Appalachian Research Day

Angela Dearinger, MD, MPH, FACP, FAAP

September 18, 2019

Kentucky Public Health

Prevent. Promote. Protect.

Kentucky Department for Public Health

About Us

Kentucky Public Health

Prevent. Promote. Protect.

The Department for Public Health (DPH) is dedicated to improving health and safety of Kentuckians through *prevention*, *promotion*, and *protection*.

As a major component of the Cabinet for Health and Family Services, DPH provides guidance and support for health departments in all 120 counties.

Serving as Kentucky's dedicated public health resource, DPH is responsible for identifying and allocating resources to communities and public health institutions in an effort to prevent and protect against diseases, outbreaks, hazards statewide.

Kentucky Department for Public Health

Mission and Vision in Action

Healthier People,
Healthier Communities.

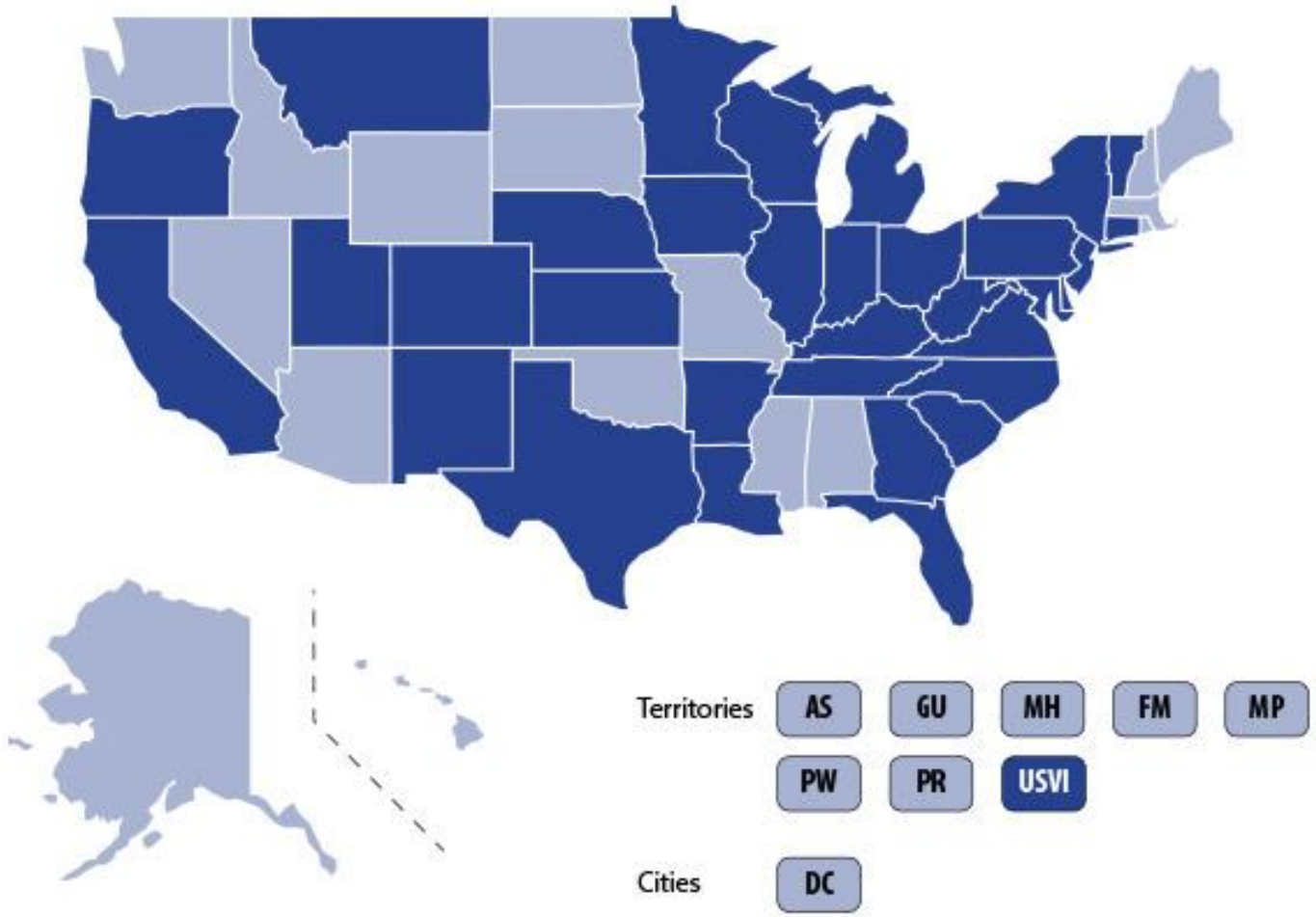
Our mission is to improve the health and safety of people in Kentucky through prevention, promotion and protection.

Prevention	Protection	Promotion
HANDS	Environmental Inspections	WIC
First Steps	Public Health & Disaster Preparedness	Smoking Cessation
Immunizations	Disease Surveillance	Diabetes Prevention
Newborn Screening	Mobile Harm Reduction	Prescription Assistance

Agenda

- Pulmonary Disease Associated with Vaping
- Tobacco in Kentucky
- What Works
- Good News!
- Resources

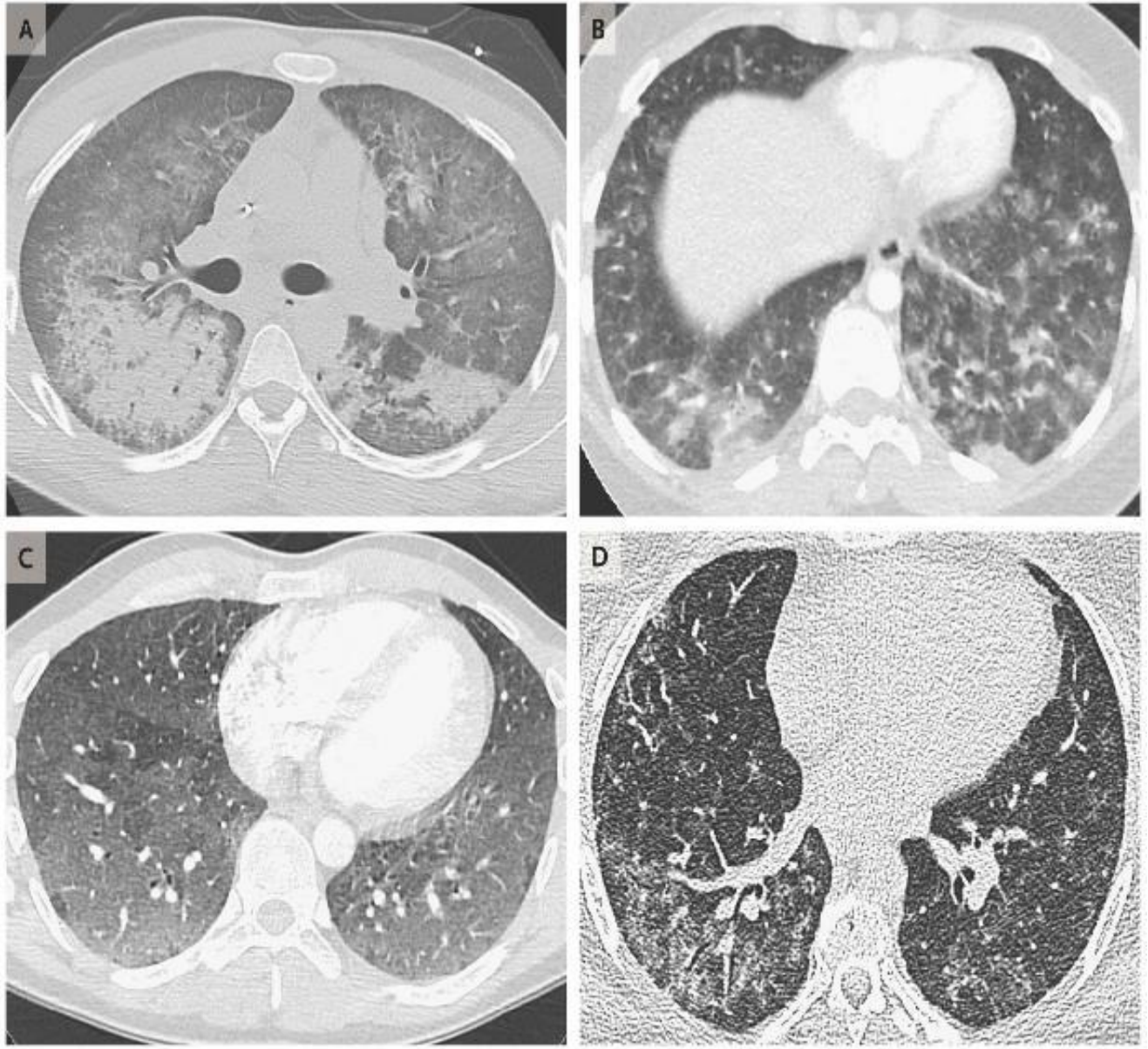
Pulmonary Disease Associated with Vaping



