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**Update: Interim Guidance for Health Care Providers regarding the Management  
Approach of Patients with Suspected E-cigarette, or Vaping,  
Product Use-Associated Lung Injury (EVALI)**

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

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

**November 21, 2019**



**Please Note:**

**Continuing Education (CE)  
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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. Describe the questions to ask patients who present with respiratory, gastrointestinal, or constitutional symptoms about the use of e-cigarette, or vaping products, and how to evaluate patients with suspected EVALI according to CDC recommendations.**
- 2. Define the criteria for patients who may be appropriate candidates for outpatient management of EVALI.**
- 3. Discuss the importance of influenza vaccination and testing; empiric use of antimicrobials, including antivirals (as clinically indicated); and consultation with specialists, as appropriate, to optimize patient management.**
- 4. Describe how corticosteroids for the treatment of EVALI in the outpatient setting may worsen respiratory infections commonly seen in the outpatient setting.**

## Today's First Presenter



**CAPT Jennifer Wiltz, MD, MPH, FAAP, FAHA (USPHS)**  
Clinical Task Force Deputy, 2019 CDC EVALI Response  
Senior Medical Officer,  
Division for Heart Disease and Stroke Prevention  
National Center for Chronic Disease Prevention  
and Health Promotion  
Centers for Disease Control and Prevention



## Today's Second Presenter



**CDR Mary (Molly) Evans, MD, MPH (USPHS)**  
Clinical Task Force Lead, 2019 CDC EVALI Response  
Medical Officer, Division of Overdose Prevention  
National Center for Injury Prevention and Control  
Centers for Disease Control and Prevention

## Today's Third Presenter



**CAPT Timothy Uyeki, MD, MPH (USPHS)**  
Chief Medical Officer, Influenza Division  
National Center for Immunization and Respiratory Diseases  
Centers for Disease Control and Prevention



# Updated Guidance for Health Care Providers Regarding the Management Approach of Patients with Suspected E-cigarette, or Vaping, Product Use-Associated Lung Injury (EVALI)

**Mary E. Evans, MD, MPH**

**Timothy M. Uyeki, MD, MPH, MPP**

**Jennifer L. Wiltz, MD, MPH**

CDC Clinician Outreach and Communication Activity, COCA Call

November 21, 2019

# Overview

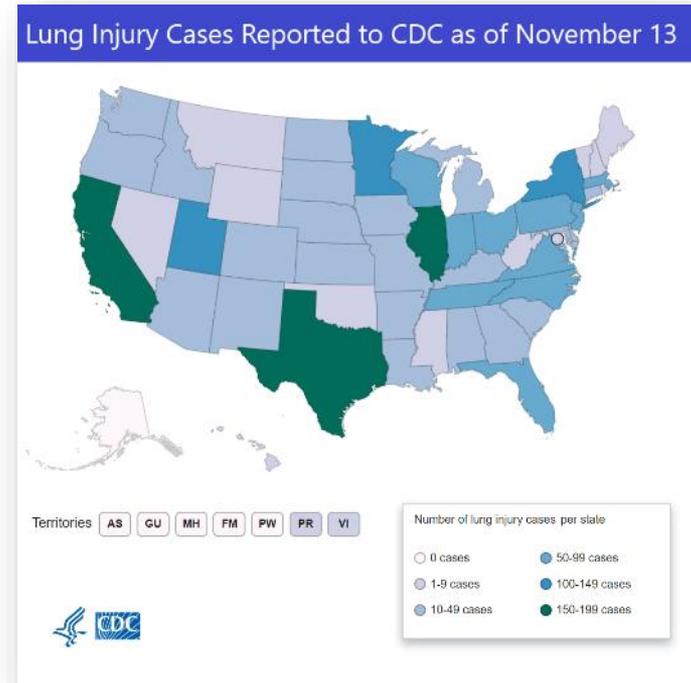
- **EVALI Outbreak Summary**
- **E-cigarette, or Vaping, Products: Background**
- **CDC's Updated EVALI Guidance for Health Care Providers**
- **Special Considerations for EVALI and Influenza**
- **CDC Public Health Recommendations**

**E-cigarette, or  
Vaping, Product  
Use-Associated  
Lung Injury (EVALI)  
Outbreak Summary**



# Cases Reported as of November 13, 2019

- **2,172** confirmed and probable cases of EVALI reported from 49 states, the District of Columbia, and 2 U.S. territories (Puerto Rico and U.S. Virgin Islands)
- **42** deaths reported from 24 states



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

Next Update: today

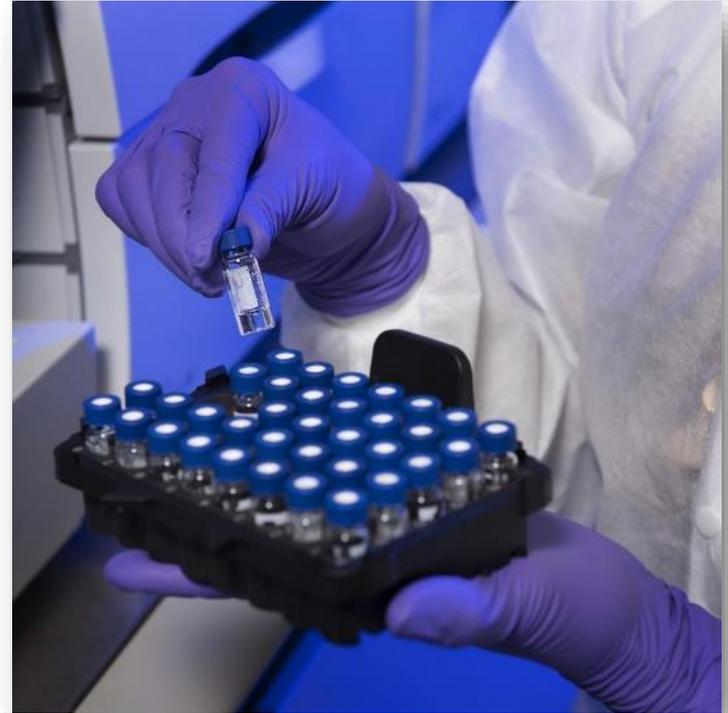
# Case Characteristics

- Among 2,016 cases with available data on hospitalization status
  - 1,906 (95%) were hospitalized
  - 110 (5%) were not hospitalized, likely an underestimate
- Characteristics were similar for hospitalized and nonhospitalized patients
  - Nearly **70% male**
  - Nearly **80% aged <35 years**
  - More than **80%** reported use of **THC-containing products**



