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- ❑ Webinar Link:  
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  - US: 1(646) 876-9923 or 1(669) 900-6833
  - Webinar ID: 623 893 178
- ❑ International numbers available: <https://zoom.us/j/623893178>
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**Update: Interim Guidance for Health Care Providers Evaluating and Caring for Patients with Suspected E-cigarette, or Vaping, Product Use-Associated Lung Injury**

**Clinician Outreach and Communication Activity (COCA) Webinar**

**[emergency.cdc.gov/coca](https://emergency.cdc.gov/coca)**

**October 17, 2019**



**Please Note:**

**Continuing Education (CE)  
will not be offered for this  
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- ❑ **For media questions, please contact CDC Media Relations at 404-639-3286 or send an email to [media@cdc.gov](mailto:media@cdc.gov).**
- ❑ **If you are a patient, please refer your questions to your healthcare provider.**

**At the conclusion of the session,**  
**participants will be able to accomplish**  
**the following:**

1. Discuss what CDC has learned so far about e-cigarette, or vaping, product use associated lung injury.
2. Explain CDC's updated interim guidance for health care providers.

## Today's Presenter



### **LCDR David Siegel, MD, MPH (USPHS)**

2019 CDC Lung Injury Emergency Response Clinical Team  
Medical Officer, National Center for Chronic Disease Prevention  
and Health Promotion  
Centers for Disease Control and Prevention





# **Interim Guidance for Health Care Providers Evaluating and Caring for Patients with Suspected E-cigarette, or Vaping, Product Use Associated Lung Injury (EVALI)– United States, October 2019**

**David A. Siegel, MD, MPH**

CDC Clinician Outreach and Communication Activity, COCA Call  
October 17, 2019

# Overview

- **Background**
- **E-cigarette, or Vaping, Products**
- **CDC's Updated Interim Guidance for Health Care Providers**
- **Patient and Aerosol Emissions Product Testing**
- **CDC Public Health Recommendations**

**Background**

# Cases Reported as of October 8, 2019

- **1,299** confirmed and probable cases of EVALI reported from 49 states, the District of Columbia, and 1 U.S. territory
- **26** deaths reported from 21 states



Data updated Thursdays on [CDC's outbreak website](#)

Next Update: today

# Case Characteristics as of October 8, 2019

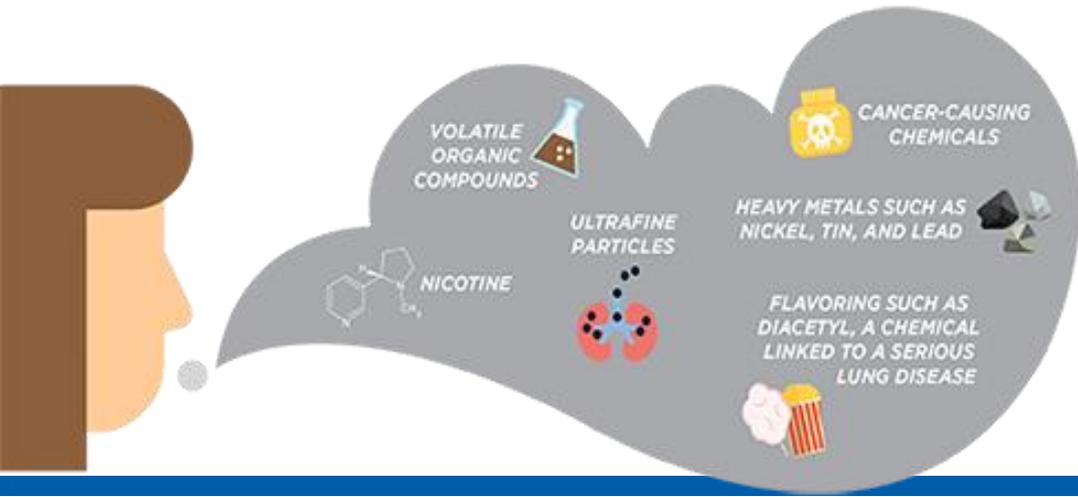
- Among 1,043 cases with available data:
  - **70%** of patients **male**
  - Median age **24 years** (range = 13-75 yrs)
- All patients reported history of using e-cigarette, or vaping, products
- Among 573 cases with data on substances used :
  - 76% reported tetrahydrocannabinol (THC) use; 32% exclusive use
  - 58% reported nicotine use; 13% exclusive use



**E-cigarette or Vaping Products**

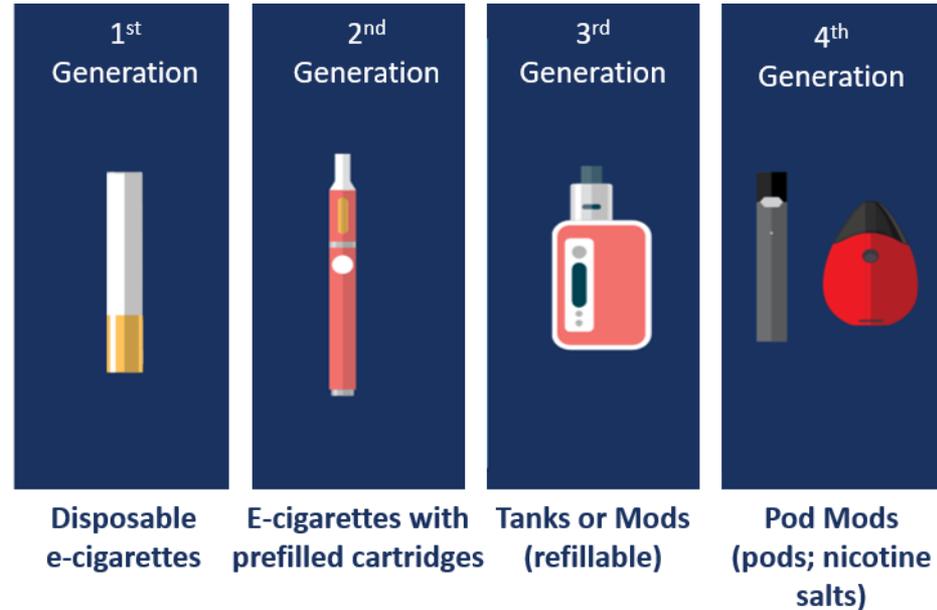
# E-cigarette, or Vaping, Products: The Basics