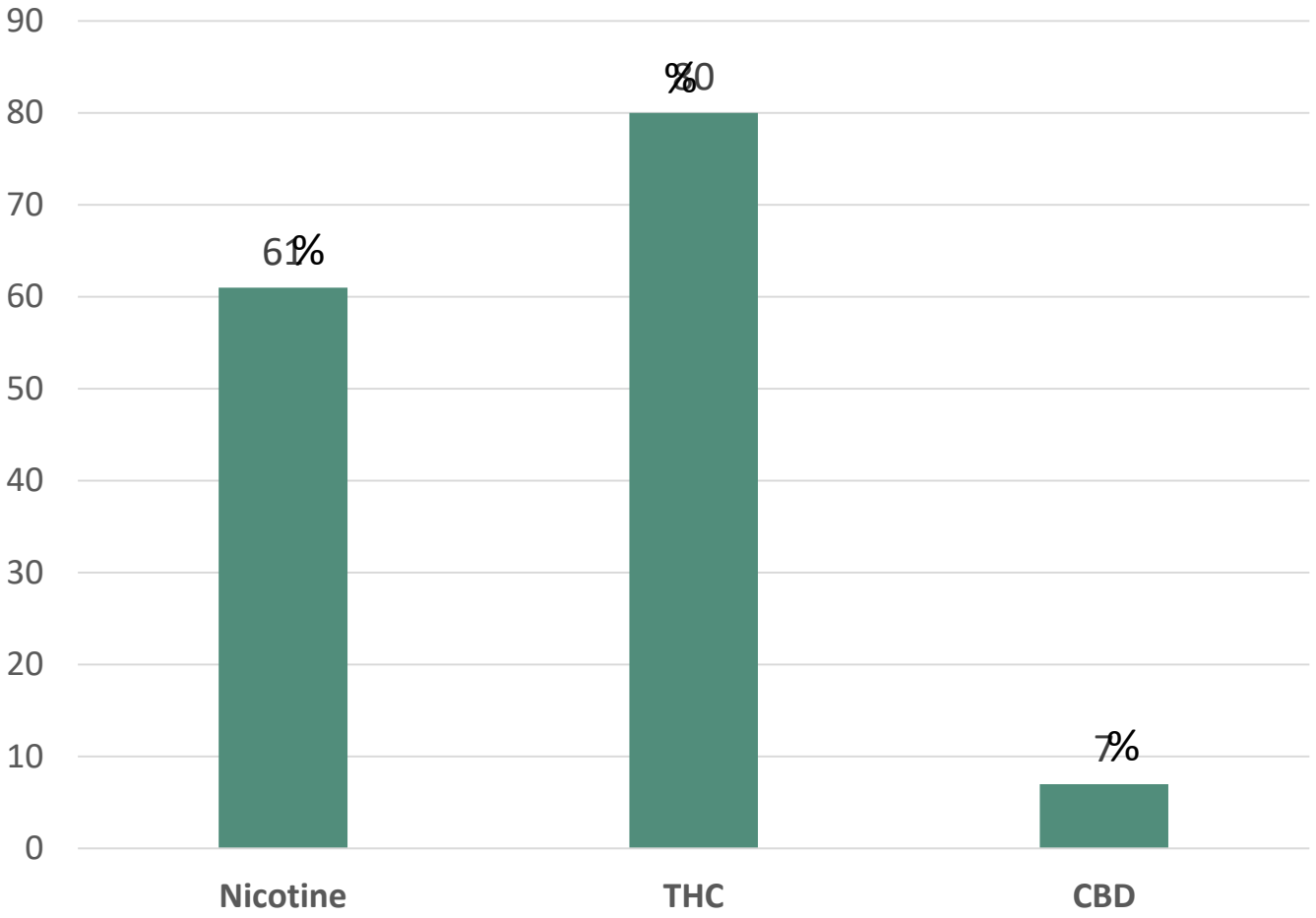
- 380 confirmed or probable cases in 36 states and jurisdictions
- Seven deaths
- (As of September 11, 2019)

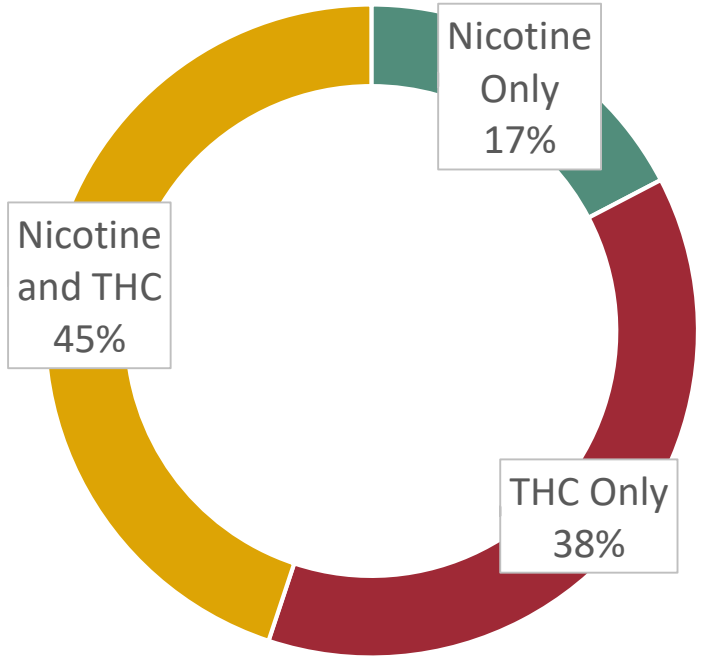
Symptoms

- Cough, shortness of breath, chest pain
- Fever, fatigue, weight loss
- Nausea, diarrhea
- May last days or weeks



Products Associated with Illness





Kentucky Update Sept. 17, 2019

Cases under Investigation: 11

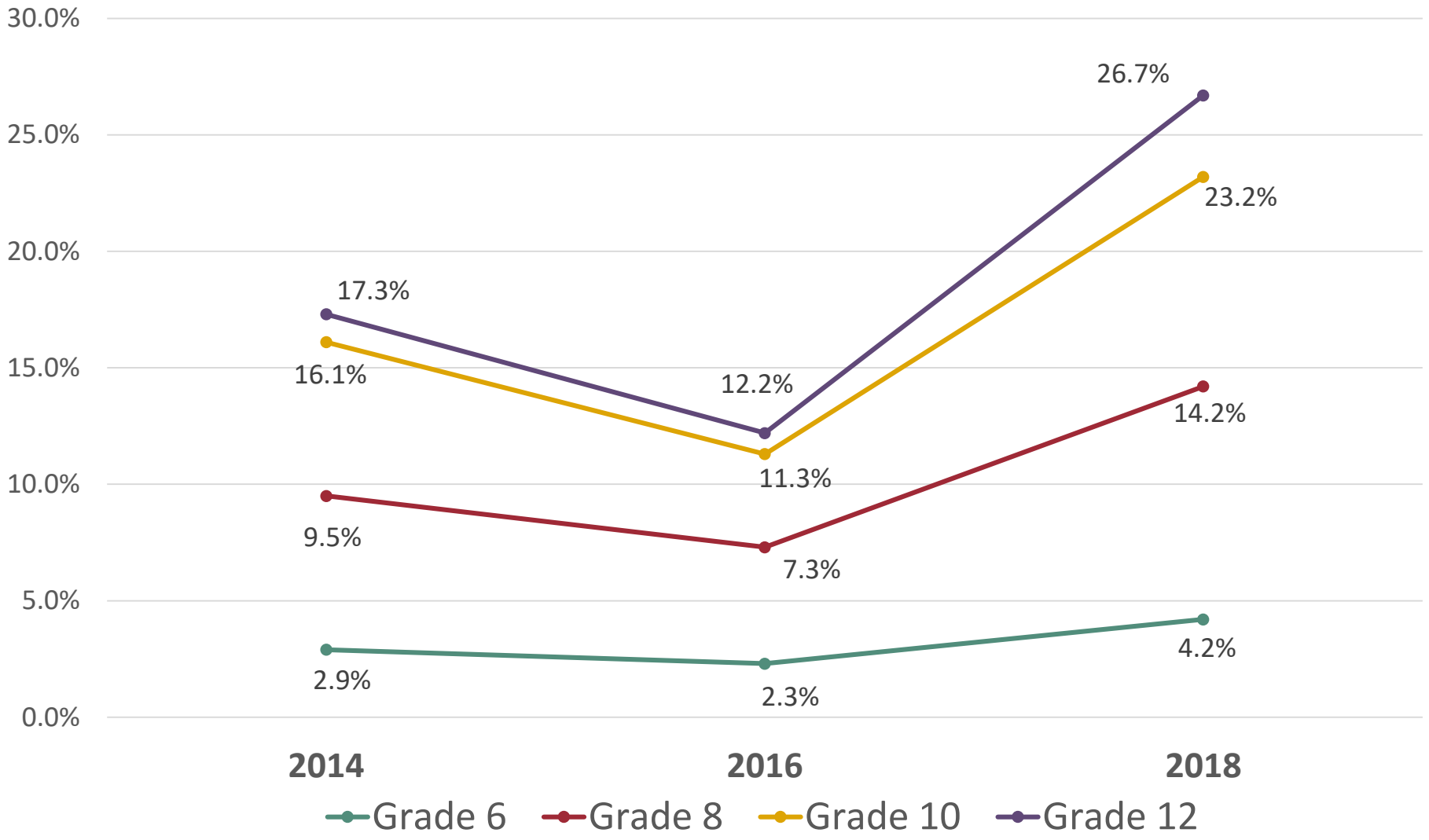
Probable Cases: 2

Confirmed Cases: 1

Confirmed not to meet case definition: 3

*Cases under investigation have not yet been classified as 1) probable; 2) confirmed; or 3) determined not to meet case definition.

Current E-Cigarette Use Among Youth, 2018



Current E-Cigarette Use Among Youth, 2018

- More than 3.6 million US youth currently use e-cigarettes.
- **1 in 5 high school students**
- **1 in 20 middle school students**

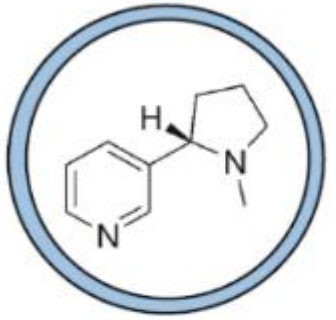
“Young adults favorable perceptions of snus, dissolvable tobacco and e-cigarettes”

