https://www.cdc.gov/cancer/tobacco/index.htm; Maryland Cancer Report (2018): Cigarette Restitution Fund Program. Cancer Prevention, Education, Screening and Treatment Program

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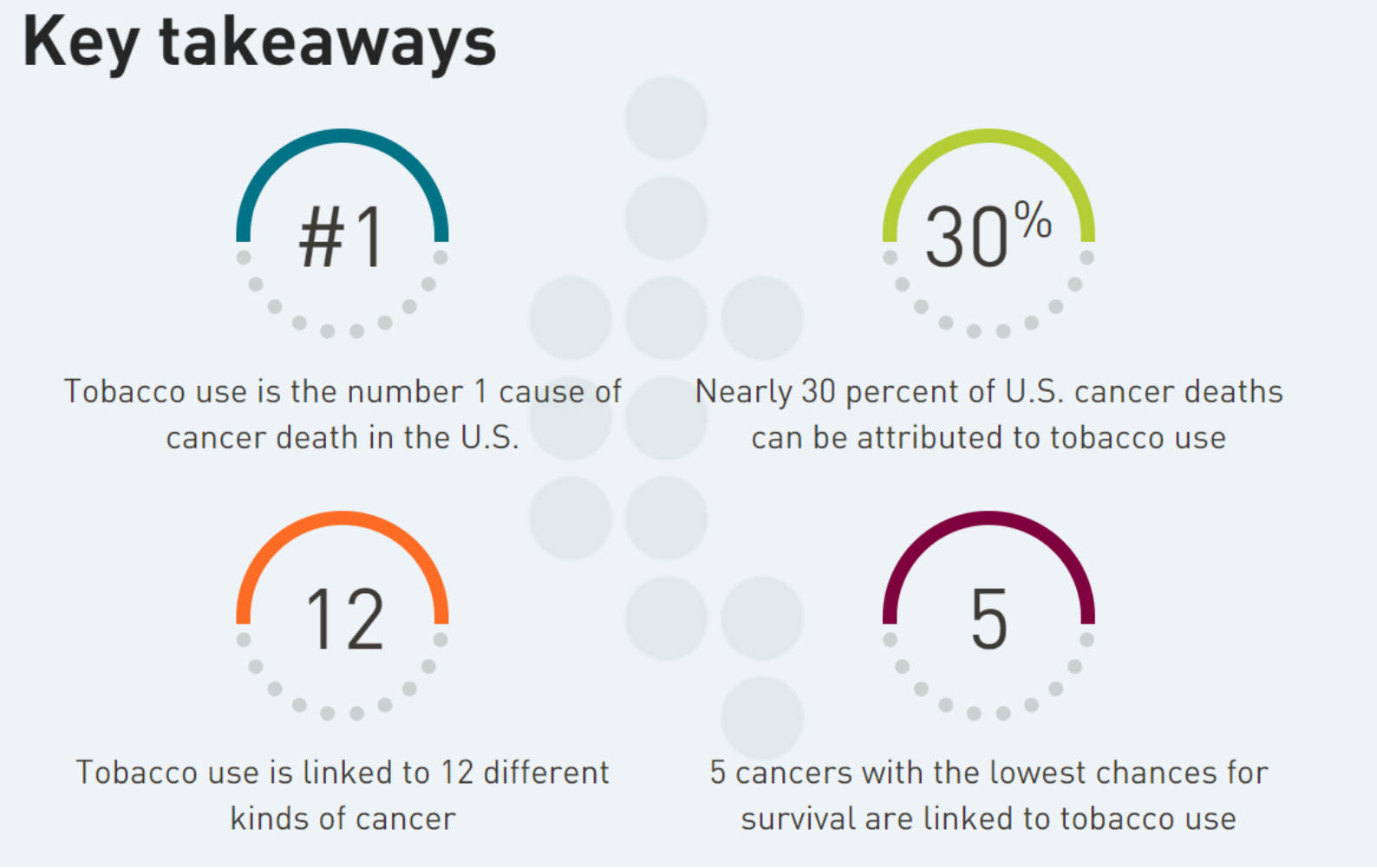
truth initiative: Tobacco and Cancer



