



# E-CIGARETTES AND VAPING TRENDS

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**Open Door Family Medical Center**  
**October 3, 2019**

# What is Vaping?

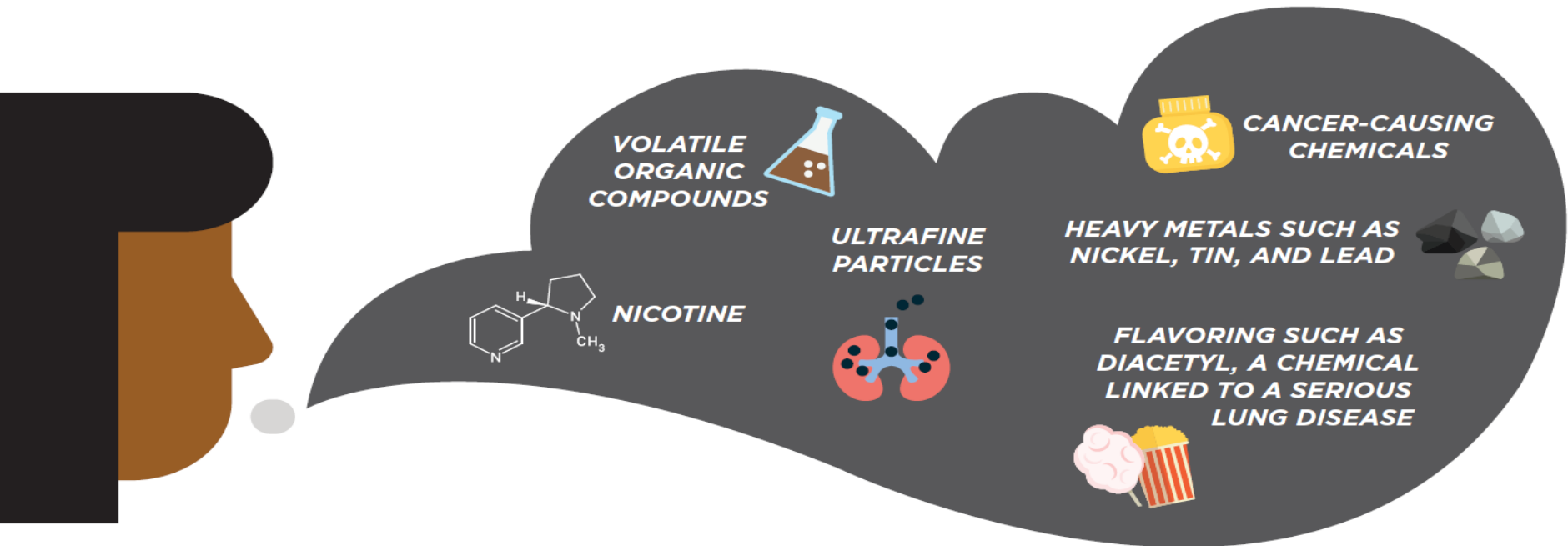
Vaping is the act of inhaling and exhaling an **AEROSOL**, often referred to as 'water vapor', which is produced by an e-cigarette or similar device. The term is used because e-cigarettes do not produce tobacco smoke, but rather an aerosol, often mistaken for water vapor, that consists of fine particles. Many of these particles contain varying amounts of toxic chemicals, which have been linked to cancer, as well as respiratory and heart disease.





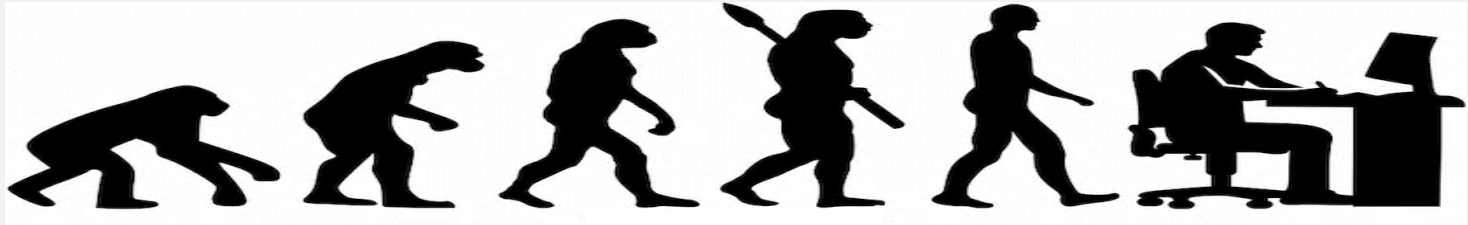
# E-CIGARETTES MAKE AEROSOL, NOT VAPOR

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





# THE EVOLUTION OF E-CIGARETTES



1<sup>st</sup> Generation



2<sup>nd</sup> Generation



3<sup>rd</sup> Generation



4<sup>th</sup> Generation



# EXAMPLES OF E-CIGARETTES



# WHAT ARE E-CIGARETTES?

E-cigarettes come in many shapes and sizes. Some e-cigarettes are made to look like regular cigarettes, cigars, or pipes. Some resemble pens, USB sticks, and other unassuming items

Most have a battery, a heating element, and a place to hold a liquid.

E-cigs produce an aerosol by heating a liquid that usually contains nicotine, flavorings, and other chemicals. Users inhale this aerosol into lungs.

Using an e-cigarette is called “vaping.” It is often called Juuling as well.

E-cigarettes can be used to deliver marijuana (THC)

“E-Cigs,” “E-Hookahs,” “Mods or Box Mods,” “Vape Pens,” “Vapes,” “Juuls,” and “Electronic Nicotine Delivery Systems (ENDS).”



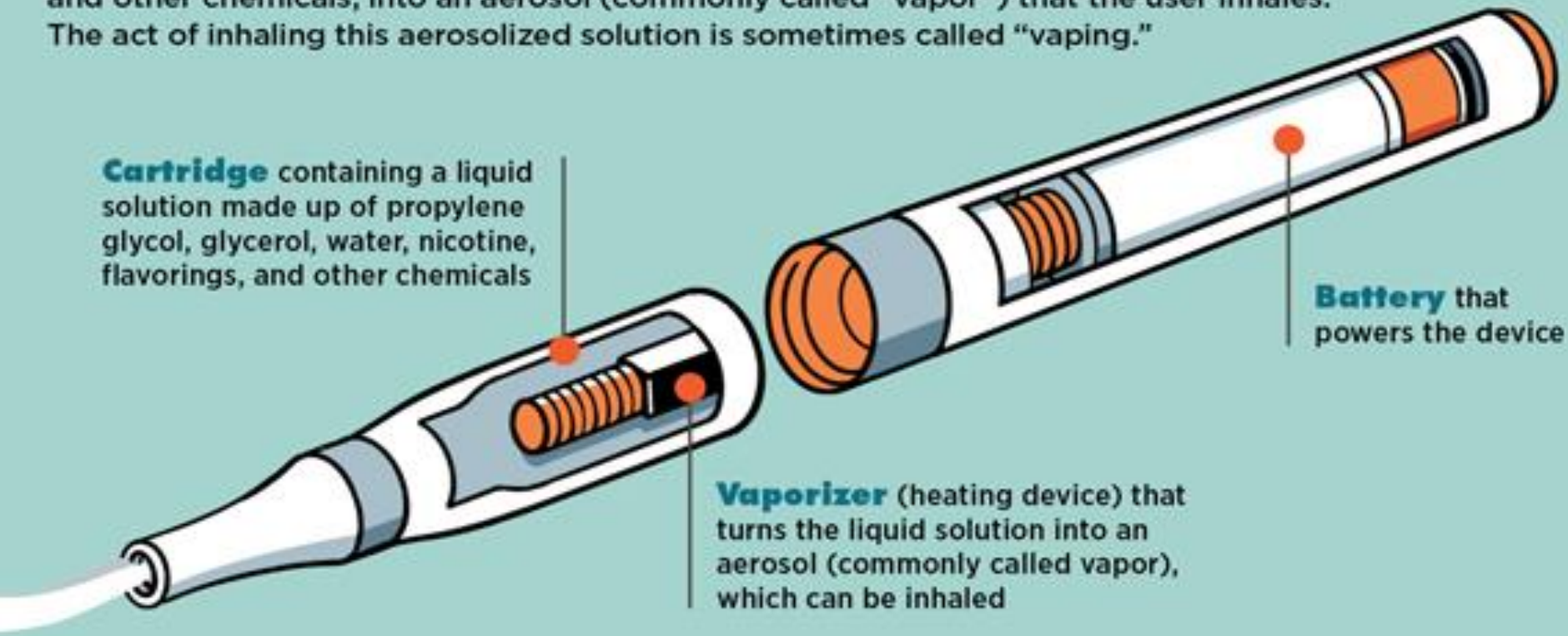
# HOW AN E-CIG WORKS:

E-cigarettes provide nicotine through an aerosol (instead of through smoke, as with a tobacco cigarette). Puffing on the mouthpiece of the cartridge activates a battery-powered device. A heater then converts a liquid solution, which contains nicotine, flavors, and other chemicals, into an aerosol (commonly called "vapor") that the user inhales. The act of inhaling this aerosolized solution is sometimes called "vaping."