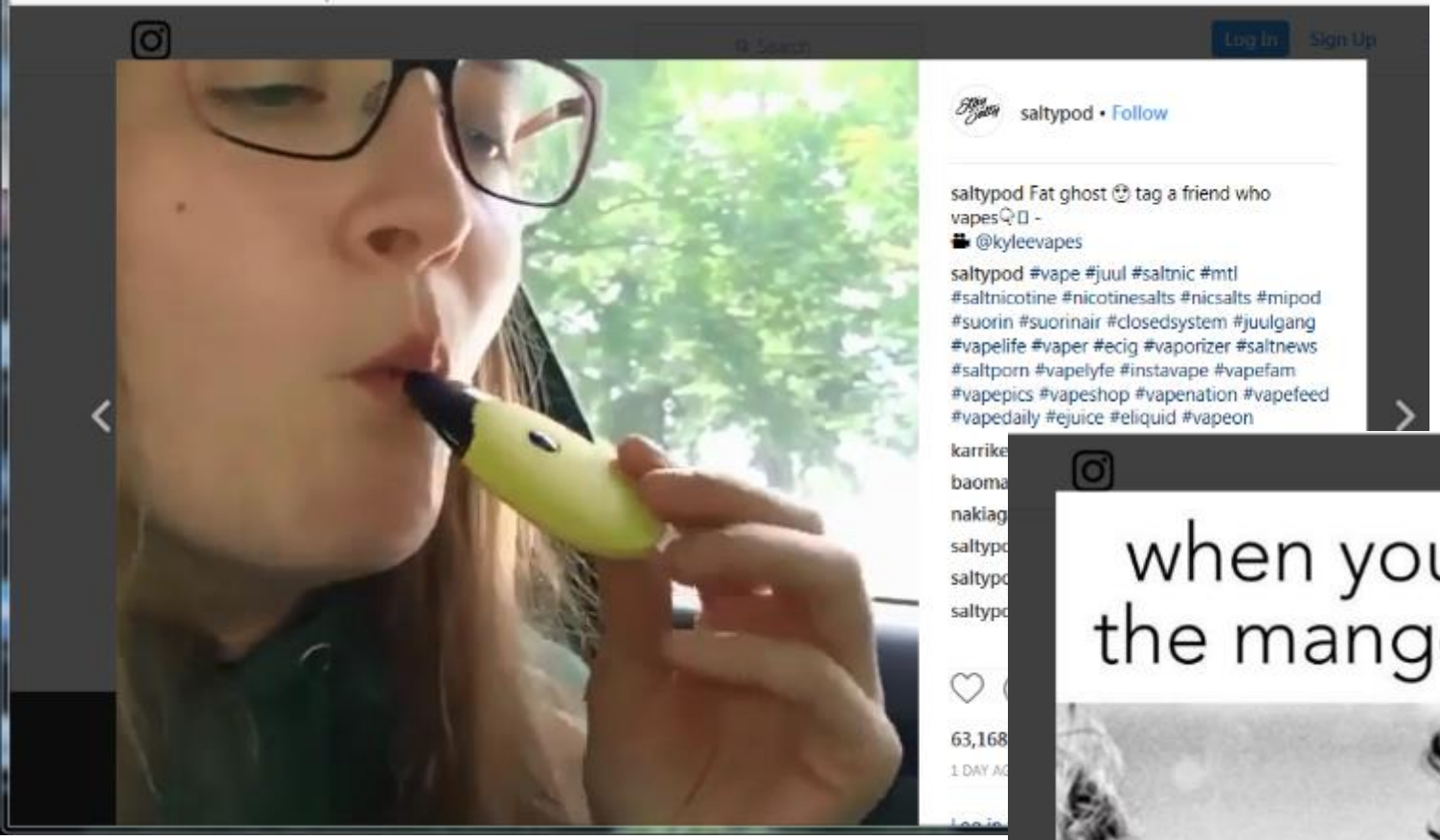
- Choi et al. AJPH 2012
- Focus groups: 18-26 year olds
- Positive perceptions of new tobacco products
  - Less harmful
  - Flavors were a plus
  - Discreet- could use where smoking was not allowed
  - Convenient- good if you’re in a hurry!
  - Hip, new “in thing,” sleek
  - E-cigs perceived as “high-tech”
  - “Candy that gives you a buzz”
  - Makes tobacco fun
- 50% said they would try them if offered!

STARBUZZ
VUSE
VISION
itaste VTR
itaste
blu
Suorin Drop
SMOK
lō kē

Youth E-cigarette Initiation and Use

Advertising → **Flavors** → **Nicotine**

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@kyleevapes
saltypod #vape #juul #saltnic #mtl #saltnicotine #nicotinesalts #nicsalts #mipod #suorin #suorinair #closedsystem #juulgang #vapelife #vaper #ecig #vaporizer #saltnews #saltporn #vapelyfe #instavape #vapefam #vapepics #vapeshop #vapenation #vapefeed #vapedaily #ejuice #eliquid #vapeon
63,168

when you break out the mango JUUL pod
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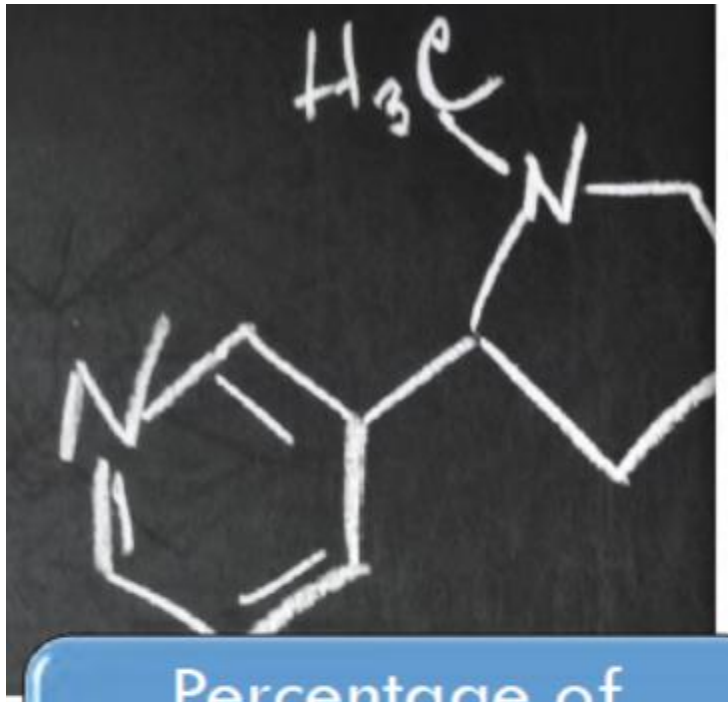
supermodelmoods • Follow
Washington, District of Columbia
supermodelmoods Das it #supermodelmoods
supermodelmoods #Juul #juulnation #juulvapor #juuling #juulmemes #juultricks #juulpods #juulgang #juullife #juulvape #mangojuul #mangojuulpods #lindaevangelista #ellenvonunwerth #90sfashion #90ssupermodels #gayboyproblems #gaylife
_overdraft Lol
_overdraft I don't know her
84 likes
2 DAYS AGO

Flavorings

V'Nilla
COOKIES & MILK
6MG 60ML

Whipt

LIMITED EDITION
JUICE BOX
STRAIGHT FROM THE SOURCE
180ML
MAD!
INSIDE!
HOW 'BOUT THEM APPLES?



Sales of Nicotine-Containing Electronic Cigarette Products: United States, 2015

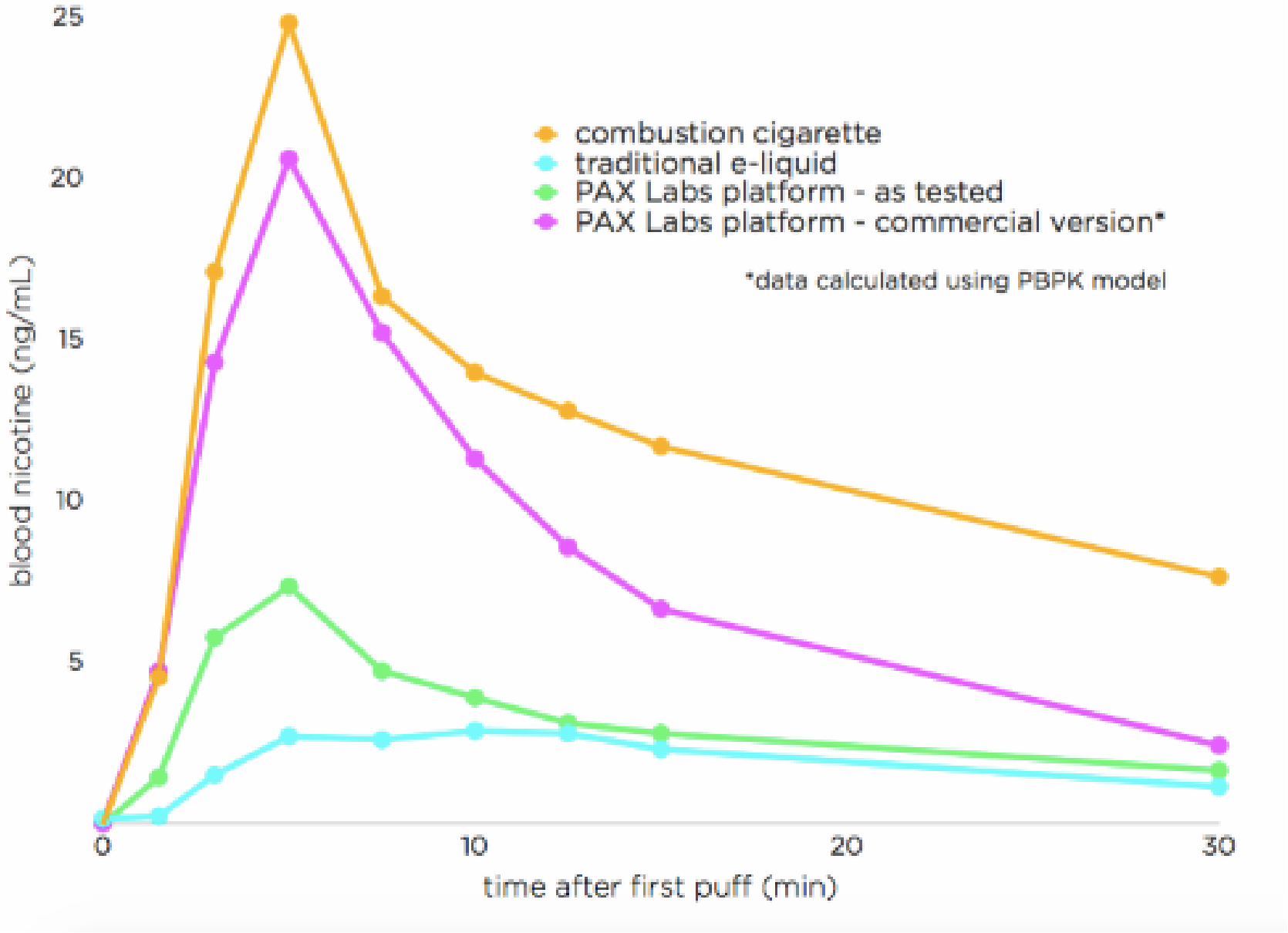
Percentage of products that contained nicotine

- 99.6% of disposable e-cigarette sales
- 100% of rechargeable sales
- 99.5% of refill sales