- E-cigarette, or vaping, products include devices, liquids, flavorings, refill pods, and cartridges
- Using an e-cigarette is commonly called vaping
- Devices heat liquid to produce an aerosol that is inhaled by the user
- This aerosol can contain harmful or potentially harmful substances



# E-cigarette, or Vaping, Products: Devices

- Devices vary in shape, size, type, and manufacturer
- Common names
  - E-cigs
  - Vapes
  - E-hookahs
  - Vape pens
  - Mods
  - Tanks
  - Electronic nicotine delivery systems



# E-cigarette, or Vaping, Products: Liquids, Cartridges, Pods

- E-cigarette, or vaping, liquid can contain
  - Nicotine
  - Flavorings
  - Propylene glycol and vegetable glycerin
  - Cannabinoids:  $\Delta$ -9-tetrahydrocannabinol (THC), cannabidiol (CBD), butane hash oil (BHO)
  - Other substances
- E-cigarette liquid types
  - Commercial refillable e-liquid
  - Commercial non-refillable e-liquid
  - Homemade or street sources

# E-cigarette, or Vaping, Products: Behaviors

- Hacking: modifying device in a way not intended by manufacturer
  - Refilling single-use cartridges
  - Dripping: dropping liquid directly onto device heating coil
- Dabbing: superheating substances containing high concentrations of THC or other cannabinoids (e.g., budder, BHO, 710, CBD)

*Centers for Disease Control and Prevention*

**MMWR**

Morbidity and Mortality Weekly Report

Early Release / Vol. 68

October 11, 2019

**Update: Interim Guidance for Health Care Providers Evaluating and Caring for Patients with Suspected E-cigarette, or Vaping, Product Use Associated Lung Injury — United States, October 2019**

# Updated Interim Guidance for Health Care Providers

# Overview of CDC's Updated Interim Clinical Guidance

- Initial clinical evaluation
- Suggested criteria for hospital admission and treatment
- Special considerations for groups at high risk
- Patient follow-up
- Clinical and public health recommendations

# Clinical Characteristics of Patients (N=339\*)



- **95%** of patients initially experienced respiratory symptoms
  - e.g., cough, chest pain, and shortness of breath



- **77%** of patients had gastrointestinal symptoms
  - e.g., abdominal pain, nausea, vomiting, and diarrhea



- **85%** patients had symptoms accompanied by constitutional symptoms
  - e.g., fever, chills, and weight loss
- Gastrointestinal symptoms preceded respiratory symptoms in some patients\*\*

\*As of October 3, 2019.

\*\* [Layden J, et al. Pulmonary illness related to e-cigarette use in Illinois and Wisconsin—preliminary report. \*NEJM\* 2019](#)

# Ask Patients about Exposure

- **Ask about the use of e-cigarette, or vaping, products and types of substances used**
  - THC/cannabis [oil, dabs], nicotine, modified products or the addition of substances not intended by the manufacturer
  - Suggested history items
    - product source
    - specific product brand and name
    - duration and frequency of use
    - time of last use
    - product delivery system
    - method of use (aerosolization, dabbing or dripping)
- Empathetic, nonjudgmental, and private questioning of patients\*
- Standardized approaches for interviewing adolescents
- Continue to ask questions during hospitalization and follow-up visits

# Physical Examination

- Should include vital signs and pulse-oximetry
- Vital signs findings seen in patients reported to the CDC\*
  - 55% had tachycardia (N=310)
  - 45% had tachypnea (N=172)
  - 57% had O<sub>2</sub> saturation <95% at rest on room air (N=253)
- Pulmonary findings on auscultation exam have been unremarkable, even among patients with severe lung injury



# Laboratory Testing

- Should be guided by clinical findings
- Strongly consider respiratory viral panel (including influenza during flu season)
- Additional testing should be based on published guidelines for evaluation of community-acquired pneumonia\*
  - *Streptococcus pneumoniae*, *Legionella pneumophila*, *Mycoplasma pneumoniae*, endemic mycoses and opportunistic infections



# Clinical Laboratory Testing

- Abnormal laboratory tests reported in patients with EVALI\*
  - 87% (45/52) had a WBC >11,000/mm<sup>3</sup>
  - 93% (14/15) had an ESR >30 mm/hr
  - 50% (20/40) had elevated liver transaminases (aspartate aminotransferase or alanine aminotransferase >35 U/L)
- At present, laboratory testing cannot be used to distinguish EVALI from infectious etiologies
- Consider, with informed consent, urine toxicology testing (including THC)

# Imaging

- Radiographic findings consistent with EVALI
  - Pulmonary infiltrates on CXR
  - Opacities on chest computed tomography (CT) scan
- Obtain chest radiograph (CXR)
  - All patients with respiratory or gastrointestinal symptoms and history of using e-cigarette, or vaping, products
  - Particularly decreased O<sub>2</sub> saturation (<95%) on room air\*



\*Consider modifying factors such as altitude to guide interpretation of measured O<sub>2</sub> saturation.

