



# E-Cigarettes: Finding Truth Among the Vapors

*\*Presentation adapted from Jared O'Connor, MS, MPH  
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[drugfreebroward.org](http://drugfreebroward.org)



**United Way of Broward County**



**COMMISSION ON BEHAVIORAL  
HEALTH & DRUG PREVENTION**



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# LEARNING OBJECTIVES

**By the end of this session, participants will be able to**

- Describe the basic principles and paraphernalia of e-cigarette mechanics and their connection to nicotine and marijuana/cannabis use
- Identify the poisoning-related hazards of e-cigarettes and vaping
- Utilize current research to articulate the health risks e-cigarettes, nicotine, marijuana/cannabis, and other substances pose to youth



# E-Cigarettes?

IN THE NEWS: HILLARY CLINTON POPE FRANCIS IN AMERICA EUROPEAN REFUGEE

HOME SECTIONS SEARCH

## NEW YORK POST

OPINION

### E-cigarette hysteria is hazardous to your health

By Richard Carmona September 22, 2015 | 8:00pm



Electronic-cigarette use is likely to be around 95 percent less harmful to health than smoking.  
Photo: Anne Wiermski

To say electronic cigarettes ignite controversy is an understatement.

For some, e-cigarettes offer the prospect of disrupting the \$800 billion global cigarette trade by providing a satisfying alternative to smoking. Nicotine itself is not a carcinogen, and e-cigarettes do not have all of the toxins and carcinogens produced by

US News HEALTH

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### The Dangers of E-Cigarettes – and How to Protect Your Kids

Experts worry that e-cigs will contribute to a new generation of young people becoming dependent on nicotine.



E-cigarettes can be extremely hazardous to young children.

By Sophie Balk, M.D. July 6, 2015 | 7:00 a.m. EDT

\*Smoking cigarettes?\*

the guardian

ports soccer tech arts lifestyle fashion business travel environment science

### Vaping: e-cigarettes safer than smoking, says Public Health England

Government body says vaping can make 'significant contribution to endgame of tobacco' and raises concerns about length of licensing process



Kevin Fenton, director of health and wellbeing at Public Health England, explains why e-cigarettes are better for smokers than tobacco

Vaping is safer than smoking and could lead to the demise of the traditional cigarette, Public Health England (PHE) has said in the first official recognition that e-cigarettes are less damaging to health than smoking tobacco.

The health body concluded that, on "the best estimate so far", e-cigarettes are about 95% less harmful than tobacco cigarettes and could one day be dispensed as a licensed medicine in an alternative to anti-smoking products such as patches.

Most popular in US

- Student accused of being a terrorist for reading book on terrorism
- Haji pilgrimage: more than 700 dead in crush near Mecca
- Pope Francis departs for New York after challenging Washington power - live
- Pope Francis electrifies Congress with speech laying out bold vision for US
- I settled your Brooklyn neighbourhood and now you're dissing me?



# What are e-cigarettes?

**Electronic Nicotine Delivery System (ENDS): battery operated device that vaporizes a liquid nicotine for inhalation**

Go by several names: e-cig, e-hookah, e-pen, vape pen, mod, vaporizer



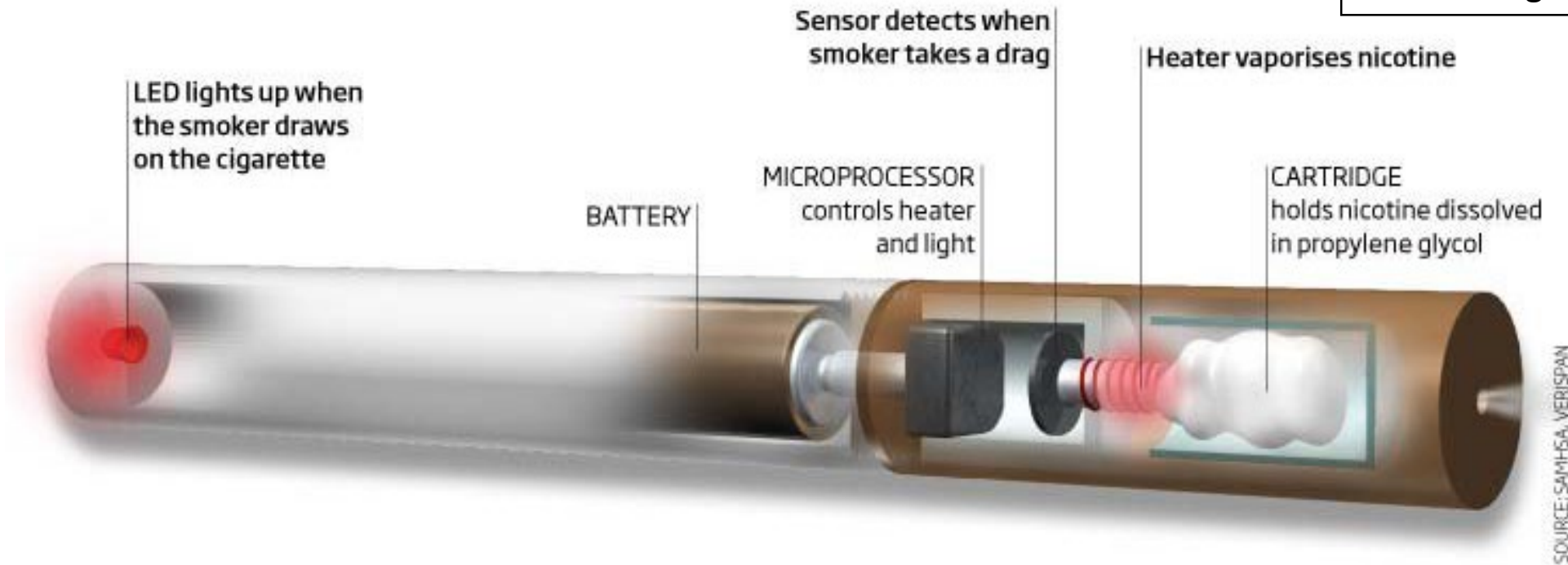
# What are e-cigarettes?

## Smoke without fire

Suck on an e-cigarette and it produces a cloud of nicotine-carrying vapour with none of the toxic by-products of burning tobacco

### 3 Main Pieces:

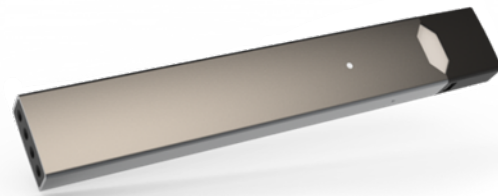
1. Battery
2. Atomizer
3. Cartridge



# Various e-cigarettes available

## 4 Basic Types:

- Minis or Cigliters
  - Mid-size rechargeable vape pens
  - Mods or Advanced Personal Vaporizers
  - Salt Based Pod Vapes
- 
- Ideal temperature for nicotine to vaporize is 190 degrees F.

