

ECHO IDAHO



ECHO Idaho: Opioid Addiction and Treatment

Outbreaks of Hepatitis A and Vaping-Related Lung
Injury in Idaho: Implications for Care Providers

November 14, 2019

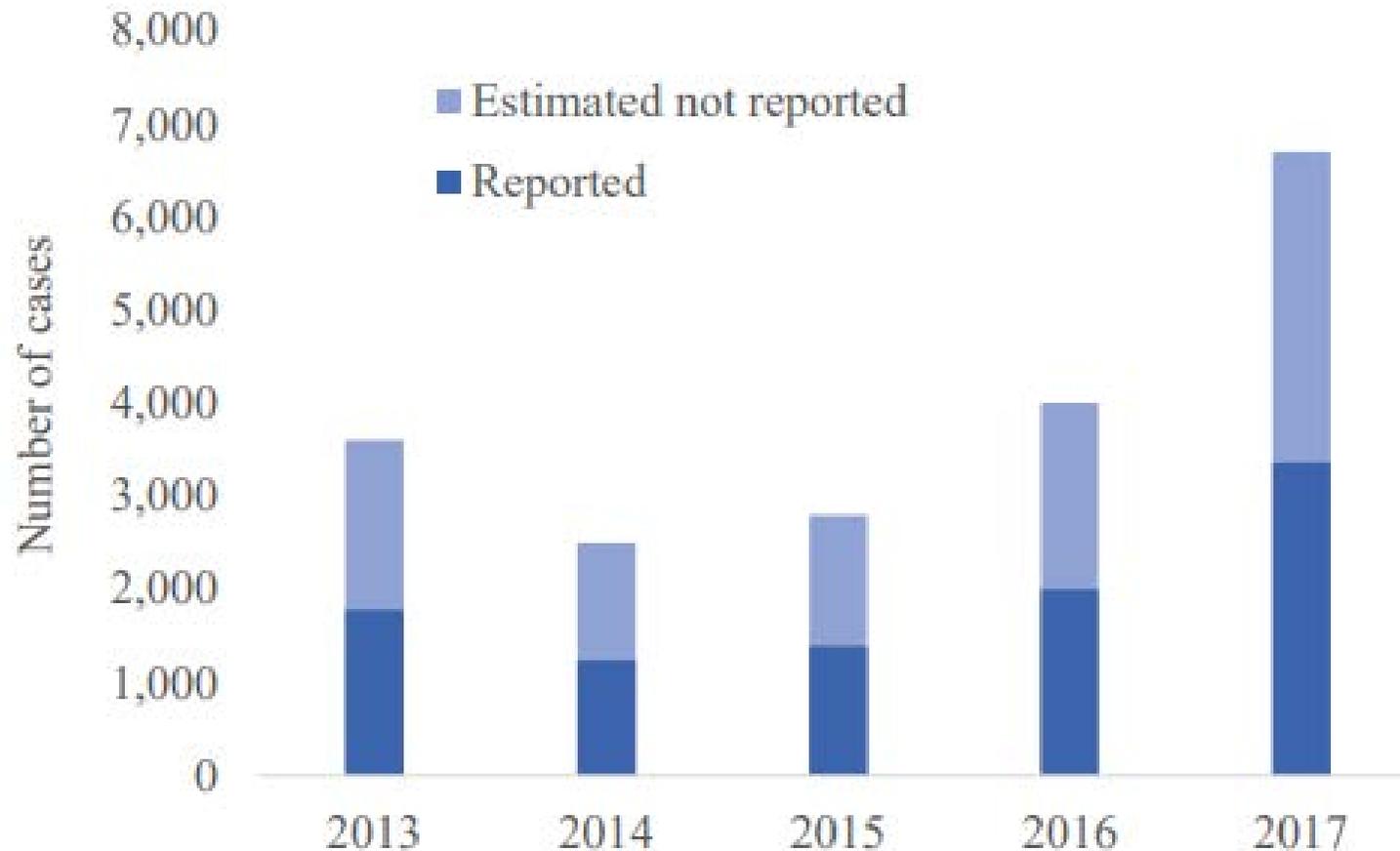
Scott Hutton, PhD MPH and Marcia Witte, MD, Idaho
Department of Health and Welfare

The speakers have no financial relationships to disclose.