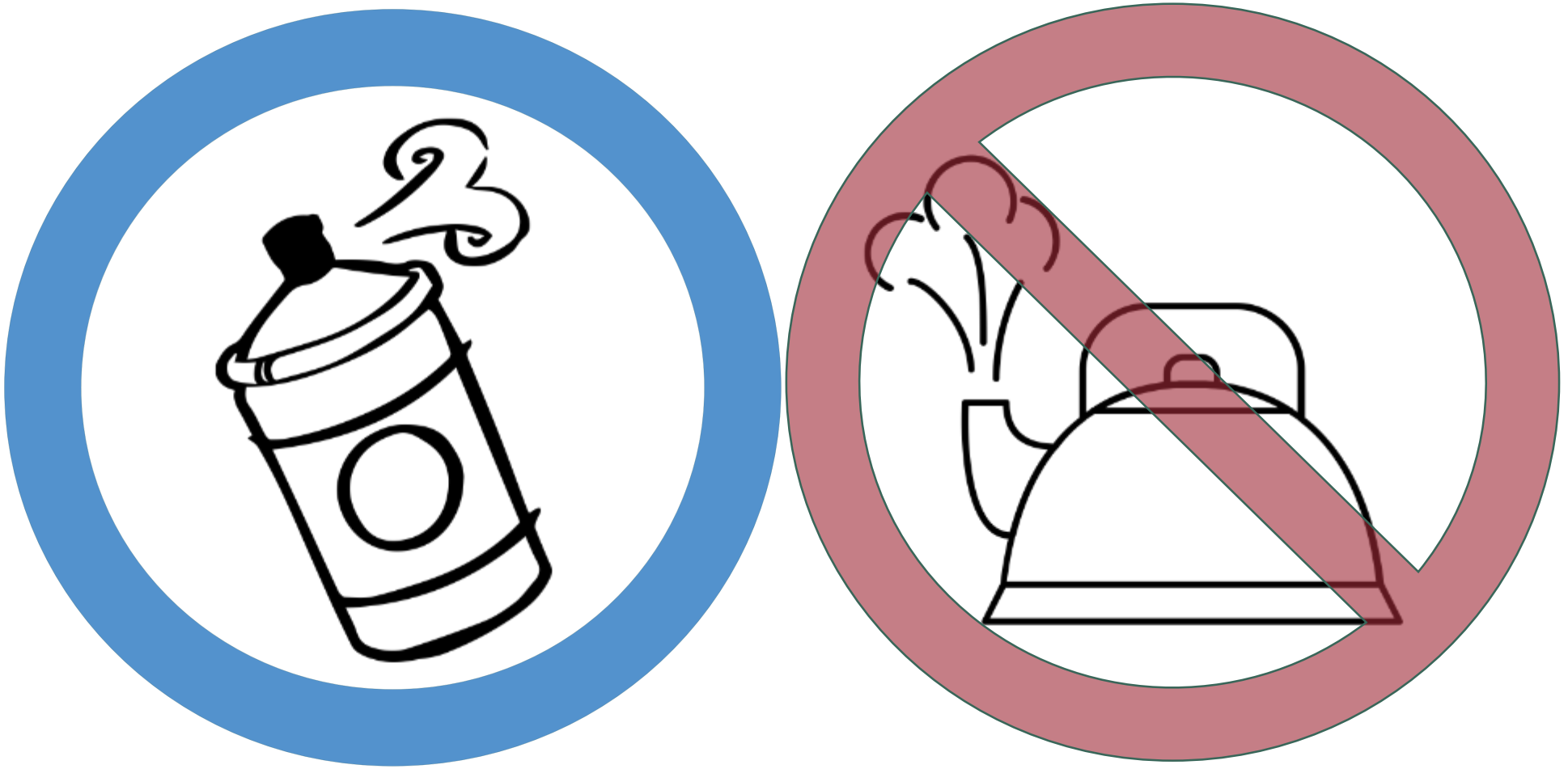
Percentage that contained nicotine by product type

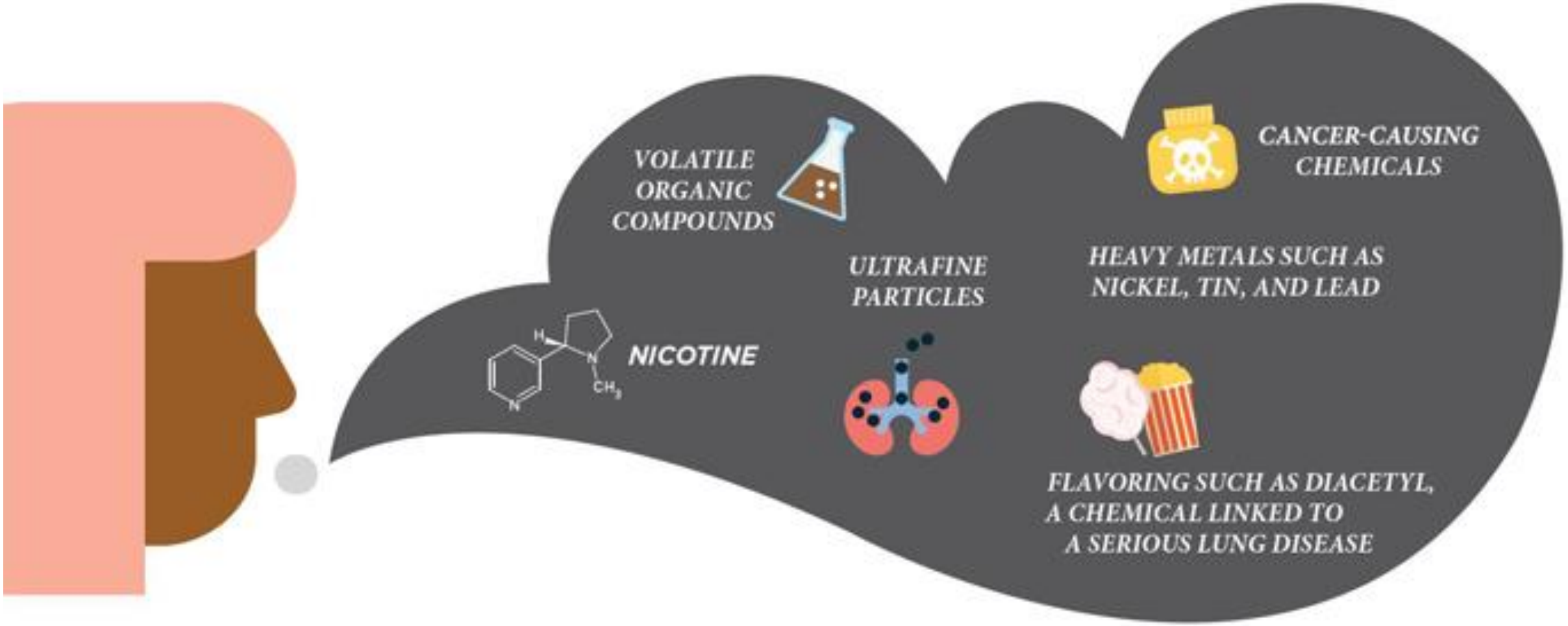
- 99.6% of all e-cigarette products sold
- 99.4% of flavored e-cigarette products
- 99.9% of non-flavored e-cigarette products

Source: Marynak, K.L.; Gammon, D.G.; Rogers, T.; Coats, E.M.; Singh, T.; King, B.A., "Sales of nicotine-containing electronic cigarette products: United States, 2015," American Journal of Public Health 107(5): 702-705, May 2017.


25
20
15
10
5
blood nicotine (ng/mL)
0
10
20
30
time after first puff (min)
combustion cigarette
traditional e-liquid
PAX Labs platform - as tested
PAX Labs platform - commercial version*
*data calculated using PBPK model

It’s an Aerosol, Not a Vapor

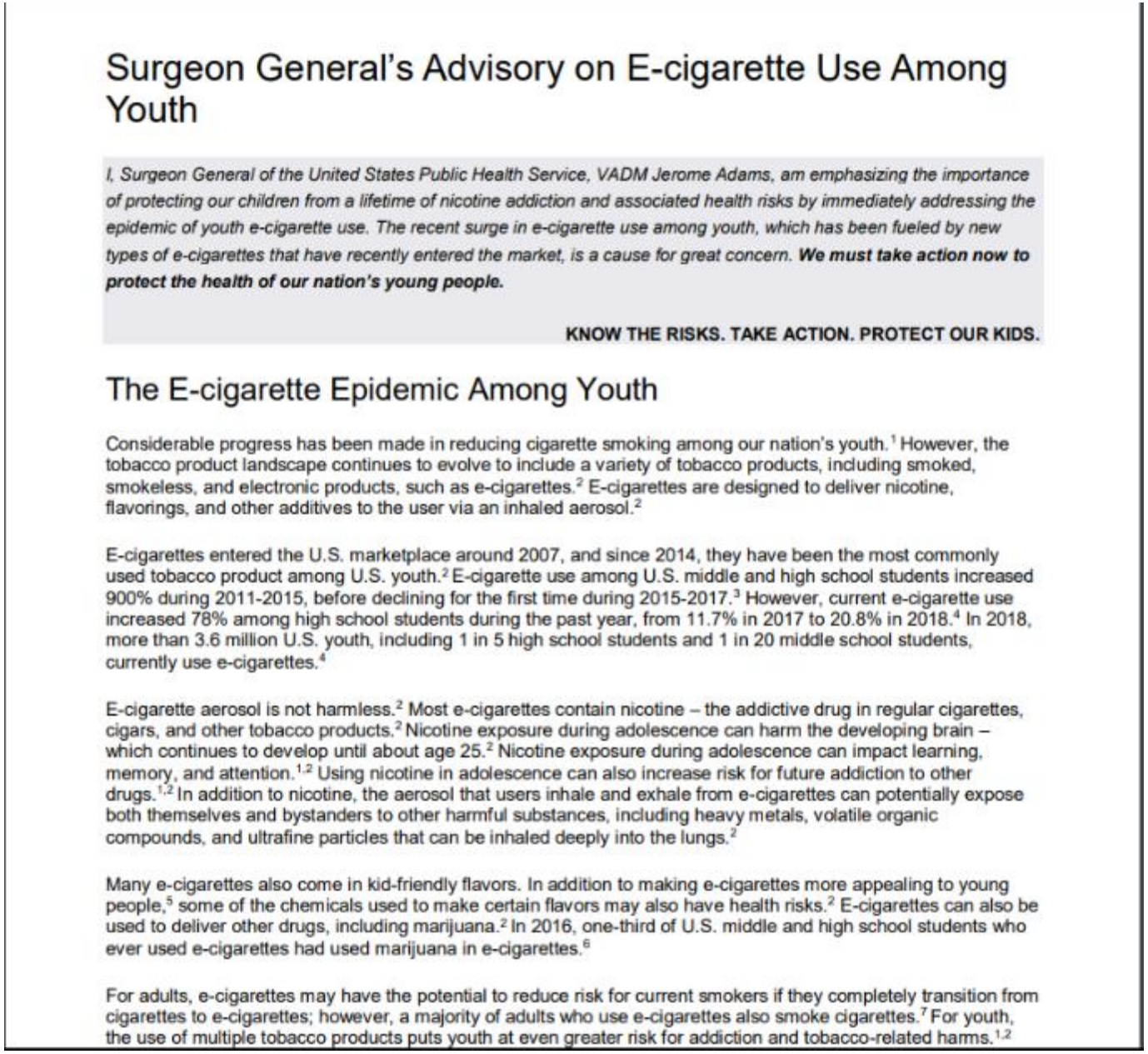



VOLATILE ORGANIC COMPOUNDS
CANCER-CAUSING CHEMICALS
ULTRAFINE PARTICLES
HEAVY METALS SUCH AS NICKEL, TIN, AND LEAD
NICOTINE
FLAVORING SUCH AS DIACETYL, A CHEMICAL LINKED TO A SERIOUS LUNG DISEASE

