



Vaping and Vaping-Related Lung Injuries

Senate Health and Human Services

December 3, 2019



TEXAS
Health and Human
Services

Texas Department of State
Health Services

Manda Hall, M.D.

Associate Commissioner
Community Health Improvement

Outline

- Vaping Overview
- Known Health Effects & Data: Tobacco and E-cigarettes/Vaping
- E-cigarette, or Vaping, Product Use Associated Lung Injury (EVALI) Cases: National & Texas Data
- DSHS Efforts
- Cannabis and EVALI Cases



TEXAS
Health and Human Services

Texas Department of State
Health Services

Overview: Vaping

- Vaping is the use of an electronic device to inhale substances
- Most vaping devices have a battery, heating element, liquid chemical, and a place to hold liquid
 - Examples: electronic-cigarette, e-cigarette, vaporizer, vape[s], vape pen, dab pen, or other device
- Substances inhaled include nicotine, cannabinoids (e.g., marijuana, THC, THC concentrates, CBD, CBD oil), flavors, or other substances
 - Other substances: solvents, ultra-fine particles, volatile organic compounds, cancer causing compounds, and heavy metals



TEXAS

Health and Human Services

Texas Department of State
Health Services



TEXAS

Health and Human Services

Texas Department of State
Health Services

Overview: Vaping

Examples of E-Cigarette/Vaping Products



https://www.cdc.gov/tobacco/basic_information/e-cigarettes/about-e-cigarettes.html



Known Health Effects

Tobacco Use Generally

Nicotine Exposure:

- Exposure is addictive and toxic to developing fetuses
- Can harm adolescent brain development through mid-20s

Effects of Tobacco Smoke:

- Adults: cancers, cardiovascular disease, chronic obstructive pulmonary disease (COPD)
- During pregnancy: preterm birth, birth defects, low birth weight
- Children: ear infections, asthma, respiratory symptoms/infections, greater risk for sudden infant death syndrome

Tobacco use is the leading cause of preventable disease and death in the US (1 in 5 deaths)



TEXAS

Health and Human Services

Texas Department of State
Health Services

Known Health Effects

E-Cigarettes/Vaping

- generally regarded as less harmful than combustible cigarettes, but that does not make their use safe.
 - Per Center of Disease Control and Prevention (CDC), youth, young adults, and pregnant women should not use e-cigarettes.
- Nicotine in e-cigarettes has the same addictive properties
 - the amount of nicotine can vary between e-cigarette brands.
- EVALI
- Other: Related to e-cigarette aerosols, unintended injuries from battery explosions, and accidental acute nicotine exposure from e-cigarette liquid.
 - Secondhand exposure to aerosols also possible
 - Scientist are still learning about the long-term health effects of e-cigarettes.



TEXAS

Health and Human Services

Texas Department of State
Health Services

Data on Cigarette Use

	United States	Texas
Adults (2017)	14.0%	15.7%
Youth (2018-2019)		7.8%
<i>High School</i>	5.8%	11.3%
<i>Middle School</i>	2.3%	3.7%

- **Adults:** Cigarette smoking has declined among Texas adults (21.5% in 2011 to 15.7% in 2017)
- **Youth:** Cigarette smoking has declined among Texas youth (13.0% in 2012 to 7.8% in 2018)

Adult US Cigarette Smoking: Centers for Disease Control and Prevention. Current Cigarette Smoking Among Adults – United States, 2017. Morbidity and Mortality Weekly Report 2018; 67(44): 1225-32

Texas Adult Cigarette Smoking: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2017

Youth US Cigarette Smoking: National Youth Tobacco Survey, 2019

Youth Texas Cigarette Smoking: Texas Youth Tobacco Survey (2012-2018)



TEXAS

Health and Human Services

Texas Department of State
Health Services

Data on E-Cigarette / Vaping Use

	United States	Texas
Adults (2017)	4.6%	4.7%
Youth (2018-2019)		13%
<i>High School</i>	27.5%	18.9%
<i>Middle School</i>	10.5%	6.0%

- **Adults:** E-cigarette use among Texas adults has been stable since 2015.
 - Some adults may be using e-cigarettes to attempt to quit smoking;
 - Over half (56.5%) of current e-cigarette users also reported currently smoking cigarettes
- **Youth:** E-cigarette use among youth in Texas has risen dramatically from 3.0% in 2012 to 13.0% in 2018