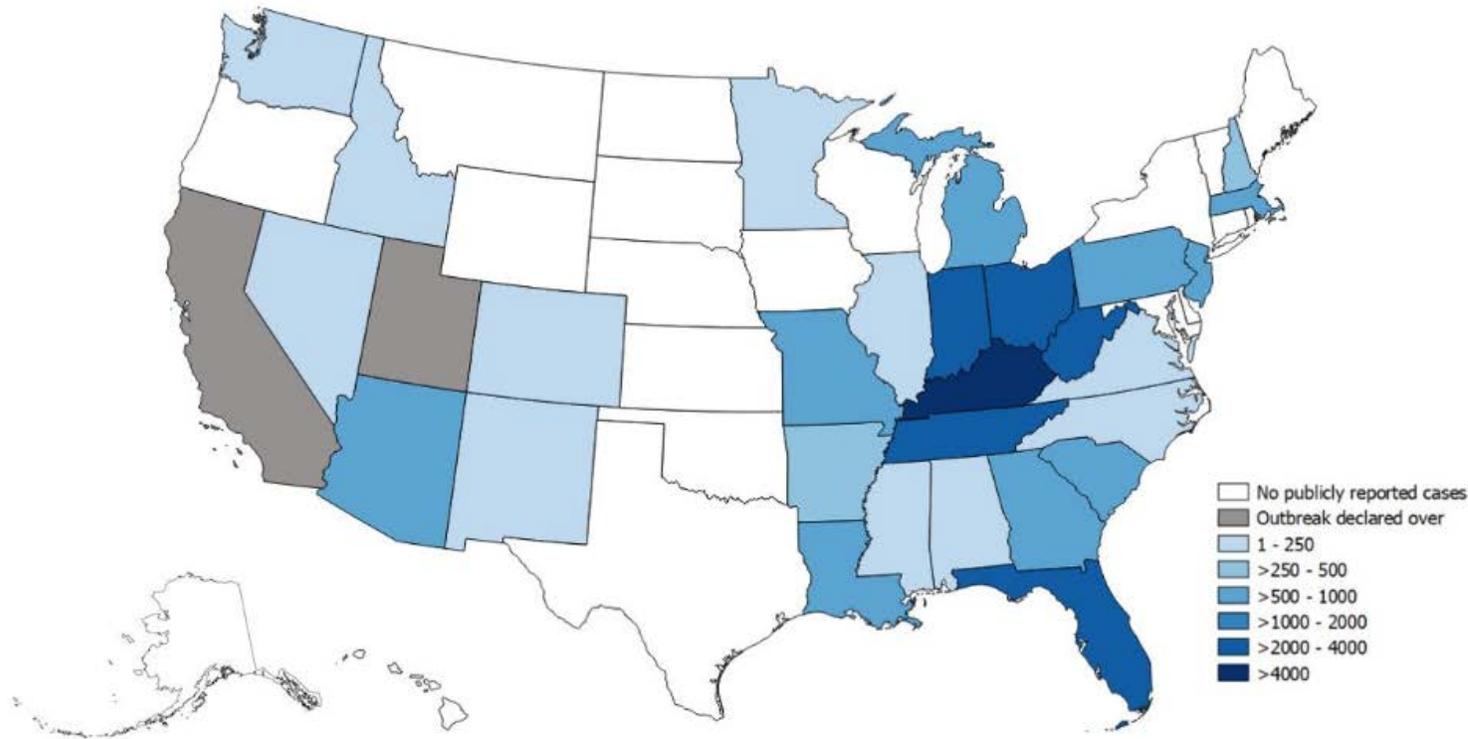
Learning Objectives

- The participant will understand the epidemiology of the current hepatitis A outbreak in Idaho
- The participant will be able to describe current recommendations for hepatitis A vaccination
- The participant will understand the epidemiology of vaping-associated lung injury in Idaho
- The participant will be able to describe how to counsel patients about avoiding vaping-associated lung injury

Actual Reports and Estimated Cases of Acute Hepatitis A Infection – United States, 2013-2017