# Chest CT Might Be Useful

- Decision to obtain a chest CT made on a case-by-case basis
- To evaluate
  - CXR result not correlating with clinical findings
  - Severe or worsening disease
  - Complications such as pneumothorax or pneumomediastinum
  - Other illness in the differential diagnosis (e.g., pneumonia or pulmonary embolism)

# Consultation with Pulmonology

- Consider consultation with pulmonology to
  - Guide further evaluation
  - Discuss empiric treatment
  - Determine whether bronchoscopy would be appropriate
- Decision to perform bronchoscopy and bronchoalveolar lavage (BAL) should be made on a case-by-case basis
  - Value of staining BAL cells or fresh lung biopsy tissue for lipid-laden macrophages (e.g., using oil red O or Sudan Black) in evaluation of EVALI remains unknown

# Specialized Care

- Critical care physicians \*
  - **47%** of patients admitted to ICU (N=342)
  - **22%** required endotracheal intubation and mechanical ventilation (N=338)
- Medical toxicology
- Infectious disease
- Psychology
- Psychiatry
- Addiction medicine



# Hospital Admission Criteria

- Among 1,002 cases reported to CDC with available data\*
  - **96%** of patients hospitalized
- Hospital admission recommended for patients with:
  - Decreased O<sub>2</sub> saturation (<95%) on room air
  - Respiratory distress
  - Comorbidities that compromise pulmonary reserve



# Medical Treatment: Antibiotics, Antivirals

- Early initiation of antibiotic treatment for community-acquired pneumonia\*
- During influenza season, consider influenza and antivirals as needed\*\*
- Annual vaccination for influenza for all persons >6 months of age
- Pneumococcal vaccine should be considered according to current guidelines\*\*\*



\*[Pneumonia guidelines; Pneumonia guidelines for infants and children](#)

\*\*[CDC Summary of Influenza Antiviral Medications; IDSA Clinical Practice Guidelines for Seasonal Influenza](#)

\*\*\*[ACIP recommendations for pneumococcal vaccination](#)

# Corticosteroid Use and Improvement Reported to CDC

- **Corticosteroids (N=287)**
  - 252 patients (88%)
- **Improved after corticosteroids (N=140)**
  - 114 patients (82%)

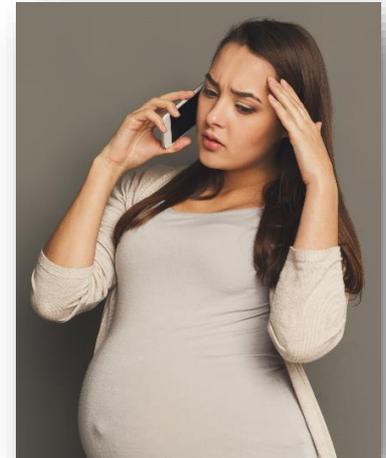


# Medical Treatment: Corticosteroids

- Natural progression of this lung injury is not known
- Range of corticosteroid doses, durations, and taper plans might be considered with pulmonology input
- May withhold while evaluating for certain infectious etiologies, such as fungal pneumonia, that might worsen with corticosteroid treatment

# Special Considerations for High Risk Groups

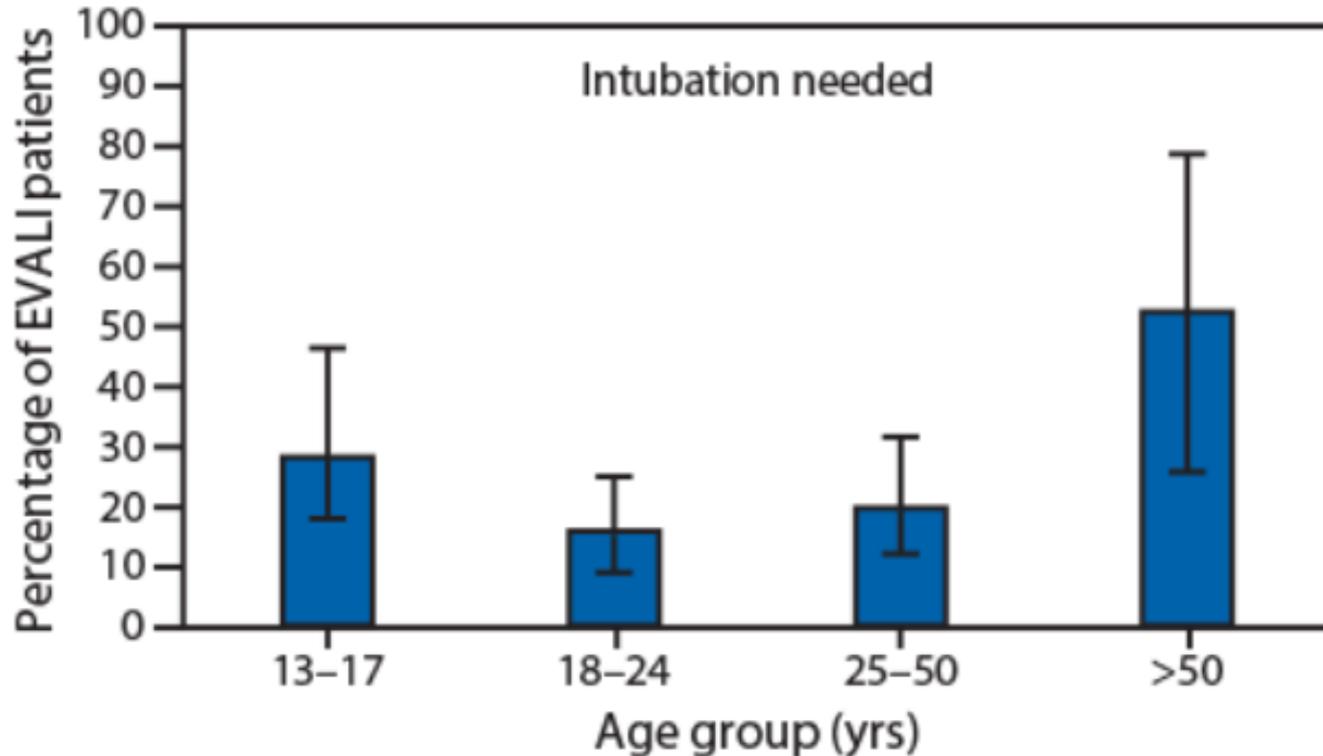
- High risk patients may be at increased risk of severe disease
  - Older age
  - History of cardiac or lung disease
  - Pregnancy



