



VAPING

IN THE YOUTH OF SOUTH CAROLINA: A CALL TO UNDERSTANDING A CALL TO ACTION

South Carolina Chapter
American Academy of Pediatrics



Lochrane Grant, MD
Austin Raunikar MD
February 10, 2021

Special thanks to...

RI AAP Vaping Champions and...



AMERICAN ACADEMY OF PEDIATRICS

Julius B. Richmond Center of Excellence

*Sion Kim Harris, PhD CPH
Center for Adolescent Behavioral Health Research
Division of Adolescent/Young Adult Medicine
Boston Children's Hospital
SCAAP QTIP Collaborative Jan 2021 presentation*

What?

Why?

How?

Where?

When?

Know your audience: participants who...

Ask about smokers in home /screen family hx

- Secondhand smoke – at risk home

Ask about vaping annually 12+/ screen patient pmh

- Use, age started, amount, access

Teach them about nicotine harm / counsel L1

- Advocate to prevent, coach

Offer resources, quit services, follow-up / counsel L2

- Advocate to aid reduction, resolution of harm

Offer quit date, aid (NRT), referral to specialist / counsel L3

- Advocate to implement reduction, resolution of harm

VAPING BASICS

What?

Why?

How?

Where?

When?

A stylized line drawing of a hand holding a dab pen. The pen is held between the thumb and index finger, with the tip pointing towards the upper left. A large, billowing cloud of white smoke or vapor rises from the tip of the pen, filling the upper right portion of the frame. The background is a light blue gradient.

What are the terms used?

- *Hit, Dab, Rip,*
- *Ripskie, Draw, Tax*
- *Nic Sticc, Wop Machine*
- *Clouds, Cloud Chasing*
- *Dab Pen, Dank Tanks*
- *Nick Sick*
- *Ghost*

DISPOSABLES

Devices that are not refillable and are intended for one-time use. These typically have ~200 puffs and some examples include Puff Bars, Stig, Pop, Posh, Hyde and Cuvie (HQD).



BIDI Stick

Cuvie (HQD)

Puff Bars

Posh Vape

Stig

CLOSED POD SYSTEM

A type of device that uses disposable pods containing e-liquid (typically ~200-500 puffs). The body of these devices can be recharged and the disposable pods can be replaced with new compatible pods.



JUUL

BLU

NJOY

VUSE Vibe/Alto



Box Mod

Suorin Drop

Suorin Air

NOVO

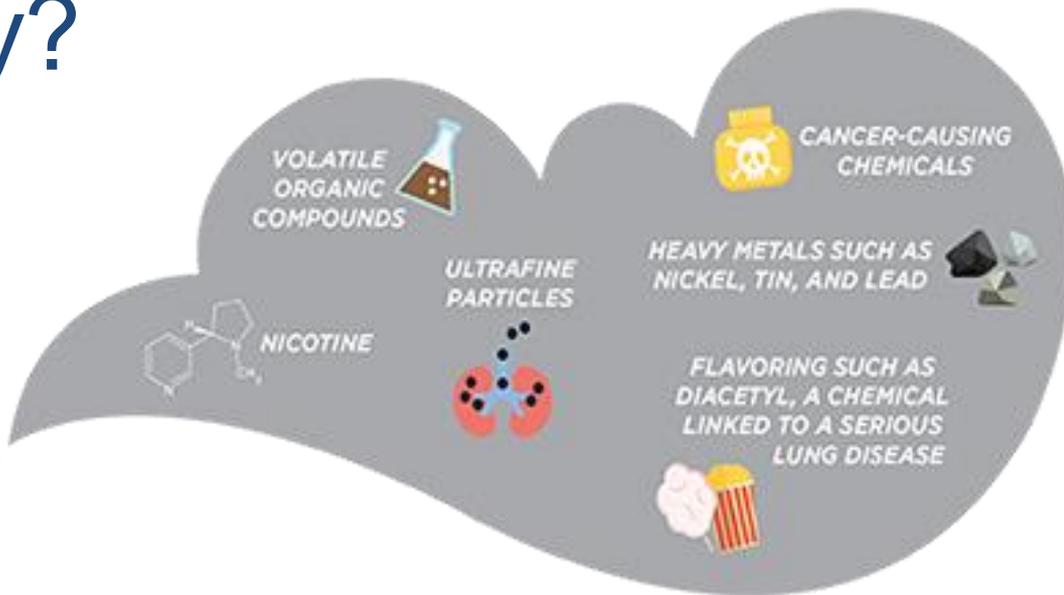
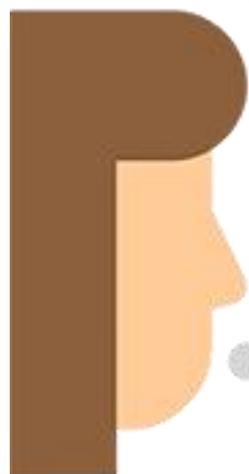
Vape Juice

OPEN/REFILLABLE SYSTEM, REFILLABLE DEVICES

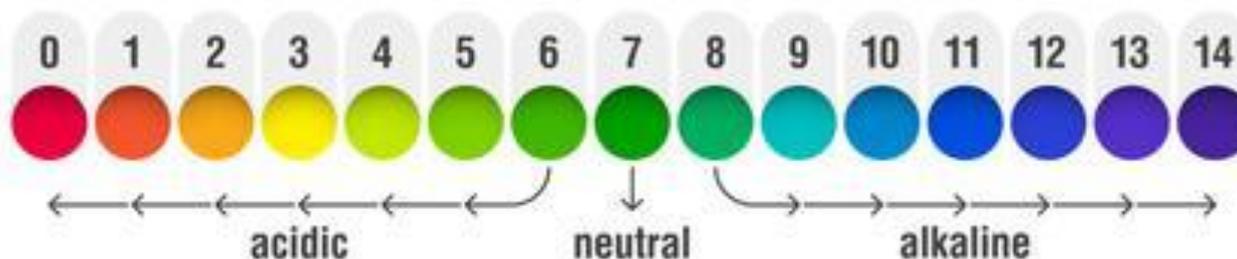
These systems require vape juice and come in three varieties: box mods, pens and refillable pods. These devices have tanks or pods that are continuously refilled with vape juice and the pods/tanks are not thrown away after one use. These systems are used more by "hobbyist" vapers because they require more upkeep and are typically modified to be able to do tricks.



