



What You Want to Know About E-cigarettes: What They Are, Who's Using and Why It's Dangerous for Young People, and How to Quit

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Agenda

- What Are E-cigarettes?
- Who's Using E-cigarettes?
- Why Are E-cigarettes Dangerous for Young People?
- How to Quit E-cigarettes

Truth Initiative

Mission

Truth Initiative is dedicated to achieving a culture where all youth and young adults reject tobacco. We speak, seek and spread the truth about tobacco through education, tobacco-control research and policy studies, and community activism and engagement, and innovation in tobacco dependence treatment.

Purpose

***truth**® is our national tobacco prevention **counter-marketing campaign** that speaks to youth and young adults on their terms, through the channels they understand and trust. **truth** delivers the facts about the health effects and social consequences of tobacco and the marketing tactics of the tobacco industry so that youth and young adults can make informed decisions and influence others to do the same.*



What Are E-cigarettes?

Evolution of the e-cigarette



E-cigarettes operate by heating a liquid solution to a high enough temperature so that it produces an aerosol that is inhaled.

Many of the flavorings and humectants used in e-liquids have been approved by the FDA for oral consumption, but not for inhalation due to the lack of research regarding the safety of these compounds when inhaled.

While using an e-cigarette is often called “vaping,” the devices produce an aerosol, not a vapor.

E-cigarette evolution

First generation “ciga-likes”

- Available in convenience stores
- Disposable and rechargeable versions
- May not deliver nicotine very well



E-cigarette evolution

Second generation “tank system”

- May be better at delivering nicotine than cigalikes
- Commonly purchased at vape shops
- Able to modify or build components



Pod mods

- Device and pods
 - Typically vape pre-filled, pod-like cartridges
- Appeal to consumers
 - Low investment and maintenance
 - Hassle-free and easy to use
 - Lightweight, easy to carry, discreet



Pod mods



OPEN SYSTEM

- MANUALLY REFILLABLE
- BUY COILS

VS



CLOSED SYSTEM

- BUY CARTRIDGES OR PODS IN 4 OR 5 PACKS

- Open- and closed-pod systems
 - **Open pod:** device allows you to manually refill nicotine salt e-juice
 - **Closed pod:** device requires pre-filled pods



