

Utah's Vaping Epidemic : By the Numbers

Presented by:

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way to [quit](https://www.waytoquit.org).org

What is
most
important
to you?

Think about your practice and your patients:

- What about vaping and tobacco use do you want to know?
- What do you want to improve?

Part 1

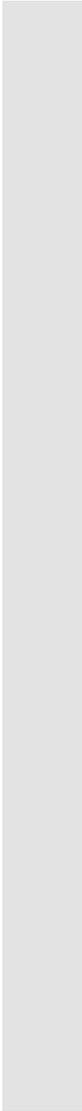
Utah's Epidemic and Outbreak: By the Numbers

Acknowledgements: Dr. Sarah Woolsey, Utah Tobacco Free Alliance; Utah Department of Health

Objectives

After completing this educational activity, learners should be able to:

- Examine the rising rate of electronic cigarette use in Utah and the importance of prevention
- Identify the incidence of e-cigarette, or vaping, product use associated lung injury (EVALI) and recommend resources available on this topic



Why are we
talking about this?

Nicotine Addiction & Youth

In 1981, a Philip Morris report had the following to say about tobacco & teenagers:

“Today’s teenager is tomorrow’s potential regular customer. The smoking patterns of today’s teenager are particularly important to Philip Morris.”

-PM Industry Document, 1981

Nicotine addiction is a pediatric epidemic: nearly 90% of adult smokers started before the age of 18

AAP. *Bright futures: Guidelines for health supervision of infants, children, and adolescents*. 3rd ed. AAP; 2008.
Benowitz NL, Goniewicz ML. *JAMA*. 2013;310:685-686. ³Grana R, et al. *Circulation*. 2014;129:1972-1986.

Nicotine Addiction & Youth

RJR CONFIDENTIAL

DRAFT

I. THE IMPORTANCE OF YOUNGER ADULTS

Within five years, younger adults (18-24) will drop from 18% to 15% of the total adult population (18+). They will continue to decline in numbers until at least 1995.

This shift in 14% of all smoking incidence has 1 age group in re

Why, then, are

1. VOLUME

Younger adult government

- Less than
- Only 5%

Thus, today's trend of 18% turn away from smoking, which does not give birth to new smokers, a potential gain and/or

2. MARKET SHARE

A. ANNUAL

"New" 18-year-olds total 10% of total 18-24 group. This group introduces 10% of new smokers into the market at a cost of 10% of total 18-24 group.

As a result of the decline in 1980's, the industry has a significant advantage.

* This assumes 18-year-olds are 10% of the 18-24 group rather than a "fair share" of 14% because of population decline and the fact that some smokers start after age 18.

Younger adults are the only source of replacement smokers. Repeated government studies (Appendix B) have shown that:

- Less than one-third of smokers (31%) start after age 18.
- Only 5% of smokers start after age 24.

Thus, today's younger adult smoking behavior will largely determine the trend of Industry volume over the next several decades. If younger adults turn away from smoking, the Industry must decline, just as a population which does not give birth will eventually dwindle. In such an environ-

Nicotine Addiction & Youth

... COURT ORDER
BROWN & WILLIAMSON TOBACCO CORPORATION

PROJECT REPORT

September, 1972

PROJECT: Youth Cigarette - New concepts

MARKETING INNOVATIONS' SUGGESTIONS:

MI suggests new ideas for the breath-freshener field...

APPLE FLAVOR

Apples connote goodness and freshness and we see many possibilities for our youth-oriented cigarette with this flavor. Apple cider is also a possibility.

SWEET FLAVOR CIGARETTE

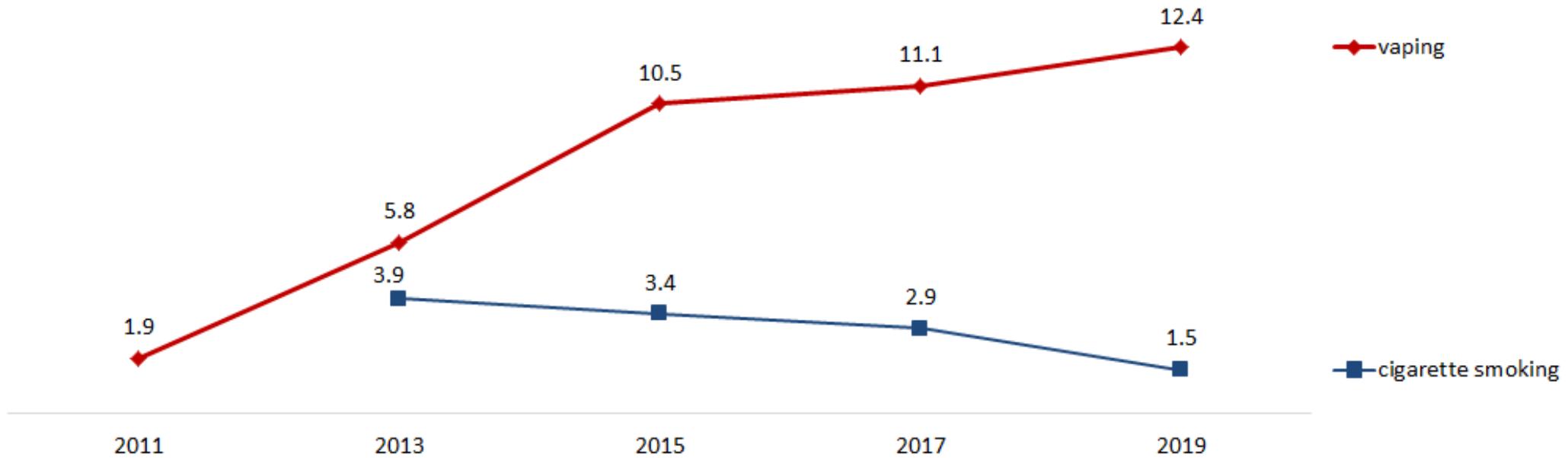
We believe that there are pipe tobaccos that have a sweet aromatic taste. It's a well known fact that teenagers like sweet products. Honey might be considered.

... teenagers like sweet products. Honey might be considered.

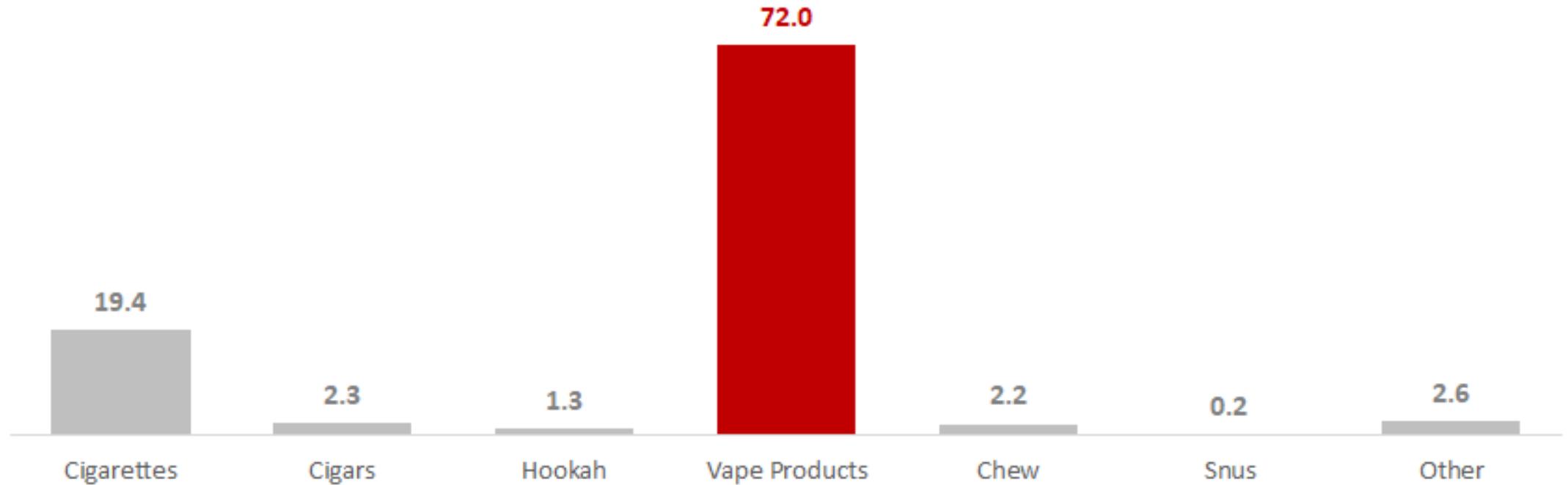
Nicotine Addiction By the Numbers: Utah Youth

