

VAPING 101

What you need to know about e-cigarettes



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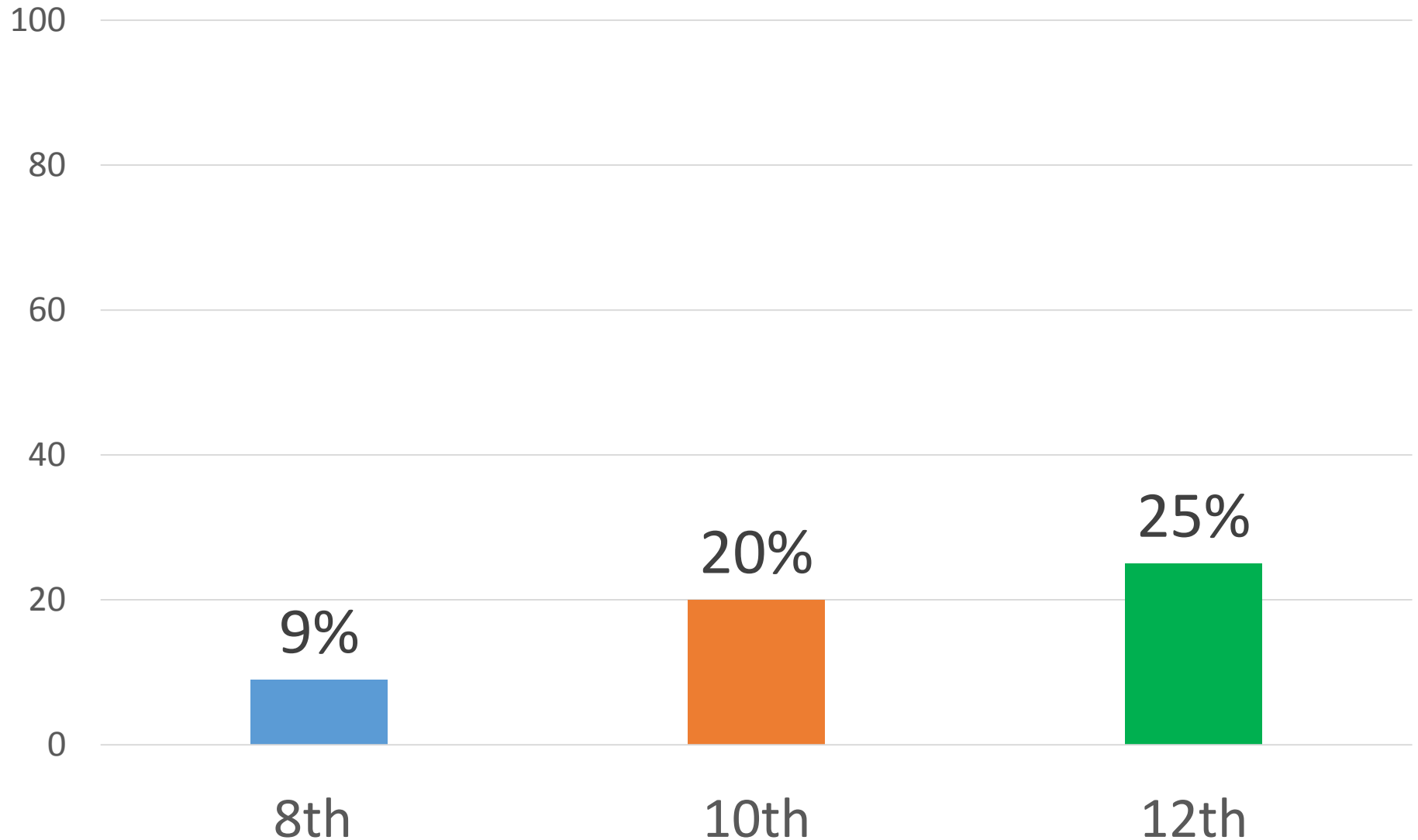