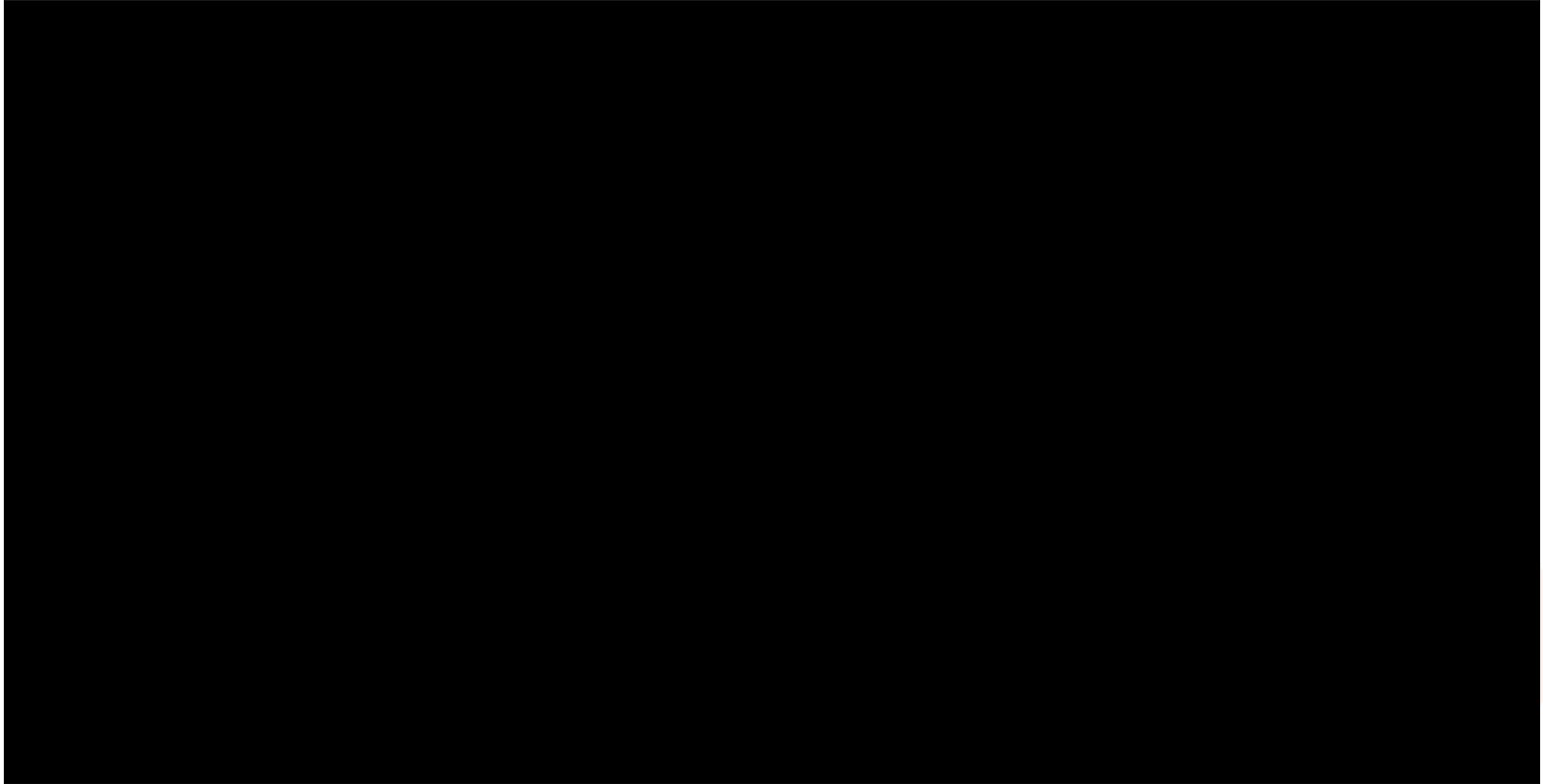
JUUL – the new leader

What is JUUL?

- E-cigarette with sleek design that looks like USB flash drive
- Uses nicotine salts
- Claims approximately 75% of the dollar share of the e-cigarette market
- Promoted as a “satisfying alternative to cigarettes”
- “By accommodating cigarette-like nicotine levels, JUUL provides satisfaction to meet the standards of smokers looking to switch from smoking cigarettes.” – JUUL Labs’ Website



JUUL's Youth Appeal



JUUL pods

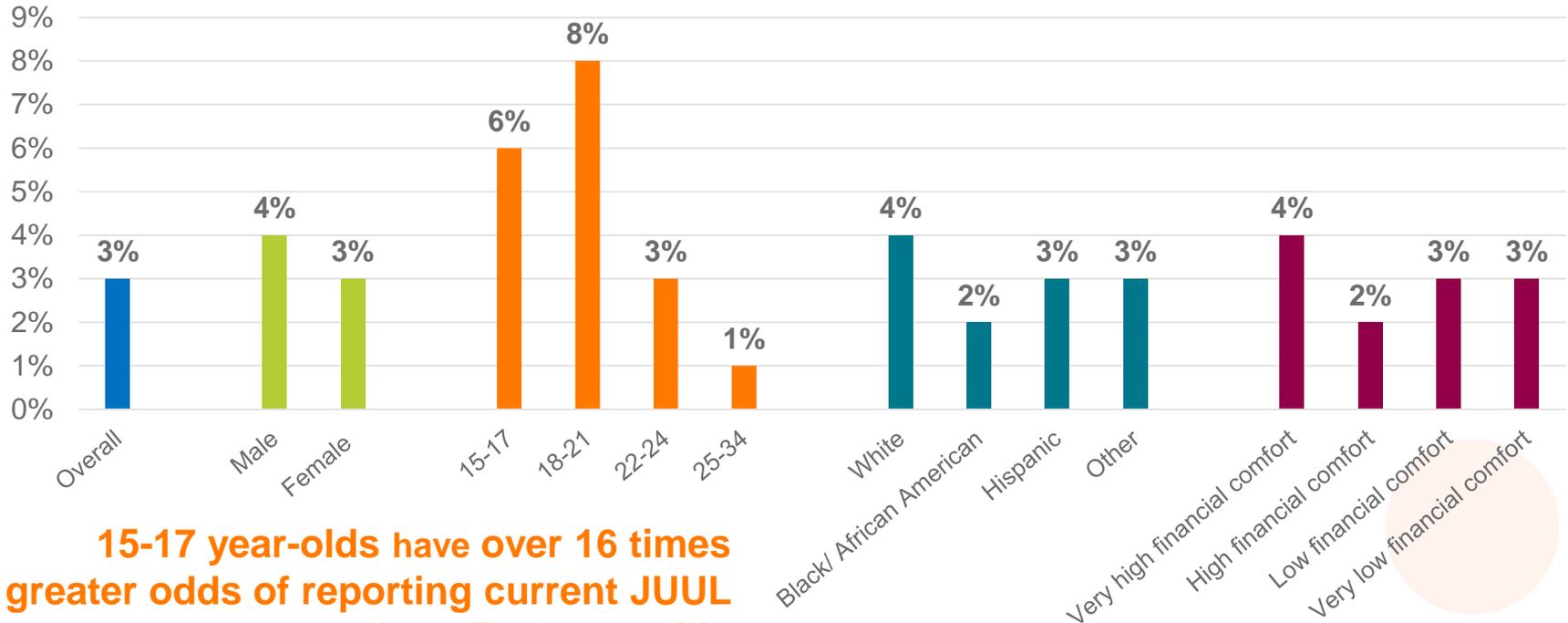
- Detachable pods through which aerosol is inhaled
- Available in tobacco, fruit, mint and other flavors
- Every JUUL pod contains nicotine
- Among highest nicotine concentration on the market
- Uses nicotine salts
- 1 JUUL pod is equal to 20 cigarettes worth of nicotine, according to the JUUL website