US Adult E-Cigarette Use: CDC National Behavioral Risk Factor Surveillance System (BRFSS) 2017
Texas Adult Cigarette Smoking: Texas Behavioral Risk Factor Surveillance System (BRFSS), 2017
Youth US Cigarette Smoking: National Youth Tobacco Survey, 2019



TEXAS

Health and Human Services

Texas Department of State
Health Services

EVALI Overview

EVALI = E-Cigarette, or Vaping, Product Use-Associated Lung Injury

- Lung disease associated with the use of vaping products that can be severe and life-threatening
- Most patients have been young and otherwise healthy.
- Common symptoms:
 - Cough, chest pain, cough, shortness of breath
 - Abdominal pain, nausea, vomiting, diarrhea
 - Fatigue, fever, weight loss
- According to the CDC, 95% of patients with EVALI have been hospitalized.
- Illness severity has varied, and in some cases, severe lung disease has been reported

EVALI Totals: National Data

EVALI Data

- 2,290 EVALI Cases in 49 states, DC, and 2 territories
- 47 EVALI Deaths in 25 States and DC
- 1 Double Lung Transplant for an EVALI Case

Case Breakdown

- 68% male
- Age range: 13-78, 77% of cases under 35
- Median age: 24
 - EVALI deaths, median age: 53

Case Interviews (subset of 1,184 cases)