So why worry?



pH scale



Nicotine Salts

Freebase Nicotine

Flavors – designed to appeal to youth



- There is an epidemic spreading.....



<https://youtu.be/zYuyS1Oq8gY>

TEEN VAPING TRENDS & IMPLICATIONS

What?

Why?

How?

Where?

When?

Safety Alert: The Growing Vaping Crisis

The U.S. Surgeon General called vaping the next epidemic among high school students.



Between 2017 and 2018, the number of high school students using e-cigarettes increased by more than 75%, according to the CDC.

In 2018, close to 4.9 million middle and high school students (compared to 3.6 million in 2017) used a tobacco product, according to the CDC.



The study found that those who vaped were at an "elevated risk of engaging in criminal activities such as violence or theft." Teens who smoked marijuana through vape products were at an ever higher risk of property or violence offenses.

Vaping and Marijuana Use

- Youth e-cigarette use increases likelihood of marijuana use
- ***8.9% of youth have used cannabis in e-cigarettes***

Dai et al, Pediatrics, 2018

Audrain-McGovern, Pediatrics, 2018

Trivers et al, JAMA Pediatrics, 2018



Image Source: Monitoring the Future

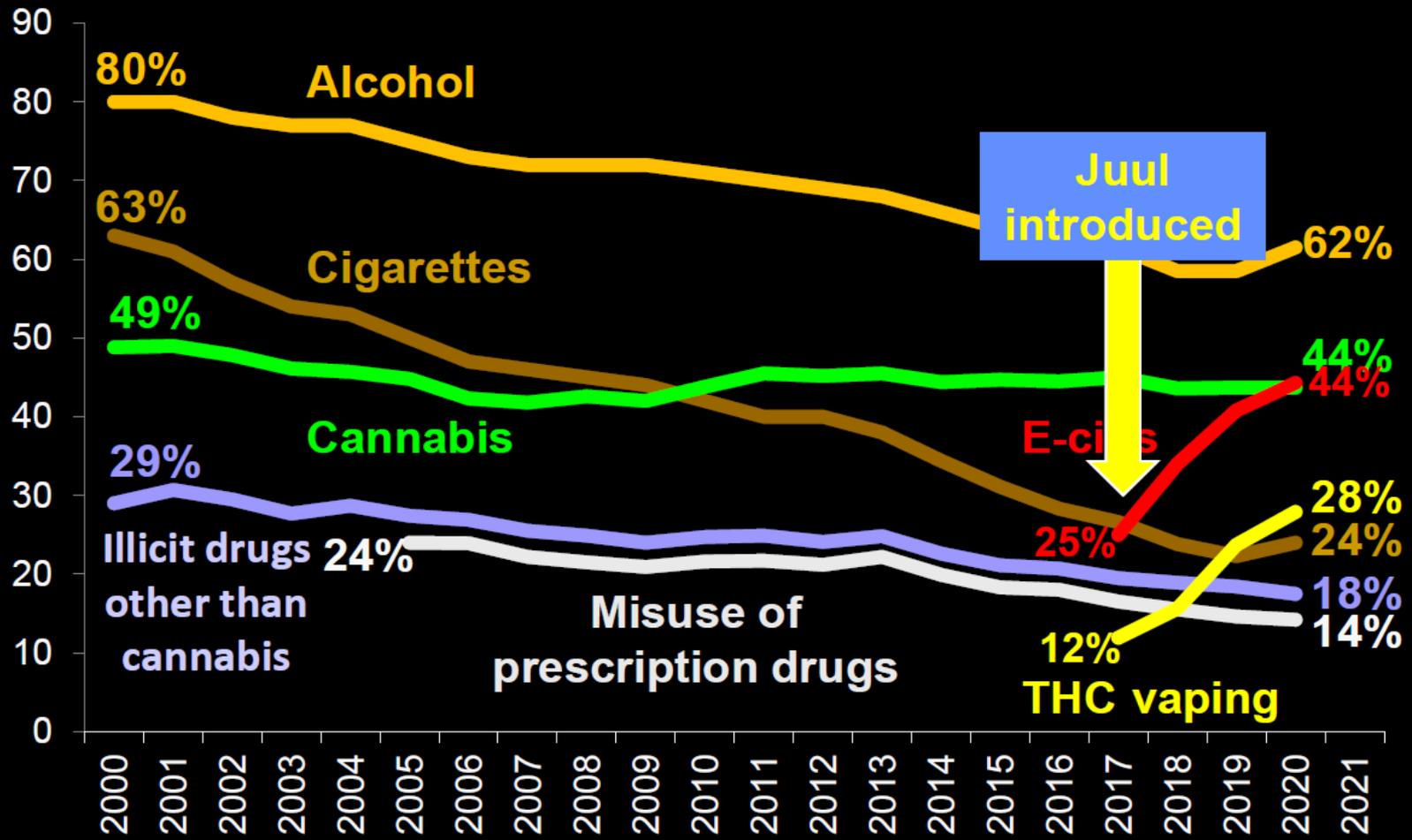
Adolescent Substance Use: Scope, Screening, and Brief Interventions

Sion Kim Harris, PhD CPH
Center for Adolescent Behavioral Health Research
Division of Adolescent/Young Adult Medicine
Boston Children's Hospital