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https://phpa.health.maryland.gov/OEHFP/EH/Pages/VapingIllness.aspx

In the News

E-cigarette and Vaping-Related Lung injury (EVALI)

Maryland DEPARTMENT OF HEALTH

Vaping-Associated Lung Injury: Background

- July of 2019 – Wisconsin and Illinois Departments of Public Health report first cases of severe lung illness associated with e-cigarettes
- 08/16/2019 Maryland initiates search for cases of e-cigarette or vaping-associated lung illness
  - Clinician Letter asking for case reports
  - Health officer memo, outlining case-reporting process
  - Reporting mechanism through MD Poison Center
- First case identified 08/20/2019

Vaping-Associated Lung Injury: Press Releases and Announcements

MARYLAND Department of Hea

Larry Hogan, Governor · Boyd K. Ruther

Aug. 28, 2019

Media Contact
Deidre McCabe, Director, Office of Communications,410-767-3536 or
Maureen Regan, Deputy Director, Office of Communications, 410-767-8649

Maryland Department of Health investigating cases of people using e-cigarettes

Baltimore, MD – The Maryland Department of Health (MDH) and the Maryland
Maryland School of Pharmacy have identified five individuals who in the last two
illness after using e-cigarettes, often referred to as "vaping."

Respiratory symptoms reported by patients included shortness of breath, pain as
Other symptoms reported included fever, nausea, vomiting and diarrhea. The case
cause and all required hospitalization.

To date, none of the cases in Maryland have been fatal. These cases are part of the nearly 200 reported incidents of vaping-related illness in 22 states, resulting in at least one death.

The cause of these illnesses is not yet known and has not been linked to any particular device, substance or brand.

People who became ill reported using a variety of vaping products, including those containing marijuana, THC, and nicotine.

Maryland
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Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall,

October 3, 2019

Media Contact:
Deidre McCabe, Director, Office of Communications, 410-767-35
Maureen Regan, Deputy Director, Office of Communications, 410

Maryland Secretary of Health issues clinical rep illness investigation continues

October 1, 2019

Media Contact:
Maureen Regan, Deputy Director, Office of Communications, 410-767-8649

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Balt whic heal publi devices caused peopl

While the investigation continues, MDH recommends refraining from the use of all e-cigarette or vaping products.

Effective today, Maryland's new Tobacco 21 law aims to curb tobacco and electronic smoking device use in youth and young adults by raising the legal sale age of these products from 18 to 21 years of age. While the investigation continues, MDH recommends refraining from the use of all e-cigarette or vaping products. Cannabis or "THC" vape-products that are obtained off the street may pose the greatest risk.

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Larry Hogan, Governor · Boyd K. Rutherford, Lt. Governor · Robert R. Neall, Secretary

MMCC MARYLAND MEDICAL CANNABIS COMMISSION

October 9, 2019

On October 4th, the U.S. Food and Drug Administration (FDA) issued a warning to the public not to use vaping or e-cigarette products containing THC. Based on this warning, **the Maryland Department of Health (MDH) is today urging all cannabis dispensaries licensed under the Maryland Medical Cannabis Commission to notify consumers of this FDA advisory and discourage the use of vaping products.**

Consumers should be provided with the following information:

