Vaping Facts, Health Related Impacts, Regulations, and Interventions

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Introduction

The use of e-cigarettes has become a public health crisis that affects:

- Families
- Schools
- Communities

- Review evidence-based information and core components about e-cigarette (EC) vaping devices and their characteristics
- Illustrate the health risks and benefits of EC use
- Examine policies and how regulations on EC are being addressed
Objectives

Participants will learn:

- The core features and characteristics of EC and the neurobiology of nicotine addiction on the developing adolescent brain
- The health related impacts with prolonged exposures to EC
- The regulatory landscapes and policy of EC in different states and areas of future direction for integrated mental health and addiction treatment for EC users
Definition of Electronic Cigarettes/Vaping Devices

“Electronic cigarettes (e-cigarettes) are battery-powered devices that can deliver nicotine and flavoring to the user in the form of an aerosol.”

“E-cigarettes come in a wide variety of shapes and sizes; mini (often called cig-a-like), mid-size, vape pens, vape pod systems like JUUL, e-hookahs, e-cigars, advanced personal vaporizers or mods; even ones shaped to look like pens and USB drives.”

(American Heart Association (AHA), 2021)
Definition of Vaping

“Vaping is the act of inhaling and exhaling the aerosol, often referred to as vapor, which is produced by an e-cigarette or similar device. The term is used because e-cigarettes do not produce tobacco smoke, but rather an aerosol, often mistaken for water vapor, that actually consists of fine particles.”

(AHA, 2021)
Core Features of Most Vaping Devices

1. a cartridge or reservoir or pod, which holds a liquid solution (e-liquid or e-juice) containing varying amounts of nicotine, flavorings, and other chemicals
2. a heating element (atomizer)
3. a power source (usually a battery)
4. a mouthpiece that the person uses to inhale

(National Institute on Drug Abuse (NIDA), 2020)
Characteristics of Vaping Devices

The Evolution of E-Cigarette, or Vaping, Products

1st GENERATION
Disposable e-cigarettes

2nd GENERATION
E-cigarette with prefilled or refillable cartridge

3rd GENERATION
Tanks or Mods (refillable)

4th GENERATION
Pod Mods (prefilled or refillable)

(Texas Department of State Health Services (DSHS), 2021)
“An average vape pod has as much nicotine as 20 cigarettes.”

(DSHS, 2021)
Nicotine

★ Nicotine is present in most vaping device aerosols.

   (Centers for Disease Control and Prevention (CDC), 2021)

★ “Nicotine is a highly addictive chemical compound present in a tobacco plant. All tobacco products contain nicotine…”

   (U.S. Food and Drug Administration (FDA), 2021)

★ “Nicotine levels in e-cigarettes are highly variable, with some reaching or exceeding levels found in combustible cigarettes.”

   (Truth Initiative, 2021)
Nicotine & the Developing Brain

★ “Some e-cigarette labels do not disclose that they contain nicotine, and some e-cigarettes marketed as containing 0% nicotine have been found to contain nicotine.”

★ Adolescent nicotine use “can harm the parts of the brain that control attention, learning, mood, and impulse control.”

★ “Each time a new memory is created or a new skill is learned, stronger connections – or synapses – are built between brain cells. Young people’s brains build synapses faster than adult brains. Nicotine changes the way these synapses are formed.”

(CDC, 2022)
10 seconds

The amount of time it takes nicotine to reach the brain upon inhalation.

