



## Lung Injury in People Who Report E-cigarette/Vaping Update

Date: September 26, 2019

**Public Health Message Type:**  Alert  Advisory  Update  Information

**Intended Audience:**  All public health partners  Healthcare providers  Infection preventionists  
 Local health departments  Schools/child care centers  ACOs  
 Animal health professionals  Other:

### Key Points or Updates:

- (1) Cases of lung injury in persons who have a history of vaping/e-cigarette use have been reported across the country. The Centers for Disease Control and Prevention (CDC) reports that as of September 17, 2019, 530 cases have been identified along with seven deaths in six states. Most cases report a history of using e-cigarette products containing THC.
- (2) There have been 9 confirmed cases in New Jersey primarily reported among young persons (15 to 45 years-old) with no significant past medical history. More reports are currently under investigation.
- (3) NJDOH is providing an update for providers on revised case definition, clinical presentation, guidance for reporting, possible product testing, and prevention messaging (Attachment B: *Clinical Information for New Jersey Healthcare Providers Treating Patient with Suspected Lung Injury in People who report E-cigarette/Vaping Use*).

### Action Items:

- (1) **The New Jersey Poison Information and Education System (NJPIES) will serve as the main focal point for clinicians who are reporting suspected cases of lung injury in persons who report e-cigarette/vaping use.** Reports can be made by calling NJPIES at 1-800-222-1222.
- (2) Healthcare providers who are making reports on hospitalized patient should ensure that **sufficient information** is available regarding the patient's clinical evaluation including, radiographic studies, infectious disease and/or pulmonary evaluation, working diagnosis or discharge diagnosis, additional diagnostics and treatments prior to reporting the case. (Attachment A: *Reporting Process for Vaping and Severe Lung Disease Cases: Healthcare Providers*) **Please note: This pertains to public health reporting only. Clinicians seeking advice or assistance in managing patients with suspected lung injury from e-cigarette/vaping use should not delay in contacting NJPIES for clinical consultation.**
- (3) Healthcare providers should continue to evaluate patients as clinically indicated and not use the case definition to guide diagnosis. Providers should also conduct and document a thorough substance use assessment include types of e-cigarette/vaping products, frequency/patterns of use, where the product was purchased and any tampering that may have occurred.

**Contact Information:**

- Stephen Perez, PhD, RN, Epidemic Intelligence Service Officer, Centers for Disease Control and Prevention, New Jersey Department of Health, [Stephen.Perez@doh.nj.gov](mailto:Stephen.Perez@doh.nj.gov) or (609) 826-5964, or
  - The Communicable Disease Service at (609) 826-5964 during business hours
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***Attachment A: Reporting Process for Vaping and Severe Lung Disease Cases: Healthcare Providers*****NEW JERSEY DEPARTMENT OF HEALTH****REPORTING PROCESS FOR VAPING AND SEVERE LUNG DISEASE CASES****GUIDANCE FOR HEALTHCARE PROVIDERS**

**Background of Vaping and Severe Lung Disease:** The New Jersey Department of Health (NJDOH) is currently investigating cases of severe lung disease in persons who report e-cigarette/vaping use. The New Jersey Poison Information and Education System (NJPIES) will serve as the main focal point for reporting these cases, however local health departments (LHDs) may also be contacted by providers to report cases.

**Purpose of this Guide:** This guide provides healthcare providers (HCPs) instruction for reporting these cases to the state health department via NJPIES or LHD.

**Where HCPs should report suspected cases?**

**NJPIES will serve as the main point of contact for HCPs who are reporting cases. If necessary, the local health department may also serve as a point of contact for reporting.**

**Process for Reporting Vaping and Severe Lung Disease Cases to NJDOH**

1. Review [NJLINC Message](#) and/or attachment B below for clinical characteristics associated with a suspected case
2. If a case is suspected, HCPs or designees should contact NJPIES at 1-800-222-1222 to make the initial report. Additional contact information for NJPIES can be found here: <https://www.njpies.org/>
3. When preparing to make initial report, HCPs should have the following information readily available to provide to the NJPIES team:
  - a. Name, DOB, medical record number and contact information for the patient being reported. Contact information should include an address and working phone number for the case-patient, legal guardian or next of kin.
  - b. Admission information including, date of admission, if the case-patient has been admitted to an ICU, admitting provider (including contact information) and service.