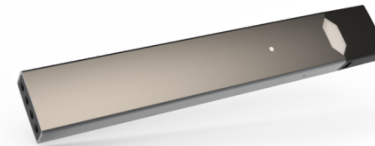


# E-Cigs Evolution

“Freebase Nicotine”

“Salt based Nicotine”

Cigalites → Pens → Mods → JUUL → Rechargeable Pod

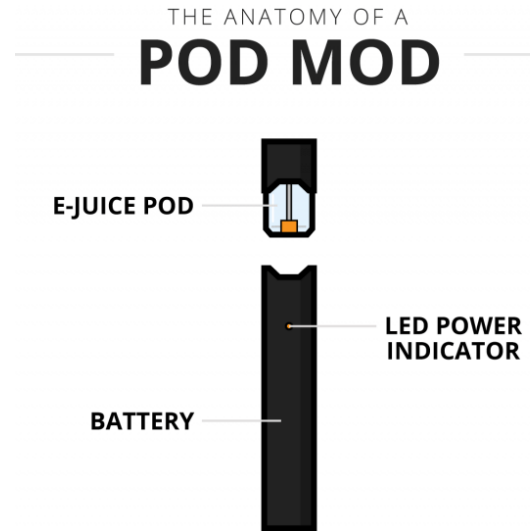




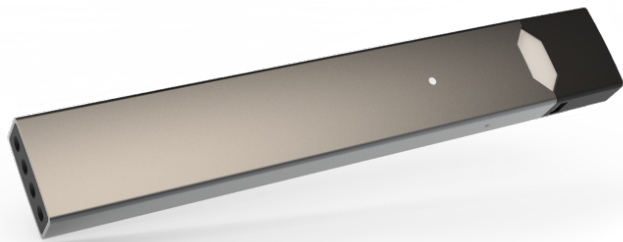
# Salt Based Vapes - JUUL



- Rechargeable/Reusable
- Cost: \$30 for starter kit
- 4 pods - \$15.99
- DIY refills
- Discreet
- In class or bathroom



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## Mango

[LEARN MORE](#)



- 0 +

ADD TO CART

## Cool Mint

[LEARN MORE](#)



- 0 +

ADD TO CART

## Virginia Tobacco

[LEARN MORE](#)



- 0 +

ADD TO CART

## Cool Cucumber \*

[LEARN MORE](#)



- 0 +

ADD TO CART

## Classic Menthol \*

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- 0 +

## Fruit Medley

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- 0 +

## Creme Brulee

[LEARN MORE](#)



- 0 +

## Classic Tobacco \*

[LEARN MORE](#)



- 0 +

# E-Juices

## Liquids or “Juices” typically have “4” ingredients:

- Liquid nicotine
- Stimulant and depressant
- Propylene glycol
- Vegetable glycerin
- Flavoring



# E-JUICES



Come in a variety concentrations (amount/volume)

Generally nicotine concentration comes increments of 6: 0mg, 6mg, 12 mg, 18mg, etc

Bottles will say \_\_mg nicotine without giving that in a volume unit; they really mean \_\_mg nicotine IN EVERY 1 MILLILITER OF LIQUID

The total amount of nicotine in each bottle is generally much higher than the simple number listed on the label

*In this example, 1.8% nicotine in 30 ml*

$$1.8 \times 30 = 54 \text{ mg nicotine}$$



# Clinical Effects of Nicotine



## Mild to Moderate:

- GI upset, nausea, vomiting, dizziness, headache, tremor, tachycardia, pallor, and hypertension

## Severe:

- Seizures, confusion, weakness, bradycardia, hypotension, and respiratory muscle paralysis

# Innocent packaging, dangerous contents



Combustible Cigarettes	Low-dose E-cigarettes	High-dose E-cigarettes
12 mg nicotine/cig	6 mg/mL	36 mg/mL
20 cigarettes/pack	15 mL/bottle	15 mL/bottle
240 mg nicotine/pack	90 mg nicotine/bottle	540 mg nicotine/bottle



1 teaspoon of a 36 mg/mL bottle is a lethal dose for a 20 lb. baby

# Innocent packaging, dangerous contents



JUUL device pod	Standard-dose- E-liquid	High-dose Salt based E-liquid
59 mg/ml	36 mg/mL	60 mg/mL
.7 mL/pod	15 mL/bottle	30 mL/bottle
41.3 mg nicotine/pod	540 mg nicotine/bottle	1800 mg nicotine/bottle





60ml



60ml





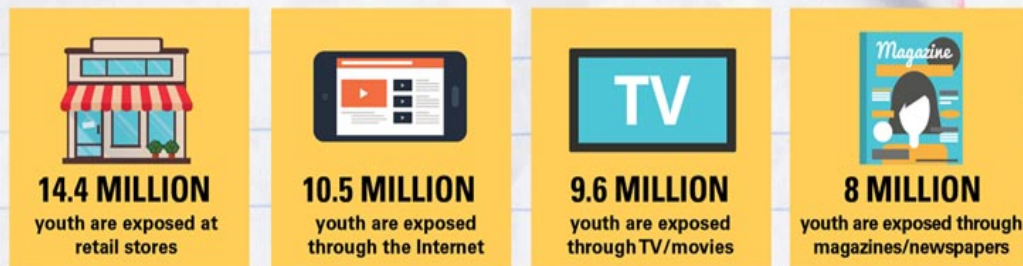
WRAP ONLY  
DEVICE IS NOT INCLUDED



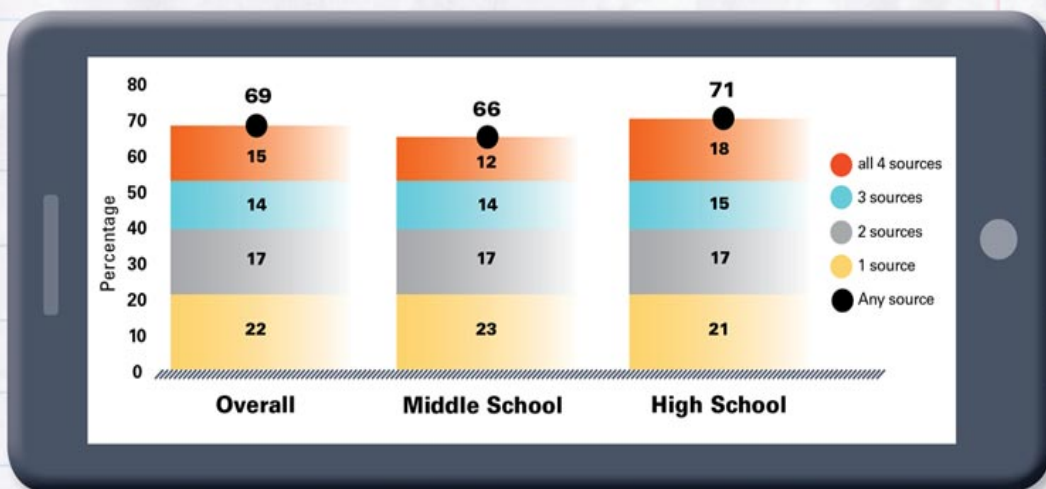
WRAP ONLY  
DEVICE IS NOT INCLUDED

# Youth are exposed to e-cigarette advertisements from multiple sources.

## Sources of e-cigarette advertisement exposure



US students exposed to e-cigarette advertisements, by school type and number of sources of exposure



\* Percentages may not add up exactly to any source due to rounding.

SOURCE: National Youth Tobacco Survey 2014.



