

Health Update  
November 14, 2019



## Health Update:

### Update 2: Lung Injuries Associated with E-cigarette, or Vaping, Product Use

November 14, 2019

This document will be updated as new information becomes available. The current version can always be viewed at <http://www.health.mo.gov>.

The Missouri Department of Health & Senior Services (DHSS) is now using four types of documents to provide important information to medical and public health professionals, and to other interested persons:

**Health Alerts** convey information of the highest level of importance which warrants immediate action or attention from Missouri health providers, emergency responders, public health agencies, and/or the public.

**Health Advisories** provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

**Health Guidances** contain comprehensive information pertaining to a particular disease or condition, and include recommendations, guidelines, etc. endorsed by DHSS.

**Health Updates** provide new or updated information on an incident or situation; can also provide information to update a previously sent Health Alert, Health Advisory, or Health Guidance; unlikely to require immediate action.

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**FROM: RANDALL W. WILLIAMS, MD, FACOG  
DIRECTOR**

**SUBJECT: Update 2: Lung Injuries Associated with E-cigarette, or Vaping, Product Use**

**\*\*\*Missouri healthcare providers with questions should contact the Tobacco Prevention and Control Program at 573-522-2824, or 800-392-0272 (24/7)\*\*\***

#### Summary and Action Items

This Health Update provides updated information regarding the ongoing investigation of e-cigarette, or vaping, product use associated lung injury (EVALI), as well as new guidance and resources for reporting and investigating cases. The Centers for Disease Control and Prevention's (CDC's) October 19, 2019, *Morbidity and Mortality Weekly Report* (MMWR) on clinical guidance is also summarized and referenced.

#### The Missouri Department of Health and Senior Services (DHSS) Recommends:

1. All patients with serious respiratory illness of unknown etiology be asked about recent use of electronic cigarettes and vaping,
2. Ruling out infectious and non-infectious etiologies in patients with unexplained serious respiratory illness and vaping exposures,
3. A urinary toxicology screen (including tetrahydrocannabinol [THC], quantified as necessary) be obtained for these patients if a reliable vaping history is unavailable, or if otherwise clinically indicated,
4. Specialty case consultation be considered in severe cases of vaping-associated lung injury,
5. Systemic steroid use in clinical management, although data on its effectiveness are limited. When possible, decisions on the use of corticosteroids should be made in consultation with a pulmonologist,
6. Advising all patients with vaping-associated lung injury to stop vaping and offering evidence-based cessation support, and
7. Follow-up with all patients with vaping-associated lung injury within 1-2 weeks of hospital discharge.

#### DHSS Asks:

1. That patients with unexplained serious respiratory illness and recent vaping be reported to DHSS using the attached new case report form (also available as a fillable form at <https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/doc/fillable-form.docx>).
2. That providers ask and encourage patients with vaping-associated lung injury to complete the attached patient survey,

3. That clinical samples from bronchoalveolar lavage (BAL) and/or tissue biopsies be saved. Work with DHSS' Tobacco Prevention and Control Program to facilitate shipment of these specimens to the Missouri State Public Health Laboratory (MSPHL) for routing to CDC, and
4. That remaining vaping product or devices from case-patients be retained for testing. Work with the Tobacco Prevention and Control Program to facilitate shipment of these specimens to MSPHL.

### **Background**

As of November 5, 2019, 2,051 cases of e-cigarette, or vaping, product use associated lung injury (EVALI) have been reported to CDC from 49 states (all except Alaska), the District of Columbia, and 1 U.S. territory. Thirty-nine deaths have been confirmed in 24 states, including two from Missouri. As of November 13, 2019, DHSS has received 56 reports of suspected cases, with 35 of these cases meeting the case definition for confirmed or probable.

Patients are considered cases if they have acute lung injury without an identified etiology and have a history of using electronic cigarette or vaping products in the past 3 months. The age among the 35 Missouri cases ranges from 16 to 55 years, with a median age of 22 years; 76% are male. The vast majority have been hospitalized, and some have required intensive care management.

