



Center for Health Policy, Department of Health Policy & Management,  
Fairbanks School of Public Health.

# Vaping Among Indiana's Youth

SECTION 1

# Background & Prevalence

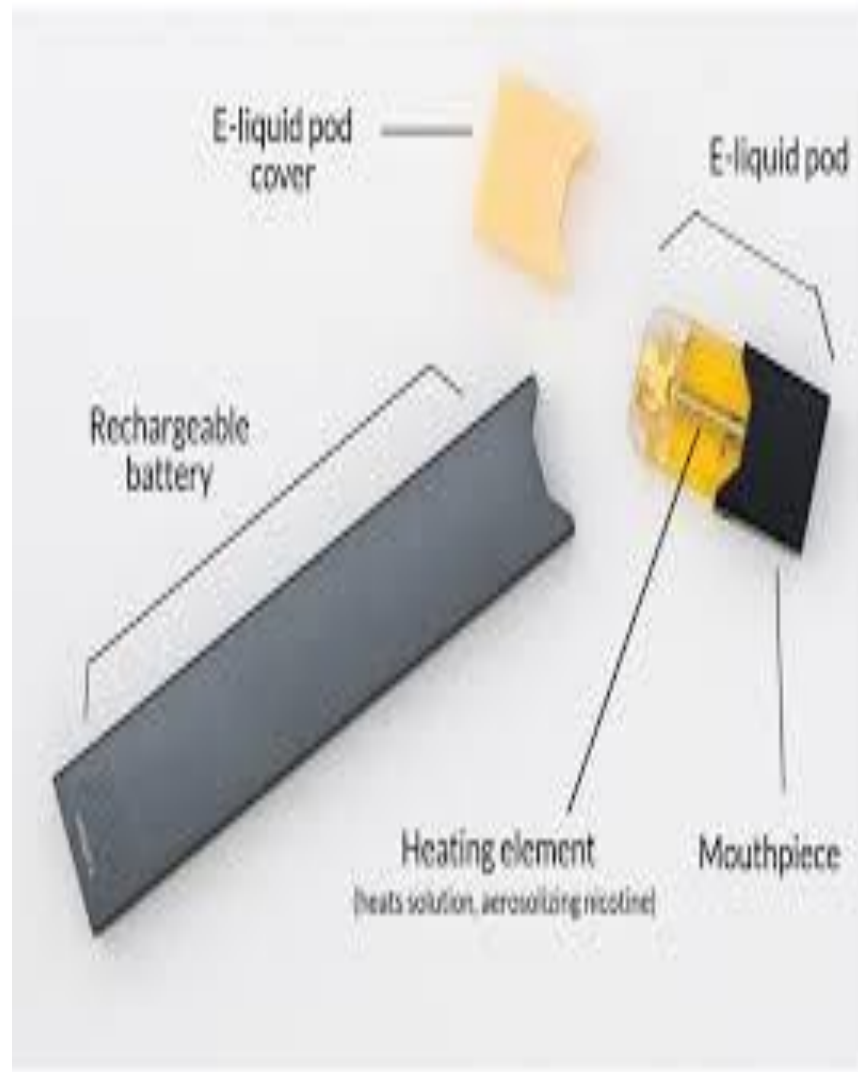
# Vaping among young people has reached epidemic proportions

- The CDC reports that between 2017-2018
  - Vaping increased by 78% among high school students.
  - Vaping increased by 48% among middle school students.