“In 2014, nearly seven in 10 (18.3 million) U.S. middle school and high school students reported exposures to e-cigarette advertisement from at least one source”<sup>1</sup>

--CDC’s Vital Signs: Exposure to Electronic Cigarette Advertising Among Middle School and High School Students – United States, 2014

# What about vaping other substances?



# Why Vaporize Marijuana?



- **Get higher, faster**
- **Limited odor**
- **Discretion and “stealth vaping”**
- **Perceived as healthier than smoking**

**REMEMBER WE HAVE TWO DEFINITIONS:**

**Vaping:** *process* of heating and inhaling the essential oils from the plant--which means for cannabis vaping isn't limited to liquids (**Vaporizing**)

**Vaping:** *act* of using a e-cig or vape pen device

# Marijuana "Waxes"



# Marijuana “Waxes”

- Butane Hash Oil (BHO) is a wax-like or pollen-like residue
- Placed directly onto coil that is then turned on
- Need temperatures to **reach 350-450 °F** to release cannabinoids



Micro G Pen & Container



G Pen Coil



Homemade BHO  
Wikimedia commons

# Vaping Herb or Plant Material



- Heat finely ground, dried cannabis buds
- Difficult because line between combustion and vaporization
- Generally devices are more sophisticated to avoid combustion
  - More heat control
  - Ceramic inserts to avoid direct contact with heating element and evenly disperse heat



G Pro Vaporizer – Dry Herb



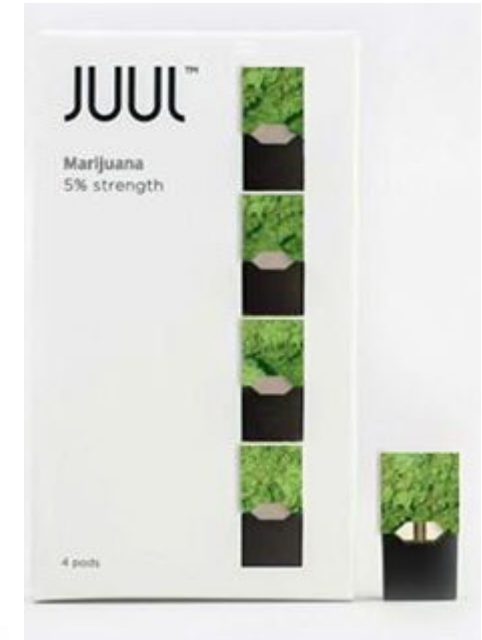
Dry Materials Tank

# Vaping Marijuana

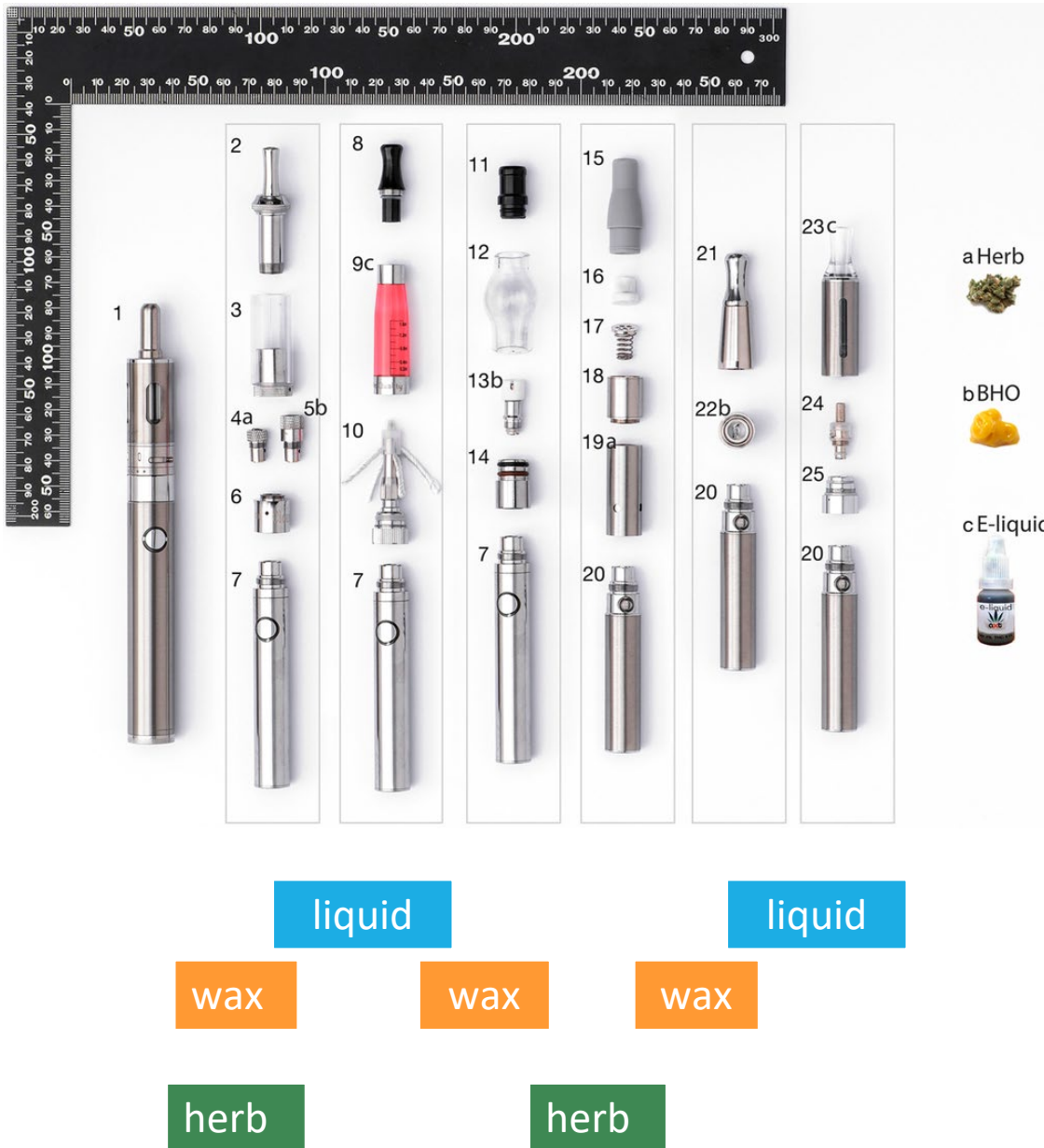


## One-time use and refillable e-cig products

- One-time use: JuJu Joints
- Refillable: dama Cannabis
  - “Pen” = battery power + heating element
  - “Cartridge” of vape/oil screws on, repurchase this part
- Refillable: Grenco G Pens
  - Purchase modifiers







Because of an increase in technology vape pens can be adapted to vape:

- Plant materials/herb
- Waxes/Concentrates (“BHO”, “Shatter”)
- “E-Liquids” (“CO2 Oil”)

Exchange of specific parts:

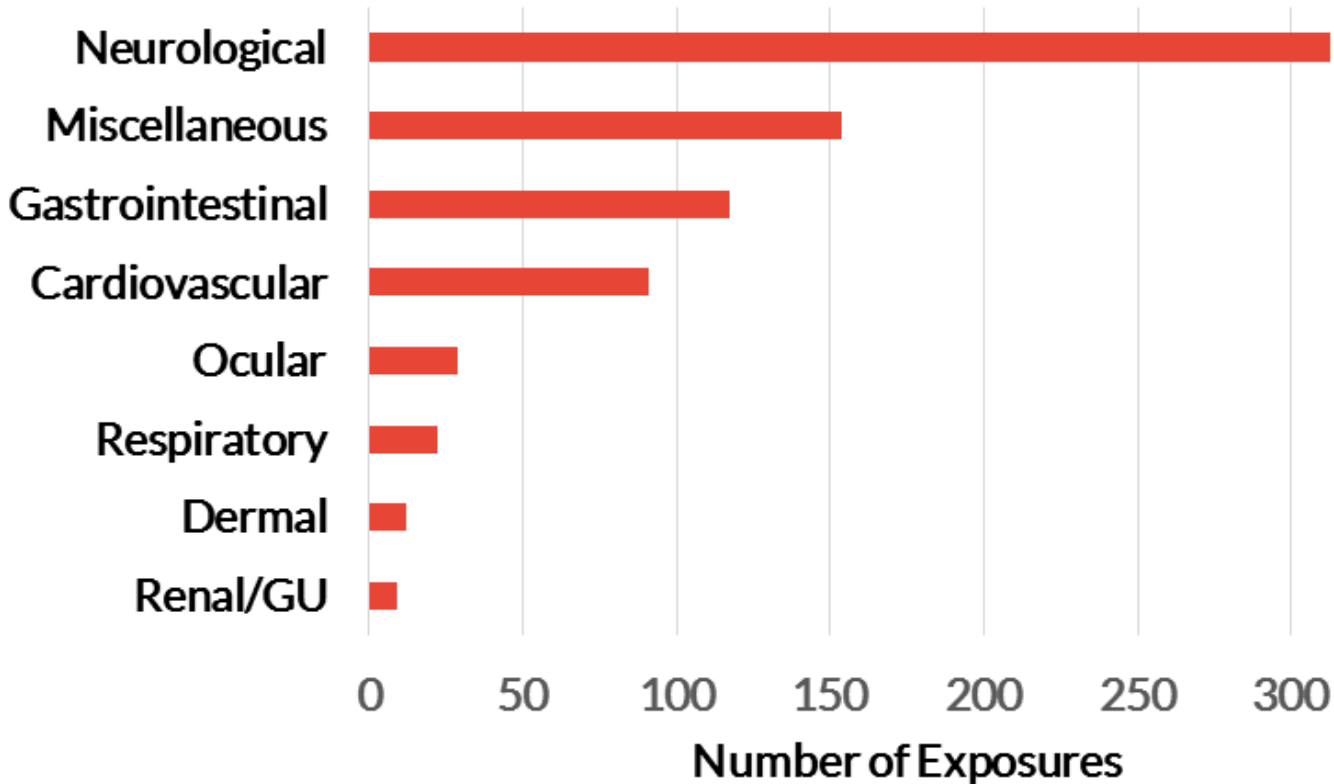
- Heating elements and coils
- Tank

# Concerns of Marijuana Use



- Addiction
- Adolescent brain develops until about age 25
- Performance in school – school failure or dropout or prolonged graduation date
- Lung capacity
- Formaldehyde concern - since cannabis vapes use higher temp/higher voltage than nicotine vapes
- Concerns for other chemical production due to high heat and melting of solder in the device

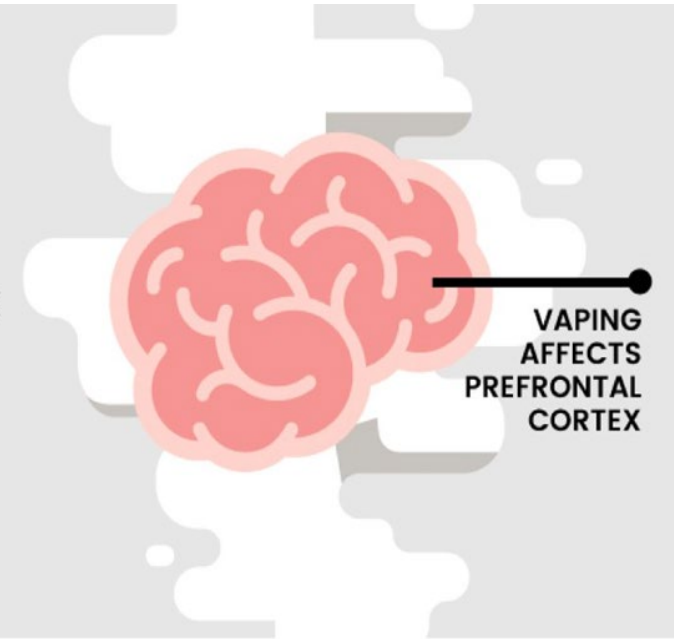
# Cannabis Clinical Effects in 2017



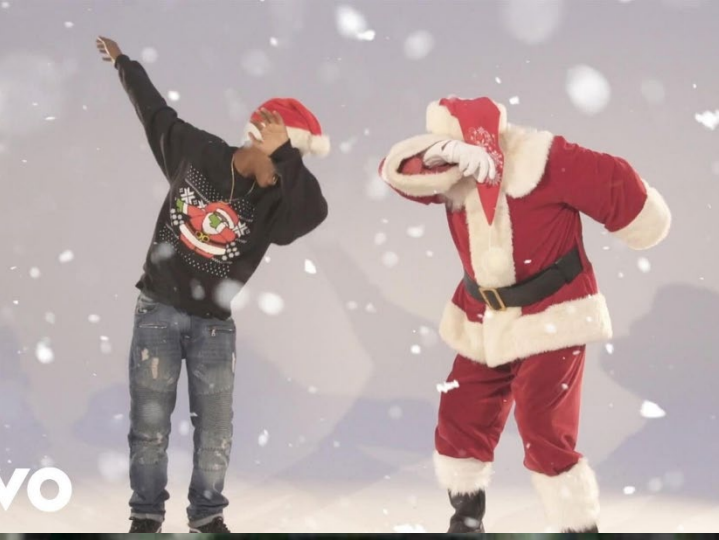
## Brain Damage

The Prefrontal Cortex is responsible for

- Decision Making
- Emotions
- Impulse Control



VAPING  
AFFECTS  
PREFRONTAL  
CORTEX



# Vaping & Dabbing: Not quite the same

## Dabbing is a specific way to vape\* BHO

- A blowtorch is used to heat a metal “nail” to over 900°F
- This BHO is then dropped through the nail, releasing a short burst of vapors that passes through a water pipe and then inhaled



\*process of vaping, not act of vaping

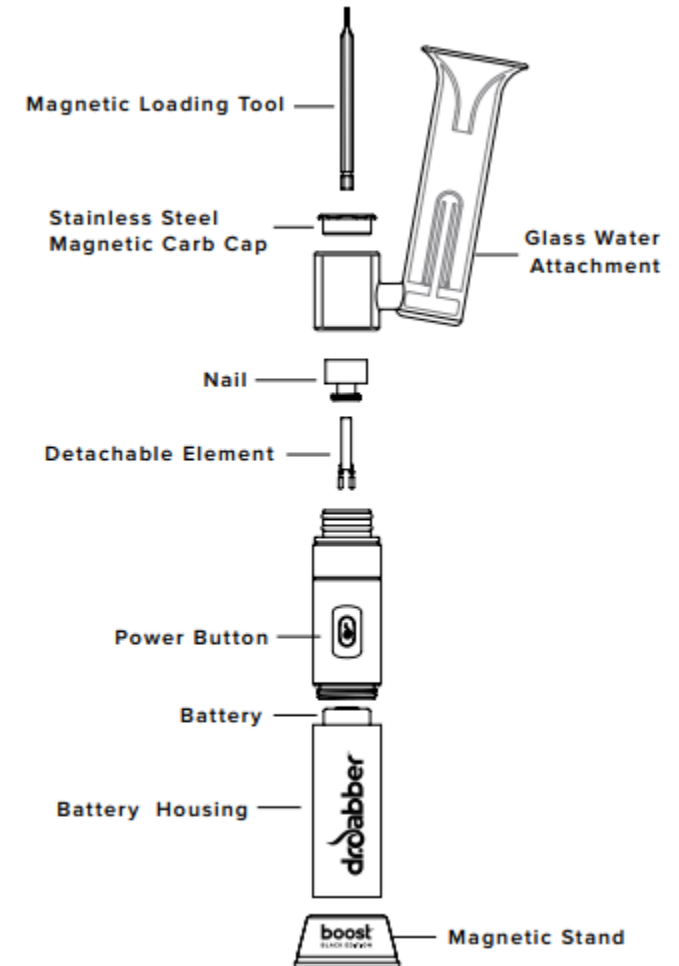
# Portable Dab Rig



Dr. Dabber - \$160  
1<sup>st</sup> portable, battery-powered rig for essential oils  
No torch required  
Heats up to 600 degrees F  
Do not heat the device more than 3 cycles continuously to avoid bodily harm and injury

