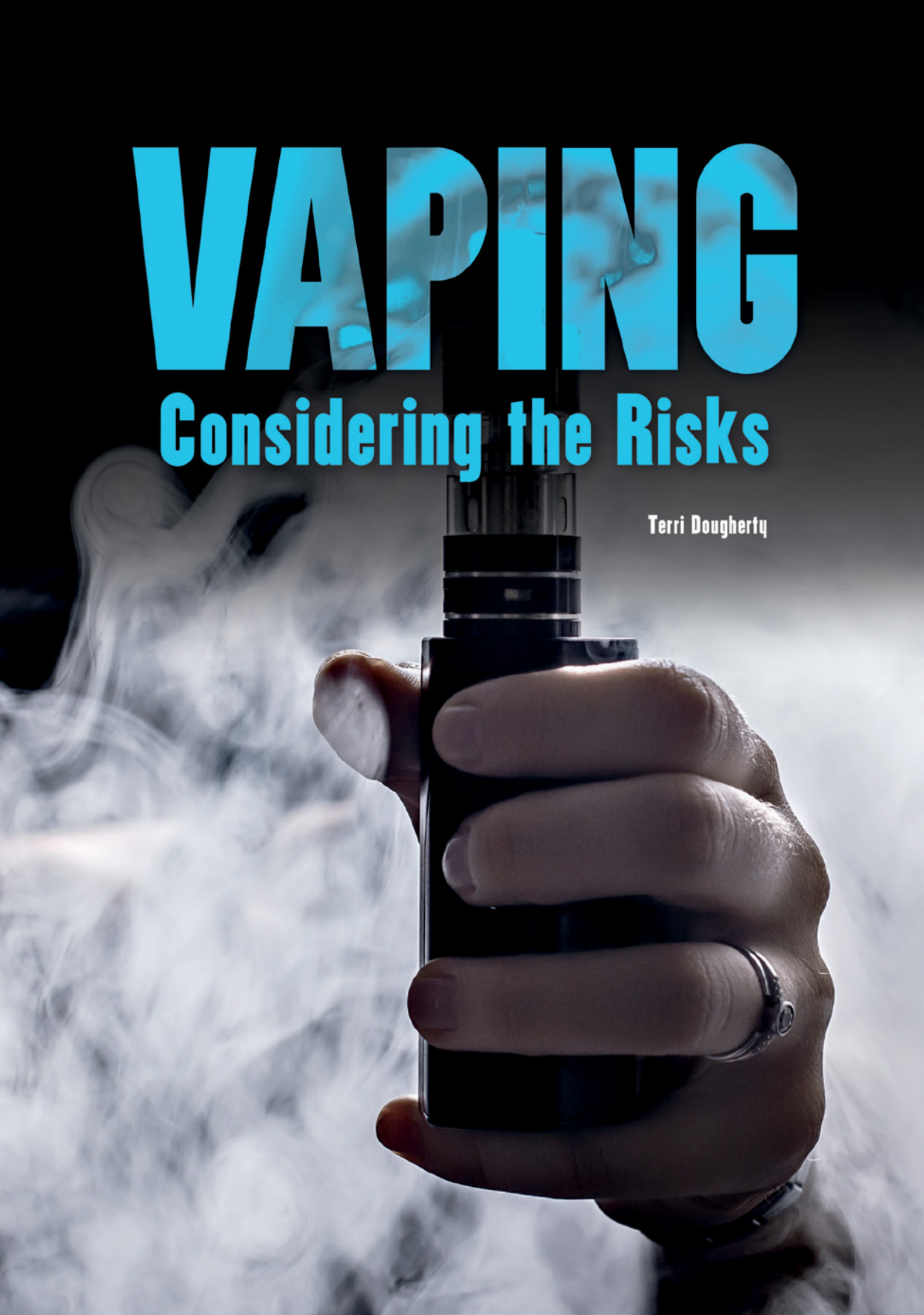


VAPING

Considering the Risks

Terri Dougherty



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VAPING: IMPORTANT EVENTS

2008–2009

The US Food and Drug Administration (FDA) stops e-cigarette shipments from entering the United States and is challenged in court by e-cigarette makers.

2007

E-cigarettes enter the US marketplace.

2010

A court rules that the FDA can regulate e-cigarettes under the Tobacco Control Act.



2005

2007

2009

2011

2013

2011

The FDA announces plans to make rule changes that would place more regulations on e-cigarettes.

2003

Chinese pharmacist Hon Lik invents the e-cigarette.



2014

E-cigarettes surpass conventional cigarettes as the most used tobacco product among youth.

CHAPTER ONE

What Is Vaping?

Vaping gets its name from the vapor created when the e-cigarette device is activated. The device turns on when a person inhales on the mouthpiece or presses a power button. This activates a sensor, which signals a battery to provide energy to a coiled heating element, or atomizer. The heating element quickly warms the liquid (often called vape juice, e-liquid, or e-juice) that is inside a cartridge in the device. The liquid evaporates, becoming a vapor ready to be drawn into the lungs of the person using it and then blown out as a misty cloud.

