

**Winter 2020**  
**Volume 25, Number 1**

# LabLink

**Director, Bureau of Laboratories**  
**Sandip Shah, PhD, HCLD(ABB)**

## this issue...

Laboratory Kit Ordering Tracking System, LKOTS	2
Lung Injury Cases in Michigan Associated with Smoking Electronic Cigarettes	3

### Bureau Vision

The Bureau of Laboratories is a stronger, more diverse team within an integrated public health system. We utilize advanced technology and innovative leadership to provide comprehensive public health services in our dynamic global community.

### Bureau Mission

We are dedicated to continuing leadership in providing quality laboratory science for healthier people and communities through partnerships, communication and technical innovation.



# Laboratory Kit Order Tracking System (LKOTS)

Author: Matthew Bashore, MPH – Data and Specimen Handling Unit Manager

In an effort to improve efficiency and overall customer satisfaction, the Bureau of Laboratories (BOL) introduces a new online application for ordering and tracking of clinical and environmental testing and shipping supplies from the laboratory warehouse. The new application is called Laboratory Kit Order Tracking System, or LKOTS. This application will give the consumer the ability to track an order throughout all aspects of the ordering process. LKOTS directly communicates with the customer's email address and automatically sends notifications about status changes in the order, such as "Order Received" or "Order Completed".

Additionally, LKOTS adds the ability for the user to view the BOL's entire inventory of supplies, which includes images of each collection kit and its individual components.

The BOL hopes that LKOTS will provide greater transparency, efficiency, and accuracy for the kit ordering process. The goal for LKOTS is to meet customer demand, provide greater traceability, and provide a valuable service to our partners. The laboratory will still accept the traditional methods to place orders for supplies such as faxed or mailed order forms, however, the BOL will eventually phase out these traditional order methods in the future. The laboratory discourages placing telephone orders for supplies because there is a greater potential for customer order errors.

Details about LKOTS can be found on the laboratory web page at [www.michigan.gov/mdhhs/lab](http://www.michigan.gov/mdhhs/lab). In addition to a link for the LKOTS application, the laboratory web page provides guidance for creating an LKOTS account and instructions for placing supply orders. The LKOTS application can be accessed directly through the website or by using the URL <https://milkots.michigan.gov/login>.

Please direct questions or concerns to Matthew Bashore.  
Email [bashorem@michigan.gov](mailto:bashorem@michigan.gov); Telephone (517) 335-8373.



**MDHHS**  
Michigan Department of Health & Human Services

Assistance Programs | Adult & Children's Services | Safety & Injury Prevention | Keeping Michigan Healthy | Doing Business with MDHHS | Inside MDHHS

Doing Business with MDHHS

MDHHS / DOING BUSINESS WITH MDHHS / HEALTH CARE PROVIDERS / LAB SERVICES

**Bureau of Laboratories**

- MDHHS AFTER-HOUR EMERGENCY PHONE NUMBER: 517-335-9030
- What's New?
- Inside the Bureau of Laboratories

In addition to sharing information about various reference services available, we hope to use this forum to interact with you to help meet the challenges of communicable disease and environmental concerns that adversely affect communities in Michigan.

- A-Z Test Listing
- Order Clinical and Environmental Collection Kits - Laboratory Kit Order Tracking System (LKOTS)
  - LKOTS - How to create an account
  - LKOTS - How to place an order
- Bureau of Laboratories Holiday Business Hours
- Test Request Forms
- Laboratory Influenza Page
- Bioterrorism Laboratory Preparedness
- Chemical Terrorism Laboratory Preparedness
- Radiological Preparedness
- Laboratory Biosafety
- Trace Metals Unit
- Explore Lab Science Program
- Electronic Test Ordering and Results Delivery (ETOR) Manual
- Test Orders (OML) and Results (ORU) by HL7 Messaging
- MDHHS BOL CAP Accreditation Certificate
- MDHHS BOL CLIA Certificate
- MDHHS BOL AIHA-LAP, LLC Accreditation Certificate: Lab ID - 102247
- Contact Us

**Quick Links**

- Disaster Preparedness in Michigan
- Michigan Public Health Institute
- Bureau of Laboratories - Laboratory Services Guide



## Lung Injury Cases in Michigan Associated with Smoking Electronic Cigarettes

Author: Matthew Geiger, PhD-Chemistry and Toxicology Division Director

Since the summer of 2019, Michigan has had over 35 confirmed or probable lung injury cases related to smoking electronic cigarettes (e-cigarettes), also known as vaping. E-cigarettes are



an alternative to smoking tobacco and have also been used to deliver marijuana and other drugs. The devices come in many different shapes and sizes, with a battery, a heating element, and a container to hold liquid. The liquid contains nicotine (the addictive chemical found in tobacco products) and other chemicals as well as flavoring compounds. These “other” chemicals are flavoring (diacetyl), volatile organic compounds, and heavy metals. The liquid is aerosolized by heating and then inhaled into the lungs by the user. Like secondhand smoke, bystanders can be exposed by inhaling the aerosol when the user exhales.