- 36,795 Utah youth (ages 13 - 18) reported vaping in the past 30 days
- 600 Utah youth (under the age of 18) become daily smokers each year
- 39,000 youth now under 18 in Utah will ultimately die prematurely from smoking

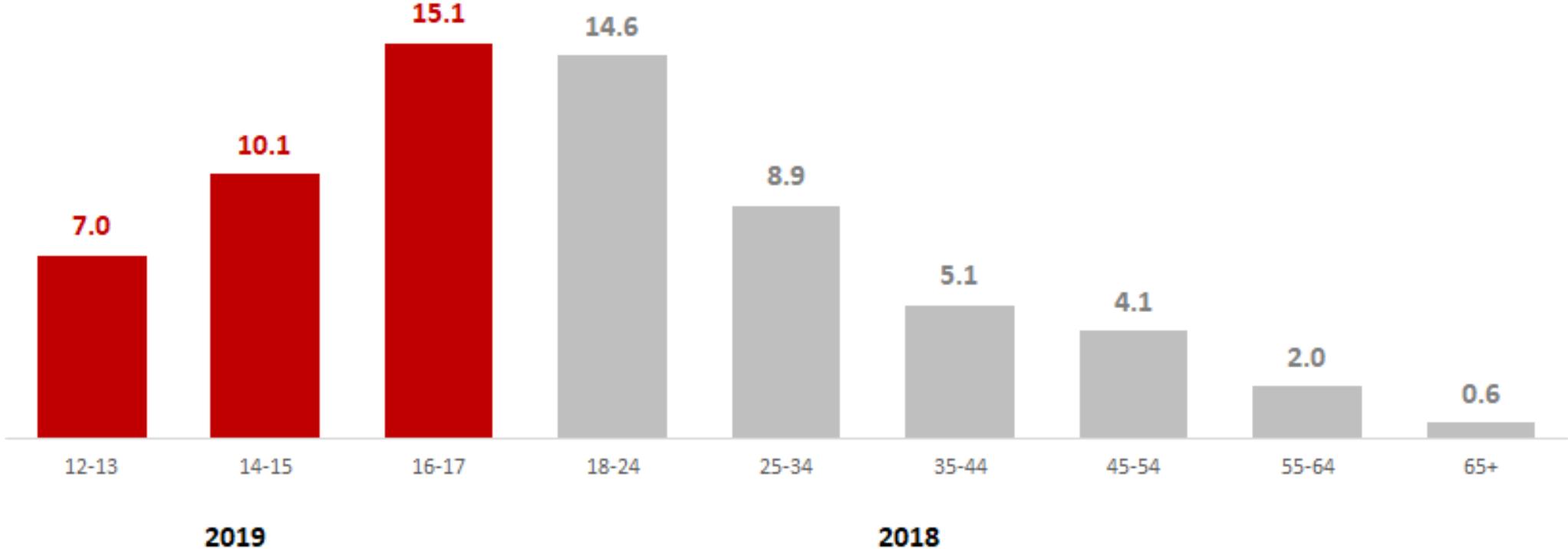
Percentage of Utah 8th, 10th, and 12th Grade Students Who Smoked Cigarettes or Vaped Nicotine In The Past 30 Days, By Year, 2011-2019



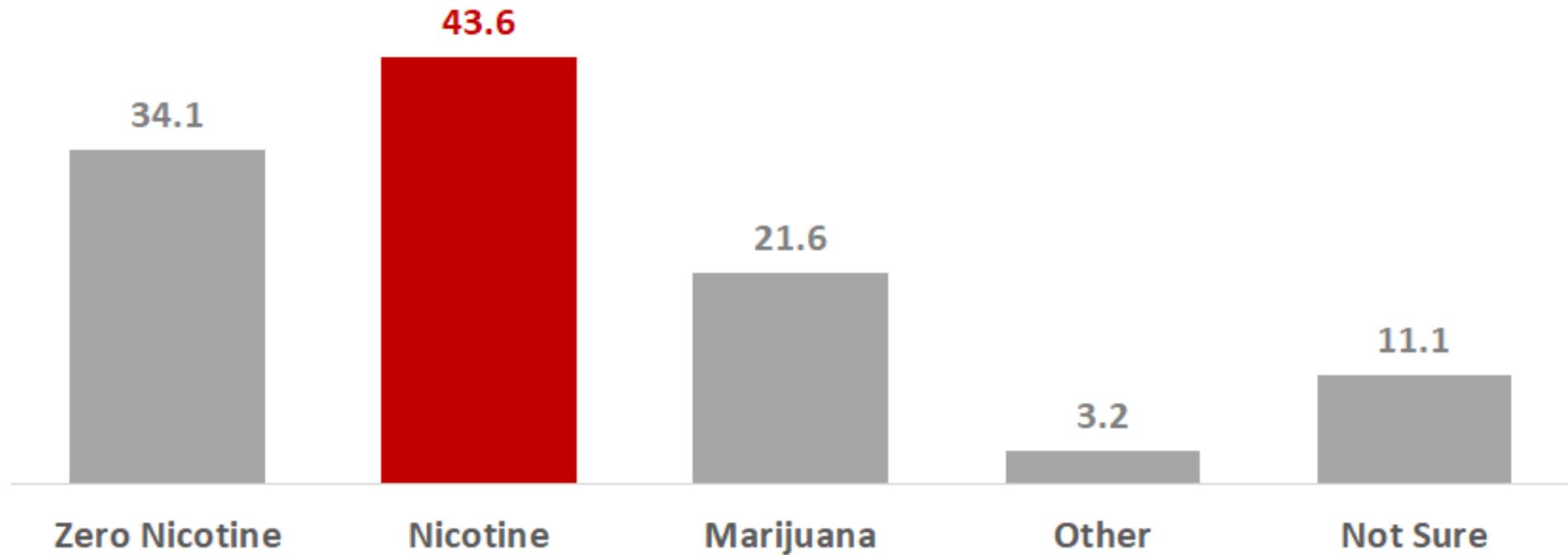
Percentage of Type of Tobacco Product First Used By Utah 8th, 10th, and 12th Grade Students That Used Any Tobacco Product, 2019



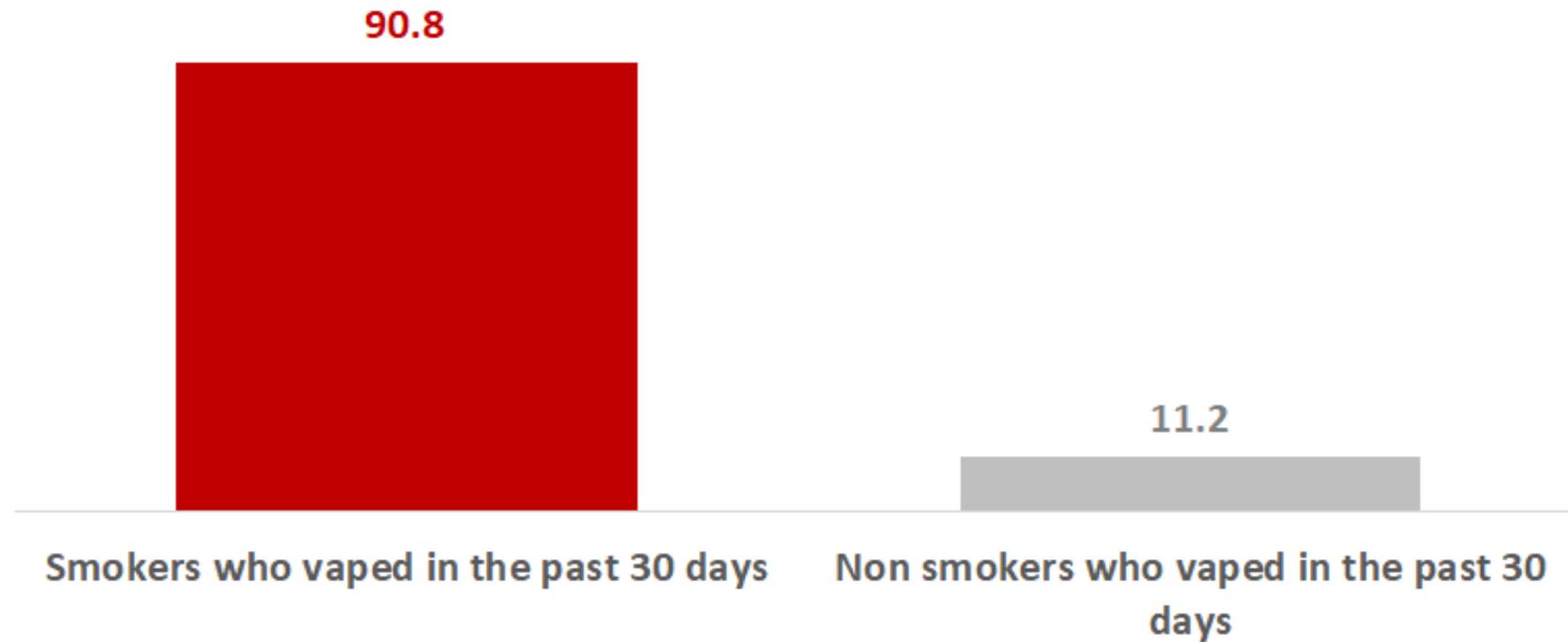
Percentage of Utah Youth (12-17) Who Have Vaped In The Past 30 Days and Utah Adults (18+) Who Report Vaping Most Days Or Some Days