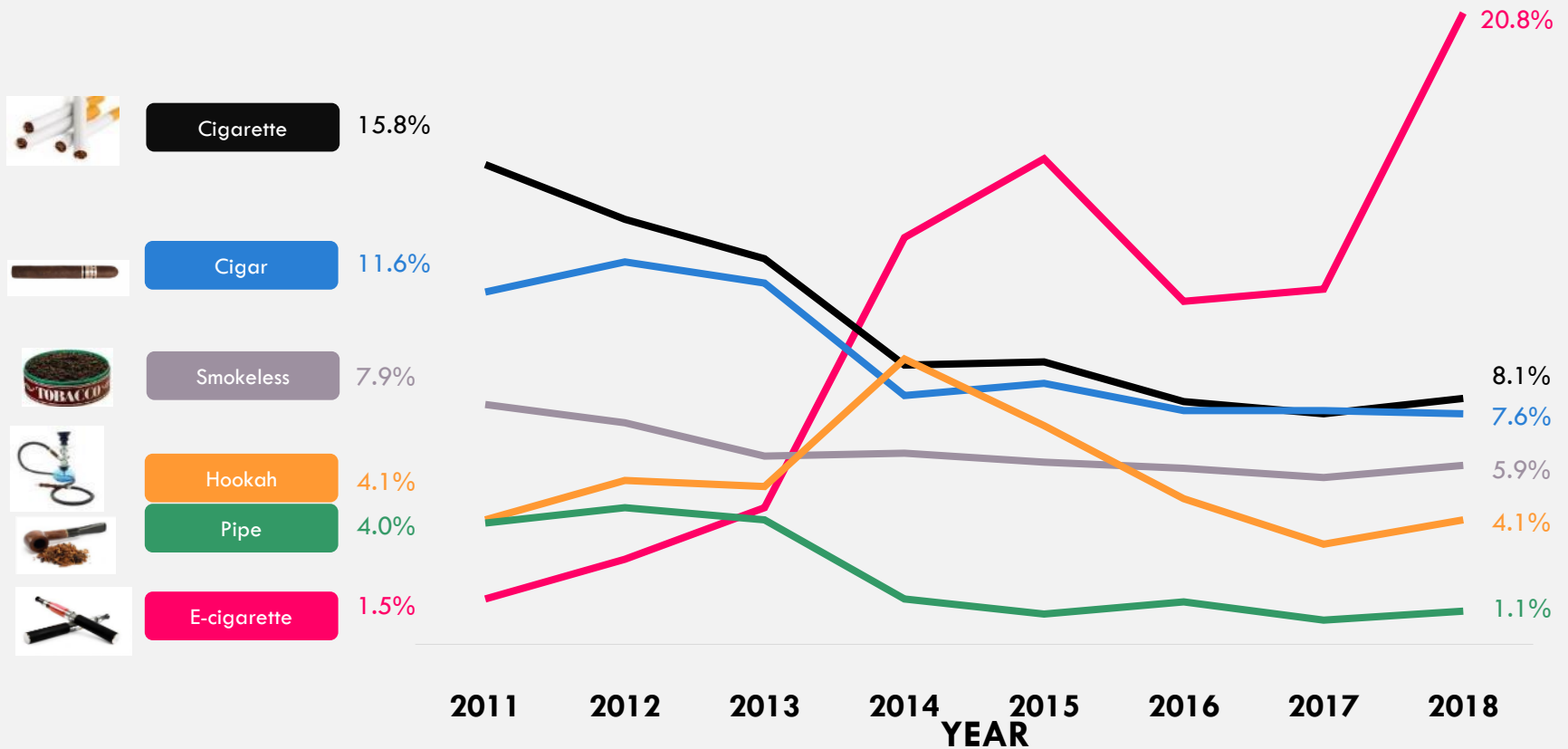
**Cartridge** containing a liquid solution made up of propylene glycol, glycerol, water, nicotine, flavorings, and other chemicals

**Battery** that powers the device

**Vaporizer** (heating device) that turns the liquid solution into an aerosol (commonly called vapor), which can be inhaled