1. **The FDA is warning the public: do not use vaping products containing THC.** More than 1,000 individuals nationwide have developed severe lung injuries after vaping, including at least 23 cases in Maryland. The strongest risk factor identified to date is vaping pre-filled cartridges of cannabis-derived products like THC.
2. **MDH urges medical cannabis consumers to talk to their health care providers about alternatives to vaping THC.** Consumers should discuss alternatives that meet their medical needs. MDH also advises against smoking THC products.
3. **Vaping anything is never safe for adolescents, or for pregnant or breastfeeding women.**
4. **No single product or substance has been linked to all lung injury cases.** While the biggest risk for injury appears to be from THC products not obtained from a licensed dispensary, there are reports in other states of lung injury associated with legally obtained THC products. Vaping products that include nicotine, CBD, and/or other oils and substances have also been linked to injuries.
5. **If you vape cannabis or nicotine products and have shortness of breath or other signs of illness, seek medical attention immediately and tell your provider you have been vaping.**

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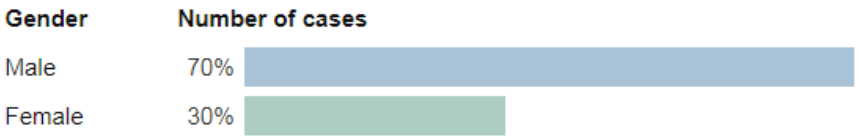
CDC Update and Epidemiology

Seventy percent of those who became ill were male:



2,051* cases of e-cigarette, or vaping, product use associated lung injury (EVALI) have been reported to CDC

Cases have been reported from 49 states (all except Alaska), the District of Columbia, and 1 U.S. territory.

39 deaths have been confirmed in 24 states.

Median age of deceased patients was 53 years and ranged from 17 to 75 years.

46 confirmed/ probable cases in Maryland to date.

Approximately **79 percent** of patients are under 35 years old.

The latest findings suggest products containing THC play a role in the outbreak.

FDA is conducting broad-spectrum testing for contaminants.

- Unclear of the specific cause(s) of illness

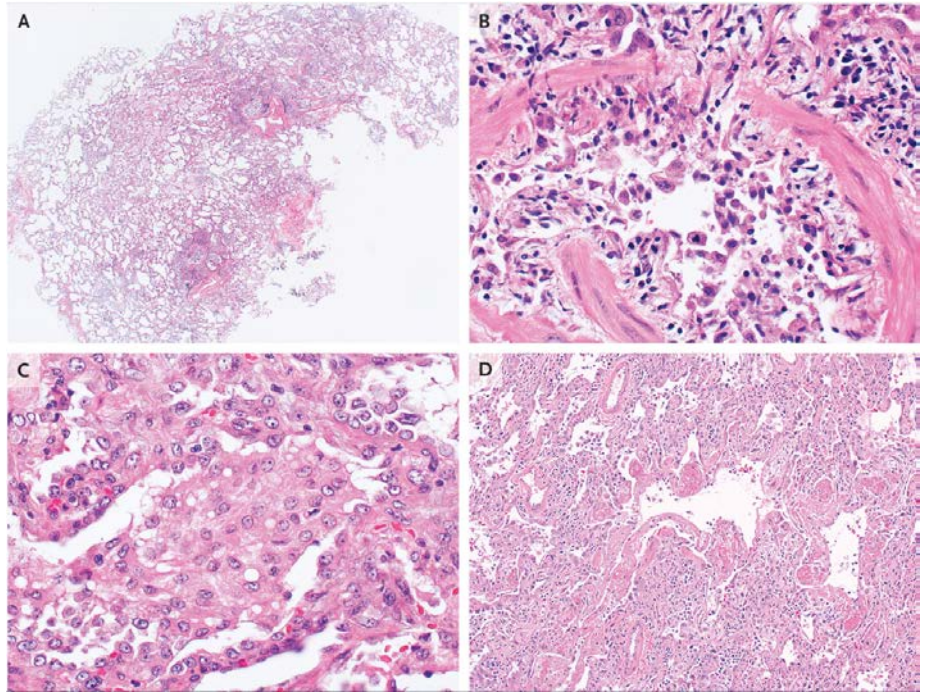
*The current number includes only confirmed and probable cases reported by states to CDC after classification, as of November 5, 2019.