(Raven, 2019)
Nicotine on the Brain

Inhalation

Increased firing of dopamine neurons & reinforcing effects of nicotine

Nickotine crosses blood brain barrier

Dopamine system (reward pathway) stimulated

Nicotine binds to brain’s nicotinic acetylcholine receptors (nAChRs)

(National Center for Biotechnology Information (NCBI), 2021)
The Adolescent Brain

→ “...the hallmark of [adolescence] is a profound reorganization of brain regions necessary for mature cognitive and executive function, working memory, reward processing, emotional regulation, and motivated behavior.” (NCBI, 2019)

→ “At the adolescent stage the brain has not completed its maturation.” (NCBI, 2012)

→ “The rational part [prefrontal cortex] of a teen’s brain isn’t fully developed...until age 25 or so.” (University of Rochester Medical Center (URMC), 2021)
Adolescent Brain vs. Adult Brain

→ “...the adolescent brain is more vulnerable to the effects of nicotine than the adult brain.”
→ “Adolescents progress faster to nicotine dependence than adults, find nicotine more rewarding, underestimate the risks of smoking, and are more influenced by smoking behavior in their social milieu.” (NCBI, 2012)
→ “Current data indicate that nicotine disrupts normative limbic development and primes behavioral susceptibility to drugs of [misuse].” (NCBI, 2015)
Vaping & Mental Health

- “...nicotine affects the physical and mental health of smokers. The impact on mental health has been overshadowed by the concerns about physical health.”
- “Dependence on nicotine has been associated with impulsivity, mood disorders, anxiety, suicidality, and depression.”
- Vaping...“is often used as a coping strategy by individuals suffering from depression, anxiety, or other mental health conditions...could potentially worsen the existing mental health conditions.”

(Baylor College of Medicine (BCM), 2021)
Vaping & Mental Health

- “Nicotine also increases sensitivity to stress, and alters the coping mechanism in the brain…[leading] to an increased dose-response relationship – meaning an increase in symptoms with increased exposure to nicotine. Depression and vaping, in particular, have been shown to have a bidirectional association.”  
  (BCM, 2021)

- “Youth EC use is associated with greater mental health problems…particularly among adolescents” and “…prevalence of [EC] use has risen dramatically among adolescents and young adults [ages 12-26] over the past decade.”  
  (NCBI, 2020)
Annual National Youth Tobacco Survey

More than 2 million U.S. youth currently use e-cigarettes.

Among youth current e-cigarette users,

Nearly 85% use flavored e-cigs.

Disposables are the most commonly used e-cigarette device type, disposables 53.7%.

About 1 in 4 use e-cigs daily.

(FDA, 2021)
“I am officially declaring e-cigarette use among youth an epidemic…I do not use that word lightly.”

Jerome Adams, M.D., M.P.H., former Surgeon General of the United States
(Loma Linda University Health (LLUH), 2022)
Vaping Toxicity

The heating process of nicotine in combination with additional chemicals leads to toxic chemical inhalation.

“E-cigarettes produce a number of dangerous chemicals including acetaldehyde, acrolein, and formaldehyde. These aldehydes can cause lung disease, as well as cardiovascular (heart) disease.”

“E-cigarettes also contain acrolein, a herbicide primarily used to kill weeds. It can cause acute lung injury and COPD (Chronic obstructive pulmonary disease) and may cause asthma and lung cancer.”

(American Lung Association (ALA), 2020)
Other Ingredients in E-Cigarettes

★ “Propylene glycol – a common additive in food; also used to make things like antifreeze, paint solvent, and artificial smoke in fog machines”
★ “Carcinogens – chemicals known to cause cancer…”
★ “Diacetyl – a chemical linked to a lung disease called bronchiolitis obliterans aka “popcorn lung”
★ Diethylene glycol – a toxic chemical used in antifreeze that is linked to lung disease
★ Heavy metals such as nickel, tin, lead” (ALA, 2020)
Other Ingredients in E-Cigarettes

- "Cadmium – a toxic metal found in traditional cigarettes that causes breathing problems and disease"
- "Benzene – a volatile organic compound (VOC) found in car exhaust"
- "Ultrafine particles that can be inhaled deep into the lungs"

(ALA, 2020)

- "Volatile organic compounds (VOCs): At certain levels, VOCs can cause eye, nose and throat irritation, headaches and nausea, and can damage the liver, kidney and nervous system"

(American Cancer Society (ACS), 2020)
What Substances Can Be Vaped?

