

Vaping related lung injury

What we know and don't know about the potentially fatal lung problem associated with e-cigarettes in the United States

Known

As of Oct 1

1,080 cases in 48 states (plus US Virgin Is.)

18 deaths in 15 states

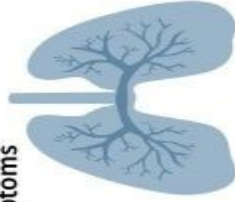
- ▲ All patients have known history of vaping
- ▲ Most of the patients report history of using THC-containing products (*psychoactive ingredient of marijuana*)
- ▲ Approx 70% are males
- ▲ 21% are 18 to 20 years old

Unknown

Specific chemical exposure causing the injuries
No single product or substance linked to all cases

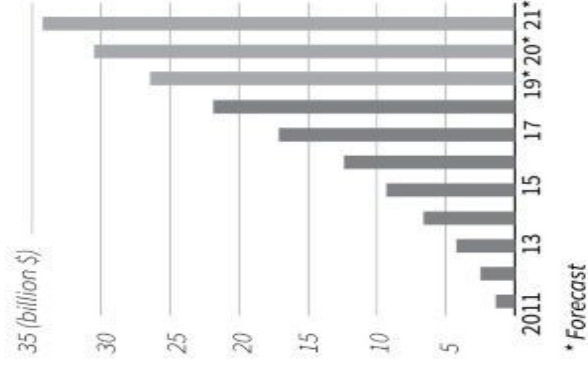
Source: cdc/gsthr.org

Symptoms



- Cough
- Shortness of breath
- Chest pain
- Nausea
- Vomiting
- Diarrhea
- Fatigue
- Fever
- Abdominal pain

Global market size for vapour products



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WATCHING THE WORLD



READING PROJECT

No. 01

Prof. Daniel Nicolás

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OCTOBER 3, 2019 The number of vaping-related lung injury cases has jumped to 1,080 and deaths to 18, but the specific causes of the illnesses are still not clear, the Centers for Disease Control and Prevention reported Thursday.

PROJETO "WATCHING THE WORLD" (2019)

VAPING-RELATED LUNG INJURY CASES SURGE TO 1,080; DEATHS RISE TO 18

The latest CDC figures coincide with a new Mayo Clinic study that says "toxic chemical fumes," not oils, may be to blame for vaping-related illnesses.

The CDC report, from 48 states and the U.S. Virgin Islands as of Tuesday, represented a significant increase from last week's total of 805 vaping-related lung cases and 12 deaths.



Anne Schuchat, principal deputy director of the CDC, said the number of cases are increasing at a "brisk pace" and involve "really serious injuries."

She said the CDC recommends that people refrain from using vaping products, particular those using THC, the principal psychoactive compound in marijuana. Nearly four in five cases involved people vaping products with THC, alone or with nicotine.

"We really have the feeling right now that there might be a lot of different, nasty things in e-cigarette or vaping products," Schuchat said.

The latest survey found that 70% of the lung injury cases involved males and 37% were from users under 21 years of age. The median age of those who died was 49.5, but even young vapers might face long-term injuries, Schuchat said.

"These are really serious injuries in the lungs and we don't know how well people will recover from them, whether lung damage may be permanent," she said.

While the CDC said the cause of the illnesses is still under investigation, the Mayo Clinic study says the cause may be "toxic chemical fumes."

The findings, published Thursday in the New England Journal of Medicine, were based on the biopsies of 17 people with confirmed or possible cases of vaping-related lung injuries, including two patients who died.

All of the subjects had a history of vaping; 71% of them used marijuana or cannabis oils.

Schuchat said the Mayo Clinic study is "quite helpful" but that the probe into the causes is still in its "early days."



Early symptoms of the lung injuries include coughing, shortness of breath, fatigue, chest pains, nausea, vomiting and diarrhea.

Despite speculation by some researchers that the injuries might be linked to an accumulation in the lungs of fatty substances known as lipids, the Mayo Clinic study says none of the cases showed any evidence of lipid pneumonia.

"While we can't discount the potential role of lipids, we have not seen anything to suggest this is a problem caused by lipid accumulation in the lungs," said Brandon Larsen, a surgical pathologist at the Mayo Clinic in Scottsdale, Arizona, and the senior author of the study, in a statement. "Instead, it seems to be some kind of direct chemical injury, similar to what one might see with exposures to toxic chemical fumes, poisonous gases and toxic agents."

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Studies have shown that products containing THC or other cannabis oils, such as cannabidiol or CBD, may play a role in the outbreak.



"This is a public health crisis, and a lot of people are working frantically around the clock to find out what the culprit or culprits could be – and what chemicals may be responsible," Larsen said. "Based on what we have seen in our study, we suspect that most cases involve chemical contaminants, toxic byproducts or other noxious agents within vape liquids."

Last week, Massachusetts announced a four-month ban on all vaping devices and flavors. Michigan, New York and Rhode Island have moved to restrict flavoring for the devices, also known as e-cigarettes. Cities such as San Francisco banned the sale and distribution of vaping devices.

In a related report, the CDC's National Center for Health Statistics said a survey found that from 2014 to 2018, the percentage of adults 18-24 who smoked cigarettes decreased from 16.7% to 7.8%.

The percentage of adults in this age group who used electronic cigarettes increased from 5.1% to 7.6%, according to the survey.

(USA TODAY)

What is in e-cigarette smoke?

The aerosol that users inhale from e-cigarettes can contain potentially harmful substances, according to the Centers for Disease Control

- Cancer-causing chemicals, such as formaldehyde
- Heavy metals such as nickel, tin, and lead
- Nicotine
- Ultrafine particles that can be inhaled deep into the lungs
- Flavoring such as diacetyl, a chemical linked to a serious lung disease
- Volatile organic compounds

A man exhaling smoke from an electronic cigarette in Washington, DC.
Photo: Eva Hambach

Long-term health effects of e-cigarettes aren't yet established

Source: cdc.gov/cancer.org/AFP Photo © AFP