Tricia Dahl, BS

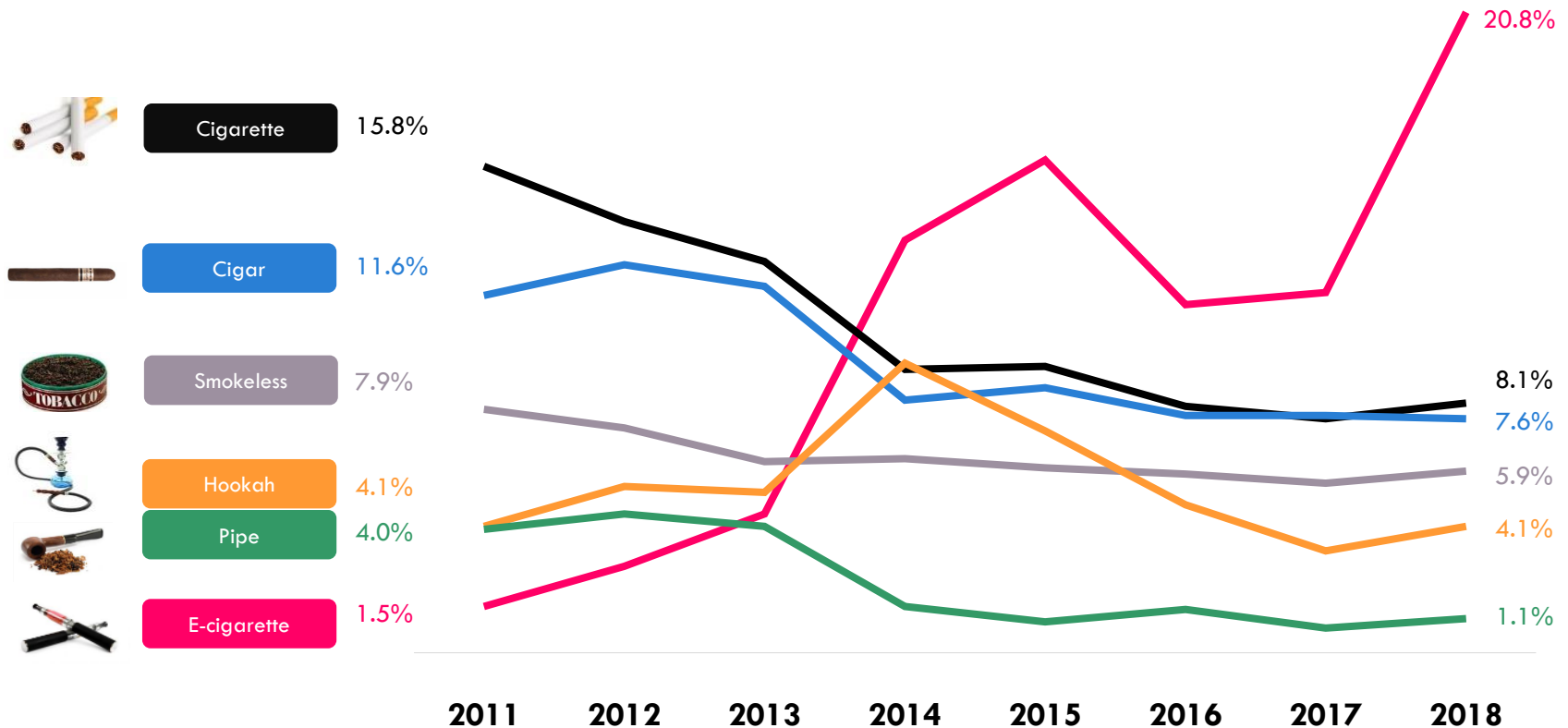


Alissa Goldberg, MSW

Percent of Students Reporting Vaping in Past 30 Days

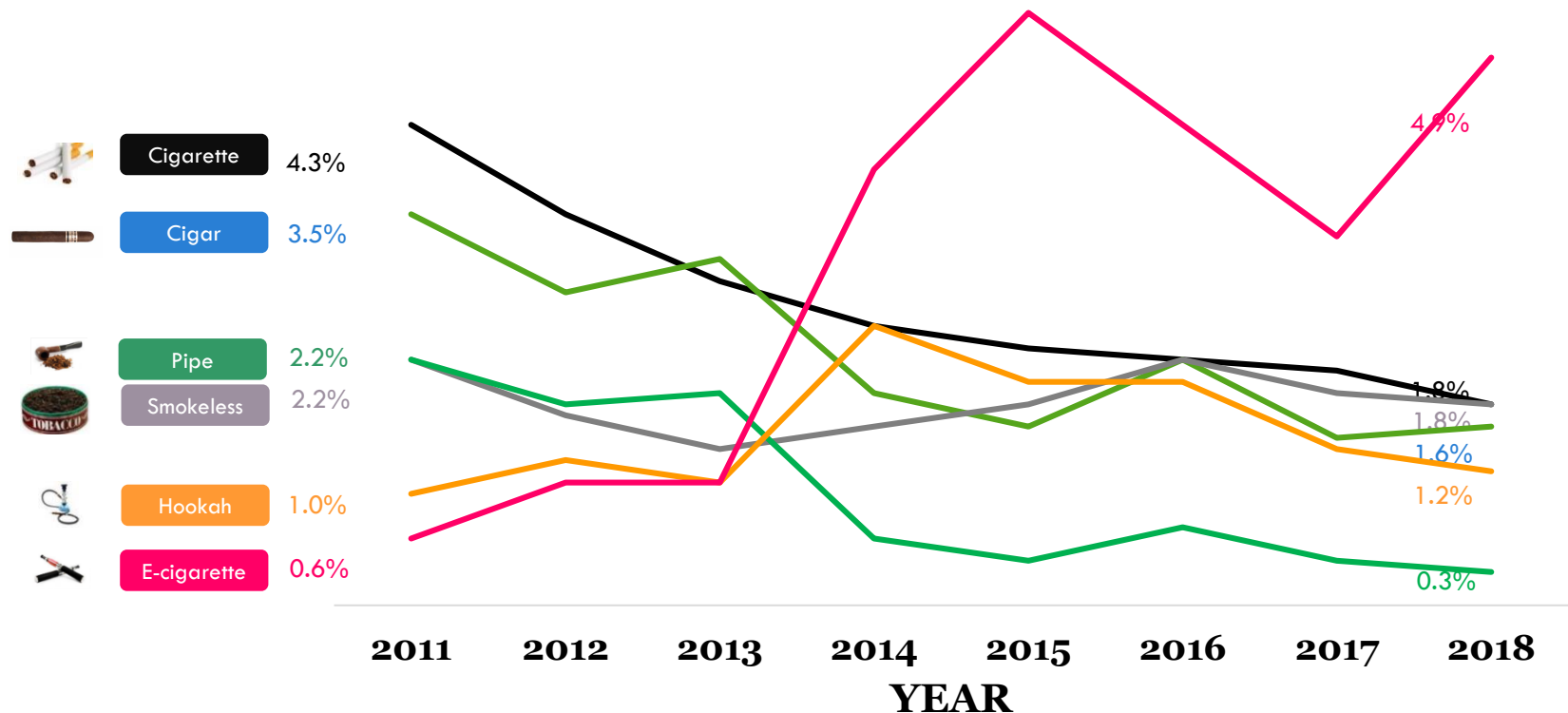


CURRENT (Past 30 Day) Tobacco Product Use Among U.S. High School Students – NYTS 2011–2018



Source: Gentzke AS et al.. Vital Signs: Tobacco Product Use Among Middle and High School Students — United States, 2011–2018. MMWR Morb Mortal Wkly Rep 2019; 68(6):1-8.

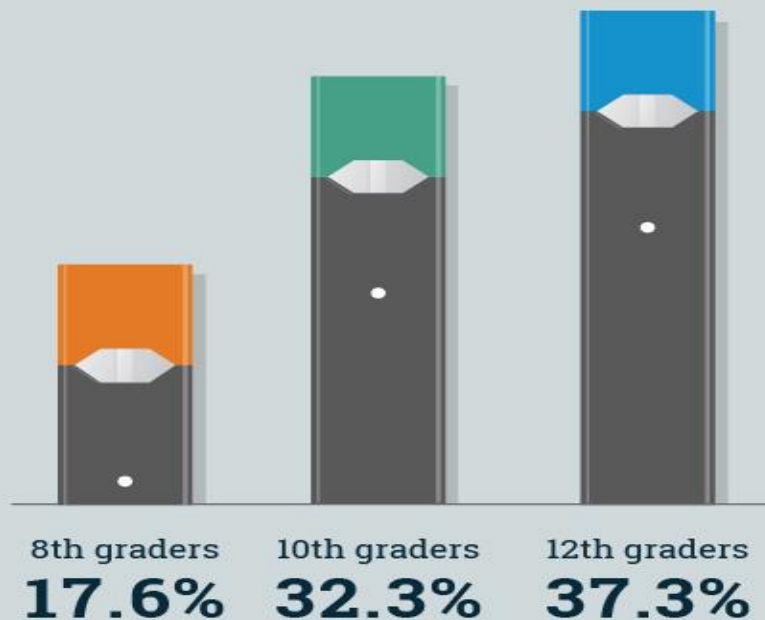