- 83% reported some THC-product use
- 35% reported exclusive THC-product use

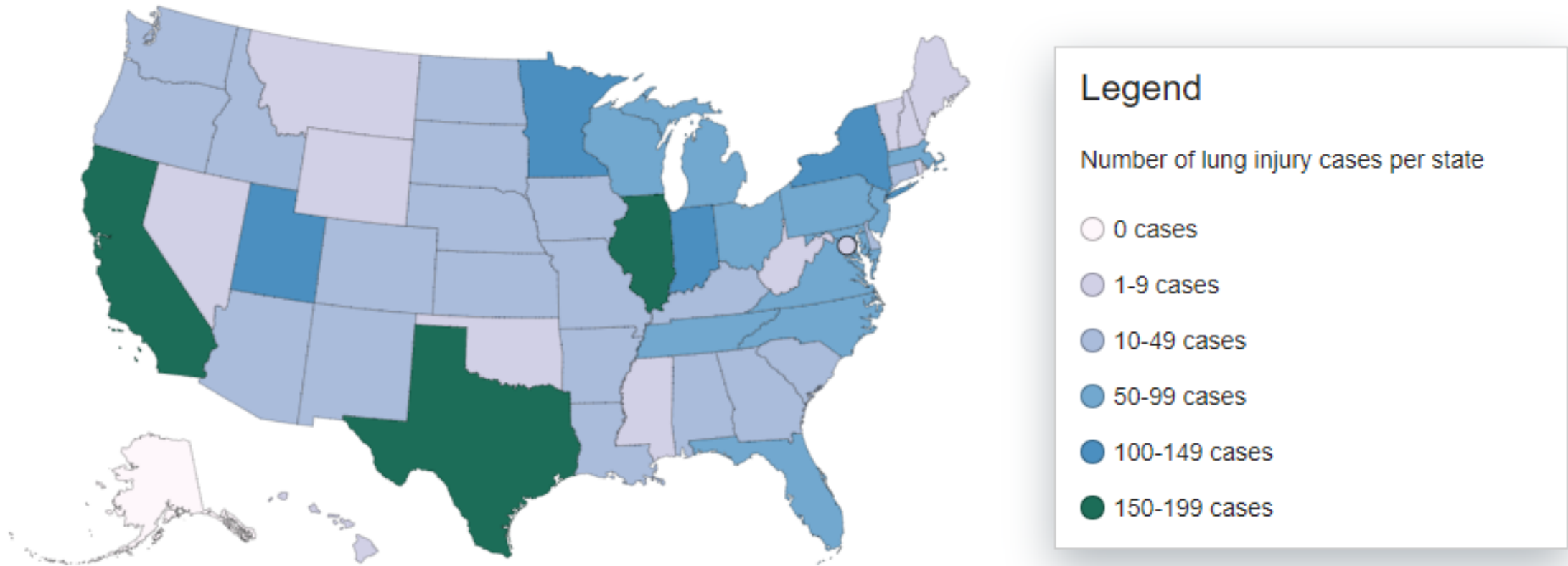
*as of November 20, 2019



TEXAS
Health and Human Services

Texas Department of State
Health Services

Number of Lung Injury Cases Reported to CDC as of November 19, 2019



Territories AS GU MH FM PW PR VI



EVALI totals: Texas Data

EVALI Data

- 273 possible EVALI cases
 - 108 confirmed | 102 probable
 - 62 ruled out or under investigation
- 1 EVALI Death

Case Breakdown

- 73% male
- Age range: 13-75, 22% cases under 18
- Median age: 22

Case Interviews (subset of 273 cases)

- 90% reported some THC product use
- 20% reported exclusive THC product use

*as of December 3, 2019

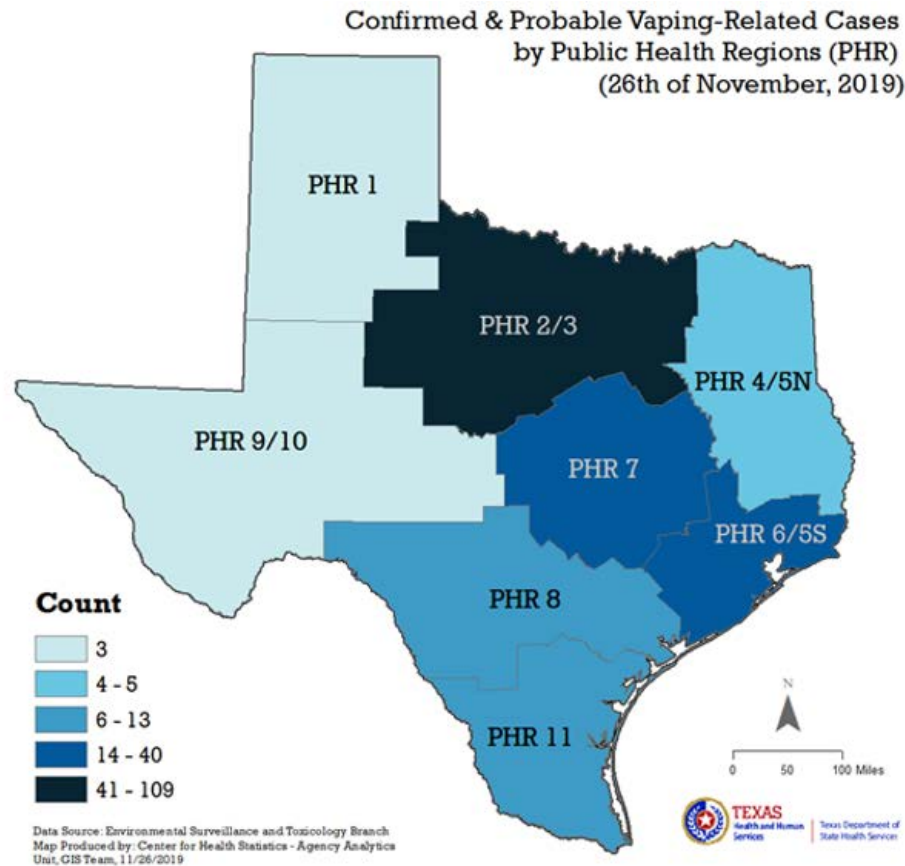


TEXAS

Health and Human Services

Texas Department of State
Health Services

EVALI totals: Texas Data



Public Health Region	Number of Confirmed/ Probable Cases
1 (Panhandle)	3
2/3 (North Texas)	109
4/5N (East Texas)	5
6/5S (Southeast Texas)	40
7 (Central Texas)	25
8 (South Texas)	12
9/10 (West Texas)	3
11 (Rio Grande Valley)	13
Not yet determined	0
Total	210

Severe Pulmonary Illness among People who Report Vaping by Geographic Location in Texas, 17APR2019 through 14NOV2019

