

Health Issue Brief:

Vaping and Tobacco

Background

“Vaping” is a practice that uses an electronic cigarette (sometimes called an e-cigarette or vape) to deliver nicotine through a battery-operated aerosol device. While traditional cigarette use has decreased through the efforts of prevention programs, the growing popularity of vaping and e-cigarettes is beginning to reverse declining rates of adolescent nicotine use and addiction. This resurgence of tobacco use is a public health concern, as nearly 80% of all smoking adults report having begun the habit in their teens.

Tobacco use has long been known to carry serious health risks, including lung and mouth cancers, chronic bronchitis and heart disease. In America, more than 16 million patients currently suffer from diseases caused from direct or indirect tobacco use.¹ The Centers for Disease Control and Prevention (CDC) estimate that these illnesses contribute nearly \$170 billion in direct medical care costs and more than \$156 billion in lost productivity.² The nicotine in tobacco is highly addictive, these addictive properties can be further increased by additives in tobacco smoke.

What is vaping?

A vape or e-cigarette heats liquid nicotine into a vapor that can then be inhaled. Manufacturers often flavor the liquid nicotine in these devices—sometimes mimicking cotton candy or fruit flavors to appeal to a younger audience. Certain models of e-cigarettes allow the user to control the levels of nicotine delivered. Some individuals report using these devices to gradually wean themselves off of nicotine. Many e-cigarette companies advertise their devices as smoking cessation tools; however, this use has not been endorsed by the Food and Drug Administration.

Key Highlights:

- Most e-cigarettes contain nicotine—the addictive drug in cigarettes and cigars.
- Nearly 7 million adults in America report using e-cigarettes.
- More than 5 million children report using e-cigarettes, an increase of over a 1.5 million since 2018.
- 68% of high school students who use e-cigarettes prefer flavored nicotine, such as menthol or fruit.
- The CDC recently linked the use of e-cigarettes to severe lung injury, which is still under investigation.
- More than 16 million people in the U.S. manage diseases related to tobacco use.
- Smoking-related illnesses contribute more than \$300 billion to U.S. health care costs.

Clinicians instead recommend that patients use proven methods to quit smoking, such as nicotine-replacement therapy.

What are the health risks?

Because vaping is a fairly new practice, infectious disease researchers do not yet know how its flavoring agents, solvents and other byproducts will impact the body. Here's what we know so far:

- Although sometimes marketed as a safe alternative to cigarettes, e-cigarettes' vapor also contains carcinogenic toxins.
- Vapor from an unsanitary e-cigarette can expose the user to bacterial lung infections.
- E-cigarettes can be used with other liquids like marijuana or hash oil; the effect of which is still being studied.³

Is vaping to blame for recent lung disease reports?

Although the exact cause is unknown, vaping does appear to be connected to the rise in lung-related diseases and hospitalizations. Federal and state health officials have reported nearly 3,000 cases of EVALI (E-cigarette or Vaping-product-use Associated Lung Injury), a newly-identified lung disease, which has been linked to using off-market vaping products. EVALI causes symptoms ranging from coughing and shortness of breath to fatigue, vomiting, diarrhea and death. Researchers with the CDC are still investigating the exact cause of EVALI and caution the public to avoid e-cigarette use.

How does vaping nicotine impact kids, teens and young adults?

Nicotine is a highly-addictive substance that can slow teens' brain development, impair memory and concentration, decrease impulse control and increase their likelihood to suffer from other forms of addiction.⁴ The physical effects of nicotine on children include rapid heartbeat, increased blood pressure, shortness of breath and a greater susceptibility to colds and other infections.

According to the latest National Youth Tobacco Survey, more than 5 million middle and high school students report having used an e-cigarette during 2019. Of these students, 1.6 million report using an e-cigarette or other vaping device for more than 20 days out of the month.⁵ This frequent use of e-cigarettes increases the risk of developing a nicotine addiction, undermining national progress toward reducing youth tobacco use.

¹ U.S. Department of Health and Human Services, [The Health Consequences of Smoking](#).

² Centers for Disease Control and Prevention, [Economic Trends in Tobacco](#).

³ Centers for Disease Control and Prevention, [Lung Injury Outbreak Associated with Vaping Products](#)

⁴ Yale Medicine, [Teen Vaping Linked to More Health Risks](#).

⁵ Food and Drug Administration, [2019 Youth Tobacco Use: Results from National Survey](#).