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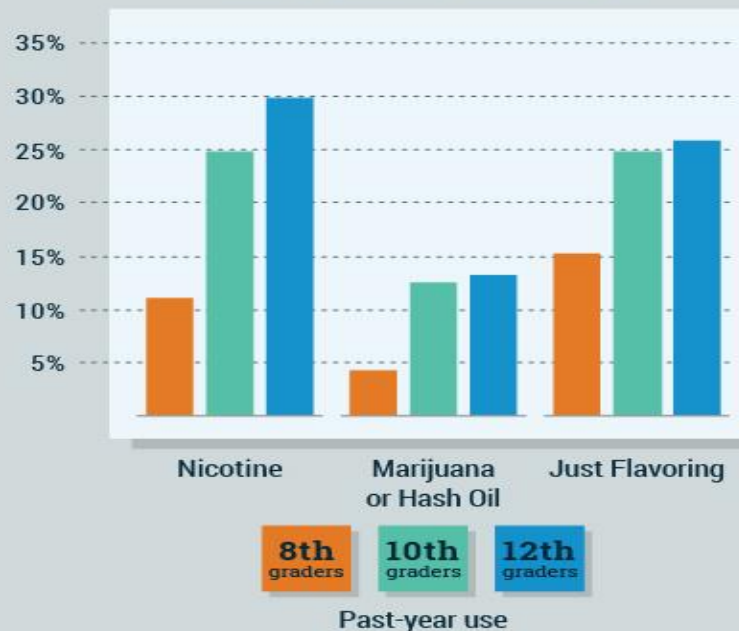
Source: Gentzke AS, Creamer M, Cullen KA, Ambrose BK, Willis G, Jamal A, King BA. Vital Signs: Tobacco Product Use Among Middle and High School Students — United States, 2011–2018. MMWR Morb Mortal Wkly Rep 2019; 68(6):1-8.

TEENS USING VAPING DEVICES IN RECORD NUMBERS

PAST-YEAR VAPING



WHAT DO TEENS SAY THEY ARE VAPING?



NEARLY 2 IN 5 STUDENTS IN 12TH GRADE REPORT PAST-YEAR VAPING, RAISING CONCERNS ABOUT THE IMPACT ON BRAIN HEALTH AND POTENTIAL FOR ADDICTION.



