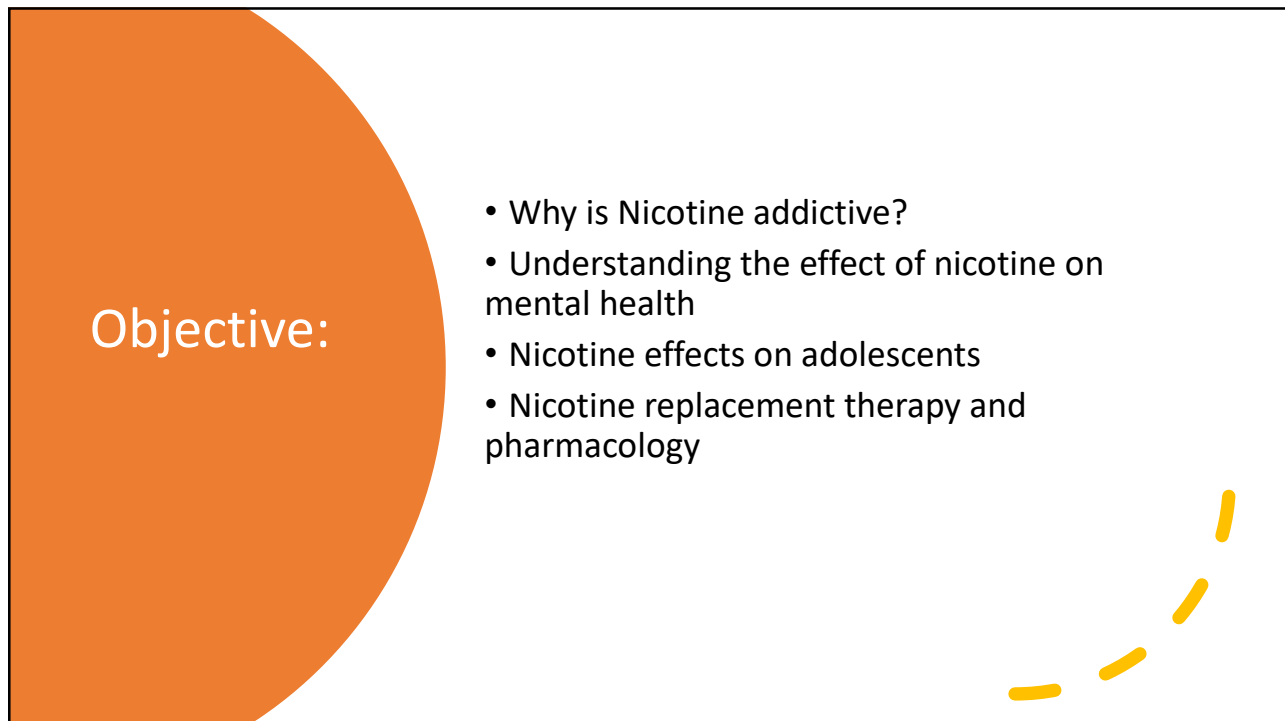


Tobacco Use and Smoking Cessation

Alyssa Dittner BSRT, PDE, NCTTS

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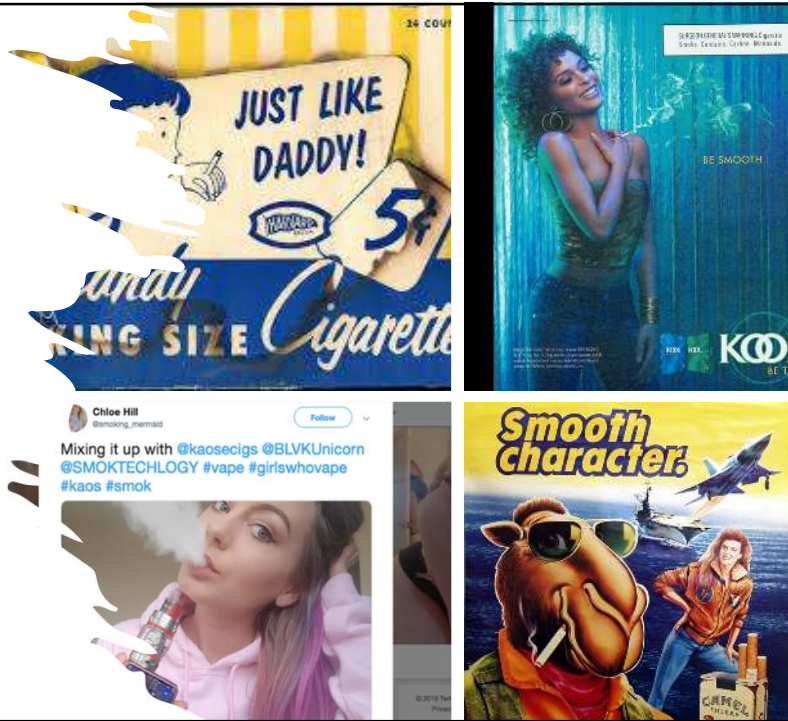
Objective:

- Why is Nicotine addictive?