*“Boost eRig truly is the best of both worlds: A portable dabbing experience without any sacrifice.”*

*\*This unit is not suitable for dry herbs, only oils and waxes.\**



# Vaping other substances



## Evidence is from internet, media, and anecdotal:

- Methamphetamine
- Cocaine
- Heroin
- Bath salts
- Liquid Synthetic Cannabinoids (Spice, K2)
- Alcohol



# What About Us?



# CDC's Youth Risk Behavior Surveillance System 2017

## Broward, FL - HIGH SCHOOL

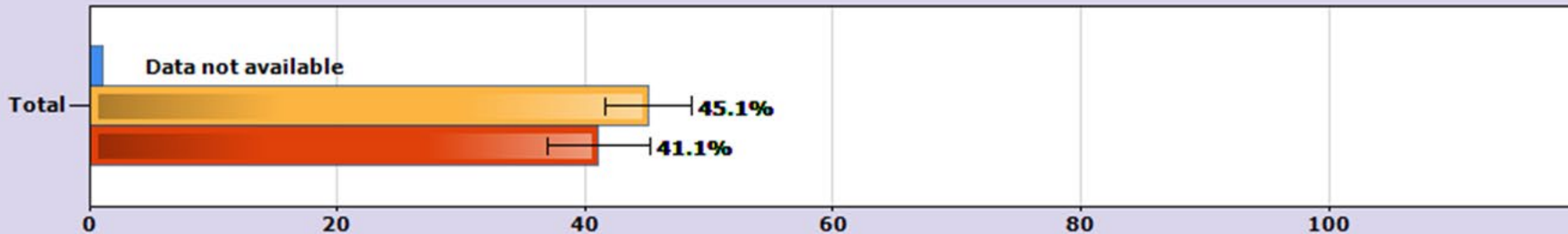


### Ever used an electronic vapor product

(including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens)

### Broward County, FL, High School Youth Risk Behavior Survey

2013 2015 2017



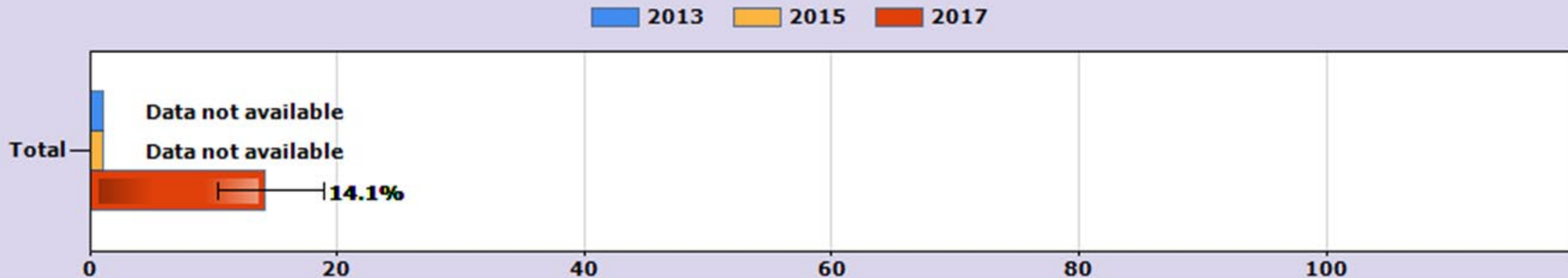
# CDC's Youth Risk Behavior Surveillance System 2017

## Broward, FL - HIGH SCHOOL



**Currently smoked cigarettes or cigars or used smokeless tobacco or an electronic vapor product**  
(on at least 1 day during the 30 days before the survey)

**Broward County, FL, High School Youth Risk Behavior Survey**



# CDC's Youth Risk Behavior Surveillance System 2017

## Broward, FL - Middle SCHOOL

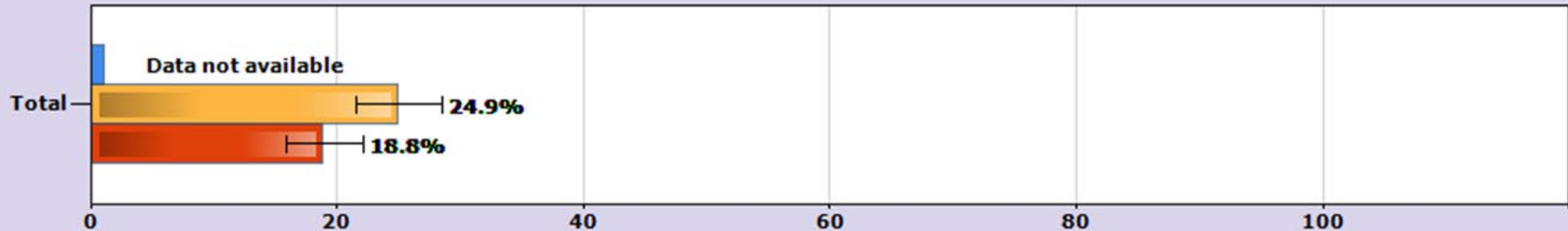


### Ever used an electronic vapor product

(including e-cigarettes, e-cigars, e-pipes, vape pipes, vaping pens, e-hookahs, and hookah pens)

### Broward County, FL, Middle School Youth Risk Behavior Survey

2013 2015 2017

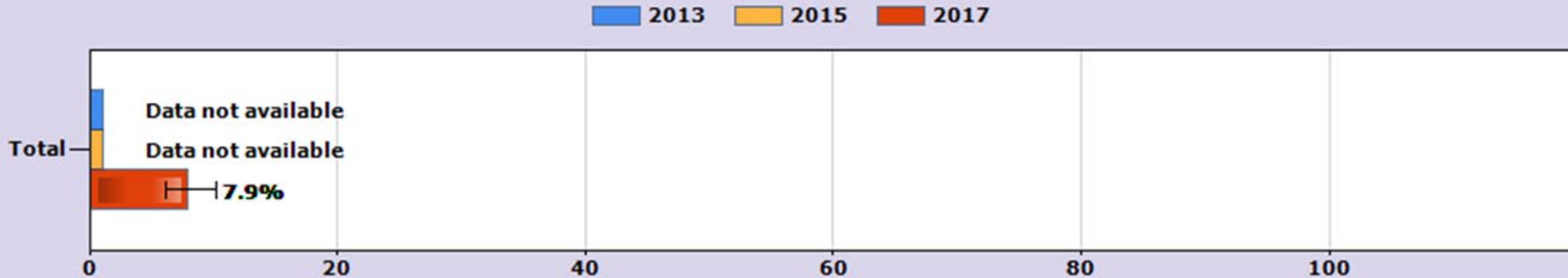


# CDC's Youth Risk Behavior Surveillance System 2017

## Broward, FL - Middle SCHOOL



**Currently smoked cigarettes or cigars or used smokeless tobacco or an electronic vapor product**  
(on at least 1 day during the 30 days before the survey)  
**Broward County, FL, Middle School Youth Risk Behavior Survey**



**What might people bring up as arguments in favor of vaping/juuling?**

**What does research say about the controversial points?**



# Pro-Vape Point #1



**E-Cigarettes are less harmful and safer than combustible cigarettes.**

Raise your hand if you have you heard of this pro-vape point before?