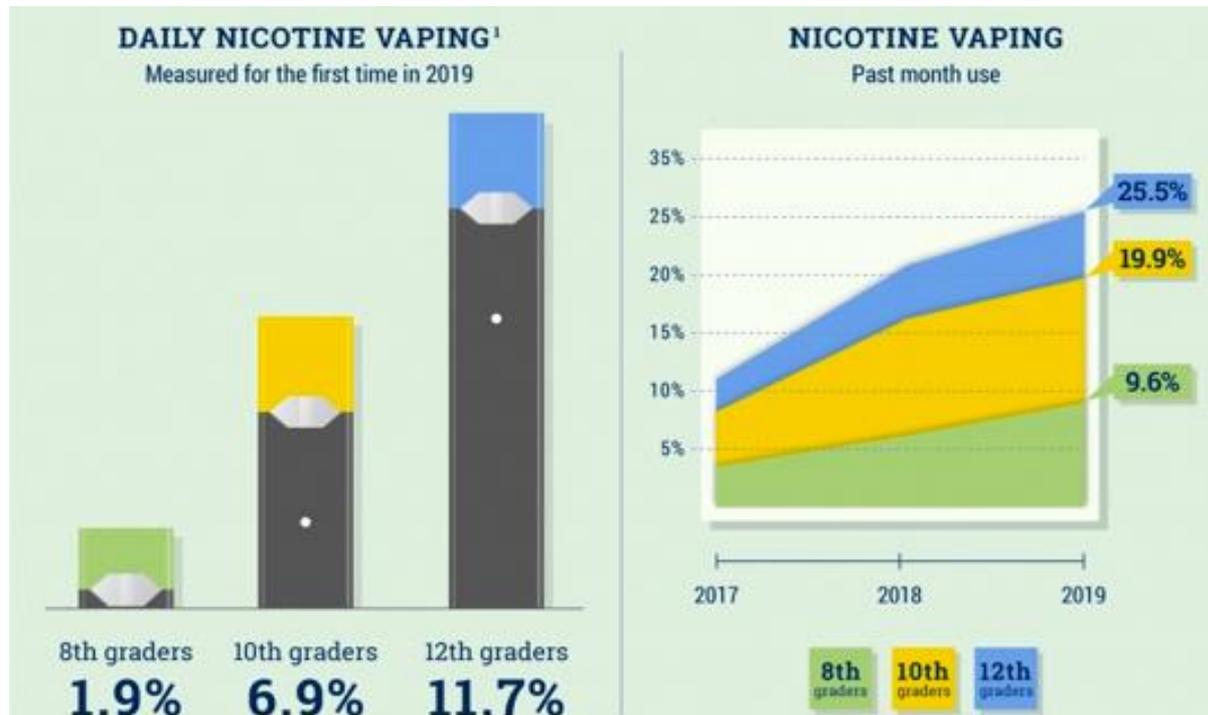
HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Percent of U.S. 12th Graders Reporting Using Substance in Lifetime, 2000-2020



Source: National Monitoring the Future Survey, 2020

2019 Month Nicotine Vaping Estimates



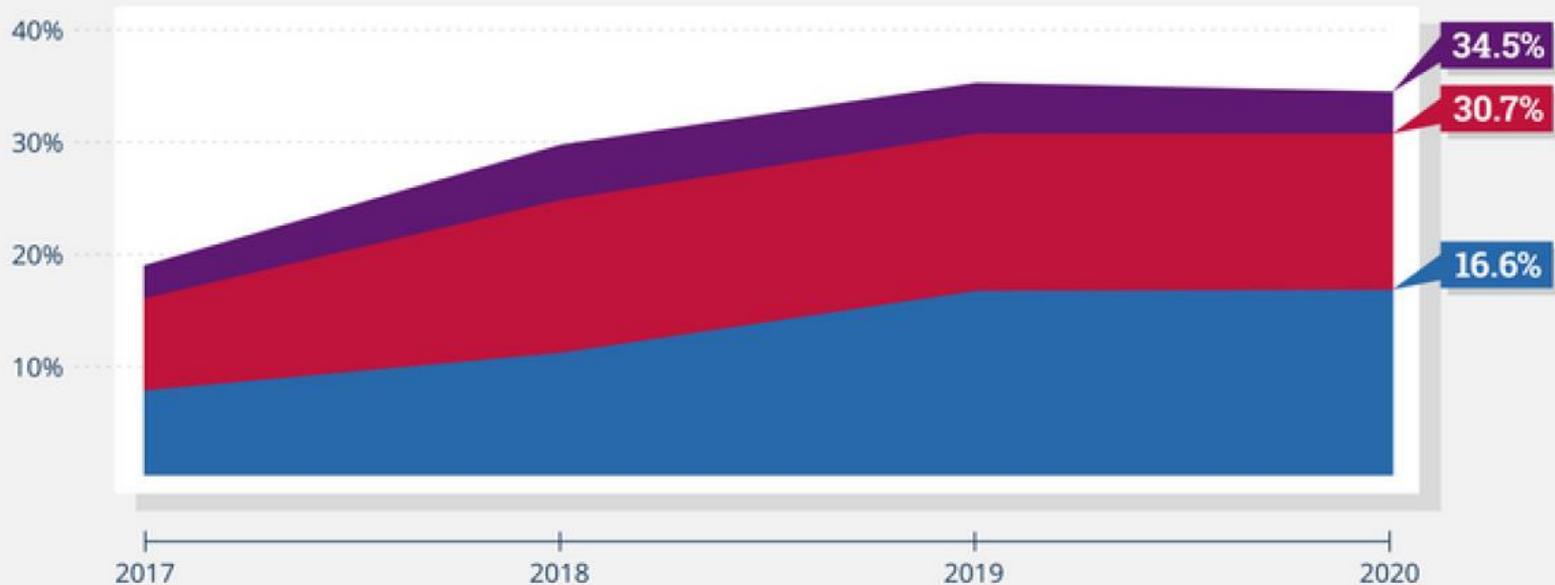
1. Miech R, Johnston L, O'Malley PM, Bachman JG, Patrick ME. Trends in adolescent vaping, 2017–2019. *N Engl J Med* 2019; 381:1490-1491

2019 Past Month Nicotine Vaping Equates to:
1 IN 4 – 12TH GRADERS • 1 IN 5 – 10TH GRADERS • 1 IN 10 – 8TH GRADERS

2020 MTF Data on Nicotine Vaping

Surge of Nicotine Vaping Levels Off, but Remains High

Past-Year Nicotine Vaping Held Steady



8th graders
10th graders
12th graders

Vaping and Asthma

- ***Increased cough and wheeze*** in adolescents who use e-cigs
- E-cig use associated with an ***increase in asthma exacerbations***
- Adolescent users had ***increased rates of chronic bronchitic symptoms***

NASEM: Public Health Consequences of E-Cigarettes, 2018
McConnell et al, A J of Respir Crit Care Med, 2016

EVALI (E-cigarette or Vaping Associated Lung Injury)

Hospitalized EVALI patients, Aug 2019 - Jan 2020

- 2,668 hospitalized cases in the US
 - Majority white, male, and <35 yo
- 60 confirmed deaths (ages 13-85)
- Closely associated with vitamin E acetate
 - Additive, mostly in THC containing products



Image Source: BBC

Vaping and COVID



Image Source: Truth Initiative

Vaping and COVID

Young people who ever used **e-cigarettes**

5x

more likely to be **diagnosed with COVID-19**

Young people who ever used **e-cigarettes plus conventional cigarettes**

7x

more likely to be **diagnosed with COVID-19**



ELSEVIER

JOURNAL OF
ADOLESCENT
HEALTH

www.jahonline.org

Original article

Association Between Youth Smoking, Electronic Cigarette Use,
and Coronavirus Disease 2019