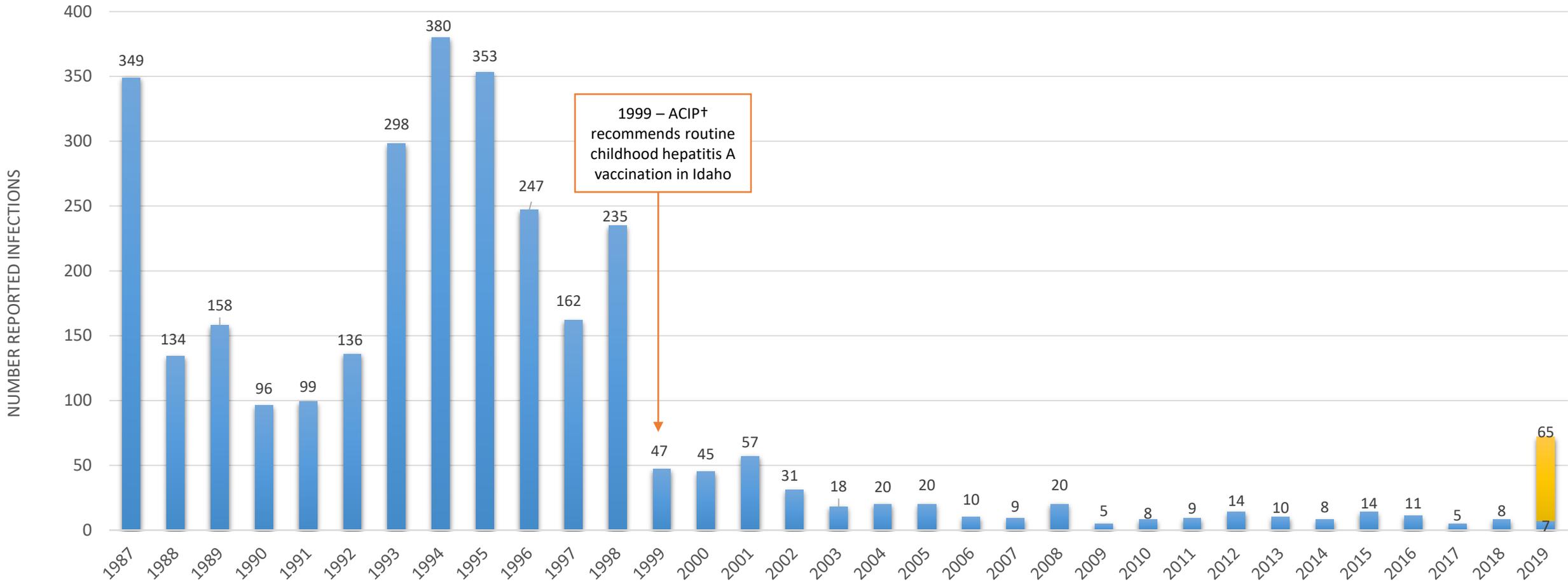


Widespread Outbreaks of Acute Hepatitis A Infection – United States, 2016-2019



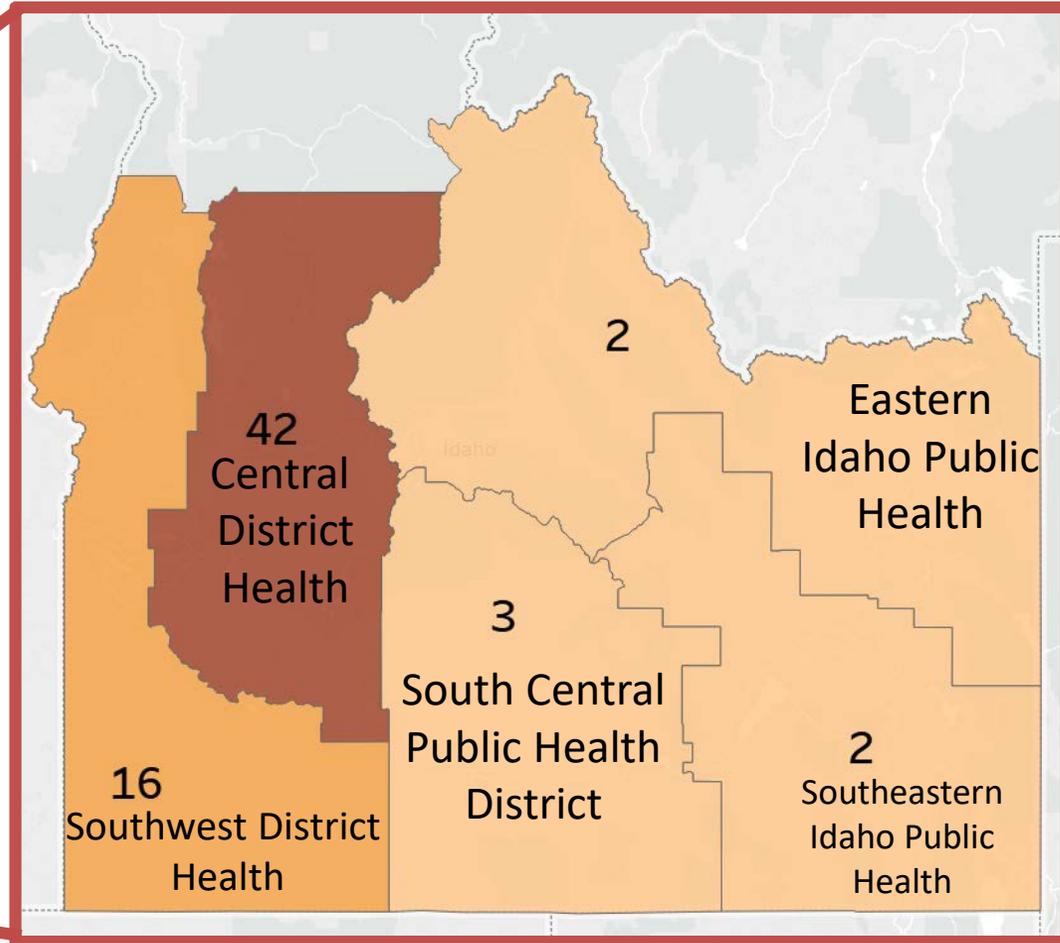
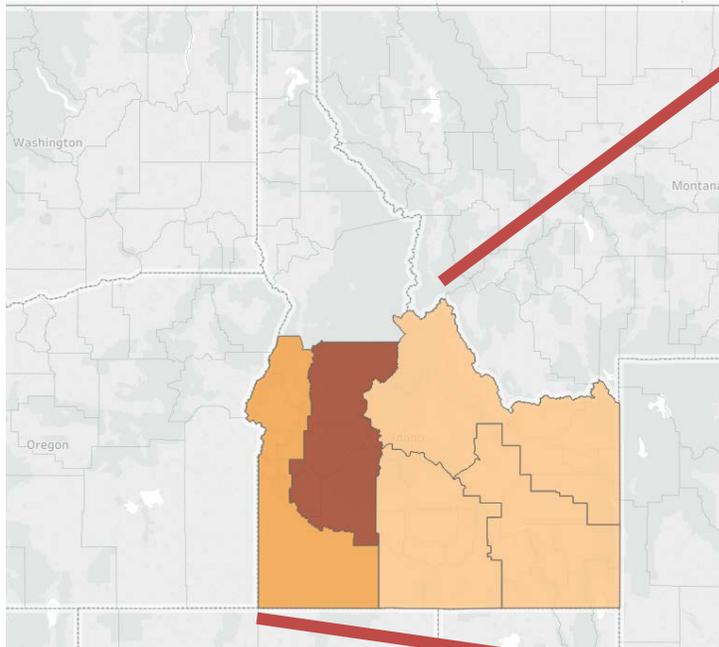
- Since outbreaks were first identified in 2016, 30 states publicly declared:
 - Cases: 28,111
 - Hospitalizations: 16,986 (60%)
 - Deaths: 284

Reports of Acute Hepatitis A Infection – Idaho, 1987-2019*



* 2019 data are preliminary and current as of 11/12/19
† ACIP: Advisory Committee on Immunization Practices

Outbreak-associated Patient Geographic Distribution



Outbreak-associated Patient Demographics



Range:

3 to 71 years

Mean (Median):