Injuries from E-cigarette devices

- Injuries related to lithium ion batteries:
  - Burns (flame, chemical), blast injuries
  - Injuries locations:
    - Face (20%)
    - Hands (33%)
    - Thigh or groin (53%)

Figure 1. Injuries of the Face, Hands, and Thighs Caused by E-Cigarette Explosions.
Panels A and B show the common injury pattern of flame burns to both the thigh and the hand after a lithium-ion battery explosion in a patient's pocket. Panel C shows a flame burn and blast injury to the face after an e-cigarette device exploded during use, which led to traumatic tattooing of the right cheek. Panel D shows a wound from an e-cigarette explosion, with a rim of discoloration characteristic of an alkali chemical burn.



Surgeon General's Advisory on E-cigarette Use Among Youth

I, Surgeon General of the United States Public Health Service, VADM Jerome Adams, am emphasizing the importance of protecting our children from a lifetime of nicotine addiction and associated health risks by immediately addressing the epidemic of youth e-cigarette use. The recent surge in e-cigarette use among youth, which has been fueled by new types of e-cigarettes that have recently entered the market, is a cause for great concern. ***We must take action now to protect the health of our nation's young people.***

KNOW THE RISKS. TAKE ACTION. PROTECT OUR KIDS.

The E-cigarette Epidemic Among Youth

Considerable progress has been made in reducing cigarette smoking among our nation's youth.[1] However, the tobacco product landscape continues to evolve to include a variety of tobacco products, including smoked, smokeless, and electronic products, such as e-cigarettes.[2] E-cigarettes are designed to deliver nicotine, flavorings, and other additives to the user via an inhaled aerosol.[2]

E-cigarettes entered the U.S. marketplace around 2007, and since 2014, they have been the most commonly used tobacco product among U.S. youth.[2] E-cigarette use among U.S. middle and high school students increased 900% during 2011-2015, before declining for the first time during 2015-2017.[3] However, current e-cigarette use increased 78% among high school students during the past year, from 11.7% in 2017 to 20.8% in 2018.[4] In 2018, more than 3.6 million U.S. youth, including 1 in 5 high school students and 1 in 20 middle school students, currently use e-cigarettes.[4]

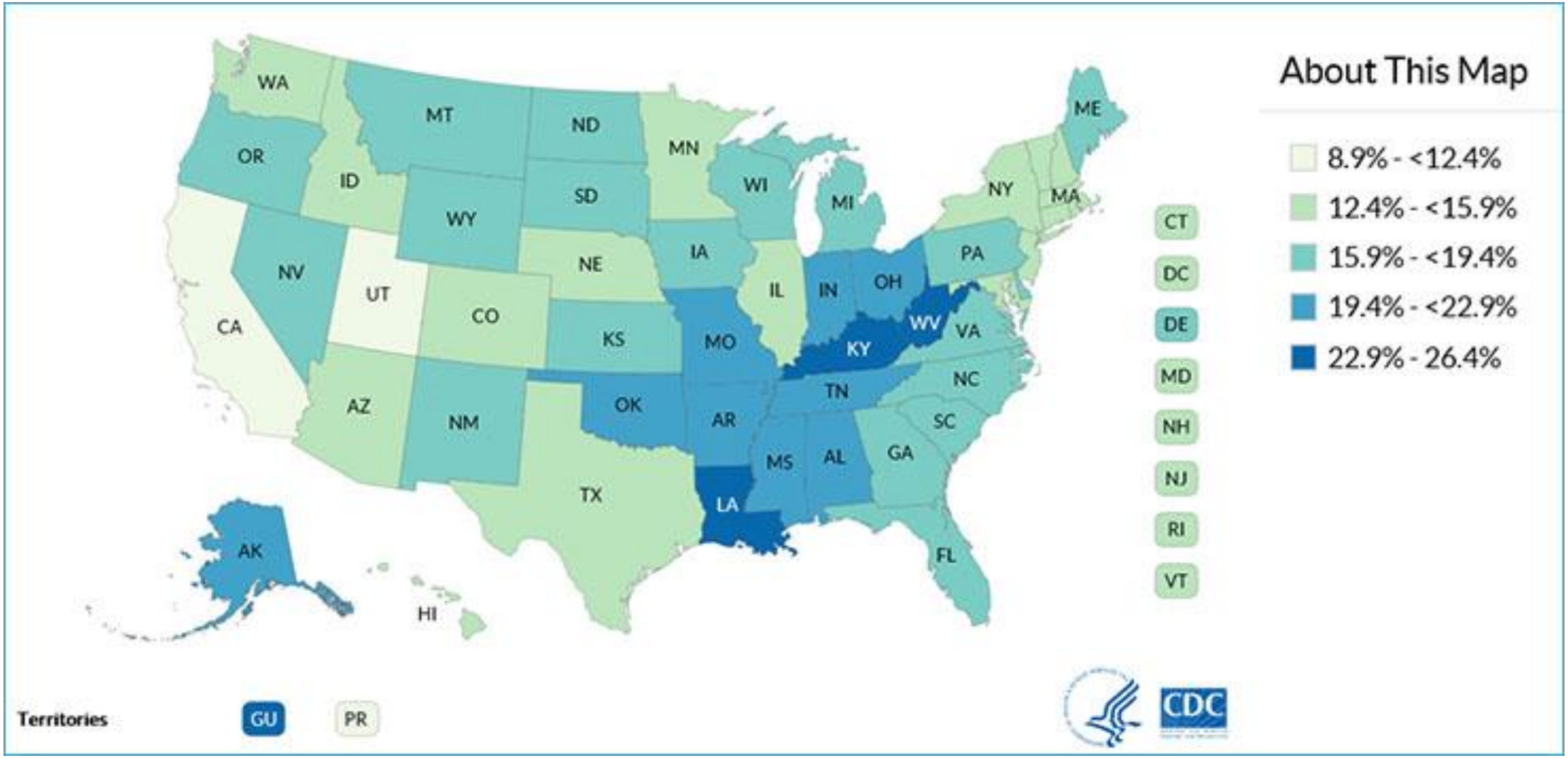
E-cigarette aerosol is not harmless.[2] Most e-cigarettes contain nicotine – the addictive drug in regular cigarettes, cigars, and other tobacco products.[2] Nicotine exposure during adolescence can harm the developing brain – which continues to develop until about age 25.[2] Nicotine exposure during adolescence can impact learning, memory, and attention.[1,2] Using nicotine in adolescence can also increase risk for future addiction to other drugs.[1,2] In addition to nicotine, the aerosol that users inhale and exhale from e-cigarettes can potentially expose both themselves and bystanders to other harmful substances, including heavy metals, volatile organic compounds, and ultrafine particles that can be inhaled deeply into the lungs.[2]

Many e-cigarettes also come in kid-friendly flavors. In addition to making e-cigarettes more appealing to young people,[5] some of the chemicals used to make certain flavors may also have health risks.[2] E-cigarettes can also be used to deliver other drugs, including marijuana.[2] In 2016, one-third of U.S. middle and high school students who ever used e-cigarettes had used marijuana in e-cigarettes.[6]

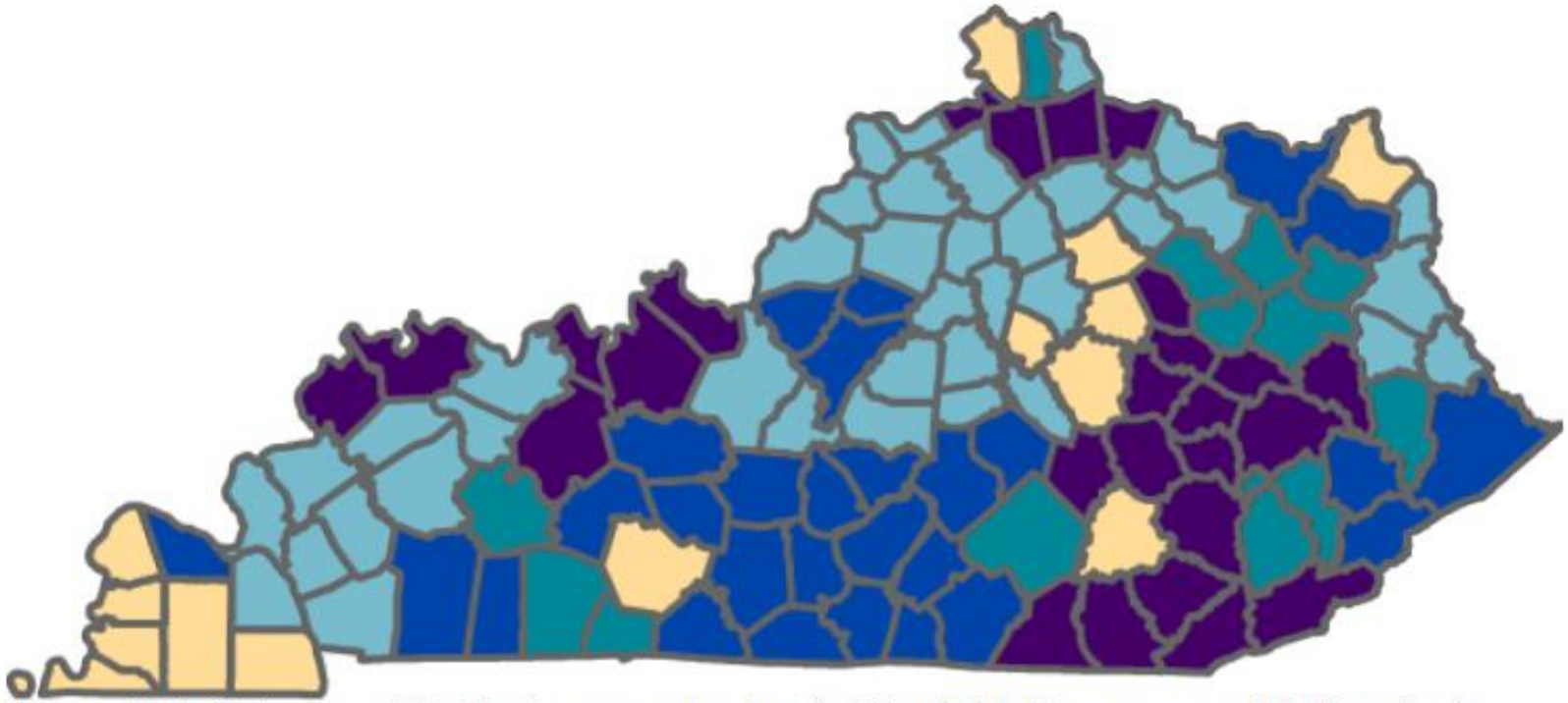
For adults, e-cigarettes may have the potential to reduce risk for current smokers if they completely transition from cigarettes to e-cigarettes; however, a majority of adults who use e-cigarettes also smoke cigarettes.[7] For youth, the use of multiple tobacco products puts youth at even greater risk for addiction and tobacco-related harms.[1,2]

… any e-cigarette use among young people is unsafe, even if they do not progress to future smoking.

