School-Based Cannabis and Tobacco Prevention/Cessation Curricula from Stanford REACH Lab

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Through Joint Accreditation, credits are also available under the following bodies:

- American Academy of PAs (AAPA)
- American Dental Association’s Continuing Education Recognition Program (ADA CERP)
- American Psychological Association (APA)
- Association of Social Work Boards (ASWB)
- Commission on Dietetic Registration (CDR)
Agenda

1. Introductions & Learning Objectives
2. Overview of vaping products and use rates
3. Review curricula and resources
4. Live walk-through of website
5. Toolkit activities
6. Questions and closing
Stanford Youth Action Board

Stanford Youth Action Board
2022-2023

Reach Lab
Stanford Youth Action Board

Stanford Youth Action Board
2022-2023
Who are you?
Learning Objectives:

1. Describe the vaping and cannabis epidemic affecting youth
2. Acquire skills in navigating the Toolkit websites and curricula
3. Practice using activities from the Healthy Futures curriculum and VISIT toolkits
Vaping and Cannabis Use
E-cigarette Products
Product After Product

E-Cigarettes (Formal/Scientific)
Vapes (Colloquial)

1st Generation
• Resembles a cigarette
• Disposable

2nd Generation
• Pen-shaped
• Larger
• Rechargeable

3rd Generation
• Refillable
• Customizable
• Aka “MODs”
Product After Product

E-Cigarettes (Formal/Scientific)
Vapes (Colloquial)

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3rd Generation
• Refillable
• Customizable
• Aka “MODs”

Pod-Based Devices
• Sleek/discreet
• High-tech design
• High in nicotine
“5th” Generation
National 2019 Data

NATIONAL YOUTH TOBACCO SURVEY*:
HIGH SCHOOL STUDENT USE OF E-CIGARETTES CONTINUES TO CLIMB

Source: U.S. Department of Health and Human Services, 2019
What products are you seeing in your schools?
Past 30-day Use of Cigarettes vs E-cigarettes; 2011-2022
High School Students

NYTS, 2011-2022
Past 30-day Use of Cigarettes vs E-cigarettes; 2000-2022
High School Students

NYTS, 2000-2022
Past 30-day Use of Cigarettes vs E-cigarettes; 2011-2022
Middle School Students

NYTS, 2011-2022
Past 30-day Use of Cigarettes vs E-cigarettes; 2000-2022
Middle School Students
Frequent E-cigarette Use, 20 out of 30 days
High School Students, 2019-2022

NYTS, 2019-2022
Daily E-cigarette Use
High School Students, 2019-2022

NYTS, 2019-2022
Rates During and After Pandemic

Still a Major Public Health Crisis!
Other Vaping Products
Inhalation Methods

Examples of some cannabis inhalation methods

Dabbing & Dab/Wax Pens

Aerosolized Vapes

Bongs

Blunts & Backwoods

Joints
Past 30-Day Co-Use of Tobacco and Marijuana Use

12th grade students in Los Angeles

- Tobacco only: 3.1%
- Marijuana only: 9.9%
- Co-use: 13.9%

11th or 12th grade students in Southern California communities

- Tobacco only: 7.2%
- Marijuana only: 11.3%
- Co-use: 15.0%

High School students in Northern and Southern California

- Tobacco only: 3.0%
- Marijuana only: 7.3%
- Co-use: 15.2%

Nhung, ...., Halpern-Felsher, 2019
Youth Vaping and Cannabis

- 33% of high school students who ever used e-cigs reported using cannabis in their e-cigs.

- 23% of middle school students who ever used e-cigs reported using cannabis in their e-cigs.

- Youth who vape are **3.5 times more likely to use cannabis** than vape-free youth.


What’s in that E-cig?

- Diacetyl (butter flavor)
- Benzene (gasoline)
- Cadmium (batteries)
- Nickel (cheap jewelry)
- N-Nitrosonornicotine (pesticides)
- Nicotine (tobacco)
- Lead (car batteries)
- Toluene (paint thinner)
- Formaldehyde (dead tissue preservative)
WHAT'S IN THAT AEROSOL?