A note from the CDC:

- E-cigarette, or vaping, products should never be used by youths, young adults, or women who are pregnant.
- Adults who do not currently use tobacco products should not start using e-cigarette, or vaping, products. There is no safe tobacco product. All tobacco products, including e-cigarettes, carry a risk.

Source: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html; https://www.nytimes.com/2019/10/02/health/vaping-illnesses.html

Lung Damage from Vaping Resembles Chemical Burns



- Lung biopsies conducted of 17 patients nationwide who had vaped and were suspected to have vaping-associated lung injury.
- All showed acute lung injury, including pneumonitis, and two of the patients died.

"All 17 of our cases show a pattern of injury in the lung that looks like a toxic chemical exposure, a toxic chemical fume exposure, or a chemical burn injury."

"To be honest, they look like the kind of change you would expect to see in an unfortunate worker in an industrial accident where a big barrel of toxic chemicals spills, and that person is exposed to toxic fumes and there is a chemical burn in the airways."

– Brandon Larsen, M.D.
Surgical Pathologist

Source: https://www.nejm.org/doi/full/10.1056/NEJMc1913069; https://www.nytimes.com/2019/10/02/health/vaping-illnesses.html

Investigators Find Clue to Mysterious Vaping Injuries

Vitamin E oil was detected in all 29 samples taken from vaping patients tested by the CDC

- Vitamin E oil (acetate) found in fluid in lungs of all 29 patients from ten states (including Maryland)
- "Potential toxin of concern", not enough to be labeled a "cause"
- Could still be more than one culprit.
- THC found in 23 samples (82%); nicotine in 16 (63%)

THE WALL STREET JOURNAL.
November 8, 2019

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 68
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Evaluation of Bronchoalveolar Lavage Fluid from Patients in an Outbreak of E-cigarette, or Vaping, Product Use–Associated Lung Injury — 10 States, August–October 2019

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CDC, the Food and Drug Administration (FDA), state and local health departments, and multiple public health and clinical partners are investigating a national outbreak of e-cigarette, or vaping, product use–associated lung injury (EVALI). Based on data collected as of October 15, 2019, 86% of 867 EVALI patients reported using tetrahydrocannabinol (THC)-containing products in the 3 months preceding symptom onset (*1*). Analyses of THC-containing product samples by FDA and state public health laboratories have identified potentially harmful constituents in these products, such as vitamin E acetate, medium chain triglyceride oil (MCT oil), and other lipids (*2*,*3*) (personal communication, D.T. Heitkemper, FDA Forensic Chemistry Center, November 2019). Vitamin E acetate, in particular, might be used as an additive in the production of e-cigarette, or vaping, products; it also can be used as a thickening agent in THC products (*4*). Inhalation of vitamin E acetate might impair lung function (*5*–*7*).

Bronchoscopy and bronchoalveolar lavage[†] (BAL) can be part of the clinical and diagnostic workup of EVALI patients. The decision to perform this procedure is made by the clinical team on a case-by-case basis (*8*). During August–October 2019, BAL fluid specimens were collected by clinical teams caring for hospitalized EVALI patients. Public health laboratories and health departments from 10 states (California, Connecticut, Hawaii, Illinois, Maryland, Michigan, Minnesota, Texas, Utah, and Wisconsin) coordinated the submission of residual BAL fluid specimens from 29 patients to CDC.

To better characterize exposure among EVALI patients, CDC developed and validated isotope dilution mass spectrometry methods to analyze specific toxicants of concern and active compounds in case-associated BAL fluid.[§] These CDC analytic methods can identify vitamin E acetate, MCT oil (medium chain triglycerides), plant oils (long chain triglycerides), petroleum distillates (including mineral oil), diluent terpenes, cannabinoids, and nicotine in BAL fluid. The quality of case-associated BAL specimens was assessed by measuring dipalmitoylphosphatidylcholine (DPPC), the principal phospholipid in naturally-occurring lung surfactant: the presence of acceptable levels of DPPC confirms that the lavage procedure recovered adequate pulmonary epithelial fluid. When specimen volume was insufficient to perform all planned analyses, analysis of vitamin E acetate and cannabinoids was prioritized. Among the 27 BAL fluid specimens with sufficient volume for testing, all had measurable levels of DPPC. Overall, 21 (72%) patients with available specimens were male, and their median age was 23 years (range = 16–67 years), which is consistent with the sex and age patterns of EVALI patients reported to CDC to date (*1*). Two of the patients died.

