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Call for Cases: Severe Respiratory Illness Associated With Vaping or E-Cigarette Use

As of August 27, 2019, public health officials in 25 states are investigating 215 reports of persons with severe respiratory illness associated with vaping or e-cigarette use, and additional reports of pulmonary illness are under investigation. Although the etiology is undetermined, all patients have reported using e-cigarette products. To date, no single substance or product has been consistently associated with the illnesses.

Idaho public health officials have not had any cases reported among Idaho residents, but are seeking evidence of any impacted persons in Idaho.

Please r**eport unexplained serious respiratory illness in patients with recent e-cigarette, vaping, or dabbing to the Idaho Division of Public Health at 208-334-5939 (Fax: 208-332-7307).** These illnesses are reportable under public health authority to investigate unexplained clusters of illness.

In addition, public health officials are requesting that providers:

1. Ask all patients with serious respiratory illness of unknown etiology about recent vaping practices within the past 90 days.
2. Take a detailed history of the frequency of vaping and the products used, and document these in medical notes.
    - Substance(s) used: nicotine, cannabinoids (e.g., marijuana, THC, THC concentrates, CBD, CBD oil, synthetic cannabinoids [e.g., K2 or spice], hash oil, Dank vapes), flavors, or other substances.
    - Substance source(s): commercially available liquids (i.e., bottles, cartridges, or pods), homemade liquids, and re-use of old cartridges or pods with homemade or commercially bought liquids.
    - Device(s) used: manufacturer; brand name; product name; model; serial number of the product, device, or e-liquid; if the device can be customized by the user; and any product modifications by the user (e.g., exposure of the atomizer or heating coil).
    - Where the product(s) were purchased.
    - Method of substance use: aerosolization, dabbing, or dripping.
3. Advise the patients not to use products they have recently vaped.

Clinical Presentation
Patients present with respiratory symptoms (cough, shortness of breath, or chest pain), and some have also reported gastrointestinal symptoms (nausea, vomiting, or diarrhea) or non-specific constitutional symptoms (fatigue, fever, or weight loss). Symptoms typically develop over a period of days but sometimes can manifest over several weeks. Gastrointestinal symptoms sometimes precede respiratory symptoms. Fever, tachycardia, and elevated white blood cell count have been reported in the absence of an identifiable infectious disease. Many patients have sought initial care in ambulatory settings, some with several visits, before hospital admission.

Clinical Considerations

- Clinical improvement of patients with severe pulmonary disease associated with the ongoing investigation has been reported with the use of corticosteroids. The decision to use corticosteroids should be made on a case-by-case basis based on risks and benefits and the likelihood of other etiologies.
- Lipoid pneumonia associated with inhalation of lipids in aerosols generated by e-cigarettes has been reported based on the detection of lipid-laden alveolar macrophages obtained by bronchoalveolar lavage (BAL) and lipid staining (e.g., oil red O). The decision about whether to perform a BAL should be based on individual clinical circumstances.
- Lung biopsies have been performed on some patients. If a lung biopsy is obtained, lipid staining may be considered during pathologic examination, and is best performed on fresh tissue. Routine pathology tissue processing (including formalin-fixation and paraffin-embedding) can remove lipids. Conducting routine tissue processing and histopathologic evaluation is still important. Consider consultation with specialists in pulmonary medicine and pathology to help inform any evaluation plan.
- Patients who have received treatment for severe pulmonary disease related to e-cigarette product use should undergo follow-up evaluation as clinically indicated to monitor pulmonary function.