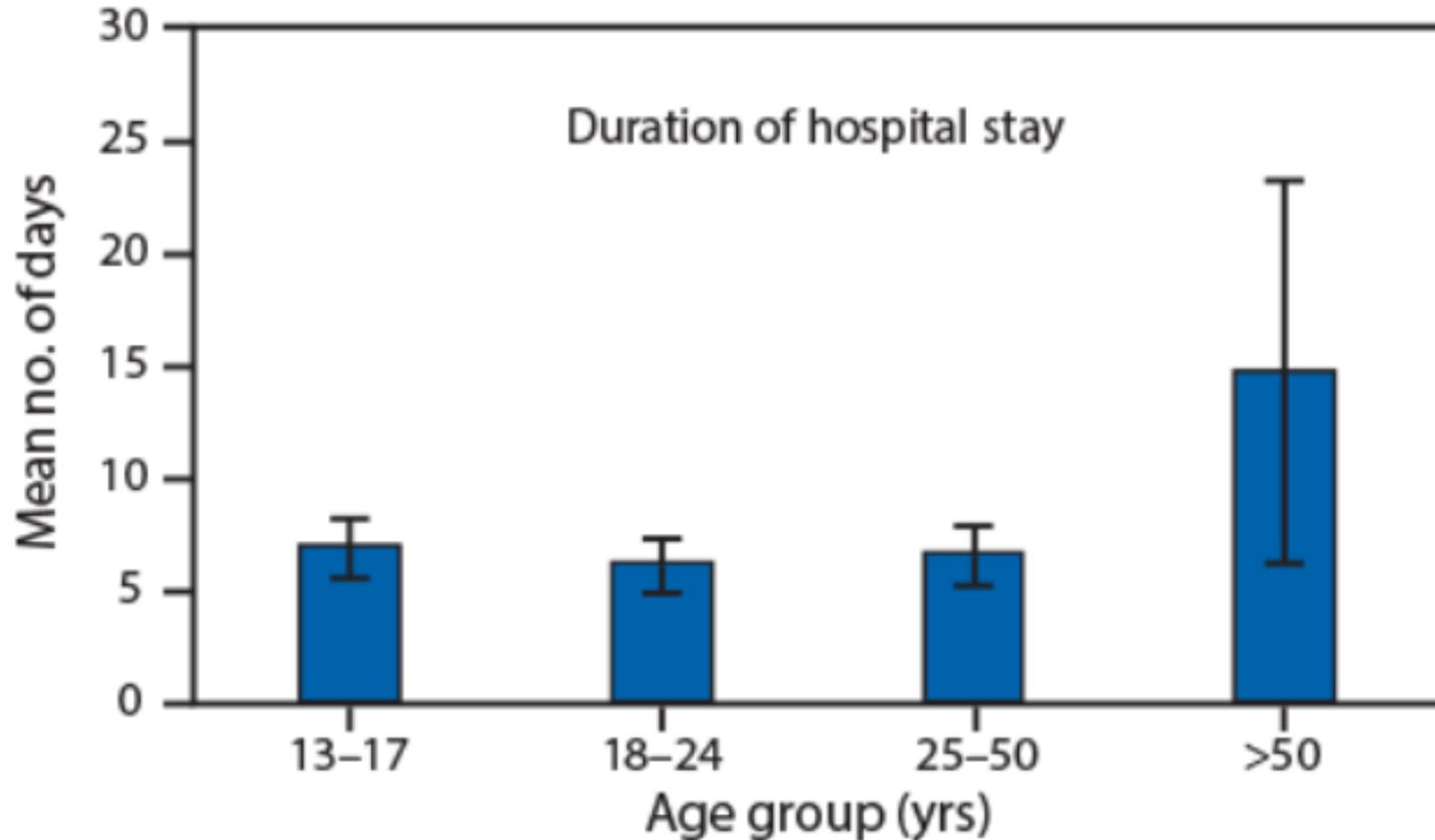
# Table: Clinical Course of Patients with EVALI\*

- **Admission to ICU: 159 of 342 patients (47%)**
  - Age group
    - 13-17: 45 of 80 patients (56%)
    - 18-24: 49 of 130 patients (38%)
    - 25-50: 54 of 115 patients (47%)
    - ≥51: 9 of 13 patients (69%)
  - Past cardiac disease: 8 of 16 patients (50%)
  - No past cardiac disease: 151 of 326 patients (46%)

## EVALI Patients Needing Intubation, by Age (N=338)



## Duration of Hospitalization, by Age (N=242)



# Duration of Hospitalization (Days)

- **Cardiac disease (N=342)**
  - Past cardiac disease: 8.9 days (mean)
  - No past cardiac disease: 6.6 days (mean)



