

# Connecticut Department of Public Health Fact Sheet

## Tobacco Control Program | July 2023

### ELECTRONIC VAPOR PRODUCTS

**Background:** Electronic vapor products or electronic nicotine delivery systems (ENDS) are referred to by a variety of names including e-cigarettes or e-cigs, vapes, vape or hookah pens, mods, tank systems, Pod systems or disposables. Many are made to look like regular cigarettes, cigars, or pipes, while others resemble pens, USB sticks, or other everyday items. Liquid used in these products typically contains nicotine, flavorings, and other chemicals and is aerosolized by a battery-powered heating element in the device. Users inhale this aerosol into their lungs. ENDS can also be used to deliver cannabis and other drugs. Use of these products is commonly referred to as vaping, 'hitting' or 'ripping'.



#### What Are the Risks Associated with ENDS Use...?

- Aerosol from ENDS products can contain and emit nicotine, carcinogens, heavy metals, and other toxic substances, including formaldehyde<sup>1,2</sup>
- According to the US Surgeon General, the nicotine in ENDS is highly addictive and poses a danger to youth, women who are pregnant, and fetuses.
- Youth can become addicted with only a few puffs, and use of these products harms their brain development<sup>1</sup>
- Evidence suggests that completely substituting these products for combustible tobacco cigarettes reduces exposure to toxicants and carcinogens, although long-term health effects of ENDS are still unknown<sup>2</sup>
- More research is needed to determine if ENDS are effective for tobacco use cessation; they are not a [Food and Drug Administration](#) (FDA) approved aid for quitting<sup>3</sup>
- Cigarette smokers who try to switch to vapes to reduce their use of tobacco products but end up using both products are known as 'dual users' and then have to try to quit use of both<sup>4</sup>



#### Vaping-Associated Lung Injury

- Reports of hospitalizations for vaping-associated lung injuries were first documented in 2019, which led to a national outbreak investigation.
- Most patients were under the age of 35 and reported use of ENDS containing tetrahydrocannabinol (THC), the psychoactive ingredient found in cannabis.



- [The Centers for Disease Control and Prevention](#) and the FDA worked with all 50 states to determine the cause(s) of the lung injury outbreak and found Vitamin E Acetate in lung fluid samples from over 50 of the injured patients.
- Oil and other triglycerides were found in many of the samples, though no single substance has been tied to all cases.

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## ENDS Use in Connecticut

### Youth

- ENDS are the most prevalent form of tobacco product used by high school youth<sup>5</sup>
- Nearly 11% of high school students reported past 30-day use of vaping products, while just over 1% smoked cigarettes<sup>4</sup>
- Vaping increases the risk of youth and young adults using combustible tobacco<sup>2,6</sup>
- About 60% of high school students who used ENDS in the last 30 days, reported using the device to vape cannabis<sup>5</sup>



### Adults

- About 13% of adults have tried ENDS at least once in their lifetime, including nearly 23% of adults 18-24 years old<sup>7</sup>
- The percentage of adults who report using electronic vapor products some days or every day decreases significantly as age increases:<sup>7</sup>
  - 20.0% among 18-24 year-olds
  - 12.6% among 25-54 year-olds
  - 8.3% among 55 year-olds or older
- Nearly 30% of adults who vape also smoke conventional cigarettes<sup>7</sup>



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## Tobacco Industry Oversight

- Major tobacco companies produce their own ENDS product lines and are marketing these products with techniques previously used to sell cigarettes.
- There are nearly 1,700 stores registered to sell electronic vapor products in Connecticut, including convenience stores, gas stations, supermarkets, and pharmacies.
- Since August 2016, the FDA regulates the manufacture, import, packaging, labeling, advertising, promotion, sale, and distribution of ENDS and their components, except for accessories.



- During January of 2020, FDA prioritized the enforcement of flavor restrictions on prefilled cartridges and pods based on their popularity with youth; between January 2020 and December 2022, the sales of disposable ENDS more than doubled<sup>9</sup>
- By September 2020, ENDS manufacturers were required to submit product applications to FDA for review to authorize or deny products after standard evaluation and assessment of risk, as of June 2023, FDA has authorized the marketing of 45 products, including 23 tobacco-flavored e-cigarette products and devices<sup>10</sup>

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### Additional Facts About ENDS

- Many ENDS devices are rechargeable and refillable, allowing users to create their own ‘e-juice’ flavor and vary the nicotine levels.
- E-liquids may have a high level of nicotine which can be poisonous, especially for young children.
- Defective vaping device batteries have caused some fires and explosions, a few of which have resulted in serious injuries.
- A CDC study found that 99% of ENDS sold in assessed venues in the US contained nicotine<sup>7</sup>
- Some of the ingredients in ENDS aerosol could also be harmful to the lungs in the long-term<sup>8</sup>
- Intentional or accidental exposure to e-liquids via ingestion, inhalation, or absorption through the skin or eyes can result in adverse health effects<sup>2</sup>
- There are thousands of ‘e-juice’ flavors, many of which are candy- or fruit-flavored, making them highly appealing to youth<sup>1</sup>

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### References

- <sup>1</sup>U.S. Department of Health and Human Services. *E-cigarette Use Among Youth and Young Adults: A Report of the Surgeon General* 2016.
- <sup>2</sup>National Academies of Sciences, Engineering, and Medicine. 2018. *Public Health Consequences of E-Cigarettes*. Washington, DC: The National Academies Press. doi: 10.17226/24952.
- <sup>3</sup>U.S. Department of Health and Human Services. *Smoking Cessation. A Report of the Surgeon General*. Atlanta, GA. 2020, and U.S. Preventive Services Task Force. *Behavioral and Pharmacotherapy Interventions for Smoking Cessation in Adults, including Pregnant Women* 2015.
- <sup>4</sup>Connecticut Quitline
- <sup>5</sup>State of Connecticut Department of Public Health; Connecticut Youth Risk Behavior Survey, 2021.
- <sup>6</sup>Bold KW, Kong G, Camenga DR, et al. *Trajectories of E-Cigarette and Conventional Cigarette Use Among Youth*. *Pediatrics* 2018; 141(1):e20171832.
- <sup>7</sup>State of Connecticut Department of Public Health; Connecticut Behavioral Risk Factor Surveillance System Survey, 2021.
- <sup>8</sup>Marynak KL, Gammon DG, Rogers T, Coats EM, Singh T, King BA. *Sales of Nicotine-Containing Electronic Cigarette Products: United States, 2015*. *American Journal of Public Health* 2017; 107(5): 702-705.
- <sup>9</sup>Ali FR, Seidenberg AB, Crane E, Seaman E, Tynan MA, Marynak K. *E-cigarette Unit Sales by Product and Flavor Type, and Top-Selling Brands, United States, 2020–2022*. *MMWR Morb Mortal Wkly Rep* 2023;72:672–677.
- <sup>10</sup>U.S. Food and Drug Administration. *Premarket Tobacco Product Marketing-Granted Orders*. 2023. Available via <https://www.fda.gov/tobacco-products/premarket-tobacco-product-applications/premarket-tobacco-product-marketing-granted-orders>



For More Information, Contact:

Connecticut Department of Public Health | Tobacco Control Program

410 Capitol Avenue, PO Box 340308, MS #11HLS

Hartford, CT 06134-0308

Call: 860-509-8251 or visit: [www.ct.gov/DPH/Tobacco](http://www.ct.gov/DPH/Tobacco)



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