### **Potential Exposures**

All Missouri patients reported vaping in the weeks to months prior to illness. The majority of patients report using vaping products containing THC or cannabidiol (CBD) oil, particularly in pre-filled cartridges that were acquired from informal sources (e.g. dealer, off the street, friends, and family). Many patients report using nicotine-containing vaping products, and a large number of patients used both.

Recent CDC laboratory testing of bronchoalveolar lavage (BAL) fluid samples (or samples of fluid collected from the lungs) from 29 patients with EVALI submitted to CDC from 10 states found vitamin E acetate in **all** of the BAL fluid samples. Vitamin E acetate is used as an additive in the production of e-cigarette, or vaping, products.

**DHSS recommends asking all patients with respiratory illness about recent electronic cigarette use or vaping practices, including whether or not they use products containing nicotine, THC, and/or CBD oils.**

### **Symptoms**

Patients may have some or all of the following:

- Respiratory symptoms – cough, shortness of breath, pleuritic chest pain.
- Gastrointestinal symptoms – nausea, vomiting, diarrhea, abdominal pain.
- Constitutional symptoms – fever, chills, night sweats, weight loss, fatigue.

Patient symptoms worsened over a period of days or weeks before admission. The majority sought clinical care in the days prior to their admission, and many received outpatient antibiotics which did not improve their symptoms.

### **Diagnostic Studies**

Chest radiographs showed bilateral opacities, typically in the lower lobes, and CT imaging of the chest showed diffuse ground glass opacities, often with subpleural sparing.

When performed, urinary toxicology screens for THC have usually been positive and – when quantified – very high levels of THC have been observed.

**DHSS recommends a urinary toxicology screen for patients with respiratory illness of unknown etiology when a reliable vaping history is unavailable.**

Many patients present with raised inflammatory markers, such as neutrophilia, high CRP, and ESR. The evaluations for infectious etiologies in those patients have been predominantly negative.

**DHSS recommends work-up for infectious etiologies in patients with unexplained respiratory illness and vaping exposures.**

A respiratory viral panel, influenza testing, blood and sputum cultures, *Legionella*, *Mycoplasma*, and *S. pneumoniae* testing may be indicated. Other clinically-warranted infectious (e.g. histoplasmosis, blastomycosis, *Pneumocystis carinii*) and non-infectious etiologies (e.g. rheumatologic or neoplastic causes) may also need to be ruled out.

The decision to perform a BAL and/or lung biopsy should be based on individual clinical circumstances. BAL and pathology specimens have often revealed lipid-laden macrophages.

Please refer to the *International Classification of Diseases, Tenth Edition, Clinical Modification (ICD-10-CM) Supplement: Coding encounters related to E-cigarette, or Vaping, Product Use*. (October 17, 2019) ([https://www.cdc.gov/nchs/data/icd/Vapingcodingguidance2019\\_10\\_17\\_2019.pdf](https://www.cdc.gov/nchs/data/icd/Vapingcodingguidance2019_10_17_2019.pdf)) for official diagnosis coding guidance for healthcare encounters and deaths related to EVALI.

### **Management**

Aggressive supportive care is warranted. Systemic steroids may be helpful in clinical management, although data are limited. A clinical improvement with high dose IV steroids has been observed in some cases, however whether steroids caused this improvement is not yet known with certainty. When possible, decisions on the use of corticosteroids should be made in consultation with a pulmonologist. All patients with vaping-associated lung injury should be advised to stop the use of electronic cigarette or vaping products, and evidence-based cessation support should be offered.

CDC recommends a follow-up visit for patients within 1-2 weeks of discharge, including pulse oximetry and consideration of a repeat chest radiograph. Further follow-up (including pulmonary function tests) may also be required.

### **Prevention**

At this time, it is not known with certainty what product(s), chemicals, or devices are linked to these illnesses.