E-cigarettes manufacturers claim these devices are safer alternatives for adult smokers of tobacco cigarettes, but this claim has not been scientifically proven. Also, the manufacturers claim e-cigarettes contain fewer toxic chemicals than tobacco cigarettes. E-cigarettes are not considered safe for children and pregnant women because nicotine is a highly addictive and harmful chemical. Nicotine can affect the development of a fetus and cause other health problems during pregnancy; it can affect brain development in children and adolescents which may continue into the mid-20s age range.

Flavoring, such as fruit, candy, and dessert, are reported by youth as the reason they started using e-cigarettes. Other factors that attribute to the increase in youth starting to use vaping products are the advertising of these products on television, especially since traditional tobacco products are prohibited from advertising in media; and youth are led to believe that e-cigarettes are safer than traditional cigarettes.

Most lung injury cases have reported using e-cigarette with liquids containing tetrahydrocannabinol (THC) and other chemicals, mainly vitamin E acetate. The Food and Drug Administration (FDA) has received over 1,200 liquid vaping samples to date from 25 states and one territory; 938 of these samples are connected to patients. FDA has found THC in 465 samples; 50% contained vitamin E acetate at varying concentrations. Centers for Disease Control and Prevention (CDC) has analyzed bronchoalveolar lavage (BAL) fluid samples from 29 patients around the country and has identified vitamin E acetate in the BAL fluid of all these patients. CDC has also identified other chemicals in vaping liquids, including plant oils, petroleum distillates (mineral

*continued on page 4...*

# Lung Injury Cases in Michigan Associated with Smoking Electronic Cigarettes

...Continued from page 3

oils), medium-chain triglyceride oils (MCT oils), and terpenes but has not detected any of these chemicals in BAL fluid samples.

The Bureau of Laboratories continues to help coordinate the delivery of specimens to the FDA and CDC. As of December 12, 2019, the State of Michigan has submitted 39 vaping liquid samples to FDA and 9 human specimens (BAL, serum, lung tissue) to CDC for analysis. Please contact the laboratory for shipping directions. The turnaround time for results vary for FDA and CDC from 6 to 8 weeks.