# Recent CDC Lab Findings: Vitamin E Acetate

- Detected in bronchoalveolar lavage fluid samples from a convenience sample of 29 patients with EVALI
- Is being used as a diluent or thickening agent in some THC-containing e-cigarette, or vaping, products
- Is generally regarded as safe when ingested as a supplement or applied topically
- When inhaled, may interfere with normal lung function

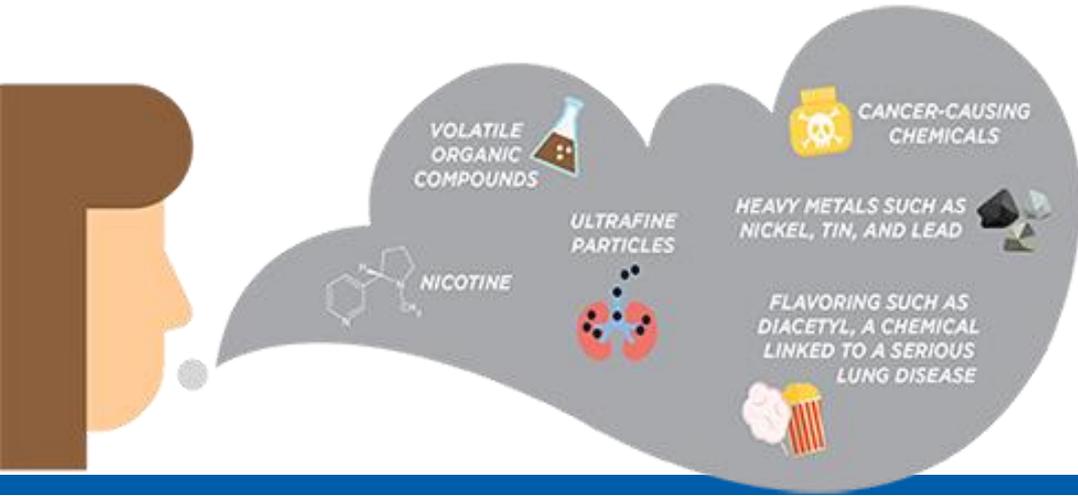




# E-cigarette, or Vaping, Products: Background

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

- E-cigarettes come in many shapes and sizes. Most have a battery, a heating element, and a place to hold a liquid.
  - E-cigarettes are also known as: E-cig, Vapes, E-hookahs, Vape pens, Mods, Tanks, or Electronic nicotine delivery systems (ENDS)
- 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, Nicotine Product Constituents

- Propylene glycol and glycerol used in varying proportions as solvents/carriers
- Nicotine
- Flavorings
- Other chemicals

[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/about-e-cigarettes.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html)

# E-cigarette, or Vaping, THC Product Constituents

- Types of products
  - Dry herb
  - THC oil concentrate extracted from herb: thick, sticky, gummy resin
  - E-liquid made from oil concentrate
- E-liquid constituents
  - Oil concentrate is not highly soluble in propylene glycol/glycerol mixture typically used in nicotine products
  - Terpenoids (e.g., limonene) or lecithin added to improve miscibility of oil concentrate
  - Other solvents/cutting agents: medium chain triglycerides (MCT) oil, Vit E acetate
  - Flavorings (e.g., menthol, tobacco, orange crush)

# 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., wax, shatter, budder, BHO, 710, CBD)



*Centers for Disease Control and Prevention*

**MMWR**

Morbidity and Mortality Weekly Report

Early Release / Vol. 68

November 19, 2019

**Update: Interim Guidance for Health Care Providers for Managing Patients  
with Suspected E-cigarette, or Vaping, Product Use–Associated Lung Injury —  
United States, November 2019**

**Updated Interim EVALI Guidance  
for Health Care Providers**

# Clinical Characteristics of Nonhospitalized Patients



- **85%** (47/55) initially experienced respiratory symptoms
  - e.g., cough, chest pain, and shortness of breath