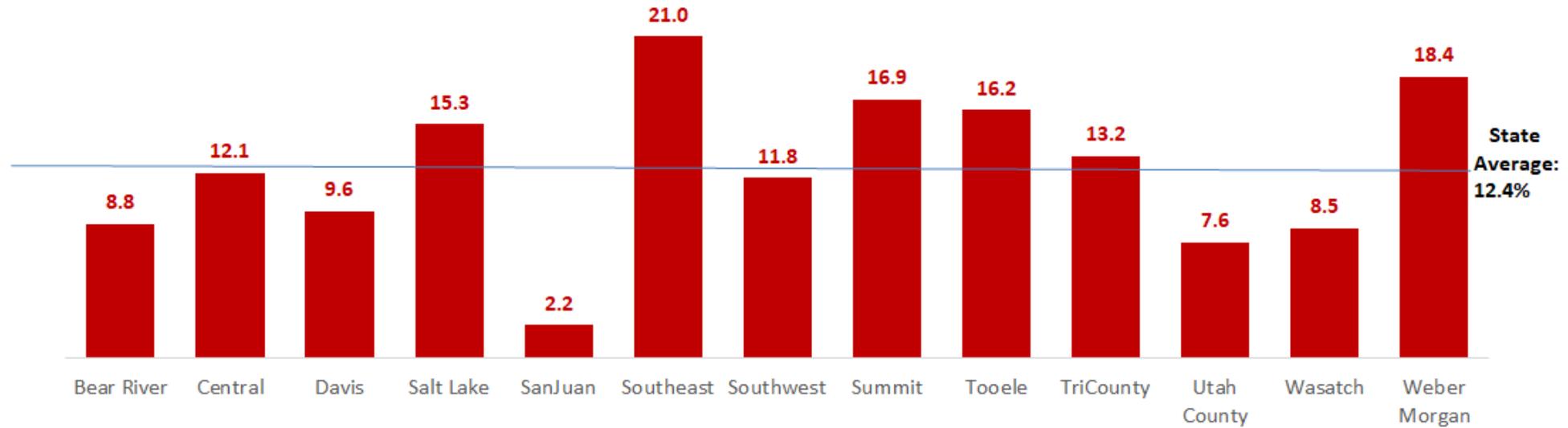
Percentage Of Which Substances Were In E-Cigarettes, Vape Pens, Or Mods For 8th, 10th, and 12th Grade Students in Utah Who Vaped In The Past 30 Days, 2019



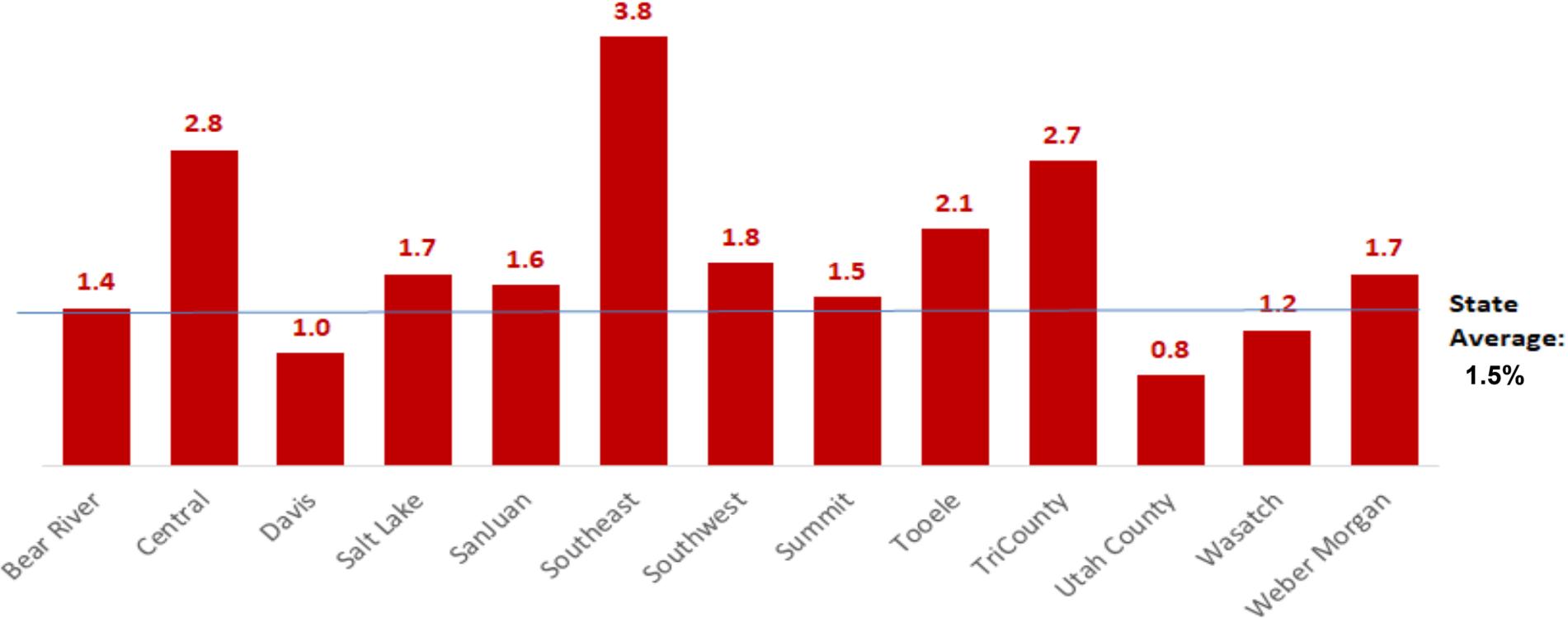
Percentage of Smokers And Non-Smokers Among 8th, 10th, and 12th Grade Students in Utah Who Reported Vaping In The Past 30 Days, 2019

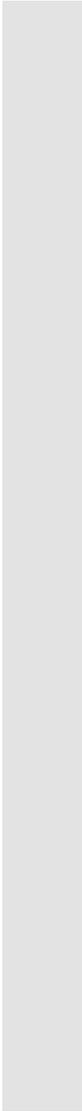


Percentage Of 8th, 10th, and 12th Grade Students in Utah Who Vaped In The Past 30 Days, By Local Health Department, 2019



Percentage Of 8th, 10th, and 12th Grade Students in Utah Who Smoked In The Past 30 Days, By Local Health Department, 2019