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^aDivision of Adolescent Medicine, Department of Pediatrics, Stanford University, Palo Alto, California

^bDivision of Oral Epidemiology and Dental Public Health, University of California, San Francisco, San Francisco, California

Vaping and COVID

- Increased transmission of the virus due to
 - ***Finger contact with the lips*** from holding the nicotine product
 - Sharing a nicotine product with others



Other Health Risks with Vaping

- **Second Hand Aerosols**

- Nonsmokers exposed to cigarettes and e-cigarettes have similar cotinine levels, indicating they take in similar levels of nicotine

- **Accidental Exposure/Ingestions**

- 8,269 liquid nicotine exposures reported to poison control centers from 2012-2017 in children <6 (2018)

- **Battery Explosions**

- From 2015-2017, 2,035 explosion and burn injuries presented to US hospital emergency rooms



The New York Times

E-Cigarette Exploded in a Teenager's Mouth, Damaging His Jaw

VAPING LAWS, MARKETING, & LOBBYING

What?

Why?

How?

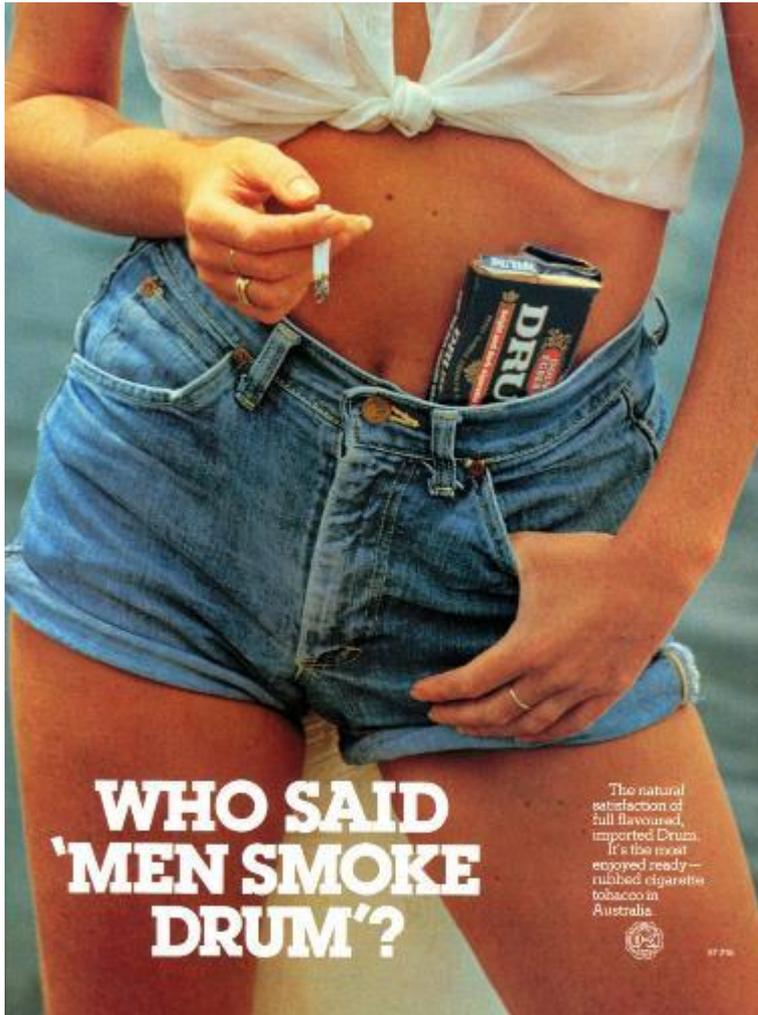
Where?

When?

Advertising, then and now



Advertising



**WHO SAID
'MEN SMOKE
DRUM'?**

The natural satisfaction of full flavoured, imported Drum. It's the most enjoyed ready-rubbed cigarette tobacco in Australia.

© 2011 Drum Cigarettes Pty Ltd. All rights reserved. Drum is a registered trademark of Drum Cigarettes Pty Ltd. Drum is a registered trademark of Drum Cigarettes Pty Ltd. Drum is a registered trademark of Drum Cigarettes Pty Ltd.