- Substances that can be vaped include (NCBI, 2021)
  - Nicotine
  - Marijuana
  - Cocaine
  - Heroin
  - Range of synthetic drugs called new psychoactive substances (NPS)

- “Vape juice can contain a variety of things that could be toxic” (Johns Hopkins Medicine, 2022)
  - Flavors, dyes, nicotine, THC
  - Essential oils, multivitamins
  - Traces of medicines
"Smoking's health effects took decades to uncover. Vaping's effects could too."

(LLUH, 2022)
Short-Term vs. Long-Term Effects

- **Short-term**: “[usually of] a problem that is caused by treatment of a disease but **usually goes away after treatment** [in this case, e-cig usage] ends” (NIH, 2021)

- **Long-term**: “[usually of] a problem that is caused by a disease or treatment of a disease and **may continue for months or years**” (NIH, 2021)
Short-Term vs. Long-Term Effects with E-Cigs

- **Short-term**: “a problem that is caused by [e-cig usage] but usually goes away after [e-cig usage] ends” 
  (NIH, 2021)

- **Long-term**: “a problem that is caused by [e-cigarette usage] and may continue for months or years [after e-cig usage cessation]” 
  (NIH, 2021)
Short-Term Effects of Vaping

The most common side effects of vaping include:

- coughing
- dry mouth and throat
- shortness of breath
- mouth and throat irritation
- headaches

“These side effects are associated with inhaling the vapor and are also associated with smoking.”

(Health Promotion Agency, 2019)
Real-Life Effects of Vaping

(University of Utah Health, 2019)
Long-Term Effects of Vaping

- Studies on long-term vaping consequences are *urgently required* —> long-term research is severely lacking.
- Vaping is still relatively new, so we don’t have data on the long-term risks.
- It took decades before we fully understood the effects of cigarettes because cancer and lung-related illnesses such as emphysema and chronic obstructive pulmonary disease develop over many years.
- “It could be that the risks and long-term outcomes of e-cigarettes will be different from those of traditional cigarettes, but it’s too early to know.” (Dr. Melamed, 2020)
Long-Term Effects of Vaping

“Many of the long-term effects of vaping are still unknown, but evidence suggests that vaping may lead to increased risks of:

- Respiratory problems like asthma
- Heart attacks
- Reproductive issues
- Low birth weight for babies when mothers vape during pregnancy
- Irritation of eyes and airways
- Poor brain development
- Infections
- Seizures
- Lung disease problems like popcorn lung

(Banyan Treatment Centers, 2022)
Long-Term Effects of Vaping

- “Like tobacco cigarette (TCIG) smoking, long-term electronic cigarette (ECIG) vaping in young people is associated with elevated cellular oxidative stress (COS), which is important in the pathogenesis of many diseases, including atherosclerosis.
- As with TCIG smoking, even infrequent ECIG use may be associated with adverse biological effects with implications for future health risks.
- Importantly, the proportion of high school students who have used ECIGs within 1 month of the time of study has skyrocketed, approaching 30% in the US” (Kelesidis et al., 2021)
Real-Life Effects of Vaping

(University of North Carolina Health, 2018)
“Any time we breathe in anything, other than medication or fresh air into our lungs, there is a potential to cause harm. Vaping is no different.”

(Canadian Lung Association (CLA), 2021)
EVALI
E-cigarette or Vaping Use-Associated Lung Injury

“...originally known as VAPI (vaping associated pulmonary illness). The new name is in response to a growing number of severe lung illness cases related to using e-cigarette and vaping products, the first being identified during 2019.”