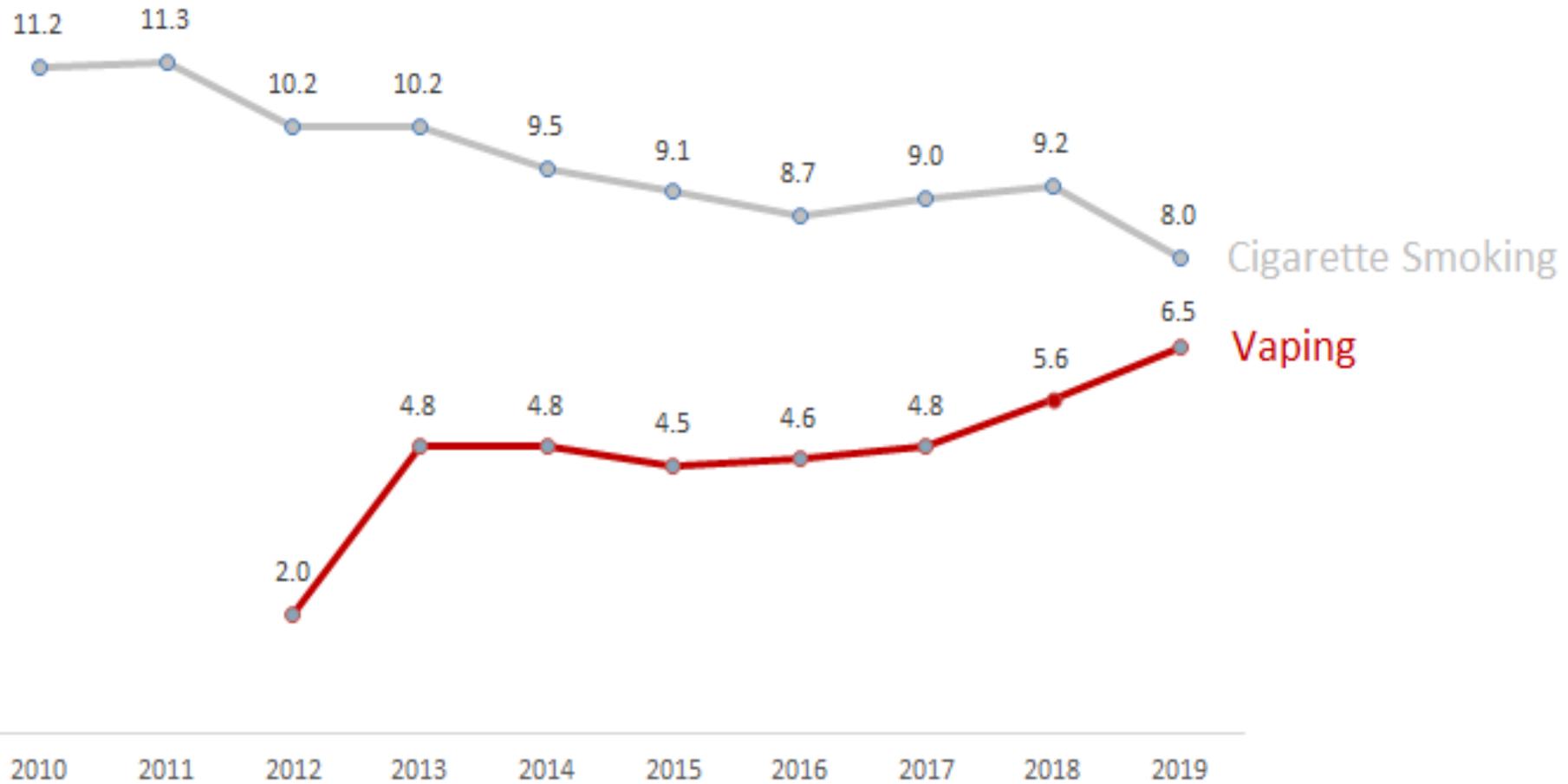


What has surprised
you so far?

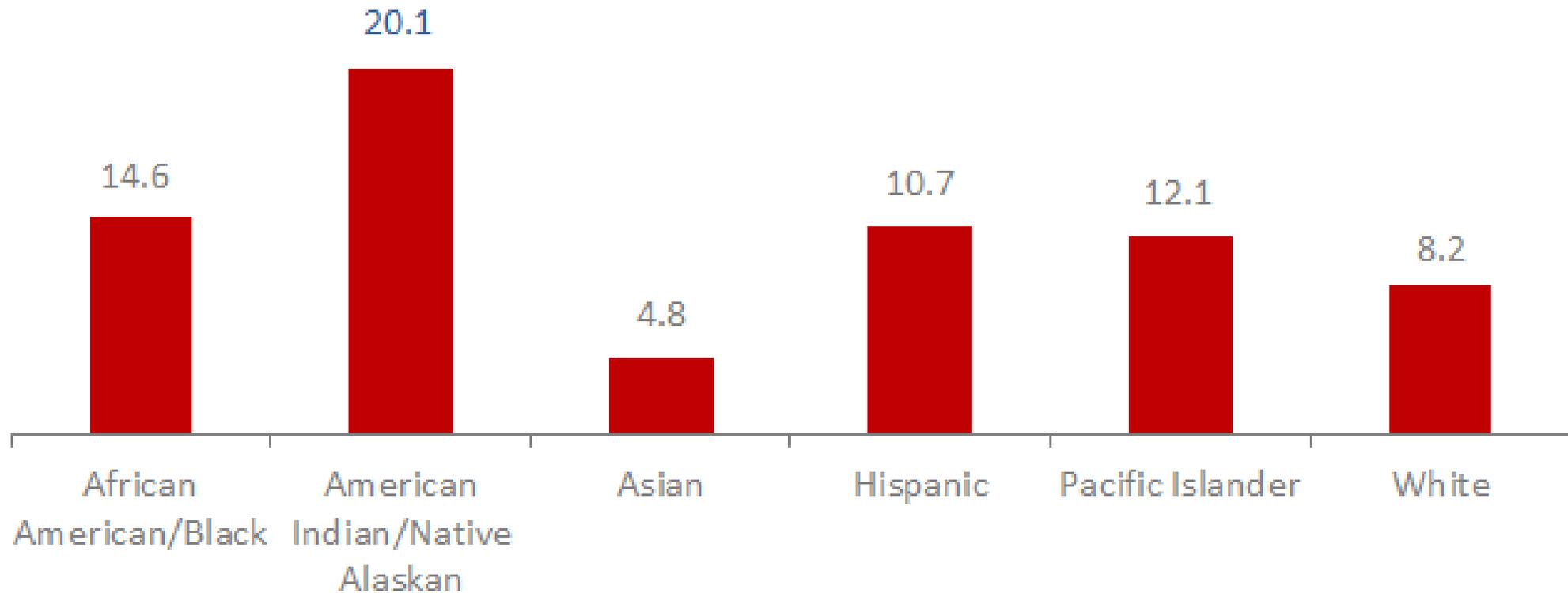
Nicotine Addiction By the Numbers: Utah Adults

- 170,000 individuals over the age of 18 in Utah reported they currently smoke cigarettes (8.0% in 2019)
- 44.9% of Utah adults who use vape products also smoke cigarettes (dual users)
- 1,300 Utahns die each year from smoking cigarettes

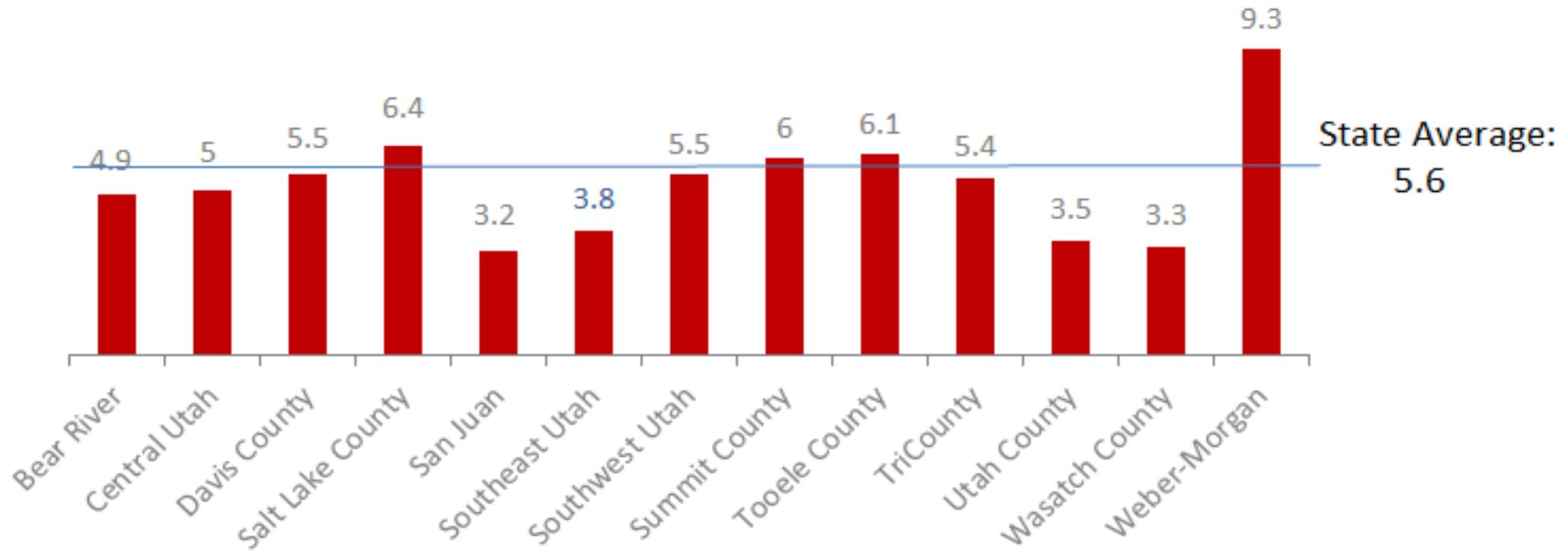
Percentage of Utah Adults Who Report Smoking Or Vaping Most Days Or Some Days, 2010-2019