Propylene glycol
Glycerin
Flavorings (many)
Nicotine
NNN
NNK
NAB
NAT
Ethylbenzene
Benzene
Xylene
Toluene
Acetaldehyde
Formaldehyde
Naphthalene
Styrene
Benzo(b)fluoranthene
Chlorobenzene
Crotonaldehyde
Propionaldehyde
Benzaldehyde
Valeric acid
Hexanal
Fluorine
Anthracene
Pyrene
Acenaphthylene
Acenaphthene
Fluoranthenes
Benz(a)anthracene
Chrysene
Retene
Benzo(a)pyrene
Indeno(1,2,3-cd)pyrene
Benzo(ghi)perylene
Acetone
Acrolein
Silver
Nickel
Tin
Sodium
Strontium
Barium
Aluminum
Chromium
Boron
Copper
Selenium
Arsenic
Nitrosamines
Polycyclic aromatic hydrocarbons
Cadmium
Silicon
Lithium
Lead
Magnesium
Manganese
Potassium
Titanium
Zinc
Zirconium
Calcium
Iron
Sulfur
Vanadium
Cobalt
Rubidium
Why Are We Concerned about Tobacco?
NICOTINE EFFECTS

- Highly addictive substance
- Causes changes in brain chemistry—stimulates pleasure centers, alters normal brain function
- As nicotine levels in brain drop, brain craves nicotine to feel pleasure and relieve feelings of anxiety and stress (withdrawal)
No Fun in the Lungs

1. Inflammation and Irritation of the Airways
2. Destruction of Air Sacs in the Lungs
3. Weaker Immune Response to Infection
Screening teens for vaping history key to diagnosing lung disease during pandemic

February 06, 2023

UT Southwestern study shows teens continued to be hospitalized with severe lung injuries related to vaping despite social isolation of pandemic

ORIGINAL ARTICLE
Clinical manifestations of EVALI in adolescents before and during the COVID-19 pandemic


First published: 18 December 2022 | https://doi.org/10.1002/ppul.26283
A Hit to the Heart

1. Risk for Blood Clotting
2. Stiff blood vessels
Why Are We Concerned about Cannabis?
Why is THC a Concern?

- Different methods, similar and different risks
- Difficult to determine the amount of THC being consumed
- THC negatively impacts brain development

Weed is getting stronger

Average THC percentage in federal seizures of imported marijuana, 1985 – 2013

80-90% THC
Cannabis Use Disorder*

3 in 10 people who use cannabis have a cannabis use disorder

*When someone is unable to stop using cannabis, even if it causes them health or social problems.

Risk of developing this disorder is highest during adolescence & who use more frequently.
THE BODY ON CANNABIS

1. Altered brain development, anxiety, paranoia, slowed reactions, poor memory

2. Lung inflammation, cell damage, chronic cough, slowed breathing, respiratory infections

3. Increased appetite, nausea, vomiting

4. Increased heart rate by 20-50 beats per minute

5. Poor muscle coordination, imbalance, falling
What You Can Do / Resources
Research and Education to Empower Adolescents and Young Adults to Choose Health

Stanford REACH Lab offers free curriculums and resources to supplement prevention, education, harm-reduction interventions and cessation on vaping/e-cigarettes, cannabis, drugs and other substances. Scan the QR code below to learn more!

**PREVENTION/EDUCATION/AWARENESS CURRICULUMS**

- **TOBACCO PREVENTION TOOLKIT**
  - Elementary, Middle & High School Curriculum

- **YOU AND ME**
  - Together We Can!

- **Cannabis Awareness & PREVENTION TOOLKIT**
  - Middle & High School Curriculum

- **SMART TALK: CANADIAN REACH & AWARENESS CURRICULUM**

**HARM-REDUCTION**

- **safetyfirst**
  - A Comprehensive Drug Education and Harm-Reduction Curriculum

**INTERVENTIONS**

- **healthy FUTURES**
  - Self-Paced or Group Led Alternative-to-Suspension

- **VISIT**
  - Interventions for Clinicians

**CESSATION**

- Individual & Group Cessation
  - Coming Soon 2023-24 School Year

Connect with us and learn more by scanning the QR Code:
Connect with us and learn more about our
FREE RESOURCES
by scanning the QR Code above!

tinyurl.com/stanfordreachlab
Toolkits

tobaccopreventiontoolkit.stanford.edu  med.stanford.edu/cannabispreventiontoolkit.html

http://med.stanford.edu/visit.html
- Reached almost 3 million students globally
- Used by thousands of educators and schools
- Pre-post tests: changes in knowledge, attitudes, and intentions
- RCTs happening now
Toolkit Content