(American Lung Association (ALA, 2022)
EVALI Case Study

- EVALI: “an outbreak of lung injuries and deaths associated with vaping. As of Jan. 21, 2020, the Centers for Disease Control and Prevention (CDC) confirmed 60 deaths in patients with e-cigarette, or vaping, product use associated lung injury (EVALI).” (CDC, 2021)

- “Health officials point to vitamin E acetate (an additive in some THC-containing e-cigarettes) as the primary, but not the only, cause of EVALI.” (ALA, 2022)
EVALI Case Study

- “A CDC report analyzed bronchoalveolar lavage (BAL) fluid from a larger number of EVALI patients from 16 states and compared them to BAL fluid from healthy people. They identified Vitamin E acetate, also found in product samples tested by the FDA and state laboratories, in BAL fluid from 48 of 51 EVALI patients, Vitamin E acetate was not found in any of the BAL fluids of healthy people.”

(American Lung Association (ALA), 2022)
EVALI Case Study

“In addition to vitamin E acetate, there are many other substances and product sources in vaping materials that are being examined as possible causes. The CDC and lung health researchers around the country are continuing to investigate.”

“E-cigarettes only entered the market about a decade ago, and we are still learning the long-term effects. With this recent breakout of EVALI, researchers are working hard to learn as much as possible about the illness, its causes, and the most effective treatments.”

(American Lung Association (ALA), 2020)
EVALI Case Study

Number of Hospitalized EVALI Cases or Deaths Reported to CDC as of February 18, 2020

Legend

Number of hospitalized EVALI cases or deaths per state

- 0 cases
- 1-9 cases
- 10-49 cases
- 50-99 cases
- 100-149 cases
- 150-199 cases
- 200-249 cases

(CDC, 2020)
U.S. Food and Drug Administration Stance

- FDA does not have enough data presently to conclude that Vitamin E acetate is the cause of the lung injury in these cases.
- FDA believes it is prudent to avoid inhaling this substance.
- Additionally, **no youth should be using any vaping product**, regardless of the substance.

(FDA, 2019)
Vaping & COVID Case Study

- Researchers compared 289 vapers with 1,445 people of similar age and gender who neither vaped nor smoked tobacco, all positive for COVID
- Vapers experienced higher rates of
  - Chest pain or tightness
  - Chills and body aches
  - Headaches
  - Problems with smell and taste
  - Nausea/vomiting/abdominal pain/diarrhea
  - Light-headedness

(Reuters, 2022)
“Vapers risk more symptoms from COVID-19.”
“Our research was not designed to test whether e-cigarette use increases the risk of acquiring COVID infection, but it clearly indicates that symptom burden in patients with COVID-19 who vape is greater than in those who do not vape.”
“The inflammation caused by the coronavirus and the inflammation induced by vaping may combine to worsen the likelihood of inflammation throughout the body, with a resulting increase in symptoms.”

(Reuters, 2022)
Federal Regulations

- “...regulatory authority of the FDA was extended to cover e-cigarettes through the agency’s “deeming rule” in 2016.
- Through FSPTCA (Family Smoking Prevention and Tobacco Control Act), FDA has authority to develop regulations that address the manufacturing, marketing, and sale of e-cigarettes.
- FDA does not have authority to:
  a. include e-cigarettes in smoke-free policies
  b. increase the minimum legal sales age for these products
(CDC, 2022)
State Regulations

- FSPTCA does not prevent states and communities from
  a. including e-cigarettes in smoke-free policies
  b. regulating the sale and distribution of e-cigarettes
  c. further raising the minimum legal sales age
  d. licensing retailers
  e. implementing price policies
  f. restricting or prohibiting the sale of tobacco products

(CDC, 2022)
FDA Actions

- “...research to help characterize the toxicology of electronic nicotine delivery systems (ENDS) products”
- Product application process for manufacturers
- Stance on preventing kids from using and becoming addicted to e-cigs (FDA, 2019)
- Age restrictions (18-21 range when considering state variations) imposed for purchase of e-cig products
- “…intention to issue proposed rules by April 2022 to remove menthol cigarettes and most flavored cigars from the marketplace” (FDA, 2020)
FDA expanded youth tobacco prevention campaign in 2018, “The Real Cost”

a. reach the more than 10 million youth aged 12–17 who have used e-cigarettes or are open to trying them
b. educate “youth about the potential risks of using e-cigarettes”
c. place e-cigarette prevention materials in high schools across the nation