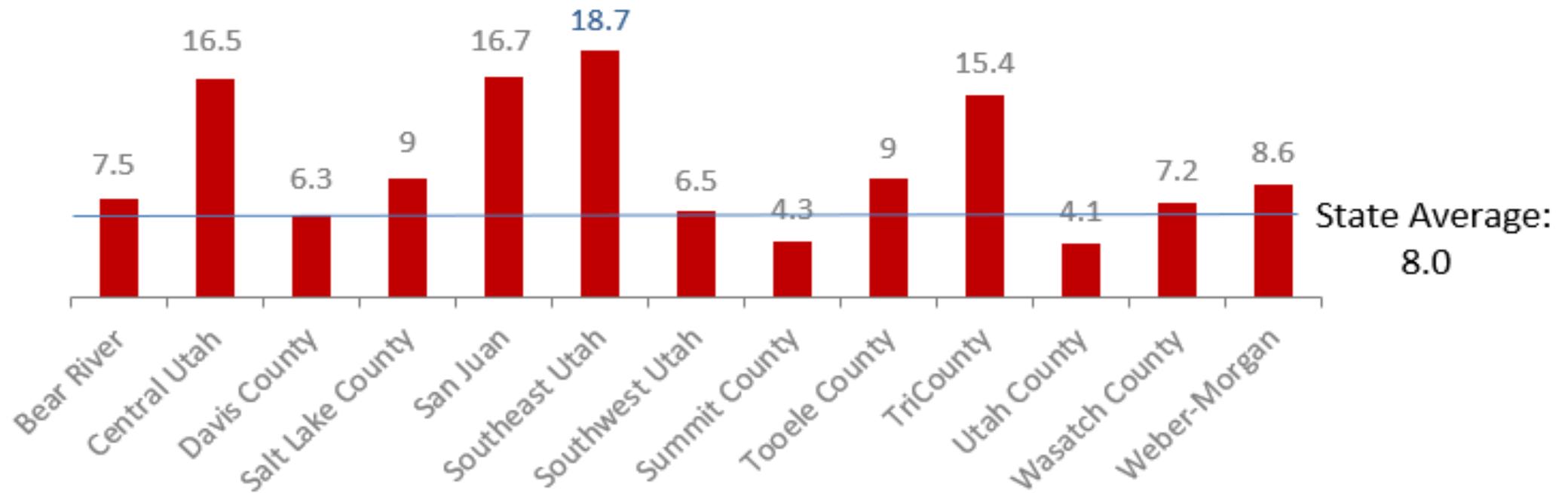
Percentage of Utah Adults Who Report Smoking Most Days Or Some Days, By Race/Ethnicity, 2017-2019

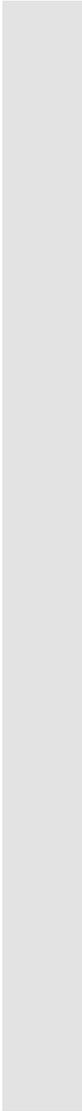


Percentage of Utah Adults Who Report Vaping Most Days Or Some Days, By Local Health Department, 2019



Percentage of Utah Adults Who Report Smoking Most Days Or Some Days, By Local Health Department, 2019





Thoughts about
smoking and vaping
in Utah?

EVALI Outbreak Utah 2019

What is E-cigarette, or vaping, product use associated lung injury (EVALI)?

Case Definition from the CDC Sept 2019

Using an e-cigarette (“vaping”) or dabbing* in 90 days prior to symptom onset

AND Pulmonary infiltrate, such as opacities, on plain film chest radiograph or ground-glass opacities on chest CT

AND Absence of pulmonary infection on initial work-up.

Minimum criteria are:

A negative respiratory viral panel **AND** A negative influenza PCR or rapid test, if local epidemiology supports influenza testing

AND All other clinically-indicated respiratory infectious disease testing (e.g., urine Antigen for *Streptococcus pneumoniae* and *Legionella*, sputum culture if productive cough, bronchoalveolar lavage (BAL) culture if done, blood culture, HIV-related opportunistic respiratory infections if appropriate) are negative

AND No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process)

https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/health-departments/index.html#out-of-hospital

When might you suspect EVALI?

Reported Symptoms of Lung Injury

Patients reported symptoms such as:

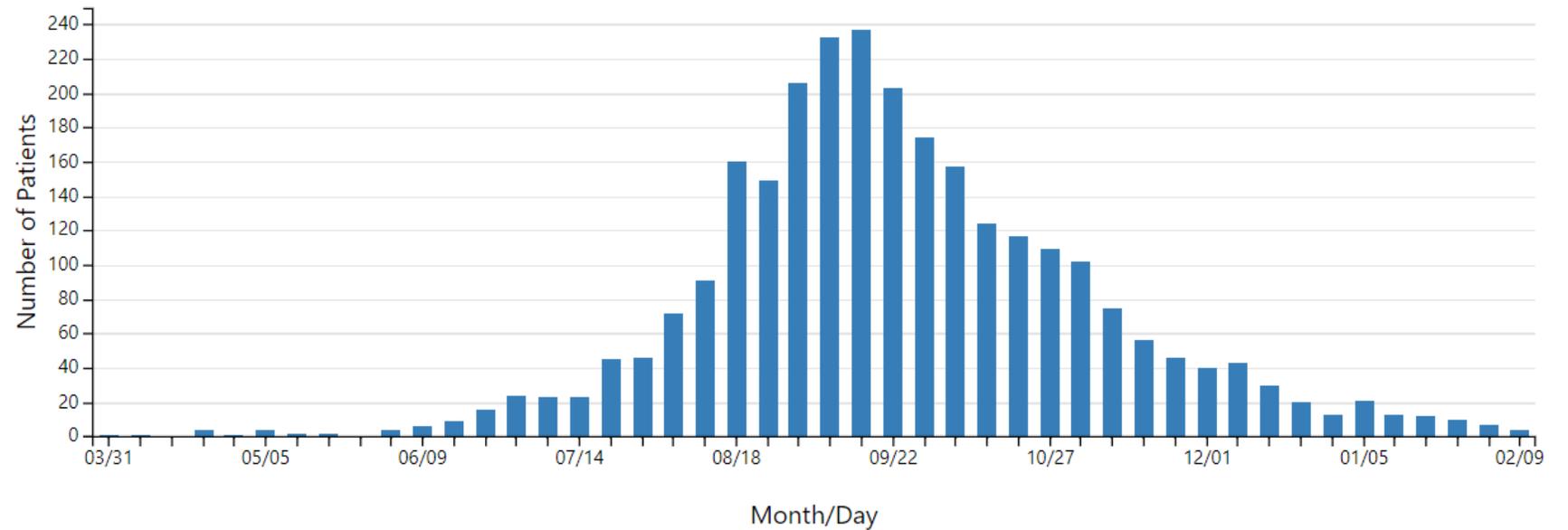
- Cough, shortness of breath, or chest pain
- Nausea, vomiting, abdominal pain, or diarrhea
- Fever, chills, or weight loss

Symptoms developed over a few days to several weeks.

Lung infection does not appear to be causing the symptoms.

https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/need-to-know/index.html

EVALI – National Data from 2019 Outbreak



- Laboratory data supported previous findings that Vitamin E Acetate was closely associated with EVALI, though not all cases

(Data collection ended 2/18/2020)

<https://www.cdc.gov/evali>

EVALI - Utah Data from the 2019 Outbreak

- 125 cases of vaping-related lung disease
- One death associated with the outbreak
- 76% required hospitalization
- Evidence strongly suggested vaping black market THC cartridges contaminated with Vitamin E Acetate drove Utah's outbreak

(As of 12/23/19)

For the most up-to-date case information, go to <https://health.utah.gov/lung-disease-investigation/lung-injury-outbreak-data>

Characteristics of Utah EVALI patients from 2019 Outbreak

- 78% male sex
- 45% ages 20-29 years
- 25% ages 30-39 years
- 89% report vaping THC cartridges
- Two-thirds obtained THC from a friend or in-person dealers

Resources on EVALI

National information for healthcare providers:
https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/healthcare-providers/index.html

National information for the public:
https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/need-to-know/index.html

Current Utah case information, go to:
<https://health.utah.gov/lung-disease-investigation/lung-injury-outbreak-data>

To report: <https://health.utah.gov/lung-disease-investigation/advice-for-clinicians>

Billing guidance:
https://www.cdc.gov/nchs/data/icd/Vapingcodingguidance2019_10_17_2019.pdf

Summary

- Vaping and the use of e-cigarettes is rising fast in Utah adding to a risk of nicotine addiction
- Utah youth that vape are more likely to become traditional cigarette smokers
- Utah adults that vape are commonly dual users, but we are seeing a rise in e-cigarette use as addicted youth become adults
- EVALI has seriously affected Utahns and public health warnings on the risks of harm from vaping unregulated products is warranted

Part 2

What *are* e-cigarettes
and vaping devices?