Interactive Online Free

Activities | Educator Crash Courses | Discussion Guides
------------|------------------------|---------------------
Factsheets  | Kahoots                | Canva              
Development and Evidence

- Theory
- + Research
- + Partnerships
- + Evidence-informed
- + Ability to revise/update quickly
- + Fact-checked

= Toolkit
Elementary, Middle, and High School Curricula

https://med.stanford.edu/tobaccopreventiontoolkit/you-and-me-together-vape-free-curriculum.html
6 CURRICULUM LESSONS

1. Full of Potential: Your Brain Nicotine-Free

2. Healthy Body, Healthy YOU-th: Effects of E-Cigarettes on the body

3. What a Waste! Impact of Cigarettes and E-Cigarettes on the Environment

4. Don’t Be Played! How Tobacco Marketing Targets YOU-th

5. Be Your Strength: Stress, Coping, and Wellness

6. Can’t Be Missed: Cannabis & YOU-th
SMART TALK:
CANNABIS PREVENTION & AWARENESS CURRICULUM

https://med.stanford.edu/cannabispreventiontoolkit/smart-talk-curriculum.html
1. Full of Potential: Your Brain Cannabis-Free

2. Healthy Body, Healthy YOU-th: Effects of Cannabis on the body

3. Healthy People, Healthy Community

4. Is the Cannabis Industry misleading YOU-th? Exploring Messaging and Marketing Tactics Used in Media

5. Be Your Strength: Stress, Coping, and Wellness
BE YOUR STRENGTH:

STRESS, COPING, AND WELLNESS
Responding with Compassion & Empathy (Activity)

Becca & Natasha
Responding with Compassion & Empathy (Activity)

• What did you see here?
• What is really happening?
• How relatable is this skit?
• Both characters in the video talked about ways to help their friend Sarah. Which of the two characters’ messages would you find most helpful if you were Sarah? Why is that?
• What can you do about the situation with Sarah if she was your friend?
HEALTHY FUTURES
ALTERNATIVE TO SUSPENSION

Stanford Medicine
Reach Lab
TOBACCO PREVENTION TOOLKIT
HEALTHY FUTURES

• 2 VERSIONS
  ○ **MY HEALTHY FUTURES**
  ○ **OUR HEALTHY FUTURES**
MY Healthy Futures

• Self-paced course, 40-60 mins
• Receive certificate of completion at the end
Our Healthy Futures

• 2- or 4-Hour Healthy Futures Curriculum
Where should I start?

1. 1-hour MY Healthy Future Course
   - First time (independently)

2. 2- or 4-hour Healthy Futures Curriculum
   - Second or more times (1 facilitator with small group)

3. 4-hour Healthy Futures Curriculum
   - Saturday School
Activity 1: Pre-Assessment

1. If I take time to plan when to vape, how to pay for it, where to get it, do it first thing in the morning, leave class to do it – my brain might be:
   A. Good at planning
   B. Addicted
   C. Manipulated by big tobacco
   D. Aerosolized

2. Which of these increase the addictiveness of a cigarette and an e-cigarette/vape:
   A. Sugar
   B. High levels of nicotine
   C. Flavors
   D. All of the above

3. Why might someone start feeling intense withdrawal symptoms after using a JUUL for a short period of time?
   A. The nicotine in 1 pod is close to 2 packs of cigarettes
   B. Because they are craving the flavors
   C. Their pleasure pathway is weaker than others
   D. The person may just be anxious in general

4. Which of the following is NOT true of how vaping affects your body?
   A. Flavors and other chemicals impair lung function
   B. The aerosol causes arteries to harden and increases blood pressure
   C. They are healthy for adults
   D. Nicotine turns your brain against you

5. Besides youth, what other vulnerable group has big tobacco targeted with the use of menthol flavored tobacco/nicotine products?
   A. Women
   B. African Americans
   C. Elderly
   D. Athletes
Activity 2: Where are You At

Healthy Futures

“Where Are You At?” (Part 1)

1. When was the last time you used e-cigarettes/pod vapes?
   ___ in the past 24 hours
   ___ 2 – 7 days ago
   ___ 8 – 30 days ago
   ___ more than 30 days ago

2. How often do you use e-cigarettes/pod vapes? (Check one below.)
   ___ every weekend
   ___ several times/week
   ___ every day
   ___ several times/day

