

Electronic Nicotine Delivery Systems (ENDS) and Youth Vaping: What Providers Need to Know



National Behavioral Health Network
For Tobacco & Cancer Control

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Thursday, November 12
3:00 – 4:00 PM EDT

NATIONAL COUNCIL
FOR BEHAVIORAL HEALTH
STATE ASSOCIATIONS OF ADDICTION SERVICES
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Welcome!



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Today's Featured Speakers



Tamanna Patel, MPH
Director, Practice Improvement
National Council for Behavioral Health



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Science Center for Tobacco Products, U.S. Food
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Administration



Housekeeping

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- Presentation slides, handouts, recording and transcription will be posted here:
 - <https://www.bhthechange.org/resources/resource-type/archived-webinars/>



National Behavioral Health Network

For Tobacco & Cancer Control

- Jointly funded by CDC's *Office on Smoking & Health & Division of Cancer Prevention & Control*
- Provides resources and tools to help organizations reduce tobacco use and cancer among people with mental illness and addictions
- 1 of 8 CDC National Networks to eliminate cancer and tobacco disparities in priority populations

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Electronic Nicotine Delivery Systems (ENDS) and Young People Resource Guide



Link available in chatbox and in post-webinar follow-up email

Electronic Nicotine Delivery Systems (ENDS) and Youth Vaping: What Providers Need to Know



Tamanna Patel, MPH
Director, Practice Improvement
National Council for Behavioral Health



Tobacco and Behavioral Health

- While individuals with **behavioral health conditions** account for almost **40%** of all traditional cigarettes smoked by adults, they are also a **significantly vulnerable** group for high e-cigarette use. [1,2]
- Studies have shown:
 - people living with behavioral health conditions, like depression and anxiety, are **twice as likely to have tried e-cigarettes** and **three times as likely** to be users of battery-powered electronic nicotine delivery devices. [3]
 - individuals with mental illness often **combine e-cigarettes with** concurrent use of traditional **combustible cigarettes** which make them more at risk for nicotine addiction and susceptible to the effects of traditional tobacco. [4,5]



COVID-19 & Youth Vaping:

🔗 A national online survey among those 13-24 years old was conducted in May 2020 [11]

🔗 Findings:

> COVID-19 diagnosis was

- five times more likely among ever-users of e-cigarettes only
- seven times more likely among ever-dual-users (cigarette and e-cigarette)
- and 6.8 times more likely among past 30-day dual-users

🔗 Heightened exposure to nicotine and other chemicals in e-cigarettes adversely affects lung function, with studies showing that lung damage caused by e-cigarettes is comparable to combustible cigarette



Recommendations on Addressing ENDS Use Among Youth



- ✓ Adapting screening tools such as Screening to Brief Intervention and Brief Scanner for Tobacco, Alcohol and Other Drugs to inquire about ENDS use
 - ✓ See Resource Guide for :
https://www.ysbirt.org/wp-content/uploads/2019/10/102119_NCBH_SBIRT_Final.pdf
- ✓ Counseling using 5As
- ✓ Pharmacotherapy
 - ✓ NRT, patch, gum
- ✓ Engage in conversations about the risks of ENDS use with youth and their support systems
- ✓ Partner with key youth-serving stakeholders to expand reach and impact on preventing ENDS use and cessation



Sources

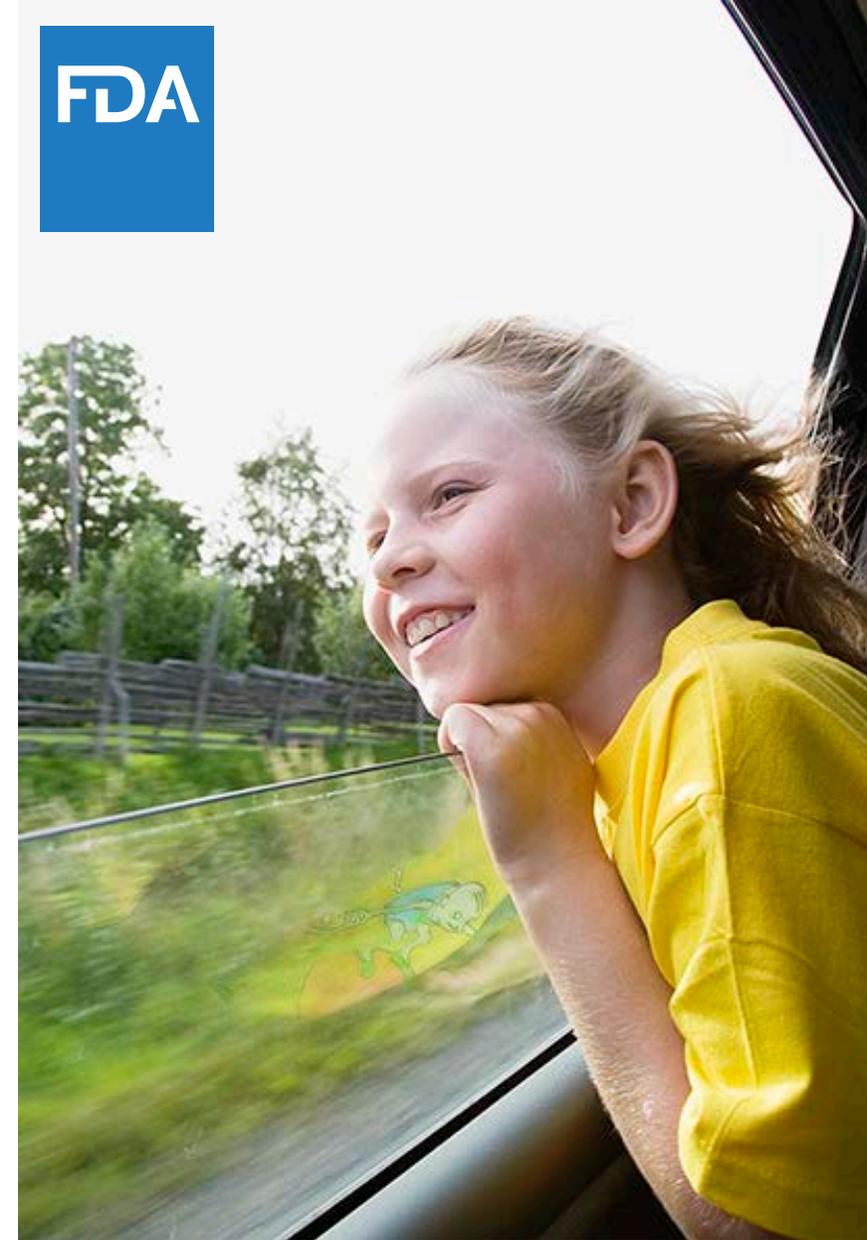
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- 🌀 [2] Centers for Disease Control and Prevention. Vital Signs: Current Cigarette Smoking Among Adults Aged ≥18 Years With Mental Illness—United States, 2009–2011. *Morbidity and Mortality Weekly Report* 2013;62(05):81-7.
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- 🌀 [7] https://www.cdc.gov/tobacco/data_statistics/fact_sheets/youth_data/tobacco_use/index.htm
- 🌀 [8] Hall SM, Prochaska JJ. Treatment of smokers with co-occurring disorders: Emphasis on integration in mental health and addiction treatment settings. *Annu Rev Clin Psychol.* 2009; 5:409-31.
- 🌀 [9] <https://truthinitiative.org/research-resources/emerging-tobacco-products/e-cigarettes-facts-stats-and-regulations>
- 🌀 [10] https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/OSH-E-Cigarettes-and-Youth-What-HCPs-Need-to-Know-508.pdf
- 🌀 [11] Gaiha, S., et al. Association Between Youth Smoking, Electronic Cigarette Use and COVID-19. *Journal of Adolescent Health.* 2020. <https://doi.org/10.1016/j.jadohealth.2020.07.002>

FDA

NATIONAL BEHAVIORAL HEALTH NETWORK YOUTH ENDS USE AND BEHAVIORAL HEALTH

*Presented by
Priscilla Callahan-Lyon, MD
Director
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Office of Science, Center for Tobacco Products*

Disclaimer: This is not a formal dissemination of information by FDA and does not represent Agency position or policy.

