

Summary and Action Items

1. All patients with serious respiratory illness of unknown etiology should be asked about recent vaping practices.
2. Patients with unexplained serious respiratory illness and recent vaping should be reported to the local health department.
3. In patients with unexplained serious respiratory illness and vaping exposures, IDPH recommends ruling out common infectious and non-infectious etiologies.
4. If possible, take a detailed history of the frequency of vaping and the products used, and document these in the medical notes.
5. If the patient has products they have vaped, ask them not to use them again and save them in case product testing is requested.
6. IDPH is asking for any clinical samples from broncho-alveolar lavage (BAL) and /or tissue biopsies be saved, and if possible, sent to the IDPH laboratory.

Background

Many states are reporting cases of severe respiratory illness among individuals who have a recent history of vaping (use of e-cigarette and similar devices to inhale aerosolized liquid).

As of August 19, 2019, 10 Illinois residents are considered cases and others are under investigation. Most cases are in Chicago and the collar counties. The age range of the patients is from 15 to 27 years, and 77% are male.

At this time, patients are considered cases associated with this investigation if they have significant respiratory illness without an identified etiology and have a history of any vaping in the past 3 months.

Potential Exposures and Transmission

Patients have all reported vaping in the weeks to months prior to illness. Products used by cases may contain THC, CBD, nicotine, flavors and other chemicals. At this time, no particular product nor device has been determined to be the cause.

Symptoms

Patients present with cough and shortness of breath. Other presenting symptoms may include fever, pleuritic chest pain, hemoptysis, headache, nausea, abdominal pain and diarrhea. Symptoms worsen over a period of days or weeks before hospital admission. On hospital admission, most patients are febrile, tachycardic and may be hypoxic. The majority of patients have required hospitalization. Several patients had progressive respiratory compromise requiring intubation. No infectious etiology has been identified.

Diagnosis

Among reported cases, chest radiographs show bilateral opacities, typically in the lower lobes and CT imaging of the chest shows diffuse ground glass opacities, often with subpleural

sparing. Evaluation for infectious etiologies have been negative. Most patients have raised inflammatory markers, including a neutrophilia and high CRP.

Management

In patients with significant respiratory illness of unknown etiology, we recommend asking patients about recent vaping practices. All patients presenting with this clinical picture and a history of vaping should be reported to your local health department.

Common infectious etiologies should be ruled out (respiratory panel, influenza, sputum/blood cultures) As clinically indicated, rheumatologic or neoplastic processes, and less common infections should be considered. Aggressive supportive care is warranted, and in severe cases, mechanical ventilation may be warranted. Consider appropriate specialty consults. Preliminary information indicates clinical improvement with administration of systemic steroids.

Prevention

At this time, it is not known what product(s), chemicals or devices may be linked to illnesses. Patient education regarding the unknown risk associated with vaping and e-cigarette use is encouraged. Educational materials to provide to patients may be located on the IDPH website (see resources).

IDPH and Local Health Department Response

Local health departments, IDPH and infection control preventionists are conducting interviews with patients to identify possible exposures. IDPH is working closely with the CDC and FDA, as well as other states, on this investigation.

Local health departments who hear about suspect cases should notify IDPH. IDPH is collating medical records, including chest radiographs and CT images, and reviewing information from local health departments to assess for any common exposures.

Information will be placed on the communicable disease web portal under A-Z, “vaping and severe respiratory illness”. Additionally, the IDPH website will remain up-to-date with confirmed case count and other information as deemed necessary.

Contact

Contact your local health departments with suspect cases as soon as possible. Local health departments can contact Dr. Isaac Ghinai (isaac.ghinai@illinois.gov) in the IDPH CD Section with any inquiries, or Dr Jen Layden (jennifer.layden@illinois.gov).

Resources

[IDPH Website](#)

Target Audience

Local Health Departments, Infectious Disease Physicians, Pulmonology Physicians, Intensive Care Physicians, Emergency Departments, Infection Preventionists, Health Care Providers, and Laboratories

Date Issued

August 19, 2019

Author: IDPH Communicable Disease Section