3. Have you ever used both e-cigarettes/pod vapes and other tobacco products (e.g., cigarettes, cigars, etc.)?
   ___ no
   ___ yes

4. What type of e-cigarette/pod vape device do you use?
   ___ pod-based (e.g., JUUL and Puff Bar)
   ___ mod-based
   ___ vape pens
   ___ don’t know

5. If using pod-based e-cigarettes/pod vapes, such as JUUL and Puff Bar, how many pods do you vape per day?

6. What type of flavors do you use?

7. What concerns, if any, do you have about the safety of e-cigarettes/pod vapes?

8. On a scale from 1 to 10 (where 1 means not ready and 10 means very ready), how ready are you to change your e-cigarettes/pod vapes? Circle below.

   Not Ready   1  2  3  4  5  6  7  8  9  10   Very Ready

Tobacco Prevention Toolkit
tobaccopreventiontoolkit.stanford.edu
What is Stress?

Congrats for deciding to quit nicotine!
It's never too late to quit, whether this is your first time or if you have tried before. In this section, we'll help you make a plan for your Quit Date.
Healthy Futures Handbook

Next Steps

What do you enjoy most when you see advertisements for e-cigarettes/vapes?

What might be some problems if you only believed the positive messages about e-cigarettes/vapes?

What would be difficult about not vaping while with a group of friends who vape and believe it’s no big deal?

What would be some of the benefits to being one of the first people in your friend group to quit?
## Healthy Futures Handbook

<table>
<thead>
<tr>
<th>Health Effects</th>
<th>Making Your Momentum</th>
<th>Your Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are some health benefits to vaping?</td>
<td>Benefits</td>
<td>What do you see as your next step? When can you complete it by?</td>
</tr>
<tr>
<td>What are some negative health consequences of vaping?</td>
<td>Drawbacks</td>
<td>What do you need in order to complete that step?</td>
</tr>
<tr>
<td>What do you think you would miss feeling, if you took a break from vaping for a few days?</td>
<td></td>
<td>What might be some barriers that keep you from completing that step? How will you manage them?</td>
</tr>
<tr>
<td>How might your body positively respond to taking a break from vaping?</td>
<td></td>
<td>How do you think that you will feel when you complete that next step?</td>
</tr>
<tr>
<td>What about purchasing or receiving your e-cigarettes/vape products do you like most?</td>
<td></td>
<td>Who can you ask for support to complete this step?</td>
</tr>
<tr>
<td>Calculate how much you spend on vapes in a year. Make a list of three important things you could afford with this amount of money.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are some financial drawbacks to quitting?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>How would not spending money on e-cigarettes/vapes benefit you?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Group Share
Activity 5: Post-Assessment

1. If I take time to plan when to vape, how to pay for it, where to get it, do it first thing in the morning, leave class to do it – my brain might be:
   A. Good at planning
   B. Addicted
   C. Manipulated by big tobacco
   D. Aerosolized

2. Which of these increase the addictiveness of a cigarette and an e-cigarette/vape:
   A. Sugar
   B. High levels of nicotine
   C. Flavors
   D. All of the above

3. Why might someone start feeling intense withdrawal symptoms after using a JUUL for a short period of time?
   A. The nicotine in 1 pod is close to 2 packs of cigarettes
   B. Because they are craving the flavors
   C. Their pleasure pathway is weaker than others
   D. The person may just be anxious in general

4. Which of the following is NOT true of how vaping affects your body?
   A. Flavors and other chemicals impair lung function
   B. The aerosol causes arteries to harden and increases blood pressure
   C. They are healthy for adults
   D. Nicotine turns your brain against you

5. Besides youth, what other vulnerable group has big tobacco targeted with the use of menthol flavored tobacco/nicotine products?
   A. Women
   B. African-Americans
   C. Elderly
   D. Athletes
Activity 6: Where are You At

Healthy Futures
“Where Are You At?” (Part 2)

1. On a scale from 1 to 10 (where 1 means not ready and 10 means very ready), how ready are you to change your e-cigarettes/pod vapes? Circle below.