(CDC, 2022)
The Truth Initiative® launched the “Safer ≠ Safe” campaign in 2018:

a. focuses on correcting youth misperceptions and providing accurate information about e-cigarettes
b. promotes on digital and social media, including the Safer ≠ Safe website

(CDC, 2022)
FDA Controversial Actions

- Allowed British American Tobacco to market its Vuse Solo e-cigarettes and tobacco-flavored pods
- Approval came after analysis of data from the manufacturer that showed it could help users reduce exposure to harmful chemicals emitted by combustible cigarettes
- FDA permission extended to products “which have a nicotine strength of 4.8%...roughly equivalent to a pack of cigarettes”

(Reuters, 2021)
FDA Shortcomings

- FDA maintains authority over “manufacturing, marketing and sales of tobacco products” since 2009, yet “made uneven progress on providing real oversight of tobacco products since then.”
- FDA did not act on “opportunity to remove e-cigarettes and other tobacco products from the market that did not meet its public health standard through its pre-market tobacco authorization (PMTA) authority under the Family Smoking Prevention and Tobacco Control Act.”

(American Lung Association (ALA), 2022)
FDA Shortcomings

- FDA was under a court-ordered deadline of September 9, 2021, to review millions of PMTAs submitted to companies in 2020.
- Issued marketing denial orders to 323 companies.
- Has yet to take action on most e-cigarette products with the highest market share, including Juul.
- More than 18 months overdue in publishing the final Tobacco 21 regulations as required by statute.

(ALA, 2022)
Statistics on E-Cigs Among Youth

- Adult smoking rate has declined from 21.6% in 2003 to 14.0% in 2019
- Close to 4.5 million youth used tobacco products in 2020
- More than two million high school and middle school students reported using e-cigarettes in 2021
- More than 8 out of 10 current youth users of e-cigarettes use flavored e-cigarettes

(ALA, 2022) (FDA, 2020)
Statistics on E-Cigs Among Youth

- A study (CDC, 2022) from 2013-2014 showed that most youth who use e-cigarettes first start with a flavored variety.
- Flavors are the primary reason youth report using e-cigarettes.
- In 2021, most youths used flavored varieties (84.7%).
- Among middle and high school students, the most commonly used flavors were:
  - fruit (71.6%)
  - candy, desserts, or other sweets (34.1%)
  - mint (30.2%)
  - menthol (28.8%) (CDC, 2022)
So what is the Problem?
So what is the Problem?

FIGURE 3. Percentage of disposable e-cigarette unit sales,† by flavor§—United States, September 14, 2014–May 17, 2020

(CDC, 2020)
But What About the Flavor Ban?

- “On January 2, 2020, [FDA] finalized an enforcement policy that prohibits the sale of prefilled cartridge e-cigarettes in any flavor other than tobacco or menthol, unless authorized by FDA.” (CDC, 2022)
- The result: “disposable e-cigarette’s vague new flavor names attempt to evade regulation” (Truth Initiative, 2021)
But What About the Flavor Ban?

- BIDI® Stick unveiled nearly a dozen new flavor names as direct translations from its previous flavors.
- Designed to subvert future restriction on the sale of flavored disposable e-cigarettes.
- The new “concept” flavors – do not expressly refer to flavors.
- Example: “Marigold” (formerly “Icy Mango”). (Truth Initiative, 2021)
But What About the Flavor Ban?

- Concept flavors align with historic tactics of modifying product characteristics
- Attempt to maintain sales and subvert flavor restrictions designed to deter youth use
- Concept flavors pose a challenge for enforcement of flavored tobacco restrictions,

(Truth Initiative, 2021)
But What About the Flavor Ban?

