

RIGOBERTO VARGAS, MPH, DIRECTOR

ROBERT M. LEVIN, MD, HEALTH OFFICER
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Severe Pulmonary Disease Associated with Vaping

Since June 2019, at least 7 cases of severe acute pulmonary disease in previously healthy adults were reported from a Kings County hospital. This number of cases greatly exceeds the number otherwise expected during that time period. Cases were among residents of multiple counties. The patients presented with progressive respiratory distress, sometimes initially diagnosed with pneumonia or bronchitis, and some with preceding fevers and gastrointestinal symptoms. All cases failed to respond to an initial course of antibiotic treatment. All patients required admission to the hospital with significant respiratory support, including high-flow oxygen, bilevel positive airway pressure (BIPAP), or intubation with mechanical ventilation. Diagnoses included pneumonitis and acute respiratory distress syndrome (ARDS). **Patients have improved with systemic steroids.** Evaluation for infectious etiologies has been negative to date in all patients; the workup has included respiratory PCR panels and sputum/ blood cultures. Some patients have had elevated inflammatory markers.

All patients reported vaping in the weeks prior to hospital admission, and a reported common exposure between these patients is that they have been vaping cannabis or CBD oils. The names and types of products used remain unknown.

Three other states, Minnesota, Wisconsin and Illinois have reported cases of severe lung injuries from vaping as well, now totaling 22 cases. The Minnesota cases involved co-use of tobacco and marijuana vaping. It is not clear what products caused the reactions. Some have required intensive care and assisted ventilation.

The common perception that vaping is safe or safer than smoking is still open to question. We know little about the health effects of these inhaled products whether from the vehicle and contaminants that are inhaled or from the often high THC content. We don't know whether this was due to a particularly unsafe product or to less common reaction to typical products. The CDC has been asked to investigate.

Vaping refers to the increasingly popular practice of inhaling vapor from an e-cigarette device, which works by heating a liquid that can contain nicotine, marijuana, or other drugs. The long-term health impacts of vaping are unknown. The liquids used in e-cigarettes are largely unregulated, and they can contain toxic chemicals that can cause lung damage.

Case Definition:

A case is defined as meeting the following criteria:

- Severe acute pulmonary disease (including but not limited to pneumonitis and ARDS);

- Requiring admission to a hospital and respiratory support (including but not limited to high-flow oxygen, BIPAP, or intubation with mechanical ventilation);
- No infectious etiology defined;
- Recent history of vaping;
- Symptom onset on or after June 1, 2019.

Recommendations for Providers:

- Clinicians are asked to remain alert for potential cases among persons presenting with severe acute pulmonary symptoms and ask these patients about their recent history of vaping. Emergency rooms, intensivists and pulmonologists in particular would benefit from heightened awareness around this issue, including taking a careful history around vaping with or without cannabis or CBD oil.
- Patients were seen in primary care and initially diagnosed with pneumonia or bronchitis, but did not respond to antibiotics.
- Clinicians who become aware of similar cases to those described above are asked to report them to Ventura County Health Department at 805 981-5201. After hours call 805 981-5101. Local health departments are asked to report cases to Dr. Amy Heinzerling at (510) 620-3711 or email Amy.Heinzerling@cdph.ca.gov. After hours contact the CDPH duty officer at (916) 328-3605.
- A key part of this investigation will be obtaining the original product and/ or devices, so please collect and hold them when possible. If the patient has product in hand, please collect, hold, and contact Dr. Asif Maan (916) 449-5667 or at mcsb@cdph.ca.gov so that the product and device can be tested.

This bulletin is intended to improve the public health in our county by keeping physicians and nurses informed of noteworthy diagnoses, disease trends and other events of medical interest. Another goal of a public health department is to educate. We hope that you will use this information to increase your awareness. Please allow us to continue in our role of speaking to the press so that we may maximize the educational message to the benefit of all citizens of Ventura County.

Communicable Disease Office

2220 e Gonzales Rd suite 110, Oxnard, California 93036 • (805) 981-5201 • FAX (805) 981-5200