- Understanding the effect of nicotine on mental health
- Nicotine effects on adolescents
- Nicotine replacement therapy and pharmacology

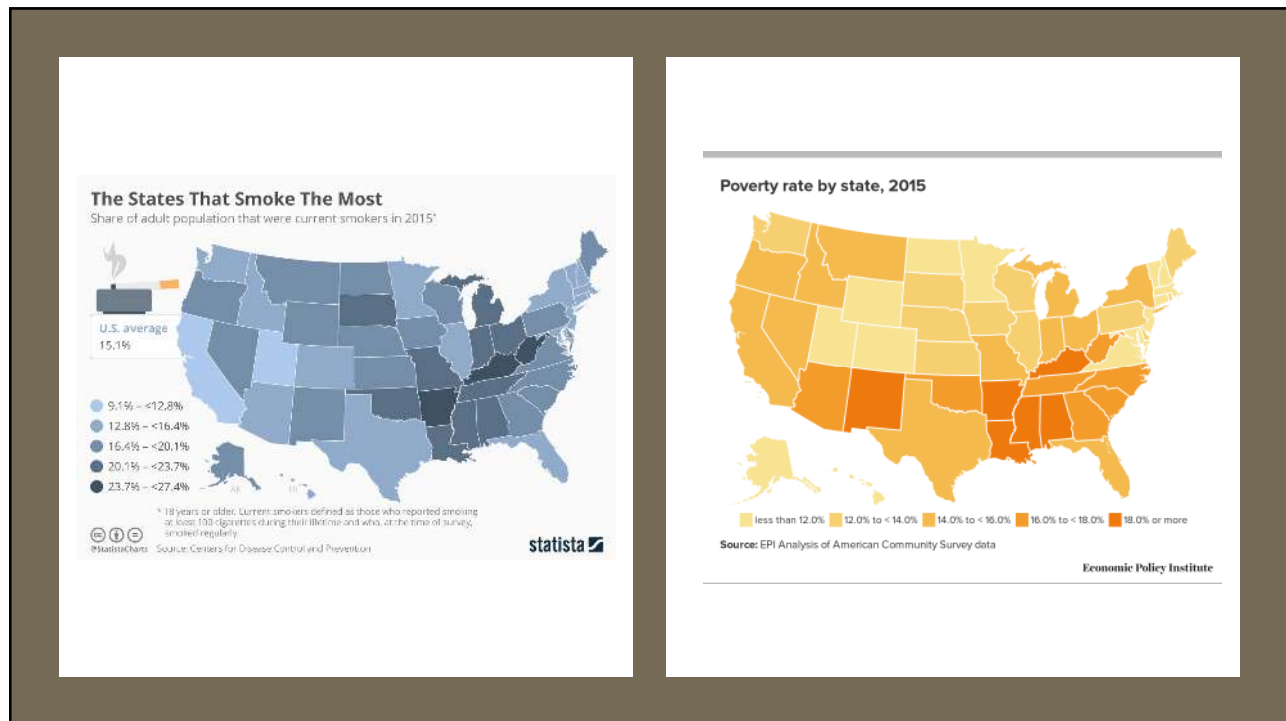
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Tobacco Advertisement

