

# Four things to know about vaping

September 12 2019, by Issam Ahmed

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Smoker Jeremy Wong uses an e-cigarette at The Vaping Buddha, a boutique vaping shop in South San Francisco, California

The Trump administration has announced it will soon ban flavored e-cigarette products to deter an ever growing number of young users.

It comes amid an outbreak of vaping-linked severe pulmonary disease that has killed six people and sickened hundreds.

Here are four things to know about vaping.

## **Is it safer than smoking?**

The truth is, we don't know.

Unlike tobacco cigarettes, e-cigarettes don't "burn." The devices, available in the United States since 2006, work instead by heating a liquid that turns into vapor and is inhaled.

Therefore e-cigarette smokers are not exposed to the estimated 7,000 [chemical compounds](#) in regular cigarettes, and there is no known link between vaping and cancer.

The liquids however contain highly addictive nicotine.

There are also a variety other compounds classed as "potentially harmful" according to a 2018 study compiled by the US National Academy of Sciences.

And there is "substantial evidence" that the vapor contains traces of metals, either from the coil used to heat the liquid or from other parts of the device. Some flavorings also contain diacetyl, a chemical linked to a serious but relatively rare lung disease.

While most of existing scientific literature holds that vaping is less toxic than smoking, "the implications for long-term effects on morbidity and mortality are not yet clear," and would require decades of more data and studies to know for certain, said the NAS report.

But the bulk of this research was carried out before the current outbreak of severe lung disease in the United States, with more than 450 cases currently under investigation.



Colorful boxes of e-liquids on display at a vape store, complete with nicotine warning labels

## The US investigation

The patients' initial symptoms included breathing difficulty and chest pain before some were hospitalized and placed on ventilators.

Several teens were placed in medically-induced comas, including one



who may need a lung transplant if he recovers, according to his doctors.

New York's health department is focusing its probe on counterfeit cannabis cartridges containing vitamin E oil, which is harmful when inhaled. Federal authorities however have yet to identify a single substance common to all cases.

Some medics have reported seeing patients developed acute lipoid pneumonia, a non-infectious form of respiratory ailment that occurs when oils or fat-containing substances enter the lungs, a potential clue for what is driving the illness.

That said, it's unclear why these cases have only been reported in the United States, and whether they are even new, or only being recognized after earlier misdiagnoses.



This Los Angeles vaping store advertises the main brands offered by the e-cigarette industry

## **Local authorities acting**

In June, San Francisco became the first US city to ban the sale and manufacture of electronic cigarettes, and has since been followed by Richmond, Virginia.

Market leading maker JUUL's response to the San Francisco ban was that it would "drive former adult smokers who successfully switched to vapor products back to deadly cigarettes."

That claim is true, according to a study in the *New England Journal of Medicine* on 886 patients in Britain's National Health Service published in February.

The one-year abstinence rate among [e-cigarette](#) users was 18 percent, compared to 9.9 percent among a group who used other nicotine replacement products like gum or patches.

But the conversions are not all in one direction.

Recent studies have found that, among adolescents, e-cigarettes provide a gateway toward full-fledged smoking.

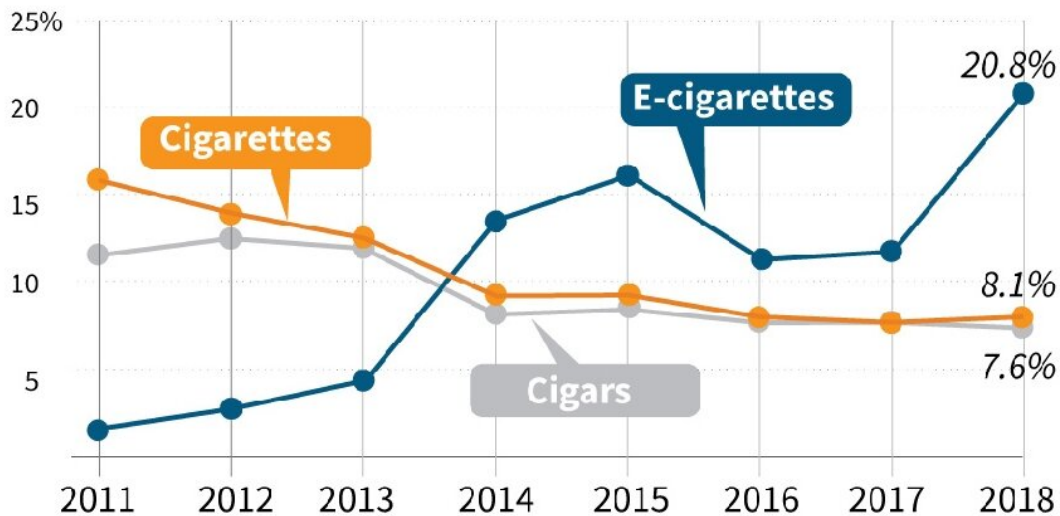
# Smoking and vaping in US high schools

Rising rate for e-cigarettes, 2011 -- 2018

	Estimated total	Rate*	Rate by racial group		
			White	Black	Hispanic
<b>E-cigarettes</b>	<b>3.05 million</b>	<b>20.8%</b>	26.8%	7.5	14.8
<b>Cigarettes</b>	<b>1.18 million</b>	<b>8.1</b>	9.9	3.2	7.2
<b>Cigars</b>	<b>1.10 million</b>	<b>7.6</b>	7.9	9.2	7.3

\* Percent of students who had used these products in the 30 days prior to survey

## Prevalence



Source: CDC Vital Signs: Tobacco Product Use Among Middle and High School Students — United States, 2011–2018

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Charts showing the prevalence of e-cigarettes and conventional cigarettes in the US high schools

## Regulation or prohibition?

The vaping industry is adamant that it doesn't want underage people using its products, and says that more must be done to prevent their sale. E-cigarettes are already illegal to sell in the US to people under 18 or 21, depending on the state.

But bans also deprive adults addicted to smoking of a valuable tool to quit, the industry says.

"To deprive those smokers from access to e-cigarettes, which we know are substantially less harmful, I think is a terrible decision," Neil McKeganey, of the UK-based Center for Substance Use Research—which is partly funded by the industry—told AFP.

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