44 (43) years



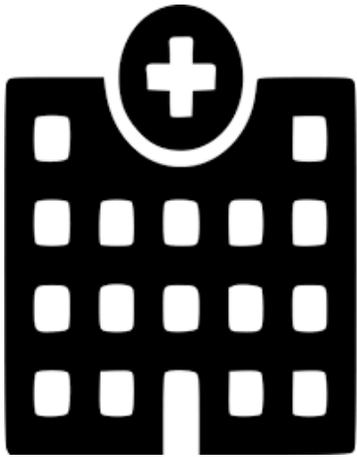
85% Male



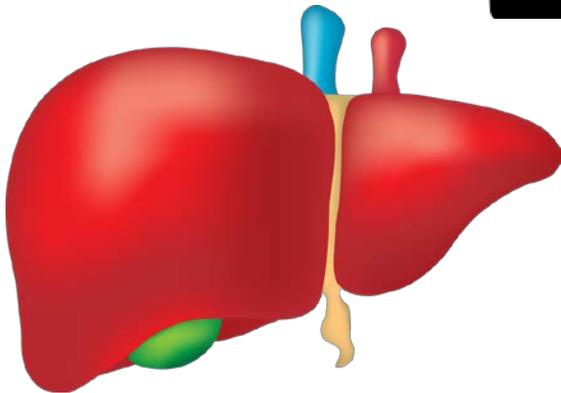
**78% Not Hispanic
or Latino**

87% White

Outbreak-associated Patient Clinical Characteristics

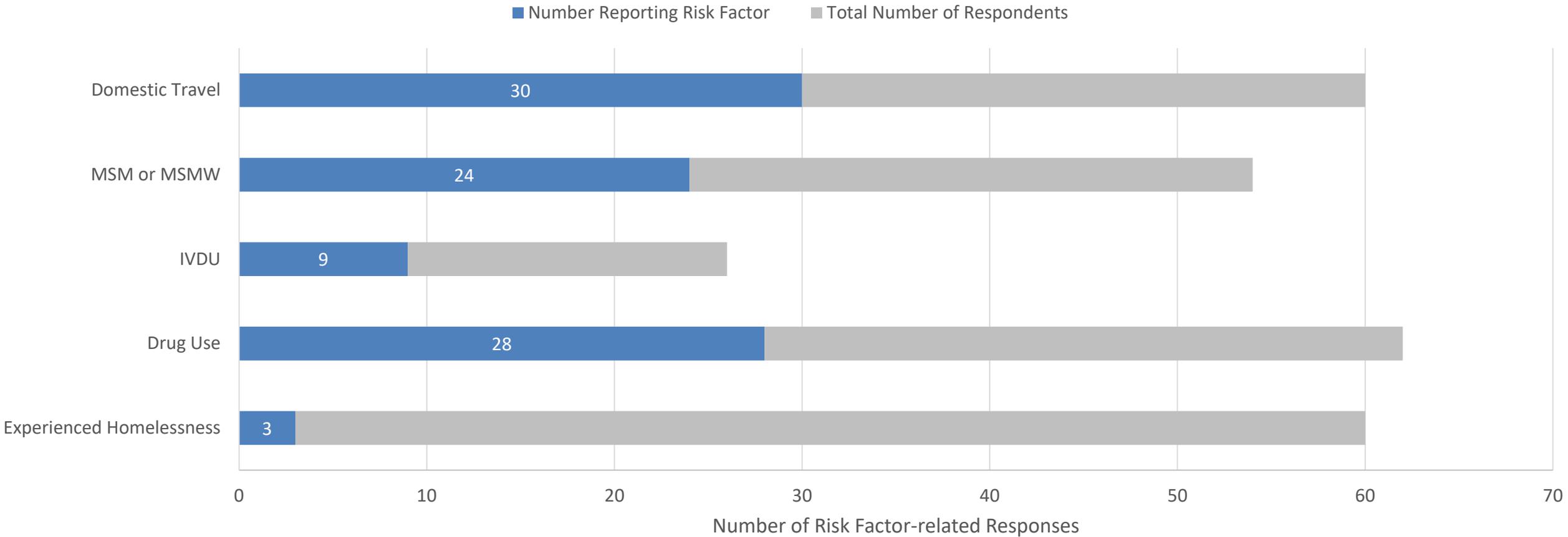


49%
hospitalized



Average ALT = 2,780 U/L
Average AST = 1,887 U/L

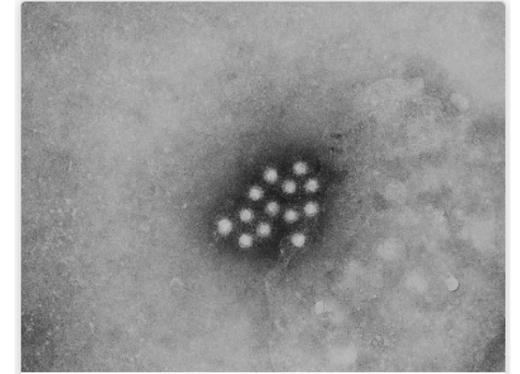
Outbreak-associated Patient Risk Factors



Hepatitis A

Transmission and Prevalence

- Highly contagious virus
- Usually transmitted through the fecal-oral route, either via direct person-to-person contact or through consumption of contaminated food or water
- Depending on environmental conditions, HAV can be stable in the environment for months!
- In 2017, there were an estimated 6,700 cases of hepatitis A in the United States
- In U.S.-born persons \geq 20 years of age, the age-adjusted anti-HAV prevalence in 2007-2012 was 24.2%



