

HEALTH ADVISORY



Public Health
Prevent. Promote. Protect.

REGION IV PUBLIC HEALTH

Clark, Cowlitz, Skamania, Wahkiakum
counties and Cowlitz Tribe

To: Physicians and other health care providers

**Please distribute a copy of this information to each provider
in your organization.**

Questions regarding this information may be directed to the following Region IV
health officers:

Alan Melnick, MD, MPH, CPH

Clark County Public Health, 564.397.8412

Skamania County Community Health, 509.427.3850

Cowlitz County Health & Human Services, 360.414.5599

Wahkiakum County Health & Human Services, 360.795.6207

Teresa Everson, MD, MPH

Clark County Public Health, 564.397.8412

Skamania County Community Health, 509.427.3850

Alert categories:

Health Alert: conveys the highest level of importance; warrants immediate
action or attention.

Health Advisory: provides important information for a specific incident or
situation; may not require immediate action.

Health Update: provides updated information regarding an incident or
situation; no immediate action necessary.

To subscribe or unsubscribe from this listserv, email: Tippy.Hartford@clark.wa.gov.

Update on Cases of Unexplained Vaping-associated Pulmonary Illness

Summary

*This advisory **updates** information we provided in the August 22, 2019 health advisory.*

As of August 27, 2019, 215 possible cases have been reported from 25 states and additional reports of pulmonary illness are under investigation. One patient (in Illinois) with a history of recent e-cigarette use was hospitalized on July 29, 2019 with severe pulmonary disease and died on August 20, 2019. Although the etiology of e-cigarette-associated pulmonary disease is undetermined, epidemiologic investigations in affected states are ongoing to better characterize the exposures, demographic, clinical, and laboratory features and behaviors of patients. All patients have reported using e-cigarette products. The exact number is currently unknown, but many patients have reported using e-cigarettes containing cannabinoid products such as THC or CBD.

Based on reports from several states, patients have experienced respiratory symptoms (cough, shortness of breath, or chest pain), and some have also experienced gastrointestinal symptoms (nausea, vomiting, or diarrhea) or non-specific constitutional symptoms (fatigue, fever, or weight loss). Symptoms typically develop over a period of days but sometimes can manifest over several weeks. Gastrointestinal symptoms sometimes preceded respiratory symptoms. Fever, tachycardia, and elevated white blood cell count have been reported in the absence of an identifiable infectious disease. Many patients have sought initial care in ambulatory settings, some with several visits, before hospital admission.

Radiologic findings have varied and are not present in all patients upon initial presentation. Bilateral pulmonary infiltrates and diffuse ground-glass opacities have been reported. Many patients required supplemental oxygen, some required assisted ventilation and oxygenation, and some were intubated. Some patients have been treated with corticosteroids with demonstrated improvement. Antimicrobial therapy alone has not consistently been associated with clinical improvement. Assessment for infectious etiologies has been completed in many patients without an identified infectious cause. Several patients from one state have been diagnosed with lipid pneumonia based on clinical presentation and detection of lipids within bronchoalveolar lavage samples stained specifically to detect oil.

All patients have reported using e-cigarette products and the symptom onset has ranged from a few days to several weeks after e-cigarette use. Within two states, recent inhalation of cannabinoid products, THC or cannabidiol, have been reported in many of the patients. To date, no single substance or e-cigarette product has been consistently associated with illness. CDC is working closely with state health departments to facilitate collecting product specimens for testing at the U.S. FDA Forensic Chemistry Center.

Actions requested

1. Report cases of severe pulmonary disease of unclear etiology and a history of e-cigarette product use within the past 90 days to the appropriate local health department listed at the end of this advisory. Please do so by faxing a case summary or a copy of the medical record with the information asked for below to the appropriate number listed below. Although we will not be conducting formal investigations immediately, we are asking you to report so we can characterize the potential extent of the problem as well as have information available to conduct further inquiries, once we have a better idea of the case definition.
2. Reporting of cases may help CDC and local and state health departments determine the cause or causes of these pulmonary illnesses.
3. Ask all patients who report e-cigarette product use within the last 90 days about signs and symptoms of pulmonary illness.
4. If e-cigarette product use is suspected as a possible etiology of a patient's severe pulmonary disease, obtain detailed history regarding:
 - Substance(s) used: nicotine, cannabinoids (e.g., marijuana, THC, THC concentrates, CBD, CBD oil, synthetic cannabinoids [e.g., K2 or spice], hash oil, Dank vapes), flavors, or other substances
 - Substance source(s): commercially available liquids (i.e., bottles, cartridges, or pods), homemade liquids, and re-use of old cartridges or pods with homemade or commercially bought liquids
 - Device(s) used: manufacturer; brand name; product name; model; serial number of the product, device, or e-liquid; if the device can be customized by the user; and any product modifications by the user (e.g., exposure of the atomizer or heating coil)
 - Where the product(s) were purchased
 - Method of substance use: aerosolization, dabbing, or dripping
 - Other potential cases: sharing e-cigarette products (devices, liquids, refill pods, or cartridges) with others
5. Determine if any remaining product, including devices and liquids, are available for testing. If necessary, we can coordinate testing with the Washington Department of Health.
6. Consider all possible causes of illness in patients reporting respiratory and gastrointestinal symptoms and of e-cigarette product use. Evaluate and treat for other possible causes of illness (e.g., infectious, rheumatologic, neoplastic) as clinically indicated. Consider consultation with specialists (pulmonary, infectious disease, critical care, medical toxicology) as appropriate.
7. Clinical improvement of patients with severe pulmonary disease associated with e-cigarette use has been reported with the use of corticosteroids. The decision to use corticosteroids should be made on a case-by-case basis based on risks and benefits and the likelihood of other etiologies.
8. Lipid pneumonia associated with inhalation of lipids in aerosols generated by e-cigarettes has been reported based on the detection of lipid-laden alveolar macrophages obtained by bronchoalveolar lavage (BAL) and lipid staining (e.g.,

oil red O). The decision about whether to perform a BAL should be based on individual clinical circumstances.

9. 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 evaluation is still important. Consider consultation with specialists in pulmonary medicine and pathology to help inform any evaluation plan.
10. Patients who have received treatment for severe pulmonary disease related to e-cigarette product use should undergo follow-up evaluation as clinically indicated to monitor pulmonary function.

Additional guidance for health care providers

- Information on electronic cigarettes and similar devices: <https://www.cdc.gov/e-cigarettes>
- CDC Press Statement: <https://www.cdc.gov/media/releases/2019/s0821-cdc-fda-states-ecigarettes.html>
- CDC Clinical Outreach and Communication Activity announcement: <https://emergency.cdc.gov/newsletters/coca/081619.htm>
- CDC's National Syndromic Surveillance Program's BioSense/ESSENCE: <https://www.cdc.gov/nssp/index.html>
- For more information, visit CDC Info: <https://www.cdc.gov/cdc-info/index.html>

For assistance with management of patients suspected of illness related to recreational, illicit, or other drugs, call the Washington Poison Center at: 1-800-222-1222.

Thank you for your partnership.

LHJ	Phone	Fax
Clark County Public Health	564.397.8182	564.397.8080
Cowlitz County Health Department	360.414.5599	360.425.7531
Skamania County Community Health	509.427.3850	509.427.0188
Wahkiakum County Health and Human Services	360.795.6207	360.795.6143

To subscribe or unsubscribe from this listserv, email: Tippy.Hartford@clark.wa.gov.