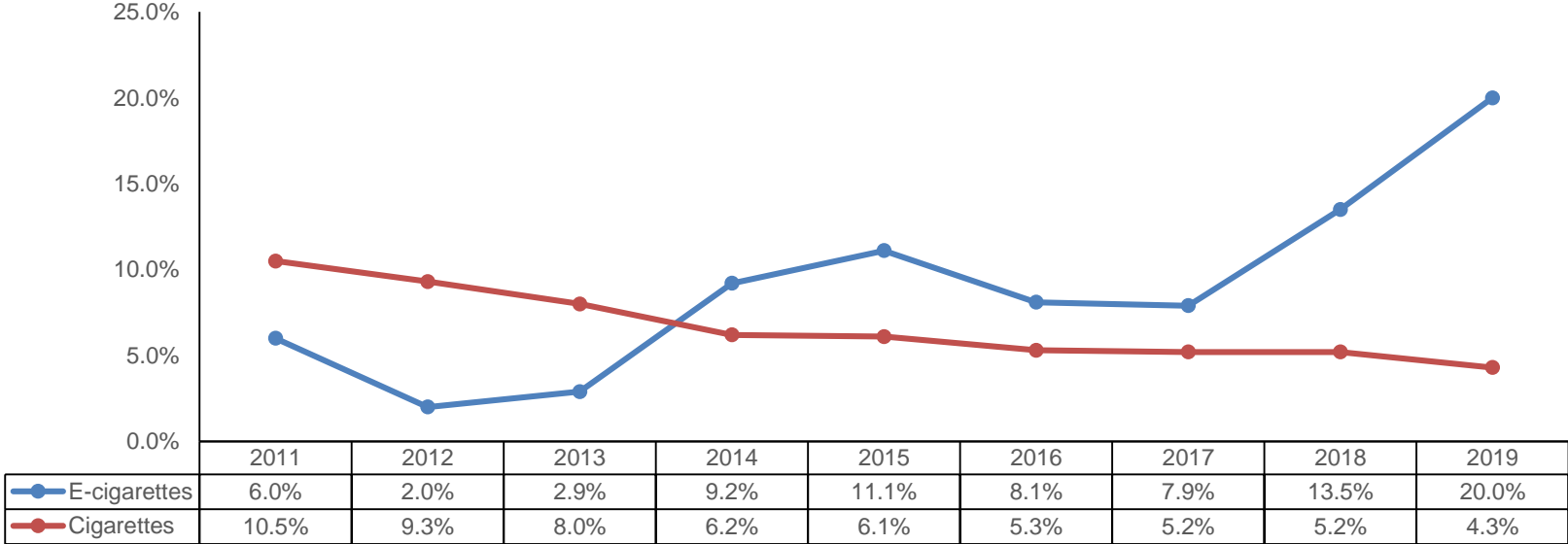


## Vaping refers to the act of using electronic nicotine delivery systems (ENDS) aka e-cigarettes.

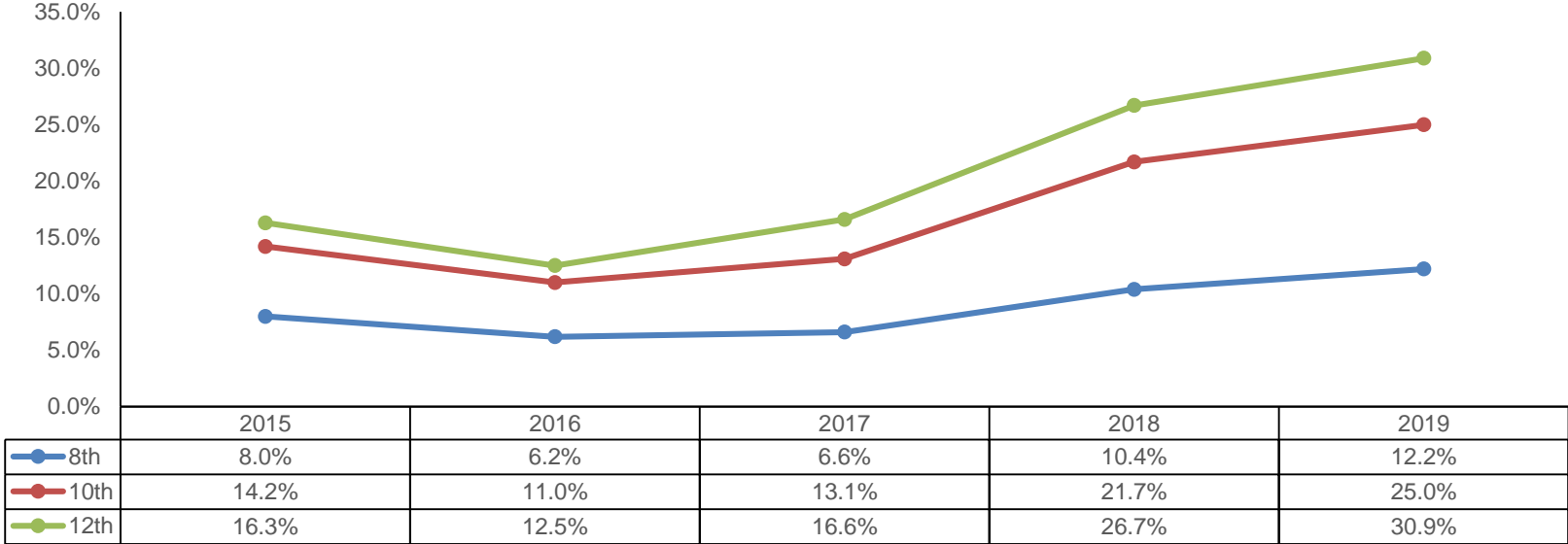
- E-cigarettes come in a variety of shapes and sizes.
- All e-cigarettes typically have the following parts:
  - A battery, a heating coil, a chamber to hold liquid (e-liquid), and a mouth piece.
  - When activated, the battery heats the e-liquid, creating an aerosol that a user inhales.
  - Can vaporize e-liquid with and without nicotine as well as other substances like THC