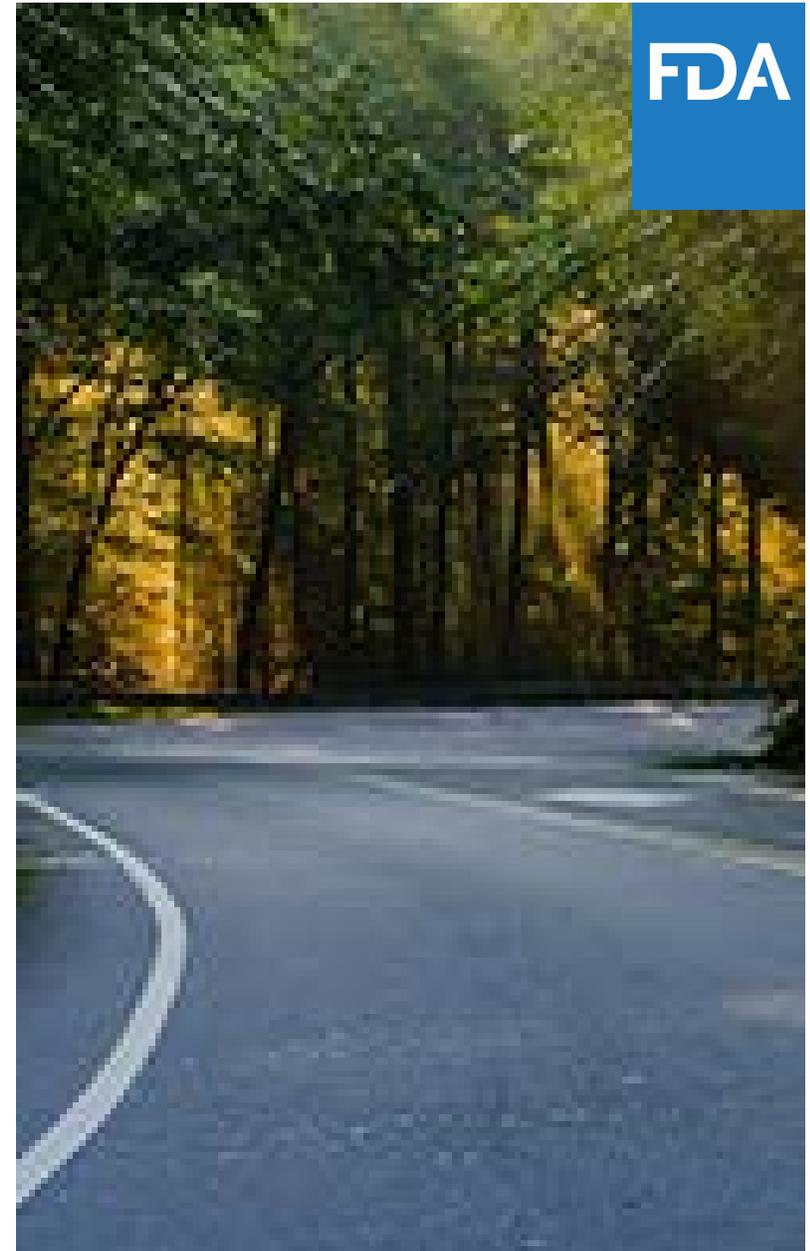


November 2, 2020

CENTER FOR TOBACCO PRODUCTS

AGENDA

- What are E-cigarettes
- How significant is the youth e-cigarette problem
- Nicotine and the adolescent brain
- Health Risks of e-cigarettes
- What is FDA doing – overview of the regulatory approach





WHAT ARE E-CIGARETTES?



E-CIGARETTES*: A BRIEF OVERVIEW

- Available in China ~ 2003
- Introduced into the U.S. ~ 2007
- Manufactured by large and small tobacco companies
- Generally a battery operated product designed to heat a liquid (referred to as “e-juice” or “e-liquid”) into an aerosol that is inhaled by the user
- The e-liquid may contain propylene glycol, glycerin, flavorings, water, and usually nicotine
- Products are diverse in appearance
 - May resemble combusted cigarettes
 - Some are disposable
 - Some are reusable with ‘customizable’ features
 - May be small and easily concealed
- Many users use more than one product type

*E-cigarettes refers to Electronic Nicotine Delivery Systems (ENDS)

BASIC E-CIGARETTE ANATOMY



DIVERSITY OF E-CIGARETTES



HOW BIG IS THE YOUTH E-CIGARETTE PROBLEM?

THE SCOPE OF THE PROBLEM



2020 National Youth Tobacco Survey Data¹

- 19.6% high school students (3.02 million) and 4.7% middle school students (550,000) reported current e-cig use
- Among current users
 - 38.9% of high school students and 20% of middle school student used on 20 or more of the past 30 days
 - 82.9% used flavored e-cigarettes
 - High school users most commonly used prefilled pods or cartridges (48.5%), followed by disposables (26.5%) and tanks (14.8%)
 - Middle school users most commonly used prefilled pods or cartridges (41.3%), followed by tanks (21.5%) and disposables (15.2%)
- The most popular flavors (among those using prefilled pods or cartridges or flavored disposables) were fruit, mint, candy/dessert/sweets, and menthol

¹. [MMWR Sept 18, 2020 Vol 69 No 37](#)

WE HAVE MADE SOME PROGRESS

Decrease in youth use compared with 2019 data

2019: 27.5% of high school students 2020: 19.6% of high school students

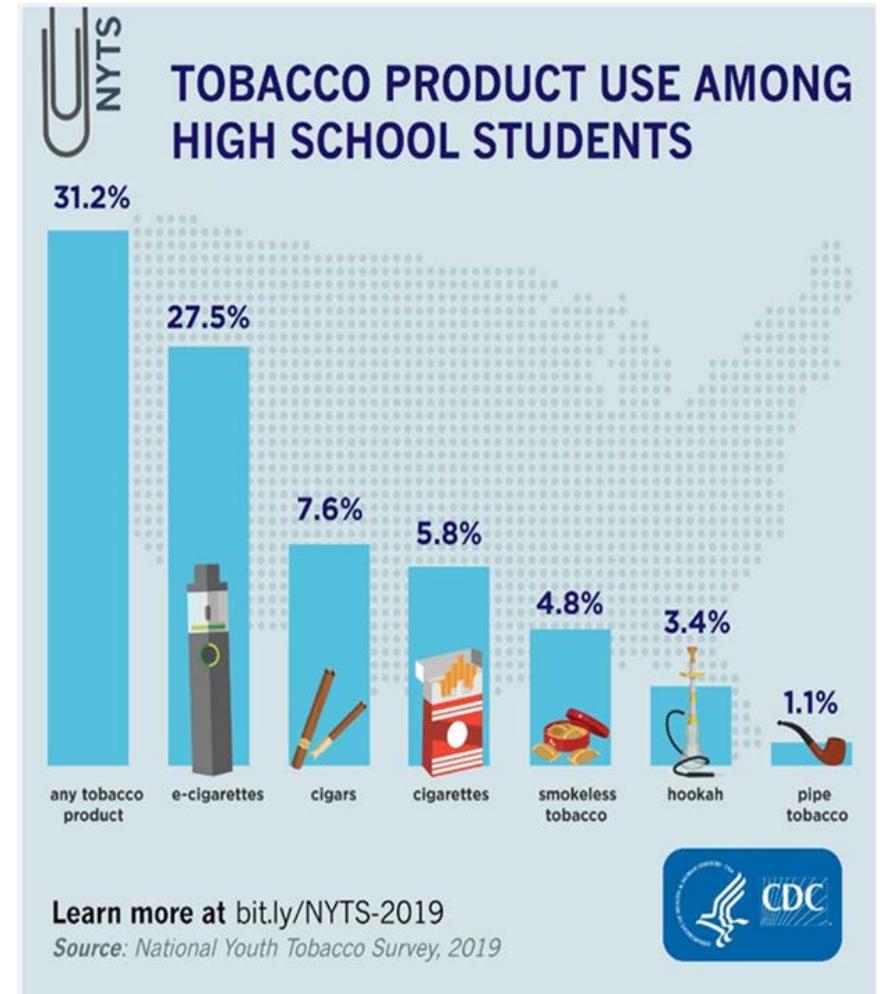
2019: 10.5% of middle school students 2020: 4.7% of middle school students



BUT....

