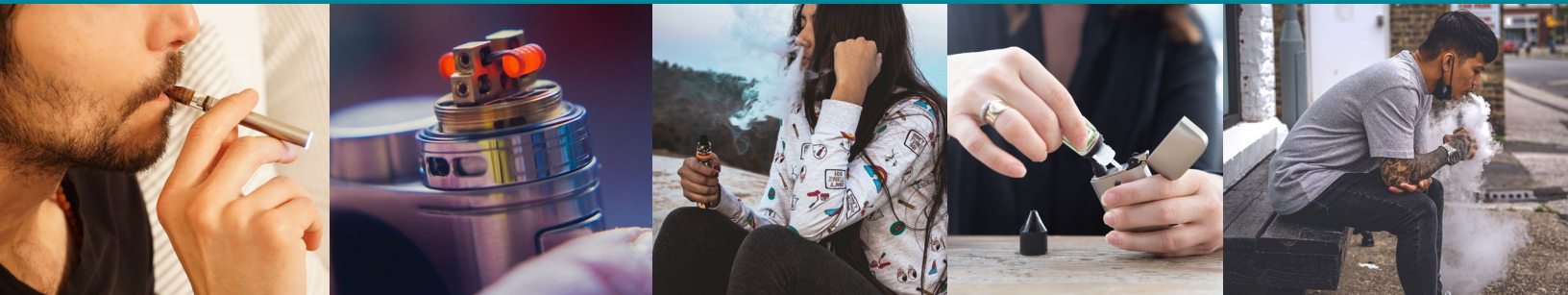




NATIONAL INSTITUTE OF JUSTICE

FIVE THINGS ABOUT

VAPING AND E-CIGARETTES



Electronic cigarettes (e-cigarettes) have rapidly expanded in popularity since first entering the U.S. market in 2006. E-cigarettes convert a liquid solution into an aerosol that users inhale — a process known as vaping. Inhaling the heated, condensed aerosol allows the drug to rapidly absorb into the blood system and penetrate the deep lung tissue. Vaping has emerged as a serious public health issue that has dramatically changed the substance use landscape. Here is what vaping research has taught us so far:

1. Personal vaporizers are being used to inhale drugs other than nicotine.

Pod-based e-cigarettes facilitate discreet vaping, helping users to easily consume nicotine and other drugs in public spaces, such as schools, while making their detection difficult. Personal vaping devices can also be modified to deliver THC (the most prevalent intoxicating compound in cannabis), methamphetamine, fentanyl, and synthetic cannabinoids.¹ In fact, a third of youths who use personal vaping devices vape cannabis.²

2. E-cigarettes can deliver most drugs of abuse effectively and with increased potency.

Vaping allows people to absorb more of a drug into the body than smoking because less of the drug is lost through sidestream smoke (the smoke that escapes from traditional smoking materials as the product continues to burn when the user is not actively inhaling).³ The compounds are only released when the user actively inhales. Vaping also reduces the amount of drug

that is destroyed or changed into something else via the combustion process found in traditional smoking.

Researchers have found that vaping devices can be modified to increase the dosage, increase the volume of “puff,” and vaporize solids such as plant materials and drug-containing waxes.⁴ Though often thought of as less harmful than smoking, modified vaping devices can create even greater risk.⁵

3. Users often unknowingly consume unlabeled solvents and other chemicals through vaping.

The e-liquids used to fill e-cigarettes (called e-juice or vape juice) can contain unknown compounds, such as an industrial solvent that may cause serious health effects like acute lung injury.⁶ E-liquids may also contain vitamin E, which can lead to severe lung tissue damage when vaped. Other illicit or uncontrolled substances, such as synthetic cannabinoids, are present in some e-liquids and can be difficult to detect. In addition, concentration claims on labels are often inaccurate.⁷ Finally, e-liquids often contain ethanol as an unlisted ingredient, and the health and safety implications of this are not yet well understood.⁸

Voukaih/unsplash, Elsa Olofsson/unsplash.jpg, Edgar Martínez/Pexels, Ryan Grice/Unsplash, and Vaporesso/Unsplash

4. E-cigarette technology has evolved, and consumer demand has expanded faster than regulatory action, leaving significant gaps in consumer knowledge and awareness.

The rapid increase in vaping, particularly among youths, has been attributed to aggressive marketing, easy-to-use devices, youth-friendly designs and flavors, and the perception that vaping is safer than smoking.⁹ Because the market has expanded so rapidly in recent years, it has been difficult for regulatory agencies to keep up. As a result, consumers may not be aware of all the potential risks associated with e-cigarettes, particularly as new products and technologies emerge. The Food and Drug Administration has established regulations for e-cigarettes and e-liquids, but not all e-liquids on the market adhere to these guidelines or are subject to regulatory oversight. Loopholes in regulatory language, particularly those that restricted flavoring chemicals, have created confusion for consumers. Also, a lack of enforcement has allowed manufacturers to include unlabeled compounds in their products with no transparency to the consumer.

5. For effective prevention and treatment purposes, public health and public safety stakeholders must understand the impact of vaping in their communities.

Pediatricians, substance use treatment counselors, school personnel, and law enforcement should work together to address the impact of vaping. Health professionals should ask patients about their vaping habits to assess negative health outcomes. School personnel and substance use treatment counselors need to understand discreet vaping, especially when it's used to consume drugs other than nicotine. Law enforcement officers need to understand the value of collecting e-cigarette and vaping paraphernalia as evidence.

Looking for Help?

Helping Teens Quit — <https://www.lung.org/quit-smoking/helping-teens-quit>

Law enforcement agencies should also be aware that e-liquids can contain ethanol, which may impact the results of drug tests that evaluate ethanol consumption. Research is currently underway to evaluate the production of ethanol biomarkers from vaping compared to drinking.

Related NIJ Awards

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