

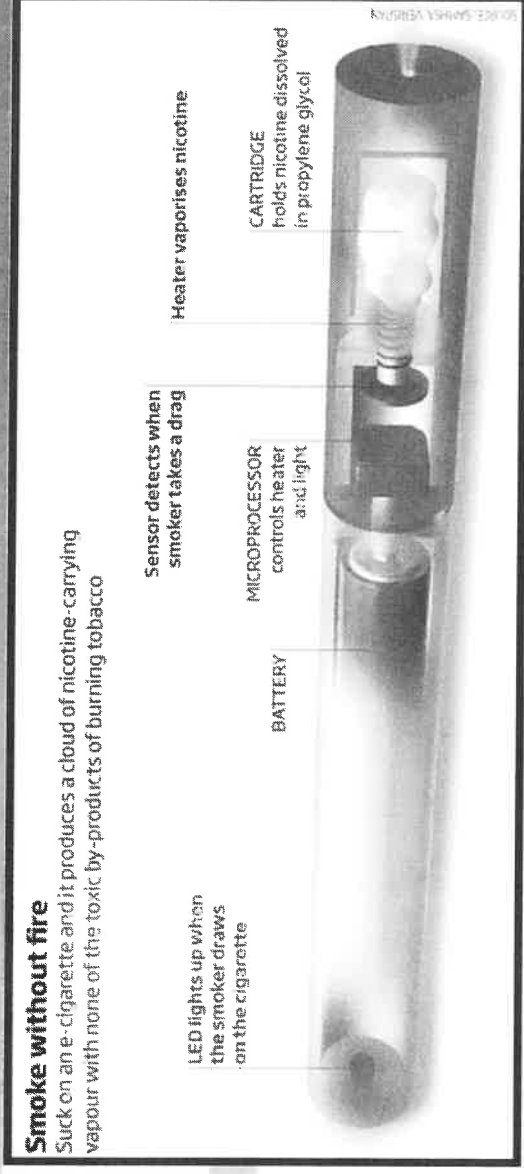
# ARKANSAS DEPARTMENT OF HEALTH

## **Update on EVALI** **(E-cigarette, or Vaping, product use- Associated Lung Injury)**

Nathaniel Smith, MD, MPH  
Secretary of Health  
Arkansas Department of Health

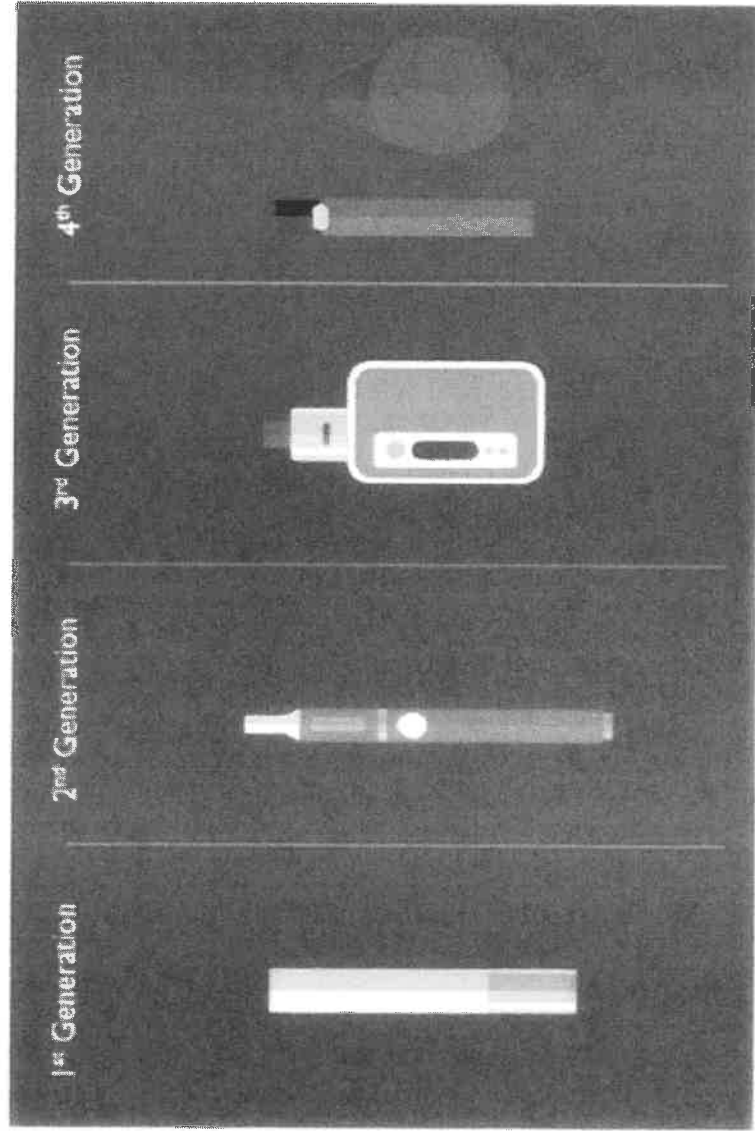


# What is Vaping?



- Definition: The act of inhaling or exhaling an aerosol, often referred to as vapor, which is produced by an e-cigarette or similar device<sup>1</sup>.
- Vaping products include: e-cigarettes (or e-cigs), e-hookahs, mods, vape pens, vapes, tank systems and electronic nicotine delivery systems<sup>2</sup>.