National Youth Tobacco Survey (NYTS) – 2019

- Since 2014, e-cigarette use has surpassed cigarette smoking in high school students
- Students reporting there is ‘little or no harm’ for intermittent tobacco product use
- 57.8% of current youth tobacco product users report they are seriously thinking of quitting use of all tobacco products



PLUS – WE KNOW YOUTH LIKE FLAVORED PRODUCTS



- 2020 NYTS data confirms youth strongly prefer flavored products
- Among high-schoolers who use any type of flavored e-cigarettes
 - Fruit: 73.1%
 - Mint: 55.8%
 - Menthol: 37%
 - Candy, Desserts, Other Sweets: 36.4%
- Among middle-schoolers who use any type of flavored e-cigarettes
 - Fruit: 75.6%
 - Candy, Desserts, Other Sweets: 47.2%
 - Mint: 46.5%
 - Menthol: 23.5%

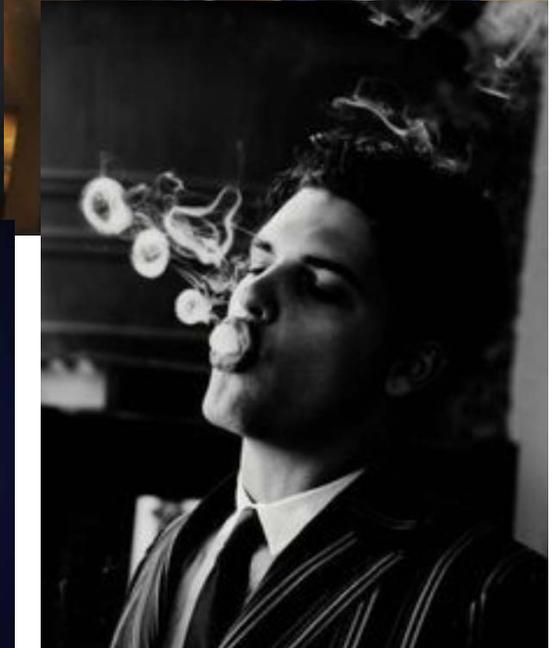
AND DON'T FORGET THE SOCIAL INFLUENCES



Unlock helpful tools and endless ideas with a free account

Get started

wake2vape.tumblr.com

An advertisement featuring a close-up of a man's face looking upwards. A glowing, golden ring is positioned in the foreground, partially obscuring his face. The background is dark.



NICOTINE AND THE ADOLESCENT BRAIN



HEALTH IMPACTS OF NICOTINE

- The primary addictive substance in tobacco
 - 87% of adult smokers stated smoking before age 18
 - Half of adult smokers were addicted by age 18
- Readily absorbed through skin or mucous membranes
- When inhaled it reaches the brain within seconds
- Increases heart rate and blood pressure
- Adverse impact on developing brain
- Adverse pregnancy outcomes
- Adverse impact on both male and female reproductive systems



- Adolescents who initiated use at earlier ages are more likely than those initiating at older ages to report symptoms of tobacco dependence¹
- Nicotine exposure can also have long-term effects, including:
 - Decreased attention
 - Increased impulsivity
 - Both may promote the maintenance of tobacco use behavior²
- Surgeon General's 2010 Report noted that symptoms of dependence could result from even limited nicotine exposure during adolescence³
- Youth may be unaware the e-cigarettes contain nicotine⁴

1 - Apelberg et al., 2014

2 - Counotte et al., 2011

3 - U.S. Department of Health and Human Services, 2010

4 – Boykan et al., 2019

Nicotine negatively effects the developing brain

- Nicotine can rewire the brain to crave more nicotine, particularly because adolescent brains are still developing¹
- Nicotine exposure during adolescence may have long-lasting effects such as increased impulsivity and mood disorders^{2, 3}
- Nicotine exposure during adolescence may have long-term effects on parts of the brain responsible for addiction, learning, and memory⁴⁻¹⁰
 - Higher levels of alcohol, tobacco, and marijuana use before age 19 correlated with smaller gray matter volume in parts of the brain involved in emotional processing and cognitive control
- Nicotine exposure during adolescence affects brain functions important for reward processing, which makes it easier for youth to become addicted to nicotine^{11, 12}

1 - USDHHS 2010 2 - USDHHS 2016 3 - England et al. 2017 4 - Ehlinger et al. 2016 5 - McDonald et al. 2007 6 - Smith et al. 2015 7 - Xu et al. 2003

8 - Bergstrom et al. 2010 9 - Adermark et al. 2015 10 - Lee et al. 2015 11 - Trauth et al. 2001 12 - Placzek et al. 2016



**BUT IT'S JUST WATER VAPOR – RIGHT??
WHY ARE WE WORRIED ABOUT YOUTH AND E-CIGARETTES?**

FIRES/OVER-HEATING/EXPLOSION EVENTS

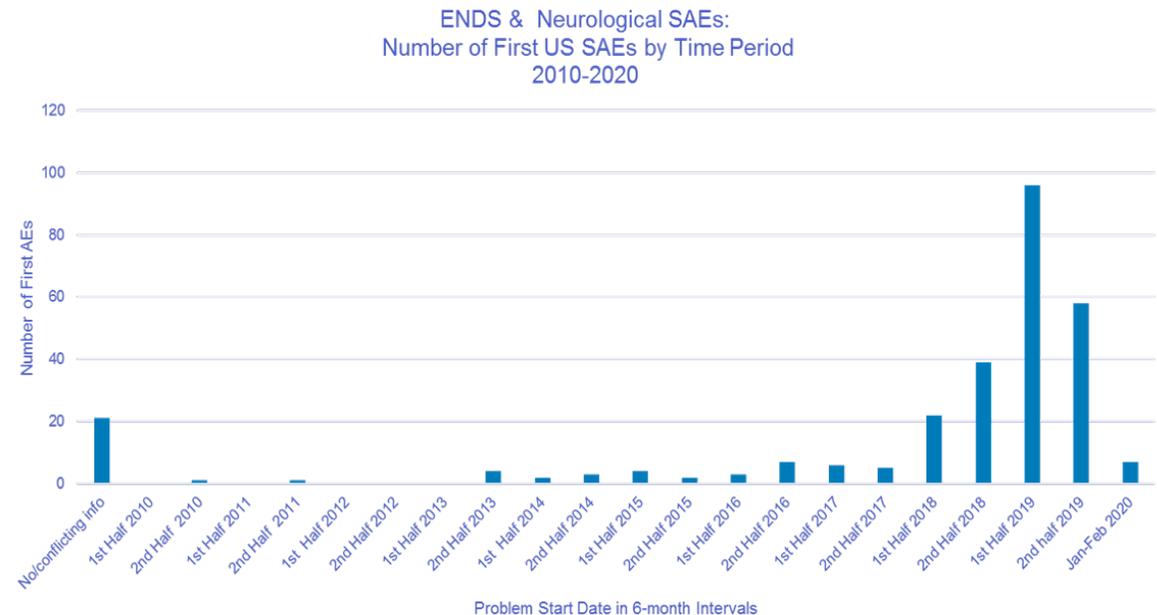
- From 2015 – 2017 battery-related injuries from ENDS led to ~1000 ER visits/year^{1,2}
- FDA received 41 reports to Safety Reporting Portal in 2018 and 25 in 2019
- Rare events but the injuries can be devastating; at least one death³
- Exact causes are not clear
- FDA published [Tips to Help Avoid "Vape" Battery Explosions](#) in Dec 2017
 - Use devices with safety features – and don't disable the features
 - Keep loose batteries in a case; prevent contact with metal such as keys, coins
 - Use the charger that came with your device, not a phone or tablet charger
 - Don't leave the device unattended to charge (e.g., overnight)
 - Don't charge it on a highly flammable surface (e.g., pillow or couch)
 - Use only the recommended batteries for the device and replace damaged batteries
 - Don't expose the device to extreme temperatures (e.g., very hot or very cold car)

1 - CJ Corey et al., (2018) 2 – Rossheim et al (2018) 3 – Rosenberg; Washington Post; May 17, 2018