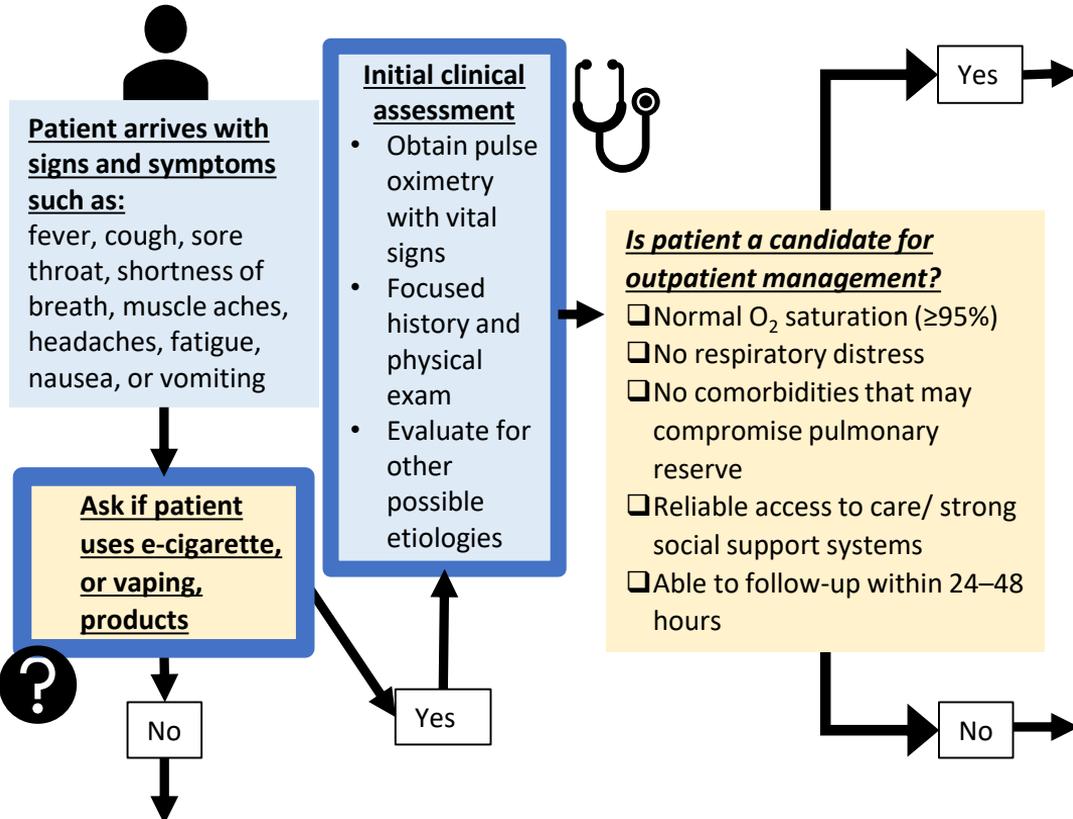


- **57%** (27/47) had gastrointestinal symptoms
  - e.g., abdominal pain, nausea, vomiting, and diarrhea



- **76%** (41/54) had symptoms accompanied by constitutional symptoms
  - e.g., fever, chills, and weight loss

# Management algorithm



**Patient arrives with signs and symptoms such as:**  
fever, cough, sore throat, shortness of breath, muscle aches, headaches, fatigue, nausea, or vomiting

**Ask if patient uses e-cigarette, or vaping, products**

**Initial clinical assessment**

- Obtain pulse oximetry with vital signs
- Focused history and physical exam
- Evaluate for other possible etiologies

**Is patient a candidate for outpatient management?**

- Normal O<sub>2</sub> saturation (≥95%)
- No respiratory distress
- No comorbidities that may compromise pulmonary reserve
- Reliable access to care/ strong social support systems
- Able to follow-up within 24-48 hours

**Outpatient clinical evaluation**

- Consider CXR (chest pain, dyspnea, clinical exam findings)
- Consider influenza testing per established guidelines

**Outpatient clinical management**

Manage for possible EVALI

- Discontinue use of e-cigarette, or vaping, products
- Consider corticosteroids with caution

Manage other possible infections, if present

- Consider early initiation of antivirals for possible influenza or appropriate antibiotics for community acquired pneumonia

Ensure follow-up within 24-48 hours

Emphasize importance of routine influenza vaccination

Offer cessation services

**Inpatient clinical evaluation**

- Conduct laboratory and infectious disease testing guided by clinical findings
- Obtain a chest X-ray and consider CT if chest X-ray is normal
- Consider consultation with specialists
- Additional testing with bronchoalveolar lavage or lung biopsy as clinically indicated, in consultation with pulmonary specialists

**Inpatient clinical management**

- Discontinue use of e-cigarette, or vaping, products
- Consider empiric use of antibiotics, antivirals, or both
- Consider corticosteroids with timing, depending on severity
- Offer cessation services
- Ensure follow-up no later than 1-2 weeks after discharge
- Emphasize importance of routine influenza vaccination

# Ask about Use

- **Ask about the use of e-cigarette, or vaping, products and types of substances used**
- Confidentiality is essential especially for young adults and adolescents
- Empathetic, nonjudgmental, and private questioning of patients\*
- Continue to ask questions during follow-up encounters



# Exposure History

- **Types of substances used**
  - THC/cannabis [oil, dabs], nicotine, modified products or the addition of substances not intended by the manufacturer
- **Where products were obtained**
  - THC containing products obtained through informal sources such as friends, family members, or in-person or online-dealers have been implicated
- **Clinicians might seek additional information to inform the ongoing investigation**