- Disposable e-cigarettes have skyrocketed in popularity following the product’s exemption from federal restrictions.
- Increasing about 1,000% (from 2.4% to 26.5%) among high school e-cigarette users and more than 400% (from 3% to 15.2%) among middle school e-cigarette users in 2020.
- BIDI sticks are the second highest-selling disposable e-cigarette (25% of the total market) only behind Puff Bar.

(Truth Initiative, 2021)
Candy vs. Vape Shop

Can you observe the similarities?
Real-Life Vaping Appeal Among Youth

(TobaccoFreeCA, 2016)
Youth-Directed Marketing

- Marketing appeals to a young audience
  - bright colors
  - fruit, candy, alcohol or other flavors
- In 2018, more than 5 in 10 middle school and high school students – more than 14 million youth – said they had seen e-cigarette advertising
  - Retail stores
  - Internet
  - TV
  - Movies
  - Magazines and newspapers

(U.S. Department of Health and Human Services, 2022)
Youth-Directed Marketing

“Many themes in e-cigarette marketing, including sexual content and customer satisfaction, are parallel to themes and techniques that the tobacco industry aimed at youth and young adults in their advertising and promotion of conventional cigarettes.”

(U.S. Department of Health and Human Services (HHS), 2022)
The U.S. e-cigarette & vape market:

- size was estimated at USD 6.1 billion in 2020 and is expected to reach USD 7.4 billion in 2021.
- is expected to grow at a compound annual growth rate of 27.3% from 2021 to 2028 to reach USD 40.2 billion by 2028.
- The rechargeable segment dominated the U.S. e-cigarette & vape market with a share of 45.4% in 2020. This is attributable to the low costs of rechargeable e-cigarettes.

(Grand View Research, 2021)
Key factors that are driving the market growth include technological advances in e-cigarettes and growing awareness for safer tobacco alternatives.

(Grand View Research, 2021)
E-Cig for Smoking Cessation?

- E-cigarettes were initially seen as a smoking-cessation tool.
- Evidence is mixed.
- Smokers who switched to e-cigarettes were nearly twice as likely to remain off tobacco a year later as smokers who used traditional nicotine replacement to quit.
- 80 percent of the e-cigarette group was still vaping, indicating they had traded one addiction for another.

(Dr. Melamed, 2020)
E-Cig for Smoking Cessation?

- Comparing the safety of e-cigarettes and traditional cigarettes makes sense when we’re talking about long-term adult smokers.
- Not a useful comparison for a child or teenager who isn’t a regular cigarette smoker
- E-cigarettes are not an FDA-approved quit aid, and there is no conclusive scientific evidence on the effectiveness.

(Dr. Hamberger, 2020) (NIDA, 2020)
Introduction to Harm Reduction

- Harm reduction is a proactive approach to reduce the negative impacts of behavior associated with alcohol and other substance use. (SAMHSA, 2022)

- Food for thought: can e-cigarettes be considered harm reduction tools (for smoking cessation) if kids who have never picked up a cigarette are now vaping and if there is no conclusive evidence for its smoking cessation effectiveness?
Interest in quitting is growing.

While there aren’t any FDA-approved treatments for quitting vaping, treatments for smoking may help.

Getting professional help and building a support system can help.

It is possible to quit vaping for good.

(GoodRx, 2020)
Substance Use Treatment

E-cigarettes and Addiction

(UW Medicine, 2019)
Cultural Competency

- Ability to understand, appreciate and interact with people from cultures or belief systems different from one's own
- Key aspect of psychological thinking and practice for 50 years
- One of psychology's core competencies
- The federal government views it as an important means of helping to eliminate racial, ethnic and socioeconomic disparities in health and mental health care.

(American Psychological Association (APA), 2022)
Cultural Competency

● Culture is a vital component of substance use treatment.
● An individual’s culture affects:
  ○ Treatment settings
  ○ Home-based social supports
  ○ Coping mechanisms
  ○ Stigma attached to substance use disorder
● Treatment providers need to understand culture as a broad concept.