Past 30-day JUUL use

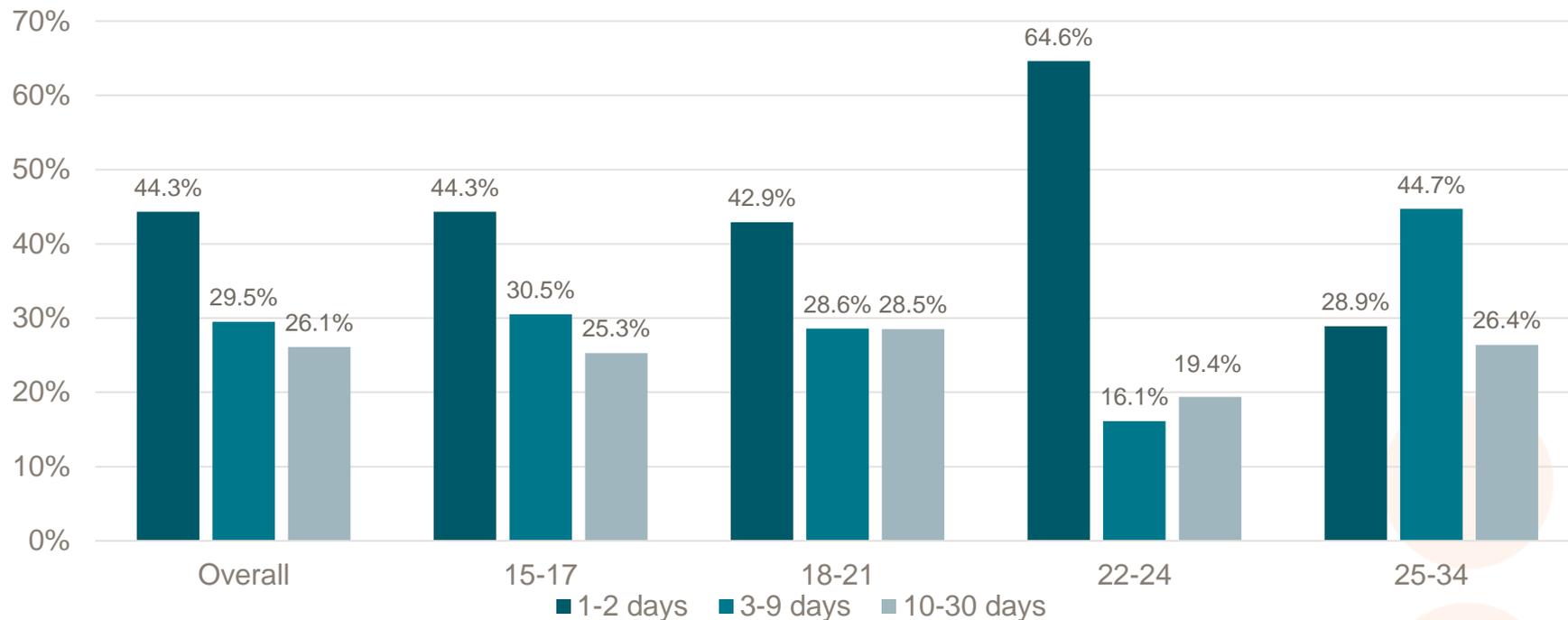
Weighted proportions among 15 to 34-year-olds, n=1,332*

*Participants were only asked about 30-day use if they reported ever use



15-17 year-olds have over 16 times greater odds of reporting current JUUL use compared to 25-34 year-olds

Days JUUL Used in past 30 days



Who uses e-cigarettes and JUUL?

- Youth and young adults are more likely to use JUUL or e-cigarettes if they:
 - Identify as white, compared to those who identify as black/African American
 - Are of a higher SES
 - Are male
- College students may be more likely to use e-cigarettes if they:
 - Report depressive symptoms
 - Report heavy drinking

Vallone, D.M, Bennett, M., Xiao, H., Pitzer, L. & Hair, E. (2018). Prevalence and correlates of JUUL use among a national sample of youth and young adults. *Tobacco Control*, 0: 1-7. U.S. Department of Health and Human Services. (2016). *E-cigarette use among youth and young adults. A report of the Surgeon General*. Atlanta, GA: U.S. Department of Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office of Smoking and Health.

Willett, J. G., Bennett, M., Hair, E. C., Xiao, H., Greenberg, M. S., Harvey, E., Cantrel, J., Vallone, D. (2018). Recognition, use and perceptions of JUUL among youth and young adults. *Tobacco Control*. doi:10.1136/tobaccocontrol-2018-054273.

