



Tobacco Cessation for People with Diabetes Mellitus (DM)

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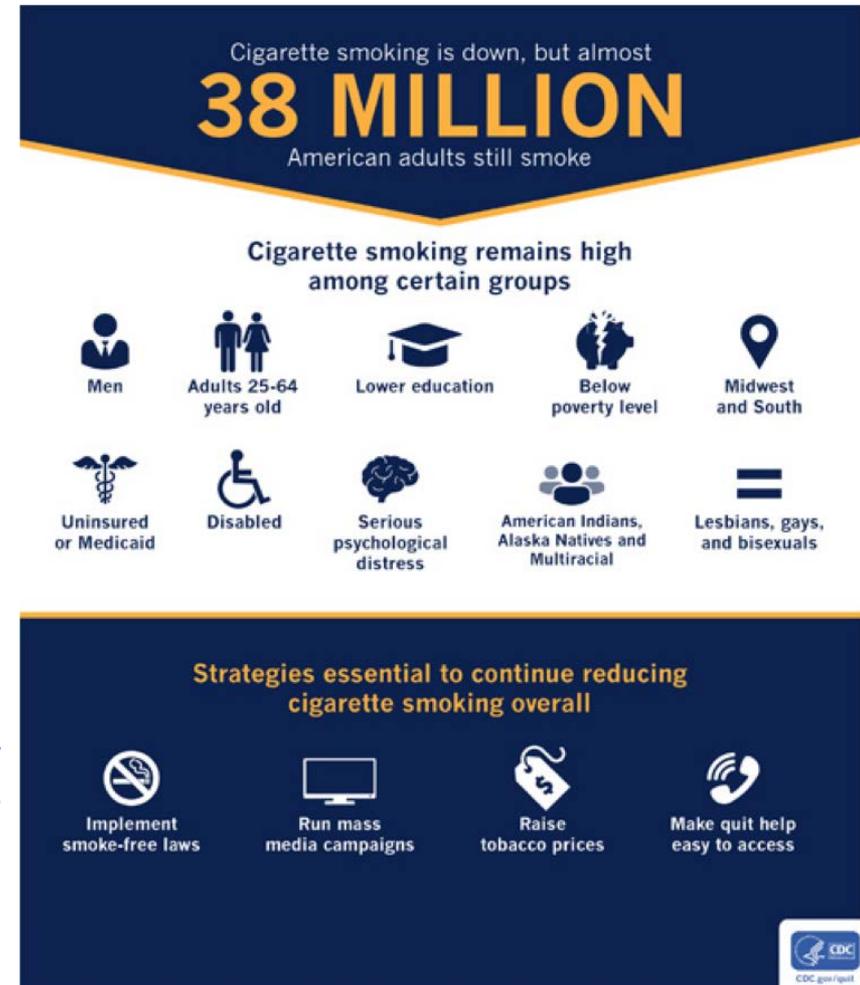
Indian Health Service (IHS)

Objectives

- Examine the connections between smoking and diabetes mellitus (DM), cardiovascular disease (CVD), and peripheral arterial disease (PAD)
- Recognize the adverse effects of tobacco/smoke exposure
- Identify ways to improve local tobacco cessation outcomes

Tobacco Cessation Clinics

- Cigarette smoking is down, but almost 38 million American adults still smoke
- How can we help?
 - Tobacco Cessation Clinics can aid quitting with help and easy access for patients.
 - Ask at every visit.
 - <https://www.cdc.gov/tobacco/campaign/tips/quit-smoking/index.html>



U.S. National Adult Smoking Rates

Race/Ethnicity	Smoking Rate
American Indians/Alaska Natives (AI/AN)	31.8%
Multiple Race (non-Hispanic)	25.2%
Whites (non-Hispanic)	16.6%
Blacks (non-Hispanic)	16.5%
Hispanic	10.7%
Asian Pacific Islander	9.0%

https://www.cdc.gov/tobacco/data_statistics/mmwrs/byyear/2018/mm6702a1/highlights.htm