Vitamin E acetate was detected in all 29 patient BAL samples. Among 23 patients for whom self-reported THC use information was available, 20 reported using THC-containing products. THC or its metabolites were detected in 23 of 28 patient

[*] These two authors contributed equally.
[†] Bronchoalveolar lavage, performed in the evaluation of lung disease, involves instillation of sterile saline into a subsegment of the lung, followed by suction and collection of the fluid for analysis.
[§] CDC has not yet published these validated isotope dilution mass spectrometry methods.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

MMWR: November 8, 2019: Risk Factors for E-Cigarette, or Vaping, Product Use–Associated Lung Injury (EVALI) Among Adults Who Use E-Cigarette, or Vaping, Products — Illinois, July–October 2019

What is already known about this topic?

Most U.S. patients with EVALI report using **THC-containing** vaping products. Product use behaviors that increase risk for EVALI are unknown.

What is added by this report?

Compared with survey respondents aged 18–44 years reporting using of THC-containing products, EVALI patients aged 18–44 years had higher odds of reporting **exclusive and frequent use** of THC-containing products and obtaining these products from **informal sources**, such as a dealer, off the street, or from a friend, and of using *Dank Vapes*, a class of largely counterfeit THC-containing products.

What are the implications for public health practice?

CDC recommends not using THC-containing e-cigarette, or vaping, products, or any e-cigarette, or vaping, products obtained from informal sources.

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 68
November 8, 2019

Risk Factors for E-Cigarette, or Vaping, Product Use–Associated Lung Injury (EVALI) Among Adults Who Use E-Cigarette, or Vaping, Products — Illinois, July–October 2019

Livia Navon, MS[1,2]; Christopher M. Jones, PharmD, DrPH[3]; Isaac Ghinai, MBBS[1,4]; Brian A. King, PhD[5]; Peter A. Briss, MD[5]; Karen A. Hacker, MD[5]; Jennifer E. Layden, MD, PhD[1]

The United States is experiencing an unprecedented outbreak of e-cigarette, or vaping, product use–associated lung injury (EVALI) (*1*). All EVALI patients have used e-cigarette, or vaping, products, and most (≥85%) have reported using products containing tetrahydrocannabinol (THC) (*2*,*3*), the principal psychoactive component of cannabis. To examine whether e-cigarette, or vaping, product use behaviors differed between adult EVALI patients and adults who use these products but have not developed lung injury, the Illinois Department of Public Health (IDPH) conducted an online public survey during September–October 2019 targeting e-cigarette, or vaping, product users in Illinois. Among 4,631 survey respondents, 94% reported using any nicotine-containing e-cigarette, or vaping, products in the past 3 months; 21% used any THC-containing products; and 11% used both THC-containing products and nicotine-containing products. Prevalence of THC-containing product use was highest among survey respondents aged 18–24 years (36%) and decreased with increasing age. E-cigarette, or vaping, product use behaviors of 66 EVALI patients aged 18–44 years who were interviewed as part of the ongoing outbreak investigation were compared with a subset of 519 survey respondents aged 18–44 years who reported use of THC-containing e-cigarette, or vaping, products. Compared with these survey respondents, EVALI patients had higher odds of reporting exclusive use of THC-containing products (adjusted odds ratio [aOR] = 2.0, 95% confidence interval [CI] = 1.1–3.6); frequent use (more than five times per day) of these products (aOR = 3.1, 95% CI = 1.6–6.0), and obtaining these products from informal sources, such as a dealer, off the street, or from a friend (aOR = 9.2, 95% CI = 2.2–39.4). The odds of using Dank Vapes, a class of largely counterfeit THC-containing products, was also higher among EVALI patients (aOR = 8.5, 95% CI = 3.8–19.0). These findings reinforce current recommendations not to use e-cigarette, or vaping, products that contain THC and not to use any e-cigarette, or vaping, products obtained from informal sources. In addition, because the specific compound or ingredient causing lung injury is not yet known, CDC continues to recommend that persons consider refraining from use of all e-cigarette, or vaping, products while the outbreak investigation continues (*1*).