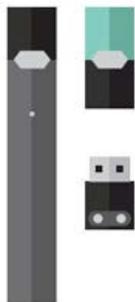
Bandiera, F.C., Loukas, A., Li, X., Wilkinson, A.V., Perry, C.L. (2017). Depressive symptoms predict current e-cigarette use among college students in Texas. *Nicotine and Tobacco Research*, 19(9): 1102-1106.

Littlefield, A.K., Gottlieb, M.A., Cohen, L.M., & Trotter, D.R.M. (2015). Electronic cigarette use among college students: Links to gender, race/ethnicity, smoking, and heavy drinking. *Journal of American College Health*, 63(8): 523-529.

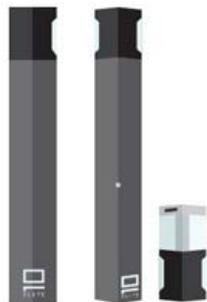
JUUL copycats



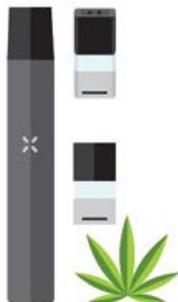
An electronic cigarette device made by JUUL (R) is shown next to other similar devices (L to R) Vuse Alto, Suorin ishare and myblu in this photo



JUUL



MarkTen Elite



PAX Era

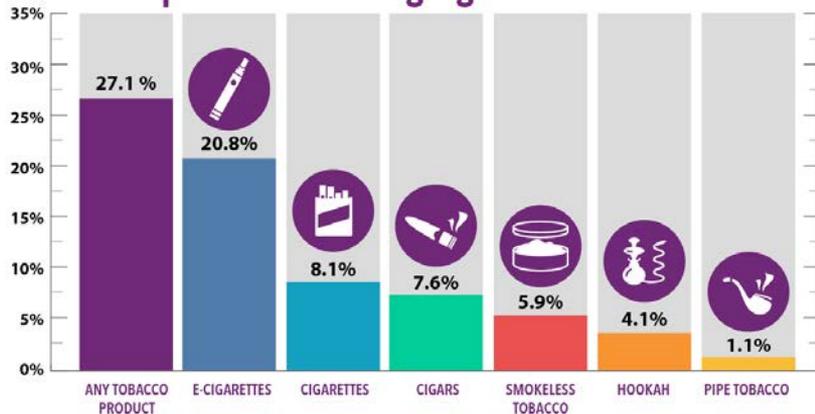




Who is Using E-cigarettes?

E-Cigarette Use is Surging

Tobacco product use among high school students—2018



SOURCE: Tobacco Product Use Among Middle and High School Students — United States, 2011-2018. Morbidity and Mortality Weekly Report (MMWR), February 2019.