**DHSS recommends not using e-cigarette or vaping products, particularly those containing THC.**

### **Clinical Specimens Testing**

CDC is conducting testing on BAL fluid and biopsy specimens submitted to public health agencies. The test results are designed for the public health investigation and will not be returned on an individual patient basis to the clinical team.

DHSS is requesting that clinicians and facilities submit the following samples from probable/confirmed cases:

1. Remaining BAL fluid (if BAL is obtained for clinical purposes), supernatant, and/or cell pellet.
2. Formalin-fixed (wet) tissue or formalin-fixed, paraffin-embedded (FFPE) tissue blocks, if lung tissue biopsies are performed for clinical purposes.

Please refer to the following guides from CDC for detailed instructions on sample collection and processing:

Laboratory Clinical Sample Collection, Storage, and Submission Guidance for Lung Injury Associated with E-Cigarette, or Vaping Product use

[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/pdfs/Lab-Clinical-Specimen-Collection-Storage-Guidance-Lung-Injury-508.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/pdfs/Lab-Clinical-Specimen-Collection-Storage-Guidance-Lung-Injury-508.pdf)

Specimen Submission Guidance for Pathologic Evaluation of Tissues Specimens from Cases of Lung Injury Associated with E-Cigarette, or Vaping Product

[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/specimen-submission-req.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/specimen-submission-req.pdf)

Shipments of these specimens will be accepted by CDC only if they are forwarded from MSPHL. MSPHL will assist health care providers on how to submit specimens to the laboratory and then on to CDC. Before any specimen is sent to MSPHL, the DHSS Tobacco Prevention and Control Program must first be consulted for approval of submission. Health care providers can contact the Tobacco Prevention and Control Program at 573-522-2824 or 800-392-0272 (24/7).

**Aerosol Emissions from E-cigarette, or Vaping, Products are being tested by CDC:**

CDC is offering aerosol emissions testing of case-associated product samples from e-cigarette, or vaping, products and e-liquids. Analysis of aerosol emissions will augment FDA's ongoing work to characterize e-liquids and will improve the understanding of exposure among case-patients associated with the lung injury outbreak. CDC is coordinating e-cigarette, or vaping, product analysis with FDA.

If product, including devices and liquids, are available for testing, healthcare providers should contact the Tobacco Prevention and Control Program at 573-522-2824 or 800-392-0272 (24/7) to coordinate sample submission. Only full to half full cartridges will be accepted.

**In addition to the testing guidance above, DHSS is asking clinicians to:**

1. Report patients with unexplained serious respiratory illness and recent electronic cigarette, or vaping, product use to the Tobacco Prevention and Control Program by faxing the attached new case report form (also available as a fillable form at <https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/doc/fillable-form.docx>) to 573-522-2856. Missouri considers suspected cases of EVALI to be immediately reportable under 19 CSR 20-20.020 1(c). (<https://www.sos.mo.gov/cmsimages/adrules/csr/current/19csr/19c20-20.pdf>)
  - a. If additional information to determine the status of the case is needed, the person identified as the reporter on the case form will receive an e-mail from box.com, on behalf of Valerie Howard, inviting you to submit case records to a secure folder in box.com.
2. Ask and encourage patients with unexplained serious respiratory illness and recent electronic cigarette, or vaping, product use to complete the attached patient survey (also available at <https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/pdf/lung-injury-patient-survey.pdf>).

Both of these forms, along with other relevant information, are available on the Healthcare Provider tab of the DHSS Vaping Associated Lung Injury webpage (<https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/index.php>).

### Contact

Please contact Valerie Howard (Valerie.howard@health.mo.gov) with the DHSS Tobacco Prevention and Control Program at 573-522-2824 with any questions.