# Follow-up From Hospital Admission

- Initial: within 1–2 weeks after discharge
  - Repeat pulse-oximetry
  - Consider repeat CXR
- Additional follow-up: 1–2 months after discharge
  - Consider spirometry, diffusion capacity testing, and CXR
- Long-term effects and the risk of recurrence of EVALI are not known
  - Many patients' symptoms resolved
  - Some patients relapsed during corticosteroid tapers after hospitalization
  - Some patients had persistent hypoxemia ( $O_2$  saturation <95% on room air at rest), requiring home oxygen

# Outpatient Management

- Outpatient management can be considered on a case-by-case basis
  - Clinically stable, less severe injury
  - Follow-up within 24–48 hours can be assured
  - Normal O<sub>2</sub> saturation
- Consider empiric use of antimicrobials, including antivirals
- Steroids for outpatients could be considered on a case-by-case basis
- **72%** of 50 patients\* had either an outpatient or emergency department visit before hospital admission

# Address Exposures for Patients with Known or Suspected EVALI

- Advise EVALI patients to discontinue use of e-cigarette, or vaping, products
  - During inpatient admission
  - Re-emphasized during outpatient follow-up visits
- Cessation of e-cigarette, or vaping, products might speed recovery
- Resuming use of e-cigarette, or vaping, products has potential to cause recurrence of symptoms or lung injury



# Cessation Resources

- Evidence-based tobacco product cessation strategies include\*
  - Behavioral counseling
  - FDA approved cessation medications
  
- Adults using e-cigarette, or vaping, products to quit cigarette smoking should not return to smoking cigarettes

# Cessation Resources Continued

- Patients who have addiction to THC-containing or nicotine-containing products\*
  - Cognitive-behavioral therapy
  - Contingency management
  - Motivational enhancement therapy
  - Multidimensional family therapy
  - Consultation with addiction medicine services

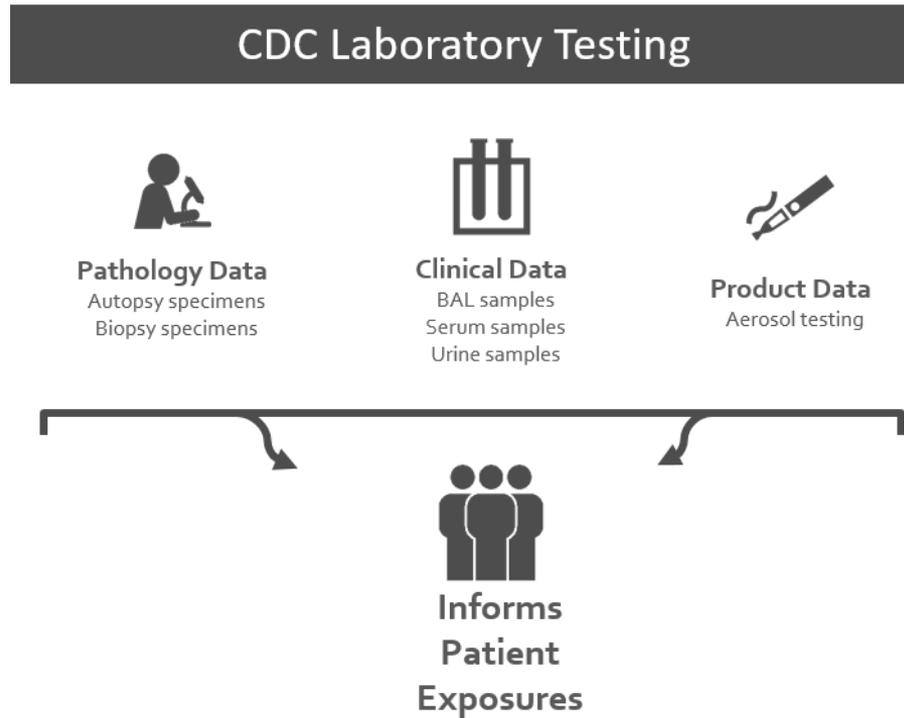
# Summary: Patients Suspected to have EVALI

- Ask patients about the use of e-cigarette, or vaping, products, particularly those containing THC
- Order a CXR
- Admit to hospital if low O<sub>2</sub> saturation or respiratory distress
- Consider combination of antibiotics, antivirals and/or corticosteroids depending on clinical context
- Provide education and cessation assistance for known or suspected EVALI patients for nicotine addiction and marijuana-use-disorder\*

\*[Substance Abuse and Mental Health Services Administrations treatment locator](#) to find treatment in your area or call 1-800-662-HELP (4357).

# Laboratory Testing and Public Health Considerations

# CDC Laboratory Strategy



# Testing of Pathologic Specimens by CDC

- If a lung biopsy or autopsy is performed, consider submission of fixed lung biopsy tissues or autopsy tissues to CDC for evaluation.
- Testing can include evaluation for lipids on formalin-fixed (wet) lung tissues that have not undergone routine processing.
- Routine microscopic examination will be performed, as well as infectious disease testing, if indicated, on formalin-fixed (wet) tissues, or formalin-fixed, paraffin-embedded tissue specimens.
- See: [Guidance for submission of autopsy and biopsy specimens](#) is posted on the CDC Lung Injury [website](#)

# Chemical Testing of BAL Fluid, Serum and Urine

- **CDC is now offering additional laboratory testing of bronchoalveolar lavage (BAL) fluid, blood, and urine samples**
  - Diluents and additives such as vitamin E acetate, food oils, squalene, terpenes, and petroleum distillates
  - Endogenous lipids and surfactants such as triglycerides, cholesterol, phospholipids, and phosphatidylcholines
  - Metabolites of nicotine and cannabinoids