National Institute
on Drug Abuse

DRUGABUSE.GOV

Vape Rates of Youth in our CT Surveys

Lifetime Vaping

47.5%

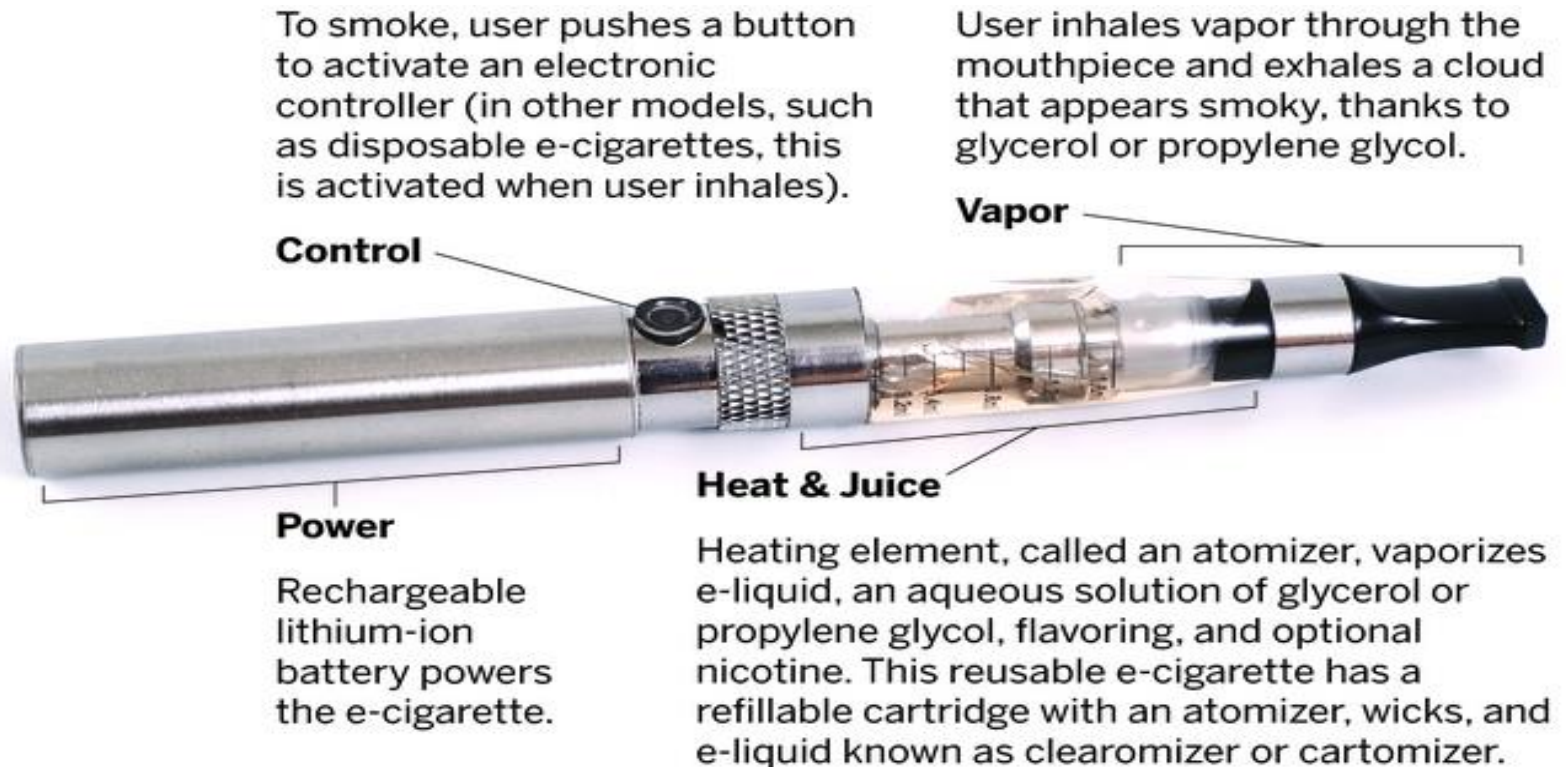
Past 30 day Vaping

29.7%

Spring 2019, 6 CT high schools, n = 4875

What are e-cigarettes/vapes?

Battery-operated devices used to inhale an aerosol, which may contain nicotine, flavorings, and other chemicals.