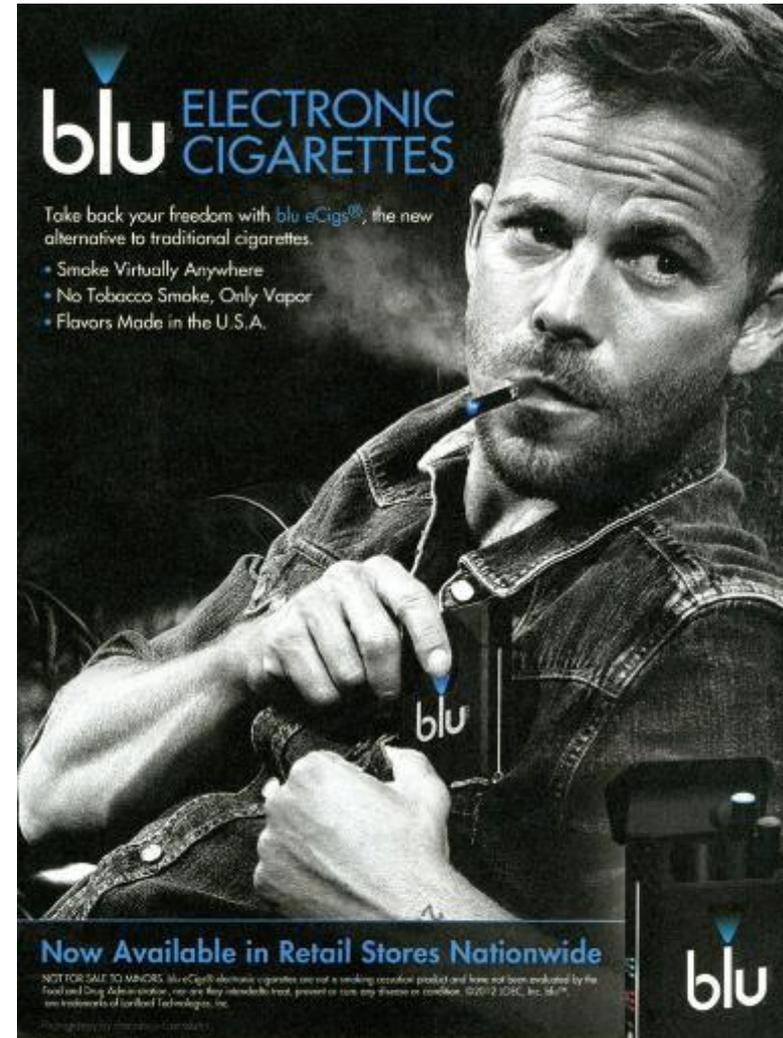
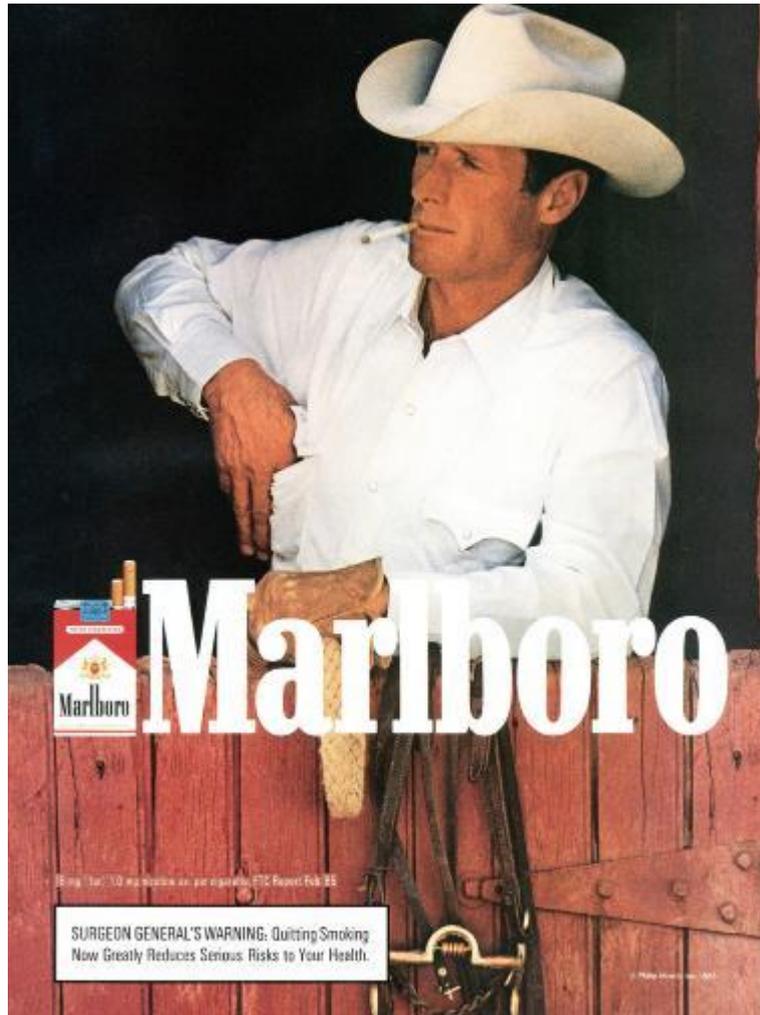
**SLIM. CHARGED.
READY TO GO.**

**AVAILABLE
NATIONWIDE!**
Visit us at blucigs.com/store-locator

NOT FOR SALE TO MINORS. All eCigs electronic cigarettes are not a smoking cessation product and have not been evaluated by the Food and Drug Administration. Use only when you are over 18 years old. Do not use if pregnant or nursing. © 2011 blu. All rights reserved. blu is a registered trademark of blu eCigs Pty Ltd.

Image Source: Stanford SRITA

Advertising



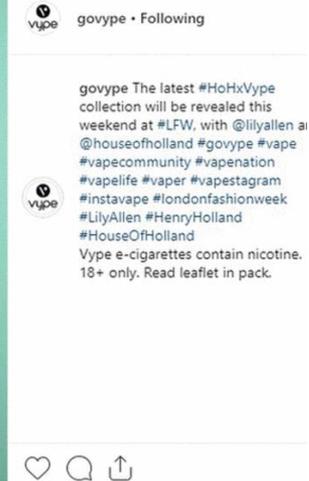
blucigs.com/store-locator/

Image Source: Stanford SRITA

Celebrity Appeal



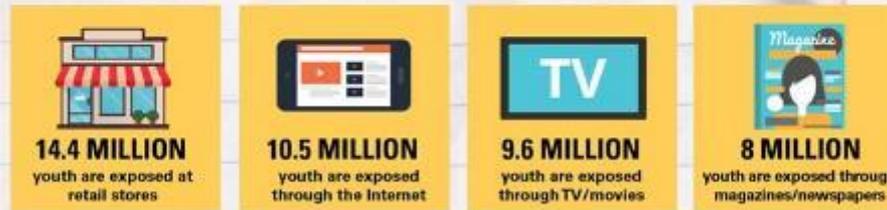
Online sales, Tik Tok, retail stores, Instagram, Twitter...



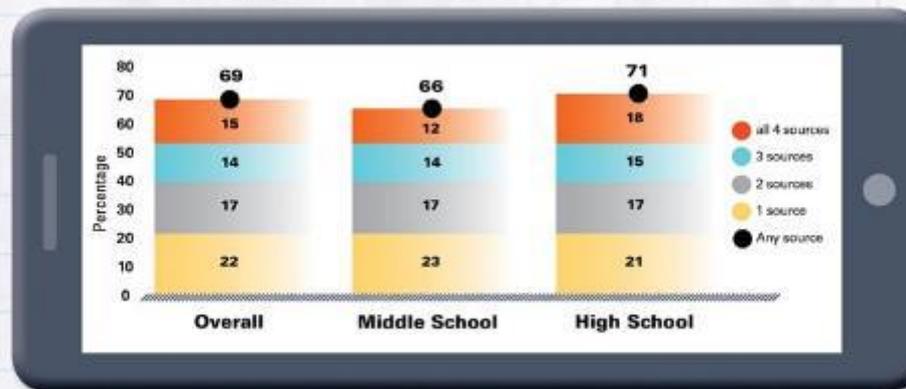
Advertising: Targeting Teens

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.