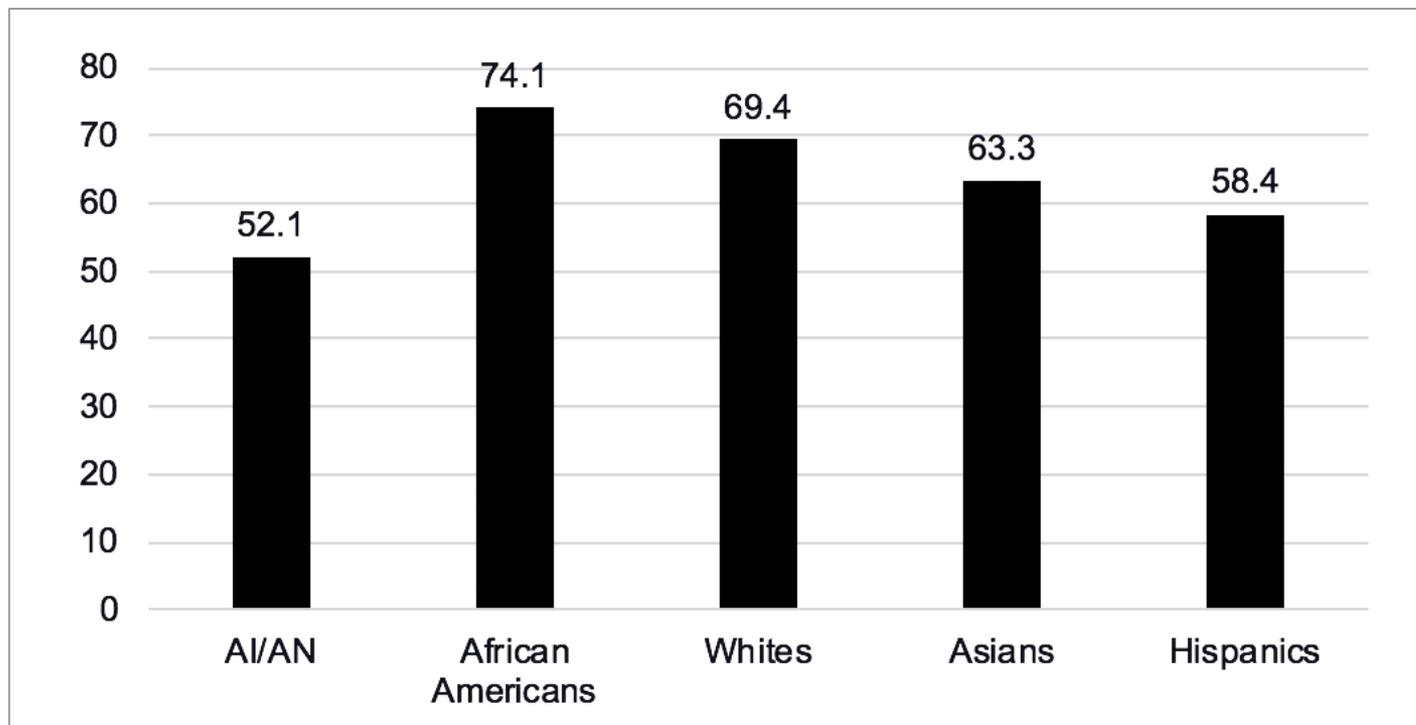
Health Disparities Among AI/NA

- There are approximately 5.4 million American Indians and Alaska Natives in the United States—about 2% of the total population. American Indians/Alaska Natives have the highest prevalence of cigarette smoking compared to all other racial/ethnic groups in the United States.
- Higher risk of tobacco-related diseases and death than other ethnic groups.
 - CVD is the leading cause of death.
 - Lung cancer is the leading cause of cancer deaths.
 - DM is the fourth leading cause of death.

<https://www.cdc.gov/tobacco/disparities/american-indians/index.htm>

Quitting Behaviors

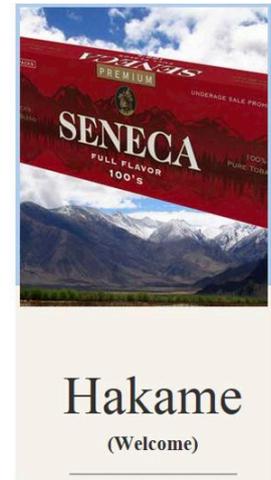
- Lower quit rates among AI/AN compared to other racial/ethnic groups
 - An estimated 52.1% of AI/ANs report that they want to quit, compared to 74.1% of African Americans, 69.4% of Whites, 63.3% of Asians, and 58.4% of Hispanics.
 - <https://www.cdc.gov/tobacco/disparities/american-indians/index.htm>



Tobacco Industry Influence

- Tobacco companies target AI/AN in commercial tobacco advertisements.
- Historically, advertisements from tobacco companies featured symbols and names with special meanings to AI/ANs.
- <https://www.cdc.gov/tobacco/disparities/american-indians/index.htm>

Images obtained from <https://www.americanspirit.com> and <http://www.shinnecocksmokeshop.com/>



Tobacco Industry Influence (2)

In 2010, the Attorney General of California secured an agreement with the manufacturer of American Spirit that required the company to disclose that its “organic” tobacco is “no safer or healthier” than other tobacco products. Subsequently, attorneys general from 32 other states and the District of Columbia signed this agreement.