- Individuals with lower health literacy are associated with a higher nicotine dependence
 - Less knowledge about smoking health risks
 - Decreased understanding of the impact of nicotine dependence
 - Limited access to smoking cessation aids
- Marketing to a specific audience
 - Woman- feminine package designs and “truly feminine names” IE viginia slims, Eve and Capri. 44% of women smoke menthol
 - 1920’s tobacco companies adopted acronyms such as “YAS” (Young Adult Smokers) and “FUBYAS (First Usual Brand Younger Adults Smokers”. Newport represented this group
 - Free menthol “starter packs” and discount coupons provided by African American athletes and entertainers. 85% of African Americans smoke menthol compared to non-Hispanic white people
 - “Greenwashing” Organic, additive free and plant based
 - Social media influencers



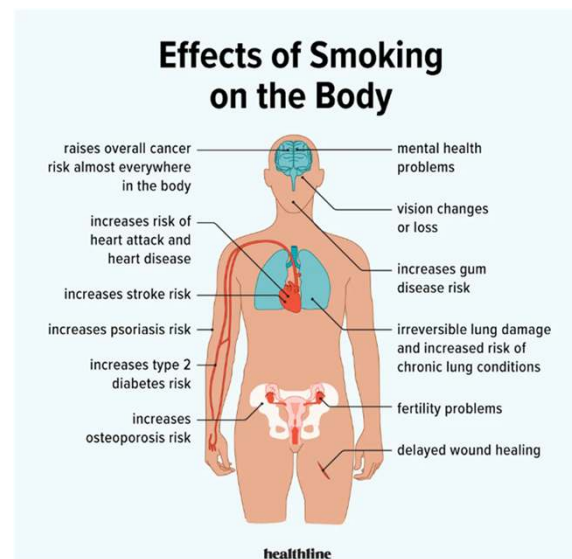
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The Impact of Tobacco Use

- 480,000 death per year
- 41,000 deaths due to secondhand smoke exposure
- 7 million death per year worldwide
- 1,300 death per day
- Smoking harms nearly every organ of the body
- More than 16 million Americans are living with tobacco related illness
- \$225 billion direct medical care cost and \$156 billion in lost productivity costs
- Smoking increased anxiety and tension
- More then 600 ingredients and when burned generates 7,000 chemicals



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Nicotine Dependence



Inhaled nicotine enters the lungs its rapidly absorbed into the blood stream

8-10 Seconds for nicotine to reach the brain and 5 minutes to reach maximal levels
Nicotine absorbed through a mucosal lining takes 30 minutes to reach maximal levels



Binds to nicotine acetylcholine receptors (nAChRs) on the surface of neurons. Chain reaction occurs – resulting in the release of neurotransmitters dopamine, norepinephrine, and serotonin



Nicotine changes how the brain works, altering its reward pathways and causing people to crave it



Chronic exposure to nicotine causes desensitization and upregulation of nAChRs. Increasing tolerance to nicotine and withdrawal symptoms at the sign of depletion.

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Tobacco

Smoking tobacco: (cigarettes, hukkahs, cigars)

- Dates back to 6,000 BC
- Cigarettes thrive in war
- Flavors include cinnamon, spearmint, wintergreen, citrus, fruit and alcohol (rum or cocktail flavor)
- Linked to 15 different types of cancers
- Increased the risk of developing more than 50 serious health conditions

Smokeless tobacco: (Chewing, dip, pouches, snuff)

- Popularized in the 1800s
- Causes tooth decay and mouth sores
- Causes cancer of the throat and mouth
- 4,000 chemicals -30 linked to causing cancer
- Flavors include mint, wintergreen, berry, cherry and apple

