

Smoking & Tobacco Use

Outbreak of Lung Injury Associated with E-Cigarette Use, or Vaping

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CDC, the U.S. Food and Drug Administration (FDA), state and local health departments, and other clinical and public health partners are investigating a multistate outbreak of lung injury associated with e-cigarette product (devices, liquids, refill pods, and/or cartridges) use.

Key Facts about E-Cigarette Use, or Vaping

- Electronic cigarettes – or e-cigarettes — are also called vapes, e-hookahs, vape pens, and electronic nicotine delivery systems (ENDS).
- Using an e-cigarette product is commonly called vaping.
- E-cigarettes work by heating a liquid to produce an aerosol that users inhale into their lungs.
- The liquid can contain: nicotine, tetrahydrocannabinol (THC) and cannabinoid (CBD) oils, and other substances and additives.

For the Public: What You Need to Know



For Healthcare Providers



For State and Local Health Departments



What we know

- There are 530* cases of lung injury reported from 38 states and 1 U.S. territory. Seven deaths have been confirmed in 6 states.
- CDC has received complete sex and age data on 373 of 530 cases.
 - Nearly three fourths (72%) of cases are male
 - Two thirds (67%) of cases are 18 to 34 years old
 - 16% of cases are under 18 years and 17% are 35 years or older

- All reported cases have a history of e-cigarette product use or vaping.
- Based on initial data from certain states we know: Most patients have reported a history of using e-cigarette products containing THC. Many patients have reported using THC and nicotine. Some have reported the use of e-cigarette products containing only nicotine.

What we don't know

- We do not yet know the specific cause of these lung injuries. The investigation has not identified any specific e-cigarette or vaping product (devices, liquids, refill pods, and/or cartridges) or substance that is linked to all cases.

What CDC recommends

- CDC has released interim recommendations for healthcare providers, health departments, and the public.
- Until we know more, if you are concerned about these specific health risks, CDC recommends that you consider refraining from using e-cigarette or vaping products.
- If you are an adult who used e-cigarettes containing nicotine to quit cigarette smoking, do not return to smoking cigarettes.
- If you have recently used an e-cigarette or vaping product and you have symptoms like those reported in this outbreak see a healthcare provider.
- Regardless of the ongoing investigation:
 - Anyone who uses an e-cigarette or vaping product should not buy these products (e.g., e-cigarette or vaping products with THC or CBD oils) off the street, and should not modify or add any substances to these products that are not intended by the manufacturer.
 - [Youth and young adults should not use e-cigarette products.](#)
 - [Women who are pregnant should not use e-cigarette products.](#)
 - Adults who do not currently use tobacco products should not start using e-cigarette products.

Latest Outbreak Information on Lung Injury Associated with Electronic Cigarettes, or Vaping

- As of September 17, 2019 at 5pm, 530* cases of lung injury associated with the use of e-cigarette or vaping products have been reported to CDC from the following states and 1 U.S. territory: AR, CA, CO, CT, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, MI, MN, NC, ND, NE, NJ, NM, NV, NY, OH, OR, PA, SC, SD, TN, TX, UT, VA, WA, WI, WV, WY, and USVI. These numbers may change frequently.
- CDC has received complete sex and age data on 373 of 530 cases.
 - Nearly three fourths (72%) of cases are male
 - Two thirds (67%) of cases are 18 to 34 years old
 - 16% of cases are under 18 years and 17% are 35 years or older
- Seven deaths have been confirmed in California (2), Illinois, Indiana, Kansas, Minnesota, and Oregon.
- CDC worked with states to create a [case definition](#) to classify confirmed and probable cases in a consistent way. State investigators determine if cases are confirmed or probable after examining the medical records of suspected cases and consulting with the clinical care team to exclude other possible causes of illness. Unlike nationally reportable conditions, these cases are requiring clinicians and public health professionals to interview patients to determine product use and individual behaviors.
- CDC will report numbers of confirmed and probable cases once states have finalized their classification of cases.
- States are in the process of classifying cases. We expect that states and clinicians may look back for older cases based on CDC's case definition.
- All patients have a reported history of e-cigarette product use, and no consistent evidence of an infectious cause has been discovered. Therefore, the suspected cause is a chemical exposure.
- Based on initial data from certain states we know: Most patients have reported a history of using e-cigarette products containing THC. Many patients have reported using THC and nicotine. Some have reported the use of e-cigarette products containing only nicotine.
- No consistent e-cigarette or vaping product, substance, or additive has been identified in all cases, nor has any one product or substance been conclusively linked to lung disease in patients.

- Initial published reports from the investigation point to clinical similarities among cases. Patients reported a history of e-cigarette use and had similar symptoms and clinical findings. These align with the [CDC health advisory](#) released August 30, 2019.
- These investigations are ongoing. CDC will provide updates when more information is available.

*The increase in cases from last week represents both new cases and recent reporting of previously-identified cases to CDC.

Map of Reported Cases