# Pro-Vape Point #1: Less Harmful and Safe



## RESPONSE:

Yes--Cigarette smoke contains > 7,000 chemicals, so vaping is probably not as harmful as smoking

But-- The information we have shows that safer  $\neq$  safe

# safer $\neq$ safe

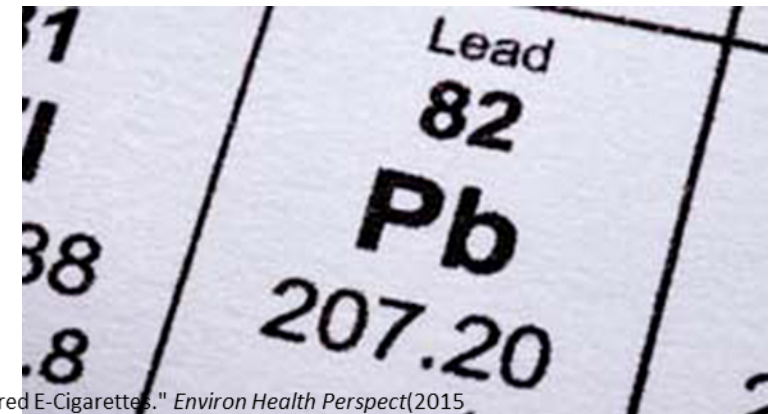
# Pro-Vape Point #1: Less Harmful and Safe



Why can't we say safe?

## Study: Lead and Other Toxic Metals Found in E-Cigarette 'Vapors'

Metals leak from heating coils in vapor: Lead, chromium, manganese, and nickel. Chronic inhalation of these metals have been linked to lung, liver, immune, cardiovascular and brain damage, and cancer (2018).



1. Jensen, R. Paul, et al. "Hidden formaldehyde in e-cigarette aerosols." *New England Journal of Medicine* 372.4 (2015): 392-394.
2. Goel, Reema, et al. "Highly Reactive Free Radicals in Electronic Cigarette Aerosols." *Chemical Research in Toxicology* 28.9 (2015): 1675-1677.
3. Allen, Joseph G., et al. "Flavoring Chemicals in E-Cigarettes: Diacetyl, 2, 3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarettes." *Environ Health Perspect*(2015).



# Pro-Vape Point #1: Less Harmful and Safe



## Why can't we say safe?

- February 2018, a group of researchers seeing effects electronic cigarette vapor on the lung and comparing tobacco smoke – in a mouse model.

E-Cigarette Vapor just as harmful as nicotine tobacco smoke.

- Flavoring agents and propylene glycol not tested for safety via inhalation
- There was a liquid that had more than 141 flavor chemicals have been identified<sup>1</sup>
- One study found that “Strawberry” vape aerosols caused as much acute damage to lung cells as cigarette smoke<sup>2</sup>

Cause acute clinical effects on respiratory cells INDEPENDENT of nicotine exposure<sup>3,4,5,6</sup>

- Inflammation & Decreased Cell Viability

1. Jensen, R. Paul, et al. "Hidden formaldehyde in e-cigarette aerosols." *New England Journal of Medicine* 372.4 (2015): 392-394.

2. Goel, Reema, et al. "Highly Reactive Free Radicals in Electronic Cigarette Aerosols." *Chemical Research in Toxicology* 28.9 (2015): 1675-1677.

3. Allen, Joseph G., et al. "Flavoring Chemicals in E-Cigarettes: Diacetyl, 2, 3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarettes." *Environ Health Perspect* (2015)

# Pro-Vape Point #1: Less Harmful and Safe



## Why can't we say safe?

Vape aerosols have been found to contain the following:

- Nicotine: Addictive (cause brain problems during development)
- Formaldehyde releasing chemicals<sup>1</sup> (at high voltage) → Cancer
- Free Radicals<sup>2</sup> → Causes cellular damage → Cancer
- Diacetyl<sup>3</sup> → Bronchitis Obliterans or “Popcorn lung” (irreversible lung damage)
- And more!

**There has not been sufficient time to show a direct link to long-term health consequences (Will have to wait decades for conclusive evidence)**

1. Jensen, R. Paul, et al. "Hidden formaldehyde in e-cigarette aerosols." *New England Journal of Medicine* 372.4 (2015): 392-394.

2. Goel, Reema, et al. "Highly Reactive Free Radicals in Electronic Cigarette Aerosols." *Chemical Research in Toxicology* 28.9 (2015): 1675-1677.

3. Allen, Joseph G., et al. "Flavoring Chemicals in E-Cigarettes: Diacetyl, 2, 3-Pentanedione, and Acetoin in a Sample of 51 Products, Including Fruit-, Candy-, and Cocktail-Flavored E-Cigarette

# Pro-Vape Point #2



**E-Cigarettes do not have secondhand harm**

Raise your hand if you have you heard of this pro-vape point before?

# Pro-Vape #2: No Secondhand Harm



**The data we do have shows it's NOT just water vapor**

- Two studies have found formaldehyde, benzene and tobacco-specific nitrosamines (all carcinogens) coming from those secondhand emissions.
- Other studies have shown that chemicals in the emissions contain formaldehyde, acetaldehyde and other potential toxins. American Lung Association, 2017
- Measurable levels (albeit minimal) of nicotine found in secondhand vapors

**safer ≠ safe**

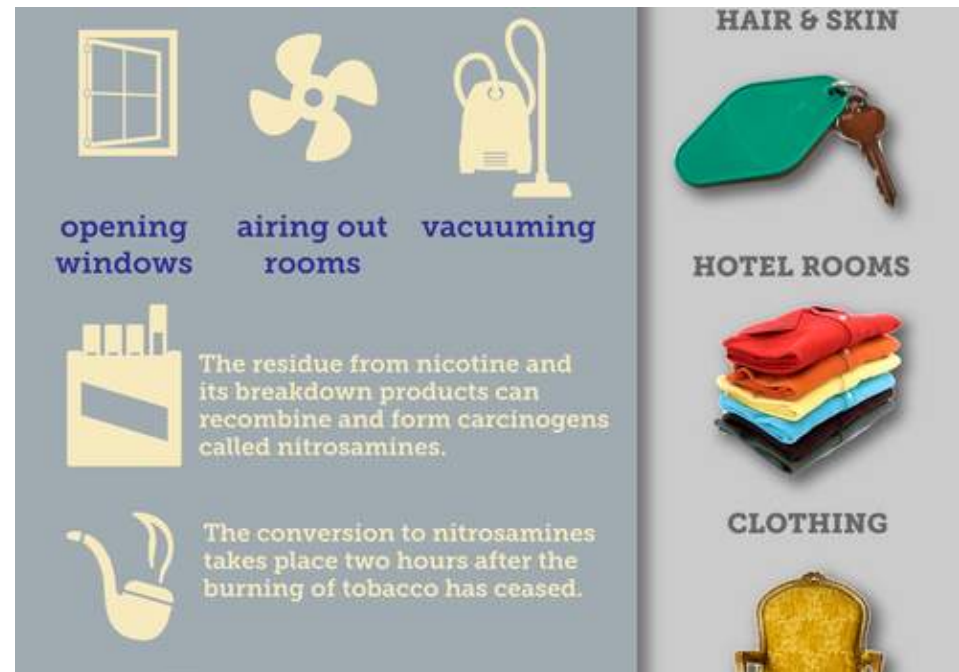
# Pro-Vape #2: No Secondhand



## Harm

### Risk for “Third hand” smoke - study

- Scientists vaporized three different e-cigs and checked floors, walls, windows, wood, and metal surfaces.
- Significant increases in nicotine residue on floors and windows.