- c. A brief summary of hospital course including preliminary infectious disease diagnostics, relevant radiology findings, onset date of illness, initial presentation and current status.
- d. Documentation or information on vaping/e-cigarette exposure including types and names of products used, vaping/e-cigarette devices used, frequency, where they may have been purchased and availability of product for testing.

**NOTE:** Healthcare providers who are making reports on hospitalized patient should ensure that **sufficient information** is available regarding the patient’s clinical evaluation including, radiographic studies, infectious disease and/or pulmonary evaluation, working diagnosis or discharge diagnosis, additional diagnostics and treatments **prior** to reporting the case.

4. HCPs will provide relevant information to NJPIES and receive any available guidance as needed or as available per NJPIES protocol.
5. NJPIES will forward the report to NJDOH staff who will review the form to determine whether additional information is needed.

#### **Follow-up Provided from NJDOH**

1. NJDOH may use the contact information provided by NJPIES to reach out directly to the HCP to secure additional information.
2. If appropriate, NJDOH will coordinate securing medical records and conduct chart abstraction and a detailed interview with reported suspected case-patient.
3. If the report meets case definition of confirmed or probable, NJDOH will alert the LHDs.

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## ***Attachment B: Clinical Information for New Jersey Healthcare Providers Treating Patient with Suspected Lung Injury in People who report E-cigarette/Vaping Use***

### **Background**

Confirmed cases of lung injury associated with e-cigarette use or “vaping” (i.e. use of e-cigarette devices to aerosolize substances for inhalation) have been reported in multiple states. Some illnesses have resulted in death.

### **Clinical Presentation**

Patients often present with cough, shortness of breath, or pleuritic chest pain. Gastrointestinal symptoms such as nausea, abdominal pain, and diarrhea have been common as well as other constitutional symptoms including fever, chills, weight loss, anorexia and fatigue. Diagnostic imaging has demonstrated infiltrates similar to atypical pneumonia on chest x-ray and ground-glass opacities on chest CT, both non-specific findings. Infectious, rheumatologic, and other disease process evaluations are negative. Some patients have required intensive care admission and ventilator support due to acute respiratory distress syndrome (ARDS) and hypoxia.

## **Potential Exposures**

All confirmed cases in New Jersey have reported e-cigarette use/vaping in the weeks to months prior to illness. Products used may contain THC, Cannabidiol (CBD), nicotine, flavors and other chemicals.

Although [the Food and Drug Administration \(FDA\) has identified Vitamin E acetate in some THC-containing samples](#), the significance of this is not yet known and, as of 25th September 2019, no single product or device has been conclusively implicated.

## **Diagnostic Testing and Management**

Chest imaging (x-ray or CT) can assist in determining case status of patients with unexplained respiratory symptoms and vaping exposures (see case definition below).

Consider all causes of illness in patients reporting respiratory and gastrointestinal symptoms (e.g. infectious, rheumatologic, neoplastic) and consultation with specialists (pulmonary, infectious disease, critical care, medical toxicology) as clinically indicated. Infectious disease diagnostics should be determined based on risk factors and clinical presentation.

Urinary toxicology screening for patients with significant respiratory illness of unclear etiology in whom a reliable vaping history is unavailable is recommended.

Clinical improvement of patients has been reported with corticosteroid use. Currently there is insufficient outcome evidence to recommend use of steroids on a routine basis. The decision to use corticosteroids should be made based on risks and benefits and the likelihood of other etiologies. Aggressive supportive care is warranted.

No single product has been implicated. Patients have reported high variability in substances/products they used in vaping, including both tobacco and tetrahydrocannabinol (THC) containing products as well as other products.

The New Jersey Department of Health (NJDOH) is currently investigating similar reports from healthcare facilities primarily in the northern part of the state regarding nine individuals who presented severe lung disease in persons who have a vaping history. It is early in the investigation, and much is yet unknown, however here is what we know so far:

### **Key Patient Characteristics**

In New Jersey, most of the confirmed cases and reports under investigation (RUIs) are younger in age, the youngest being 15 years old. Many reports no significant past medical history. All report a history of recent vaping of multiple products. A majority of confirmed cases and RUIs are male.