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E-cigarettes

- Widely available in 2007
- Designed and advertised as a safer alternative than cigarette smoking
- 3 versions
 - Cig-a-like: Promoted for smoking cessation
 - Vape pen: Refillable e-liquid tanks user can adjust amounts of ingredients and flavors
 - Personalized vaporizer: Large reservoir and adjustable voltage for increased nicotine and substances in each puff
- Contains Nicotine, carrier oil, flavoring
 - E-cigarette liquid have been found to contain 1.2% (a little less than most cigarettes) to 5% (almost 3 times as much) -The amount of nicotine is not regulated by the FDA
- Many flavors enticing to adolescence
- Average age of e-cigarette users 13-40

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The Menthol Effect

- When inhaled menthol causes a cool effect that reduces pain, irritation, and coughing
- Gives the smoker the illusion they are breathing more easily
- Enhances the activity of the nicotine receptors and increases the effects of the drug
- Menthol makes it easier for individuals to initiate tobacco use and increases dependence
- Young people who initiate tobacco use with menthol are more likely to become addicted and become long term smokers.
- Menthol cigarettes are disproportionately marketed towards younger smokers and African Americans
- In the 1950's 10% of African American smoked menthol compared to 2022 85%



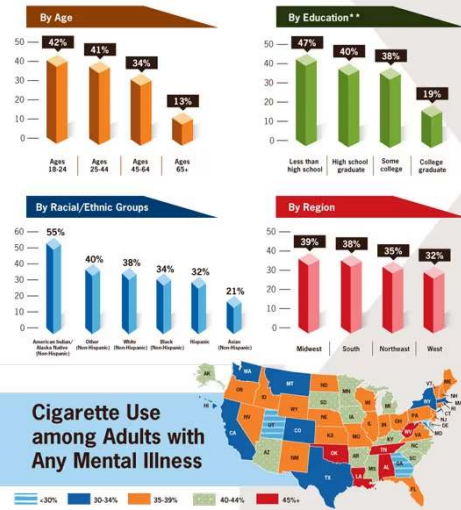
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Mental health

- According to the American Lung Association an estimated 35% of smokers have behavioral health disorder. This group makes up 38% of U.S cigarette consumption
- Nicotine use in 2-3 times higher in individuals with mental health disorder increasing in mental health severity.
 - Major depression 59%
 - Bipolar disorder 83%
 - Schizophrenia and other psychotic disorders 90%
- Menthol cigarettes are associated with increased severity of nicotine dependence and lower quit rates success then non menthol users
- Although it is not clear whether smoking is the cause or effect of mental illness, some researchers are suggesting and seeing evidence that smoking can trigger mental illness



Smoking Statistics for US Adults with Mental Illness



Cigarette Use among Adults with Any Mental Illness



Source: National Survey on Drug Use and Health, 2009-2011, Adults ages 18 or older
 ** Source: National Survey on Drug Use and Health, 2009-2011, Adults ages 25 or older

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Mental Health – Self-Medicate

Nicotine dependence temporarily lessens the symptoms of mental illness and masks depression, anxiety and ADHD because it stimulates dopamine that is often found to be low in these individuals. Nicotine increase their dopamine supply; however, this tricks the brain into switching of the natural mechanism for making dopamine on their own. Making quitting harder and withdrawal symptoms more intense.

- Smoking rates amongst treatment centers make up 65-85% of patients
- Nicotine has a negative impact on antipsychotic medication decreasing their therapeutic benefit and making it harder to treat

Alternative ways to handle stress and increase dopamine

- Exercise
- Eat a diet supporting health avoid process foods. Eat more protein
- Talk with a supportive person

The Brain on Nicotine



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Nicotine and the effects on adolescents

- 1-10 Middle and high school students vape
- National rate of cigarettes 5.8% vs vapes 27.5%
- 74% of students report seeing marketing through social media
- Nicotine changes adolescent brain development in 3 parts; attention, learning and memory. It can worsen anxiety, irritability and impulsivity.
- Vaping is significantly associated with higher ADHD symptoms- Based on a 2019 study
- Often youth begin vaping to deal with stress or anxiety, creating a cycle of nicotine dependence. Nicotine addiction becomes a source of stress
- E- cigarette users double their odd of having depression

How do other countries regulate nicotine?

The U.S.'s lack of regulation of nicotine levels is dramatically different from other countries. The highest nicotine concentration allowed in the European Union and the United Kingdom is 20 mg/ml (2%).