SEIZURES/NEUROLOGICAL EVENTS

- From June-October 2018: CTP received three case reports of seizure in association with ENDS use*
- An additional 28 cases were identified through information submitted to American Association of Poison Control Centers (AAPCC)
- Due to the number of reports and the potential consequences, the FDA Commissioner made a [public announcement](#) April 3, 2019
 - Within one week, we received 73 reports
 - We know of 274 reports of seizures or neurological symptoms in e-cigarette users between Dec 19, 2010 and Dec 31, 2019
 - We continue to receive reports

* 5-10% of people will have a seizure in their lifetime



Graph created by CTP Tobacco Product Surveillance Team

SEIZURES AND ENDS: CURRENT STATUS



- FDA has not established if there is a direct relationship between the use of e-cigarettes (and other ENDS) and risk of seizures.
- The reports FDA has received to date have not identified a particular product, use pattern, or population of users that is at increased risk.
- FDA shared information to communicate potential safety concerns associated with the products we regulate.
- FDA continues to monitor all adverse experiences reported to the agency about the use of ENDS. We encourage clinicians, researchers and the public to report cases of individuals who use ENDS and have had a seizure or any other adverse experiences via CTP's Safety Reporting Portal: www.safetyreporting.hhs.gov

E-CIGARETTE, OR VAPING, PRODUCT USE ASSOCIATED LUNG INJURY (EVALI)



FDA became aware in late July, 2019 after news reports from WI and IL

8 Wisconsin teens hospitalized with severe lung damage due to vaping, doctors suspect



By **Susan Scutti**, CNN

Updated 11:19 AM ET, Fri July 26, 2019



Date: July 25, 2019

BEOH-2019-02

To: Wisconsin Healthcare Providers, Infection Preventionists, Local Health Departments, and Tribal Health Agencies

From: Jonathan Meiman, MD
Chief Medical Officer and State Occupational and Environmental Disease Epidemiologist, Bureau of Environmental and Occupational Health (BEOH)

Severe Pulmonary Disease Among Adolescents who Reported Vaping

PLEASE DISTRIBUTE WIDELY

During July 2019, 8 cases of severe pulmonary disease among adolescents were reported to the Wisconsin Department of Health Services (DHS). Patients resided in the counties of Milwaukee, Waukesha, and Winnebago and presented with respiratory symptoms including cough, shortness of breath, and fatigue. Symptoms worsened over a period of days or weeks before admission to the hospital. Other symptoms reported by some patients included fever, anorexia, pleuritic chest pain, nausea, and diarrhea. Chest radiographs showed bilateral opacities, typically in the lower lobes, and CT imaging of the chest showed diffuse ground-glass opacities, often with subpleural sparing. Evaluation for infectious etiologies was negative in all patients. Some patients had progressive respiratory compromise requiring endotracheal intubation but subsequently improved with systemic steroids.

"All patients reported vaping prior to their hospitalization, but we don't know all the products they used," Andrea Palm of the Wisconsin

- Investigation involved coordinated response from FDA, CDC, and state health officials
- As of Feb 18, 2020, 2807 hospitalized cases had been reported to CDC from 50 states, DC, Puerto Rico, and US Virgin Islands; 68 deaths
- More common in non-Hispanic white males, 18 – 34 years old
- Many products were acquired from informal sources; e.g., friends, pop-up sales
- As of Oct 9, 2020, FDA had received > 1600 product samples; 1238 product samples have been linked to EVALI patients (the other samples were not suitable for analysis)
 - Many patients submitted several (up to 48) different product samples
 - Many product samples could not be tested (inadequate product quantity)
 - Tetrahydrocannabinol or other cannabinoids were commonly found in the products (53%)
 - Vitamin E acetate or other diluting agents were common in cannabinoid-containing products
 - Many patients submitted both nicotine- and cannabinoid-containing products

EVALI: CURRENT STATUS



- FDA and CDC are aware cases are still occurring, although less frequently – the current pandemic makes evaluation challenging
- Vitamin E acetate:
 - Is strongly linked to the EVALI outbreak and is a toxicant of concern
 - Has been found in product samples tested by FDA and state laboratories and in patient lung fluid samples tested by CDC from geographically diverse states
 - Has not been found in the lung fluid of people that do not have EVALI
 - Appears it began to be used as a diluent in THC vaping products in late 2018 – early 2019
 - Popular cutting agent – increases profit for seller, not readily detectible
 - Mouse-model study found evidence of pulmonary injury in mice that inhaled VEA that was not seen in mice inhaling air or propylene glycol/vegetable glycerin

There is not sufficient evidence to rule out the contribution of other chemicals to EVALI. FDA and CDC recommend people not use THC-containing e-cigarette, or vaping, products, particularly from informal sources. E-cigarette, or vaping, products should never be used by youths, young adults, or women who are pregnant. Adults who currently do not use tobacco products should not use e-cigarettes.



WHAT IS FDA DOING – AND HOW CAN YOU HELP?

On Dec. 20, 2019, the President signed legislation amending the FD&C Act to raise the federal minimum age of sale of tobacco products from 18 to 21 years

- Effective immediately, retailers must not sell any tobacco products to anyone under 21
- FDA & retailers are updating practices to implement the new law
- FDA expects retailers to follow the law & take measures to ensure an individual purchasing a tobacco product is 21 or older, including manually checking IDs when needed
- FDA has updated our website and is working to update other materials, including our regulations, to reflect the change in law



- On Feb. 6, 2020, a new FDA policy prioritizing enforcement against certain unauthorized flavored e-cigarette products, including fruit and mint flavors, that appeal to children (also known as the 'Compliance Policy')* became effective.
- The Deeming Rule, effective Aug 8, 2016, gave FDA regulatory authority over all e-cigarette and ENDS products – meaning all of these products need FDA authorization to be legally marketed. Some ENDS products have been marketed under enforcement discretion. This policy specifies which products that were on the market as of August 8, 2016 will be enforcement priorities for FDA.
- The policy attempts to balance public health concerns related to youth use of ENDS products with considerations regarding addicted adult cigarette smokers who may try to use ENDS products to transition away from combustible tobacco products.
- Because of the relatively low numbers of youth using menthol- and tobacco-flavored, cartridge-based ENDS products, these products were not among the initial enforcement priorities. FDA is taking actions to address youth use and can take additional steps if needed.

* <https://www.fda.gov/media/133880/download>

NEW TOBACCO PRODUCT APPLICATION REVIEW



- As of September 9, 2020, manufacturers were required to submit Premarket Tobacco Product Applications to FDA for all ENDS products
- The applications must be reviewed by FDA and marketing authorization granted – otherwise, the products may not be legally marketed
- There is a one year period for FDA review; products may continue to be marketed during this ‘grace period’ if the application has been submitted to FDA and is still under review

REPORTING TOBACCO-RELATED ADVERSE EXPERIENCES



FDA wants to know about unexpected health or safety problems that may have been caused by use of or exposure to a particular tobacco product.