SURGE IN YOUTH CURRENT E-CIGARETTE USE

78%

Increase
Among High
School Students

11.7%

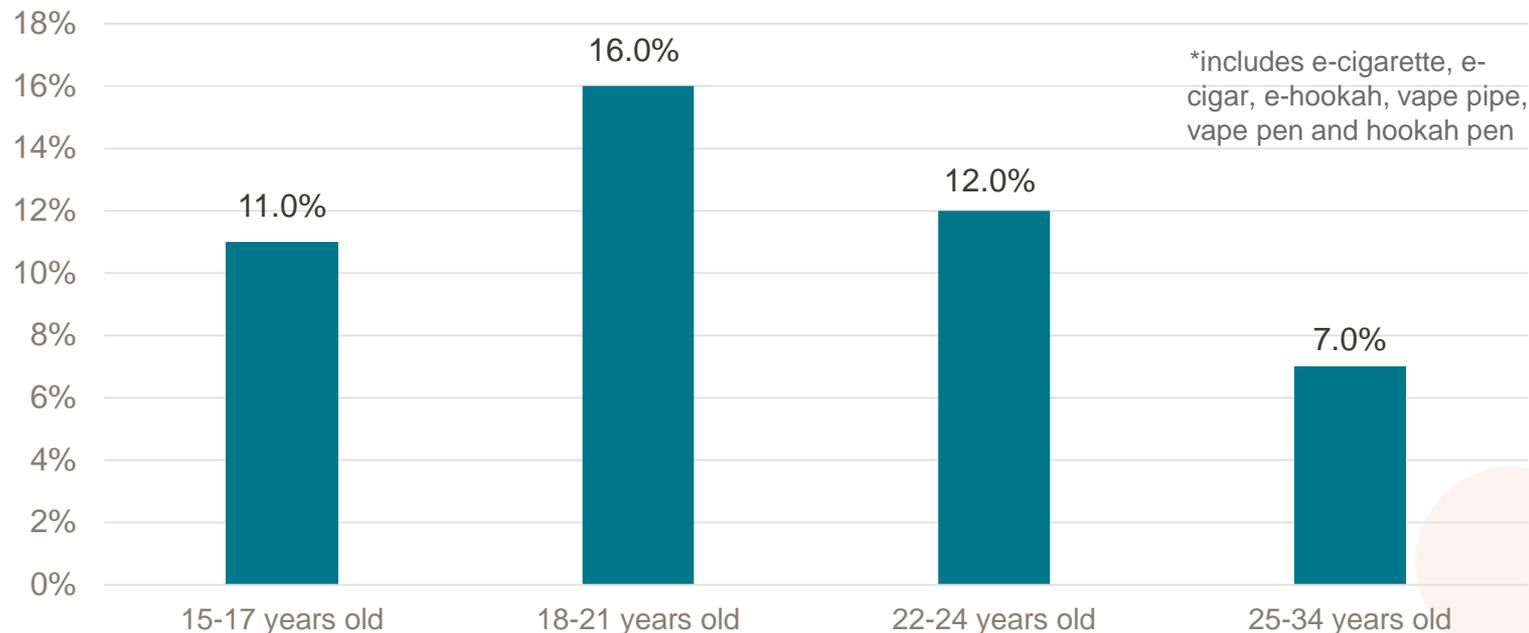
2017

2018

20.8%

Youth and young adult: current e-cigarette use

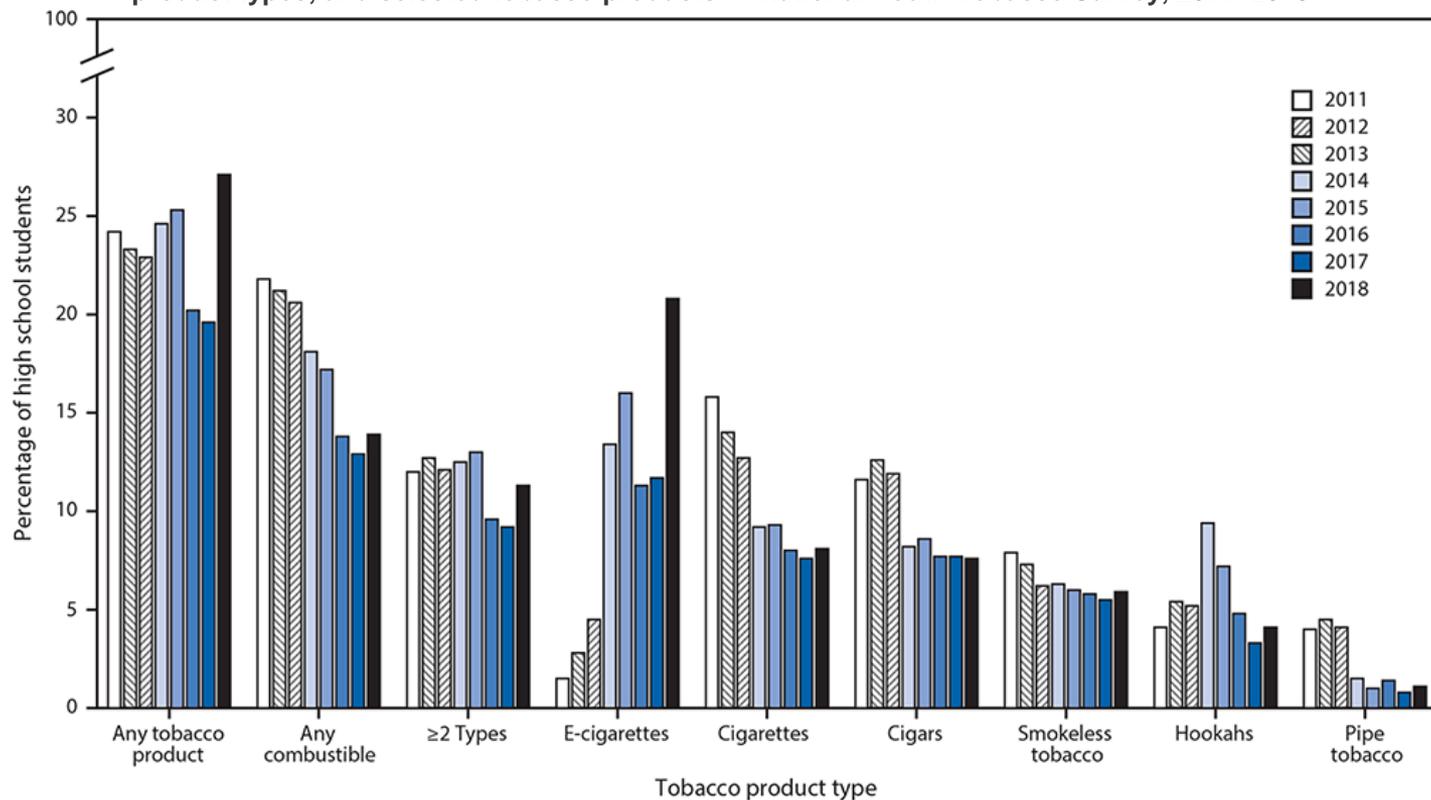
Young adult e-cigarette* use (2018)



Source: Vallone, D.M, Bennett, M., Xiao, H., Pitzer, L. & Hair, E. (2018). Prevalence and correlates of JUUL use among a national sample of youth and young adults. *Tobacco Control*, 0: 1-7.