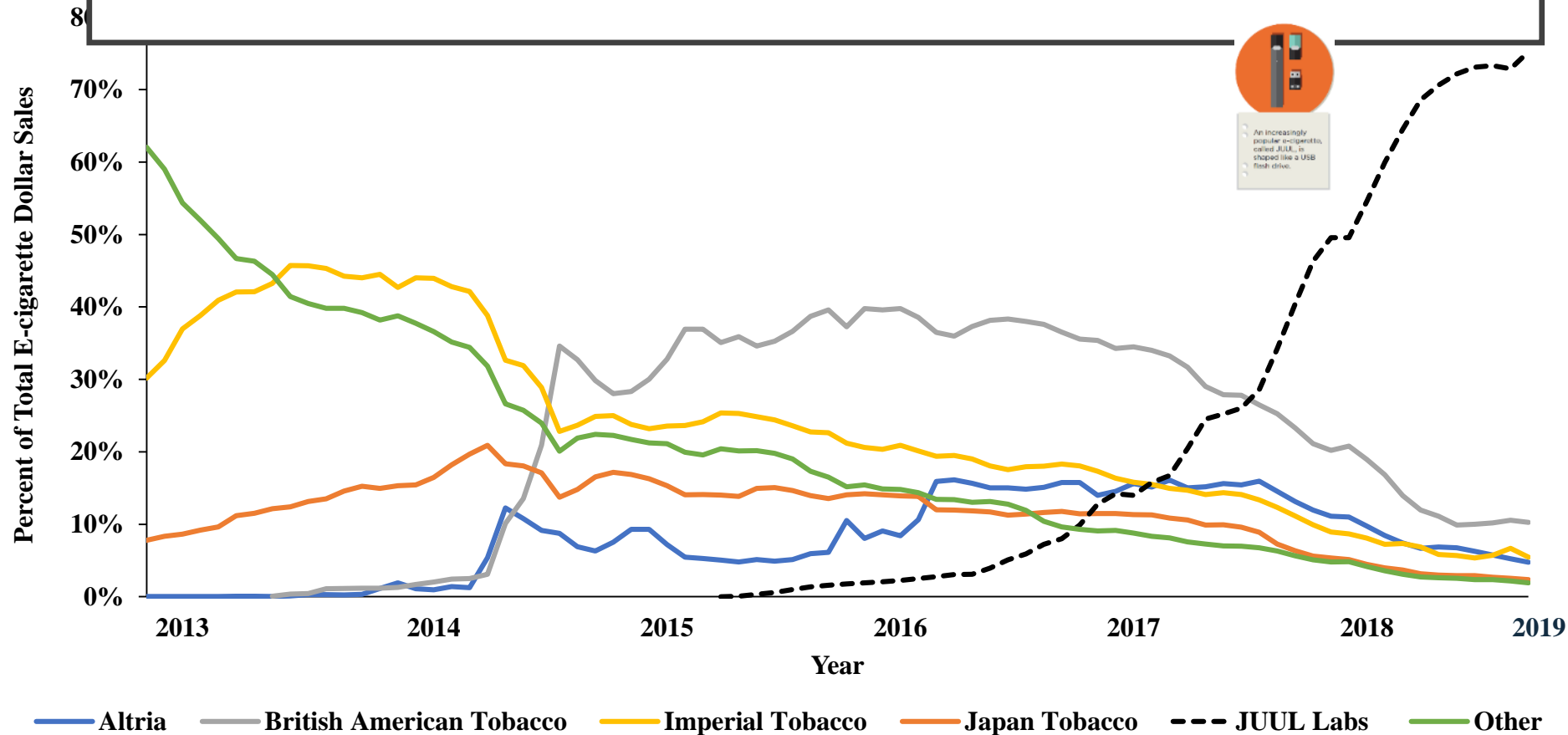


# CURRENT TOBACCO PRODUCT USE AMONG U.S. HIGH SCHOOL STUDENTS – (2011-2018)



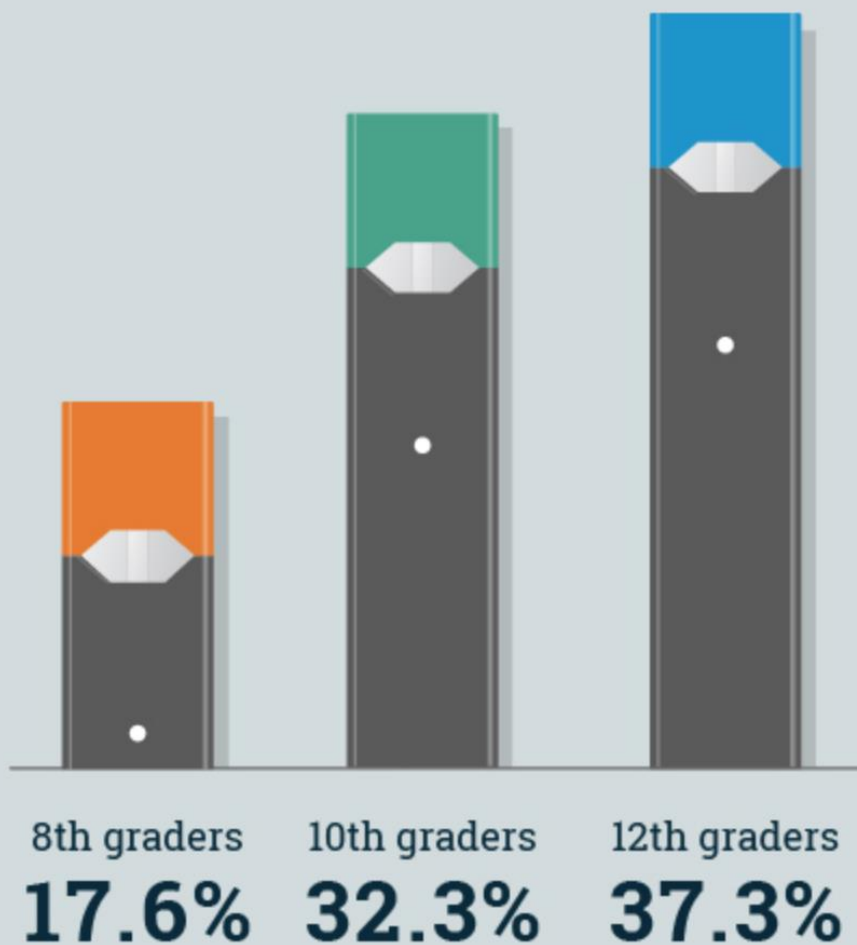


# E-CIGARETTE MARKET SHARE, BY DOLLAR SALES, UNITED STATES, 2013-2018

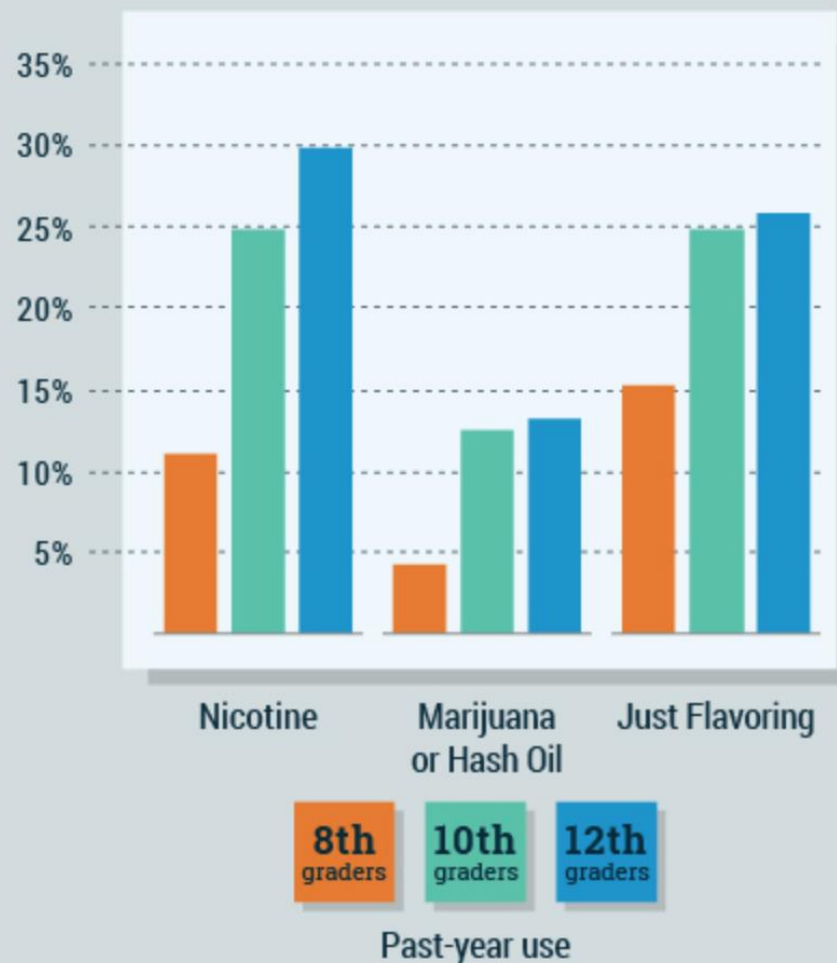


# TEENS USING VAPING DEVICES IN RECORD NUMBERS

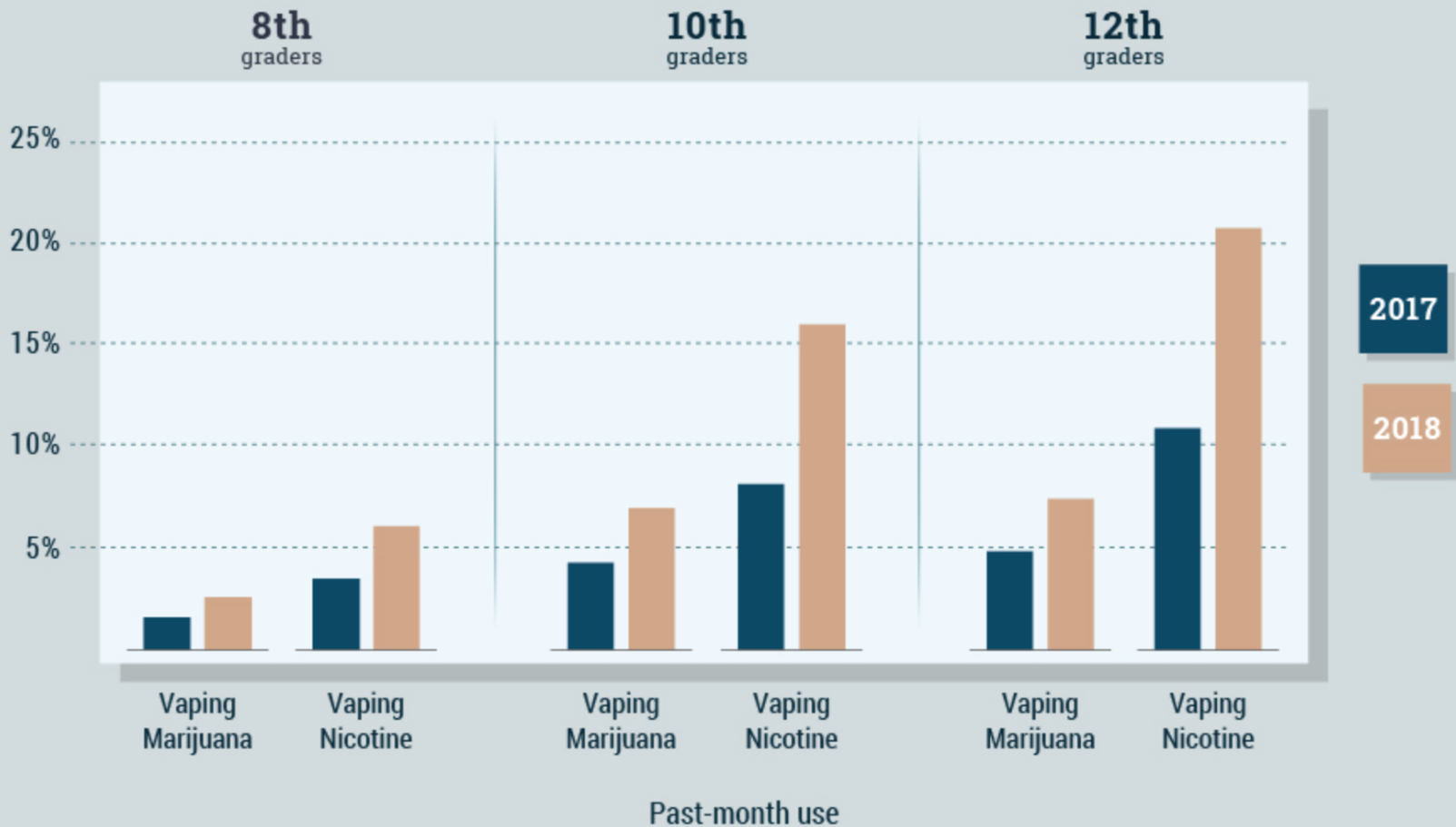
## PAST-YEAR VAPING



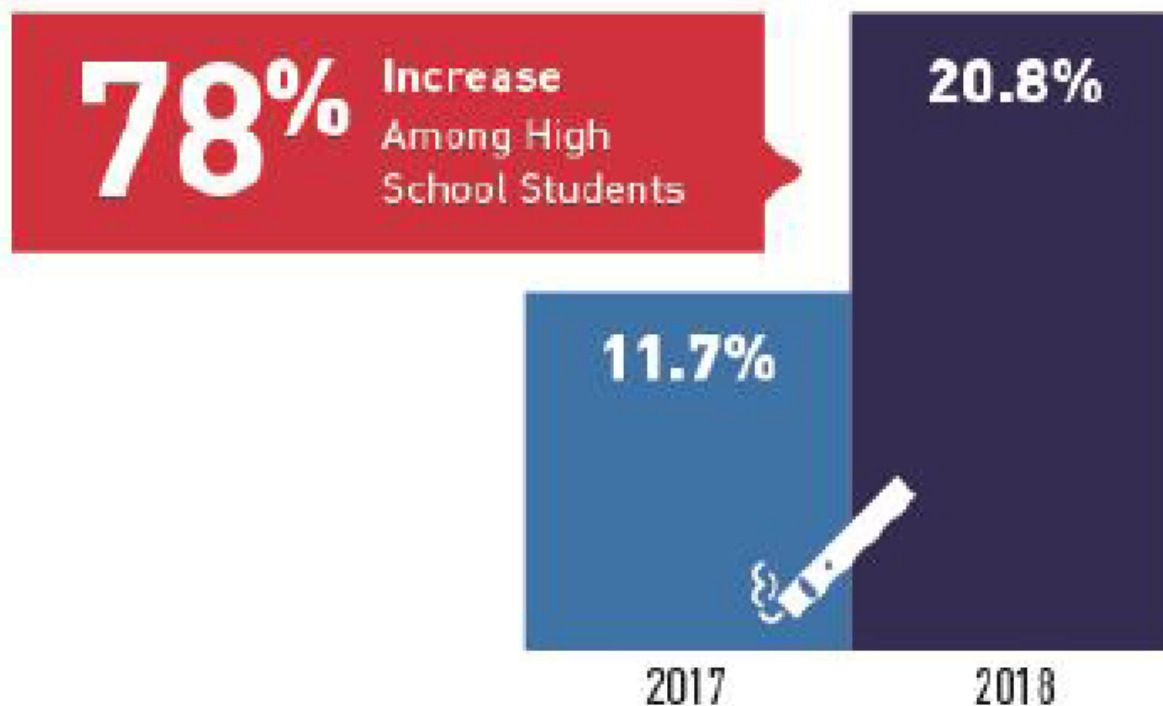
## WHAT DO TEENS SAY THEY ARE VAPING?



## TEENS VAPING NICOTINE OR MARIJUANA INCREASED ACROSS ALL GRADES



## Surge in E-Cigarette Use Among Youth



# WHAT CAUSES YOUTH E-CIGARETTE USE



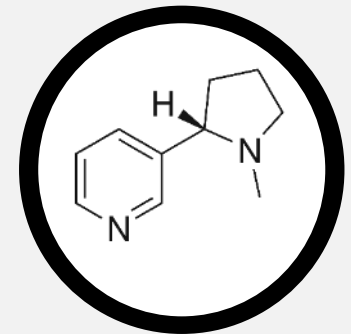
**Advertising**



**Flavors**



**Nicotine**



# YOUTH EXPOSURE TO E-CIGARETTE ADVERTISING



## E-CIGARETTE ADS

REACH NEARLY

**4 IN 5**

**U.S. MIDDLE AND  
HIGH SCHOOL STUDENTS**

More than 20 million youth saw e-cigarette ads in 2016.

### PERCENT OF STUDENTS EXPOSED TO E-CIGARETTE ADS



### YOUTH EXPOSURE TO E-CIGARETTE ADS, 2016



Efforts to reduce youth exposure to e-cigarette ads are important to prevent and reduce youth use of these products.