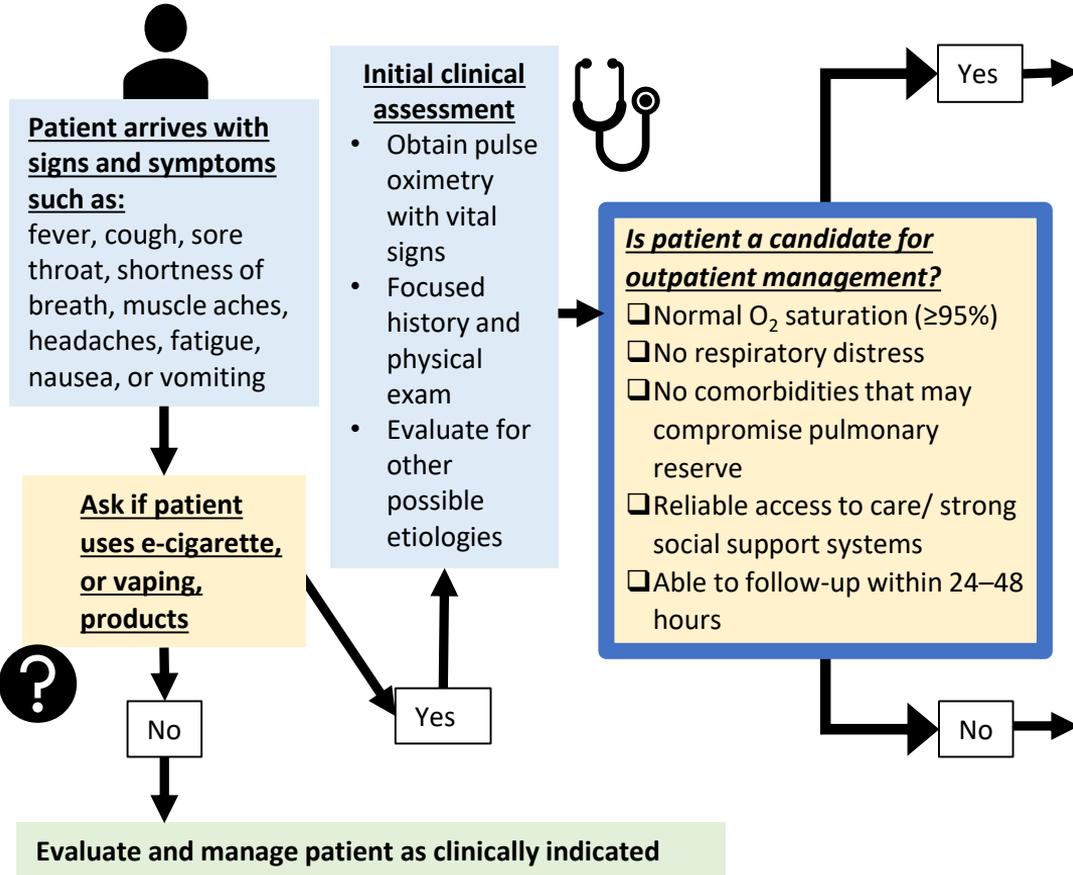


# Physical Examination

- Should include vital signs and pulse-oximetry
  - Vital signs findings include tachycardia, tachypnea, O<sub>2</sub> saturation <95% at rest on room air
- Pulmonary findings on auscultation exam have been unremarkable, even among patients with severe lung injury



# Management algorithm



## Outpatient clinical evaluation

- Consider CXR (chest pain, dyspnea, clinical exam findings)
- Consider influenza testing per established guidelines

## Outpatient clinical management

Manage for possible EVALI

- Discontinue use of e-cigarette, or vaping, products
  - Consider corticosteroids with caution
- Manage other possible infections, if present
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- Ensure follow-up within 24-48 hours
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## Inpatient clinical management

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- Consider corticosteroids with timing, depending on severity
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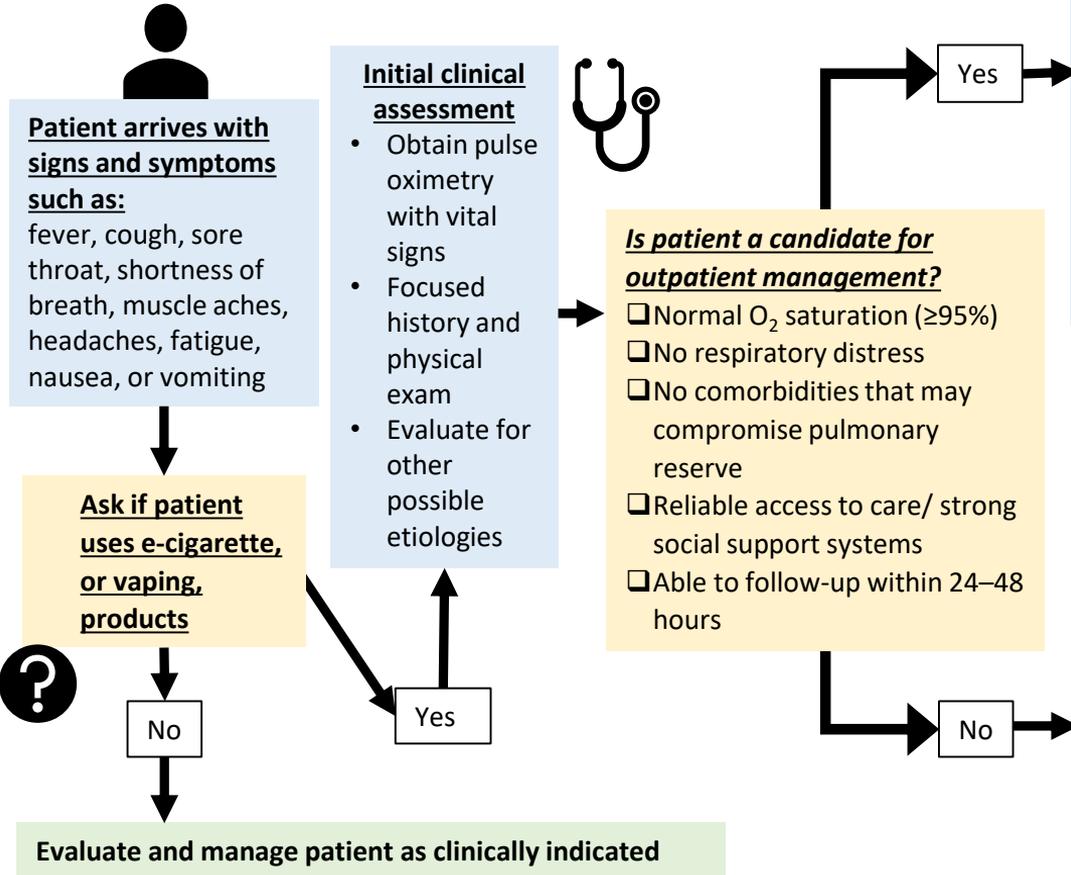