While e-cigarettes have a distinctly modern vibe, the way they work is not much different from a traditional cigarette. With a traditional cigarette, tobacco is burned, and the smoke is inhaled into the lungs. With vaping, a liquid is heated and turned into an aerosol that is inhaled. Both can be used to deliver nicotine into the body, and this is the most common type of vaping. However, not all e-cigarette users vape nicotine. Some vape marijuana; others simply vape juices made up of water, vegetable glycerin, propylene glycol, and flavorings.

Variety of Vaping Devices

E-cigarettes go by several names. They are also called vapes, vape pens, e-cigs, mods, and pod mods. They can also be referred to as electronic smoking devices or electronic nicotine delivery systems.


Electronic cigarettes come in a variety of shapes and sizes and have evolved since they were first marketed in the early 2000s.

Many early models look much like traditional cigarettes. Sometimes called cigalikes, first-generation e-cigarettes are typically white with a tan mouthpiece. They are not rechargeable or refillable, and they are designed to be thrown away when the e-liquid is used up. Some early models strayed from the norm and resembled a cigar or pipe.

Second-generation e-cigarettes have a distinctive style and look more like a thick pen than a traditional cigarette. They come in a variety of colors and use cartridges to hold the e-liquid. The devices are designed to be reused rather than discarded after the e-liquid is gone. The used cartridges can be removed and refilled with more e-liquid or replaced with another prefilled cartridge. The cartridge is often clear so the user can see how much e-liquid remains. The battery in the bottom of the e-cigarette, which powers the heating element, can be recharged. The cartridge and battery pen can be purchased separately or together in a starter pack.

Next came tank systems. These rechargeable devices hold larger amounts of e-liquid in reservoir tanks. They have a boxy look and can be modified by the user to deliver different amounts of nicotine or flavor. Users can customize the e-liquid, the atomizer that heats the liquid, and the amount of voltage and wattage delivered by the system. For example, some units can be purchased with specialized tanks that have coils designed to heat the e-liquid more quickly and deliver a larger cloud of aerosol or a stronger dose of nicotine.

The most recent generation of e-cigarette devices has a sleek design. These versions are lighter than other e-cigarette styles and resemble USB drives, with a black mouthpiece and brightly colored rectangular body. They use prefilled or refillable pods or cartridges and are often called pod vapes or pod mods. The pods usually contain an e-liquid made of nicotine salts, which are less irritating to the throat than the freebase nicotine used in other e-cigarettes. This allows higher levels of nicotine to be inhaled more easily. A pod typically contains as much nicotine as a pack of regular cigarettes. These vapes are rechargeable so that users need only replace spent cartridges to continue vaping.



Some of the newer e-cigarette devices have a sleek design that resembles a USB drive. These devices use prefilled or refillable pods and are often called pod vapes or pod mods.

An updated version of disposable cigarettes is also available. Some styles are rectangular and look like a pod mod. Other brands have a cylindrical shape like a traditional cigarette. Disposables are marketed as low-cost and convenient, since they do not need to be charged or refilled. After about four hundred puffs, the e-liquid is gone, and the device is then thrown away.

The Origin of E-Cigarettes

E-cigarettes are a relatively new product. An attempt was made to make a battery-powered cigarette as far back as 1963, but the first e-cigarette of the vaping era was created in 2003 by Chinese pharmacist Hon Lik, who was looking to kick a heavy smoking habit. His father had also been a smoker and had died because of his habit. Hon initially tried a nicotine patch to stop smoking. However, when he wore the patch to bed one night, he said it gave him bad dreams. He thought there must be a better way to deliver nicotine gradually to ease his addiction. He decided that a gadget that let him mimic some form of smoking would be a better option. He found a way to heat a nicotine solution in a device that looked like a cigarette, and the e-cigarette was born.

The company Hon worked for began marketing his invention in China in 2004. By 2007 e-cigarettes were available in the United States. They were advertised as an alternative to smoked tobacco products and came in flavors such as vanilla, cherry, strawberry, chocolate, mint, and apple. Small companies sold e-cigarettes online, in shopping mall kiosks, and in some convenience stores. Young people quickly found ways to obtain these devices from friends who were old enough to access them.

Safety Concerns in the United States

At first, e-cigarette importers faced little regulation. Some sold their products to anyone who could afford them regardless of age. Soon, though, e-cigarettes caught the attention of the US Food and Drug Administration (FDA), which makes sure drugs, medical devices, food, and other products are safe to use in the United States. In 2008 and early 2009, the FDA began holding up shipments of e-cigarettes to determine whether they could be regulated as drug delivery systems. In a press release, Margaret A. Hamburg, FDA commissioner, said, “The FDA is concerned about the safety of these products and how they are marketed to the public.”⁵ The FDA was worried that the products could contain ingredients known to be toxic to humans and that e-cigarettes were leading to an increase in nicotine addiction in young people. “The agency is concerned that e-cigarettes can increase nicotine addiction among young people and may lead kids to try other tobacco products, including conventional cigarettes which are known to cause disease and lead to premature death,”⁶ the release said. The FDA pointed out that due to a lack of studies submitted to the agency on product safety, consumers did not know how much nicotine or other chemicals they were inhaling when they used e-cigarettes.