Source: National Youth Tobacco Survey





# USE OF FLAVORS IS PROMINENT AMONG YOUTH



85%

of e-cigarette users ages  
12-17 use flavors

menthol

fruit

alcohol

chocolate

candy

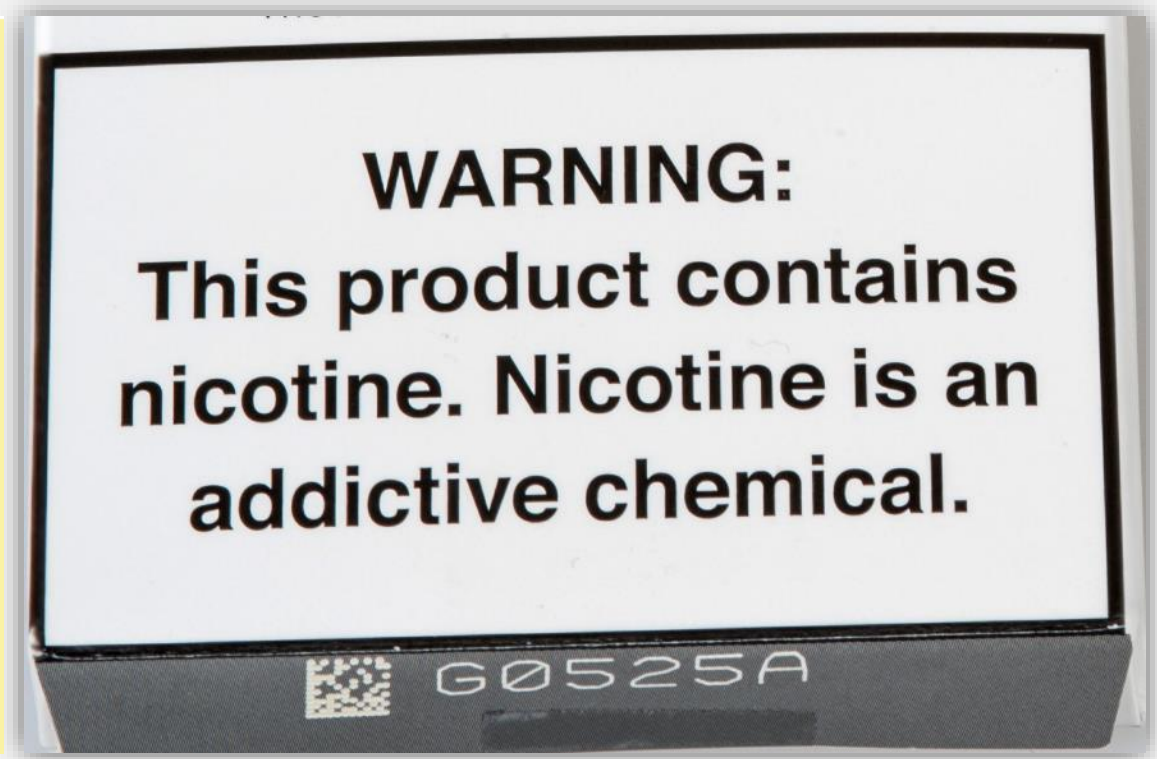
sweets



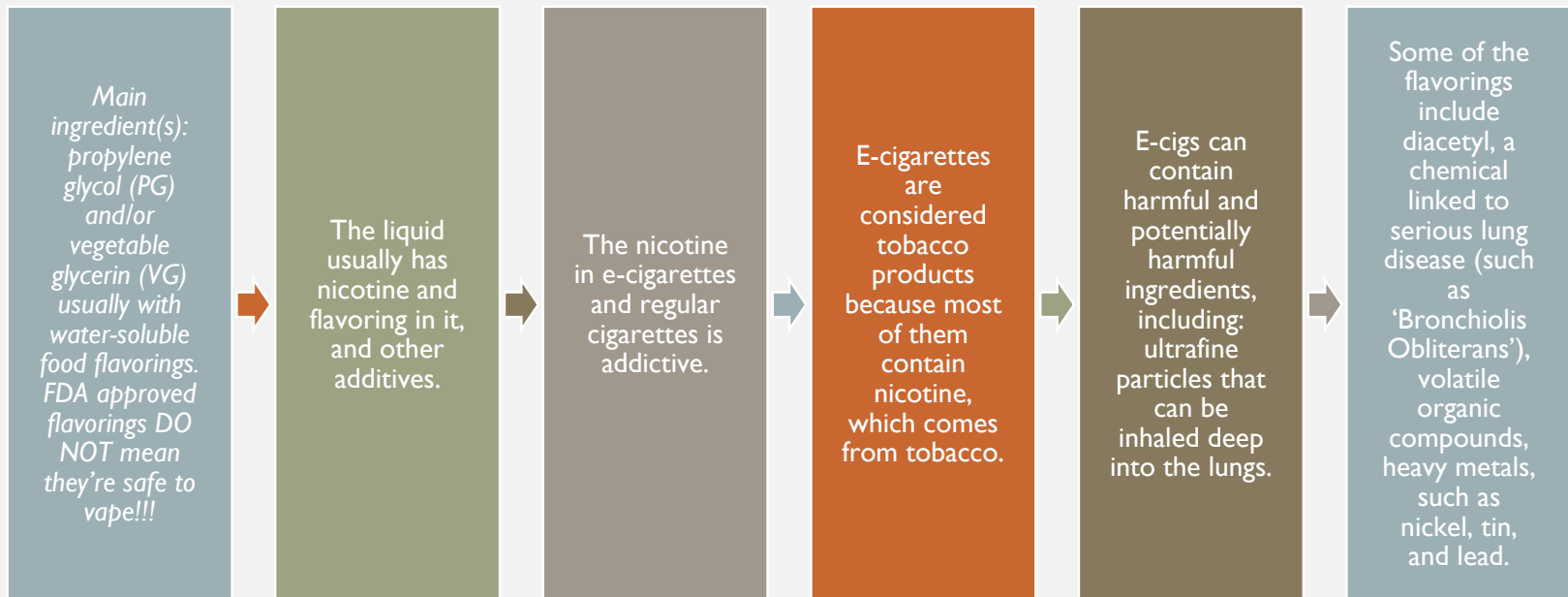
# JUUL CONTAINS A HIGH AMOUNT OF NICOTINE



All JUUL e-cigarettes have a high level of nicotine. According to the manufacturer, a single JUUL pod contains as much nicotine as a pack of 20 regular cigarettes.



# E-CIGARETTE LIQUIDS/ 'E-JUICE':





# e-Liquid Flavors

MADE IN THE UNITED STATES  
LAB PRODUCED

## Exotic

1. Aphrodite
2. Blue Palms
3. ButterHotz
4. Dew Blast
5. Fire Bomb
6. Fruity Pebbles
7. Cool Aid
8. Pecan Pie
9. Infernomint
10. Hive Nectar
11. Jamoconut
12. Kiwi Dream
13. Lime Sherbert
14. Lion's Blood
15. Iced Apple
16. Gummy Punch
17. Mythical Reserve
18. Orange Sherbert
19. Papa Bear
20. Papa Smurf
21. Peguseuss
22. RazzBull
23. RazzLemade
24. Red Palms
25. Red Hot Gummies
26. ROKStar
27. Strawberry Fig
28. Sully
29. Watermelon-Bubbalicious

## Fruity

30. Apple Snapz
31. Blueberry
32. Grape
33. Greek Candi
34. Green Apple
35. Juicy Lemon
36. Kiwi Strawberry
37. Larry's Lemonade
38. Lemon Meringue
39. Mogley
40. PMS
41. Pomegranate
42. Smoothie
43. Sour Berry
44. Strawberry
45. Tart Kiwi
46. Watermelon

## Savory

47. Apple Krisp
48. Apple Pie
49. Bahama Mama
50. Banana Moon Pie
51. Blue Belgian
52. Blueberry Crumble
53. Boston Cream Pie
54. Bubbalicious
55. Buttery Nipple
56. Carmel Waffle
57. Cherry Banana Custard
58. ChocoEclair
59. Chocolate Almond
60. Chocolate Donut
61. Cinawirl Danish
62. Cinnamon Coffee Cake
63. Cinnamon Roll
64. Cinnamon Toast Crunch
65. Coffee Delight
66. Cotton Candy
67. Double Fudge Brownie
68. French Toast Krunch
69. Nanna Waffle
70. New England Cheesecake
71. Ocean Blue Breeze
72. Peaches N Cream
73. Peanut Butter Crunch
74. Reeses Cup
75. Sour Gummi
76. StarBux
77. Strawberries N Cream
78. Strawberry Graham
79. Strawberry Ice Cream
80. Sugar Cookie
81. Vanilla Smoothie

## Nicotine Strengths

0mg 8mg 16mg 24mg

30mL Bottle - \$16.99

## Tobacco

82. Blue-Bacco
83. Camel Sands
84. Cherry Pipe
85. Granny's Sweet
86. Hannibal's Choice
87. Honeywood
88. Latakia
89. Reds
90. RY-More

## Menthol

91. Ande'z
92. Berry Blast
93. Candy Cane
94. Cool Lights
95. Frescada
96. Kiwi Mint Breezer
97. Latakia Mintol
98. Menthol Kings
99. Paradise Cooler
100. RY-Mintol
101. Turkish Mintol

## Flavors of the Week 30mL Bottle for \$14.99!

### 33. Greek Candi

Red and, Green Apple are back with a good friend to pump up the sweet!