IDPH developed an online public survey targeting Illinois adults who use e-cigarette, or vaping, products based on the structured questionnaire developed by IDPH and administered to EVALI patients as part of the ongoing outbreak investigation. The public survey included questions about the types of e-cigarette, or vaping, products survey respondents used in the past 3 months, where these products were obtained, combustible cigarette and marijuana use, and any reported illness associated with e-cigarette, or vaping, product use. The public survey link was posted on the IDPH website during September 17–October 8, 2019 and was publicized through the media, posted on IDPH social media accounts, and promoted by local health departments (*4*). Because of an IDPH Institutional Review Board determination, the survey was restricted to persons aged ≥18 years.

To compare survey respondents with EVALI patients, a subset of respondents with similar characteristics to those of EVALI patients was selected. Data were available for 137 EVALI patients reported to IDPH; 15% (20 of 137) were aged

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Vaping-Associated Lung Injury: Policy Response

Health

Michigan becomes first state to ban flavored e-cigarettes

The Washington Post — Democracy Dies in Darkness

September 4, 2019

"My number one priority is keeping our kids safe and protecting the health of the people of Michigan."
Michigan Governor Gretchen Whitmer

Included in the ban: Sweet flavors, such as bubble gum and "fruit loops", as well as mint and menthol flavors. It does not cover tobacco-flavored e-cigarettes.

The ban, which covers both retail and online sales, will go into effect as soon as the health department issues rules, sometime in the next 30 days.

It will last for six months, and can be renewed for another six months.

HEALTH npr

New York Set To Join Michigan In Banning Some Electronic Cigarettes

September 16, 2019 · 1:23 AM ET

"Vaping is dangerous. At a minimum, it is addicting young people to nicotine at a very early age."
New York Governor Andrew Cuomo

Included in the ban: All flavors except menthol and tobacco-flavored e-cigarettes.

FDA NEWS RELEASE

Trump Administration Combating Epidemic of Youth E-Cigarette Use with Plan to Clear Market of Unauthorized, Non-Tobacco-Flavored E-Cigarette Products

FDA compliance policy would prioritize enforcement of premarket authorization requirements for non-tobacco-flavored e-cigarettes

FDA In Brief: FDA notifies Eonsmoke LLC to remove nearly 100 flavored electronic nicotine delivery system products from the market for not having required marketing authorization, among other violations

Maryland DEPARTMENT OF HEALTH

Source: https://www.fda.gov/news-events/press-announcements/trump-administration-combating-epidemic-youth-e-cigarette-use-plan-clear-market-unauthorized-non; https://www.cnbc.com/2019/09/11/trump-to-consider-e-cigarette-policy-amid-outbreak-of-lung-disease.html

Source: https://www.npr.org/2019/09/16/761098173/new-york-set-to-join-michigan-in-banning-e-cigarettes; https://www.washingtonpost.com/health/michigan-becomes-first-state-to-ban-flavored-e-cigarettes/2019/09/03/34f234c6-ce4c-11e9-8c1c-7c8ee785b855_story.html

Vaping-Associated Lung Injury: JUUL Response

JUULpod 4-Pack: Flavor Multipack

$15.99

Four flavors in one JUULpod pack: Cool Mint, Virginia Tobacco, Creme Brulee and Fruit Medley.