2019 AAP Policy Statement



- 1) FDA regulation e-cigs (2016...but delay)
- 2) Raise sales age to 21 years
- 3) Reduce youth demand by banning flavors, including menthol
- 4) Ban internet sales of e-cigs and e-juice
- 5) Ban e-cig advertising in places where youth can see it
- 6) Tax e-cigs at comparable rates to conventional tobacco products
- 7) Incorporate e-cigs into tobacco-free laws in places where children spend time

Tobacco 21



TOBACCO 21
UNDER 21 IS TOO YOUNG



- December 2019 national law raises sales age to 21 years.
- Retailers verify age by photo ID.
- South Carolina is using a constitutional amendment to ***not*** enforce Tobacco 21.

Flavor “Ban”

- **Effective February 2020**
- FDA banned “all” flavors **except** menthol and tobacco flavor for cartridge-based e-cigarettes only.
- **EXCLUDES**
 - Non-refillable disposables (e.g. Stig, Puff Bar)
 - Tank based
 - E-juice refill solutions



South Carolina Legislative Focus, 2021



- **Current focus:**
 - Tobacco retail licensing
 - Fighting back “pre-emption” (higher govt body blocks local govt from creating strong laws to protect citizens)
 - SC AAP Softedge platform
 - <http://www.scaap.org/advocacy/#/>
- **Future most impactful:**
 - Increase price (tax)
 - Create smoke free environments
 - Increase funding for prevention and control
 - Tobacco 21



VAPING

A CALL TO ACTION

What?

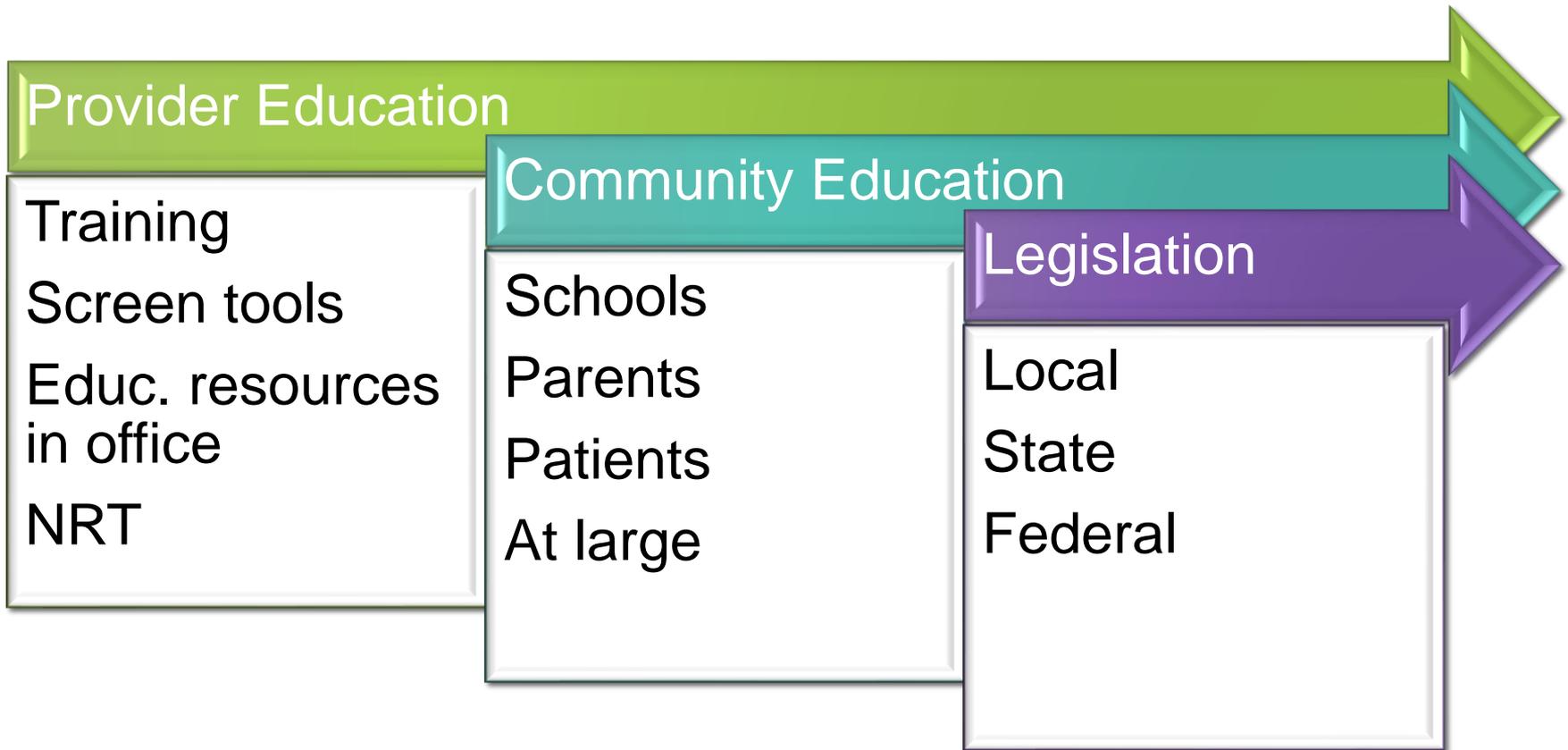
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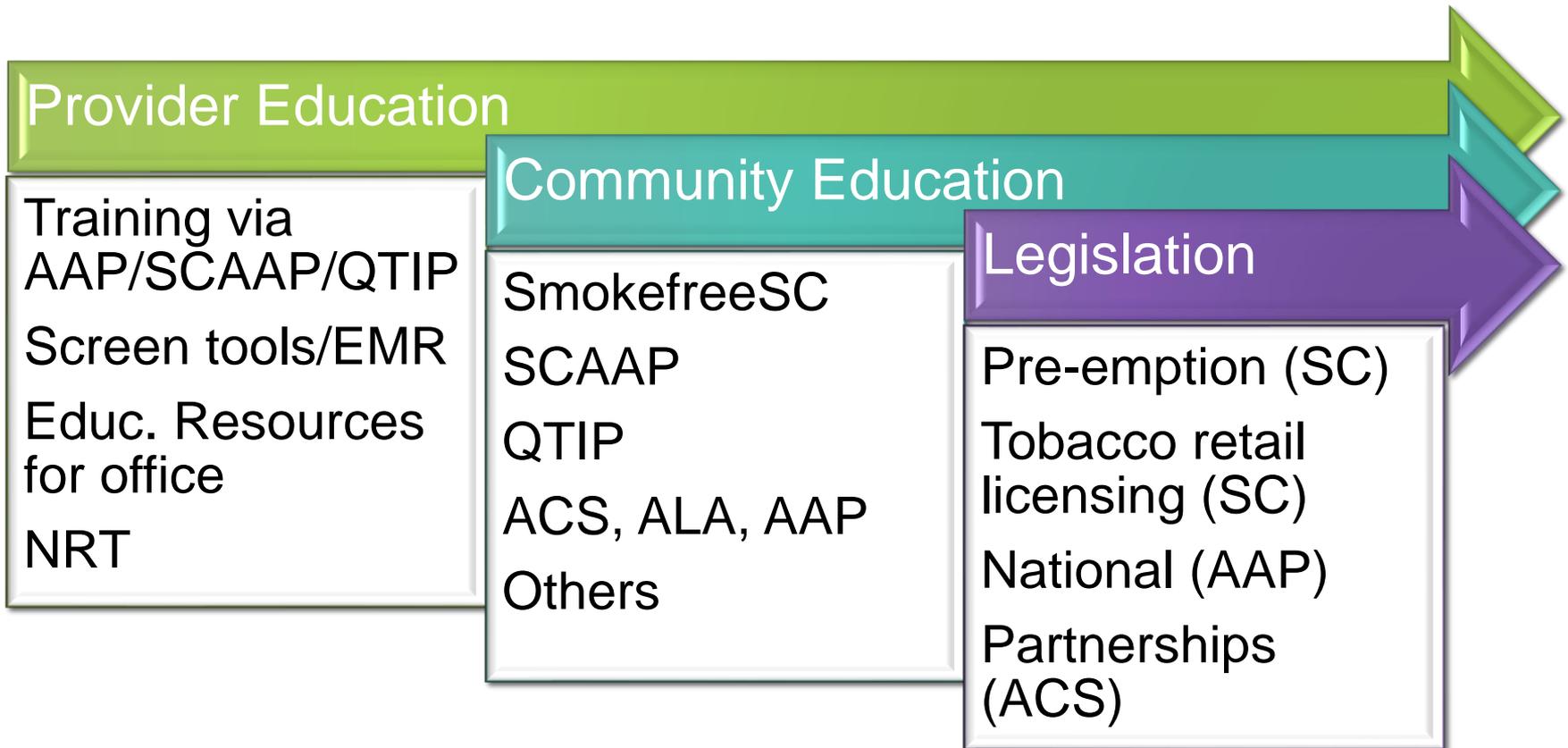
When?