What *are* e-cigarettes and vaping devices?

In this section, you will learn to:

- Differentiate the features of electronic cigarettes and nicotine vaping devices
- Identify the risks associated with electronic cigarette use for adolescents and adults



E-pipe



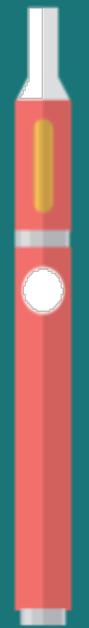
E-cigar



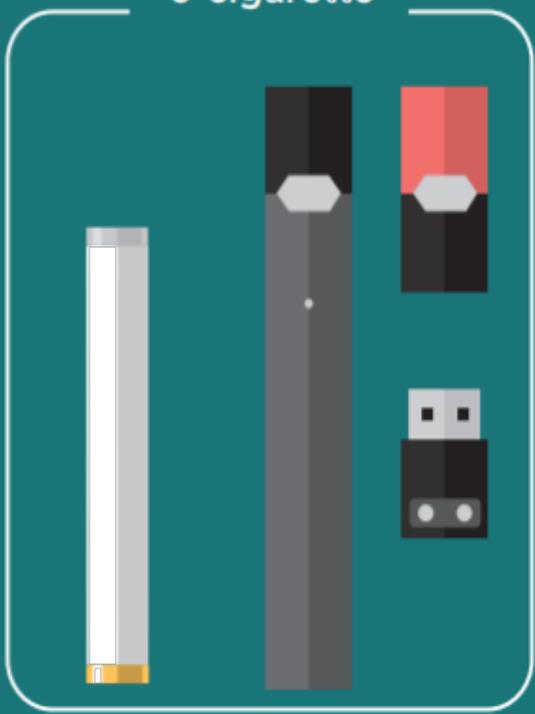
Large-size tank devices



Medium-size tank devices



Rechargeable e-cigarette



Disposable e-cigarette



Image: CDC

Technical composition

Breaking Down Vaping Devices -

How Parts Function and Cause Harm

Tank/Cartridge/Pod
Holds the e-liquid, nearly always contains nicotine. Nicotine harms the developing brain.

Pods
Often use nicotine salts (have added acid) to increase nicotine dose and reduce throat hit but may be more addictive.

E-liquid or E-Juice
Mix of chemicals and flavoring with nicotine.

Battery
Lithium ion battery heats the coil. Exploding batteries cause severe burns and injuries.

Coil/Atomizer
Creates the aerosol and may release heavy metals (nickel, tin and lead) that are dangerous to inhale.

Computer/Microprocessor
Activates the battery by pressing a button or inhaling through mouthpiece.

Wick
Cotton fiber pulls e-liquid toward the heating coil.

E-liquid Ingredients NOT Listed on the Package
80+ chemicals including known carcinogens

- Nicotine** - dangerous and highly addictive chemical, can increase in blood pressure, heart rate, blood flow to the heart and narrowing of the arteries
- Propylene glycol (PG)** - clear, colorless, oily liquid, used to create artificial smoketop.
- Fine Particulates** - causes nose, throat and lung irritation, coughing, sneezing, runny nose and shortness of breath, can affect lung function and worsen asthma and heart disease
- Vegetable glycerin (VG)** - considered non-toxic when delivered orally.
- Flavorings** - unregulated for vape products, when heated become carcinogens and cause lung injury
- Volatile organic compounds** - causes eye, nose and throat irritation, shortness of breath, headaches, fatigue, nausea, dizziness and skin problems are carcinogenic
- Carbonyls** (including formaldehyde and acetaldehyde) often created when PG and VG are heated

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National Jewish Health
Bringing Science to Life

Tank/Cartridge/Pod
Holds the e-liquid, nearly always contains nicotine. Nicotine harms the developing brain.

Pods
Often use nicotine salts (have added acid) to increase nicotine dose and reduce throat hit but may be more addictive.

E-liquid or E-Juice
Mix of chemicals and flavoring with nicotine.



Knowledge Check

Please select the best statement about how e-cigarettes function:

- A. The battery is activated by drawing air through a mouth piece then vaporizes nicotine that the user inhales as aerosol.
- B. Open pod systems are disposed after the e-liquid is consumed.
- C. Nicotine e-liquid is vaporized by a heated coil, and the condensed aerosol is inhaled by the user.
- D. Every e-cigarette device is unique, so it's best to just ask the user how their individual device works.



Correct

C

What is an e-cigarette?

- Chemical composition of e-liquids
 - Difference between e-liquids with primarily freebase nicotine versus those with nicotine salts or protonated nicotine
 - Other substances that may be used in an e-cigarette

What's in an e-liquid?

What's in an e-liquid? It's not water vapor!

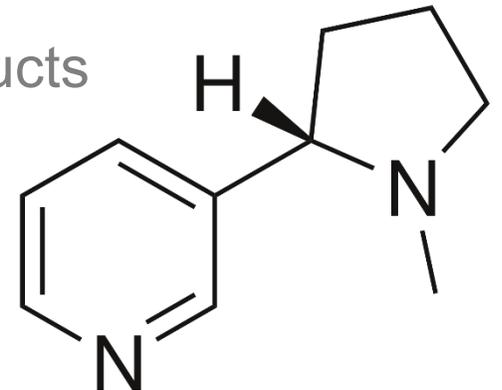
- Primarily a ratio of propylene glycol to vegetable glycerin
- Flavoring chemicals to mask taste of the other chemicals including nicotine.
- More than 15,000 flavor combinations available on the market



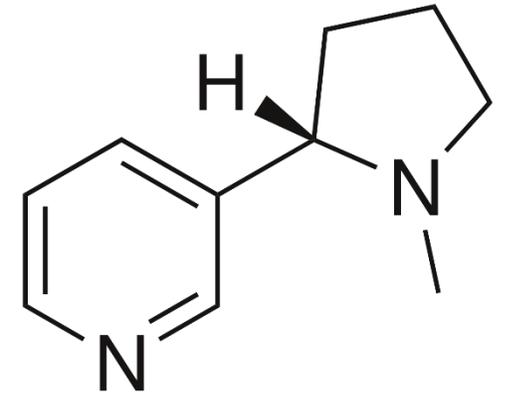
Types of nicotine in e-cigarettes

What's in an e-liquid?

- Nicotine in e-liquids exists in both the free-base and protonated forms
- Nicotine concentration: % by volume, or mg/ml of e-liquid
- **Free-base** nicotine solutions was most common until recently
- **Nicotine salts** or protonated nicotine have risen in popularity
 - Particularly driven by JUUL® products



Nicotine dose from e-cigarettes



What's in an e-liquid?

- Dose of nicotine delivered by an e-cigarette depends on:
 - Nicotine concentration in the e-liquid
 - User puff frequency and duration of each puff
 - The battery strength and coil resistance

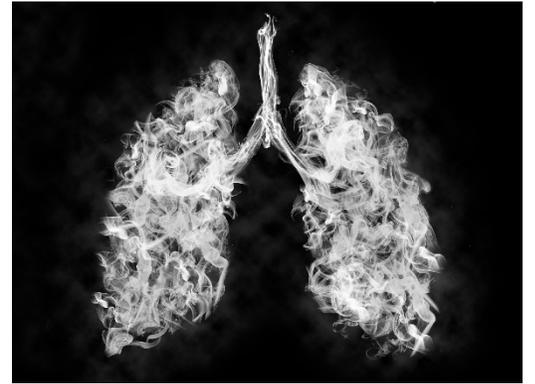


More than the listed ingredients

- More than 80 chemicals including:
 - Several known carcinogens
 - Aerosol contains fine particulate matter below PM2.5
 - Volatile organic compounds
 - Carbonyls

(National Academies for Science, Engineering, and Medicine (NASEM). 2018)

- Dual users generally have the highest levels of toxicants and may be more hazardous than use of a single product (Goniewicz, et al. 2018, JAMA Open)



Other substances used for vaping

What's in an e-liquid?

- Substitutes for nicotine e-liquids aerosolized in a vaping device
 - Tetrahydrocannabinol (THC)
 - Cannabidiol (CBD)
 - Aromatic essential oils
- Chemicals are available in liquid form
 - Can be used to refill a tank or pod
 - Available as counterfeit pods



Knowledge Check

What are the components of e-cigarettes that determine the dose of nicotine consumed in each puff?

- A. Nicotine strength (% nicotine) in the e-liquid.
- B. Battery strength and coil resistance.
- C. Puff volume and duration.
- D. All of the above.
- E. Only b and c.