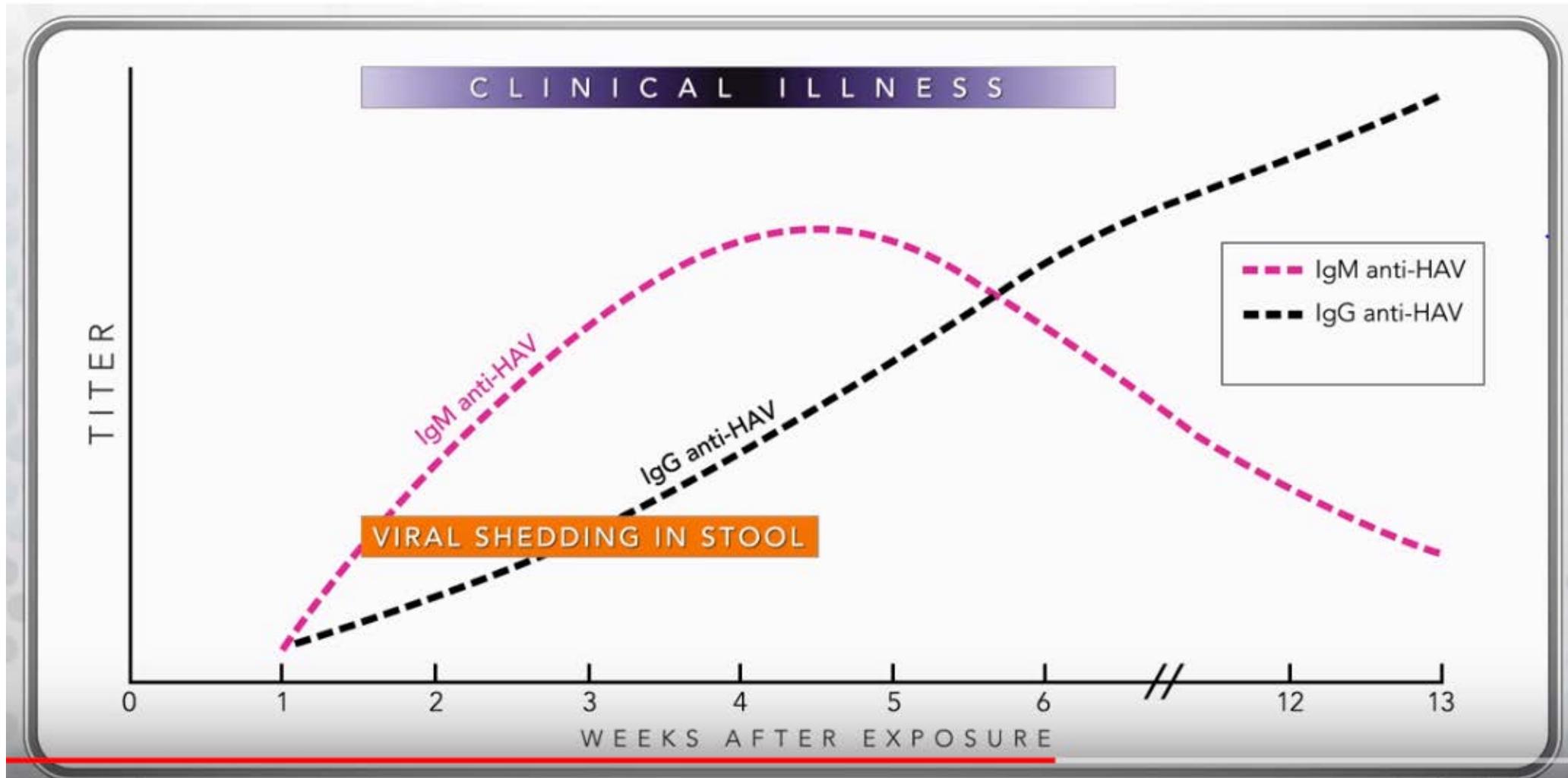
Hepatitis A Risk Factors

- Groups at higher risk of acquiring hepatitis A
 - People with direct contact with someone who has hepatitis A
 - Travelers to countries where hepatitis A is common
 - Men who have sexual contact with men
 - People who use drugs, both injection and non-injection drugs
 - Household members and caregivers of adopted children newly arriving from countries where hepatitis A is common
 - People with clotting factor disorders, such as hemophilia
 - People working with nonhuman primates

Hepatitis A

Clinical Manifestations and Diagnosis

- Self-limited disease, usually lasting several weeks but up to 6 months
- Severity can range from asymptomatic to fulminant hepatic failure (rare)
- Symptoms include: fever, fatigue, poor appetite, abdominal pain, n/v, diarrhea, jaundice, dark urine; children may be asymptomatic
- Average incubation period is 28 days (range: 15-50 days)
- Peak infectivity is in the 2-week period prior to onset of clinical illness
- Diagnosis is usually established by detection of IgM anti-HAV antibodies
- IgG antibodies produced in response to infection are associated with lifelong protective immunity



Source: Hepatitis A: CDC Viral Hepatitis Serology Training

Hepatitis A

Pre- and Post-exposure Prophylaxis and Treatment

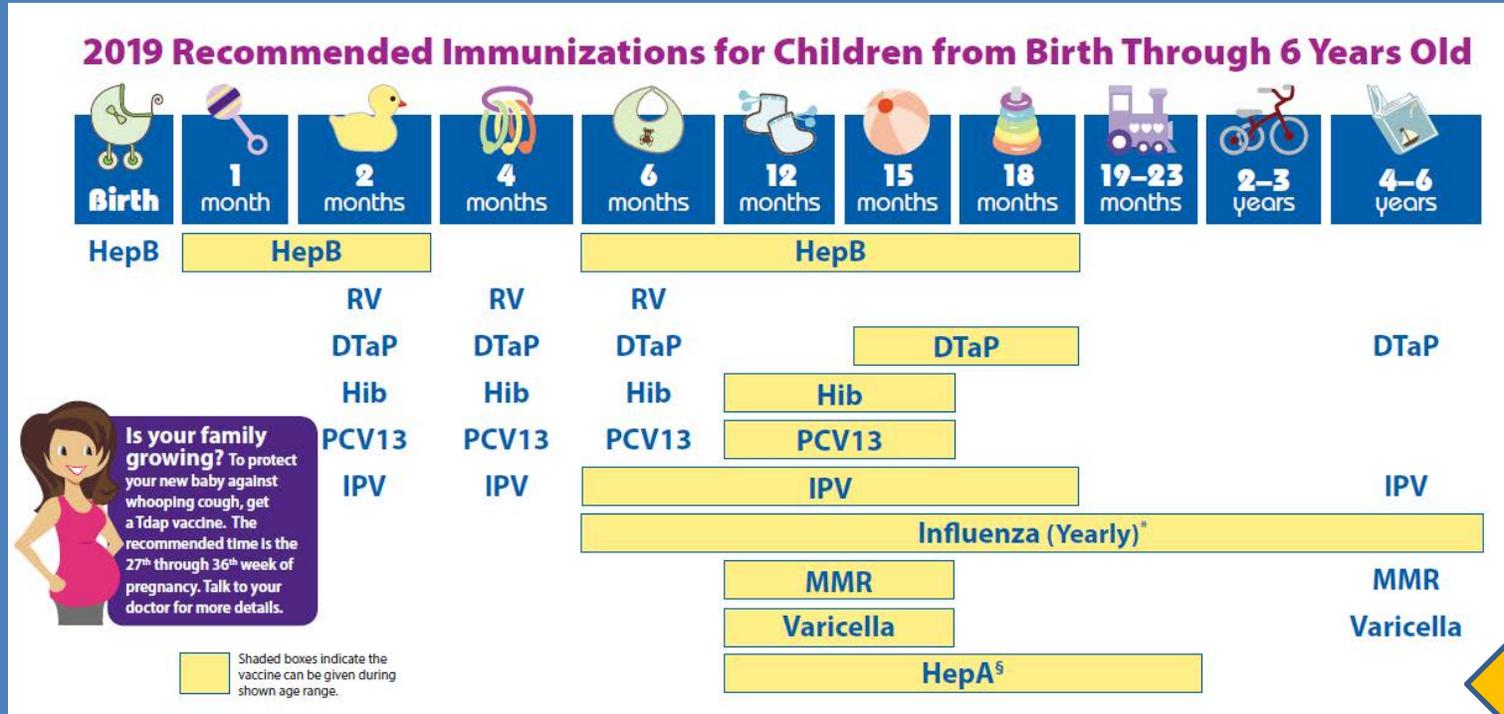
- Pre-exposure prophylaxis
 - Beyond the scope of this presentation
- Post-exposure prophylaxis
 - Persons who have been exposed to HAV and who have not been vaccinated should be administered one dose of single-antigen hepatitis A vaccine or immune globulin (IG) as soon as possible, **within 2 weeks of exposure**. Guidelines vary by age and health status.
- Treatment of hepatitis A is generally supportive

Hepatitis A Prevention

- Hand hygiene!
- Vaccine preventable
 - Single-antigen hepatitis A vaccine given as 2 shots, 6 months apart
 - Combination vaccine with hepatitis A and hepatitis B given as 3 shots over 6 months (only licensed for individuals 18 years of age or older)