### Resources

- 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. *MMWR* 2019;68(41):919-27.  
<https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6841e3-H.pdf>
- *International Classification of Diseases, Tenth Edition, Clinical Modification (ICD-10-CM) Supplement: Coding encounters related to E-cigarette, or Vaping, Product Use.* (October 17, 2019)  
[https://www.cdc.gov/nchs/data/icd/Vapingcodingguidance2019\\_10\\_17\\_2019.pdf](https://www.cdc.gov/nchs/data/icd/Vapingcodingguidance2019_10_17_2019.pdf)
- Clinician Outreach and Communication Activity (COCA) Webinar – Update: Interim Guidance for Healthcare Providers Evaluating and Caring for Patients with Suspected E-cigarette or Vaping Product Use Associated Lung Injury Presentation.  
[https://emergency.cdc.gov/coca/ppt/2019/COCA\\_Call\\_Update\\_Lung\\_Injury\\_10.17.19\\_Final\\_comp.pdf](https://emergency.cdc.gov/coca/ppt/2019/COCA_Call_Update_Lung_Injury_10.17.19_Final_comp.pdf)
- COCA Webinar – Outbreak of Lung Injury Associated with E-cigarette Product Use or Vaping: Information for Clinicians Presentation.  
[https://emergency.cdc.gov/coca/ppt/2019/COCA\\_Call\\_Outbreak\\_of\\_lung\\_injury\\_ecigarettes\\_09.19.19\\_Final.pdf](https://emergency.cdc.gov/coca/ppt/2019/COCA_Call_Outbreak_of_lung_injury_ecigarettes_09.19.19_Final.pdf)
- Poster for Clinical Settings in English and Spanish  
[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/poster-for-clinical-settings.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease/healthcare-providers/pdfs/poster-for-clinical-settings.pdf) (English)  
[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/spanish/enfermedad-pulmonar-grave/pdf/para-su-uso-en-entornos-de-atencion-medica.pdf](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/spanish/enfermedad-pulmonar-grave/pdf/para-su-uso-en-entornos-de-atencion-medica.pdf) (Spanish)

### For more information

- For assistance with managing patients suspected of illness related to recreational, illicit, or other drugs, call the Missouri Poison Center at: 800-222-1222.
- Information on electronic cigarettes and similar devices: <https://www.cdc.gov/e-cigarettes>
- For more information on the EVALI outbreak: [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)

### Reference

- 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. *MMWR* 2019;68(41):919-27.  
<https://www.cdc.gov/mmwr/volumes/68/wr/pdfs/mm6841e3-H.pdf>



# E-Cigarette or Vaping Product Use Associated Lung Injury (EVALI) Missouri Case Report Form (CRF)

The Department of Health and Senior Services and local health departments are investigating cases of unexplained lung injury associated with electronic cigarette or vaping product use. Please see the DHSS website for more details about this investigation (<https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/index.php>). Please complete this form for any suspected case patient, encourage the patient to self-complete the **Patient Survey** (located on DHSS website: <https://health.mo.gov/living/wellness/tobacco/lung-injury-outbreak/pdf/lung-injury-patient-survey.pdf>), and send these to DHSS at [valerie.howard@health.mo.gov](mailto:valerie.howard@health.mo.gov) (fax 573-522-2856).

Date Form Completed: \_\_\_\_\_ Name of Hospital: \_\_\_\_\_  
Clinician Name: \_\_\_\_\_ Clinician Phone Number: \_\_\_\_\_  
Reporter Name: \_\_\_\_\_ Reporter E-Mail: \_\_\_\_\_

### Patient Demographics

Full Name: \_\_\_\_\_ Gender  M  F Date of Birth: \_\_\_\_\_  
Phone Number: \_\_\_\_\_ Race  White  Black  Other Ethnicity  Hispanic  Non-Hispanic  
Mailing Address: \_\_\_\_\_ Zip: \_\_\_\_\_