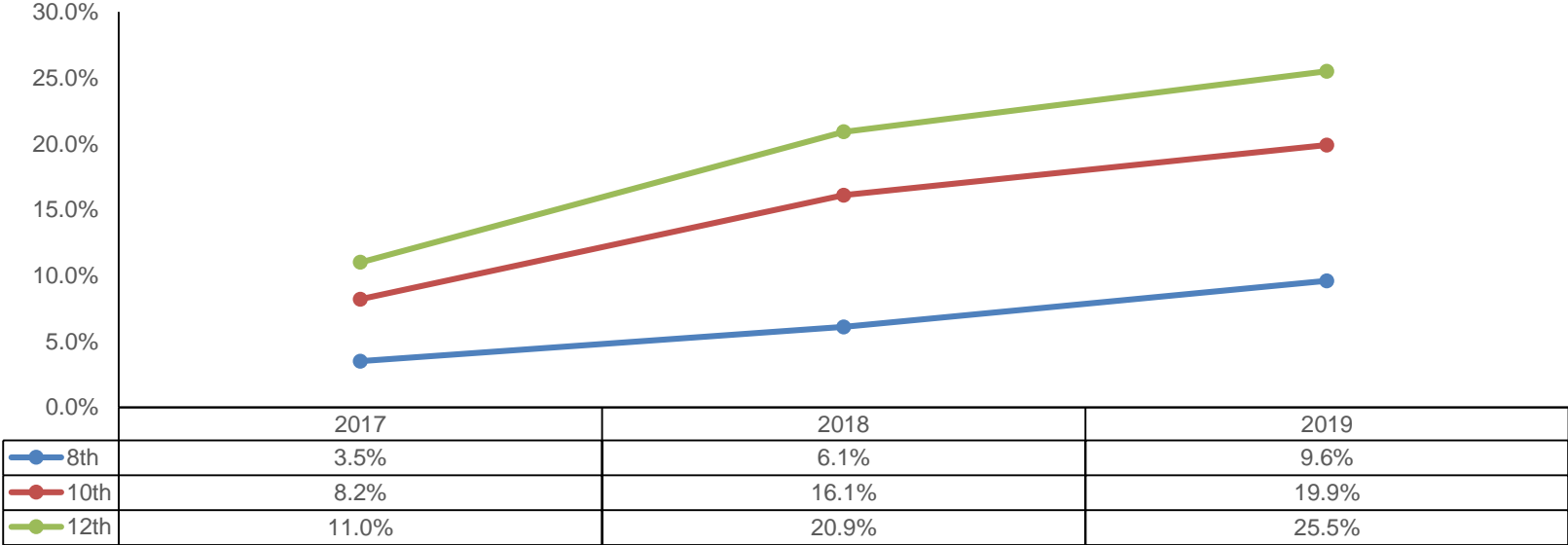
# Vaping rose by 71% among high school and middle school students between 2017-2018 representing 3.6 million students



