

**IN THIS ISSUE: SEVERE PULMONARY DISEASE ASSOCIATED WITH USING E-CIGARETTE PRODUCTS**

**Outbreak of Severe Pulmonary Disease Associated with Using E-Cigarette Products**

As of September 11, 2019, over 450 possible cases of lung illness associated with the use of e-cigarette products have been reported. Of these, 380 are considered confirmed or probable. Six deaths have been reported. Cases have been reported from 36 states and 1 U.S. territory. One case has been confirmed in Nevada and this is a rapidly changing, multistate outbreak investigation. The Washoe County Health District (WCHD) is seeking medical providers' assistance in identifying and reporting potential cases.

**Background**

E-cigarettes are devices that produce an aerosol by heating a liquid containing various chemicals, usually including nicotine. They come in many shapes, sizes and device types and may be called e-cigs, vapes, juuls, mods, or tanks.

Some e-cigarette products are used to deliver additional substances, including marijuana, THC (tetrahydrocannabinol), or CBD oils. They may be acquired from unauthorized (i.e., "street") sources and may be modified in ways that can increase their potential for harm to the user.

**Symptoms/Treatment**

Patients present with:

- Respiratory symptoms (nonproductive cough, pleuritic chest pain, shortness of breath);
- Gastrointestinal symptoms (nausea, vomiting, diarrhea) which often precede respiratory symptoms;
- Fever, chills, fatigue, weight loss, tachycardia and elevated white blood cell count.

Many patients sought initial care in outpatient settings, some with several visits, prior to hospital admission. Symptoms often develop over days but can manifest over several weeks.

Most identified patients have been hospitalized with hypoxemia, which, in some cases, has progressed to acute or subacute respiratory failure. Patients have required respiratory support therapies ranging from supplemental oxygen to endotracheal intubation and mechanical ventilation. Many, but not all, patients

who were treated with corticosteroids improved. No evidence of infectious diseases has been identified; therefore, lung illnesses are likely associated with a chemical exposure. Several patients from one state have been diagnosed with lipoid pneumonia.

All patients have reported using e-cigarette products and the symptom onset has ranged from a few days to several weeks after e-cigarette use; however, no consistent e-cigarette product, substance, or additive has been identified in all cases.

Most patients have reported a history of using e-cigarette products containing cannabinoids such as THC, some have reported the use of e-cigarette products containing only nicotine, and others have reported using both.

**Recommendations for Clinicians**

Based on guidance from the Centers for Disease Control and Prevention (CDC):

- Advise all those that use e-cigarettes to quit until the investigation is complete and refer to cessation programs. 1-800-Quit-Now provides free, evidence based counseling;
- Advise those that continue to use e-cigarettes to not buy products off the street and not to modify or add any substances to these products;
- Ask all patients who report e-cigarette use within the last 90 days about known signs/symptoms;
- If e-cigarette use is suspected as a possible cause for a patient's lung illness, ask if any remaining product, devices, and liquids are available for testing;
- Report cases of severe lung illness of unclear etiology and a history of e-cigarette product use within the past 90 days to WCHD at:

775-328-2447 or [EpiCenter@washoecounty.us](mailto:EpiCenter@washoecounty.us).

WCHD is conducting investigations on clinician reported cases and is available to answer questions that providers may have. WCHD is committed to continuing to share national and local information as it becomes available.