Source: <https://oag.ca.gov/news/press-releases/brown-secures-agreement-american-spirit-cigarettes-maker-over-alleged-misleading>



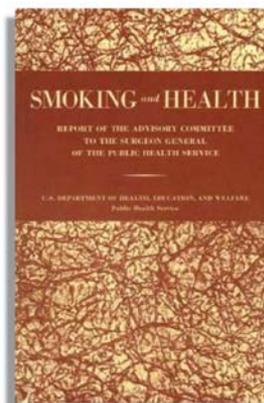
Organic tobacco does **NOT**
mean a safer cigarette.

Natural American Spirit cigarettes
are not safer than other cigarettes.

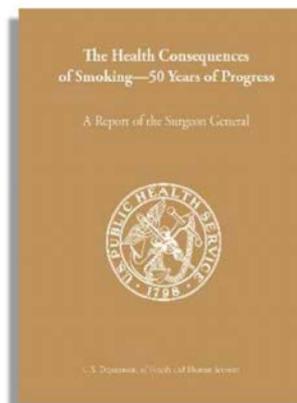
The Health Consequences of Smoking – 50 Years of Progress

- A Report of the Surgeon General
- In 1964, Dr. Luther Terry shocked the nation when he released the first Surgeon General’s report that linked smoking to lung cancer and heart disease.
- In 2014, the 32nd Surgeon General’s Report on smoking and health was released.
 - The report provides more evidence of the serious damage smoking does to the human body. It also commemorates the anniversary of the first report which laid the foundation for today’s programs to reduce the disease and death caused by smoking.

<https://www.surgeongeneral.gov/library/reports/50-years-of-progress/index.html>



1964



2014

All Commercial Tobacco Exposure Is Unsafe

- Second-hand smoke
 - Second-hand smoke is smoke from burning tobacco products, such as cigarettes, cigars, pipes, etc.
 - Smoke that has been exhaled or breathed out by the person smoking
 - Tobacco smoke contains more than 7,000 chemicals, including hundreds that are toxic and about 70 that can cause cancer.
 - In the U.S. more than 41,000 deaths per year as a result of exposure to second-hand smoke.

https://www.cdc.gov/tobacco/data_statistics/fact_sheets/secondhand_smoke/general_facts/index.htm

All Commercial Tobacco Exposure Is Unsafe (2)

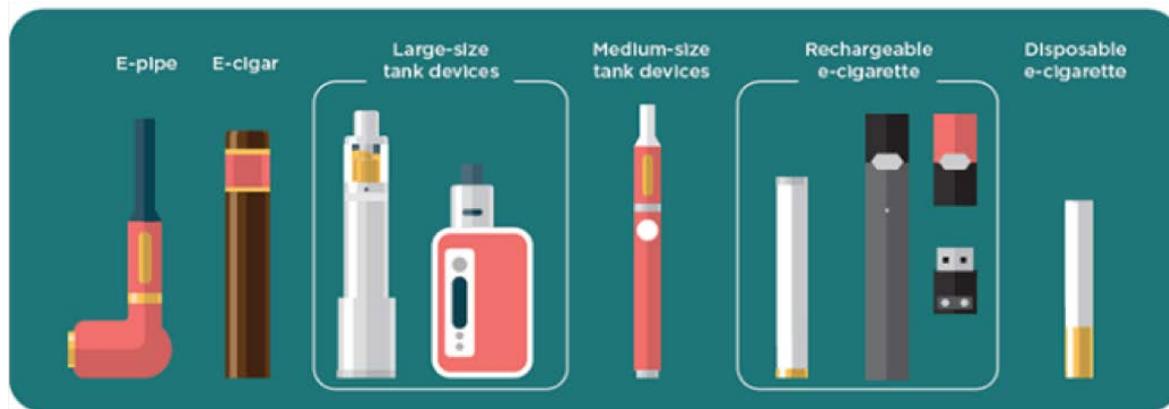
- Third-hand smoke
 - Third-hand smoke is residual nicotine and chemicals left on surfaces by tobacco smoke—contaminating surfaces and air with off-gassing. This residue is thought to react with common indoor pollutants to create a toxic mix including cancer-causing compounds, posing a potential health hazard to nonsmokers—especially children.
 - Third-hand smoke clings to surfaces long after smoking has stopped and builds up over time. To remove the residue, hard surfaces, fabrics, and upholstery need to be regularly cleaned or laundered. Third-hand smoke can't be eliminated by airing out rooms, opening windows, using fans or air conditioners, or confining smoking to only certain areas of a home.
 - Children and infants are most at risk for third-hand smoke due to the nature of putting things in their mouths and coming into contact with it in their environments.