The CDC recommends that children be routinely vaccinated against hepatitis A



Hepatitis A Prevention

- Advisory Committee on Immunization Practices (ACIP) also recommends vaccination for:
 - People with unstable housing or experiencing homelessness
 - Persons who are at increased risk of infection
 - Don't forget travelers, MSM, users of injection and non-injection drugs!
 - Persons who are at increased risk for complications from hepatitis A including immunocompromised individuals and those with chronic liver disease
 - Any person wishing to obtain immunity

Hepatitis A Prevention

- ACIP June 2019 recommendations
 - ACIP recommends that all children and adolescents aged 2 through 18 years who have not previously received Hepatitis A vaccine be vaccinated routinely at any age (i.e., children and adolescents are recommended for **catch-up** vaccination)
 - ACIP recommends all persons with HIV aged ≥ 1 year be routinely vaccinated with Hepatitis A vaccine
 - These recommendations have been adopted by the CDC Director and will become official once published in MMWR

Hepatitis A

Where to get immunized?



CONTACT US

[208] 375-5211

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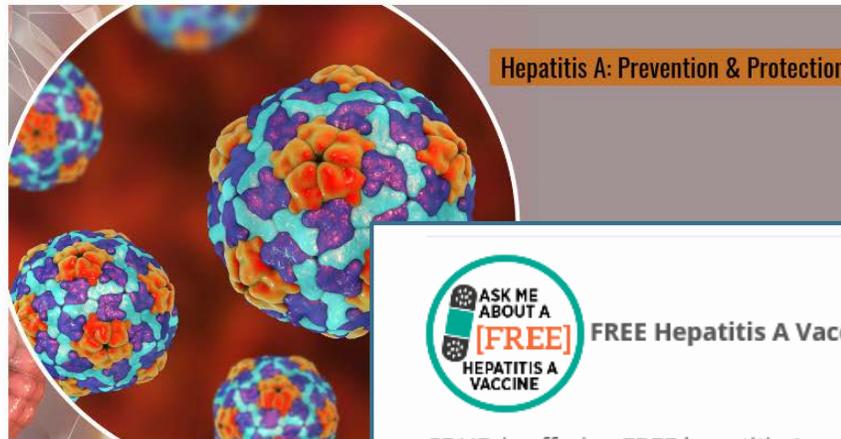
HEPATITIS A

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Hepatitis A

Since January 2019, Southwestern Idaho has seen a significant increase in hepatitis A cases. No cases have been identified, public health encourages proper hand hygiene.

> [View statewide hepatitis A case counts and data](#)



FREE Hepatitis A Vaccine at CDHD

CDHD is offering FREE hepatitis A vaccine (by appointment) to those who may be at a higher risk for contracting hepatitis A, including:

- People who have direct contact with someone with hepatitis A
- People living homeless or in transient living
- People who use recreational drugs (injection or non)
- Men who have sex with men
- Those who do not have health insurance (uninsured)
- Those whose insurance does not cover the entire cost of vaccine

Appointments are required. Please call 208-327-7400 to schedule a vaccine appointment.

Hepatitis A

Where to get immunized?

The screenshot shows the HealthMap Vaccine Finder interface. At the top, there's a navigation bar with "About", social media icons, and links to "Visit Flu Near You" and "Visit MedFinder". The main content area features a map of the McCall, ID area with a red pin labeled "2" indicating the search location. Below the map, two vaccine providers are listed:

- 1. Albertsons**
132 East Lake St., McCall, ID 83638
Phone: 208-634-2433 | [Directions](#) | [Website](#) | [Uber](#)
Hours: M-F 9am - 9pm / Sat. 9am - 6pm / Sun. 9am - 5pm
Vaccines: 9-valent HPV, Adjuvanted Flu Shot, Hepatitis A, Hepatitis B, High-Dose Flu Shot, MenACWY, MenB, MMR, PCV13, PPSV23, Quadrivalent Flu Shot, Shingles/zoster, Td, Tdap, Varicella
- 2. Rite Aid #5410**
451 Deinhard Lane, McCall, ID 83638
Phone: 208-634-4929 | [Directions](#) | [Website](#) | [Uber](#)
Hours: M - F 900 am - 900 pm, SAT 900 am - 600 pm, SUN 1000 am - 600 pm
Vaccines: 9-valent HPV, Adjuvanted Flu Shot, Cell Based Flu Shot, Hepatitis A, Hepatitis B, High-Dose Flu Shot, MenACWY, MenB, PCV13, PPSV23, Quadrivalent Flu Shot, Recombinant Flu Shot, Shingles/zoster, Td, Tdap, Varicella

On the right side of the interface, there's a sidebar with a blue alert box: "Are you traveling? Be protected against measles with a combination vaccine that provides protection against measles, mumps, and rubella (MMR). Visit the CDC website to learn more." Below this, there are dropdown menus for "Location" (set to McCall, ID 83638, USA) and "Vaccines" (with "Hepatitis A" selected). An "Advanced Search" section at the bottom right shows a search area of 10 miles.

EVALI

- EVALI = e-cigarette, or vaping, product use-associated lung injury
- As of November 5, 2019, 2,051 cases of EVALI have been reported to the CDC from 49 states, D.C., and 1 U.S. territory
 - 39 deaths
- Among those patients with data available,
 - 70% are male
 - Median age is 24 years
- All have reported a history of using e-cigarette, or vaping, products
- Among patients with data available,
 - About 86% reported using THC-containing products
 - About 64% reported using nicotine-containing products

EVALI

Some Pearls of Clinical Evaluation

- Maintain high level of suspicion
 - Ask about use of e-cigarette, or vaping, products
- Patients likely to have respiratory symptoms (95%), gastrointestinal symptoms (77%), and constitutional symptoms (85%)
- Lung exam may be normal, even among patients with severe lung injury
- CXR should be obtained on all patients with a history of e-cigarette, or vaping, product use who have respiratory or gastrointestinal symptoms, particularly when accompanied by decreased O2 saturation

EVALI

Breaking News!

