

What we know about the mysterious vaping-linked illness and deaths

(This article has been modified/shortened to fit our preferred length.)

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Health officials, lawmakers and parents have been raising alarms about vaping for a couple of years, warning that products touted as healthier alternatives for smokers are instead drawing in young people with fun flavors and slick marketing — concerns the Trump administration cited last month while announcing plans to ban most flavored e-cigarettes.

The caution has taken on new urgency in recent months as authorities scramble to understand a rash of mysterious [vaping-linked illnesses](#) that have put healthy people in the hospital with serious lung diseases. The latest federal data show there are [at least 1,888 cases](#) across every state but Alaska connected to vaping or e-cigarettes, which are battery-powered devices that can look like flash drives and pens and that mimic smoking by heating liquids containing substances such as nicotine and marijuana. At least 37 deaths in 24 states have been confirmed, the Centers for Disease Control and Prevention says.

How did the concerns start?

E-cigarettes have been sold for more than a decade, but reports of vaping-linked illness started proliferating this year. An investigation by state health departments in Illinois and Wisconsin traced the first signs of illness among 53 tracked patients to April. The victims — mostly young men with a median age of 19 — overwhelmingly ended up in the hospital, many under intensive care. A third went on respirators.

Patients typically experienced coughing, chest pain or shortness of breath before their health deteriorated to the point that they needed to be hospitalized, according to the CDC. Other reported symptoms include nausea, vomiting, diarrhea, fatigue, fever and weight loss.

Many victims have ended up with acute respiratory distress syndrome, a life-threatening condition in which fluid builds up in the lungs and prevents the oxygen people's bodies need to function from circulating in the bloodstream.

The Washington Post's Lena Sun [chronicled](#) one Utah man's experience with the disease:

Within days, Alexander Mitchell had gone from being a 20-year-old hiking enthusiast to being kept alive by two machines forcing air into and out of his lungs and oxygenating his blood outside of his body.

"He went from being sick to being on death's door in literally two days," recalled his father, Daniel Mitchell, as he struggled to grasp the unthinkable. "The doctor said he was dying. In all honesty, I was preparing to plan a funeral for my child. I wept and wept for this boy."

... Six weeks after he left the hospital, Mitchell has resumed hiking. But with his lung capacity diminished by 25 percent, he doesn't go for long or as often as he used to. He also struggles with his short-term memory. Doctors say they're not sure whether he will fully recover.

The first death from a vaping-related illness was [reported](#) Aug. 23 in Illinois. At that time, federal and state officials were investigating almost 200 cases of the baffling sickness in 22 states, according to the CDC.

Oregon officials announced a second death, saying a middle-aged adult fell seriously ill after vaping with marijuana oil. It was the first casualty linked to a store-bought product.

The list of states with deaths has grown quickly since. Officials [say](#) they are not sure why the afflictions are just now surfacing. "We're all wondering if this is new or just newly recognized," the CDC's Dana Meaney-Delman said recently.

Some argue that doctors may have missed previous cases: Susan Walley, chair of the tobacco control section of American Academy of Pediatrics, [told](#) BuzzFeed News that based on her experience, young people might not recognize their use of common e-cigarette brands such as Juul as "vaping" when pediatricians ask.

Others are skeptical that older cases could have gone under the radar.

"You have a lot of otherwise healthy young people suddenly arriving with fast-developing pneumonia in emergency rooms — that will raise red flags in a hurry," Sean Callahan, a physician at the University of Utah, told BuzzFeed. "This is new."

Who is affected?

As of October 29, 2019, officials counted [at least 1,888 cases](#) of vaping-related injuries in every state except Alaska as well as in the District of Columbia the U.S. Virgin Islands, according to the CDC.

Thirty-seven deaths have been confirmed in 24 states and the District of Columbia: Alabama, California (3), Connecticut, Delaware, Florida, Georgia (3), Illinois (2), Indiana (3), Kansas (2), Massachusetts, Michigan, Minnesota (3), Mississippi, Missouri, Montana, Nebraska, New Jersey, New York, Oregon (2), Pennsylvania, Tennessee (2), Texas, Utah, and Virginia.