Current Smoking Among Adults, 2017



Prevalence of Smoking, 2015-2017



KEY

Map classification: Jenks Natural Breaks

- ≥17% to ≤20%
- >20% to ≤25%
- >25% to ≤28%
- >28% to ≤31%
- >31% to ≤39%

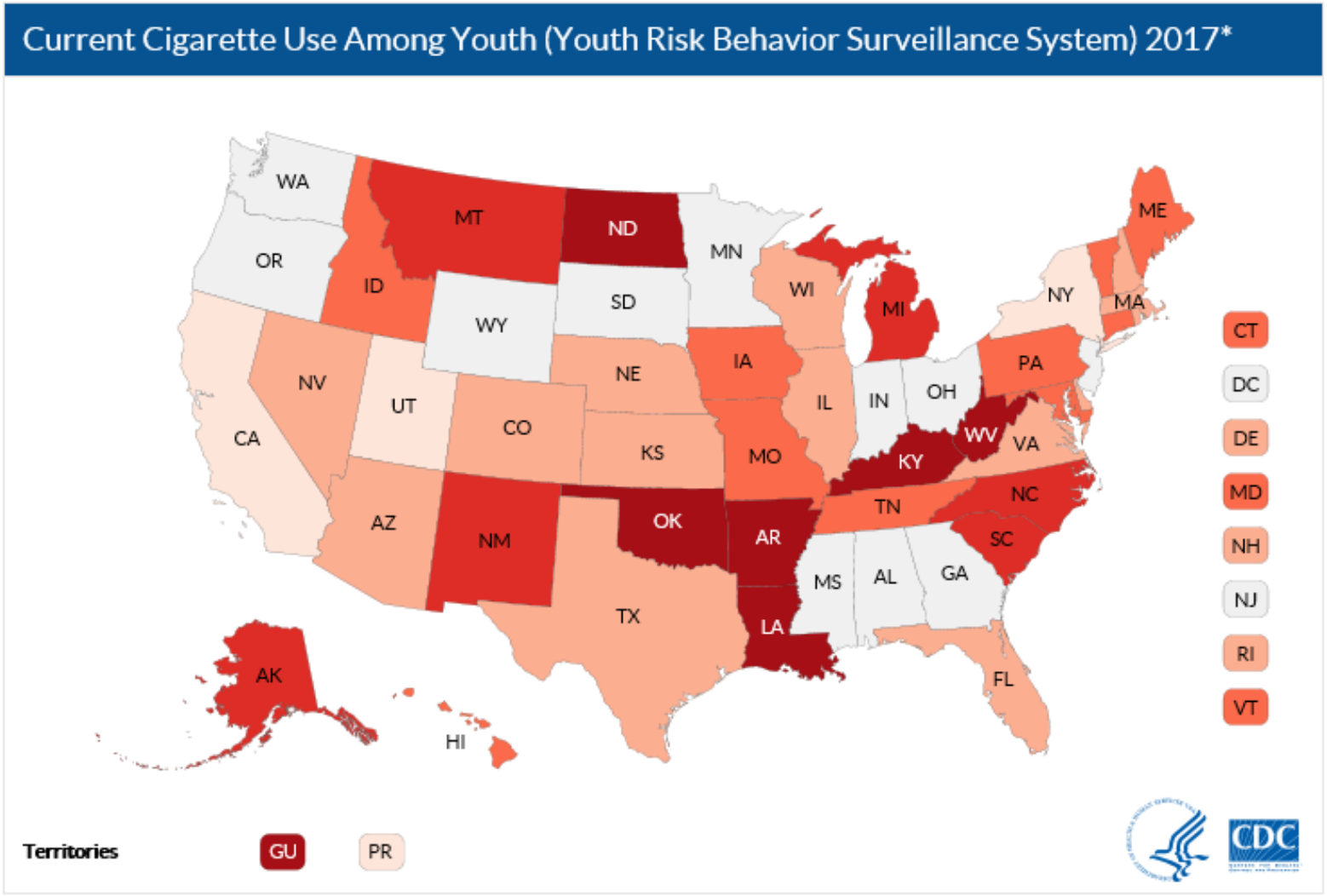
Notes on this indicator: Percent of adults who are current smokers (variable calculated from one or more BRFSS questions).

Data Sources:
BRFSS

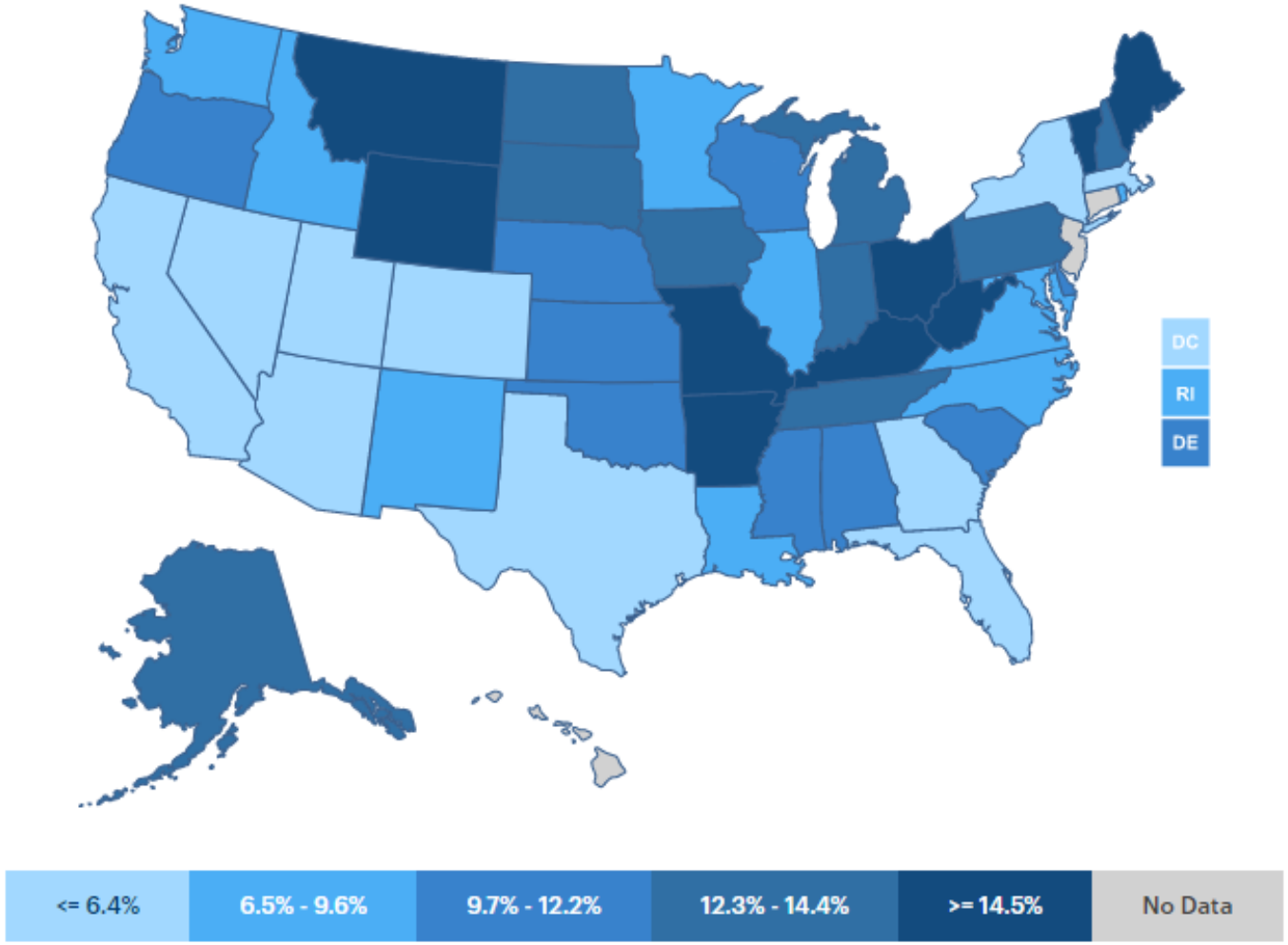
Description: Centers for Disease Control and Prevention (CDC) and Kentucky Department for Public Health. *Behavioral Risk Factor Surveillance System Data* as analyzed at the county level by the University of Kentucky Markey Cancer Control Program and College of Public Health.

Data for counties with fewer than 50 respondents have been suppressed.