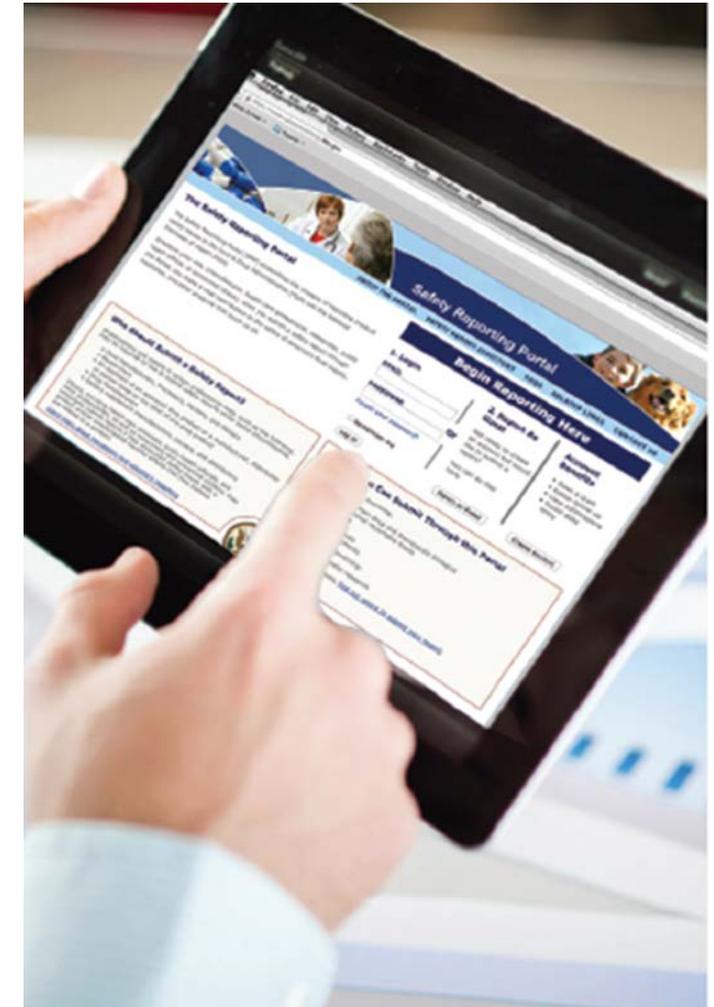
www.safetyreporting.hhs.gov

What to Report:

- Overheating, fires, explosions, burns
- Neurological events
- Unusual events, toxic reactions
- Foreign material in the product
- Packaging, labeling issues

Anyone can submit a report

Provide as much detailed information as possible



THE REAL COST: TACKLING TEEN VAPING

*Presented by
Alison Kulas, MSPH
Social Scientist, Office of Health Communication & Education
FDA Center for Tobacco Products*

Disclaimer: This is not a formal dissemination of information by FDA and does not represent Agency position or policy.

Month XX, XXXX



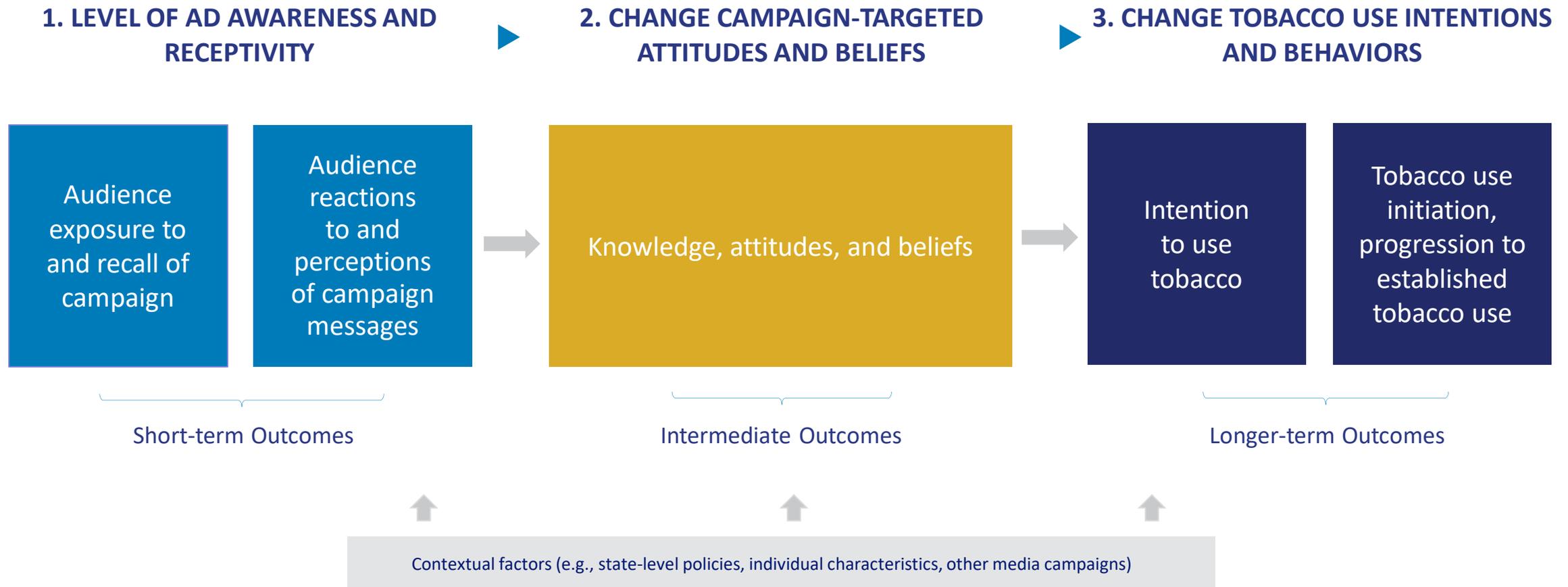
CENTER FOR TOBACCO PRODUCTS

THE REAL COST E-CIGARETTE PREVENTION

- As teen vaping has continued to increase, there is an increased importance to counteract this with **large-scale, national media campaigns**.
- The evidence-based model used to develop “The Real Cost” cigarette advertisements is **proven effective through years of research**. This proven strategy is used to address the rise of youth vaping.
- Since fall of 2018, we have released a suite of e-cigarette prevention advertisements for teens. This includes advertisements on **TV, online radio, social media, and digital** platforms popular to teens.
- Additionally, in 2019 the campaign created posters to be displayed in **high school bathrooms**, distributed to all high schools across the country.