Youth E-Cigarette Use is Surging

Estimated percentage of high school students who currently use any tobacco product,* any combustible tobacco product, ≥ 2 tobacco product types, and selected tobacco products — National Youth Tobacco Survey, 2011–2018





Why Are E-cigarettes Dangerous for Young People?

E-cigarette health effects

- **Direct use**
 - Exposure to toxicants in e-cigarette aerosol is significantly lower for e-cigarettes than the smoke from combustible tobacco
 - Common adverse events after e-cigarette use are: mouth and throat irritation, nausea, headache and dry cough.
 - Long-term health effects unknown.

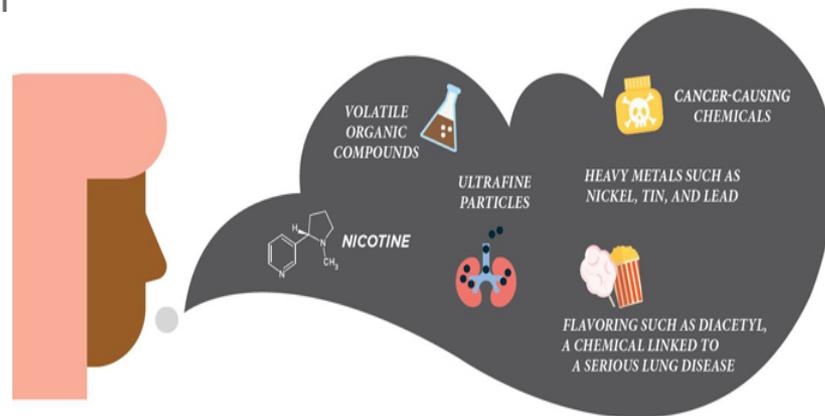


Image source: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html

E-cigarette health effects

- Liquids and exhaled aerosol contain measurable amounts of:
 - Nicotine
 - Average nicotine concentration dramatically increased in recent years, esp. with advent of JUUL (Nielson market data analysis - unpublished, under review CDC)
 - Propylene glycol
 - Toxic constituents (tobacco-specific nitrosamines, heavy metals, carbonyls), but at much lower levels (9-450 times lower) than tobacco smoke
- Youth who use e-cigarettes are more than 4x as likely to go on to smoke tobacco than their peers who don't vape
- 99% of all e-cigarettes sold at convenience stores, supermarkets and similar outlets contain nicotine

NASEM report

- **Use by youth and young adults:** “There is substantial evidence that e-cigarette use by youth and young adults increases their risk of ever using conventional cigarettes.”
- **Cessation:** “While the overall evidence from observational trials is mixed, there is moderate evidence from observational studies that more frequent use of e-cigarettes is associated with increased likelihood of cessation.”

Public Health Consequences of E-Cigarettes



Other Substance Use in E-Cigarettes

Many e-cigarettes (especially in its most recent iteration) are easily modifiable by users for consumption of substances other than nicotine with the device

- **Youth and Young Adult use**

- In one study, 1 of 3 (1.7 million) high schoolers and 1 of 4 (425,000) middle schoolers had ever used cannabis in E-cigarettes
- Among 270 undergraduate students from four U.S. colleges, 54.1% had ever tried cannabis and 10.7% had ever tried cannabis using a vape pen.
- Among 1,542 undergraduate students at a midwestern university, 6.94% reported using an e-cigarette to vaporize and inhale a substance other than nicotine, 77.9% of whom reported using cannabis or a cannabis derivative.

Dual Use of ENDS & Combustible Cigarettes

- Among adults ENDS users in 2015, 58.8% were also current regular smokers
- Among young adult ENDS users in 2015, 40% also smoked cigarettes
- Among youth who had used an e-cigarette in the last 30 days in 2015, 65.2% reported using another tobacco product in the same time frame
- Dual use of ENDS and cigarettes increases odds of myocardial infarction (MI) greater than END use or cigarette smoking alone
- A 2018 study shows that dual users, compared to cigarette only users, reported:
 - 1) a greater median number of cigarettes per day
 - 2) a lower (worse) median general health score
 - 3) a higher (worse) median breathing difficulty score

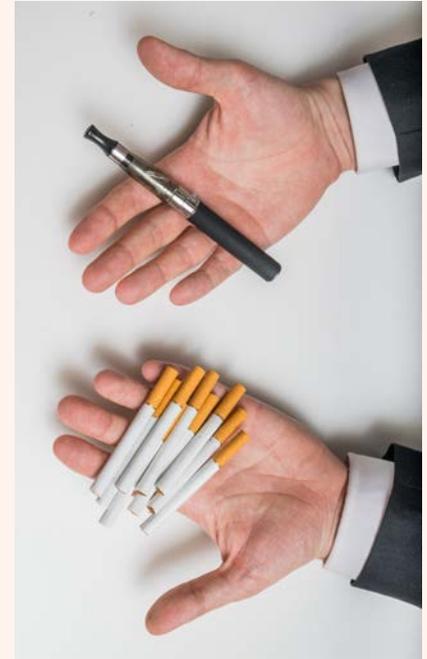


Image source: <https://www.uabmedicine.org/-/e-cigarettes-are-they-really-a-safe-alternative-to-cigarettes->