In New York, a [17-year-old male from the Bronx](#) was the first teenager to die. The teen was hospitalized in early September with a vaping-related respiratory illness and readmitted in late September. He died Oct. 4. New York health officials are investigating the products he vaped.

The U.S. Army is tracking two cases in active-duty soldiers, according to a statement from the U.S. Army Public Health Center. The soldier in the United States has been treated and released. The other soldier, stationed overseas, is still being treated. The statement provided no additional details.

Most of the patients who have fallen sick and for whom officials have demographic information are male and young: Almost 80 percent of the patients are under 35, and their median age is 24, according to the CDC. But until the report of the New York teen's death, the deaths were older adults. The median age of patients who died is 53. Their ages range from 17 to 75.

A handful of known patients have recovered only to be quickly readmitted to the hospital, the CDC [has said](#). Such relapses have occurred between five and 55 days after the discharge, according to the agency's principal deputy director, Anne Schuchat. While some of those rehospitalized had started vaping again, others may have faced a heightened risk of illness due to their lung injuries or steroid treatments, she said.

How common is vaping?

Vaping has [risen](#) dramatically in popularity around the world — from 7 million users in 2011 to 35 million a few years ago — as smoking rates decline.

Tobacco and cigarette company Altria Group estimated nearly 14 million nicotine e-cigarette users in the United States earlier this summer. Another study found [last year](#) that more than half of American adult e-cigarette users are under 35 years old, stoking concerns about vaping among young people.

Studies showing vaping's growing popularity among teens sparked particular worry last year. About 37 percent of 12th-graders in the United States reported vaping over the past year in one government-funded [survey](#) released in December — nearly a 10 percentage-point increase from 2017. Nicotine vaping rates among high school seniors doubled in the past month, and younger students also reported higher use; marijuana vaping rose, too. A [CDC report](#) found last year that e-cigarettes were the most popular product among the nearly 5 million high school and middle school students who used tobacco within a 30-day period.

Vaping's popularity among students [continued](#) to increase this year, according to preliminary data that found 1 in 9 high school seniors say they vape near-daily — a figure that researchers say suggests nicotine addiction.

Why were e-cigarettes controversial before the vaping-linked illness reports?

Mysterious illnesses aside, many have accused e-cigarette manufacturers of exposing young people to addictive nicotine and luring them toward smoking. The National Academies of Science, Engineering and Medicine say they found “substantial evidence” that youths who try vaping are more likely to use conventional cigarettes. Advocates of vaping sales bans also cite research on nicotine's effects on youth brain development.

Last year, then-FDA Commissioner Scott Gottlieb called teenage vaping an “epidemic” as he announced a crackdown on more than 1,300 entities allegedly selling e-cigarettes to minors. He threatened to ban the flavored vaping liquids that have drawn so much scrutiny for their appeal to young people – unless e-cigarette manufacturers such as Juul Labs worked to substantially curb underage use.

E-cigarette makers have lobbied aggressively against new regulations making good on that threat and argue that their products can help smokers quit while giving those addicted to nicotine a safer option than burning tobacco. They say they’re working to address underage vaping and warn that an outright ban could just replace regulated sales with a black market.

The CDC agrees that e-cigarettes can help smokers who substitute them for regular tobacco products, and health professionals say vaping to be safer than traditional smoking, which kills 8 million people per year, according to the World Health Organization. The debate over vaping regulations has split the public health community, experts say, as some cite harm reduction for smokers while others emphasize the threat to youths. England’s public health agency cites estimates that the practice is 95 percent less harmful than smoking.

But given that the FDA has yet to vet vaping products, experts caution that the long-term consequences of using e-cigarettes remain unclear.

Please answer the following questions:

1. How many cases of lung diseases associated with vaping have been reported (as of Oct 29, 2019)?

How many states are involved?

How many deaths have occurred?

2. What are the early symptoms associated with this phenomenon?

Describe acute respiratory distress syndrome.

3. Summarize Alex Mitchell’s case.

4. What are the demographics for the typical patient?

5. What is your opinion of the following statistics presented in the article:

37% of 12th graders reported vaping over the past year –

1 in 9 high schoolers report vaping almost daily –

6. Do you feel that banning flavored vaping liquids will help cut back on teen vaping?