Hookah

- AKA: narghile, argileh, shisha, or hubble-bubble
 - Hookahs are water pipes that are used to smoke specially made tobacco that comes in different flavors, such as apple, mint, cherry, chocolate, coconut, licorice, cappuccino, and watermelon.
- Sharing is not caring
 - Hookah-smoking is typically done in groups, with the same mouthpiece passed from person to person. (HSV)
- Hookah versus cigarette
 - Because of the way a hookah is used, smokers may absorb more of the toxic substances also found in cigarette smoke than cigarette smokers do.
 - An hour-long hookah smoking session involves 200 puffs, while smoking an average cigarette involves 20 puffs. The amount of smoke inhaled during a typical hookah session is about 90,000 milliliters (ml), compared with 500–600 ml inhaled when smoking a cigarette.
- The charcoal used to heat the tobacco can raise health risks by producing high levels of carbon monoxide, metals, and cancer-causing chemicals.

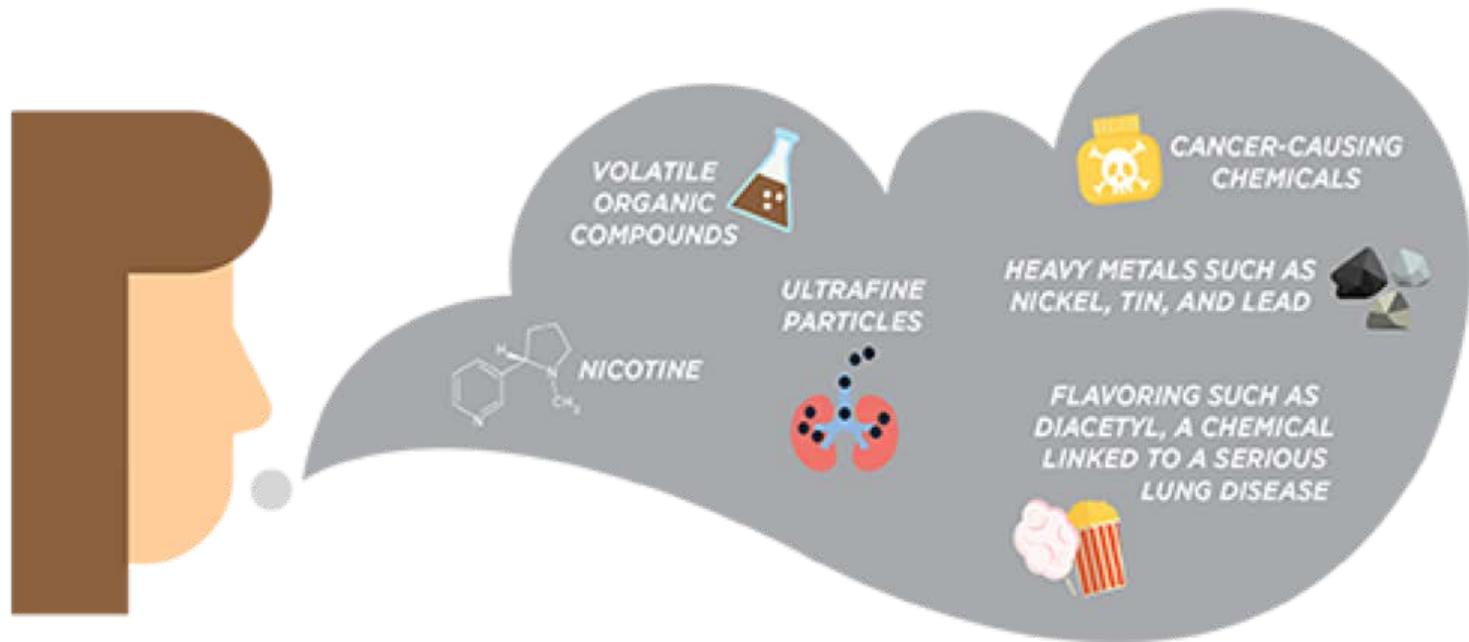
Electronic Cigarettes/Vaping

- AKA: E-cigs, mods, vape pens, ENDS (electronic nicotine delivery systems), vapes, and E-hookahs
- E-cigarettes produce an aerosol by heating a liquid that usually contains nicotine—the addictive drug in regular cigarettes, cigars, and other tobacco products—flavorings, and other chemicals.
 - Users inhale this aerosol into their lungs. Bystanders can also breathe in this aerosol when the user exhales into the air.
- Disguisable and dangerous
 - Some look like regular cigarettes, cigars, or pipes. Some resemble pens, USB sticks, and other everyday items (problematic in middle and high schools).
 - Defective e-cigarette batteries have caused fires and explosions, some of which have resulted in serious injuries or death.
 - Children and adults have been poisoned by swallowing, breathing, or absorbing e-cigarette liquid through their skin or eyes



What's in the Aerosol of E-cigarettes?