- While e-cigarettes (and many vaping products) have been marketed as an alternative for smoking traditional cigarettes among adults<sup>3</sup>, use among teens has risen dramatically in the last few years<sup>4</sup>.

# E-CIGARETTE EVOLUTION



## No Restriction on Ingredients or Aerosol Emissions

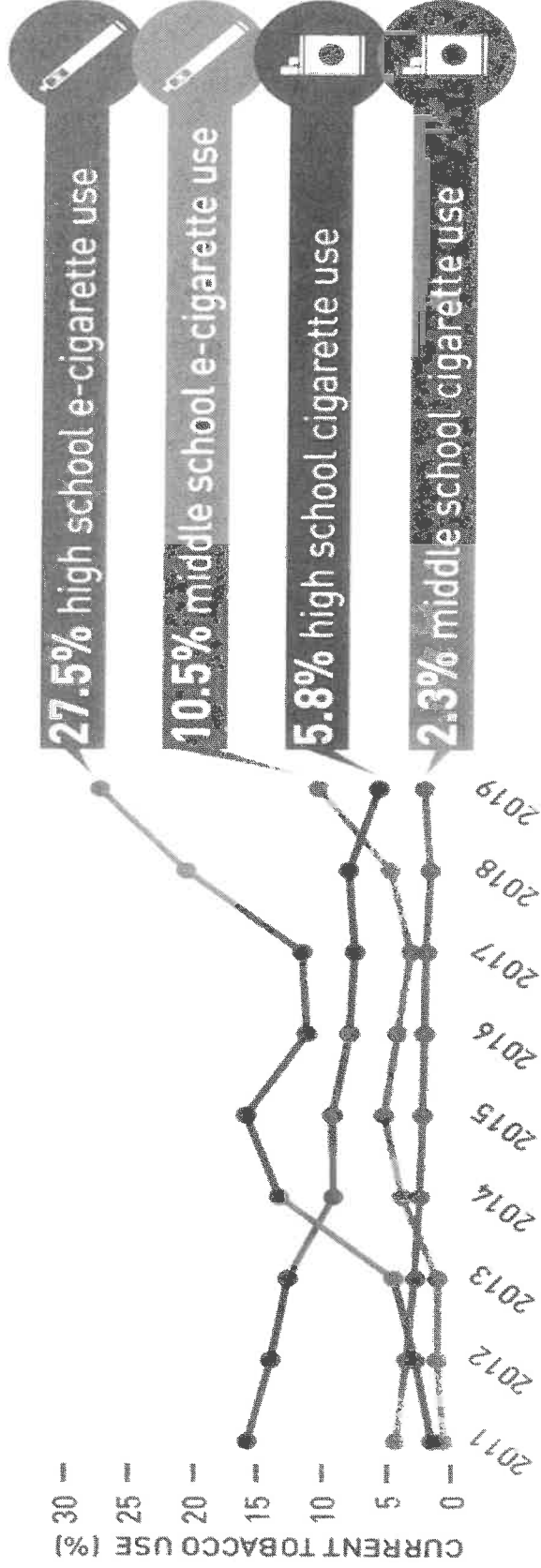
Acrolein Acetaldehyde  
Di-ethylene Glycol Benzene  
Arsenic Xylen  
Formaldehyde  
Chromium Copper Toluene  
Aluminum Nickel Ethylbenzene  
Volatile Organic Compounds Propylene-Glycol  
Carcinogenic compounds