Rational Harm Reduction

- Not starting tobacco use in the first place, or quitting as soon as possible for those who have started, is the best way to protect health.
- Regulated e-cigarettes may be beneficial to smokers who completely switch from combustible tobacco.
- E-cigarettes still pose health risks and nonsmokers should never use them..
- Most importantly, **youth should not use e-cigarettes.**



Image source:

Risk for Future Combustible Cigarette Use

- Concerns that e-cigarettes are acting as entry nicotine products
- Correlation between youth e-cigarette use and cigarette use especially among “low risk” youth
- Using both e-cigarettes and cigarettes at the same time (dual use) is a common use pattern among youth

“There is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.”

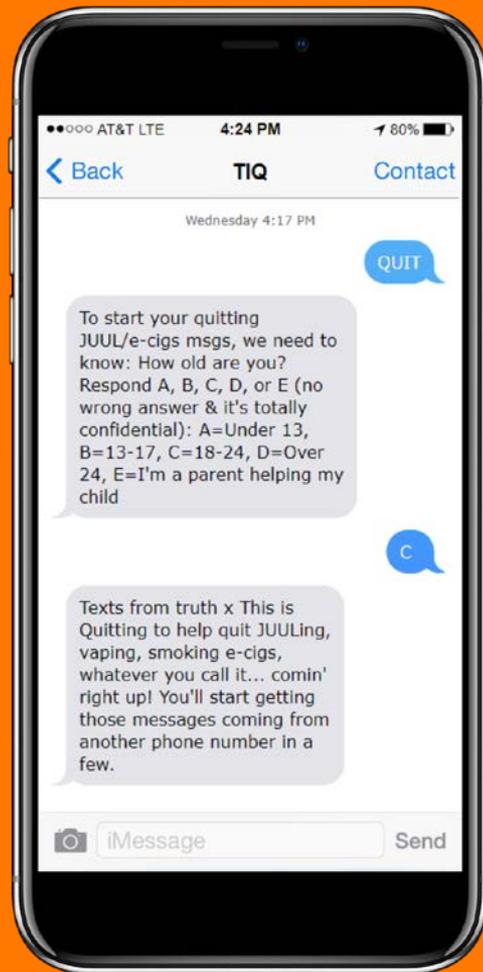
–The 2018 National Academies of Sciences, Engineering, and Medicine Report



How to Quit E-cigarettes

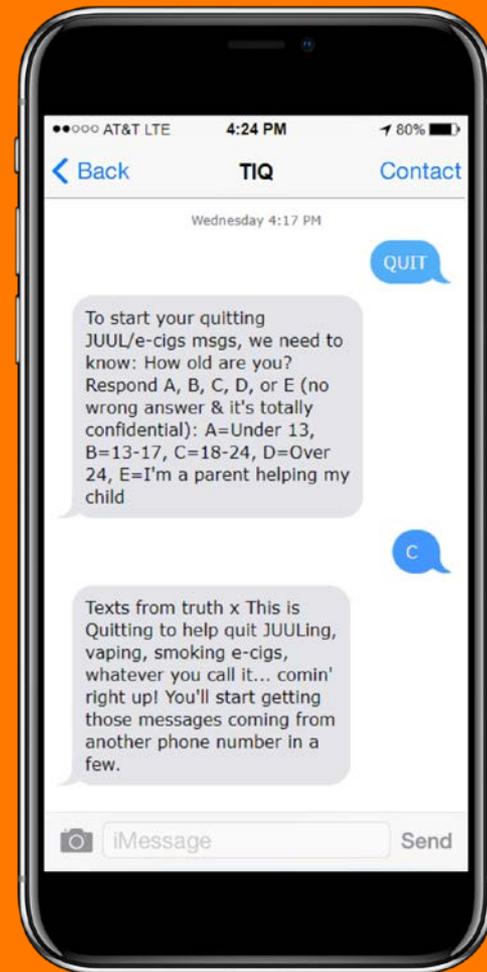
First-of-its-kind Quit Program

- Supports e-cigarette quitters of all ages
 - Also a resource for parents to help their children quit
- Easy sign-up
 - Adults and parents can opt-in at BecomeAnEX.org or text **QUIT** to **202-804-9884**
 - Teens and young adults can opt-in at ThisIsQuitting.com or text **QUIT** to **706-222-QUIT**



Why Text Messaging?

