



Department of Health

ANDREW M. CUOMO
Governor

HOWARD A. ZUCKER, M.D., J.D.
Commissioner

SALLY DRESLIN, M.S., R.N.
Executive Deputy Commissioner

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TO: Healthcare Providers, Hospitals, Off-Campus Emergency Departments, Substance Use Disorder/Mental Health Agencies, College and University Health Clinics, and Local Health Departments

FROM: New York State Department of Health

HEALTH ADVISORY:

Update Unexplained Vaping-associated Pulmonary Illness

For healthcare facilities/hospitals, please distribute to the Emergency Department, Director of Nursing, Medical Director, Director of Psychiatry, Director of Pharmacy, and Laboratory Service.

Summary

This advisory provides updated information about the New York State Department of Health's investigation of severe pulmonary disease associated with the use of vape products. This message includes updated information about reported cases, the CDC case definition, and clinical recommendations, as well as important instructions for case reporting and collection of vape product samples. Additionally, this message includes educational materials to share with your patients and families about the use of e-cigarettes and vape products.

Current Situation

Increasing numbers of cases of severe pulmonary disease continue to be reported in New York State (NYS) among patients who reported recent use of vape products. As of the date of this alert, 81 patients have been reported from all regions of NYS. While the investigation is ongoing, at this time, 4 cases have been confirmed, and 4 have been identified as probable based on the Center's for Disease Control and Prevention (CDC) case definition (September 10, 2019 version, included below). The remaining reports continue to be fully investigated through interviews and medical chart reviews. Nationally, 530 confirmed and probable cases of lung injury have been reported from 38 states and 1 U.S. territory. Additionally, 7 deaths have been confirmed in 6 states.

In New York State, patients have ranged in age from 14-69 years old. Case interviews have demonstrated patients report using a wide variety of vape products. The vast majority of patients have reported use of both nicotine and cannabis containing products, including marijuana, THC, and CBD (76%), while some report using cannabis containing products only (20%) and a few report using nicotine containing products only (4%). A wide range of brand



names and packaging descriptions have been reported and testing at Wadsworth Center has revealed that products with identical packaging often have different chemical components. While vitamin E acetate has been strongly correlated with many cases, a definitive cause has not yet been identified.

Clinical Presentation and Findings:

Patient continue to present with respiratory and other gastrointestinal and constitutional symptoms, including:

- Cough
- Pleuritic chest pain
- Shortness of breath
- Headache
- Fever
- Nausea
- Diarrhea
- Fatigue
- Weight loss

Symptom onset has ranged from days to weeks prior to presentation. Many patients report several days of constitutional symptoms progressing to respiratory symptoms which prompt them to seek care in outpatient and ED settings and be treated for pneumonia. The overwhelming majority (96%) of patients reported NYS cases have ultimately required hospitalization. At least 5 patients have required intubation.

Chest radiographs have demonstrated bilateral opacities, typically in the lower lobes. Computed tomography (CT) imaging of the chest has shown diffuse bilateral ground-glass opacities, often with subpleural sparing. Bronchoscopy findings have intermittently revealed lipid-laden macrophages but have also been unremarkable in other cases.

Patient Evaluation:

It is important for providers to conduct a thorough substance use history for all patients presenting with respiratory, gastrointestinal and/or constitutional symptoms, in both the inpatient or outpatient setting. Additional, in any routine visits with patients, providers should ask all patients who report e-cigarette or vaping product use within the last 90 days if they have been experiencing any signs and symptoms of respiratory illness.

All patients in whom vaping-associated pulmonary illness is suspected should receive imaging of the chest, and an appropriate work up for other possible etiologies, including infectious, autoimmune, and neoplastic as indicated, as well as a toxicologic evaluation including THC. Decisions to perform bronchoscopy should be based on the individual clinical circumstances, but if performed, should include staining for lipids (e.g. Oil Red O, Sudan Black).

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



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evaluation is still important. Consultation with specialists in pulmonary medicine and pathology should be obtained to help inform any evaluation plan.

CDC Case Definition:

The CDC has issued an updated case definition (September 10, 2019). In order to assist in determine if a patient's symptoms are a possible case, providers should determine:

- Was the patient using an e-cigarette ("vaping") or dabbing* in the 90 days prior to symptom onset? (*For this purpose, this means using an electronic device, such as an electronic nicotine delivery system, electronic cigarette, e-cigarette, vaporizer, vape(s), vape pen, dab pen, or other device, to inhale substances, such as nicotine, marijuana, THC, THC concentrate, CBD, synthetic cannabinoids, flavorings, or other substances)
- Did the patient have a pulmonary infiltrate, such as opacities on plain film chest radiograph or ground-glass opacities on chest CT?
- Did the patient have a negative respiratory viral panel OR negative influenza PCR or rapid test during the work-up?
- Was all other clinically indicated respiratory ID testing negative (such as urine antigen for Streptococcus pneumoniae and Legionella, sputum or bronchoalveolar lavage culture, blood culture, HIV-related opportunistic respiratory infections)?
- If an infection was identified via culture or PCR, or if the infectious work up was not fully completed, does the clinical team believe this is not the sole cause of the underlying respiratory disease process?
- Does the clinical team have concerns of alternative plausible diagnoses (for example cardiac, rheumatologic, or neoplastic process)?