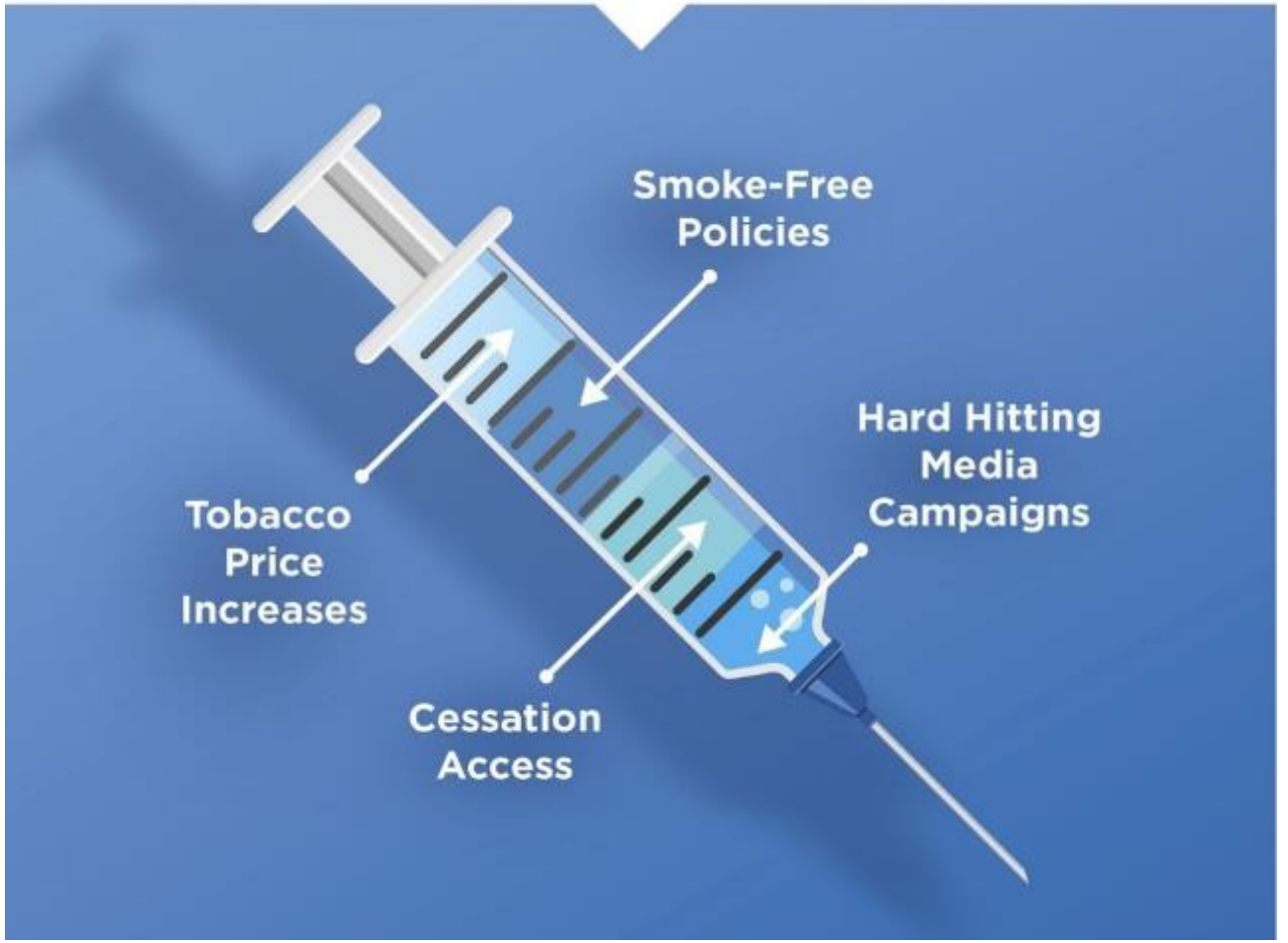
Current Smoking Among Youth, 2017



Smoking During Pregnancy, 2018



THE TOBACCO CONTROL VACCINE

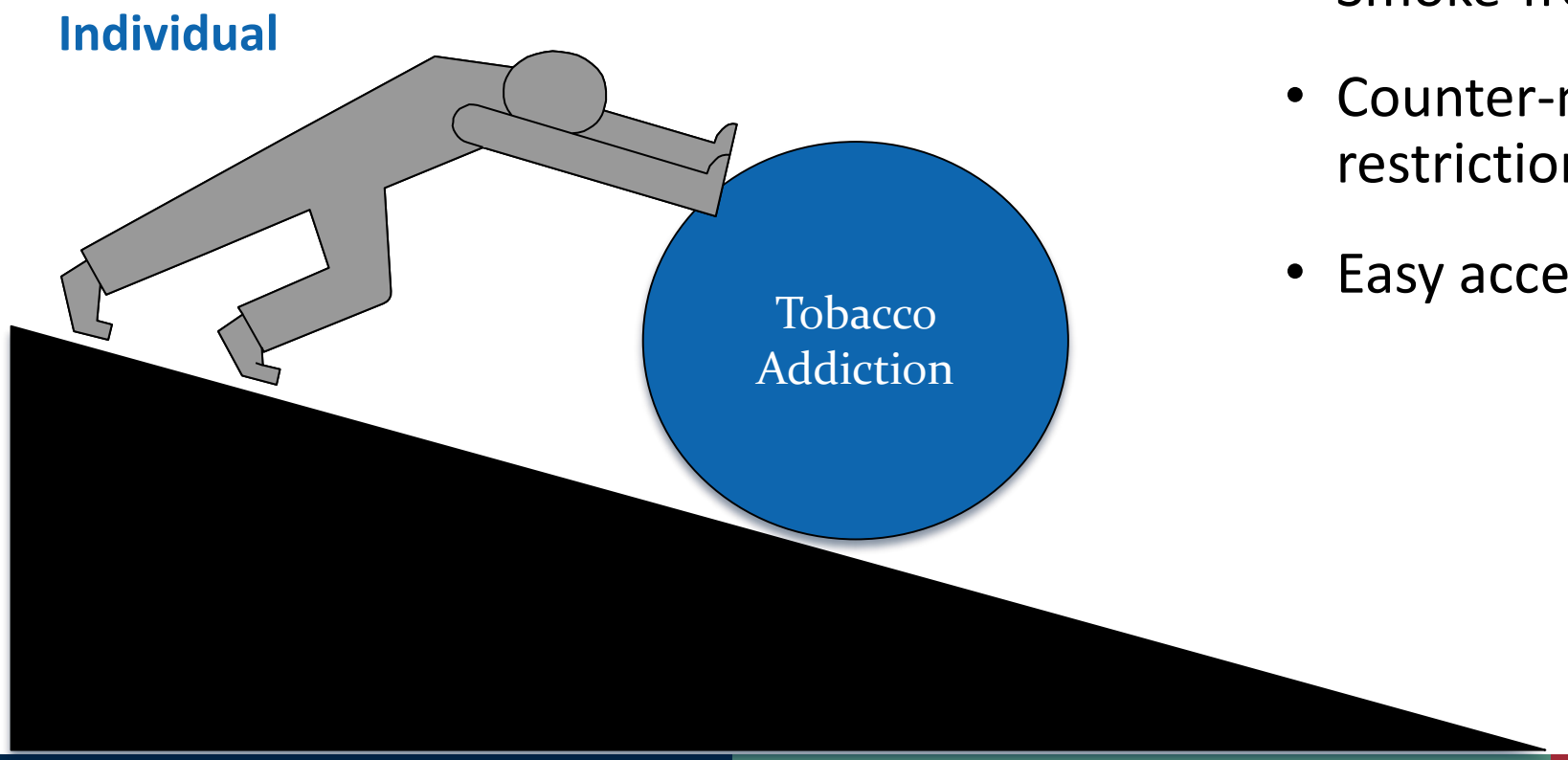


Barriers to Reducing Tobacco Use

- Tobacco easily accessible
- Smoking in public legal
- Unfettered advertising
- Poor access to cessation help

Individual

Facilitators to Reducing Tobacco Use



- Tobacco more expensive and less accessible
- Smoke-free policies
- Counter-marketing and promotion restrictions
- Easy access to help

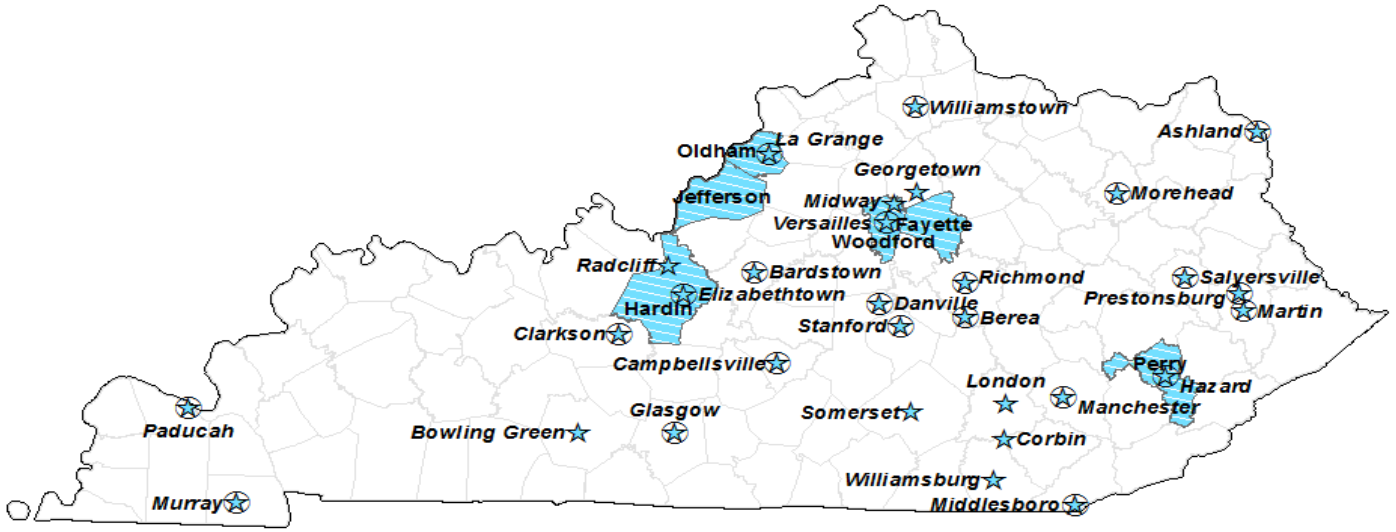
BE TOBACCO FREE

QUIT NOW

KENTUCKY

Good News!

- Hazard and Perry County strengthened smoke free ordinances to comprehensively cover all public spaces and workplaces including e-cigarette use indoors!