# Considerations for Management Setting

- Some patients may be candidates for outpatient management
  - Normal oxygen saturation ( $\geq 95\%$ )
  - No respiratory distress
  - No comorbidities that might compromise pulmonary reserve
  - Reliable access to care, strong social support systems
  - **Ensure follow-up within 24–48 hours**



# Management algorithm



## Outpatient clinical evaluation

- Consider CXR (chest pain, dyspnea, clinical exam findings)
- Consider influenza testing per established guidelines

## Outpatient clinical management

Manage for possible EVALI

- Discontinue use of e-cigarette, or vaping, products
  - Consider corticosteroids with caution
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- Conduct laboratory and infectious disease testing guided by clinical findings
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## Inpatient clinical management

- Discontinue use of e-cigarette, or vaping, products
- Consider empiric use of antibiotics, antivirals, or both
- Consider corticosteroids with timing, depending on severity
- Offer cessation services
- Ensure follow-up no later than 1-2 weeks after discharge
- Emphasize importance of routine influenza vaccination



# Outpatient Clinical Evaluation

- Consider influenza testing
- Consider chest radiograph (CXR), if indicated by
  - Chest pain
  - Dyspnea
  - Clinical exam findings



# Outpatient Management: Manage Possible EVALI

- Advise patient to discontinue use of e-cigarette, or vaping, products
  - Some patients have had recurrences with continue use
- Corticosteroids might worsen respiratory infections and should be considered with caution in the outpatient setting
  - Not well studied; consider with caution
  - Might worsen commonly seen respiratory infections
  - Most patients had rapid improvement with corticosteroids
  - Some patients who have not received corticosteroids had clinical improvement with e-cigarette cessation

# Outpatient Management: Manage Other Infections

- Manage other infections, if present, in accordance with established guidelines\*
  - Early initiation of antivirals for possible influenza
  - Appropriate antibiotics for community acquired pneumonia



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

# Outpatient Management: Cessation Counseling

- Offer or connect all patients to services to stop using e-cigarette, or vaping, products
- Adults tobacco smokers should be
  - advised not to return to smoking cigarettes, if using e-cigarette, or vaping, products to quit cigarette smoking
  - provided with evidence-based interventions: behavioral counseling, FDA-approved cessation medications
- Adolescents and young adults might benefit from specialized services like
  - addiction treatment services
  - providers who have experience with counseling and behavioral health

# Outpatient Management: Cannabis Use Disorder

- People with cannabis use disorder should receive evidence-based interventions, such as
  - Cognitive-behavioral therapy
  - Contingency management
  - Motivational enhancement therapy
  - Multidimensional family therapy
  - Addiction medicine services consultation
  - [www.findtreatment.gov](http://www.findtreatment.gov) or 1-800-662-HELP (4357).

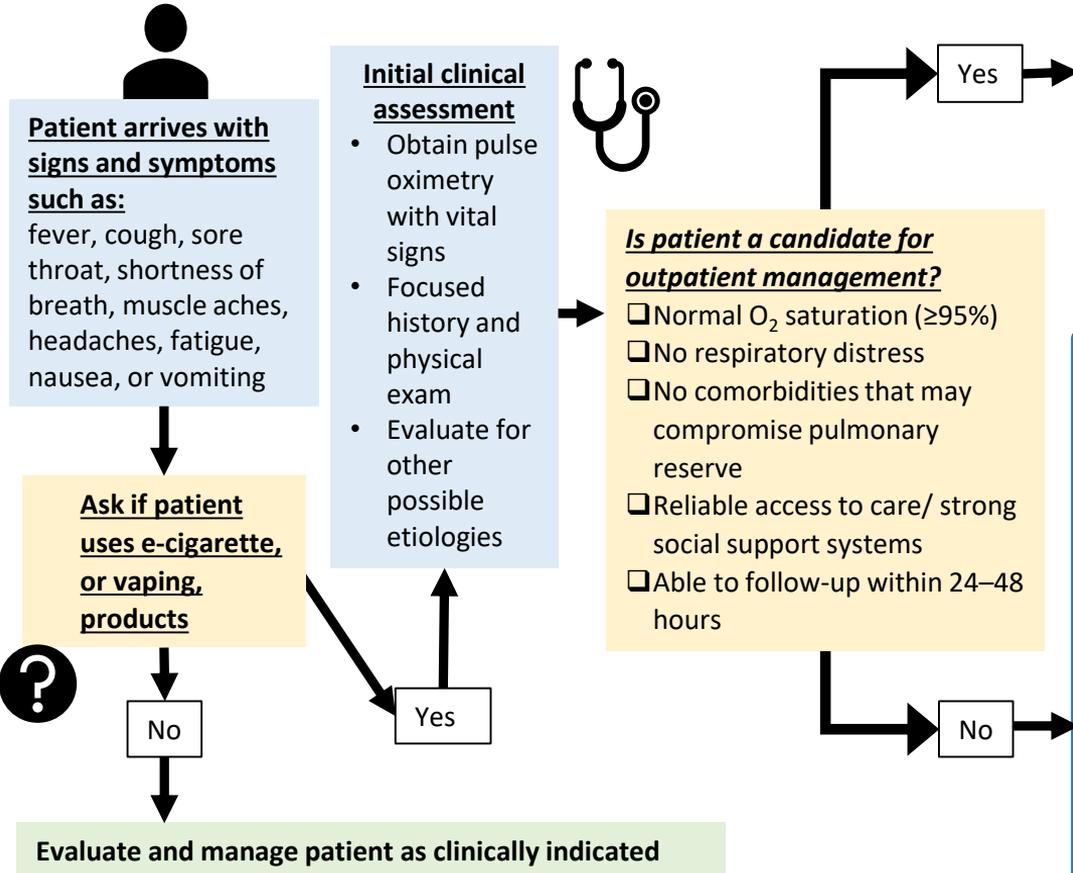


# Outpatient Management: Follow-Up Instructions

- Ensure follow-up within 24-48 hours; additional follow-up might be indicated, based on clinical findings
- Patients should return immediately if they develop new or worse respiratory symptoms
- Emphasize importance of routine influenza vaccination