## Heavy Metals

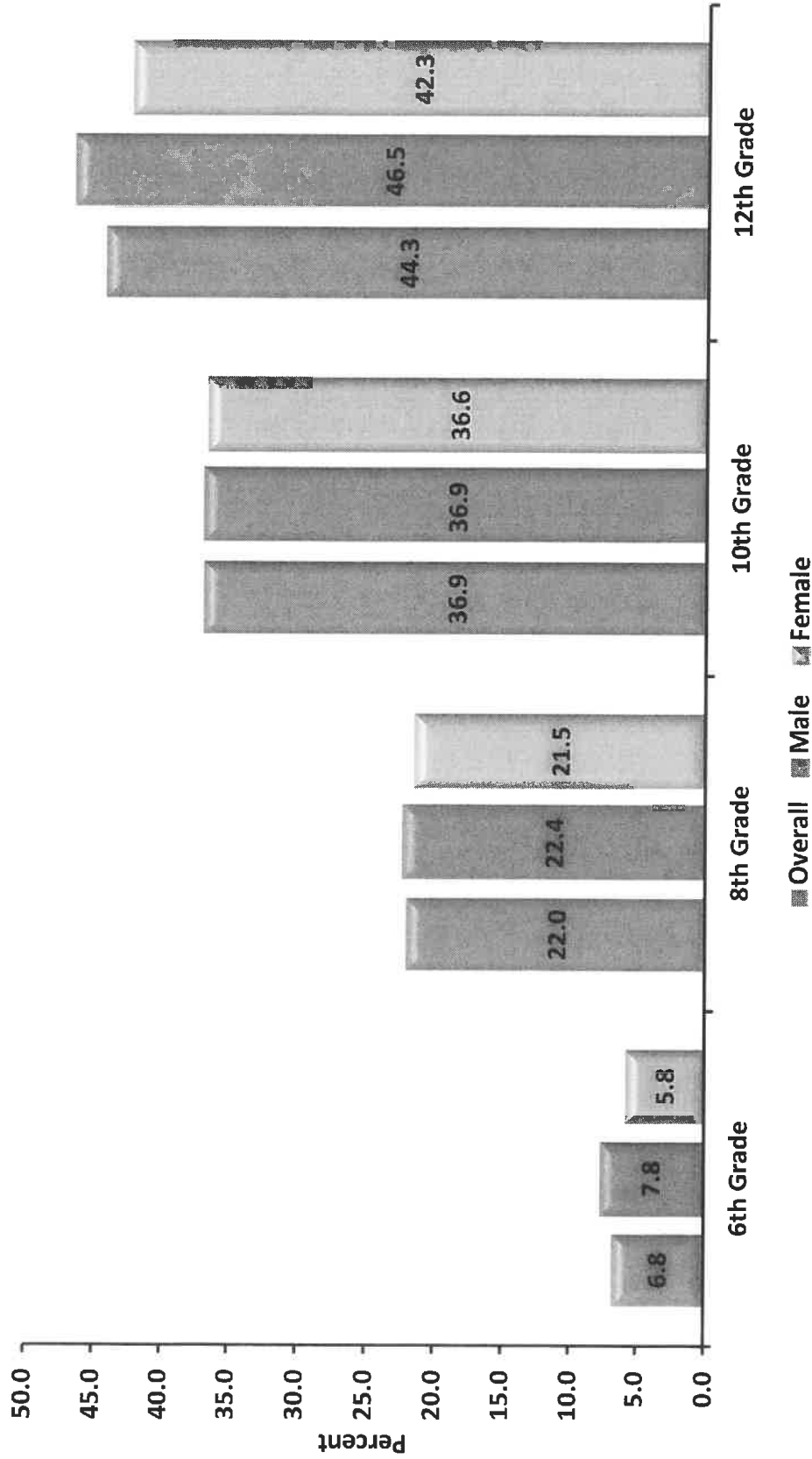
It's Not Water Vapor.....