### Patient Inhalational Use in the Past 90 Days (please ask patient, or proxy if patient unable to answer)

Any combustible *tobacco* use? (i.e. cigarettes, cigars etc.)  Yes  No  
Any combustible *marijuana* use? (i.e. any non e-cigarette marijuana)  Yes  No  
Any **nicotine** e-cigarette (vaping) use reported?  Yes  No Date last used: \_\_\_\_\_  
If yes, list brands: \_\_\_\_\_ Frequency: \_\_\_\_\_ times per day  
Any **THC** e-cigarette (vaping) use reported?  Yes  N Date last used: \_\_\_\_\_  
If yes, list brands: \_\_\_\_\_ Frequency: \_\_\_\_\_ times per day

**Please give the patient a copy of the attached Patient Survey and ask a staff member to assist them if needed.**

### Patient Symptoms

Chief complaint: \_\_\_\_\_ Date first symptom started: \_\_\_\_\_  
GI symptoms?  Yes  No If yes, describe: \_\_\_\_\_  
Respiratory symptoms?  Yes  No If yes, describe: \_\_\_\_\_  
Constitutional symptoms?  Yes  No If yes, describe: \_\_\_\_\_  
Weight loss?  Yes  No If yes, amount (lb): \_\_\_\_\_

### Past medical history

Chronic respiratory disease (asthma, COPD etc)?  Yes  No Specify: \_\_\_\_\_  
Depression/anxiety?  Yes  No Specify: \_\_\_\_\_

### Imaging: **Please attach copy of the radiologist's report for any chest imaging.**

Chest imaging performed  CT chest  Chest X-ray  Both  
Location of abnormal findings  Bilateral  Right  Left  Normal (no findings)  
Infiltrates/opacities present  Yes  No  
Subpleural sparing on CT  Yes  No  Unknown

### Infectious Disease Testing

Respiratory viral panel\*  Positive  Negative  Pending  Not Done  
Influenza  Positive  Negative  Pending  Not Done  
*Legionella*  Positive  Negative  Pending  Not Done  
Blood cultures\*  Positive  Negative  Pending  Not Done  
*Strep pneumoniae*  Positive  Negative  Pending  Not Done  
*Mycoplasma pneumoniae*  Positive  Negative  Pending  Not Done

\*Organism found: \_\_\_\_\_

### Clinical Course

Admitted?  Yes  No Date admitted/attended: \_\_\_\_\_  
Prior outpatient attendance?  Yes  No Date of OP attendance: \_\_\_\_\_  
Admitted to ICU (at time of reporting)?  Yes  No Date admitted to ICU: \_\_\_\_\_  
SIRS criteria met?  Yes  No  
Treated with steroids?  Yes  No Date of started if known: \_\_\_\_\_  
Required respiratory support?  Intubated  BiPAP/CPAP/High flow  
Deceased (at time of reporting)?  Yes  No

**Clinical Specimens: Please contact [valerie.howard@health.mo.gov](mailto:valerie.howard@health.mo.gov) or (573) 522-2824 to coordinate clinical samples to the MO State Public Health Lab.**

Bronchoalveolar lavage performed?  Yes  No Date of BAL, if known: \_\_\_\_\_  
Lung biopsy performed?  Yes  No Date of biopsy, if known: \_\_\_\_\_  
Blood sample available for testing?  Yes  No Date of sample, if known: \_\_\_\_\_  
Urine sample available for testing?  Yes  No Date of sample, if known: \_\_\_\_\_

### Clinical Impression

In your medical opinion, is the patient's current illness due to vaping?  Yes  No  
Were cardiac, neoplastic, and rheumatologic etiologies ruled out?  Yes  No

**Final/Working Diagnosis:** \_\_\_\_\_

**Please attach a copy of the admission history and physical, discharge summary, if available and patient survey.**



# Lung Injury Associated with E-Cigarette Use or Vaping



## Background Information

Any information you provide on this form may help us identify what is making people sick. If you would like help filling out this form, please ask a staff member. Thank you!