### 81. Vanilla Smoothie

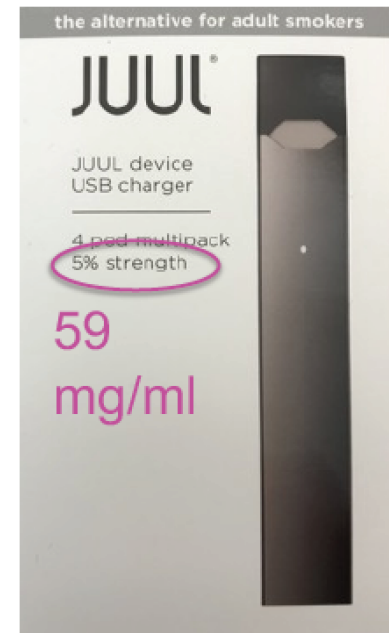
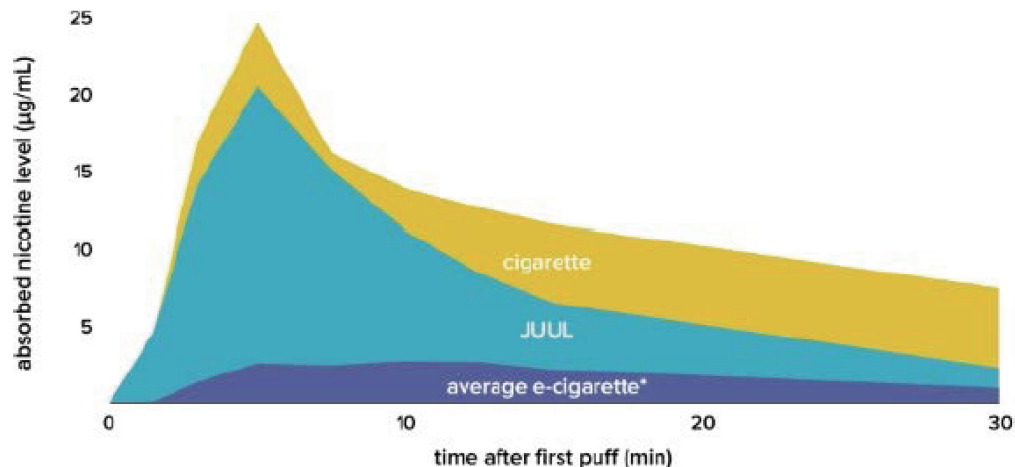
A creamy and, refreshing vape for those days of relaxation.

# ARE VAPES AND E-CIGARETTES A GATEWAY TO SMOKING FOR TEENS?

- Johns Hopkins Video link:
- [https://www.youtube.com/watch?time\\_continue=1&v=9kpLBA65LIY](https://www.youtube.com/watch?time_continue=1&v=9kpLBA65LIY)
- “I think perhaps *the* #1 concern about vaping right now is the so-called gateway effect. Our own literature suggests that 2 million young adults use electronic cigarettes as their first nicotine-based product. They’re not trying to quit smoking — they’ve never smoked before.”
- Blaha says there’s evidence that young people who vape are more likely to go on to use illicit drugs and tobacco products such as cigarettes.
- “We might be causing the next smoking epidemic through young people getting addicted to electronic cigarettes early in life,” he says.

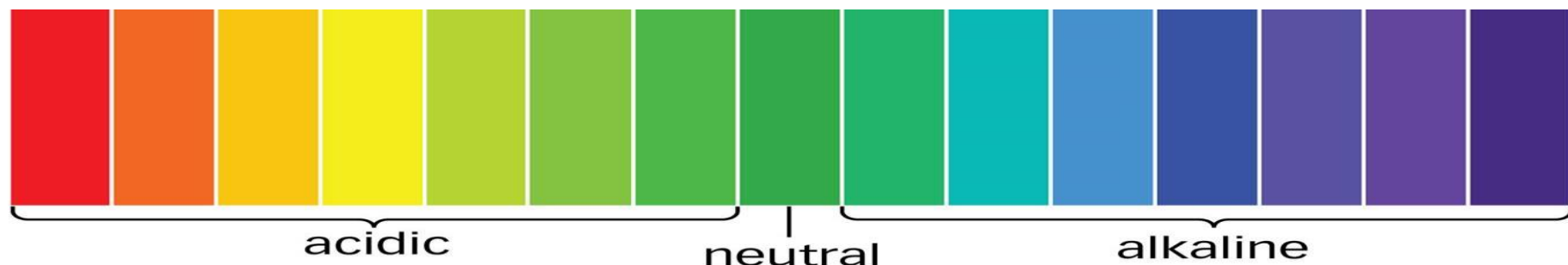
# THE JUUL MIMICS THE NICOTINE EFFECT FROM CIGARETTES

## JUUL – Nicotine Delivery



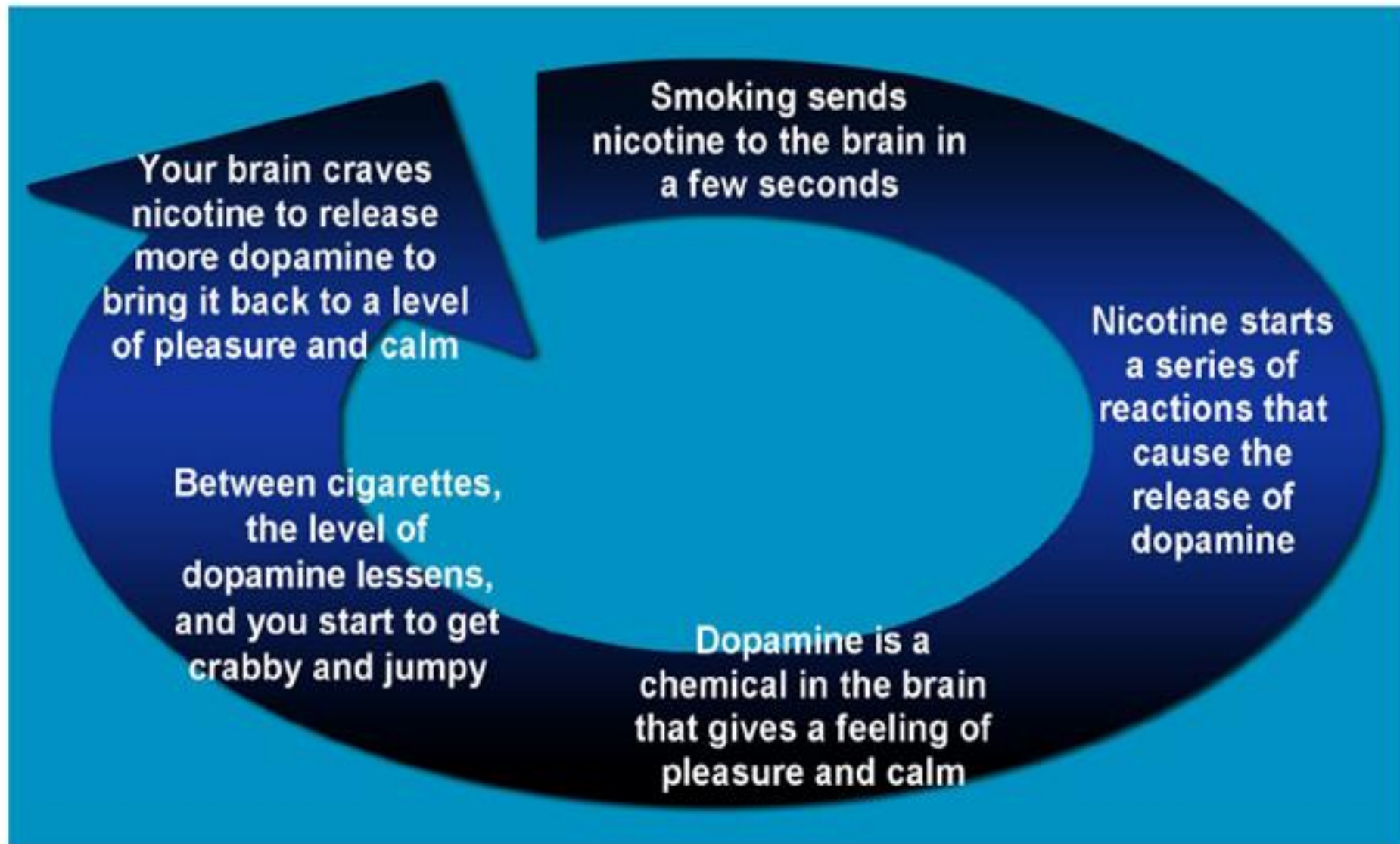


# NICOTINE SALTS ALLOW HIGH LEVELS OF NICOTINE TO BE INHALED MORE EASILY



# Why It's So Hard to Quit

## 1. Physical addiction – comes from brain chemistry



# HOW DOES THE NICOTINE IN E-CIGS AFFECT THE BRAIN?

Until about age 25, the teen brain is still growing. Pre-Frontal Cortex is last

Each time a new memory is created or a new skill is learned, stronger connections – or synapses – are built between brain cells.