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Why is Quitting So Hard?

- 70% of smokers want to quit
- Over half attempt to quit each year

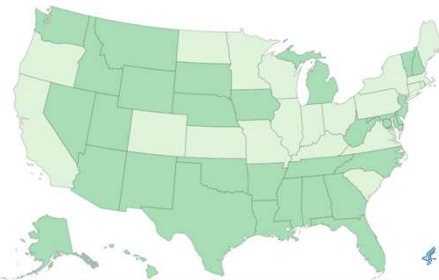
Barriers to quitting

- Over 40% never receive advice on how to quit by a healthcare professional
- Fewer than 1/3 used FDA approved smoking cessation techniques including medication and therapy
- A study showed after one year of using the absence method 6-20% will be tobacco free.
- The greater the pack year for tobacco use the less likely the abstinence method will work

Look at your state Medicaid cessation coverage

- <https://www.cdc.gov/statesystem/factsheets/medicaid/Cessation.html>

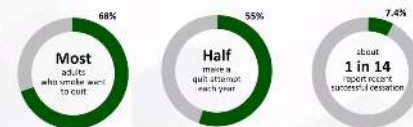
Medicaid Coverage of Cessation Treatments (In effect as of June 30, 2023 (n=51))



About This Map

○ Comprehensive Coverage ● Less Than Comprehensive Coverage

Cessation Remains a Challenge



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Why Does Tobacco Cessation Matter?

Nicotine changes how the brain works and causes physical and emotional addiction

Physical withdrawal symptoms: Craving, agitation, poor attention, insomnia, headaches, constipation, fatigue, chest tightness, dry mouths, sweating weight gain

- start to fade after 2-4 weeks

Psychological symptoms: Depression, anxiety, frustration, tension

- Triggers/habits are developed over time and can be difficult to change
- Symptoms and habits can last 3-12 months or longer
- Neurological pathways will become dormant and can become reactivated with use of nicotine

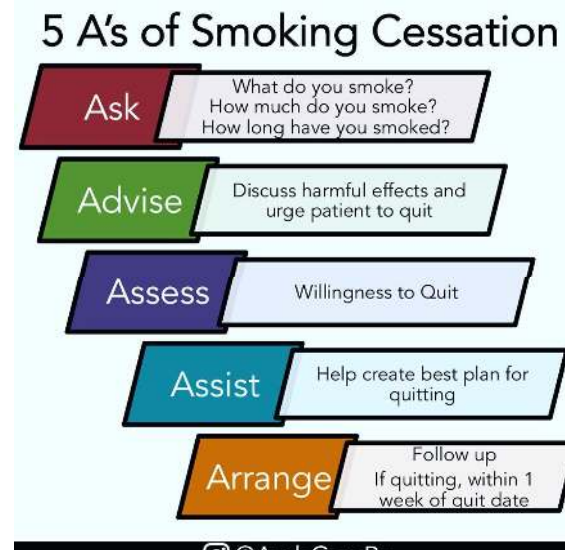
Smoking cessation improves mental health

- Supports the treatment of behavioral health
- Improves mental health and decreases depression anxiety stress
- Can make substance use relapse less likely
 - Statistics

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5 A's to Quit Smoking

- Always ask patient if they want to quit
- If they say no, provide a brief personalized message on why to quit
- If they have had an unsuccessful quit attempt in the past, ask about barriers or challenges and provide suggestion and support



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Evidence-based treatment methods

Nicotine addiction is 20% physical and 80% psychological

- Counseling – Involves building a quit plan, helping understand nicotine dependence, helping to recognize withdrawal symptoms and triggers. Help build tools to handle trigger and withdrawal symptoms
 - Cognitive behavioral counseling – Helps patient identify triggers and relapse-prevention
 - Practical counseling – Developing a quit plan
 - Supportive messaging

Counseling can be offered through

- Individual counseling
- Group counseling
- Telephone counseling
 - Quit lines (1-800-Quit-Now, Spanish line 1-855-Dejelo-Ya) Are available in all states and have access to multiple languages. Free counseling from trained quit coaches that help create a quit plan. Some states provide medication starter kits and coaching on how to use the medication.
- Texted based counseling
 - Text QUIT to 47848 or DEJELO YA to 333888
 - Mobile apps – QuitSTART
- Web based counseling
 - Smokefree.gov or Espanol.somkfree.gov

More counseling equates to higher quitting success.

