



HEALTH ALERT: **Severe Pulmonary Injury Associated With Vaping**

DATE: October 1, 2019

TO: Pulmonologists, Infectious Disease Physicians, Emergency Medicine Physicians, Hospital Infection Control Providers

FROM: Scott Morrow, MD, MPH, MBA
Health Officer

Cassius Lockett, PhD
Public Health Director

Over the past several months there have been increasing reports of vaping-related pulmonary illnesses (VAPI) with varying levels of severity including deaths. This has initiated a national public health emergency response. All California patients have reported using e-cigarette products/vaping. Outlined below are key facts, clinical information, and a case reporting request.

Clinicians are requested to:

- Ask all patients who report e-cigarette or vaping product use within the last 90 days about signs and symptoms of respiratory illness.
- Report suspected cases of vaping-associated severe pulmonary injury to San Mateo County Health, either by sending a secure email to Epidemiology@smcgov.org or by calling 650-573-2346.
- If e-cigarette or vaping product use is suspected as a possible etiology of a patient's lung injury, obtain a detailed history regarding a) substances used, b) substance sources, c) devices used, d) where the product(s) were purchased, e) method of substance use (aerosolization, dabbing, or dripping), f) if they shared e-cigarette products with others.
- If the patient still has vaping devices and cartridges available, please collect and hold them for possible testing, which will be arranged by San Mateo County Public Health.
- If there were any specimens (blood, urine, etc.) collected from a patient and those specimens are still available, please hold specimens until the San Mateo County Public Health Laboratory can coordinate pick up of the specimens.





Case counts as of September 30, 2019:

- Since June 2019, the California Department of Public Health (CDPH) has received reports of 99 cases and 2 deaths of individuals with severe acute pulmonary injury who were previously healthy and had a recent history of vaping.
- Nationally, 805 cases and 12 deaths have been reported to date.
- One confirmed case has been identified in a San Mateo County resident and reported to the California Department of Public Health.

Vaping information:

- Vaping refers to the practice of inhaling aerosol from an e-cigarette or other vaping device, which works by heating a liquid that can contain nicotine, marijuana (THC), cannabidiol (CBD), or other substances.
- The shapes and sizes of these devices vary and include colorful vape pens, modified tank systems, and new pod-based devices that can look like USB flash drives, cell phones, credit card holders, and highlighters.
- Devices are frequently referred to as e-cigarettes, e-cigs, vapes, vape pens, electronic vaporizers, pod mods, or pod systems.
- The liquids used in e-cigarettes are largely unregulated, and they can contain toxic chemicals that can cause lung damage. The long-term health impacts of vaping are unknown.
- So far, no single product or substance has been found to be consistently associated with these illnesses.

Clinical information:

- Patients have presented with progressive respiratory distress, sometimes initially diagnosed with pneumonia or bronchitis, and some with preceding gastrointestinal symptoms.
- Symptoms typically develop over a period of days but sometimes can manifest over several weeks.
- Many patients have sought initial care in ambulatory settings, some with several visits, before ED and hospital admission.
- Patients failed to respond to an initial course of antibiotic treatment. Fever, tachycardia, and elevated white blood cell count have been reported in the absence of an identifiable infectious disease.
 - Patients have required admission to the hospital with significant respiratory support, including high-flow oxygen, bi-level positive airway pressure (BIPAP), or intubation with mechanical ventilation. Diagnoses have included pneumonitis and acute respiratory distress syndrome (ARDS). Some patients have improved with systemic steroids.
 - Radiologic findings have varied and are not present in all patients upon initial presentation. Bilateral pulmonary infiltrates and diffuse ground-glass opacities have been reported. Some patients have been diagnosed with lipoid pneumonia based on clinical presentation and detection of lipids within bronchoalveolar lavage samples stained specifically to detect oil.



SAN MATEO COUNTY HEALTH

**PUBLIC HEALTH,
POLICY & PLANNING**

For more information, please see the Centers for Disease Control and Prevention (CDC) website which has additional recommendations and resources for healthcare providers: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/healthcare-providers/index.html and the CDC Health Alert Network Severe Pulmonary Disease Associated with Using E-Cigarette Products: <https://emergency.cdc.gov/han/han00421.asp>