GROUNDING IN BEHAVIOR CHANGE THEORY



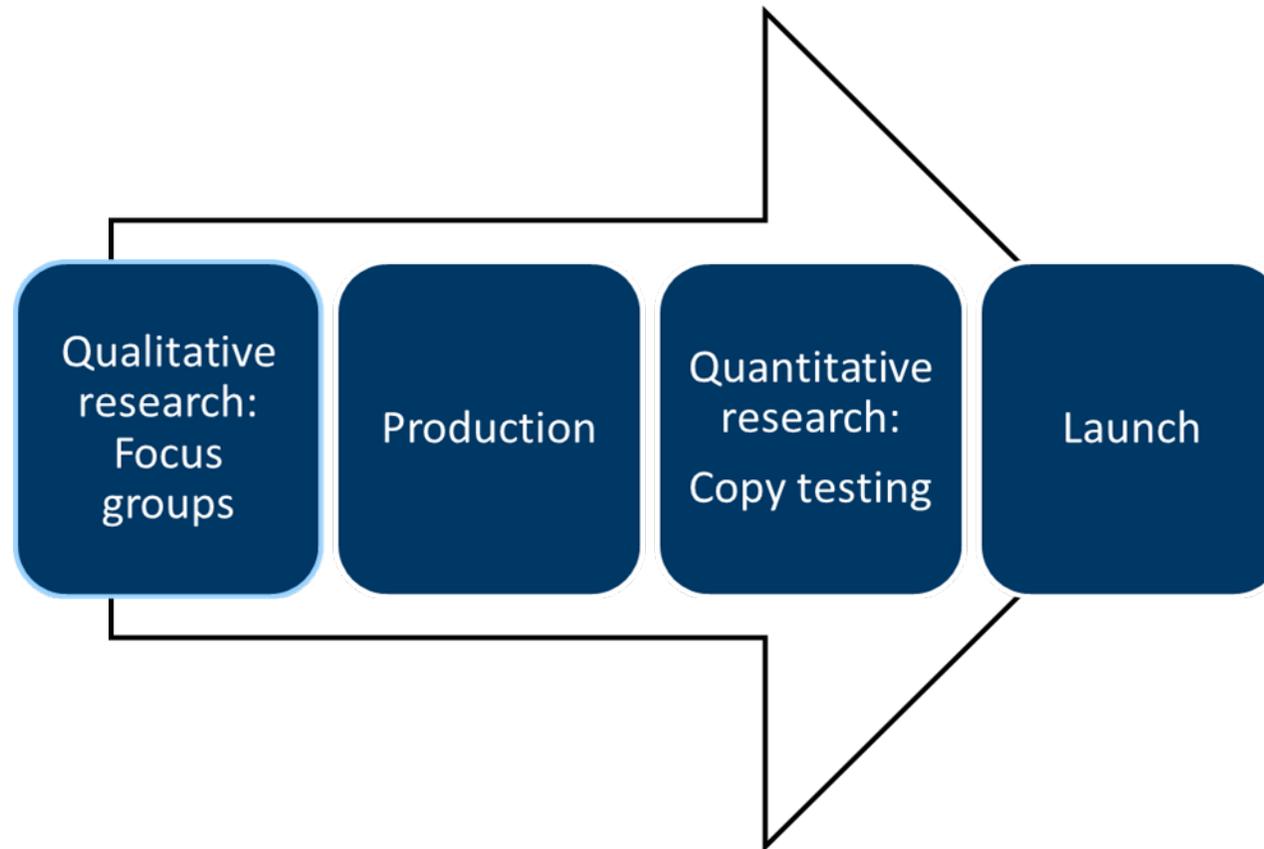


UNDERSTANDING TEEN ENDS ADDICTION



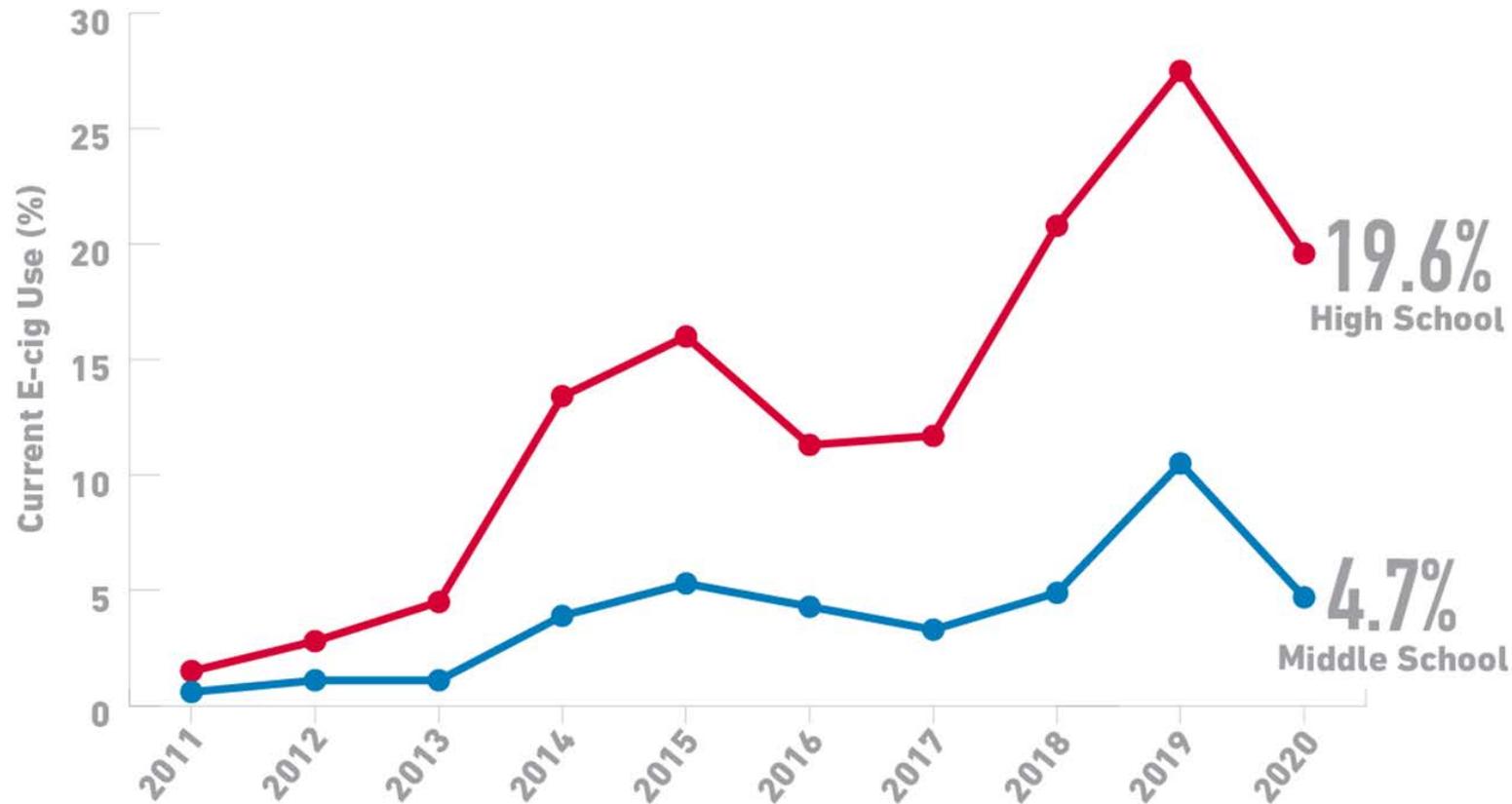
AD DEVELOPMENT PROCESS

- Our ads are steeped in research, using the following process:



BETWEEN 2019- 2020 SIGNIFICANT DECLINE IN YOUTH E-CIG USE; BUT LEVELS REMAIN HIGH

2020 National Youth Tobacco Survey



SIGNS OF ADDICTION: IN THEIR WORDS

- **Teens are starting to see that addiction is a bad thing.** In previous research, teens were dismissive of addiction, saying they are addicted to lots of things. Teens are starting to believe that addiction to vaping is a consequence and are starting to see negative emotional costs from vaping. However, they still want to hear about stronger, harmful health consequences.
- **Teens acknowledged that addiction is emotional, not just physical.** For some teens, vaping is a consistent part of their daily life and don't like when it's disrupted or suddenly limited.
- **Teens mentioned friends or peers who would “fiend” for a vape or a hit.** They acknowledge they've seen negative behavior like irritability and irrational anxiety about losing access to vaping during time away – e.g., a weekend trip with parents.



*“I remember one time before a cheer competition this girl **had a panic attack**, she was like ‘I need my Suorin, I need my Suorin.’ We all ran to the bathroom right before we went on so she could hit it.”*

– Hip Hop, ENDS Experimenter, Older, LA

Experimenter Older

- *It makes people very irritable. Anything you say makes them want to just snap on you. I have this one friend, he's super addicted, he walks into the bathroom every five minutes and his head twitches if he doesn't have nicotine for more than five minutes. It literally looks like he's possessed by it.*
- *Honestly, two of my best friends, actually, almost stopped being friends, because he refused to give the other guy the Juul. They literally got into a screaming match, cussed each other out, almost started fighting, because he refused to give it to him.*

Dual Experimenter Older

- *I think, yeah, they do blow things out of proportion. I remember one of my friends – he's pretty addicted to nicotine – and we forgot to pick him up for the beach. We offered him an Uber, but he kept yelling at us and was just really upset at us. He would just blow things out of proportion.*

Experimenter Younger

- *A lot of people don't consider themselves addicted. They are like "I like doing it when I want to do it." They don't consider it necessary but it is but they don't really consider it like that. They don't want to say they are addicted because it is not a nice word.*

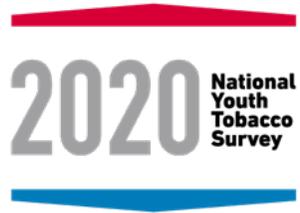
At Risk Older

- *I knew a friend that wouldn't even be able to sleep the night, have to wake up in the middle of the night like someone would get water, she would have to hit it.*

At Risk Younger

- *Yeah, my best friend. It's where he's desperate, like he needs it. He says he needs it, he can't live without it. I don't know why.*

SIGNS OF ENDS ADDICTION: NATIONAL DATA

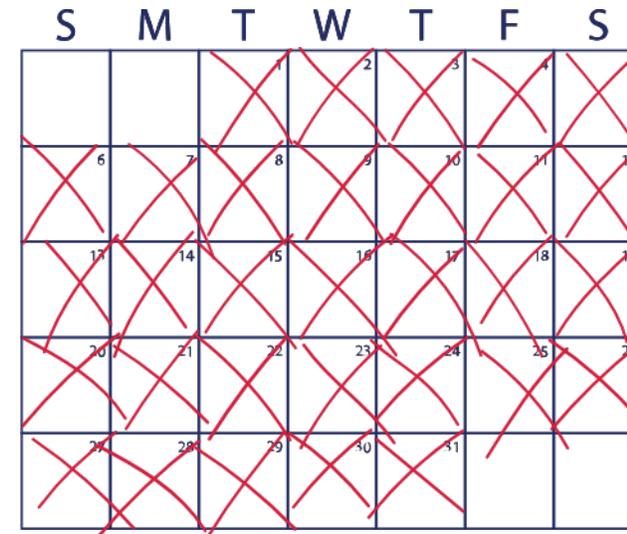


22.5%

Of high school current e-cig users
used e-cigs daily

9.4%

Of middle school current e-cig users
used e-cigs daily



Source: NYTS 2020

A photograph of four teenagers sitting on concrete steps outside a building. From left to right: a girl with long brown hair in a grey hoodie and blue jeans, holding a drink; a boy in a dark blue jacket and blue jeans, holding a tablet; a girl with long dark hair in a white and blue patterned top and blue jeans, looking at her phone; and a boy in a blue hoodie and blue jeans, holding a tablet. A black backpack sits on the ground in front of them. A semi-transparent blue horizontal bar is overlaid across the middle of the image, containing the text "PUTTING RESEARCH INTO ACTION".