# Management algorithm



## Outpatient clinical evaluation

- Consider CXR (chest pain, dyspnea, clinical exam findings)
- Consider influenza testing per established guidelines

## Outpatient clinical management

Manage for possible EVALI

- Discontinue use of e-cigarette, or vaping, products
  - Consider corticosteroids with caution
- Manage other possible infections, if present
- Consider early initiation of antivirals for possible influenza or appropriate antibiotics for community acquired pneumonia
- Ensure follow-up within 24-48 hours
- Emphasize importance of routine influenza vaccination
- Offer cessation services



## Inpatient clinical evaluation

- Conduct laboratory and infectious disease testing guided by clinical findings
- Obtain a chest X-ray and consider CT if chest X-ray is normal
- Consider consultation with specialists
- Additional testing with bronchoalveolar lavage or lung biopsy as clinically indicated, in consultation with pulmonary specialists

## Inpatient clinical management

- Discontinue use of e-cigarette, or vaping, products
- Consider empiric use of antibiotics, antivirals, or both
- Consider corticosteroids with timing, depending on severity
- Offer cessation services
- Ensure follow-up no later than 1-2 weeks after discharge
- Emphasize importance of routine influenza vaccination



# Inpatient Clinical Evaluation

- Urine toxicology, influenza testing, other laboratory and infectious disease testing guided by clinical findings
- Obtain a chest x-ray and consider CT if chest x-ray is normal
- Consultation with pulmonary, critical care, medical toxicology, infectious disease, and others
- Consider bronchoalveolar lavage or lung biopsy as clinically indicated

# Inpatient Clinical Management

- Discontinue use of e-cigarette, or vaping, products
- Consider empiric use of antibiotics, antivirals, or both, in accordance with established guidelines
- Consider corticosteroids, with timing depending on severity
- Offer cessation services
- Ensure follow-up no later than 1-2 weeks after discharge from hospital
- Emphasize importance of routine influenza vaccination

# 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 have symptom resolution
  - Some patients relapsed during corticosteroid tapers or with resumption product use
  - Some had hypoxemia requiring home oxygen and pulmonary follow up
  - Some treated with high-dose corticosteroids might require monitoring of adrenal function and endocrinology follow up

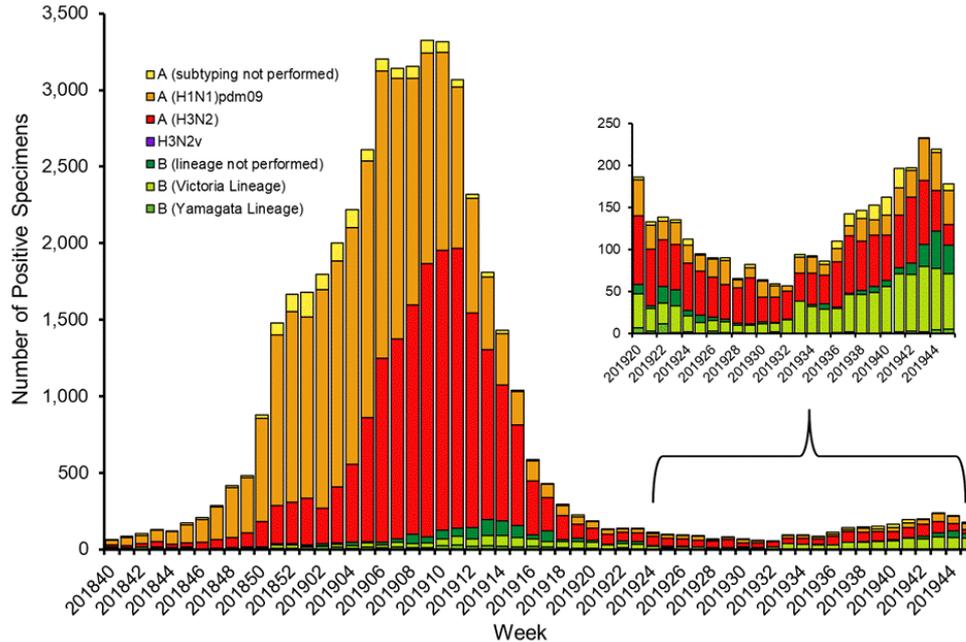
# Clinical Guidance Summary

- Ask patients about the use of e-cigarette, or vaping, products
- Consider outpatient management only if they are clinically stable and meet certain criteria
- Test patients for influenza, particularly during influenza season, and implement empiric use of antimicrobials, including antivirals, as clinically indicated
- Use caution when considering prescribing corticosteroids for outpatients because this treatment modality has not been well studied among outpatients, and corticosteroids could worsen respiratory infections
- Recommend evidence-based treatment strategies, including behavioral counseling to help patients discontinue using e-cigarette, or vaping, products
- Emphasize the importance of annual influenza vaccination for all persons aged  $\geq 6$  months, including patients at risk for EVALI.