# Submission of BAL Fluid, Serum, and Urine to CDC

- Consider submission of any collected specimens, including bronchoalveolar lavage, blood, or urine, to CDC for evaluation
- Clinical institutions should consider saving any residual clinical specimens from patients with suspected EVALI
- Sample submission should be coordinated through state public health laboratories or health departments
- See: [Guidance for clinical sample collection, storage, and submission](#) is available on CDC's Lung Injury [website](#)

# Aerosol Emissions Testing of E-cigarette, or vaping, Products by CDC

- CDC is now offering testing of aerosol emissions from e-cigarette, or vaping, products associated with the outbreak
- Results will complement FDA's work to characterize e-liquids, and may provide insight into the nature of the chemical exposure(s) contributing to the outbreak
- Sample submission should be coordinated through state public health laboratories or health departments

# Case Reporting to Public Health Authorities

- Reporting cases of lung injury is critical for accurate surveillance of EVALI
- Obtaining and sending products, devices, and clinical and pathologic specimens for testing can help determine cause or causes of EVALI
- CDC developing *International Classification of Diseases, Tenth Edition, Clinical Modification* coding guidance for encounters related to EVALI
  - Updates, when available, can be found at [CDC's Lung Injury website](#)



# Surveillance Case Definitions of EVALI available on CDC Website\*

- Confirmed Primary Case Definition
- Probable Primary Case Definition
- Confirmed Case Definition for Out-of-Hospital Deaths
- Probable Case Definition for Out-of-Hospital Deaths

# Public Health Recommendations

# Outbreak Might Have More than One Cause\*

- FDA and CDC have not identified the cause or causes of these lung injuries
- Only commonality is report of use of e-cigarette, or vaping, products
- No one compound or ingredient has emerged as the cause of these illnesses to date
- It may be that there is more than one cause of lung injury

\*Perrine CG, Pickens, CM; Boehmer, TK, et al. Characteristics of a multistate outbreak of lung injury associated with e-cigarette use, or vaping—United States, 2019. *MMWR Morb Mortal Wkly Rep* 2019;68:860–4.  
Ghinai I, Pray IW, Navon L, et al. E-cigarette product use, or vaping, among persons with associated lung injury—Illinois and Wisconsin, April–September 2019. *MMWR Morb Mortal Wkly Rep* 2019;68:865–9.

# CDC Public Health Recommendations

- Most patients report a history of THC-containing products
- THC has been identified in most samples tested by FDA to date
- National and state data suggest that products containing THC, particularly those obtained off the street, are linked to most of the cases and play a major role in the outbreak
- CDC recommends that persons should **NOT**
  - Use e-cigarette, or vaping, products that contain THC
  - Buy any type of e-cigarette, or vaping, products, particularly those containing THC, off the street
  - Modify or add any substances to e-cigarette, or vaping, products

# CDC Public Health Recommendations Continued



- Since the specific cause or causes of lung injury are not yet known, the only way to assure that people are not at risk while the investigation continues is to consider refraining from use of **all** e-cigarette, or vaping, products

# CDC Public Health Recommendations

- There is no safe tobacco product. All tobacco products, including e-cigarettes, carry a risk
- E-cigarette, or vaping, products should never be used by youths, young adults, or women who are pregnant
- Adults addicted to nicotine using e-cigarettes should weigh all risks and benefits, and consider utilizing FDA approved nicotine replacement therapies.\*
- If people continue to use e-cigarette, or vaping, products, they should:
  - Carefully monitor themselves for symptoms
  - See a health care provider immediately if symptoms develop

# Resources for Providers

# CDC Resources for Healthcare Providers

> Outbreak of Lung Injury Associated with E-cigarette Use, or Vaping

Facebook Twitter LinkedIn Email RSS

## For Healthcare Providers

[Español \(Spanish\)](#)



As this investigation continues, CDC encourages clinicians to report possible cases of e-cigarette, or vaping, product use associated lung injury (EVALI) to their [local or state health department](#) for further investigation.

If e-cigarette, or vaping, product use is suspected as a possible cause for a patient's lung injury, a detailed history of the substances used, the sources of products, and the devices used should be obtained, as outlined in [the Health Alert Network \(HAN\)](#) and [Update: Interim Guidance for Health Care Providers Evaluating and Caring for Patients with Suspected E-cigarette, or Vaping, Product Use Associated Lung Injury — United States, October 2019](#), and efforts should be made to collect clinical samples and to determine if any remaining product, devices, and liquids are available for testing.

### Do You Have Any of These Symptoms?



- cough, shortness of breath, or chest pain
- nausea, vomiting, or diarrhea
- fatigue, fever, or abdominal pain

### Do you use e-cigarettes or vaping products?



**If you answered YES to either of these questions, be sure to tell your doctor that you use e-cigarettes, or vaping products, and to check for lung injury!**