# Pro-Vape Point #3



## Some E-Cigarettes have 0mg Nicotine

Raise your hand if you have you heard of this pro-vape point before?

# Pro-Vape Point #3



**In December 2017, a study was published regarding nicotine content.**

## **Results:**

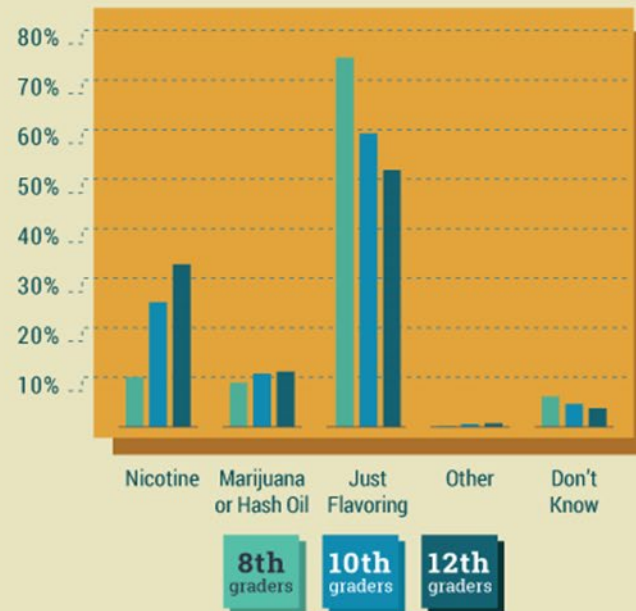
The 35 e-liquid samples labeled 18 mg/mL nicotine measured between 11.6 and 27.4 mg/mL (M = 18.7, SD = 3.3) nicotine. The labeled 18 mg/mL samples measured as little as 35% less nicotine and as much as 52% greater nicotine.

In the 35 samples labeled 0 mg/mL, **nicotine was detected** (>0.01 mg/mL) **in 91.4% of the samples** (range 0–23.9 mg/mL; M = 2.9, SD = 7.2). Six samples from 2 manufacturers labeled as 0 mg/mL were found to contain nicotine in amounts ranging from 5.7 to 23.9 mg/mL.

# PAST-YEAR E-VAPORIZER USE AND WHAT TEENS ARE INHALING



When asked what they thought was in the e-vaporizer mist students inhaled the last time they smoked, these were their responses:



NEARLY 1 IN 3 STUDENTS IN 12TH GRADE REPORT PAST-YEAR USE OF E-VAPORIZERS, RAISING CONCERNS ABOUT THE IMPACT ON THEIR LONG-TERM HEALTH.



Over 70% of 8<sup>th</sup> graders, almost 60% of 10<sup>th</sup> graders and over 50% of 12<sup>th</sup> graders reported that they think “just flavoring” is in their e-vaporizer mist





# Pro-Vape Point #4



**E-cigarettes can be used as a smoking cessation method. Why are you preventing something that helps people quit?**

Raise your hand if you have you heard of this pro-vape point before?

# Pro-Vape Point #4: Smoking Cessation



**Yes — some people have quit combustible cigarettes with this device**

**But – it is not an FDA approved cessation device**

September 2008: The World Health Organization (WHO) proclaims that it does not consider the electronic cigarette to be a legitimate smoking cessation aid and demands that marketers immediately remove from their materials any suggestions that the WHO considers electronic cigarettes safe and effective.

WHO September 19, 2008

# Pro-Vape Point #4: Smoking Cessation



- Not approved by the FDA as a legitimate smoking cessation method, though devices must now be FDA approved to be on the market.
- Questions as to whether the creation of an e-cigarette was intended as a smoking cessation product.
- Cessation versus redirection.
- Some adults do use the product to quit, but youth and young adults indicate predominantly social reasons for initiating use.

Article on UK Medicine License: <http://www.theguardian.com/society/2016/jan/04/british-american-tobacco-e-cigarette-wins-uk-medicine-licence>

1. Coleman et al. "It's not smoke. It's not tar. It's not 4000 chemicals. Case Closed: Exploring attitudes, beliefs, and perceived social norms of e-cigarette use among adult users". *Drug Alcohol Depend.* 2016
2. Kong G et al. "Reasons for electronic cigarette experimentation and discontinuation among adolescents and young adults." *Nicotine Tob Res.* 2014;17:847-854.

# Harm reduction is great, but...



If those already addicted to nicotine can shift to something safer, GOOD!

If someone using combustible cigarettes can quit smoking all together using this product, GREAT!

**But this isn't the only thing going on...**

# “Gateway” to Tobacco

## E-cigs as an entry into traditional tobacco use

E-cigarette using youth have higher “willingness” to smoke cigarettes<sup>1</sup>

E-cigarette users almost 3X as likely to initiate cigarette smoking a year later (9th graders in LA)<sup>2</sup>

E-cigarette users almost 8X as likely to initiate cigarette smoking a year later (young adults in CT)<sup>3</sup>

32% of current adult users of nicotine vapor products are not former smokers or had previously quit smoking<sup>4</sup>

1 year longitudinal study among national sample of 12th graders<sup>5</sup>

Youth who never smoked a cigarette, baseline, recent vapers were >4X more likely to report past-year cigarette smoking at follow-up

Youth who smoked in the past but not recent smokers, recent vapers were 2X more likely to report smoking in the past year



## Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth

Krysten W. Bold, PhD,<sup>a</sup> Grace Kong, PhD,<sup>a</sup> Deepa R. Camenga, MD,<sup>b</sup> Patricia Simon, PhD,<sup>a</sup> Dana A. Cavallo, PhD,<sup>a</sup> Meghan E. Morean, PhD,<sup>c</sup> Suchitra Krishnan-Sarin, PhD<sup>a</sup>

**BACKGROUND:** Electronic cigarette (e-cigarette) use is common among youth, and there are concerns that e-cigarette use leads to future conventional cigarette use. We examined longitudinal associations between past-month cigarette and e-cigarette use to characterize the stability and directionality of these tobacco use trajectories over time.

**METHODS:** High school students ( $N = 808$ , 53% female) completed surveys across 3 waves (2013, 2014, and 2015) in 3 public schools in Connecticut. Using autoregressive cross-lagged models, we examined bidirectional relationships between past-month cigarette and e-cigarette use over time. Models were adjusted for covariates related to tobacco use (ie, sex, race/ethnicity, socioeconomic status, and use of other tobacco products).

**RESULTS:** Past-month e-cigarette use predicted future cigarette use (wave 1–2: odds ratio [OR] = 7.08, 95% confidence interval [CI] = 2.34–21.42; wave 2–3: OR = 3.87, 95% CI = 1.86–8.06). However, past-month cigarette use did not predict future e-cigarette use (wave 1–2: OR = 2.02, 95% CI = 0.67–6.08; wave 2–3: OR = 1.90, 95% CI = 0.77–4.71). Additionally, frequency of cigarette and e-cigarette use increased over time. By wave 3, 26% of cigarette users and 20.5% of e-cigarette users reported using 21–30 days out of the past month.

**CONCLUSIONS:** E-cigarette use was associated with future cigarette use across 3 longitudinal waves, yet cigarette use was not associated with future e-cigarette use. Future research needs to examine mechanisms through which e-cigarette use leads to cigarette use. E-cigarette regulation and prevention programs may help prevent future use of cigarettes among youth.