# **EVALI and Influenza Season: Special Considerations**

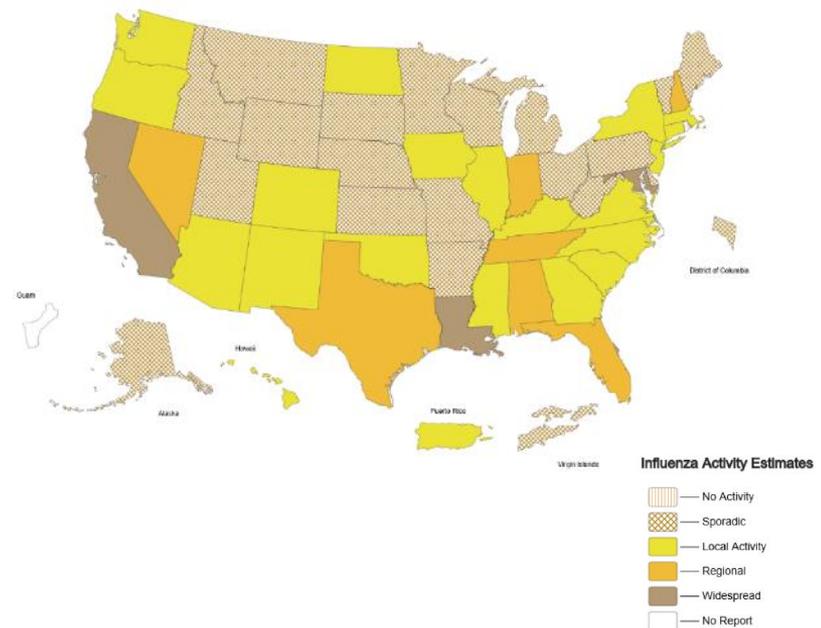
# U.S. Influenza Activity (as of November 9, 2019)

Influenza Positive Tests Reported to CDC by U.S. Public Health Laboratories, National Summary, September 30, 2018 – November 9, 2019



Weekly Influenza Activity Estimates Reported by State and Territorial Epidemiologists\*

Week Ending Nov 09, 2019 - Week 45



# Influenza and EVALI

- Influenza cannot be distinguished from EVALI by signs, symptoms, clinical features at presentation, or by testing
  - Acute respiratory illness in a patient with a history of e-cigarette/vaping and THC exposure could be caused by:
    - Influenza viruses
    - Other respiratory infections
    - EVALI
    - All of the above
- Frequency of influenza occurring with EVALI is unknown

# CDC Influenza Vaccination Recommendations

- **Annual influenza vaccination is recommended for all persons aged 6 months and older**
  - Includes women who are pregnant or will be pregnant during influenza season to protect them and their infants
  - Wide range of influenza vaccines available
  - More than 162 million doses of influenza vaccine distributed to date

# CDC Influenza Testing Recommendations

## ■ Outpatients\*

- Test for influenza if results will change management
- Rapid molecular assays are recommended over rapid antigen tests
  - Preferred specimens: nasopharyngeal or combined nasal/throat swabs

## ■ Hospitalized Patients\*

- Use influenza molecular assays
- Patients with respiratory failure without a diagnosis:
  - Preferred specimens: lower respiratory tract specimens

➤ *\*Clinicians should interpret negative influenza testing results carefully*

# Influenza Antiviral Medications

- Four FDA-approved antivirals are recommended for use in the U.S.
  - **Neuraminidase inhibitors:**
    - Oseltamivir (oral)
    - Zanamivir (inhaled)
    - Peramivir (intravenous)
  - **Cap-dependent endonuclease inhibitor:**
    - Baloxavir (oral)

# CDC Antiviral Treatment Recommendations

- Antiviral treatment is *recommended as early as possible* for any patient with confirmed or suspected influenza who:
  - Is Hospitalized (oseltamivir is recommended)
  - Has Severe, Complicated, or Progressive illness
  - Is at High Risk for Influenza Complications
    - Children aged <2 years, adults aged ≥65 years, people with underlying chronic medical conditions (pulmonary, cardiac, endocrine, kidney, liver, metabolic, immunosuppression, neurologic and neurodevelopment conditions), pregnant/postpartum women, persons with extreme obesity [BMI] ≥40, American Indians/Alaska Natives, residents of nursing homes/chronic care facilities
- *Consider* for non-High Risk with uncomplicated influenza within 2 days

# Corticosteroids and Influenza

Clinical Infectious Diseases

IDSA GUIDELINE

IDSAA  
Infectious Diseases Society of America

hivma  
hiv medicine association

OXFORD

Clinical Practice Guidelines by the Infectious Diseases Society of America: 2018 Update on Diagnosis, Treatment, Chemoprophylaxis, and Institutional Outbreak Management of Seasonal Influenza<sup>a</sup>

- The Infectious Diseases Society of America (IDSA) recommends:
  - ***Clinicians should not administer corticosteroid adjunctive therapy*** for the treatment of adults or children with suspected or confirmed seasonal influenza, influenza-associated pneumonia, respiratory failure, or ARDS, ***unless clinically indicated for other reasons***
- Some observational studies suggest corticosteroid treatment is associated with prolonged influenza viral shedding, increased complications, emergence of antiviral resistance, and secondary bacterial and fungal infections

# Influenza Risk in Patients with a History of EVALI

- Risk of influenza complications in patients with history of EVALI is unknown
- Patients with a history of EVALI should be:
  - Vaccinated for influenza
  - Followed closely after hospital discharge
  - If acute respiratory symptoms develop after improvement of EVALI, patients should present for prompt evaluation for possible influenza testing and antiviral treatment
- Strongly consider admitting patients with a history of EVALI, especially if they have respiratory distress, comorbidities that compromise pulmonary reserve, or decreased oxygen saturation