12/03/2019

13



TEXAS

Health and Human Services

Texas Department of State Health Services

DSHS Efforts: Case Investigation

- **Identification of Potential New Cases:** From Clinicians, Texas Poison Center Network (TPCN) and Electronic Surveillance System for the Early Notification of Community-Based Epidemics (ESSENCE) data
- **Case Interviews/Reviews:** Working with Region/Local Health Departments and patient care teams to better understand cases
- **Conversations with CDC & Other States:** Identifying potential commonalities and/or areas for additional research
- **Discussions with Region/Local LHDs:** For providing cohesive messaging on case classification, patient and product samples, etc.
- **CDC Sample Facilitation:** Providing a single contact for CDC to receive Texas patient-related samples/provide results



TEXAS
Health and Human Services

Texas Department of State
Health Services



TEXAS
Health and Human Services

Texas Department of State
Health Services

DSHS Efforts: Tobacco Prevention & Control Program

Implementation of Senate Bill 21

- Through providing awareness via Prevention and Control Efforts

Overview of Tobacco Prevention and Control Efforts

- Say What! Youth Movement
- Peers Against Tobacco College Movement
- Tobacco Prevention and Control Coalitions (TPCCs)
- Enforcement Programs
- Youth Tobacco Survey
- Texas Tobacco Quitline



TEXAS
Health and Human Services

Texas Department of State
Health Services

DSHS Efforts: Surveillance

Youth-Specific Surveillance

Youth Tobacco Survey

- Biennial administration - measures prevalence of youth tobacco use in Texas.
- Source of some Texas statistics provided today



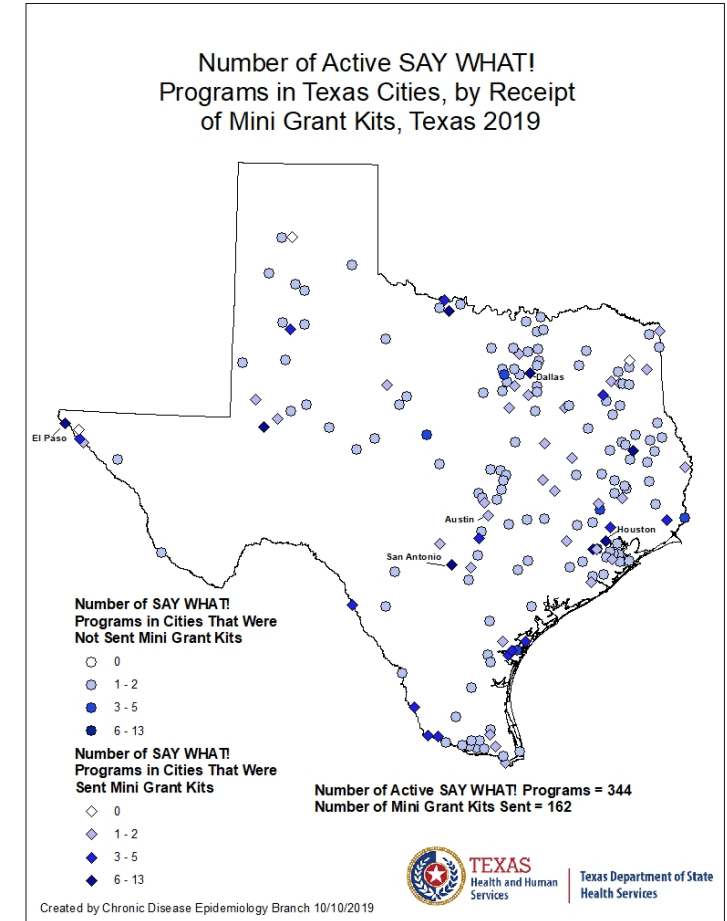
TEXAS
Health and Human Services

Texas Department of State
Health Services

DSHS Efforts: Prevention

Say What! Youth Movement

- Students, Adults, and Youth - Working Hard Against Tobacco (Say What!)
- Connects youth and adults to reduce tobacco use in Texas through Regional Action Summits, Annual Youth Tobacco Prevention Conferences, and toolkits to be used in schools.
- Teen Ambassadors on the Statewide Youth Advisory Board provide guidance for implementing program
- Reached 1 million youth during 2011-2018
- TxSayWhat.com
- New Prevention Activities:
 - Contract amendment in process to allow more kits to be utilized in additional schools; future conferences to focus on vaping