SC AAP Vaping Goals 2020-2021



SC AAP Vaping Goals 2020-2021

Specific



Engage Pre-Teens and Teens in Office

- **Ask all teens (and parents) about vaping**
 - CRAFFT 2.1 + N or Screening to Brief Intervention (S2BI)
 - If positive, Hooked on Nicotine Checklist or 4-item E-cig Dependence Scale
 - EMR options
- **Brief Negotiated Interview**
 - Motivational interviewing

Advise about the risks

- Educational resources (handouts, **QR codes** to websites)
- EMR Smartphrases

Assist with quitting

- Resources and referral to cessation support services
- Nicotine replacement therapy if indicated – if not us, who?

CRAFFT + N

- Substance abuse screen

The CRAFFT+N Interview

To be orally administered by the clinician

Begin: "I'm going to ask you a few questions that I ask all my patients. Please be honest. I will keep your answers confidential."

Part A

During the PAST 12 MONTHS, on how many days did you:

- | | |
|---|-----------|
| 1. Drink more than a few sips of beer, wine, or any drink containing alcohol? Say "0" if none. | |
| | # of days |
| 2. Use any marijuana (weed, oil, or hash by smoking, vaping, or in food) or "synthetic marijuana" (like "K2," "Spice")? Say "0" if none. | |
| | # of days |
| 3. Use anything else to get high (like other illegal drugs, prescription or over-the-counter medications, and things that you sniff, huff, or vape)? Say "0" if none. | |
| | # of days |
| 4. Use any tobacco or nicotine products (for example, cigarettes, e-cigarettes, hookahs or smokeless tobacco)? Say "0" if none. | |
| | # of days |

Did the patient answer "0" for all questions in Part A?

Yes

No

Ask CAR question only, then stop

Ask all six CRAFFT* questions below

Part B	No	Yes
C Have you ever ridden in a CAR driven by someone (including yourself) who was "high" or had been using alcohol or drugs?	<input type="checkbox"/>	<input type="checkbox"/>
R Do you ever use alcohol or drugs to RELAX , feel better about yourself, or fit in?	<input type="checkbox"/>	<input type="checkbox"/>
A Do you ever use alcohol or drugs while you are by yourself, or ALONE ?	<input type="checkbox"/>	<input type="checkbox"/>
F Do you ever FORGET things you did while using alcohol or drugs?	<input type="checkbox"/>	<input type="checkbox"/>
F Do your FAMILY or FRIENDS ever tell you that you should cut down on your drinking or drug use?	<input type="checkbox"/>	<input type="checkbox"/>
T Have you ever gotten into TROUBLE while you were using alcohol or drugs?	<input type="checkbox"/>	<input type="checkbox"/>

***Two or more YES answers suggest a serious problem and need for further assessment. See back for further instructions →**

NOTICE TO CLINIC STAFF AND MEDICAL RECORDS:

The information on this page is protected by special federal confidentiality rules (42 CFR Part 2), which prohibit disclosure of this information unless authorized by specific written consent. A general authorization for release of medical information is NOT sufficient.

Hooked on Nicotine Checklist (HONC)

The Hooked on Nicotine Checklist

The HONC is scored by tallying the number of yes responses, from 0-10. Any score greater than zero indicates that the smoker has lost some degree of autonomy over their smoking.

This indicates that nicotine addiction has begun.

	YES	NO
1) Have you ever tried to stop vaping, but couldn't?		
2) Do you vape <u>now</u> because it is really hard to quit?		
3) Have you ever felt like you were addicted to vaping?		
4) Do you ever have strong cravings to vape?		
5) Have you ever felt like you really needed to vape?		
6) Is it hard to keep from vaping in places where you are not supposed to, like school?		
When you tried to stop vaping...(or, when you haven't vaped for a while...)		
7) did you find it hard to concentrate because you couldn't vape?		
8) did you feel more irritable because you couldn't vape?		
9) did you feel a strong need or urge to vape?		
10) did you feel nervous, restless or anxious because you couldn't vape?		