1. Wills, Thomas A., et al. "E-cigarette use and willingness to smoke: a sample of adolescent non-smokers." *Tobacco control* (2015): tobaccocontrol-2015.
2. Leventhal, Adam M., et al. "Association of electronic cigarette use with initiation of combustible tobacco product smoking in early adolescence." *Jama* 314.7 (2015): 700-707.
3. Primack, Brian A., et al. "Progression to traditional cigarette smoking after electronic cigarette use among US adolescents and young adults." *JAMA pediatrics* 169.11 (2015): 1018-1023.
4. McMillen, R.C. et al. 2014. "Trends in Electronic Cigarette Use Among U.S. Adults: Use is Increasing in Both Smokers and Nonsmokers" *Nicotine Tobacco Research*
5. Miech, R. et al. (2017) "E-cigarette use as a predictor of cigarette smoking: results from a 1-year followup of a national sample of 12 grade students" *Tobacco Control*

# National Academy of Science Report 2018 Public Health Consequences of E-Cigarettes



**January 23, 2018**

- There is substantial evidence that e-cigarette use increases risk of ever using combustible tobacco cigarettes among youth and young adults.
- Among youth and young adult users who ever use combustible tobacco cigarettes, there is moderate evidence that e-cigarettes use increases the frequency, intensity, and duration of subsequent combustible tobacco cigarette smoking.
- There is insufficient evidence from randomized controlled trials about the effectiveness of e-cigarettes as cessation aids compared with no treatment or to Food and Drug Administration– approved smoking cessation treatments.
- There is anecdotal evidence for adults for cessation treatments

# FDA – Youth E-Cigs prevention



- On September 12, 2018, Food and Drug Administration (FDA) Commissioner Scott Gottlieb, M.D., released a statement declaring **youth electronic cigarette use an epidemic.**
- FDA acknowledged that the biggest trend in youth e-cigarette use seems to be among cartridge-based e-cigarettes, like the JUUL.
- Investigating these brands' marketing and sales practices as they relate to this dramatic increase in youth e-cigarette use.
- Considering policy changes to help combat this issue, especially concerning flavored e-cigarettes.

# Surgeon General Declaration



December 18<sup>th</sup>, 2018 U.S. Surgeon General Vice Adm. Jerome M. Adams issued an advisory stressing the importance of protecting children from a lifetime of nicotine addiction and associated health risks by immediately addressing the epidemic of youth e-cigarette use.

*“In the data sets we use, we have never seen use of any substance by America’s young people rise as rapidly as e-cigarette use is rising.”*

~The U.S. Department of Health and Human Services Secretary Alex Azar.





# How do you talk about safe vs. safer?

# Vaping and Prevention Messaging



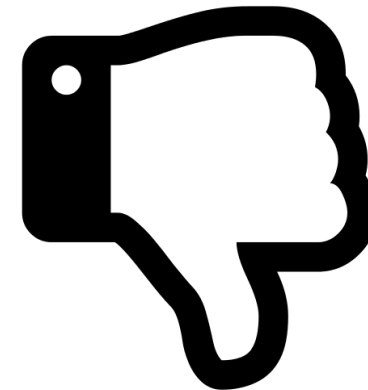
- Use age appropriate language. “Vape” “Dab” “Weed” “Stig”
- Focus on nicotine – teens think of vaping as an alternative to smoking cigarettes. That’s the main way they see vaporizers used
- Unlabeled chemicals in the vapors and potential negative health effects
- Humor can help bridge gap, if used in a way that doesn’t undermine seriousness of message
- Focus on candy flavoring and marketing to minors and deceitful advertising. “Predatory Marketing”
- Engage youth and connect with them. Don’t tell but share the facts.

. *Teen Vaping and Prevention Messaging: Project Finding and Report*. Public Health Seattle King County. 30 June 2016.

# Less Effective



- Ads or social media focused on what to do instead of vaping:  
“Don’t vape, just play sports”
- Teens participate in a contest where they create and share content saying vaping is lame
- “...Teens have their own individual reasons why they smoke or vape...”
- Celebrities thank teens for pledging to not vape  
“Pledging does nothing to help the cause...Life changes and people will go back to their words...”
- Using the term “Big Tobacco”
- Shaming vapers or saying it’s lame
- Scare tactics



1. *Teen Vaping and Prevention Messaging: Project Finding and Report*. Public Health Seattle King County. 30 June 2016.

# TALKING TIPS



- **If you smoke, the best thing you can do is to quit.** Research shows that kids who have a parent who smokes are more likely to smoke and to be heavier smokers at young ages. Good news → when parents quit smoking, their kids become less likely to start and more likely to quit if they already smoke.
- **Address the problem; don't ignore it.** Despite what kids might have you believe, studies show that parents can have a significant impact on their kid's behavior.
- **Become involved in your kids' lives and social schedules.** Young people whose friends use e-cigs are more likely to use to try to fit in. Kids who do well in school and participate in structured, extra-curricular activities are less likely to be susceptible to smoking.

# TALKING TIPS



## ➤ Educate yourself about e-cigarettes, even if you don't use them yourself.

Here are some important things you should know:

- More than one in three Florida high school students have tried an e-cigarette.
- In 2016, more Florida teens used e-cigarettes than any other tobacco product.
- Here are some tips for protecting your kids from the dangers of e-cigarettes:
  - Check their backpacks to know what they are bringing home.
  - E-cigarettes typically won't make clothes smell of tobacco smoke. If you don't smell anything, don't assume they aren't using products with nicotine.
  - Some e-cigarettes require charging, so check what devices are being charged or if you see an unusual plug.

# TALKING TIPS



## ➤ Back up the conversation with facts they can relate to.

Here are some quick facts you can share with your kids:

- Adolescent brain is still developing, nicotine use during adolescence can disrupt the formation of brain circuits that control attention, learning and susceptibility to addiction.
- Nicotine is highly addictive. The pathway for addiction to nicotine is similar to those for heroin and cocaine.
- While smoking-related diseases usually occur years after a person starts, smoking has immediate effects on the body. Early cardiovascular damage is seen in most young smokers. Those most sensitive die young.
- Smoking also affects lung growth. Teens who smoke are not only short of breath today, but they also may end up as adults with lungs that will never grow to full capacity. Such damage is permanent and increases the risk of COPD.

# #KNOWTHEFACTS



Electronic cigarettes can be used with marijuana or CBD oil.<sup>1</sup>

03

04

66% of teens think that there is "just flavoring" in their electronic cigarettes.<sup>2</sup>

02

Nicotine can harm adolescent brain development.<sup>1</sup>

05

21% Florida high school students get their electronic cigarettes from convenience stores and/or gas stations.<sup>3</sup>

01

Electronic cigarettes can have nicotine levels equal to a pack of cigarettes.<sup>1</sup>

06

41% of Broward County high school students said they have used an electronic cigarette.<sup>4</sup>

<sup>1</sup> Truth Initiative

<sup>2</sup> National Institute on Drug Abuse

<sup>3</sup> Florida Youth Tobacco Survey 2015

<sup>4</sup> Youth Risk Behavior Survey 2017



ELECTRONIC CIGARETTES  
PREVENTION  
TOOLKIT  
KNOW THE FACTS



## Electronic Cigarettes Prevention Toolkit

<https://www.drugfreebroward.org/resources/>



# RESOURCES

- 2-1-1 Broward
- <http://www.truthinitiative.org/quitecigarettes>
- 1-800-QUIT-NOW
- <https://escapethevape.org/>
- <http://tobaccofreeflorida.com/>
- <https://www.browardprevention.org/substance-abuse/>