# National Tobacco Use Rates

Current e-cigarette use has **INCREASED DRAMATICALLY**, while current cigarette use has **dropped**, **UNDERMINING PROGRESS** toward reducing overall tobacco use



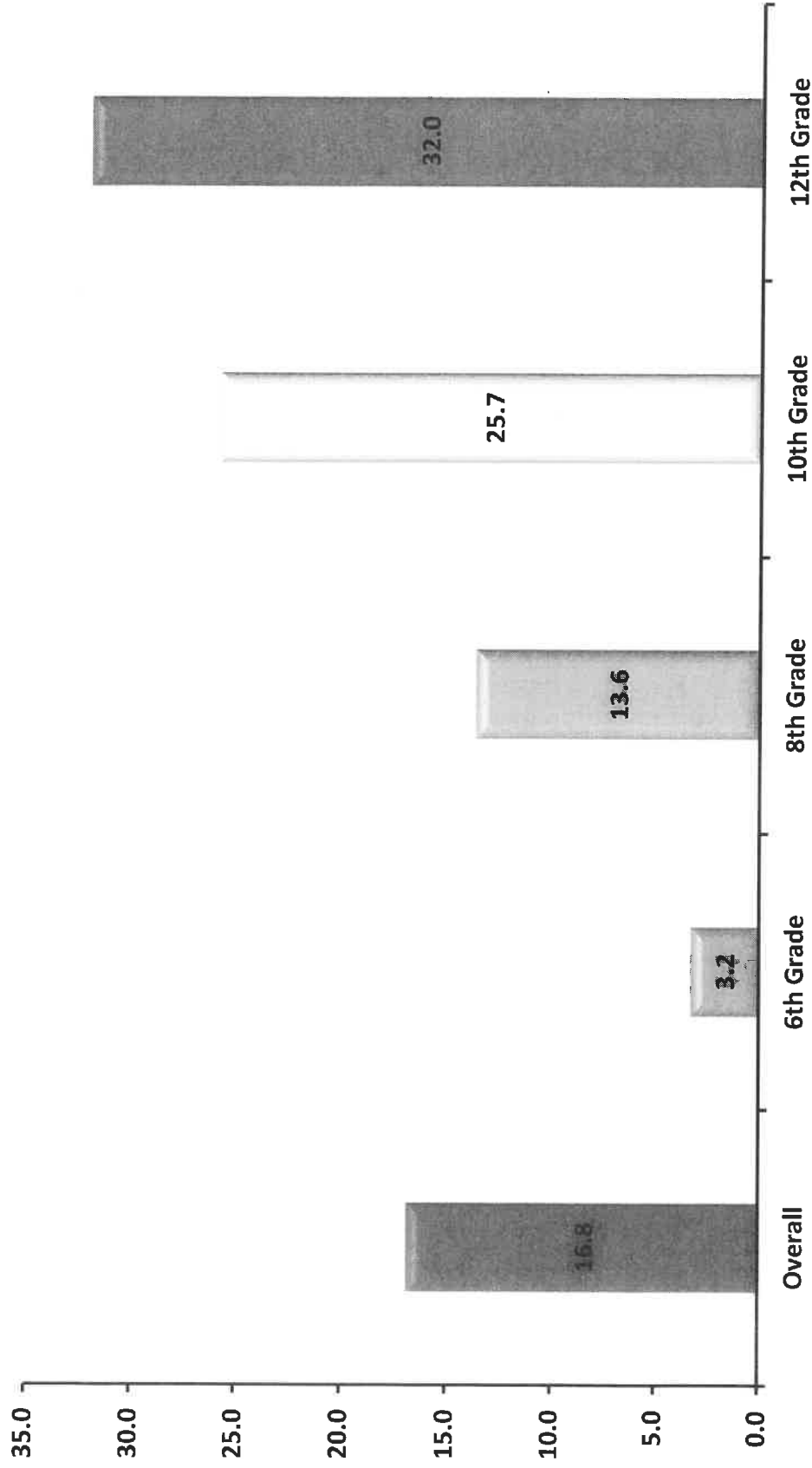
# Lifetime Use of E-cigarette among Youth by Gender and Grade Level, Arkansas 2018



ESD (Electronic Smoking Device): ever used e-cigarettes, e-cigars, or e-hookahs  
Source: Arkansas Prevention Needs Assessment Survey (APNA)