(Headlands ATS, 2021)
Cultural Competency

● Each individual is unique.
● Treatment providers must clearly understand how cultural background affects substance use treatment:
  ○ Faith
  ○ Family
  ○ Language
  ○ Traditions

(Headlands ATS, 2021)
Mental Health Implications

- “Many young people cite feelings of stress, anxiety, or depression as reasons they start and continue vaping.”

YET:

- “Nicotine can worsen anxiety symptoms and amplify feelings of depression.”
- “Using e-cigarettes at a higher frequency was associated with higher depressive symptoms — including feeling sad or having crying spells — a year later.”
- “Trace metals found in vape liquid may play a role in the potential link between vaping and depression.” (Truth Initiative, 2021)
Mental Health Implications

● “There is emerging evidence of a link between quitting vaping and improvements in mental health symptoms. Truth Initiative survey data show support for this link between quitting nicotine-containing e-cigarettes and improved mental health outcomes.
  ○ 90% of those who quit said they felt less stressed, anxious, or depressed.”

(Truth Initiative, 2021)
A Future of Integrated Mental Health

→ Integrated care is one of the most promising directions for addressing inadequacies in the delivery of child and youth mental health services
→ Build problem detection and early intervention
→ Create expanded number of sites where a child and youth mental health care can be delivered
→ However, the growth of pediatric integrated care continues to face barriers

(National Center for Biotechnology Information (NCBI), 2020)
A Future of Integrated Mental Health

➔ Policies need to support
  ◆ Transformations in the scope of pediatric primary care
  ◆ Financing support mechanisms
➔ A larger and more diverse mental health workforce is needed
➔ Training programs must provide clinicians with the skills they need to engage and help families

(NCBI, 2020)
A Future of Integrated Mental Health

➔ There remains much to be learned about implementing interventions
➔ There are strong foundations on which to address these needs
➔ It should be possible to coordinate efforts in these directions and move pediatric integrated care forward

(NCBI, 2020)
A Future of Integrated Mental Health

→ New and novel frameworks will be needed to address mental health care needs
   ◆ Problems that do not require ‘traditional’ interventions
   ◆ Enable integration of mental health care
   ◆ Promote specialist mental health care delivery
   ◆ Facilitate the development and translation of mental health research into practice

→ Active participation of families will be necessary

(NCBI, 2021)
Key Takeaways

(University of California, Los Angeles (UCLA), 2017)
Key Takeaways Cont’d.

→ **Evidence-Based Vaping Prevention:** Prevention strategies can help reduce the chances of vaping-related illnesses and improve the overall health of communities.

→ Those who want to quit smoking cigarettes should seek advice from their healthcare provider instead of self-prescribing e-cigarettes.

→ Pharmacological (nicotine replacement therapy) and behavioral treatment aim to effectively reduce withdrawal symptoms.
Key Takeaways Cont’d.

- Additionally, there are several evidence-based prevention programs that educate teenagers on the potential harm of vaping. One such program, CATCH My Breath, has successfully reached out to millions of school aged children.
- References and resources will be able to be accessed from the PowerPoint which is made available to participants post webinar.
**Resources**

**SAMHSA:**


**Florida-Specific:**


Videos

Slide 27-Real-Life Effects of Vaping: https://www.youtube.com/watch?v=17s4OXJX0_Y

Slide 31-Real-Life Effects of Vaping: https://www.youtube.com/watch?v=w8Pl860Ev0c

Slide 58-Real-Life Vaping Appeal Among Youth: https://www.youtube.com/watch?v=gjYT4YG7jOk

Slide 67-E-Cigarette Addiction Treatment: https://www.youtube.com/watch?v=jpKMWFaptwE

Slide 77-Key Takeaways: https://www.youtube.com/watch?v=9dZS_Rniak0
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Immediate health concerns about vaping are real but long-term effects are not yet fully understood.


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Pictures


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