Correct

D



Risks associated with e-cigarette use

- Identified harms associated with using e-cigarettes or vaping:
 - Explosions, injuries and burns related to batteries
 - Nicotine dependence and toxicity
 - Cognitive effects of nicotine for adolescents
 - Impact of flavors on health
 - Physiological effects of vaping on the cardiovascular and respiratory systems
 - Oral or dental effects



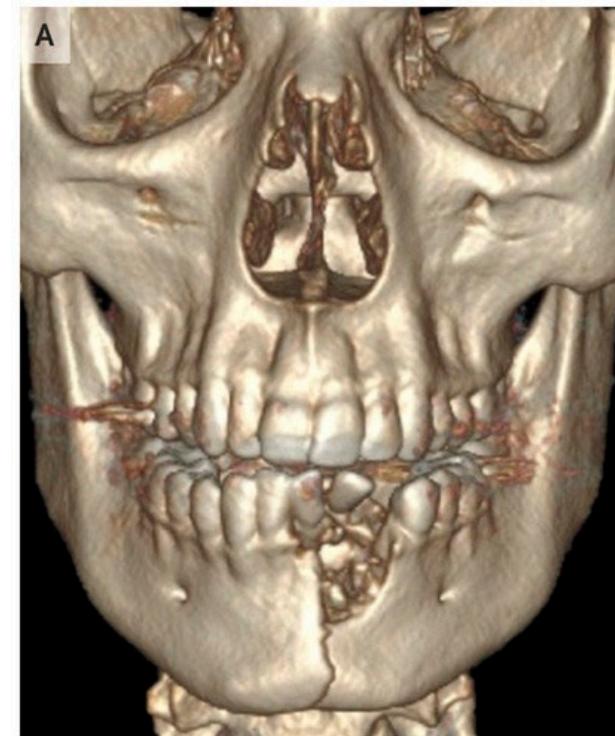
Explosions: burns and injuries

- Explosions resulting in injuries, including
 - Burns
 - Skeletal injury
 - Debris projectile injuries requiring hospitalization.

(US Fire Administration. 2017)

- Most explosions occurred during device storage, use, or while charging the battery
- More than 2000 e-cigarette explosion and burn injuries presented to an emergency department from 2015 to 2017

(Rossheim, et al. 2019, Tob Control)



(Katz & Russell. 2019, NEJM)



Explosions: burns and injuries

1. Consider using vape devices with safety features

such as firing button locks, vent holes, and protection against overcharging.

Atomizer

2. Keep loose batteries in a case to prevent contact with metal objects.

Don't let batteries come in contact with coins, keys, or other metals in your pocket.

Fire Button Lock

Fire Button

Battery Vent Holes

Atomizer Connector

3. Never charge your vape device with a phone or tablet charger.

Always use the charger that came with it.

5. Replace the batteries if they get damaged or wet.

If your vape device gets damaged and the batteries are not replaceable, contact the manufacturer.

Battery Cover

USB Port

4. Don't charge your vape device overnight or leave it charging unattended.



Image: FDA



Nicotine toxicity and dependence

- Significant risk of nicotine toxicity and nicotine dependence.
 - Wear personal protective equipment and avoid splashing liquid on skin
 - Nicotine is highly addictive and e-liquids can contain high levels of nicotine
 - Dual users may take in higher levels of nicotine than using either product alone
 - Pod-based systems deliver more nicotine in adolescents than non-pod systems

(Boykan, et al. 2019)



Nicotine toxicity and dependence

- Youth who self-report using only a nicotine-free vaping product may still have elevated cotinine levels (Boykan, et al. 2019)
- Labeled level of nicotine may not align with measured nicotine content in bottle
 - Lack of regulation
 - Variations of 50-100% from labeled nicotine content. (Voos, et al. 2019)



Cognitive effects in adolescents

- Nicotine has significant cognitive effects in adolescents
 - Adolescents are more susceptible to the pleasurable effects of nicotine weighed against risk of tobacco use
 - Sustained nicotine use in adolescents impairs memory, learning, concentration, emotional processing and impulse control (US DHHS. 2014)
 - Nicotine primes the brain for future addiction in a so called “gateway” effect (Kandel & Kandel, 2014, NEJM)





Chemical flavorings

- Not tested for safety in e-cigarettes
- Increase appeal of product use for adolescents
- Many flavoring chemicals are aldehyde-based
 - Diacetyl, acetaldehyde and formaldehyde all known causes of bronchiolitis obliterans or “popcorn lung”
 - Vaping flavors may result in exposure beyond the recommended daily exposure to aldehydes.
(Tierny, et al. 2016)





Physiological effects

- E-cigarette vaping elevates markers associated with increased cardiovascular risks (Qasim, et al. 2017)
- Non-nicotine compounds in e-cigarette aerosol increase mucus production and inflammation in the lung (NASEM. 2018)
- Vaping with or without nicotine is known to cause lung epithelial cell injury (NASEM. 2018)
- Vaping flavors in particular has hazardous effects on the lung, including bronchiolitis obliterans (NASEM. 2018)
- Dual use of e-cigarettes and combustible cigarettes may increase the detrimental effects on the heart and lungs (Bhatta & Glantz. 2019)



Oral health and dental effects

- Both nicotine and non-nicotine e-cigarette liquids increase cytotoxicity to:
 - Human gingival fibroblasts. (Sancilio, et al. 2016)
 - Oral epithelial cells (Ji, et al. 2016)
 - Head and neck squamous cell carcinoma cell lines (Yu, et al. 2016).
- Long term use associated with new diagnosis of gum disease [OR: 1.76 (1.12-2.76)] and bone loss around teeth [OR: 1.67 (1.06-2.63)] (Atuegwu, et al. 2019)
- Adult users have OR 2.9 (1.9-4.5) for reporting gingival disease compared to adults who never used a tobacco product. (Vora, et al. 2019)

Part 3

Taking a Vaping History: Screening, Responding, and Preventing

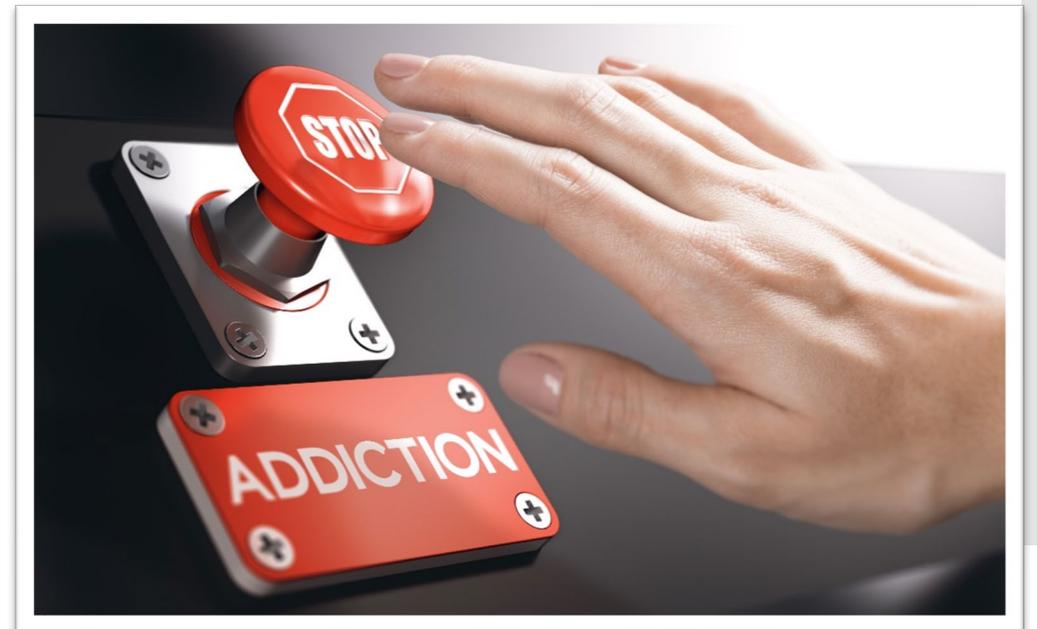
Screening and Preventing Vaping

In this module, you will learn to:

- Conduct a vaping history for patients who use e-cigarettes.
- Apply the Ask-Advise-Connect model for tobacco treatment to e-cigarette use and vaping.
- Summarize common recommendations about e-cigarettes from major health professional associations.