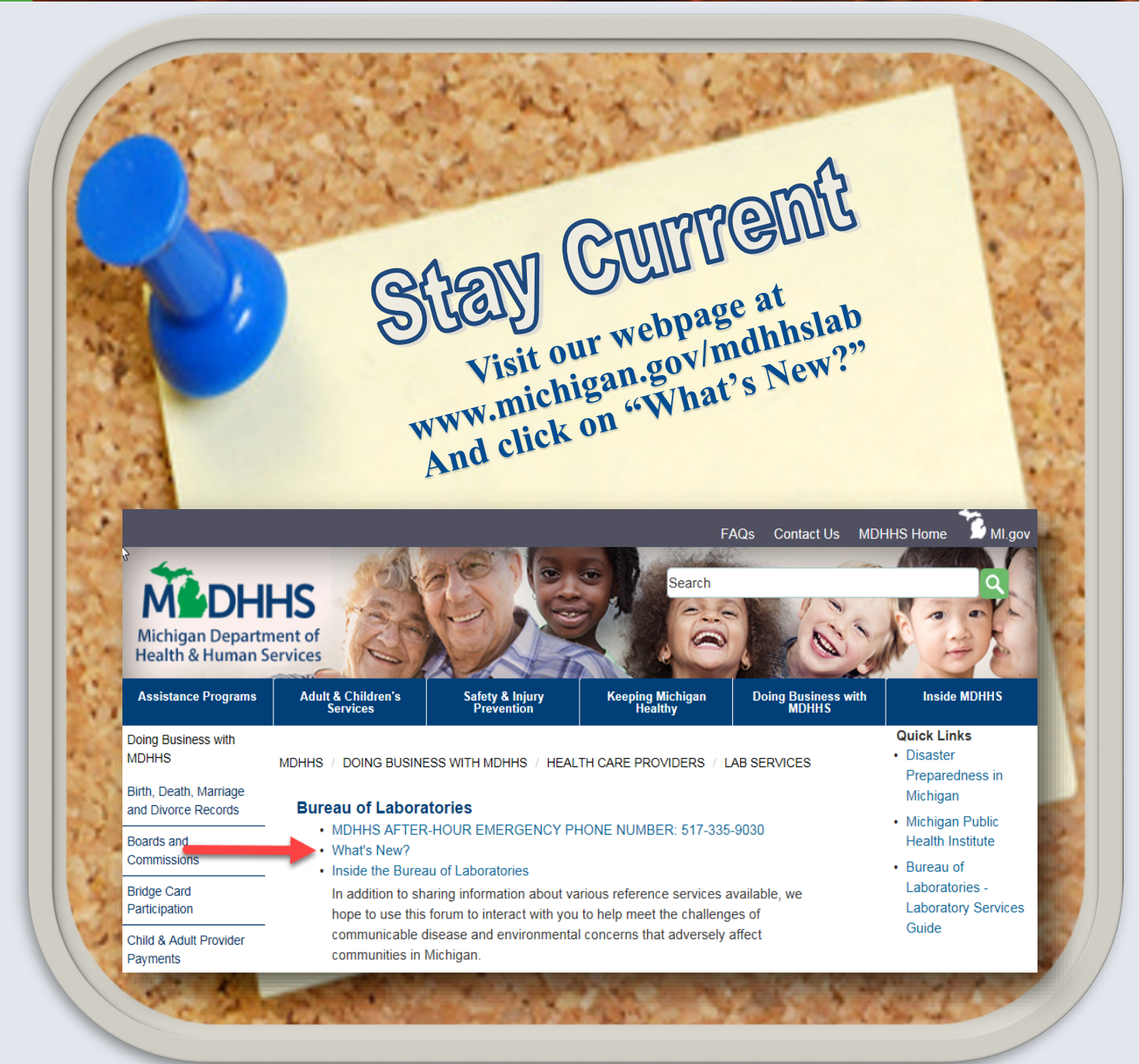
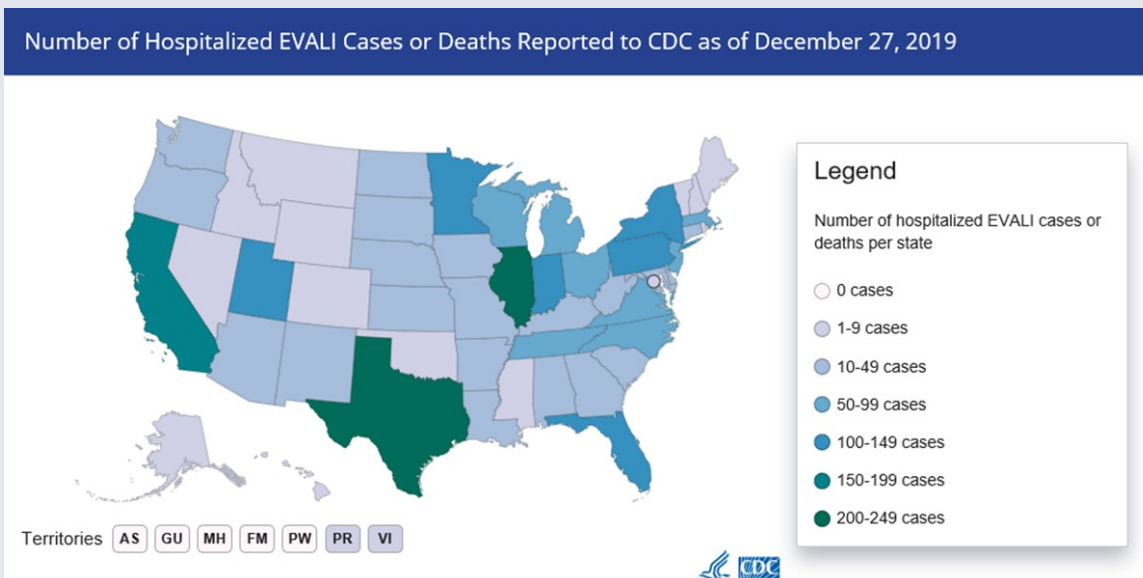
References:

[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)

<https://www.fda.gov/news-events/public-health-focus/lung-illnesses-associated-use-vaping-products>

[https://www.michigan.gov/som/0,4669,7-192-29942\\_34762-509814--,00.html](https://www.michigan.gov/som/0,4669,7-192-29942_34762-509814--,00.html)

[https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html#flavors-marketing-appealing-to-youth](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/Quick-Facts-on-the-Risks-of-E-cigarettes-for-Kids-Teens-and-Young-Adults.html#flavors-marketing-appealing-to-youth)



**LabLink is published quarterly by the Michigan Department of Health and Human Services, Bureau of Laboratories, to provide laboratory information to Michigan health professionals and the public health community.**

**MDHHS is an Equal Opportunity Employer, Services and Programs Provider.**

**Editor: Teresa Miller**