08/2019 PRINT ONLY

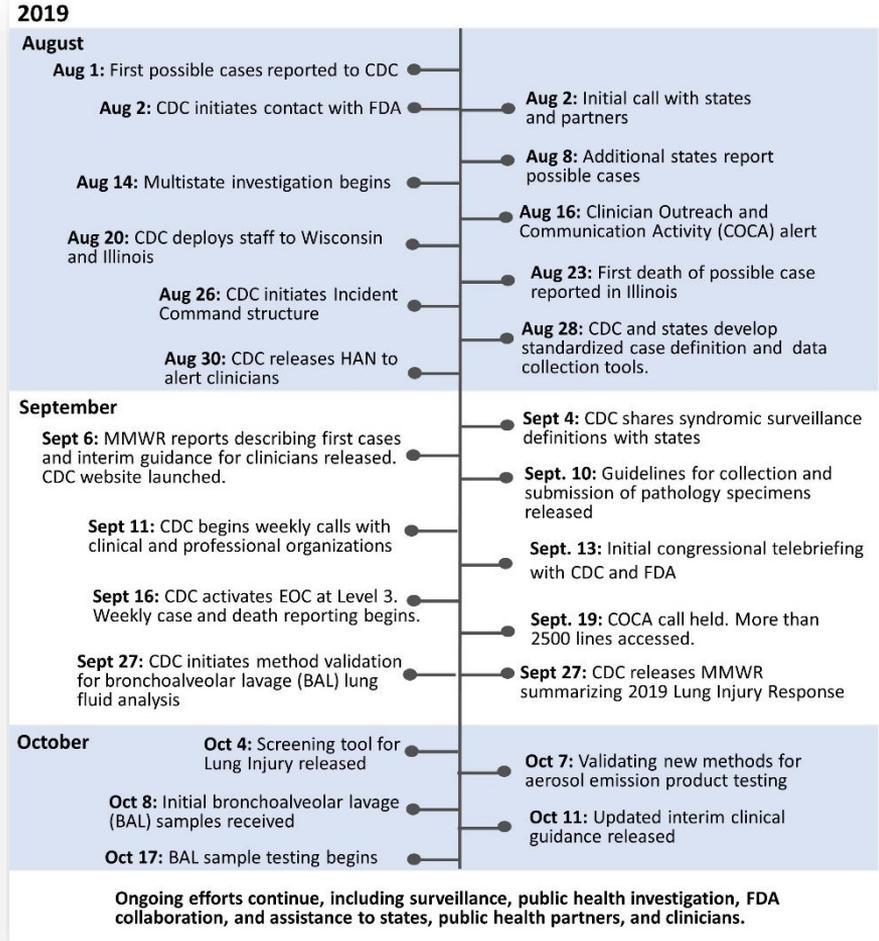
FOR MORE INFORMATION:  
VISIT [WWW.CDC.GOV/LUNGINJURY](http://WWW.CDC.GOV/LUNGINJURY) OR CALL 1-800-CDC-INFO.



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

# Timeline Highlights: CDC's Response

- Cases reported to CDC in early August
- Activated Emergency Operations Center at Level 3 in mid-September
- Efforts ongoing



# More Information

[CDC's Lung Injury Website](#)

[CDC's Lung Injury Webpage for Healthcare Providers](#)

[CDC IMS 2019 Lung Injury Response Clinical Inquiries Email](#)

For more information, contact CDC  
1-800-CDC-INFO (232-4636)  
TTY: 1-888-232-6348 [www.cdc.gov](http://www.cdc.gov)

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



# Summary

- CDC's investigation has not yet identified any specific substance or product linked to all cases of lung injury
- Most patients hospitalized with suspected EVALI received treatment for presumed infectious etiologies
  - Some responded to corticosteroids with or without antibiotics
- Report possible cases to and coordinate testing of patient specimens and product samples with your health department
- CDC will continue to work in collaboration with FDA and state and local partners to investigate cases and to update guidance, as new data emerge

# Table: Characteristics of Patients with EVALI (n=342)

## ▪ Age (n=338)

- 22 (range 13-71 years)

## ▪ Symptoms reported (n=339)

- Any respiratory
  - 323 patients (95%)
- Any gastrointestinal
  - 262 patients (77%)
- Any constitutional
  - 289 patients (85%)

## ▪ Vital Signs

- O2 saturation <95% while breathing room air (n=253)
  - 143 patients (57%)
- Tachycardia (HR>100 beats/min) (n=310)
  - 169 patients (55%)
- Tachypnea (respiratory rate > 20 breaths/min) (n=172)
  - 77 patients (45%)

# CDC Confirmed Primary Case Definition

- Using an e-cigarette ("vaping") or dabbing\* in 90 days prior to symptom onset  
**AND**
- Pulmonary infiltrate on plain film chest radiograph or opacities on chest computed tomography (CT)  
**AND**
- Absence of pulmonary infection on initial work-up. **Minimum criteria** are
  - A negative respiratory viral panel **and**
  - A negative influenza PCR or rapid test, if local epidemiology supports influenza testing; **and**
  - All other clinically-indicated respiratory ID testing are negative  
**AND**
- No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process)

\* 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) Dabbing is superheating substances containing high concentrations of THC or other cannabinoids.

[Website for case definition](#)

(as of September 18, 2019)

# CDC Probable Primary Case Definition

- 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 is not the sole cause of the underlying respiratory disease process **OR** **Minimum criteria** to rule out pulmonary infection not met (testing not performed) and clinical team\* believes this is not the sole cause of the underlying respiratory disease process
- AND**
- No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process)

\*Clinical team caring for the patient.

# CDC Confirmed Case Definition for Out-of-Hospital Deaths

- History of e-cigarette product use, or vaping, in the 90 days prior to death **AND**
- Pathologic evidence of acute lung injury **AND**
- Absence of pulmonary infection\* **AND**
- No evidence of alternative plausible diagnoses for the lung injury in medical record or at autopsy

\* Does not include positive results from postmortem microbiologic testing thought to represent normal viral or bacterial colonization of nasopharynx, or postmortem bacterial overgrowth of lung tissues or blood. Recommended microbiology: Nasopharyngeal and/or lung swab testing for influenza, lung swab testing for respiratory viruses, postmortem cultures of lung tissue and blood. Interpretation of postmortem cultures may be complicated because of bacterial overgrowth resulting from tissue breakdown.