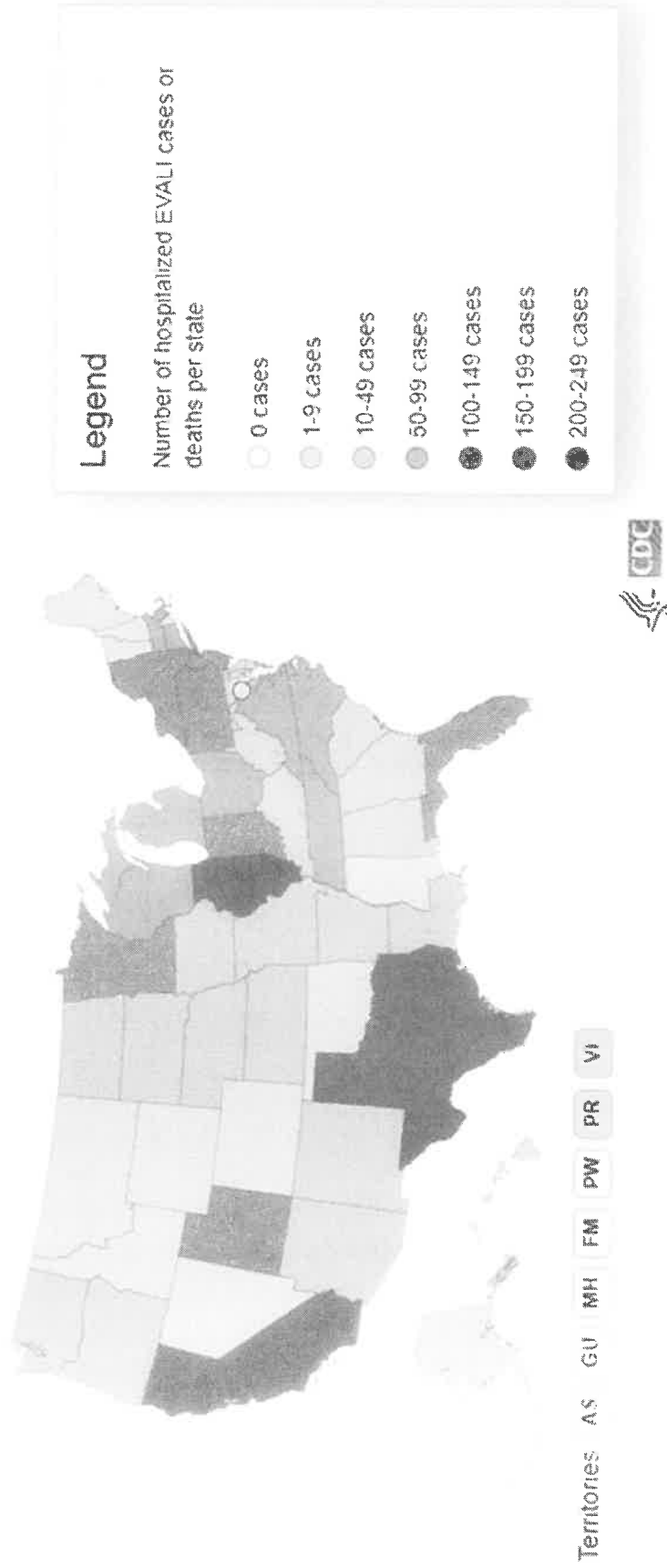
# Current Use of E-cigarette among Youth by Grade Level, Arkansas 2018



Note: Current use of ESDs is defined as students in grades 6, 8, 10, and 12 who report using an ESD on one or more days in the last year.  
Source: Arkansas Prevention Needs Assessment Survey (APNA)