Young people's brains build synapses faster than adult brains.

Because addiction is a form of learning, adolescents can get addicted more easily than adults.

The nicotine in e-cigarettes and other tobacco products can also prime the adolescent brain for addiction to other drugs such as cocaine.

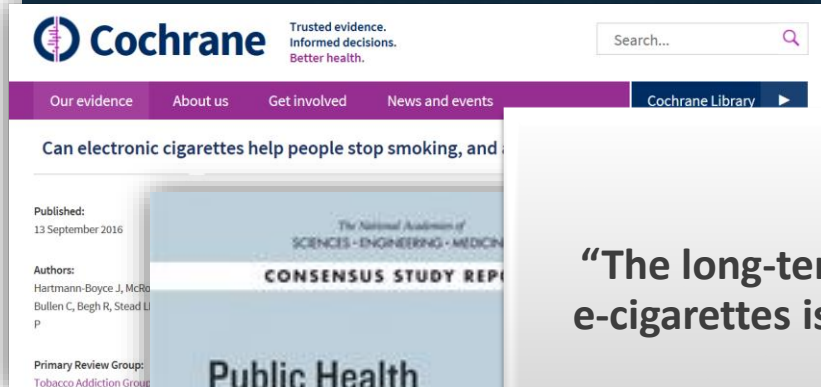
# PUBLIC HEALTH BENEFIT OR HARM?



**Youth Initiation**

**Adult Cessation**

# E-CIGARETTE USE AS A SMOKING CESSATION TOOL AMONG ADULTS



**“The long-term safety of e-cigarettes is unknown.”**

**“Overall, the USPSTF found the evidence on the use of ENDS as a smoking cessation tool in adults, including pregnant women, and adolescents to be insufficient.”**

**Conclusion 17-1. Overall, there is limited evidence that e-cigarettes may be effective aids to promote smoking cessation.**



“Switch Don’t Quit”

**BLACK NOTE**

NATURALLY EXTRACTED TOBACCO FLAVOURS • NO ARTIFICIAL FLAVOURS, COLOUR DYES OR CHEMICAL ADDITIVES  
30ML GLASS BOTTLES • STRONG DRAWING • COOL EXTRACTED USING A 6-8 WEEK STEEPING PROCESS

- BLACK NOTE
- ORANGE
- APPLE
- BERRY
- BLACK NOTE
- TART SWEET
- PEACH
- CANDY
- MINT
- ROSE

WINNER OF ECCR ELECTRONIC CIGARETTE CONSUMER REVIEWS  
AWARD OF EXCELLENCE "BEST TOBACCO E-JUICES 2015"

# WHY QUIT? SWITCH TO BLU

blu is the smart choice. For smokers wanting a change. Take back your freedom to smoke when and where you want without any artifice. blu is everything you agree about smoking and making it real. Naturally. Blue is genius, so make the switch today.

Visit [blucigs.com](http://blucigs.com)

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**PREMIUM. ESSENTIALS. ELEGANCE.**

**15+ only.** © 2009 B&W T Co. All rights reserved. blu is a registered trademark of B&W T Co.

Considering all I'd heard,  
I decided to either quit  
or smoke True.

I smoke True.

The low tar, low nicotine cigarette.  
Think about it.

Warning: The Surgeon General has determined that cigarette smoking is hazardous to your health. Quitting now greatly reduces serious risks to your health.

144 Regular Cigarettes per 100 mg. nicotine av. per cigarette by FTC method. © 1994, Philip Morris Inc. All rights reserved. All trademarks are the property of their respective owners.

Green  
Smoke<sup>™</sup>  
it's electric<sup>™</sup>

Tastes Real..  
Feels Real..  
It's NOT a Cigarette..  
It's electric.

CLICK HERE TO VISIT GREEN SMOKE

just the right side of wrong...

# lung candy

A collection of Lung Candy e-liquid bottles is displayed on a reflective surface. The bottles are in various colors and shapes, some with labels like 'low', 'candy', and 'candy'. The background is dark with blue and purple lighting, creating a moody atmosphere. The text 'just the right side of wrong...' is written in a white, handwritten font at the top, and 'lung candy' is written in a large, white, handwritten font below it.

**LOVE  
YOUR  
LUNGS**



**SIMPLE  
REFRESHING  
SMOKE FREE**



# MAKE THE SWITCH – JUUL ADS

[Click to View Larger Image](#)

SWITCH

ANDREW, 30  
JUUL customer since Sep 2017

WARNING: This product contains nicotine. Nicotine is an addictive chemical.

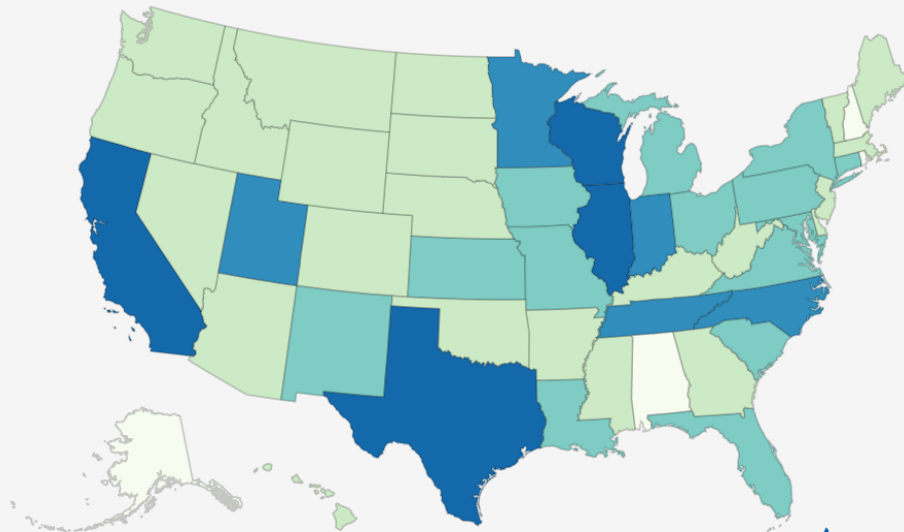
[Click to View Larger Image](#)

SWITCH

JUUL • JUUL Vapor • 5%  
Simple and portable, JUUL was designed with smokers in mind. Make the  
SWITCH to JUUL today and see for yourself. Nicotine is an addictive chemical.

# CDC WARNS ABOUT THE OUTBREAK OF LUNG INJURY ASSOCIATED WITH E-CIGARETTE USE, OR VAPING

## Lung Injury Case Counts



### Legend

Number of lung injury cases per state

- 0 cases
- 1-9 cases
- 10-29 cases
- 30-49 cases
- 50-99 cases

Territories

AS GU MH FM MP PW PR VI



“Dank Vapes appear to be the most prominent in a class of largely counterfeit brands, with common packaging that is easily available online and that is used by distributors to market THC-containing cartridges with no obvious centralized production or distribution”



# CDC WARNS ABOUT THE OUTBREAK OF LUNG INJURY ASSOCIATED WITH E- CIGARETTE USE, OR VAPING

There are 805 lung injury cases reported from 46 states and 1 U.S. territory. Twelve deaths have been confirmed in 10 states.

All reported patients have a history of e-cigarette product use or vaping.

The latest findings from the investigation into lung injuries associated with e-cigarette use, or vaping, suggest products containing THC play a role in the outbreak.

This complex investigation spans many states, involves hundreds of patients, and involves a wide variety of substances and e-cigarette, or vaping, products.

CDC continues to work closely with FDA, states, public health partners, and clinicians on this outbreak.

# Marijuana is not “just a plant” anymore – derivatives contain up to 98% THC



*“Green Crack”  
wax*



*“Ear Wax”*



Butane Hash Oil  
(BHO)



Hash Oil Capsules



*“Budder”*

Copyright © 2014 The Shire, Inc. All rights reserved. Use with permission.