Name \_\_\_\_\_ Date of birth \_\_\_/\_\_\_/\_\_\_  
 Race:  White  Black  Other \_\_\_\_\_ Ethnicity:  Hispanic  Non-Hispanic

In the past 3 months, have you smoked any cigarettes (not in an e-cig?) Yes  No

In the past 3 months, have you smoked any marijuana (eg. joints/bong)? Yes  No

In the past 3 months, have you...

... vaped/Juuled any substances that contain nicotine? Yes  No

... vaped/dabbed any substances that contain THC? Yes  No

... used any Dank Vapes substances? Yes  No

Did you share any vaping products with someone who also got sick? Yes  No

When did you first start vaping or dabbing THC substances? Yes  No

Are you aware of the current outbreak of lung illness related to vaping? Yes  No

If yes, did you change how you use e-cigarettes/vaping products or devices? Yes  No

If yes, how? \_\_\_\_\_

## Vaping Substance Use Information

Please tell us about each substance you have vaped/Juuled/dabbed in the past 3 months:

	Please provide details about each substance	In what form did you use this substance?	How many times a day did you use this substance?	Where did you usually get this substance?	What kind of device did you usually use with this substance?
Product 1	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this substance for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure ↓ If >5x per day, how many times per day? ____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____
Product 2	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this substance for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure ↓ If >5x per day, how many times per day? ____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____

**If you used more than two substances, please list them on the next page**

## Additional Information

Can the Missouri Department of Health and Senior Services contact you for more information? Yes  No

Can the FDA contact you for more information? Yes  No

Contact information: **Phone number:** \_\_\_\_\_ **Email address:** \_\_\_\_\_

When you have completed this survey, please give it back to your healthcare provider.

# Lung Injury Associated with E-Cigarette Use or Vaping



## Additional Substances (if you used more than two substances)

	Please provide some details about each substance	In what form did you use this substance?	How many times a day did you use this substance?	Where did you usually get this ? substance	What kind of device did you usually use with this substance?
Product 3	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure  If >5x per day, how many times per day? _____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____
Product 4	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure  If >5x per day, how many times per day? _____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____
Product 5	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure  If >5x per day, how many times per day? _____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges d/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____
Product 6	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure  If >5x per day, how many times per day? _____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____
Product 7	Contains THC <input type="checkbox"/> CBD <input type="checkbox"/> Nicotine <input type="checkbox"/> Other <input type="checkbox"/> (Specify _____)  Brand name: _____  Date first used: _____  Date last used: _____	<input type="checkbox"/> Pre-filled cartridge/pod <input type="checkbox"/> Liquid/oil not in pre-filled cart <input type="checkbox"/> Solid/wax <input type="checkbox"/> Leaf/flower <input type="checkbox"/> Other _____  <b>Can public health get this for testing?</b> Yes <input type="checkbox"/> No <input type="checkbox"/>	<input type="checkbox"/> <1 x per day <input type="checkbox"/> 1-2 x per day <input type="checkbox"/> 3-5 x per day <input type="checkbox"/> >5 x per day <input type="checkbox"/> Not sure  If >5x per day, how many times per day? _____	<input type="checkbox"/> Family or Friend <input type="checkbox"/> Street <input type="checkbox"/> Grocery, Drug or Convenience store <input type="checkbox"/> Vape or Smoke shop <input type="checkbox"/> Dealer <input type="checkbox"/> School <input type="checkbox"/> Online <input type="checkbox"/> Dispensary (other state) <input type="checkbox"/> Other (please specify) _____	<input type="checkbox"/> Disposable e-cig or vaping device <input type="checkbox"/> E-cig for prefilled or refillable cartridges/pods <input type="checkbox"/> E-cig with a tank that you refill with liquid <input type="checkbox"/> Dab rig / Dab pen <input type="checkbox"/> Vaporizer (for dry herbs, etc.) <input type="checkbox"/> Mod device (e.g. with modifiable settings/voltage) <input type="checkbox"/> Other (please specify) _____

When you have completed this survey, please give it back to your healthcare provider.