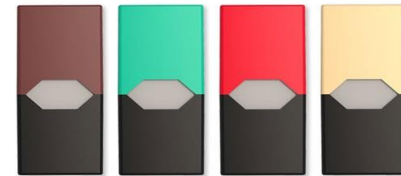


Evolution of E-cigarette Device Types

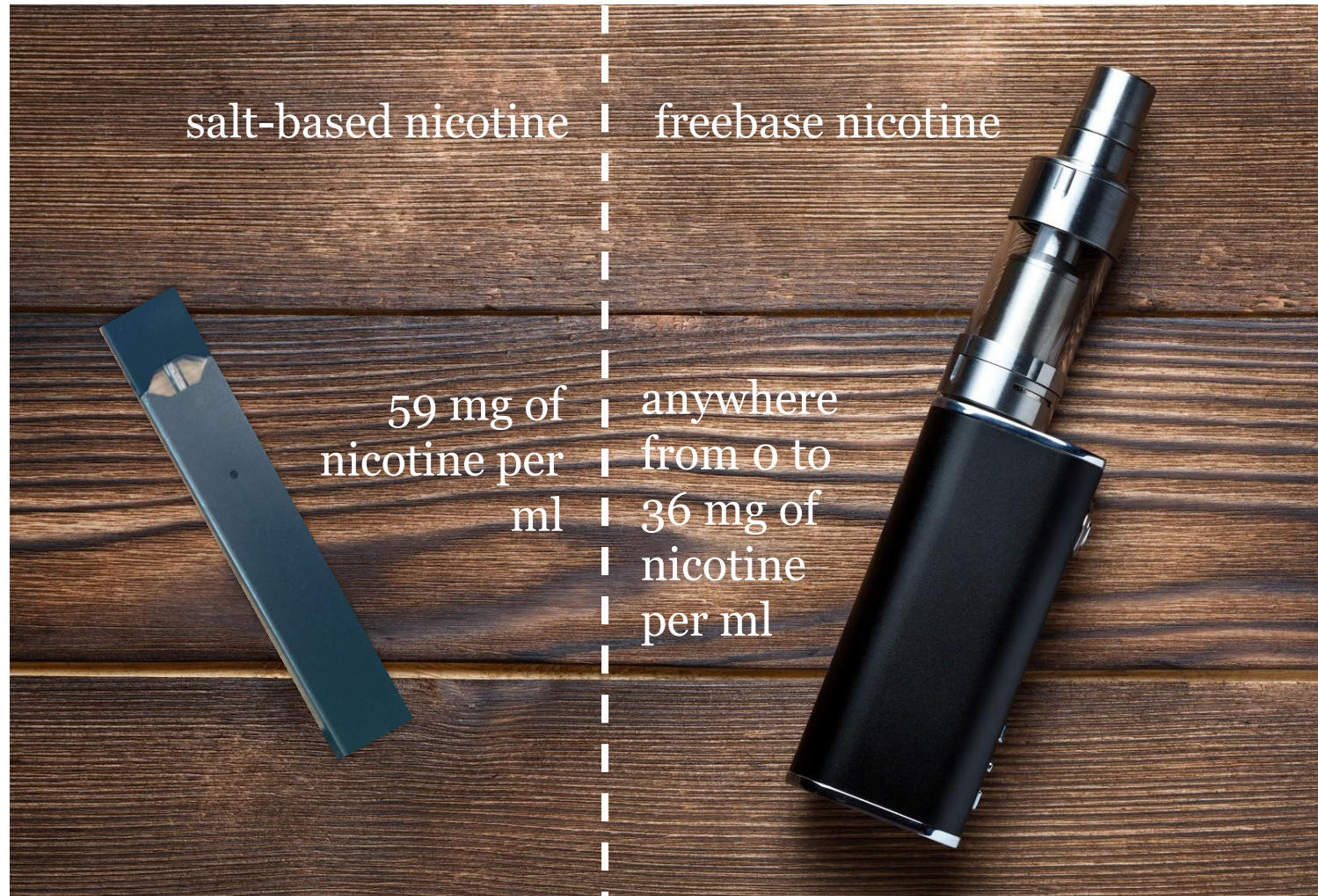


What is in e-juice?

- Propylene Glycol (throat hit)
- Vegetable glycerin (clouds)
- Other chemicals
- Nicotine
- Flavors



Stronger E-Cigarette/Vape



Flavorings and Toxicity

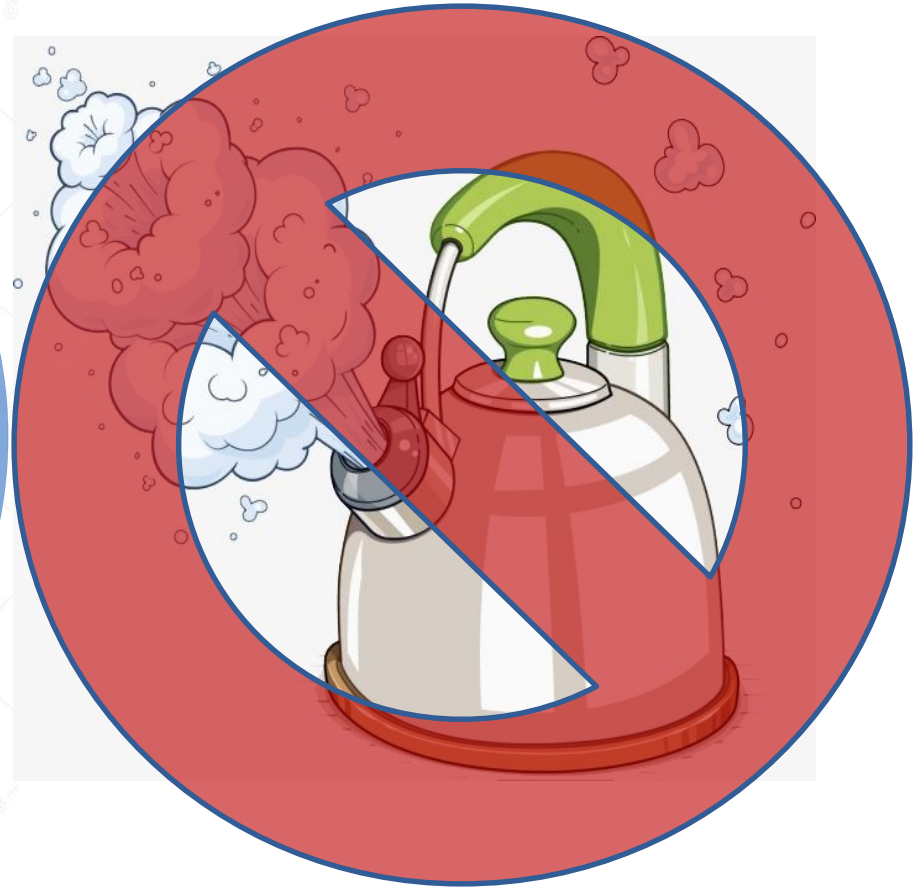
- Vanillin
- Acetoin
- Diacetyl
- Pentanedione
- Cinnamaldehyde
- Furfural (chocolate)
- Maltol (cotton candy)
- Coumarin
- Benzaldehyde (fruity flavors, esp. cherry)