- It's difficult for consumers to know what e-cigarette products contain. For example, some e-cigarettes marketed as containing zero percent nicotine have been found to contain nicotine.
 - This includes cancer-causing chemicals and tiny particles that reach deep into lungs. However, e-cigarette aerosol generally contains fewer harmful chemicals than smoke from burned tobacco products (and why people and youth believe it's better than smoking).

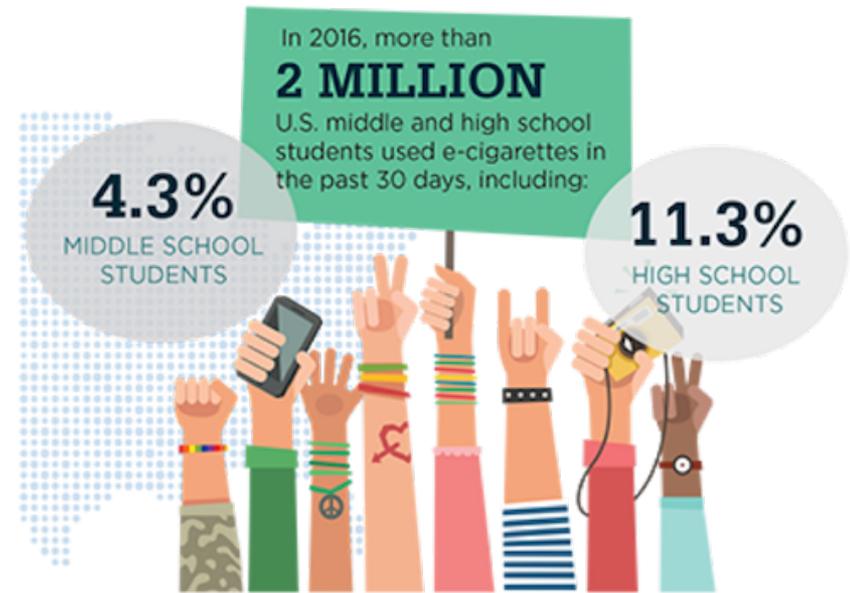


The Burning Question

- **Can electronic cigarettes be used for smoking cessation?**
 - Not FDA Approved as a quit smoking aid—insufficient evidence
- **Pregnancy**
 - E-cigarettes may help non-pregnant adult smokers quit if used as a complete substitute for all cigarettes and other smoked tobacco products.
- **Cochrane Review: Found evidence from two randomized controlled trials that e-cigarettes with nicotine can help smokers stop smoking in the long term compared with placebo (non-nicotine) e-cigarettes.**
 - However, there limitations to the existing research, including small number of trials, small sample sizes, and wide margins of error around the estimates.
 - https://www.cochrane.org/CD010216/TOBACCO_can-electronic-cigarettes-help-people-stop-smoking-and-are-they-safe-use-purpose
- **CDC Study: Found that many adults are using e-cigarettes in an attempt to quit smoking.**
 - However, most adult e-cigarette users do not stop smoking cigarettes and instead continue to use both products (“dual use”)
 - https://www.cdc.gov/pcd/issues/2017/pdf/16_0600.pdf

Electronic Cigarettes/Vaping – Youth

- E-cigarettes are now the most commonly used tobacco product among youth.
- In 2016, more than two million U.S. middle and high school students used e-cigarettes in the past 30 days:
 - 4.3% middle school students
 - 11.3% high school students



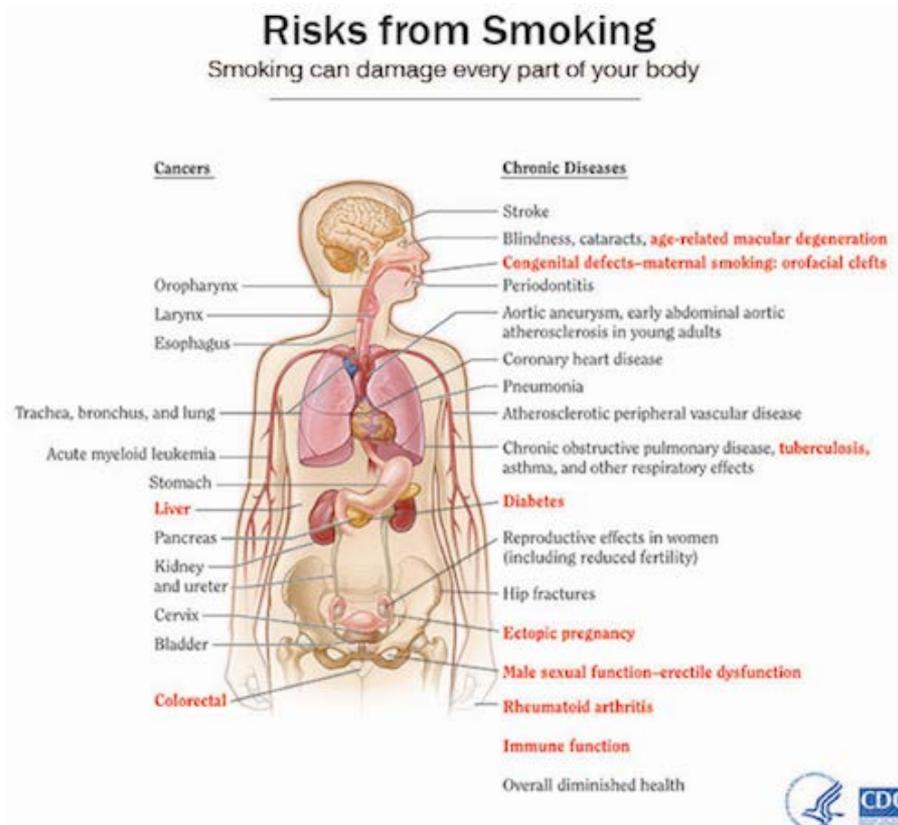
CDC – Morbidity and Mortality Weekly Report (MMWR): *Quickstats*