Treatment:

At this time there is no specific treatment for patients presenting with symptoms and findings consistent with vaping-associated pulmonary disease and in which other likely causes of illness have been ruled out. Treatment continues to be supportive, however some patients have had clinical improvement with the use of corticosteroids.

Case Reporting and Collection of Samples:

Any patient experiencing concerning symptoms and use e-cigarette and vape products have been encouraged to contact their health care provider for further evaluation. Providers should remain highly alert for potential cases among patients who present with progressive respiratory symptoms, especially in younger individuals who are previously healthy.



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We strongly recommend that clinicians report all cases of suspected severe lung disease potentially associated with vape products to the Poison Control Centers (PCC) in New York State. Providers should determine the name(s) of recently used vape products and whether the actual product(s) used remain available for testing. PCC staff, in coordination with NYSDOH, can assist in determining the need for product testing and provide instructions on where to send samples to assist in the investigation of potential etiologies. If a health care facility is unable to hold the sample, we request that it not be destroyed but rather remain with the patient until a chain of custody can be established.

Patient Education:

NYSDOH strongly advises that all New Yorkers stop using e-cigarette and vape products while the investigation into the definitive cause of reported vaping-associated illnesses nationwide can be better determined. While the Department understands that some people are substituting e-cigarettes for combustible cigarettes, **we strongly recommend that people DO NOT return to smoking cigarettes.**

Neither smoking nor vaping is safe. E-cigarettes are not safe for youth, young adults, pregnant women, or adults who do not currently use tobacco products. While the negative health consequences of combustible tobacco are well established through decades of research and clinical practice, the long-term health effects of e-cigarette use are unknown. However, robust and ongoing evidence-based studies of these products has identified numerous risks and harms from both the nicotine-laced e-liquids and the devices themselves. While evidence exists that adult smokers who completely substitute vaping for traditional smoking reduce their exposure to many of the toxic chemicals and carcinogens present in combustible tobacco cigarettes, e-cigarettes are not risk-free and are not approved by the Food and Drug Administration (FDA) as a quit-smoking aid. The bottom line is neither smoking nor vaping is safe, and people who do not smoke or vape should not begin to do so.

Research has shown that 1 out of every 2 smokers said they were motivated to quit because their health care provider recommended it. We encourage all health care providers to assist their patients in their cessation attempts from nicotine-containing products, and to provide FDA-approved cessation medications and counseling. NYS Medicaid covers all seven FDA-approved smoking cessation medications and counseling. Coverage by private health plans and Medicare varies, and providers should check with specific plans for details.

To supplement the care you are giving to your patients, you can refer to them to the NYS Smokers' Quitline at 1-866-NYQUITS (1-866-697-8487) or go online at <http://www.nysmokefree.com>. Quitline services are free and confidential and include expert quit coaching and support and can provide additional counseling services as well as nicotine replacement therapy for your patients who use e-cigarettes or vape products.



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We recognize that it is helpful for clinicians to have resources available to assist their patients and to inform their communities. The list of resources below is from the CDC and the FDA and is intended to help health care providers talk to their young patients about the risks of e-cigarettes and share key facts from the latest Surgeon General's Report with the community including parents, teachers, coaches and other community members.

Additional Resources:

New York State Vaping Hotline: 1-888-364-3046

Poison Control contacts:

New York Regional Poison Control Centers: 1-800-222-1222

Upstate: <http://www.upstate.edu/poison>

New York City: <https://www1.nyc.gov/site/doh/health/health-topics/poison-control.page>

From the CDC

E-cigarette Use Among Youth and Young Adults Fact Sheet

https://e-cigarettes.surgeongeneral.gov/documents/2016_SGR_Fact_Sheet_508.pdf

Know the Risks: Health Care Professionals: Educate Your Young Patients About the Risks of E-cigarettes

https://e-cigarettes.surgeongeneral.gov/documents/SGR_E-Cig_Health_Care_Provider_Card_508.pdf

E-cigarettes and Youth: What Health Care Providers Need to Know

https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/OSH-E-Cigarettes-and-Youth-What-HCPs-Need-to-Know-20190327-508.pdf

E-cigarettes and Youth: What Parents Need to Know

https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/OSH-E-Cigarettes-and-Youth-What-Parents-Need-to-Know-20190327-508.pdf

Know the Risks: Talk with Your Teen About E-cigarettes: A Tip Sheet for Parents

https://e-cigarettes.surgeongeneral.gov/documents/SGR_ECig_ParentTipSheet_508.pdf

E-cigarettes and Youth: What Educators and Coaches Need to Know

https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/OSH-E-Cigarettes-and-Youth-What-Educators-and-Coaches-Need-to-Know-20190327-508.pdf?s_cid=osh-stu-feature-b2s-2019-002

This is Quitting

<https://www.thetruth.com/articles/hot-topic/quit-vaping>



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From the FDA

Myths for Parents & Educators

<https://digitalmedia.hhs.gov/tobacco/hosted/UCM624891.pdf>

Scholastic Educator Resource

<http://www.scholastic.com/youthvapingrisks/>