Ask-Advise-Connect

- E-cigarettes are a tobacco product
- Efficient way to treat e-cigarettes tobacco use is the Ask Advise Connect model



Ask about e-cigarettes and vaping

- First step is to **Ask** every patient about e-cigarette use at every visit
- Helpful strategies to complete a vaping history:
 - Ask about behaviors and not labels
 - Ask about e-cigarette use or vaping separately and directly
 - Keep your assessment simple



Ask about e-cigarettes and vaping

- Many branded products that individuals may use and refer to by name
- Most popular products for nicotine vaping are JUUL, Vuse, Blu, and Logic (King, et al. 2018)
 - “JUUL-ing” may be used by youth to describe vaping, even when the product used is not a JUUL device
 - Other terms used for devices include e-cig, vape pens, tanks or mods

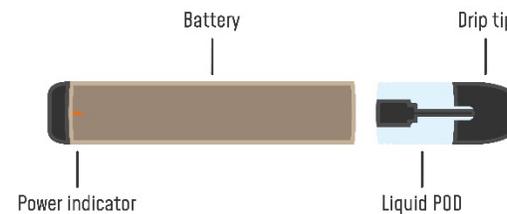
Ask about e-cigarettes and vaping

- Major challenge in taking a vaping history is lack of standardization
 - Experienced users with high powered devices can take in as much nicotine from a low nicotine concentration e-liquid as an inexperienced user with a high nicotine concentration e-liquid

Ask about e-cigarettes and vaping

- Manufacturers may have a more consistent approach to device power and nicotine concentration
 - There is no standard for assessing nicotine intake across devices

POD system **Infographics**



Ask about e-cigarettes and vaping

- **Ask** if they use the same device each time.
- **Ask** about nicotine concentration
- **Ask** if they use replaceable cartridges/pods or refill their e-cigarette device.
 - Advise patients to avoid street purchases or products from “do-it-yourself” manufacturers.
- **Ask** about what substances the person is using in their device.

Advise quitting e- cigarettes and vaping

- When a screen for e-cigarette use is positive, providers should **Advise** quitting
 - Advice about quitting should be clear and personalized
 - Provide a supportive message

Advise quitting e- cigarettes and vaping

- For former combustible cigarettes users using e-cigarettes to stop smoking, here are some additional tips:
 - Congratulate your patient on taking steps to improve their health
 - Discuss the unknown long-term effects from vaping, and the known short-term risks

Advise quitting e- cigarettes and vaping

- Encourage setting a quit date for e-cigarette use.
- Recommend using nicotine replacement products
 - No established guidelines for dosing nicotine products with adults who report long-term e-cigarette use.



Connect to the quitline

- Providers should **connect** to the quitline directly by sending a completed fax referral form or completing a web referral form
 - Quitline will proactively reach out to every patient referred by a provider and provide feedback reports
- Quitline is an appropriate resource for assisting individuals who use e-cigarettes or vape to stop
- Quitline will help the person enroll in evidence-based behavior change coaching and offer to switch to nicotine replacement products.



What about using e-cigarettes for smoking cessation?

- Can e-cigarettes aid in smoking cessation?
- Some evidence in support of nicotine e-cigarette compared to NRT, RR1.69 (1.25-2.27) (Hartman-Boyce, et al. 2020)
- No differences in adverse events
- Effects limited by serious imprecision in results
- Common AEs are throat/mouth irritation, headache, cough, and nausea

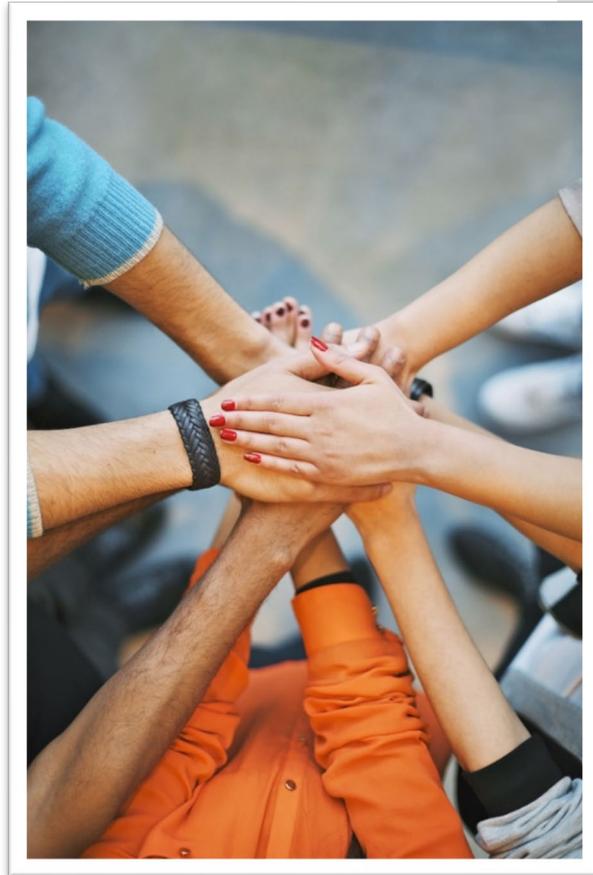


E-cigarettes and smoking cessation

- Side effects of short term use generally show improvement (Hartman-Boyce, et al. 2020)
- E-cigarette use may inhibit smoking cessation or precipitate return to combustible/dual product use
- Daily use may improve smoking cessation outcomes
- For people not intending to quit, e-cigarette use may enhance total nicotine dependence, promote dual use, or prompt a return to smoking (Bhatnagar, et al. 2019)
- Switching to complete e-cigarettes use delivers similar nicotine levels to combustible cigarettes (Shahab, et al. 2017)

Preventing e-cigarette use and vaping

- Recommended to provide counseling and advice to prevent initiation of e-cigarette use among youth, young adults, and pregnant women
 - Providers should counsel pregnant women, young adults, adolescents, and parents/caregivers of adolescents
 - Counseling should be supportive and aim to prevent the initiation of nicotine use or to provide encouragement with quitting
 - Providers should assist all individuals to stop using nicotine and tobacco products



Working with adolescents

Here are some helpful tips to initiate a conversation about vaping:

- Maintain strict confidentiality when discussing tobacco product use.
- Ask what the young person knows about e-cigarettes, vaping, and nicotine.
 - Assess their current knowledge
 - Ask permission to share information
 - Discuss the risks of nicotine on adolescent brain development.
 - Discuss the risks of health harms from use and exposure to aerosol
- Listen and provide support to change behavior. Avoid lecturing or criticizing

Patient Scenario

Nate Jones is a 16 year old male patient who presents to your clinic for an annual check up. He was accompanied by his mother who reported typical adolescent behavior since the last visit. During your exam, Nate reports no changes in academic performance or activity. He is on the football team and has a good social network of friends with whom he enjoys spending time. He does find school becoming more stressful but feels the challenge is positive overall.

Scenario

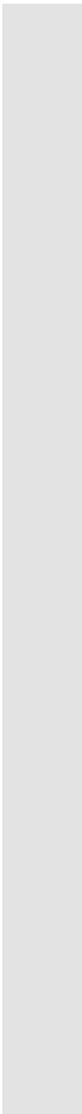
Select the best response to assess for e-cigarette experimentation and/or use.

- A. So, Nate, you're not playing with e-cigarettes, are you?
- B. I want to ask you about these dangerous new e-cigarettes. Have you used one of these recently?
- C. Nate, I want to remind you that our conversation is confidential and I won't tell your parents about what we discuss. Have you ever used an e-cigarette or vaping product?
- D. Are you a smoker or a vaper?



Scenario

C



Scenario

Nate admits to using an e-cigarette, but just at school and never at home. Several times during the day, Nate takes a couple of 'hits' on a JUUL from friends and says, "I'm not addicted to it." He admits that he looks forward to getting a hit as soon as he gets to school. He also feels like vaping gives him a rush when playing sports and also helps him calm down when he's stressed. Nate states that most of the time he doesn't even vape with nicotine and just likes the flavors.

Scenario

What advice should you give Nate about vaping or e-cigarette use? Select all that apply.

- A. We should really talk to your mom about this and see how she feels.
- B. Many young people don't know they are getting nicotine when they use a JUUL even though most of these products do contain nicotine.
- C. Nicotine is highly addictive and even occasional use can get you hooked.
- D. You could get really sick and die from vaping. Have you thought how your family would feel?
- E. If you get caught vaping, you probably will not get into college.



Scenario

- B and C

Scenario

What other advice about vaping should you give Nate? Select all that apply.

- A. I'm concerned that nicotine might be taking control away from you. Can I give you more information about the potential harms of vaping?
- B. We don't know a lot about the long-term effects of vaping, and some of the short term effects on your lungs are worrying. Have you noticed any side effects that worry you?
- C. I'm going to tell you all the bad things that vaping could do to your health so that you can think about if you want to continue.
- D. I really want you to quit vaping before the next time I see you.



Scenario

A and B