Educate Our Youth Early

- Nearly 3,300 youth under the age of 18 try their first cigarette
 - Social Factors
 - Parental/Sibling smoking may promote smoking among young people. Youth are more likely to use tobacco when they see it is acceptable among peers.
 - Mental Health
 - There is strong relationship between youth smoking and depression, anxiety, stress.
 - Personal Perceptions
 - Expectations of positive outcomes from smoking, such as coping with stress and controlling weight, are related to tobacco use.
 - Other Influences
 - Lack of skills to resist influences, lack of involvement/support from parents, low self image/esteem

Correlation with Chronic Diseases and Cancer

- Cigarette smoking harms nearly every organ of the body, causes many diseases, and reduces the overall health of smokers in general.
- https://www.cdc.gov/tobacco/data_statistics/fact_sheets/health_effects/effects_cig_smoking/index.htm



Comorbidities: Diabetes Mellitus (DM)

Causal relationship between smoking and DM:

- Smokers are 30%–40% more likely to develop DM than nonsmokers
- Dose-dependent
 - The risk of DM increases with increasing levels of smoking intensity (defined by number of cigarettes smoked per day).
- Increased insulin resistance
 - Increased cortisol
 - Increased inflammatory markers
 - Although smokers tend to be leaner than nonsmokers, smoking is associated with an increased risk of central obesity due to elevated concentrations of cortisol caused by the stimulation of the sympathetic nervous system (fight or flight).

Comorbidities: DM (cont.)

Causal relationship between smoking and DM (continued):

- Increased risk for macro- and microvascular complications
 - Prediabetes diagnosis
 - The combination of insulin resistance and chronic inflammation can accelerate both macro- and microvascular complications of DM.
- Smokers with diabetes have a higher risk of:
 - heart and kidney disease
 - poor blood flow in the legs and feet that can lead to infections, ulcers, and possible amputation
 - retinopathy (number one cause of adult blindness)
 - peripheral neuropathy (damaged nerves to the arms and legs that causes numbness, pain, weakness, and poor coordination)
- Smoking cessation is followed by a decreased risk of DM that reaches that of nonsmokers in the long-term (5+ years).
- Tobacco cessation should be promoted as a key public health strategy to prevent and control the global epidemic of diabetes.

Comorbidities: CVD/PAD

- Risk factors for cardiovascular disease (CVD) and peripheral arterial disease (PAD) include smoking and diabetes. Both smoking and exposure to smoke cause CVD.
- Casual relationship between smoke exposure and stroke
 - 69% decline in death rate from CVD after 1964
 - The estimated increase in risk for stroke from exposure to second-hand smoke is 20%–30%. The casual relationship is evident by the sharp decline in death rate from CVD following the release of the 1964 Surgeon General report. From 1968–2010, the age-adjusted death rate from CVD declined by 69%. (Although numerous explanations for this decline have been proposed, all contributors include a sizable decline due to reductions in smoking.)
 - 20%–30% more likely than no exposure for stroke
 - Dose dependent
 - Increased atherosclerosis
 - Increased HDL cholesterol and inflammatory markers

Comorbidities: CVD/PAD (2)

- Cardiovascular disease (CVD) is a collective term for diseases of the heart and blood vessels. The term commonly includes coronary heart disease, stroke, CHF, coronary artery disease, and peripheral arterial disease.
- PAD occurs when narrow arteries reduce the blood flow to the limbs, mainly the legs and feet. It is primarily caused by atherosclerosis. Atherosclerosis is accelerated by cigarette smoke by promoting the development of inflammatory markers and lowering high-density lipoprotein cholesterol.
- Tobacco cessation remains one of the most effective strategies for prevention of CVD. Similar to DM, there is a dose-response relationship between smoking and CVD. Meaning, the risk of CVD increases with increasing levels of smoking intensity.