(Allen et al., 2016; Tierney et al., 2016; Muthumalage et al., 2018)

Why are we concerned about nicotine?

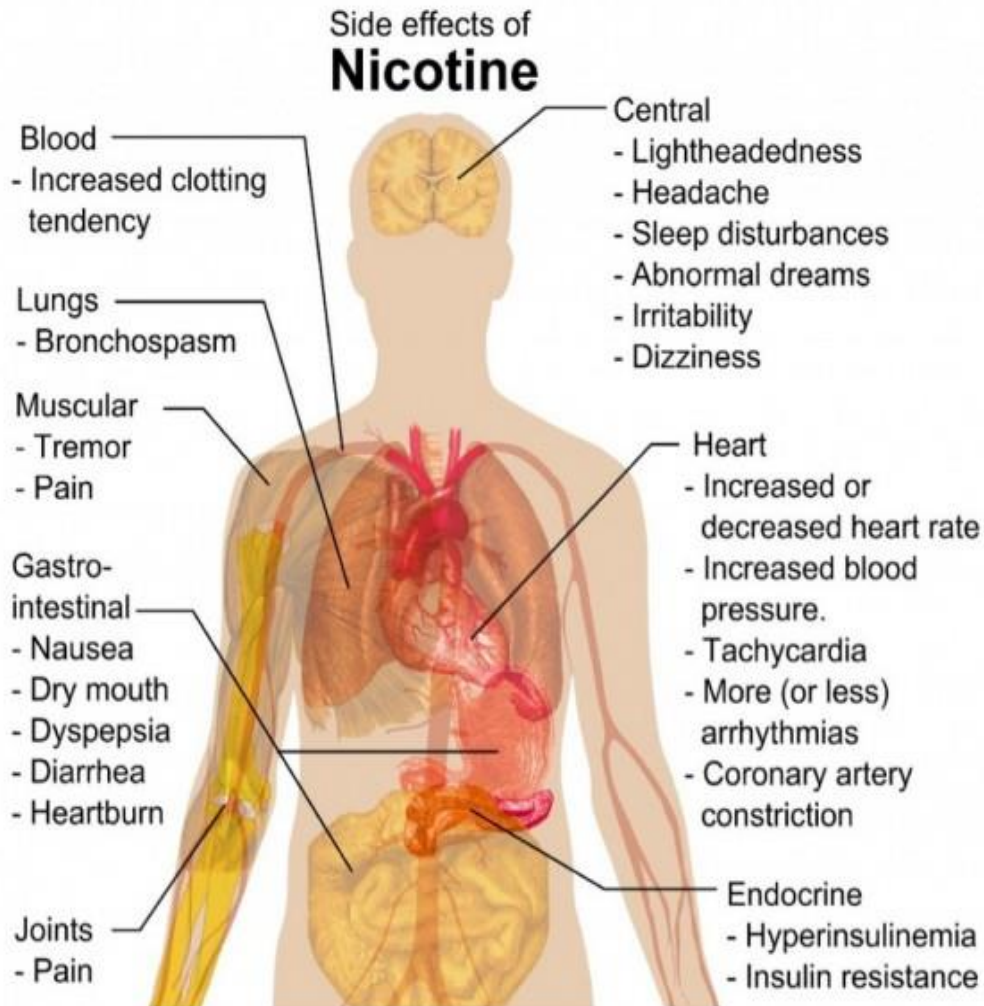


Is it an aerosol just water vapor?