# Public Health Considerations and Recommendations

# What We Know About Patient Exposure

- All EVALI patients have reported a history of using e-cigarette, or vaping, products
- Vitamin E acetate has been identified as a chemical of concern
- THC is present in most samples tested by FDA to date, and most patients report a history of using THC-containing e-cigarette, or vaping, products
- Findings suggest THC-containing e-cigarette, or vaping, products, particularly from informal sources like friends, or family, or in-person or online dealers, play a major role in the outbreak
- Many different substances and product sources are still under investigation, and there may be more than one cause of this outbreak

# CDC Public Health Recommendations

- CDC recommends that people should **NOT**
  - Use e-cigarette, or vaping, products that contain THC
  - Buy any type of e-cigarette, or vaping, products, particularly those containing THC, from informal sources (such as family, friends, or in-person or online dealers)
  - Modify or add any substances to e-cigarette, or vaping, products that are not recommended by the manufacturer

# CDC Public Health Recommendations



- 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

- E-cigarette, or vaping, products should never be used by youth, young adults, or women who are pregnant
- People who do not currently use tobacco products should not start using e-cigarette, or vaping, products
- Adults using e-cigarettes to quit smoking should not go back to smoking; they 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!

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

888336

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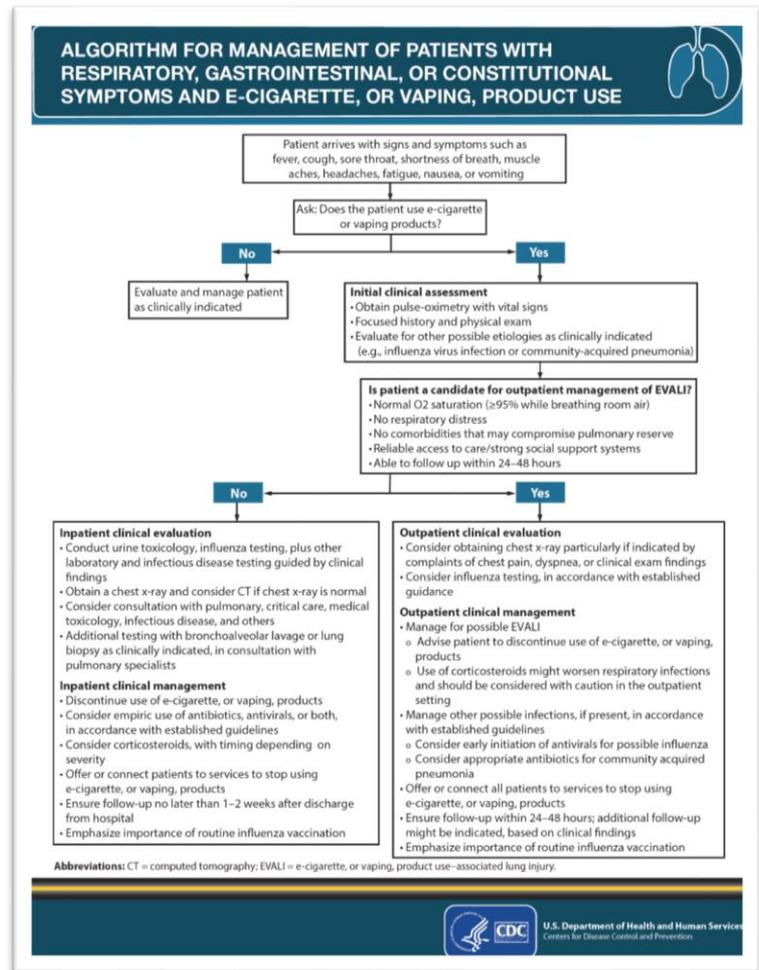
U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

# Algorithm for Patient Management

- PDF available at:

[www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/Algorithm-EVALI-Nov-2019.pdf](http://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/Algorithm-EVALI-Nov-2019.pdf)

- On [www.cdc.gov/LungInjuryHCP](http://www.cdc.gov/LungInjuryHCP)



# Acknowledgements

- CDC EVALI Clinical Task Force
  - Susan Hocevar Adkins
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  - Dana White
  - Stacy Thorne
- Lung Injury Response Clinical Working Group
- CDC EVALI IM Leadership
- CDC EVALI Epi/Surveillance Task Force
- CDC EVALI Lab Task Force

# More Information

- [www.cdc.gov/LungInjury](http://www.cdc.gov/LungInjury) - CDC's Lung Injury Website
- [www.cdc.gov/LungInjuryHCP](http://www.cdc.gov/LungInjuryHCP) - For Healthcare Providers
- [eocevent32@cdc.gov](mailto:eocevent32@cdc.gov) - CDC Lung Injury Response Clinical Inquiries Email

## To Ask a Question

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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.

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**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\\_112119.asp](https://emergency.cdc.gov/coca/calls/2019/callinfo_112119.asp)**

## Upcoming COCA Call

**Topic:** Updated Guidance for Using Intravenous Artesunate to Treat Severe Malaria in the United States

**Date:** Tuesday, December 10, 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.

## Join COCA's Mailing List!

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!



**COCA**

CDC Clinician Outreach and Communication Activity - COCA ✓  
@CDCClinicianOutreachAndCommunicationActivity

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COCA 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.

Community  
21,420 people like this  
21,217 people follow this

About  
1600 Clifton Rd NE  
Atlanta, Georgia 30333

The screenshot shows the Facebook profile for COCA. The profile picture features a diverse group of healthcare professionals. The cover photo shows a group of six people, including a woman in scrubs, a woman in a black blazer with a stethoscope, a man in a white lab coat, and others. The page includes a navigation menu on the left, a status update area, a post about a CE event, and a location map for the organization's office in Atlanta, Georgia.

**Thank you for joining!**



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

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