### **Assessing the Use of Vaping Products**

Clinicians should be alert for patients who present with progressive respiratory symptoms, especially in those without a history of respiratory illness. If patients with these symptoms present for care, providers should ensure a thorough substance use history is obtained, including attention to inhalation drug use, particularly vape products. Obtain information regarding frequency of use, type of product or substance vaped, type of device, product tampering, and where the device or product was purchased. This assessment should be done along with standard questions about the use of tobacco products, alcohol and any illicit substances.

## **Product Testing**

New Jersey is currently pursuing the testing of e-cigarette/vaping products through the FDA. If a patient has products available for testing, alert NJPIES when making the initial case report and advise the patient or family member to hold onto the product and to not tamper with it. FDA will make the final decision of which products from which patients will be tested. Securing of the product for testing will be coordinated by the FDA.

## **Prevention Messaging**

While no specific products, chemicals or devices have been linked to this illness, the CDC recommends the following for patients:

1. While this investigation is ongoing, if you are concerned about specific health risks, consider refraining from using e-cigarette products.
2. Regardless of the ongoing investigation, anyone who uses e-cigarette products should not buy these products off the street (e.g., e-cigarette products with THC, other cannabinoids) and should not modify e-cigarette products or add any substances to these products that are not intended by the manufacturer.
3. Regardless of the ongoing investigation, e-cigarette products should not be used by youth, young adults, pregnant women, as well as adults who do not currently use tobacco products. If you use e-cigarette products, monitor yourself for symptoms (e.g., cough, shortness of breath, chest pain) and promptly seek medical attention if you have concerns about your health. CDC and FDA will continue to advise and alert the public as more information becomes available.
4. Adult smokers who are attempting to quit should use evidence-based treatments, including counseling and FDA-approved medications. If you who need help quitting tobacco products, including e-cigarettes, contact your doctor.
5. Adults who used e-cigarettes containing nicotine to quit cigarette smoking, should not return to smoking cigarettes.

## **Healthcare Provider Resources**

[New Jersey Department of Health E-cigarette/Vaping Information Page](#)

[CDC Website for E-cigarette or Vaping-associated Lung Injury](#)

[CDC Clinician Outreach and Communication Activity \(COCA\)](#)

[NEJM Preliminary Report](#)

[MMWR Interim Guidance](#)

[E-Cigarette Descriptions & E-Cigarette Fact Sheet](#)

## CDC Case Definition:

[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/assets/2019-Lung-Injury-Surveillance-Case-Definition-508.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/assets/2019-Lung-Injury-Surveillance-Case-Definition-508.pdf)

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### 2019 Lung Injury Surveillance Case Definition (CDC) – September 18, 2019

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**Confirmed** Using an e-cigarette ("vaping") or dabbing\* in 90 days prior to symptom onset  
**AND**  
Pulmonary infiltrate, such as opacities, on plain film chest radiograph or ground-glass opacities on chest CT  
**AND**  
Absence of pulmonary infection on initial work-up. Minimum criteria are:

- 1) A negative respiratory viral panel  
**AND**
- 2) A negative influenza PCR or rapid test, if local epidemiology supports influenza testing  
**AND**
- 3) All other clinically-indicated respiratory infectious disease testing (e.g., urine Antigen for *Streptococcus pneumoniae* and *Legionella*, sputum culture if productive cough, bronchoalveolar lavage (BAL) culture if done, blood culture, HIV-related opportunistic respiratory infections if appropriate) are negative  
**AND**

No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).

**Probable** Using an e-cigarette ("vaping") or dabbing\* in 90 days prior to symptom onset  
**AND**  
Pulmonary infiltrate, such as opacities, on plain film chest radiograph or ground-glass opacities on chest CT  
**AND**  
Infection identified via culture or PCR, but clinical team\*\* believes this infection is not the sole cause of the underlying lung injury **OR** Minimum criteria to rule out pulmonary infection not met (testing not performed) and clinical team\*\* believes infection is not the sole cause of the underlying lung injury  
**AND**  
No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).

**Footnotes** \* Using an electronic device (e.g., electronic nicotine delivery system (ENDS), electronic cigarette, e-cigarette, vaporizer, vape(s), vape pen, dab pen, or other device) or dabbing to inhale substances (e.g., nicotine, marijuana, THC, THC concentrates, CBD, synthetic cannabinoids, flavorings, or other substances).

\*\*Clinical team caring for the patient.

**Notes:** these case definitions are meant for surveillance and not clinical diagnosis. These case definitions are subject to change and will be updated as additional information becomes available if needed.