Nicotine

Highly addictive and the adolescent brain is sensitive to even low levels of nicotine



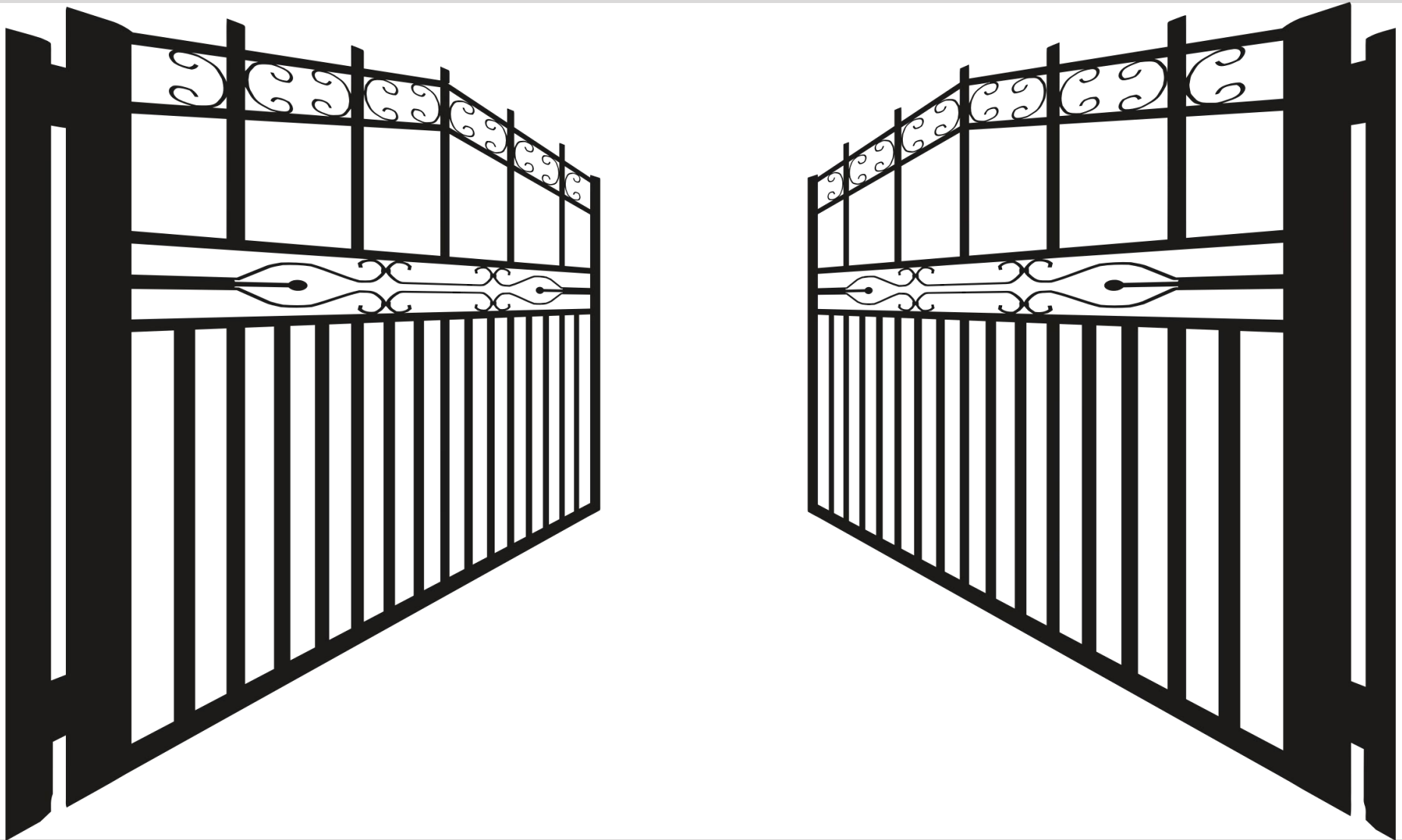
In adolescent animals nicotine is a well established neurotoxin

- It produces changes in learning, memory, attention processes and induces hyperactivity.
- It makes it easier to get addicted to other substances
- It produces epigenetic changes, for e.g. in genes involved in asthma and depression