As of July 1, 2019, 36.1% of Kentuckians are protected by smoke-free laws covering all indoor workplaces and public places.*

Law Prohibits E-cig Use Indoors

City

County

*Source: Percent of the Kentucky population covered by 100% smoke-free workplace laws. University of Kentucky College of Nursing, Lexington, KY; July 1, 2019

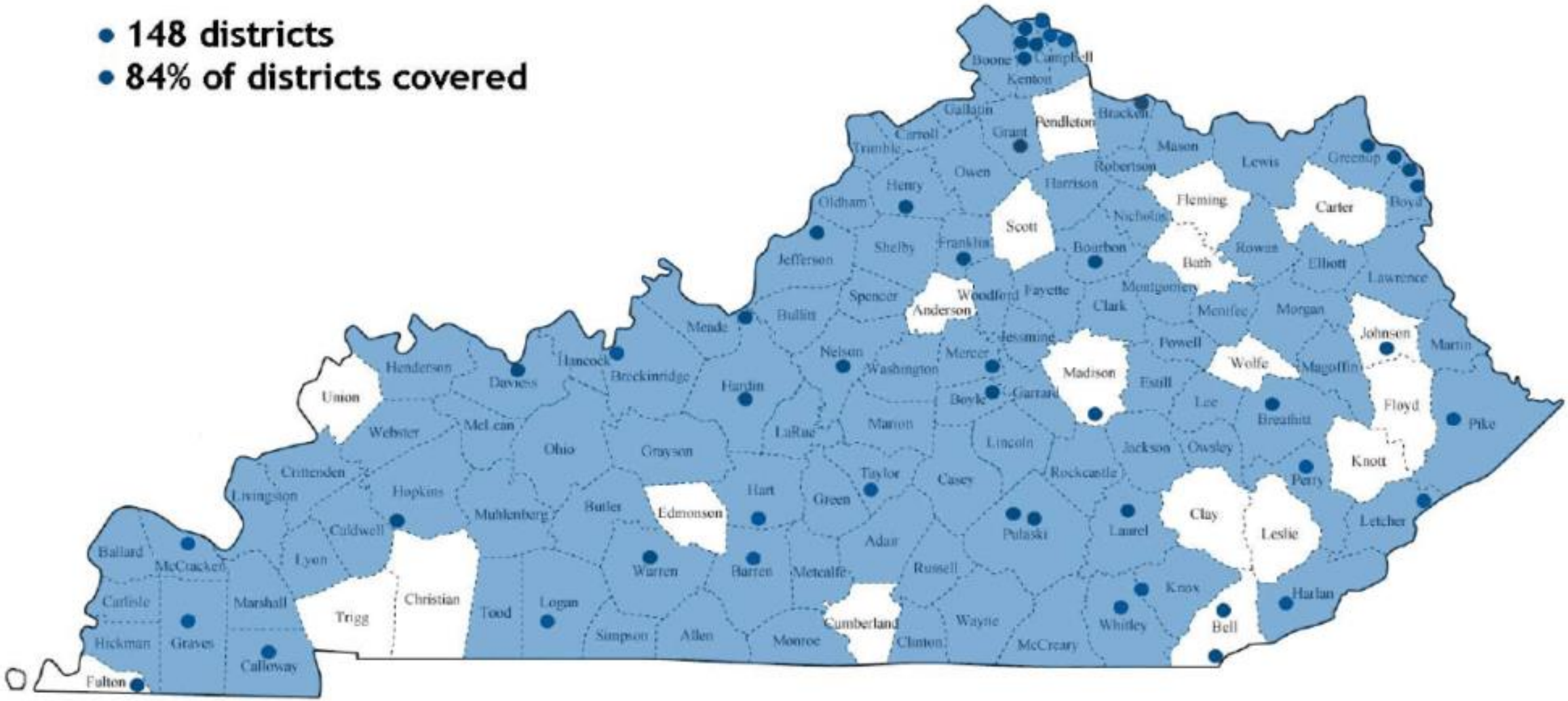
Students Making a Difference

- Hazard High School Tobacco- free Ambassador Partnership (TAP) program student tobacco prevention partnership received a Health Kentucky Policy Champion Award!
- 24 students
- Raise awareness of dangers of tobacco use
- Hosted/ participated in variety of school and community based activities

Kentucky's Tobacco Free School Districts

*updated August 28, 2019

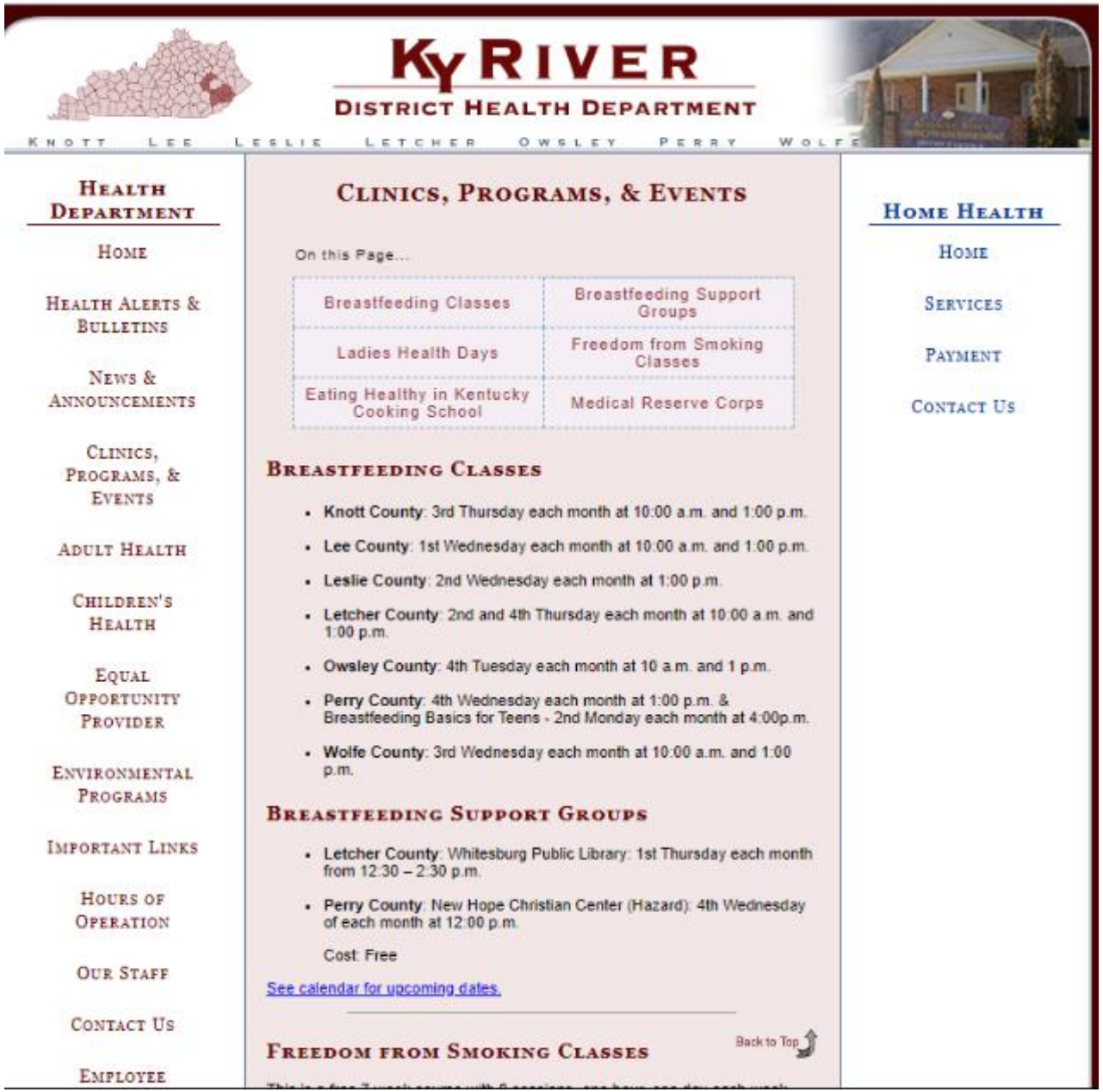
- 148 districts
- 84% of districts covered



Media Tour with CDC Tips From A Former Smoker Spokesperson Amanda

Resources to Quit

- "QUITKY" to 797979
- www.quitnowky.org



KY RIVER
DISTRICT HEALTH DEPARTMENT
KNOTT LEE LESLIE LETCHER OWSLEY PERRY WOLFE

HEALTH DEPARTMENT
HOME
HEALTH ALERTS & BULLETINS
NEWS & ANNOUNCEMENTS
CLINICS, PROGRAMS, & EVENTS
ADULT HEALTH
CHILDREN'S HEALTH
EQUAL OPPORTUNITY PROVIDER
ENVIRONMENTAL PROGRAMS
IMPORTANT LINKS
HOURS OF OPERATION
OUR STAFF
CONTACT US
EMPLOYEE

CLINICS, PROGRAMS, & EVENTS

On this Page...

Breastfeeding Classes	Breastfeeding Support Groups
Ladies Health Days	Freedom from Smoking Classes
Eating Healthy in Kentucky Cooking School	Medical Reserve Corps

BREASTFEEDING CLASSES

- **Knott County**: 3rd Thursday each month at 10:00 a.m. and 1:00 p.m.
- **Lee County**: 1st Wednesday each month at 10:00 a.m. and 1:00 p.m.
- **Leslie County**: 2nd Wednesday each month at 1:00 p.m.
- **Letcher County**: 2nd and 4th Thursday each month at 10:00 a.m. and 1:00 p.m.
- **Owsley County**: 4th Tuesday each month at 10 a.m. and 1 p.m.
- **Perry County**: 4th Wednesday each month at 1:00 p.m. & Breastfeeding Basics for Teens - 2nd Monday each month at 4:00p.m.
- **Wolfe County**: 3rd Wednesday each month at 10:00 a.m. and 1:00 p.m.

BREASTFEEDING SUPPORT GROUPS

- **Letcher County**: Whitesburg Public Library: 1st Thursday each month from 12:30 – 2:30 p.m.
- **Perry County**: New Hope Christian Center (Hazard): 4th Wednesday of each month at 12:00 p.m.

Cost: Free

See calendar for upcoming dates.

Back to Top

FREEDOM FROM SMOKING CLASSES

HOME HEALTH
HOME
SERVICES
PAYMENT
CONTACT US

AMERICAN LUNG ASSOCIATION®
Freedom
FROM SMOKING®

Resources to Quit

Citations

- CDC WONDER Online Database, Natality public-use data, 2018.
- Centers for Disease Control and Prevention (CDC). 1991-2017 High School Youth Risk Behavior Survey Data.
  Available at http://nccd.cdc.gov/youthonline/.
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Thank you!

Angela T. Dearinger, MD, MPH, FACP, FAAP

Commissioner

Kentucky Department for Public Health

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