Immediate Health Benefits of Quitting

Time Since Quitting	Health Benefit
20 Minutes	Heart rate and blood pressure normalize
8 Hours	Oxygen level normalizes
24 Hours	Lungs begin to eliminate mucus
48 Hours	Nicotine is eliminated from the body Senses of smell and taste improve
72 Hours	Breathing is easier
2–12 Weeks	Circulation improves
1 Year	Heart attack risk decreases by 50%
10 Years	Lung cancer risk decreases by 50%
15 Years	Heart attack risk equal to nonsmoker

As soon as a tobacco user quits, the body begins to repair the damages. Health benefits can be observed as soon as 20 minutes after quitting.

<http://www.lung.org/stop-smoking/i-want-to-quit/benefits-of-quitting.html>

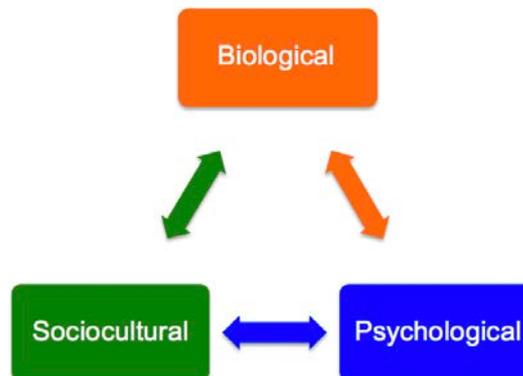
Quitting

- It is not an act—it is a process.
- It does not take an enormous effort of will—it takes organized action.
- It requires setting a quit date.
- It targets the three-link chain of dependence: biological, psychological, and sociocultural.

Treat tobacco dependence as a chronic disease!

The Three-Link Chain of Tobacco Dependence

- Biological, Psychological, and Sociocultural
- The causes are complex and individualized
 - Tobacco dependence is complex and differs from person to person. Nicotine is the drug in tobacco that causes addiction. An addiction is more than a bad habit; it overrides your sense of judgement.
- Structural changes in the brain caused by nicotine promote feelings of reward (**biological** factor). Evidence of these changes is tobacco withdrawal symptoms that occur upon abrupt discontinuation of tobacco. These are most severe within the first two weeks of discontinuation and can include irritability, restlessness, insomnia, and increased appetite.
- Tobacco use may be prompted by an external cue or “**trigger**,” such as driving or taking a break from work (**psychological** factor).
- Finally, tobacco use is portrayed in advertising, movies, and books as “cool.” It is also commonly linked to social interaction (**sociocultural** factor).



Keep Tobacco Traditional

With any intervention, we must consider cultural or social backgrounds in order to be most effective. This is especially true when treating tobacco use dependence among AIs.

- There are 573 federally recognized tribes, and each is unique with its own language, history, stories, challenges, and traditions.
- Familiarize yourself with the tribal communities that you serve.
- Many AI communities hold natural tobacco sacred. The sacred plant is used to send prayers to the creator and to spiritually strengthen tribal members.
- It is important to distinguish between recreational and ceremonial tobacco use and to acknowledge that traditional use of tobacco is not considered misuse by using descriptive terms such as “traditional” and “commercial.”
- <https://www.bia.gov/bia>
- <http://keepitsacred.itcmi.org/tobacco-and-tradition/commercial-tobacco/>
- <http://clearwaymn.org/keptobaccosacred/>



Treatment Efficacy per Intervention

- No clinician: 10.8%
- One clinician type: 18.3%
- Two or more clinician types: 23.6%
 - Tobacco-use treatments delivered by two or more types of clinicians increase abstinence rates relative to those produced by interventions in which there is no clinician. Thus, if feasible, the delivery of interventions by multiple clinicians (referring to different types) is encouraged—a systems approach!
 - <https://www.ncbi.nlm.nih.gov/books/NBK63952/>

Treatment Efficacy per Intervention (2)

- **No contact:** 10.9%
- **Minimal:** 13.4%
- **Brief:** 16%
- **Intensive:** 22.1% – More than double!

<https://www.ncbi.nlm.nih.gov/books/NBK63952/>

Three Levels of Intervention

- **Minimal Intervention:** Less than 3 minutes; broad distribution; no personal interaction; inexpensive
 - Information is provided without significant personal interaction. For example, a person receives a brochure at a health fair.
- **Brief Intervention:** 3–10 minutes; utilize the **5 A's**
 - Two or more people interact with the goal of assisting a healthy lifestyle change.
 - The **Five A's model** outlines a process to intervene with individuals at risk for disease due to unhealthy behaviors.
- **Intensive Intervention:** Longer than 10 minutes; multiple visits; multiple providers; **motivational interview**; pharmacotherapy involved
 - Example: The American Lung Association's "Freedom from Smoking" program, which is delivered as an in-person or online format and consists of seven or nine sessions to be completed over seven or six weeks.