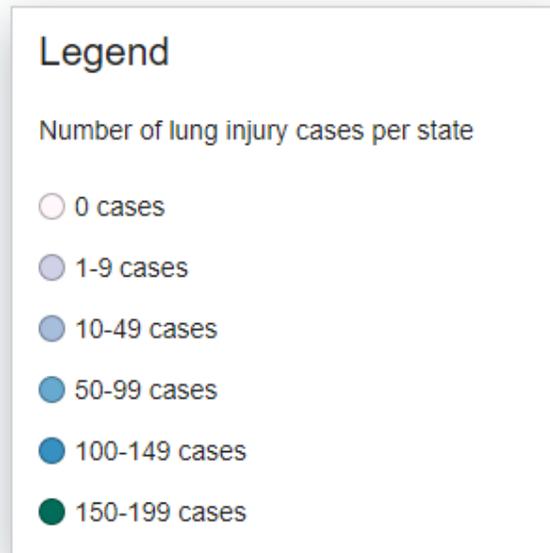
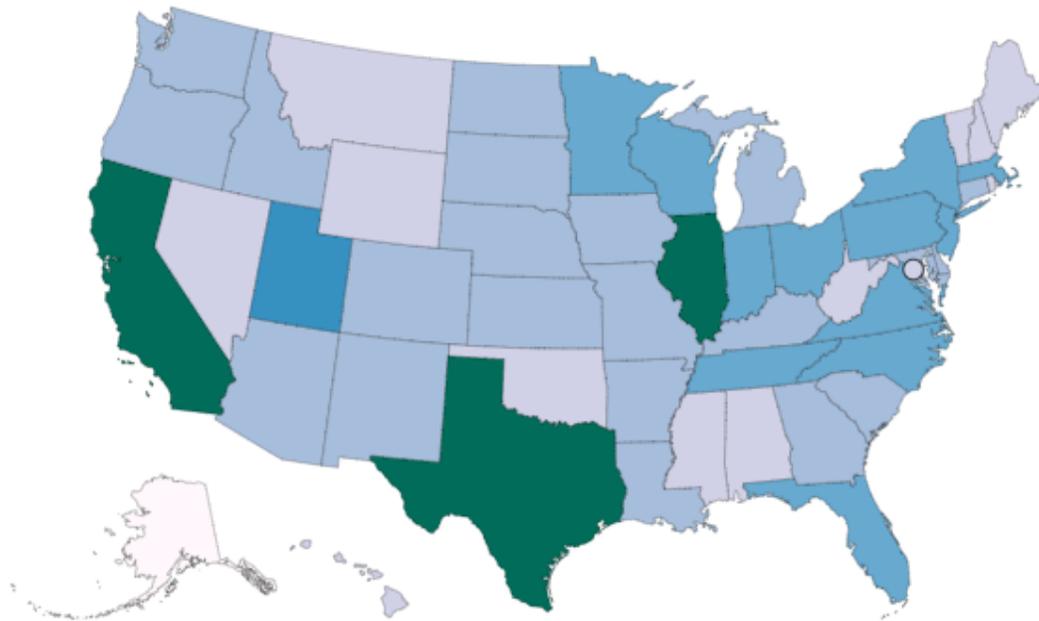
- Recent CDC analysis of bronchoalveolar lavage (BAL) fluid samples from 29 patients with EVALI whose fluid was submitted to the CDC from 10 states identified **vitamin E acetate** in all samples.
- This is the first time a potential chemical of concern has been detected in biologic samples from patients with EVALI
- Does not rule out possibility of other chemicals of concern contributing to EVALI

EVALI

Prevention Counseling

- Current CDC recommendations
 - Avoid e-cigarette, or vaping, products that contain THC
 - Avoid use of e-cigarette, or vaping, products that have been purchased off the street or modified
 - Consider refraining from use of all e-cigarette, or vaping, products
 - Adults using e-cigarettes to quit smoking should not go back to smoking cigarettes; consider using FDA-approved nicotine-replacement products
 - Monitor for symptoms of EVALI and seek medical attention if symptoms develop
- Irrespective of ongoing investigation
 - Youths, young adults, and women who are pregnant should not vape

Reports of E-cigarette or Vaping-associated Lung Injury (EVALI), Idaho

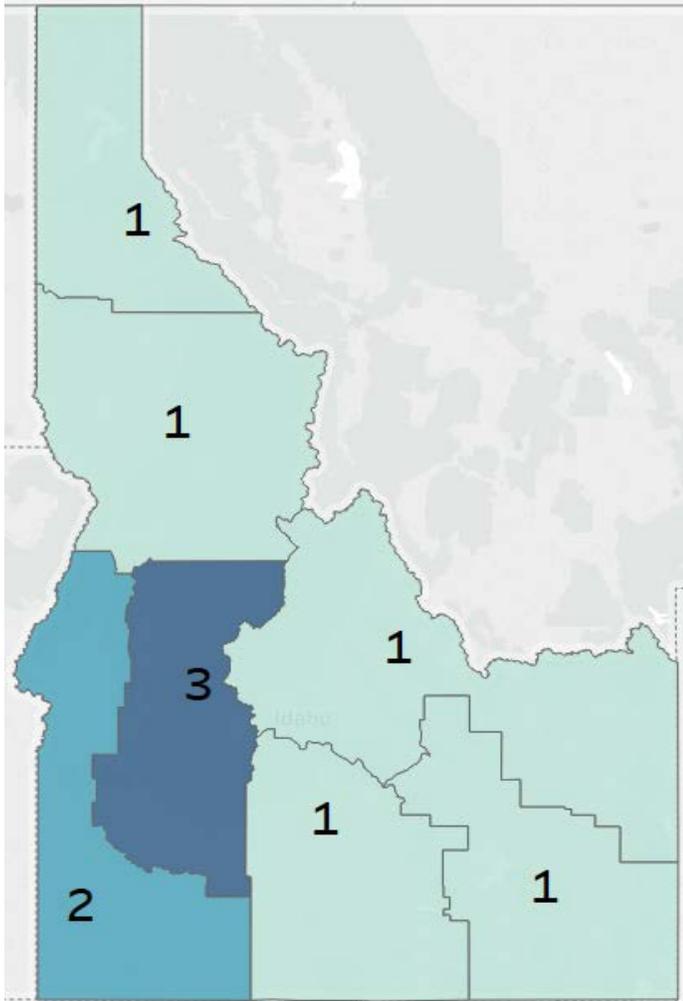


- **2,051 cases of EVALI reported to CDC as of November 5th from 49 states**
- **39 deaths in 24 states and D.C.**