“The agency is concerned that e-cigarettes can increase nicotine addiction among young people and may lead kids to try other tobacco products, including conventional cigarettes which are known to cause disease and lead to premature death.”⁶

—US Food and Drug Administration

E-Cigarettes Should Be Taxed

The Public Health Law Center at Mitchell Hamline School of Law believes that taxing e-cigarettes would reduce the number of people who use them and therefore benefit public health. It has created guides for organizations interested in putting tobacco control measures, like taxes, in place. As of 2022 thirty US states have implemented some type of e-cigarette taxation. Below is an excerpt from one of the guides.

Increasing price is one of the most effective ways to reduce commercial tobacco initiation and increase quit attempts. Studies have shown that increasing the price of e-cigarettes by 10 percent leads to a 10 to 18 percent reduction in demand or consumption of e-cigarettes. Raising the price of tobacco products has the greatest impact on youth, who are particularly price sensitive. Taxes can also generate revenue for commercial tobacco control and public health work.

Because most e-cigarettes contain nicotine, excluding them from tobacco taxes creates a de facto discount and may encourage initiation and increased use. Although some argue that e-cigarettes are effective cessation products, the U.S. Food and Drug Administration has not approved any e-cigarettes for use in cessation and it is illegal for manufacturers to claim their tobacco products are approved cessation devices.

Public Health Law Center, "Taxing E-Cigarette Products," 2021. www.publichealthlawcenter.org.

However, the products were so new and different that it was not clear to everyone how they should be regulated. The user was not technically smoking because the device was not lit like a traditional combustible cigarette. The devices produced aerosol rather than smoke. This novelty made it difficult even for the FDA to figure out what limits should be placed on how e-cigarettes were sold and marketed. As a result, the devices did not have health warnings on their packages like traditional cigarettes did.

Because the FDA had the power to regulate drugs, including products designed to help people stop smoking, the agency de-

E-Cigarettes Should Not Be Taxed

When a tax on e-cigarettes was considered by Congress in 2021, Kenneth Warner, a former dean of the University of Michigan School of Public Health, wrote an article opposing the tax. In his view, if e-cigarette taxes make them comparatively more costly than tobacco cigarettes, people—including teens—will switch to traditional cigarettes, which are clearly healthier. Warner writes:

By substantially raising the price of e-cigarettes—by about 25 percent, for a typical user—the tax will certainly discourage youths from using these products. That benefit comes at a steep public health cost, however: The tax will increase cigarette smoking among adults—and quite possibly teenagers, too. And any increase in smoking, which kills about 480,000 Americans annually, will lead to higher rates of disease and death in this country.

The problem with the tax is simple. Economic studies demonstrate that cigarettes and e-cigarettes are substitutes for each other. If cigarettes become more costly relative to e-cigarettes, some cigarette smokers will switch to e-cigarettes. Conversely, if e-cigarette prices rise relative to cigarette prices—as they will under the legislation’s tax provision—some people will smoke cigarettes who would otherwise have used e-cigarettes.

Kenneth Warner, “Build Back Better’s E-Cigarette Tax Will Make People Smoke More,” *Washington Post*, November 22, 2021. www.washingtonpost.com.

cided it could place controls on e-cigarettes under this umbrella. It required e-cigarette makers to have their products approved by the agency before they could be sold in the United States.

An Important Ruling

Companies selling e-cigarettes were not happy when the FDA began holding up shipments of their products. They took the agency to federal court, saying that the FDA did not have the power to do this. They argued that they were not selling e-cigarettes to help people stop smoking. They were selling them to people who enjoyed using them for recreation.

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RELATED ORGANIZATIONS AND WEBSITES

American Nonsmokers' Rights Foundation

<https://no-smoke.org>

The American Nonsmokers' Rights Foundation creates programs that educate the public about the effects of secondhand smoke. Its website includes information on states and cities with laws that regulate the use of electronic cigarettes in places where smoking is banned.

American Vaping Association

www.vaping.org

The American Vaping Association is a nonprofit pro-vaping organization. It supports policies that encourage people who smoke to switch to electronic cigarettes.

Become a Smokefree Teen

<https://teen.smokefree.gov>

This site from the National Institutes of Health provides articles and information on how to kick the vaping habit. It offers a variety of tools, including texts, apps, and a quit plan. It also offers the opportunity to speak to an expert about breaking the vaping habit.

E-Cigarettes & Vaping, American Lung Association

www.lung.org/quit-smoking/e-cigarettes-vaping

The American Lung Association, an organization dedicated to preventing lung disease, provides information on how vaping impacts lung health. This site includes links to information on how to stop smoking or vaping, as well as how to support someone who is quitting.

Electronic Cigarettes, Centers for Disease Control and Prevention

www.cdc.gov/tobacco/basic_information/e-cigarettes

The Centers for Disease Control and Prevention presents basic information about electronic cigarettes and their health effects. Fact sheets in English and Spanish offer information about the risks of e-cigarette use by young people.

FOR FURTHER RESEARCH

Books

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