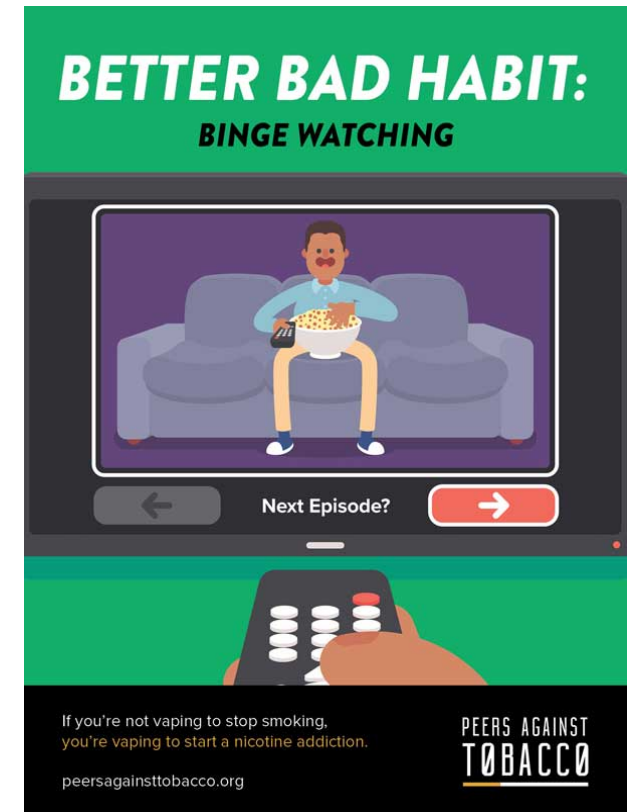
TEXAS
Health and Human Services

Texas Department of State
Health Services

DSHS Efforts: Prevention

Peers Against Tobacco

- Peer-based prevention program for colleges and universities focused on use reduction of tobacco and alternative tobacco products
- Provides college-specific resources and print media for participating universities
- Established in 2014
- PeersAgainstTobacco.org
- New Prevention Activities:
 - Contract amendment in process to allow more interactive outreach events to focus on vaping



Example poster from current 'Better Bad Habits' media campaign



TEXAS

Health and Human Services

Texas Department of State
Health Services

DSHS Efforts: Enforcement

FDA Tobacco Retail Compliance Check Inspection Program

- FDA enforces federal tobacco regulations by conducting random, unannounced controlled buys using minor decoys.
- 11,357 undercover buy inspections statewide conducted between September 1, 2016 and August 31, 2018.

Texas Enforcement Program

- Local law enforcement conduct unannounced buys to enforce state tobacco laws by contracting with.
- 47,496 controlled buys conducted across the state between September 1, 2011 and August 31, 2016.

Texas Youth Tobacco Awareness Program (TYTAP)

- Education courses for youth found in possession of tobacco.
- 23 certified TYTAP Instructors in the state, course updated for FY20 to include vaping/e-cigarettes and Tobacco 21



TEXAS
Health and Human Services

Texas Department of State
Health Services

Cannabis and EVALI Cases

Potential Role in EVALI Cases:

- THC is present in most of the vaping products/liquids tested by FDA to date
- Most EVALI patients report a history of using THC-containing e-cigarette, or vaping, products
- Vitamin E acetate identified as a chemical of concern with EVALI
 - Vitamin E acetate identified in all fluid samples collected from the lungs of EVALI patients; THC identified in 82% of the samples
 - Vitamin E acetate used as an additive, mostly as a thickening agent with THC-containing vaping products



TEXAS

Health and Human Services

Texas Department of State
Health Services

Cannabis and EVALI Cases

Current CDC Recommendations

- E-cigarette, or vaping, products should never be used by youths, young adults, or women who are pregnant.
- Adults who do not currently use tobacco products should not start using e-cigarette, or vaping, products.
- **THC use has been associated with a wide range of health effects, particularly with prolonged frequent use.**
- **The best way to avoid potentially harmful effects is to not use THC-containing e-cigarette, or vaping, products.**



TEXAS
Health and Human Services

Texas Department of State
Health Services

Thank you

dshs.texas.gov/vaping