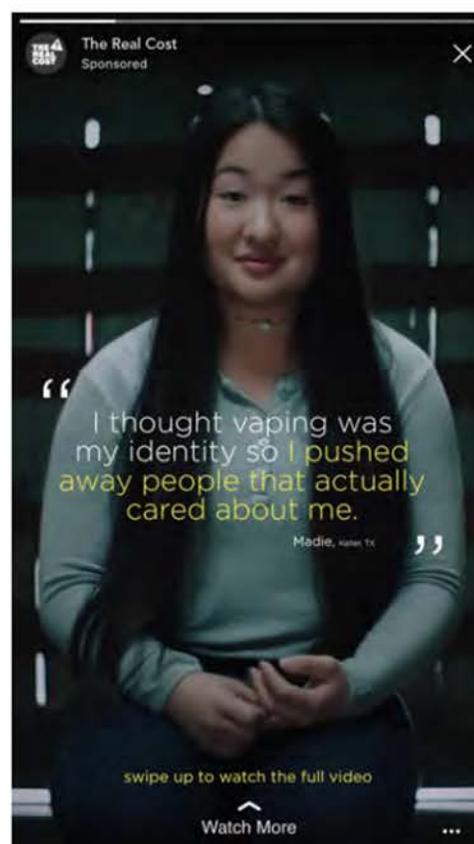
PUTTING RESEARCH INTO ACTION

TEEN STORIES: MY VAPING MISTAKE



- The Real Cost campaign created **four video episodes** featuring different aspects of teen stories on how vaping affected their lives, through a collaboration with Awesomeness TV (media vendor).
- Launched in January 2020, the four videos (approx. 4 minutes each) aired on Awesomeness TV YouTube channel first. Then, **amplified through The Real Cost media** buy that includes TV, pre-roll online videos and social media channels such as Instagram, Facebook, Snapchat, and TikTok.
- The call-to-action at the end of video is to drive teens to **NCI's How to Quit Vaping** page.

TEEN STORIES: MY VAPING MISTAKE



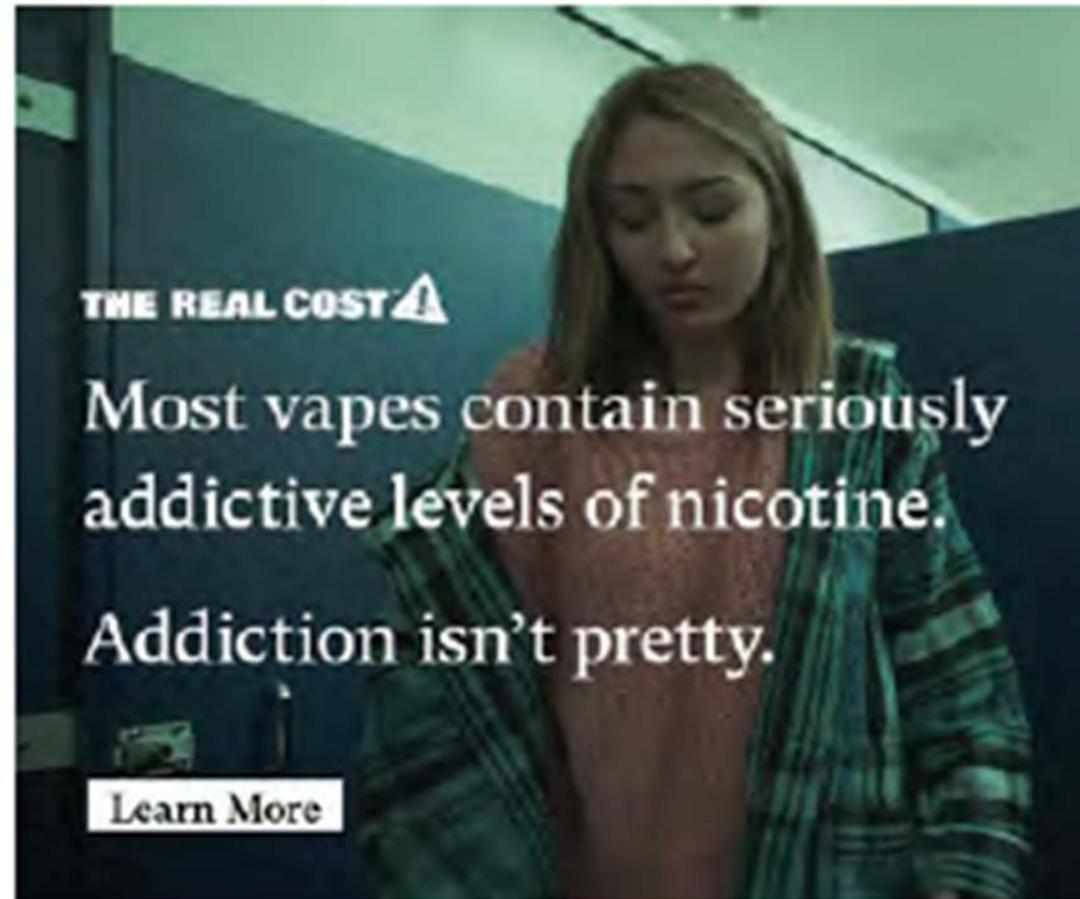
- <https://www.youtube.com/playlist?list=PLBQgA3Kndk7d9sezilJ6rrDwU1T899wNJ>

- Particularly effective among **ENDS experimenters** in both Perceived Ad Effectiveness and Messaging Effectiveness.
 - Particularly strong for being **“informative,” “meaningful”** and **“convincing.”**
- After viewing the ad, participants described the ad as:
 - *“I would tell them it is about the consequences of vaping and that if they are already vaping they can quit like Chloe did.” -Male, 15, At-Risk*
 - *“Vaping damaged this girl’s mental health. It can worsen your anxiety and it is addicting.” -Male, 15, Exp*
- Chloe made vaping look like something that teens **DO NOT want to do**
 - **95%** of ENDS experimenters
 - **77%** of ENDS established users
 - **88%** of ENDS susceptible teens

PRELIMINARY IMPACT ON YOUTH USE OF E-CIGARETTES



- The “**My Vaping Mistake**” series has garnered over **2 million views** in two months.
- The campaign’s online videos has generated nearly **3.6 billion teen views in 16 months**. Across social media platforms, The Real Cost has engaged teen audiences with more than 958,000 likes, 132,000 shares, and 54,000 comments.
- Initial outcome evaluation results are positive and confirm that the **majority of youth in the U.S.** are being **exposed** to our ads and are **receptive** to our messages.
- Since launch, **youth perceive e-cigarettes to be more harmful** and have **greater understanding** that e-cigarette use can lead to serious consequences.
- Awareness of e-cigarette ads among teens nationwide is 81% and receptivity to campaign ads remains high based on perceived effectiveness.



THE REAL COST



What drug is
so addictive you'd
hurt the ones you
love to get more?



THE REAL COST

Most vapes contain seriously addictive
levels of nicotine.

Addiction isn't pretty.