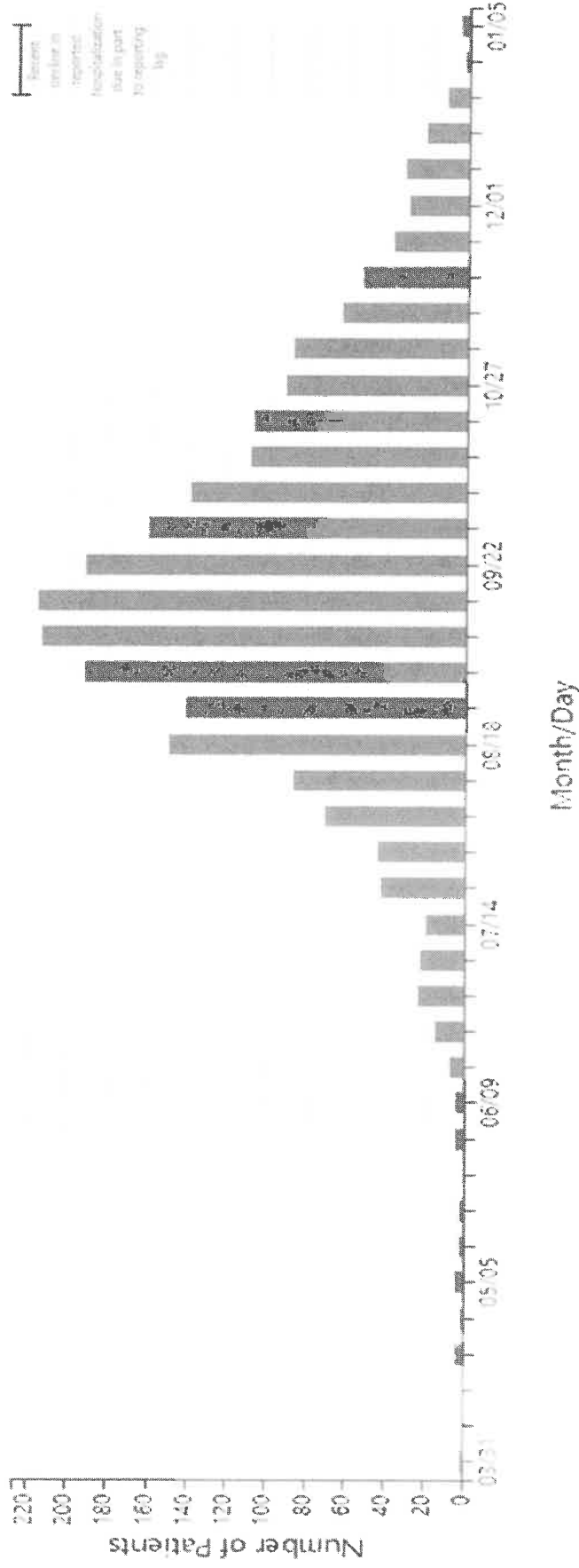


# Number of Hospitalized EVALI Cases or Deaths Reported to CDC as of January 14, 2020





# Number of hospitalized EVALI patients by date of admission — United States, March 31, 2019–January 11, 2020



Numbers do not sum to 2,758 due to missing admission dates.

# Nationwide EVALI Update<sup>7</sup> (as of 1/14/2020)

- **2,668 cases hospitalized for EVALI have been reported from:**
  - 50 states, the District of Columbia and two U.S. territories
  - 66% were male
  - 76% under 35 years old (15% under 18 years of age)
- **60 deaths have been confirmed in 27 states and DC**
  - Median age of 51 (range 15 – 75)
  - More deaths are currently under investigation
- **Among the 1,979 with substance use information:**
  - 82% report THC-product use (33% report exclusive use)
  - 57% report nicotine-product use (13% report exclusive use)

# Arkansas EVALI Update (as of 1/14/2020)

- **23 cases**
  - 8 confirmed, 14 probable, 1 Under Investigation
  - Median Age: 21 years (Range: 17 – 54 years)
  - Gender
    - Female (35%)
    - Males (65%)
- All patients were hospitalized
- No deaths have been reported
- All with similar clinical onset:
  - Shortness of breath/chest pain/coughing/hypoxia
  - GI symptoms (i.e. nausea, vomiting, diarrhea)
  - Low grade fever
  - Pulmonary infiltrates/opacities present on CT and/or x-ray

# Ongoing Outbreak Activities

- ADH, CDC, and FDA are continuing to collect data from patients
  - Characterize clinical course and treatment, refine case definition, and investigate causes
  - To date, no single substance or e-cigarette product has been consistently associated with illness. While Vitamin E Acetate is a suspected substance, CDC and FDA continue to test samples for other causes.
  - Data includes:
    - Medical Records
    - Patient Interviews
    - Leftover vaping supplies

“Clinicians who become aware of cases similar to those described above are encouraged to report them to ADH Outbreak Response at 501-537-8969. ADH will be tracking cases, and clinician assistance is appreciated to help determine the scope and cause of this disease cluster.”