QTY

ADD TO CART

NEWS Oct. 17, 2019, 1:14 PM EDT

Juul has stopped selling all fruity flavors

The company previously pulled kid-friendly flavors from stores.

Our JUUL Flavor Multipack contains one JUULpod each of Virginia Tobacco, Mint, Mango, and Creme.

Each pack contains 4 pods.

$15.99

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HEALTH AND SCIENCE

E-cigarette giant Juul suspends sales of all fruity flavors ahead of looming US ban

PUBLISHED THU, OCT 17 2019•1:00 PM EDT | UPDATED THU, OCT 17 2019•5:09 PM EDT

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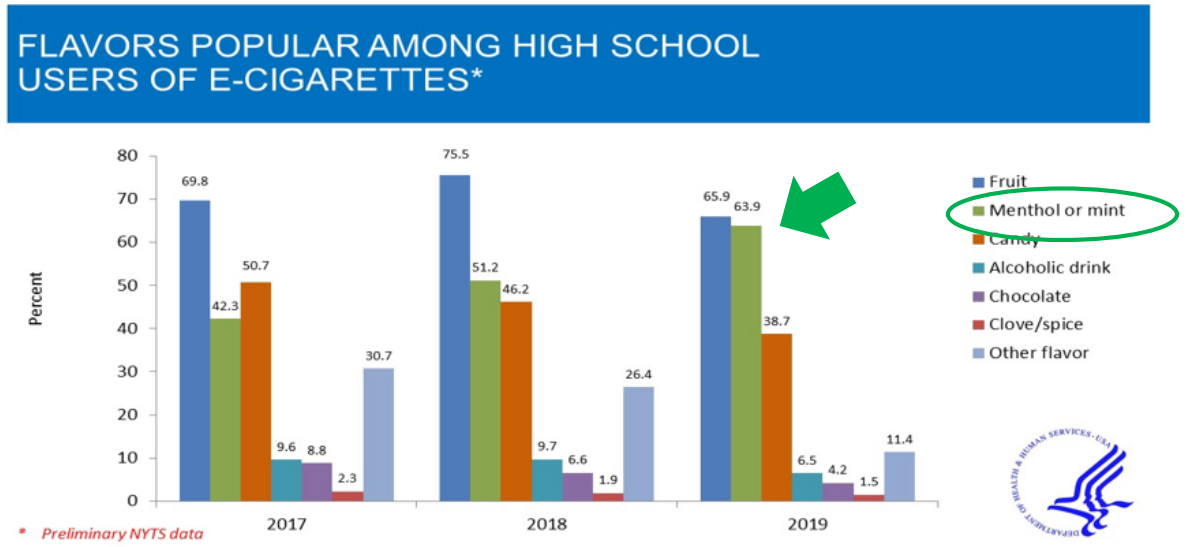
SHARE

KEY POINTS

- Juul says it will stop selling its fruit-flavored e-cigarettes.
- Juul will continue selling its mint, menthol and tobacco flavors.
- The Trump administration is readying a ban on flavored e-cigarettes amid a teen vaping epidemic.