Territories AS GU MH FM PW PR VI

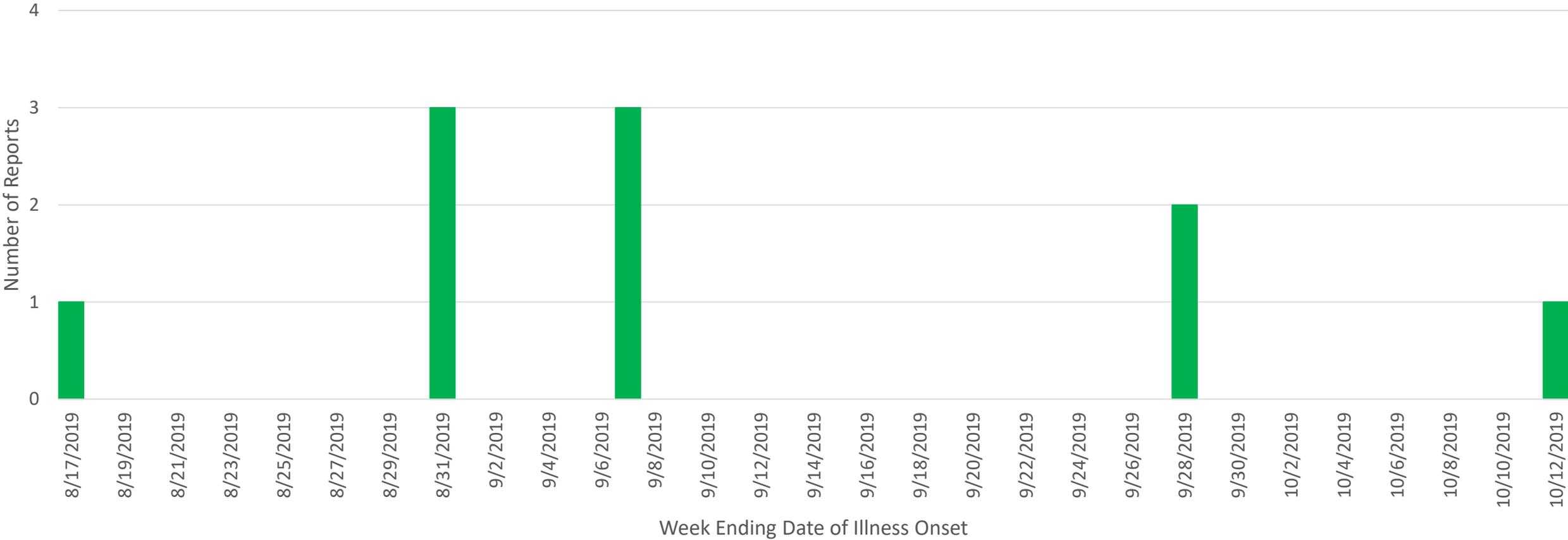


Idaho EVALI Patient Geographic Distribution



- 10 reported cases of EVALI in Idaho
 - All jurisdictions in Idaho currently impacted

Idaho EVALI Patient Symptom Onset by Week Ending Date



Idaho EVALI Patient Demographics



Range: **16 to 55 years**

Mean (Median): **25 (20.5) years**



80% Male



86% Not Hispanic or Latino

(of those where ethnicity is known [n=7])

100% White

(of those where race is known [n=8])

Idaho EVALI Patient Clinical Characteristics



- 100% had prior healthcare encounter (mostly ED)
- **90% hospitalized**



- Ground glass opacities
- Infiltrates
- Focal airspace opacities

70% reported Shortness of Breath (SOB)

Cough

dehydration

Fever

weakness

hypoxia

SOB

vomiting
diarrhea

Idaho EVALI Patient Vaping Status



- **All 10** reported vaping a **nicotine-containing substance**
- **90%** self-reported vaping **THC-containing substance**
 - Some report using THC to wean off other addictive products/substances (i.e., opioids, alcohol)
 - Most report a history of anxiety or depression

Key Points

- Idaho public health officials continue to investigate an ongoing outbreak of acute hepatitis A infections
 - Person-to-person transmission
 - Targeting vulnerable populations for vaccination
 - **Encourage vaccination for those at risk**
- Idaho public health officials continue to investigate reports of EVALI
 - Report suspected cases to public health officials
 - Cause remains unknown
 - Vitamin E acetate identified in all BAL samples submitted to CDC
 - Testing of aerosol underway at CDC
 - FDA testing of patient product samples found vitamin E acetate, aliphatic esters (e.g., triglycerides), and polyethylene glycol as diluents
 - **Refrain from vaping especially those products obtained through informal sources**

References

- *Manual for the Surveillance of Vaccine-Preventable Diseases, Chapter 3: Hepatitis A.* Centers for Disease Control and Prevention. Date reviewed: 11/12/2019. Available at: <https://www.cdc.gov/vaccines/pubs/surv-manual/chpt03-hepa.pdf>
- Hepatitis A Questions and Answers for Health Professionals, CDC, Available at: <https://www.cdc.gov/hepatitis/hav/havfaq.htm#B1>
- UpToDate
- Advisory Committee on Immunization Practices (ACIP) website, available at: <https://www.cdc.gov/vaccines/acip/index.html>

References

- Siegel DA, Jatlaoui TC, Koumans EH, et al. 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 Morb Mortal Wkly Rep 2019;68:919–927. DOI: <http://dx.doi.org/10.15585/mmwr.mm6841e3external icon>
- Blount BC, Karwowski MP, Morel-Espinosa M, et al. Evaluation of Bronchoalveolar Lavage Fluid from Patients in an Outbreak of E-cigarette, or Vaping, Product Use–Associated Lung Injury — 10 States, August–October 2019. MMWR Morb Mortal Wkly Rep. ePub: 8 November 2019. DOI: <http://dx.doi.org/10.15585/mmwr.mm6845e2external icon>
- CDC Website, Electronic Cigarettes page, available at: https://www.cdc.gov/tobacco/basic_information/e-cigarettes/index.htm



ECHO Idaho: Opioid Addiction and Treatment

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For information, please visit uidaho.edu/echo