[Website for case definition](#)

(as of October 4, 2019)

# CDC Probable Case Definition for Out-of-Hospital Deaths

- History of e-cigarette product use, or vaping, in the 90 days prior to death **AND**
- Pathologic evidence of acute lung injury **AND**
- A positive result on testing for pulmonary infection\*, however medical examiner or other forensic pathologist believes infection is not the sole cause of the underlying lung injury **AND**
- No evidence of alternative plausible diagnoses for the lung injury in medical record or at autopsy

\* Does not include positive results from postmortem microbiologic testing thought to represent normal viral or bacterial colonization of nasopharynx, or postmortem bacterial overgrowth of lung tissues or blood. Recommended microbiology: Nasopharyngeal and/or lung swab testing for influenza, lung swab testing for respiratory viruses, postmortem cultures of lung tissue and blood. Interpretation of postmortem cultures may be complicated because of bacterial overgrowth resulting from tissue breakdown.

[Website for case definition](#)

(as of October 4, 2019)

## To Ask a Question

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  - Submit your question.
  - Please do not submit a question using the chat button.
- ❑ **For media questions, please contact CDC Media Relations at 404-639-3286 or send an email to [media@cdc.gov](mailto:media@cdc.gov).**
- ❑ **If you are a patient, please refer your questions to your healthcare provider.**

**Today's webinar will soon be  
available  
to view on demand**

**When:** A few days after today's live webinar

**What:** Video with closed captioning

**Where:** On the COCA Call webpage at:

[https://emergency.cdc.gov/coca/calls/2019/callinfo\\_101719.asp](https://emergency.cdc.gov/coca/calls/2019/callinfo_101719.asp)

## Upcoming COCA Call

**Topic:** Preventing the Spread of Novel or Targeted Multidrug-resistant Organisms (MDROs) in Nursing Homes through Enhanced Barrier Precautions

**Date:** Thursday, October 24, 2019

**Time:** 2:00-3:00 p.m. ET

# COCA Products & Services

		<b>COCA Call</b>
		CDC Clinician Outreach and Communication Activity

COCA Call Announcements contain all information subscribers need to participate in COCA Calls. COCA Calls are held as needed.

		<b>COCA Learn</b>
		CDC Clinician Outreach and Communication Activity

Monthly newsletter that provides information on CDC training opportunities, conference and training resources, the COCA Partner Spotlight, and the Clinician Corner.

		<b>Clinical Action</b>
		CDC Clinician Outreach and Communication Activity

As-needed messages that provide specific, immediate action clinicians should take. Contains comprehensive CDC guidance so clinicians can easily follow recommended actions.

# COCA Products & Services



Monthly newsletter that provides updates on emergency preparedness and response topics, emerging public health threat literature, resources for health professionals, and additional information important during public health emergencies and disasters.



Informs clinicians of new CDC resources and guidance related to emergency preparedness and response. This email is sent as soon as possible after CDC publishes new content.

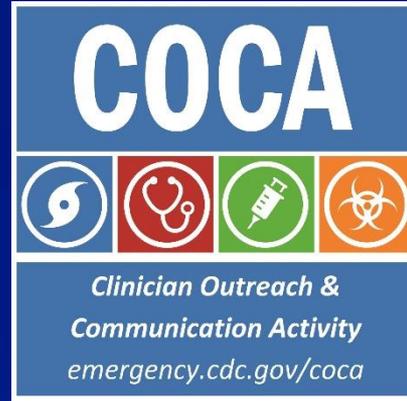


CDC's primary method of sharing information about urgent public health incidents with public information officers; federal, state, territorial, and local public health practitioners; clinicians; and public health laboratories.

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Receive information about:

- Upcoming COCA Calls
- Health Alert Network (HAN) messages
- CDC emergency response activations
- Emerging public health threats
- Emergency preparedness and response conferences and training opportunities



<https://emergency.cdc.gov/coca>

# Join Us on Facebook!



The screenshot shows the Facebook profile for the CDC Clinician Outreach and Communication Activity (COCA). The profile picture features a diverse group of healthcare professionals, including nurses, doctors, and a pharmacist, smiling. The cover photo is a similar group of healthcare workers. The page name is "CDC Clinician Outreach and Communication Activity - COCA" with a verified badge. The handle is "@CDCClinicianOutreachAndCommunicationActivity". The page has 21,420 likes and 21,217 followers. A recent post from October 31, 2017, at 1:18pm, announces a free CE event: "Clinicians, you can earn FREE CE with this COCA Call! Join us for this COCA Call November 7, 2017 at 2:00PM." The location is listed as 1600 Clifton Rd NE, Atlanta, Georgia 30333. The page also includes navigation links for Home, About, Posts, Photos, Events, and Community, along with a "Create a Page" button.

**COCA**

CDC Clinician Outreach and Communication Activity - COCA ✓  
@CDCClinicianOutreachAndCommunicationActivity

Home  
About  
Posts  
Photos  
Events  
Community  
Create a Page

Liked Following Share ... Sign Up

Status  
Write something on this Page...

Posts  
CDC Clinician Outreach and Communication Activity - COCA shared their event.  
October 31 at 1:18pm · 🌐  
Clinicians, you can earn FREE CE with this COCA Call! Join us for this COCA Call November 7, 2017 at 2:00PM.

Government Organization in Atlanta, Georgia  
Community  
21,420 people like this  
21,217 people follow this  
About  
1600 Clifton Rd NE  
Atlanta, Georgia 30333

**Thank you for joining!**



**Centers for Disease Control  
and Prevention  
Atlanta, Georgia**

**<https://emergency.cdc.gov/coca>**