E-cig Dependence Scale Adolescent

The Four-Item E-cigarette Dependence Scale for Assessing Adolescent E-cigarette Nicotine Dependence

	Never (0)	Rarely (1)	Sometimes (2)	Often (3)	Almost Always (4)
Instructions. Please respond to each question marking one box per row.					
I find myself reaching for my e-cigarette without thinking about it.					
I drop everything to go out and get e-cigarettes or e-juice.					
I vape more before going into a situation where vaping is not allowed.					
When I haven't been able to vape for a few hours, the craving gets intolerable.					

To score the measure, take the mean of the item scores.

Brief Negotiated Interview

Motivational Interviewing

- Build rapport
- Explore pros and cons
- Provide feedback
- Assess readiness for change
(readiness ruler)
- Negotiate an action plan



- 1) BNI-ART Institute SBIRT bu.edu
- 2) Steele DW. Brief Behavioral Interventions for Substance Abuse in Pediatrics: A Meta-analysis, Pediatrics, Oct. 2020. 146 (4)

Resources for Teens



- [This is quitting - truthinitiative.org](https://truthinitiative.org)
 - Free mobile program 13 – 24 yo
 - Text DITCHVAPE to 88709
 - Parent helping child text QUIT to 202-899-7550
- [Smokefree Teen – NIH](#)
 - SmokefreeTXT teens 13 – 17 yo
 - Text QUIT to 47848 (Asked about “smoking” and “cigarettes”)
 - Website has link with tips for “Quit Vaping”
- SC Quitline – Calls or mobile app
- Scholastic/FDA learning modules
 - Teachers, parents, middle and high school students



Resources for Parents

- Smokefree SC
 - <https://www.smokefreesc.org/>
- PAVe
 - <https://www.parentsagainstvaping.org>
- American Lung Association
 - <https://www.lung.org>
 - Conversation guide for parents
- Surgeon General
 - [E-cigarettes.surgeongeneral.gov](https://e-cigarettes.surgeongeneral.gov)
 - Parent conversation tips, videos (also in Spanish)
- Talk Vaping with your Teen/AHA
 - <https://www.allmentalhealth.org/vaping>
 - Month long course for parents



“Vape Talk” – Smokefree SC

- 30-minute virtual presentation
- Audience
 - Parent groups, PTO’s
 - Others who work with middle and high school students
- <https://www.smokefree.sc.org/vapetalk>



Interested in more info

- AAP Richmond Center
 - <https://www.aap.org/Richmond-Center>
- Truth Initiative
 - <https://truthinitiative.org>
- Campaign for Tobacco Free Kids
 - <https://www.tobaccofreekids.org>
- Stanford Tobacco Prevention Toolkit
 - <https://med.stanford.edu/tobaccopreventiontoolkit.html>



VAPING MOC 4 AND QI

Identify use, educate harm

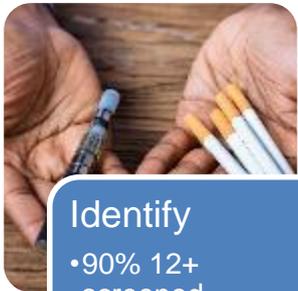
Identify use, model health, remediate abuse

MEASURES	QI OPTIONS	EXAMPLES
ASK	Evidence based screening- “verbal” or use screening tools like CRAFFT+N, S2BI.	Implement standardized screening using CRAFFT2.1+N on all 12+ year old well check ups
ASSESS/ ASSIST	Brief intervention- assess readiness to quit, discuss harmful effects, refer to specialist etc.	Implement a protocol in office for what happens when the screening is Positive
FOLLOW-UP	Schedule follow up to assess readiness to quit, success in quitting	Have a workflow method to get the kids to follow up @ 4 weeks if positive screen
EDUCATE	Practice, Parents and community education on the dangers of Vaping	Put posters, brochures in office, engage with local school, engage in social media etc.

Plan. Do. Study. Act.

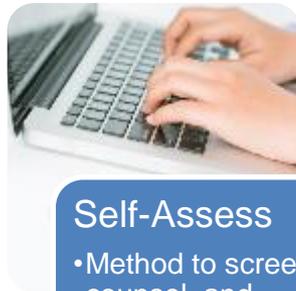
Phase 1

Identify prevalence, educate, opportunity to quit.



Identify

- 90% 12+ screened.
- 90% 12+ counseled / BNI
- 90% users referral to “quit services.”



Self-Assess

- Method to screen, counsel, and document
- Method to improve to achieve goal.



Revise

- Apply enhancement.



Final Review / Outcomes

- Strengths
- Weaknesses
- Opportunities
- Threats

Timeline. Data Collection.

Plan. Do. Study. Act.

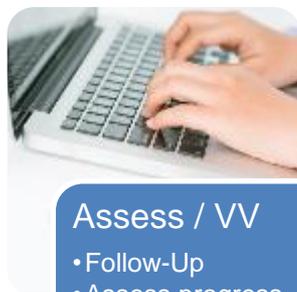
Phase 2

Identify prevalence, educate, support to quit.



Identify

- 90% 12+ screened.
- 90% 12+ counseled.
- 90% user referral to quit services.
- 50% achieve action plan to document reduction, cessation.



Assess / VV

- Follow-Up
- Assess progress.
- Identify next steps to reduce, stop/ BNI.
- Action Plan.



Review / VV Repeat?

- Follow-up.
- Assess progress.
- Pt SWOT/BNI



Practice Outcomes

- Strengths
- Weaknesses
- Opportunities
- Threats

Timeline. Data Collection.



South Carolina Chapter
American Academy of Pediatrics



For your consideration



https://www.ted.com/talks/suchitra_krishnan_sarin_what_you_should_know_about_vaping_and_e_cigarettes?language=en

QI MEASURES

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Timeline for Project

- Today- project kick off call
 - Please email Laura Laura.brandon@scdhhs.gov to let the QTIP team know of your intention to participate
- Feb 24 & 25 – sign up for a 20 min check in. (schedule for sign up to follow)
- March 26 @ 12:30 – Project mid point check in call
- April 22 @ 12:30 - Project wrap up call

2/10/21 Recording

- <https://scdhhs.webex.com/recording-service/sites/scdhhs/recording/78d933c300d9492f953159d0cf30a8b3/playback>