The 5 A's Model: Framework for Tobacco-Use Intervention

- **Ask** about tobacco use
- **Advise** all users to quit
- **Assess** willingness to quit
- **Assist** to increase readiness
- **Arrange** treatment and follow-up
 - The Five A's model of a brief intervention provides a manageable framework for assisting patients with recognizing and changing unhealthy behaviors. This model may be modified to include **ask**, **advise**, and **refer**. The Arizona's Smokers Helpline, or ASHLine, uses a modified Five A's model.

<https://www.uspreventiveservicestaskforce.org/Page/Document/RecommendationStatementFinal/tobacco-use-in-adults-and-pregnant-women-counseling-and-interventions>

The 5 A's Model: Framework for Tobacco Use Intervention (2)

- **Ask:** “Do you smoke or chew tobacco?”
- **Advise:** “Quitting tobacco is the most important thing you can do to protect your current and future health.”
 - (Tobacco use is the leading preventable cause of disease, disability, and death in the U.S.)
- **Assess:** “Are you ready to set a quit date in the next 30 days?”

The 5 A's Model: Framework for Tobacco Use Intervention (3)

Unwilling

- **Assist:** “May I tell you what concerns me?”
- **Arrange:** “I will continue to ask about tobacco use and I will assist when you are ready.”

Willing

- **Assist:** “Let’s discuss our resources and develop a quit plan.”
- **Arrange:** “Let’s follow-up prior to and two weeks after your quit date.”

Helpful Tips

- Tailor the intervention to individual readiness (Stages of Change).
 - First determine a person's position in the change process. For example, a person who is not thinking about change is in a pre-contemplative stage and has no intent to quit within the next six months. A person in the preparation stage is willing to set a quit date within the next 30 days.
- Avoid assumptions: Not all tobacco users are ready to quit.
- Be patient: It is common for a tobacco user to relapse 11 times before quitting for good.
 - Tobacco dependence shares many features of other chronic diseases, including cycling through multiple periods of relapse and remission. (Relapse is the return to regular tobacco use.) Most relapse occurs early in the quitting process – usually in the first days or weeks.

Tobacco Screening

- Why do we screen for tobacco?
 - Smoking is an addiction
 - Adverse effects of environmental tobacco smoke
 - Adverse effects to individual health
 - Benefits of quitting

Tobacco Screening (2)

- Non-hospital/clinic staff can....
 - Learn to **ask**—and learn to ask every visit.
 - Learn to give positive quit messages.
 - Encourage cessation and know your resources.

Identify Resources

- Tobacco cessation services
 - Are there any “in-house” cessation services available to patients?
 - Are there any local cessation services available?
 - Does your state have a quit line?
 - Does the facility have any established guidelines on how to refer patients to a program?

What Makes a Program Successful?

“Data strongly indicate that the consistent and effective delivery of tobacco interventions requires coordinated interventions.”

The “How to” for Tobacco Cessation Programs

- Identify “tobacco champions”
 - Are there any trained tobacco cessation specialists at your facility?
 - Do you have a provider who would be willing to work with a program?
 - Nurse
 - Pharmacist
 - Doctor
 - Health Educator
- Develop a policy and procedure

Provider Certifications

- University of Arizona Healthcare Partnership
 - Arizona state
 - <http://www.healthcarepartnership.org>
- University California San Francisco RX for Change
 - National
 - <http://rxforchange.ucsf.edu>

Additional Resources

- Office of the Surgeon General
 - <https://www.surgeongeneral.gov/priorities/prevention/strategy/tobacco-free-living.html>
- CDC: Office on Smoking and Health (OSH)
 - <https://www.cdc.gov/tobacco/about/osh/index.htm>

Patient Resources

National program to direct patients to local resources

- **1-800-QUIT-NOW** (1-800-784-8669)
All states have quitlines with counselors who are trained specifically to help smokers quit.
https://www.cdc.gov/tobacco/quit_smoking/cessation/pdfs/1800quitnow_faq.pdf
- **1-877-44U-QUIT** (1-877-448-7848)
The National Cancer Institute's trained counselors provide information and support for quitting.
<http://www.iquitmonday.org/get-help-now/>
- Free apps for smartphones:
 - Smokefree TXT:
<https://smokefree.gov/smokefreetxt>
 - QuitGuide:
<https://smokefree.gov/tools-tips/apps/quitguide>
 - QuitSTART:
<https://smokefree.gov/tools-tips/apps/quitstart>

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