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Evidence- based treatment methods

- Proven cessation treatment are under used
 - Lack of awareness of cessation
 - Lack of insurance coverage
- Less then one-third of adults use counseling or medication approved by the FDA to quit smoking
- Using medication can increase quit rate by 50-70%

Patches	Gum	Lozenge	Nasal Spray	Oral inhaler	Varenicline (Chantix)	Bupropion
OTC	OTC	OTC	Prescription	Prescription	Prescription	Prescription
Long acting	Short-acting	Short acting	Short acting	Short acting		
1 Patch all day	As needed for urges. Every 2 hours up to 24 pieces per day	Use as needed. No more then 5 in 6 hours or 20 per day	As needed. One dose=two sprays. Take at least 8 doses per day with a max of 40	As needed. Not to exceed 1-2 sprays at one time or 4 sprays in an hour	Twice per day	Twice per day
Side effects: Skin irritation, dizziness, headache, sleep difficulties	Side effects: Stomach discomfort, throat and mouth irritation. Do not chew like gum	Side effects: Hiccups, irritation in mouth or throat, difficulty sleeping	Side effects: Runny nose, sneezing, watery eyes, nose bleeds, throat irritation	Side effects: Throat and mouth irritation, headaches, burning lips dry mouth taste disturbances	Side effects: Nausea, insomnia, abnormal vivid dreams, headaches	Side effects: Headache, weight loss, dry mouth, insomnia, nausea constipation sore throat

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E-Cigarette use For Smoking Cessation

- No amount of nicotine is safe
- Vaping exposes an individual to 2,000 chemicals compared to 7,000 in traditional cigarettes, however the long-term effects are unknown. CDC stated 99% of e-cigarettes sold in the US contain nicotine
- Dule use- Using e-Cigarettes and cigarettes together poses a greater risk of toxicity and overall poorer health.
 - According to a study completed in California of 1762 smokers those who used cigarettes and e-cigarettes had a greater nicotine dependence then cigarette consumption or e-cigarette consumption alone
- Surgeon General report in 2020 “it is difficult to make generalizations about efficacy for cessation based on clinical trials involving a particular e-cigarette, and there is presently inadequate evidence to conclude that e-cigarettes, in general, increase smoking cessation”.

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Adolescent treatment method






- The decision to use pharmacotherapy should be individualized
- All smoking cessation efforts should be paired with cognitive-behavioral counseling and support
- NRT dose is individualized based on smoking patterns
- Bupropion has shown effective; however, patient will need close monitoring for suicidal ideation
- Bupropion should not be used in patient with eating disorders
- Varenicline is best avoided outside clinical trials currently due to unknown long-term effects
 - Black box label states "Serious neuropsychiatric symptoms including changes in behavior, agitation, hostility, suicidal ideation and behavior, and depressed mood can occur".
- Best treatment is for adolescents is support and encouragement



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Teens/Young Adults:

Resources to help quit smoking

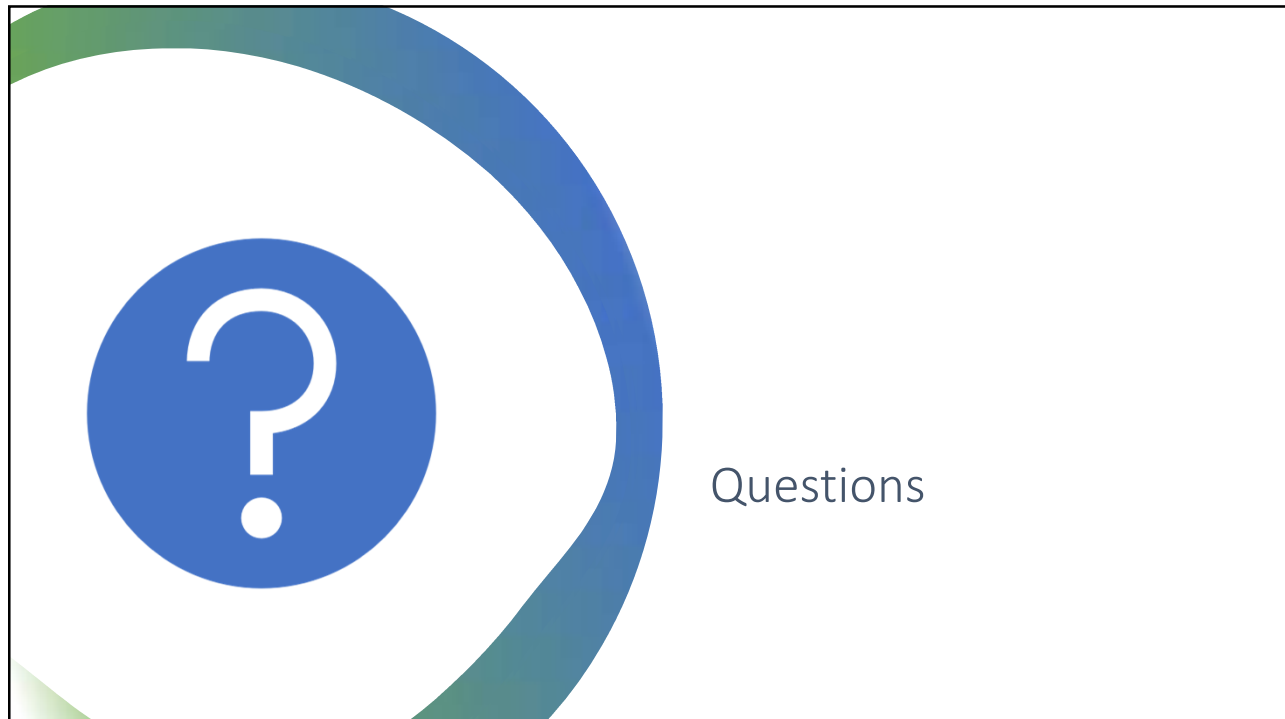
Resource	Description	WEBSITE/TEXT LINE
	This is Quitting- is the Truth Initiative's e-cigarette text-based quitting program. Teens join by texting "DITCHVAPE" to 88709. Parents and others looking to support young people in quitting can text QUIT to (202)899-7550	https://truthinitiative.org/this-isquitting Youth- Text "DITCHVAPE" to 88709 Parents- Text Quit to (202)899-7550
	The American Lung Association has created a 8 step self-guided, mobile- friendly web-based program that gives teens the resources to quit vaping, smoking or chewing tobacco products	https://notforme.org/
	Quit the Hit is a cessation support group through Instagram. This community offers support and education in small groups of 10-15 for 30 days. Active moderation provided by a cessation coach	https://quitthehitnow.com/ @quitthehit on Instagram
	Live Vape Free – youth vaping program Youth will enroll through a text option and have access to a cessation coach immediately	https://myquitforlife.com/mve/?client+LVFN&clientId+11501525 Scan QR code or Text VAPEFREENC to 873373 Ages 13-17 

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Take Away

- Smoking reduces the effectiveness of some psychiatric medication
- 7-10 adults want to quit smoking, just over half try and only 1 out of 10 succeed
- Smoking effects almost every aspect of the body
- Studies have found smoking increases the risk of major depression
- Day 3 of quitting is often the hardest
- Surgeon General report in 2020 “it is difficult to make generalizations about efficacy for cessation based on clinical trials involving a particular e-cigarette, and there is presently inadequate evidence to conclude that e-cigarettes, in general, increase smoking cessation”.
- Healthcare professionals can help patients quit by:
 - Advising them to quit
 - Offering brief counseling
 - Prescribing cessation medications
 - Connecting them to additional resources, like a quitline
 - Following up with continued support to help prevent relapse
- Best way to combat the smoking epidemic among the youth is through education, prevention, screening and treatment

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