- Evidence-based method
- Tailored to quitting progress
- On-demand support
- Supports quitters of all ages and SES
- Easy opt-in via existing tobacco cessation services
- Long enrollment period
- Combines the best of what we know engages and supports users from EX and TIQ



Program Features

Teens

- Context-specific language about school, social norms, and family
- Refers to product as JUUL

Young Adults

- Context-specific language about school, work, social norms, and family
- Refers to product as e-cigarettes generically, interspersed with vape

Adults

- Context-specific language about work, social norms, and family
- Refers to product as e-cigarettes generically, interspersed with vape

Parents

- Support for parents trying to help a child quit vaping
- Empathy and encouragement, practical advice and quitting strategies

Clinically sound information about quitting abruptly and cutting down

Age appropriate guidance and support for NRT

Social support and social norms around quitting

Behavioral activation tips and strategies

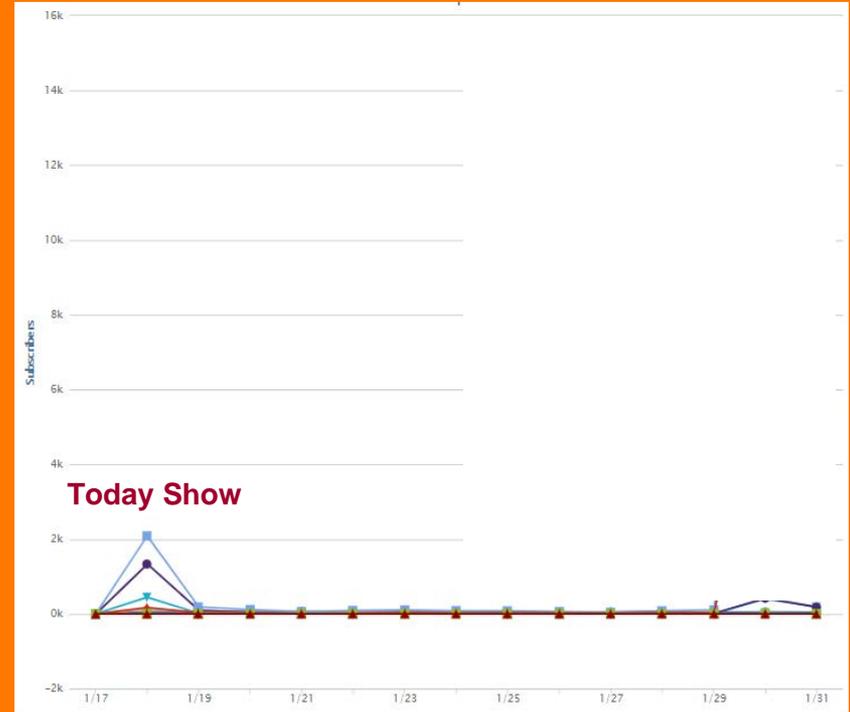
National launch January 18

Teens (13-17)	15,043
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Young adults (18-24)	15,890
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Jan 18, 2019 – Apr 12, 2019

**100-150 new users
each day**



Outcomes

- 73% set a quit date, most common was day of enrollment
- Changes in e-cigarette use at 2 weeks

	Teens	Young Adults
% I still JUUL the same amount	40.4%	36.7%
% I JUUL less	46.6%	46.3%
% I don't JUUL at all anymore	13.0%	17.0%

- Majority said program should be same length (25%) or longer (72%).

Abstinence

22%

7-day abstinence at 2 mo.

12-13%

30-day abstinence at 2 mo.

**SICK OF FEELING CHAINED
TO YOUR JUUL?**

**DONE SPENDING
MONEY ON PODS?**

**TIRED OF HOW
VAPING MAKES YOU
LOOK AND FEEL?**

QUITTING
THIS IS QUITTING

Text

QUIT

**to
(706) 222-QUIT**

Free, confidential,
judgment-free texts

+

Tips, advice and inspiration

This is Quitting partnership options



Customization

- Unique phone numbers
- Message modifications



Co-branding

- Co-branded promotional materials
- Joint press releases/media



Reporting

- Standard reporting suite (annually, quarterly, monthly)

What can you do?

Ask patients specifically about e-cigarettes when screening for tobacco product use

- Ask specifically about e-cigarettes shaped like USB flash drives

Advise: Warn youth about the risk of all tobacco products, including e-cigarettes

- Advise them to try quitting

Refer patients who use JUUL or any e-cigarette to text **QUIT** to 706-222-QUIT for free, confidential text messages to quit.

What can you do?

- **E-CIGARETTES: HARMFUL OR HARM-REDUCING?**

- Online CME Course, <https://med.stanford.edu/cme/courses/online/e-cig.html>

- **Course Description:** focuses on the science of e-cigarettes – particularly health risks and benefits.

- Based on observed patterns in questions from real patients and answers from practicing physicians, **emphasizes potential health impacts of e-cigarettes and regulated alternatives** such as nicotine replacement therapy. Opportunities focus on special issues related to youth and use by patients in perioperative phase, cancer treatment or cardiovascular disease treatment.

- **Intended Audiences:** designed for physicians, nurse practitioners, physician assistants, nurses, clinical psychologists, tobacco treatment specialists (TTS), and other licensed addiction treatment providers.

thank you

truthinitiative.org

