



Electronic Cigarettes (e-cigs) and other “vaping” devices (such as JUUL) are battery-operated products designed to deliver nicotine, flavor and other chemicals. They turn chemicals, including highly addictive nicotine, into an aerosol that is inhaled by the user. Most e-cigs are manufactured to look like conventional cigarettes, cigars, or pipes. Some resemble everyday items such as pens or USB memory sticks.

### Health Effects

A congressionally mandated panel from the National Academy of Sciences, Engineering, and Medicine examined more than 800 peer-reviewed scientific studies. In its report, the panel concluded that evidence suggests that while e-cigarettes are not without health risks, they are likely less harmful than combustible cigarettes.

Long-term health effects of vaping are unknown. Some studies have identified harmful chemicals in vaping devices. Vapes with THC can be deadly.

### Why Is Youth Vaping a Concern?

According to a study in *Pediatrics*, children who vape are exponentially more likely to smoke cigarettes daily when they are young adults. (~3x more likely) A study in the *Journal of the American Medical Association* found youth who vaped were nearly 4 times more likely to smoke.



Nicotine alters the adolescent brain. It increases their risk for:

- Impulsivity.
- Mood disorders.
- Stunted learning and recall.
- Diminished enjoyment of activities they normally adore.

### How many vape?

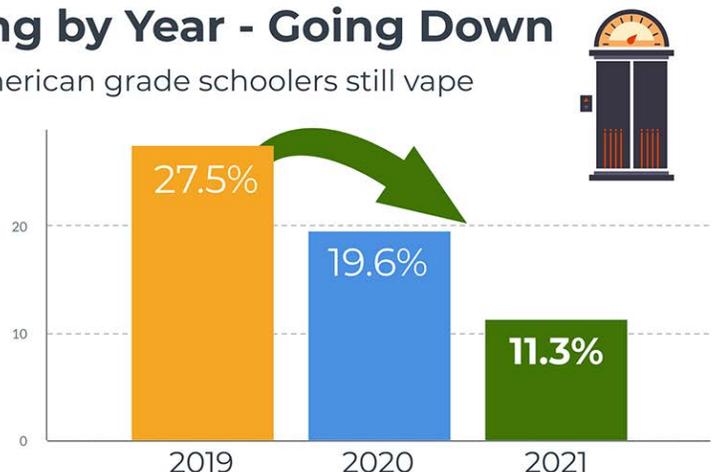
Approximately 4.4% of American adults vape.

In 2020, 221.9 million units of e-cigarette products were sold in U.S. retail stores nationwide. This is an increase of 173.7% from 2015.

Approximately 11.3% of teens vape.

### Teen Vaping by Year - Going Down

But 2 million American grade schoolers still vape





### **Does vaping lead to quitting smoking?**

- According to the US Preventive Services Task Force review of published research, it is unclear if vaping is an effective way to quit smoking.
- In a UW-CTRI study, vaping can reduce nicotine dependence, but it is unclear if patients would quit vaping.
- A British study published in the *New England Journal of Medicine* found similar results.
- In its report, "Nicotine Without Smoke: Tobacco Harm Reduction," the Royal College of Physicians in the United Kingdom recommended promoting both quit-smoking medications and e-cigarettes as ways to help people avoid the harms caused by smoking combustible tobacco products. The FDA has not made such recommendations.

### **Research Continues**

UW-CTRI continues to conduct research on vaping. The first UW-CTRI study on smoking and vaping found no clear evidence that vaping e-cigs reduced smoking or lowered carbon monoxide levels in participants. The second study did find that dual users of e-cigs and regular cigarettes smoked fewer cigarettes per day, but were taking in the same amount of nicotine. UW is also conducting a study on the acute and long-term effects of vaping.