REACHING TEENS WHERE THEY WANT TO BE

- ‘The Real Cost’ Youth E-Cigarette Prevention Campaign is laser-targeting the media to effectively *reach 12- to 17-year-olds* via their media passion points
- Over *10.5 Billion* teen impressions (eyes on messaging) since campaign launch



PARTNERING WITH NCI TO HELP WITH TEEN CESSATION



NCI and CTP launched new e-cigarette cessation content on SmokeFree Teen, giving comprehensive behavioral techniques to help teens deal with cravings, navigate peer pressure, prepare to quit, and make it through their quit day

Since launch in July 2019, there have been over half a million page views

The most time is spent on these pages:

- How to Quit Vaping – over 4 minutes spent
- Vaping Addiction and Nicotine Withdrawal – over 5 minutes spent



MORE MATERIALS AVAILABLE ON CTP'S EXCHANGE LAB

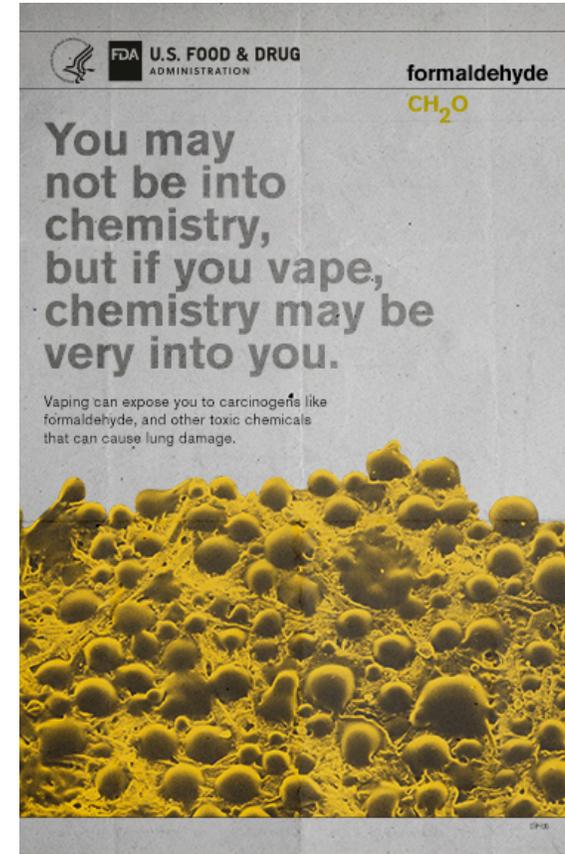


Free print materials, web content and social media content are available to download and order on CTP's Exchange

<https://digitalmedia.hhs.gov/tobacco/>

Content includes messages on:

- Harms of vaping
- Harms of cigarette use
- Federal rules and regulations
- Tobacco control research



THE REAL COST OF VAPING EDUCATIONAL RESOURCES:

WWW.SCHOLASTIC.COM/YOUTHVAPINGRISKS



- FDA and Scholastic developed a co-branded educational program to help middle and high school students understand the dangers of vaping

The Real Cost of Vaping
ELA • Math • Science/Technology!

LESSON & ACTIVITIES | DIGITAL ACTIVITY | MORE RESOURCES

As an educator, you can play an active role in fighting the teen vaping epidemic. FDA research suggests that when teachers talk about the health consequences of e-cigarettes and schools enforce anti-vaping policies, students may be less likely to vape. Use these resources to start an honest conversation with your class and help to change social norms at your school.

Lesson & Activities
With these cross-curricular resources from Scholastic and the FDA, students will analyze informational text, collect and present data, and evaluate marketing messages.

Grades 6-8 | Grades 9-12

LESSON 1 • ACTIVITY: Teens and Vaping: The Real Health Consequences (GRADES 6-8) [DOWNLOAD]

LESSON 2 • ACTIVITY: Vaping Research Project (GRADES 6-8) [DOWNLOAD]

LESSON 3 • ACTIVITY: Stizing Up E-Cigarette Marketing (GRADES 6-8) [DOWNLOAD]

How to Talk to Kids About Vaping Risks
Use this guide to start an honest conversation at home about e-cigarettes and addiction.

At school, through a program developed by the U.S. Food and Drug Administration (FDA) and Scholastic, your child is learning why e-cigarette use—sometimes called vaping—isn't safe for tweens and teens. The problem is real. Vaping is on the rise, even in middle school. Today, more than 10 percent of middle school students currently use e-cigarettes, and the majority of kids have seen them used at school. Many kids think vaping is harmless, but it can have serious health consequences. Share these facts and tips with your child to help them stay safe.

Facts About Teen Vaping

- Most e-cigarettes, including the popular Juul brand, contain nicotine, the same highly addictive chemical in regular cigarettes.
- Many e-cigarettes used by teens are shaped like USB sticks, pens, or even watches, which makes them easy for students to hide at school.
- Teens are more susceptible to nicotine addiction than adults because their brains are still developing.
- Kids who vape are more likely to start smoking cigarettes.
- A recent outbreak of serious lung illnesses linked to vaping products, including e-cigarettes, has affected more than a thousand people, including healthy teens and young adults.
- Despite what some kids think, vaping is not safe. In fact, one Juul pod contains as much nicotine as a whole pack of cigarettes.
- Some e-cigarette aerosols contain chemicals, such as formaldehyde, that can cause cancer.

Get the Facts About Vaping
You may have heard a growing number of your peers vaping. But how much do you know about e-cigarettes and how they affect your health? Read the statements below and decide whether they are true or false. Then, do research at scholastic.com/vapingrisks to gather facts and complete the rest of the chart.

1. **Prevention:** Most vapers don't think the statement is true or false. Record an asterisk (*) next to your response in the appropriate column. Use a separate piece of paper if you need more space.

2. **True Research:** Look whether the statement is true or false. Record an asterisk (*) next to your response in the appropriate column. Use a separate piece of paper if you need more space.

True Facts	Myths	True Research	Myths
1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.
2. Most vapers don't think the statement is true or false.	2. Most vapers don't think the statement is true or false.	2. Most vapers don't think the statement is true or false.	2. Most vapers don't think the statement is true or false.
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5. Most vapers don't think the statement is true or false.	5. Most vapers don't think the statement is true or false.	5. Most vapers don't think the statement is true or false.	5. Most vapers don't think the statement is true or false.

Teens and Vaping: The Real Health Consequences
Help your students understand the health impacts associated with using e-cigarettes.

1. **Prevention:** Most vapers don't think the statement is true or false. Record an asterisk (*) next to your response in the appropriate column. Use a separate piece of paper if you need more space.

2. **True Research:** Look whether the statement is true or false. Record an asterisk (*) next to your response in the appropriate column. Use a separate piece of paper if you need more space.

True Facts	Myths	True Research	Myths
1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.	1. Most vapers don't think the statement is true or false.
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THE HEALTH IMPACTS OF E-CIGARETTES
Discover the truth about how these devices can harm you.

You may have seen or heard about kids in your school or town using e-cigarettes. Some tweens and teens assume that using e-cigarettes—also known as *vaping*—is a safe alternative to smoking traditional cigarettes. After all, e-cigarettes can come in flavors, so how bad can they really be? The truth is that vaping exposes you to very real—and very scary—health risks. These include lung-damaging chemicals, as well as the drug nicotine, which can harm your brain and cause addiction.¹

Lung Damage and Chemicals
E-cigarettes are battery-operated and create an aerosol for a user to inhale. When a person puffs on an e-cigarette, the liquid inside heats up and becomes the aerosol, which typically contains nicotine, flavorings, and chemicals, some of which are toxic. The e-liquids often come in flavors, but the chemicals used to create flavors can be harmful to your lungs. E-cigarette aerosol can also contain other chemicals like formaldehyde, which can cause cancer, and metal particles such as nickel, lead, chromium, tin, and aluminum. Breathing in e-cigarette aerosol delivers these chemicals to your lungs where they can cause damage. The effects may be long-lasting—and even deadly.

In 2019, the Centers for Disease Control and Prevention (CDC) and the U.S. Food and Drug Administration (FDA) reported an outbreak of serious lung illnesses in nearly every state.² Thousands of people, including

THE HEALTH IMPACTS OF E-CIGARETTES | 1

THANK YOU

FDA



Thank you for joining us!

Please be sure to complete the brief post-webinar evaluation.



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