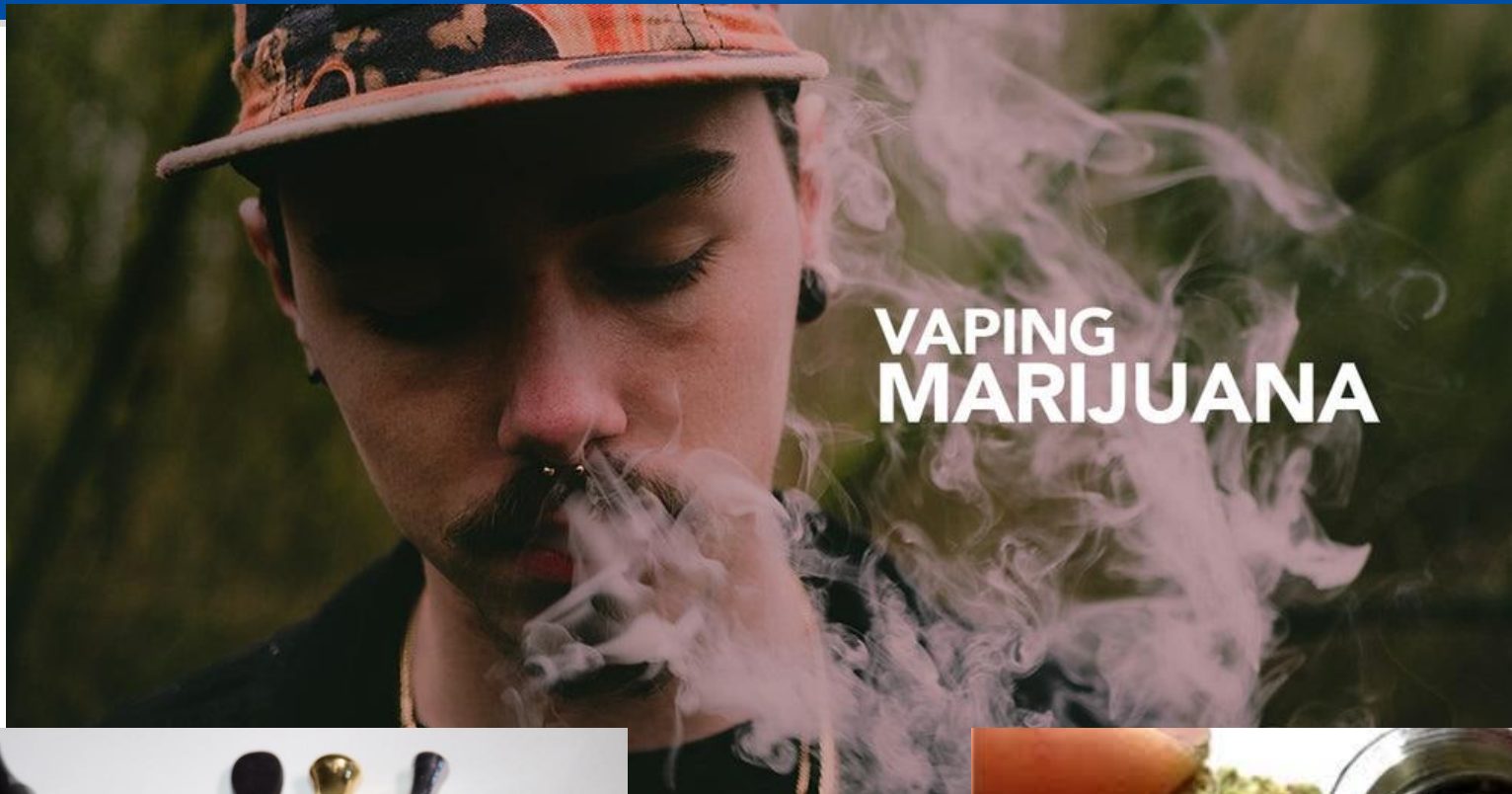
What are Health Concerns?

- Lung Issues
 - e-cigarettes emit volatile carbonyls, reactive oxygen species, furans, and metals (nickel, lead, chromium) (Eaton et al., 2018)
- Heart Disease
 - 71% higher risk of stroke.
 - 59% higher risk of heart attack or angina
 - 40% higher risk of heart disease.
- Seizures

Gateway Effect?



Vaping Other Substances



Dabbing



Dabbing vs. Other Marijuana

- The effects of dabbing are much more intense, and also much faster than other forms of marijuana use.
- Dabbing allows the user to ingest a high concentration of Tetrahydrocannabinol (THC), the psychoactive ingredient in marijuana.
- Overdoses with nasty side effects are definitely possible, especially when it comes to novice users dabbing with too high of a dosage.
- Dabbing is NOT healthier than using marijuana in its combustible form.

Why can Dabbing Be Dangerous?

Side effects include

- rapid heartbeat
- blackouts
- feeling like something is crawling under the skin
- loss of consciousness
- psychotic symptoms, including paranoia and hallucinations.

What we still don't know about dabbing

- Most research on marijuana has been conducted with much lower concentrations of THC than what is found in BHO.
- Research already shows that smoking marijuana is harmful for teens.
- While a typical marijuana joint has 15% THC, reports suggest that hash oils can have THC concentration levels as high as 60-90%.
- We do know that marijuana can cause dependence, especially for those who begin experimenting at younger ages.
- A recent study found that people who report daily use of marijuana and occasional dabbing have a harder time cutting back or quitting, need to use more of the substance to get the same effect and find it difficult to switch back to smoking marijuana with lower THC concentrations.



\$200
Million

Advertised ways to hide a vape:



Different shapes and sizes:



What is the FDA doing to address youth vaping?

- Ending sales of e-cigarette products in flavors that appeal to kids, such as cherry, vanilla, crème, tropical, and melon, by banning their sale in many retail locations and manufacturers' online stores that are accessible to minors. Tobacco, mint, and menthol flavors, however, would not be included because the FDA Commissioner wants adults to be able to use them as a quit-smoking tool.
- Banning flavors in cigars, including little cigars – which look just like cigarettes and are popular with adolescents and teens.
- Banning the marketing of e-cigarette products to children such as using popular children's cartoon or animated characters, or names of products favored by kids like brands of candy or soda.
- Banning menthol flavor in cigarettes and cigars.

E-Cigarettes and Connecticut Law

- As of October 1, 2019, under Connecticut law, it is illegal for:
 - (1) anyone under the age of 21 to buy an e-cigarette, cigarette, or any other form of tobacco
 - (2) anyone to sell, give, or deliver an e-cigarette to a person under 21.
- A person who sells an e-cigarette to a minor is subject to a fine of between \$300 and \$1000, depending on the number of violations.
- Prohibits the use of tobacco and e-cigarette products on school property (public and private), inside and outside the building, while school is in session or during student activities. This comes with a \$75 fine.



Thank you!