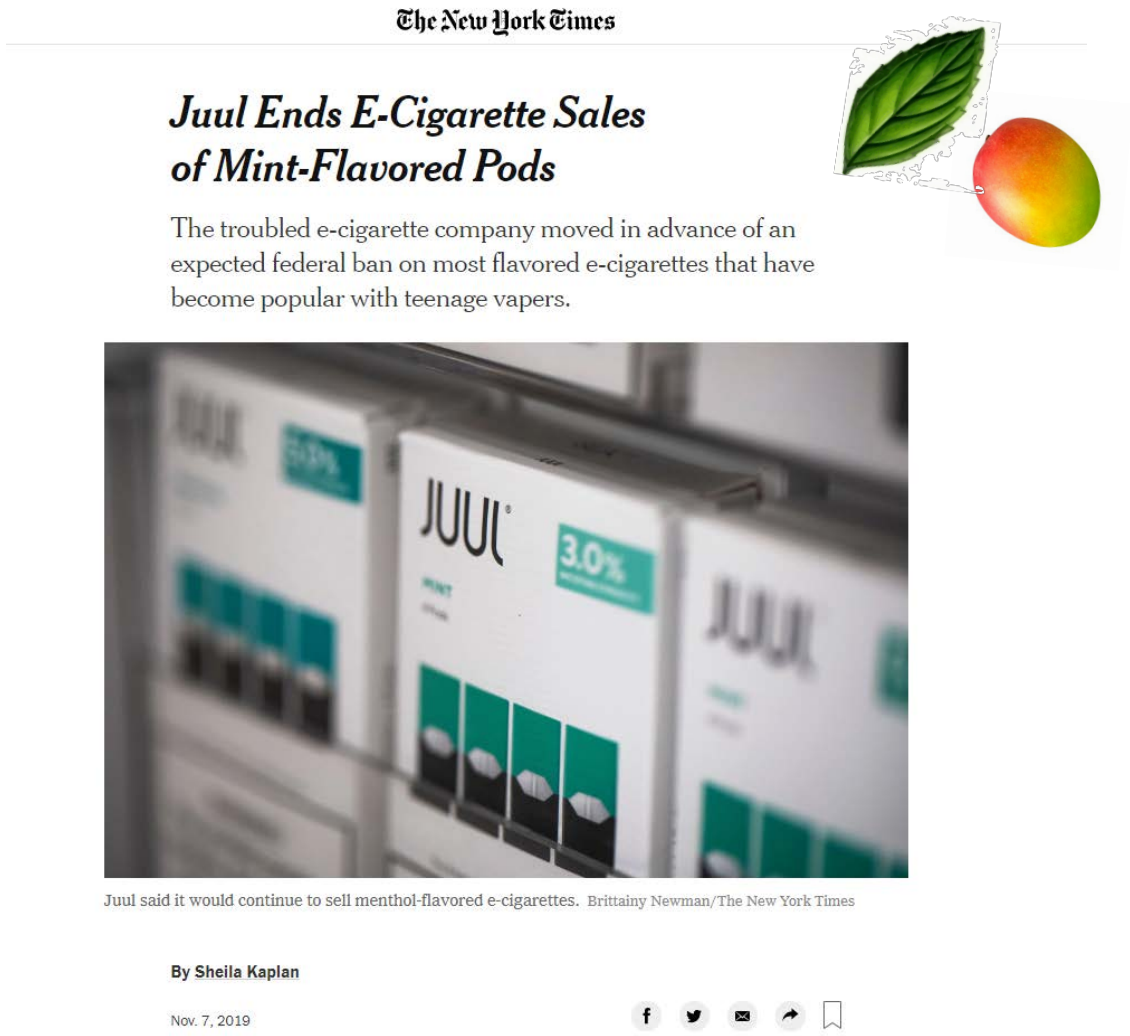
National Data on Youth Use of Tobacco Products



Maryland DEPARTMENT OF HEALTH

Vaping-Associated Lung Injury: JUUL Response

- National Institute on Drug Abuse (NIDA) Study released 11/5/19 found that teenagers preferred mint and mango Juul flavors.
- 8th graders were most likely to use mango, mint and fruit.
- High school youth preferred mint, followed by mango.



The New York Times

Juul Ends E-Cigarette Sales of Mint-Flavored Pods

The troubled e-cigarette company moved in advance of an expected federal ban on most flavored e-cigarettes that have become popular with teenage vapers.

Juul said it would continue to sell menthol-flavored e-cigarettes. Brittainy Newman/The New York Times

By Sheila Kaplan

Nov. 7, 2019

Questions

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Maryland
DEPARTMENT OF HEALTH