*“Shatter”*



**Marijuana concentrates contain extraordinarily high THC levels ranging from 40 to 95 percent THC amounts. This form of marijuana can be up to four times stronger in THC content than high grade or top shelf marijuana, which normally measures around 20 percent THC levels.**

**Being a highly concentrated form of marijuana, the effects upon the user may be more psychologically and physically intense than plant marijuana use. These effects include paranoia, anxiety, panic attacks, and hallucinations. Additionally, the use increases one's heart rate and blood pressure. Users may also experience withdrawal and addiction problems.**



# VAPING & MARIJUANA

- Aftermarket 'Pods' that resemble 'Juul Pods' are sold online, and replace traditional E-Juice with THC Wax/Oils.
- Aftermarket 'Cartridges' containing THC Wax/Oil that fit into other E-Cigarette devices such as 'Vape Pens' are sold online.
- In 2015, a Yale University research study reported that nearly 1 in 5 teens who use e-cigs have used the device to vaporize cannabis or byproducts like hash oil. Teens who used e-cigarettes were up to four times more likely to use marijuana later, according to a study published in the journal Pediatrics.
- Studies show that regular marijuana use can change the structure of the teenage brain, specifically in areas dealing with memory and problem solving.
- Unfortunately, the perception of risk perception among children for marijuana use has decreased significantly.



# IS MARIJUANA SAFE FOR TEENS?

- High Risk for Addiction
- Brain Changes – Impaired Development
- IQ Loss; Cognitive Impairment
- Poor Grades in School and other social problems
- Risk of Psychosis, Anxiety, and other Mental Health Disorders

# PREVENTION EFFORTS

- Flavor Ban bill in progress in NY (JUUL no longer sells flavor pods in stores)
- Minimum age to purchase tobacco products including E-Cigarettes increased from 18 to 21 in April 2019
- Use of E-Cigarettes is prohibited and applicable anywhere 'No Smoking' signs are in effect
- Vaping Smoke Detectors
- Education to Parents, School Staff, Students, etc.
- Crackdown on businesses selling to minors



TOBACCO  
~~eighteen~~ twenty-one

Including  
**12** with  
Statewide  
T21 Laws

450+ Cities & Counties in **27** States



Source: Preventing Tobacco  
Addiction Foundation.  
<http://tobacco21.org>.  
Accessed April 30, 2019.

# FLAVOR BANS



For Immediate Release: 9/27/2019

GOVERNOR ANDREW M. CUOMO

## **STATEMENT FROM GOVERNOR CUOMO ON STATE SUPREME COURT'S DENIAL OF VAPING INDUSTRY REQUEST FOR TEMPORARY RESTRAINING ORDER ON NEW YORK'S FLAVORED E-CIGARETTE BAN**

"This afternoon, Judge Gerald Connolly of Albany County Supreme Court denied a request by the vaping industry for a temporary restraining order on our recent emergency regulations banning the sale of flavored e-cigarettes. I applaud this initial ruling as we work to enhance our regulations by also banning the sale of menthol flavored e-cigarettes at an upcoming health planning council meeting. Make no mistake: this is a fight for the very future of this state and for the health of all New Yorkers, and we will continue using every tool at our disposal to protect young people from forming dangerous lifelong habits."

# 1



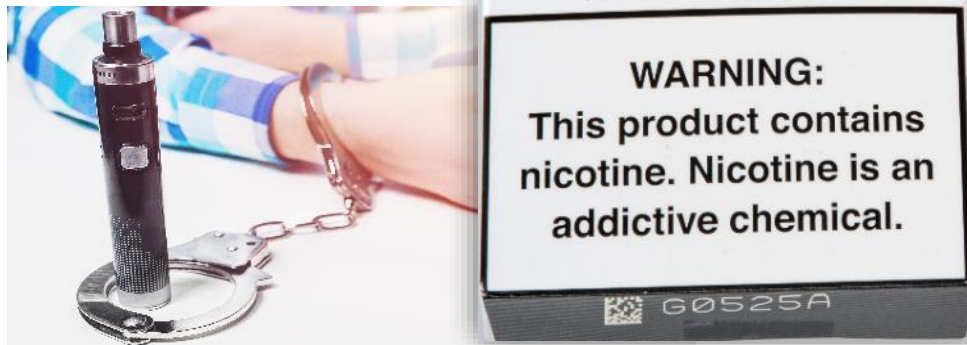
E-cigarettes are a tobacco product that produces an aerosol by heating a liquid that typically contains nicotine, flavorings, and other chemicals.

# 2



As of 2014, e-cigarettes were the most commonly used tobacco product among U.S. youth. Several factors have contributed to youth use, including advertising, flavors, and high nicotine content.

# 3



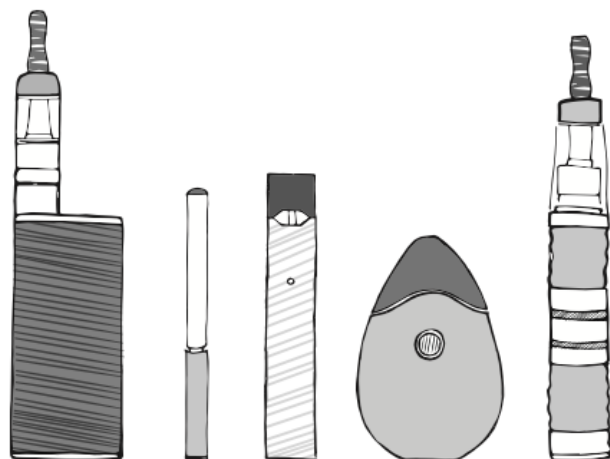
Youth use of any tobacco products, including e-cigarettes, is unsafe.

# 4



As the tobacco product landscape continues to diversify, it's important to modernize tobacco control strategies to adapt.





## WHAT CAN YOU DO AS A HEALTH CARE PROVIDER?

As a health care provider, you have an important role in addressing this epidemic among youth.

- Ask about e-cigarettes and vaping - including discreet devices such as JUUL - when screening patients for tobacco product use.
- Educate patients about the risks of tobacco product use, including e-cigarettes for young people, and counsel youth and young adults to quit.
- Learn about the different shapes and types of e-cigarettes and the risks of e-cigarette use for young people at [\*\*www.CDC.gov/e-cigarettes\*\*](http://www.CDC.gov/e-cigarettes).

# FINAL THOUGHTS

- Vaping is the act of inhaling aerosols containing flavorings, nicotine and other chemicals.
- High School Students use of e-cigs is increasing quickly.
- Vaping and e-cig products are easily accessible to teens via websites – they use gift cards to purchase them.
- E-cigs can be used with marijuana as well as nicotine flavorings. The CDC has linked the most recent vaping related respiratory illnesses to pods with marijuana.
- There is limited research on the chemicals that are in the liquids inside of e-cigs. No long-term research yet!
- The FDA has not yet approved e-cigs as a safe or effective way to help smokers quit.

# CONTACT INFORMATION AND GOOD LINKS

- Alice Joselow, [ajoselow@odfmc.org](mailto:ajoselow@odfmc.org)
- Many of these slides were adapted from CDC and NIH/Monitoring the Future information
- **Good sites and information:**
- Surgeon General site: <https://e-cigarettes.surgeongeneral.gov>
- CDC vaping resources: [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/index.htm](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm)
- Stanford Tobacco Prevention Toolkit: <https://med.stanford.edu/tobaccopreventiontoolkit.html>
- The Real Cost: <https://therealcost.betobaccofree.hhs.gov>
- American Lung Association: <https://www.lung.org/stop-smoking/vape-talk/>
- American Academy of Pediatrics: <https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/Richmond-Center/Pages/vaping-juul-e-cigarettes-toolkit.aspx>
- The Truth Initiative: <https://truthinitiative.org/research-resources/emerging-tobacco-products/e-cigarettes-facts-stats-and-regulations>
- NIH Monitoring the Future: <https://www.drugabuse.gov/related-topics/trends-statistics/infographics/monitoring-future-2018-survey-results>