Not Ready    1  2  3  4  5  6  7  8  9  10    Very Ready

2. What sentence best describes where you are at now with regards to changing your e-cigarettes/pod vapes? (Circle one.)
   a. Not interested in making any changes.
   b. I may consider cutting back
   c. I want to cut back
   d. I want to quit

3. One goal I have for myself in the next 30 days is...

   __________________________________________
   __________________________________________
   __________________________________________

4. Help I may need to accomplish that goal is...

   __________________________________________
   __________________________________________
   __________________________________________

Tobacco Prevention Toolkit
tobaccopreventionToolkit.stanford.edu
Make Your Momentum

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
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</thead>
<tbody>
<tr>
<td>Quitting or Cutting Back on Vaping</td>
<td>▲</td>
</tr>
<tr>
<td>Decreasing How Much You Vape</td>
<td></td>
</tr>
</tbody>
</table>

**Your Plan**

- What do you see as your next step? When can you complete it by?
- What do you need in order to complete that step?
- What might be some barriers that keep you from completing that step? How will you manage them?
- How do you think that you will feel when you complete that next step?
- Who can you ask for support to complete this step?
Our Healthy Futures Roleplay Activity

- Get into groups of 4 (1 teacher, 3 students)
- Roleplay Activity 1 "Where are you at?"
- Discuss how you would engage students in conversations after this assessment
Activity 1: Pre-Assessment

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   C. Elderly
   D. Athletes
1. Create a welcoming space that is safe, non-judgmental, and confidential.
   a. Establish rapport with the youth.
      i. “Welcome! I’m glad you’re here.” (smile).
      ii. Do introductions of everyone (e.g., teacher/facilitator, youth).
      iii. Discuss the limits of confidentiality: “Everything discussed in this space is confidential. In other words, what you say here stays here unless you tell me you want to hurt yourself. What do you think I mean by hurt yourself or hurt others? (answer: kill self or kill others). What do you think I mean by someone is hurting you? (answer: someone is physically, sexually, or emotionally abusing you). Aside from this, everything else is confidential.”
      iv. Have a conversation, not a confrontation, with the youth.
      v. (Note: for group settings) Throughout the presentation, notice if the youth is reluctant to ask questions or comments (e.g., puzzled look, etc.), and gently say, “I noticed that you might want to say something, what would you like to say or ask?”

2. Ask youth, “what were you told about this meeting?”

3. Tell youth, “you’re not in trouble.”

4. Share overview/purpose of the ATS Curriculum
   a. Provide you with some health information about e-cig/vapes
   b. Collaborate with you on setting goals related to your e-cig/vape use

5. Ask youth, “do you have any questions for me before we start?”
Live Demonstration

http://med.stanford.edu/visit.html
Goals of VISIT

Provide AYA Healthcare Providers with:

• The most up-to-date and relevant information on vaping.
• Youth-friendly printouts for the clinical setting.
• Information on screening, counseling, and supporting young people who are using e-cigarettes/vapes.
• Easy-to-share resources for young people ready to quit and families wanting to support them.
3 Parts of VISIT

• The Essentials – what do I Need to Know About Vaping

• The Clinical Encounter – what do I tell my patients/their family

• Further Resources
Scavenger hunt

- Factsheet on Environmental impact
- Why do youth start vaping?
- Self-administered CRAFFT+N interview
- Screening Tools Table
- Tips for Managing Stress & Anxiety PDF poster
- Withdrawal symptoms
- Positive Alternatives – YAB video: Alternatives to Coping
safety first

EVIDENCE AND SCIENCE BASED
HARM REDUCTION DRUG EDUCATION CURRICULUM

Stanford Medicine

REACH Lab
A harm reduction approach to drug education discourages young people from using alcohol and other drugs, but offers more than an abstinence-only approach by providing teenagers with information to keep themselves and others safe if, and when, they encounter these substances.
15 LESSONS

1. What is a Drug
2. Setting the Stage
3. Be Your Strength: Stress, Coping & Wellness
4. How Drugs Work
5. Stimulants

6. Alcohol & Other Depressants
7. E-cigs: Healthy Body, Healthy YOU-st
9. E-cigs: How Tobacco Marketing Targets YOU-th
10. Cannabis: Effects on the Body
11. Cannabis: Healthy People, Healthy Community
12. Cannabis: Exploring Marketing Tactics & Messaging
13. Prescriptions & Other Opioids
14. Psychedelics
15. Looking Back, Looking Forward
Follow us on Social Media!

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@CanPrevToolkit
@StanfordTPT
@StanfordCAPT
@StanfordreachYAB
Thank you!

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