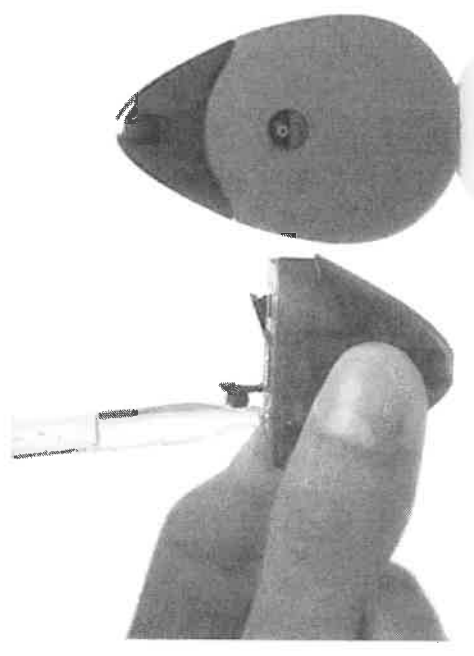
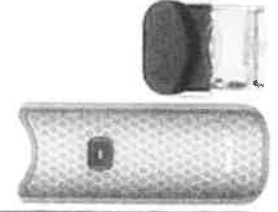
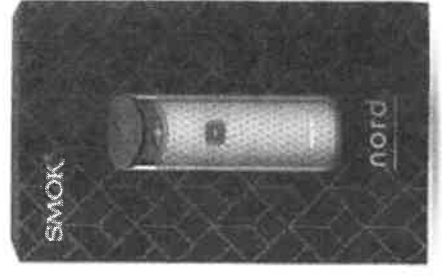
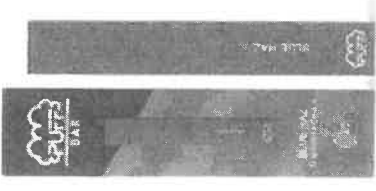
# Key Messages for Students and Parents

- “Do not use vaping or e-cigarette products”
- “Do not use vaping products-particularly those containing THC-obtained off the street or from other illicit or social sources”
- “Do not modify or add any substances...”
- “No youth or pregnant women should be using ANY vaping product, regardless of the substance”
- “Monitor yourself for symptoms...and promptly seek medical attention”

# Policy Gaps

## Kid-friendly, flavored e-cigarettes that remain available:

- Disposable e-cigarettes like **Puff Bar** and **Mojo** that often look just like Juul, the best-selling e-cigarette among kids, and are quickly gaining in popularity with kids
- **Nicotine e-liquids** that are sold in over 15,000 flavors - these products often have high nicotine levels and are cheaper than Juul, making them appealing to kids. They come in containers that allow users to pour the liquid into refillable cartridges that fit into a Juul or into other products like Suorin and Smok.
- Sleek, refillable e-cigarettes like **Suorin** and **Smok** - with over 10% of the youth market between them, these are the most popular e-cigarette brands among high school students after Juul
- **Menthol** varieties of Juul and other cartridge/pod-based e-cigarettes



# EVALI Case Definition – Confirmed<sup>6</sup>

## **Confirmed Case:**

Using an e-cigarette (“vaping”) or dabbing\* in 90 days prior to symptom onset

### **AND**

Pulmonary infiltrate, such as opacities, on plain film chest radiograph or ground-glass opacities on chest CT

### **AND**

Absence of pulmonary infection on initial work-up. Minimum criteria are:

1. A negative respiratory viral panel
2. A negative influenza PCR or rapid test, if local epidemiology supports influenza testing

### **AND**

All other clinically-indicated respiratory infectious disease testing (e.g., urine Antigen for *Streptococcus pneumoniae* and *Legionella*, sputum culture if productive cough, bronchoalveolar lavage (BAL) culture if done, blood culture, HIV-related opportunistic respiratory infections if appropriate) are negative

### **AND**

No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).



# EVALI Case Definition – Probable<sup>6</sup>

## Probable Case:

Using an e-cigarette (“vaping”) or dabbing\* in 90 days prior to symptom onset

### AND

Pulmonary infiltrate, such as opacities, on plain film chest radiograph or ground-glass opacities on chest CT

### AND

Infection identified via culture or PCR, but clinical team\*\* believes this infection is not the sole cause of the underlying lung injury **OR minimum criteria** to rule out pulmonary infection not met (testing not performed) and clinical team\*\* believes infection is not the sole cause of the underlying lung injury

### AND

No evidence in medical record of alternative plausible diagnoses (e.g., cardiac, rheumatologic, or neoplastic process).