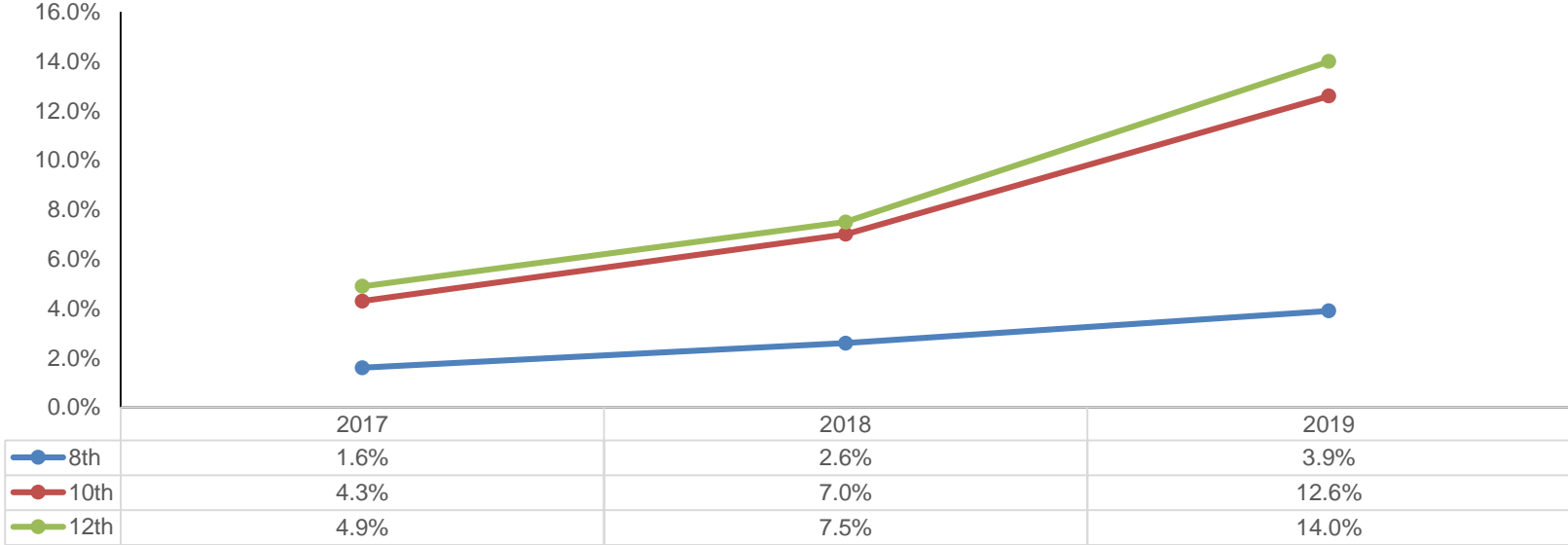
# Vaping across all grade levels between 2017-2018 was the largest increase in any adolescent substance use outcome in 43 year history of the MtF



# Vaping of nicotine has been driving the increase in vaping across all grade levels.

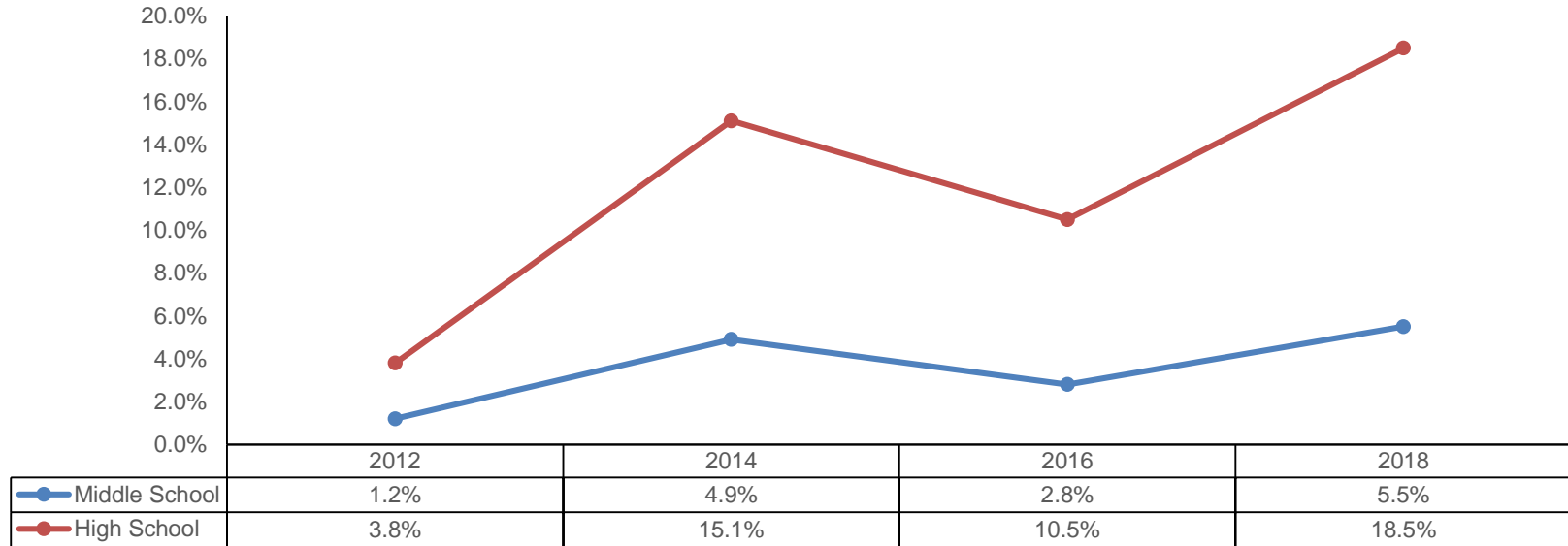


# Vaping of THC across all grades increased significantly between 2018-2019

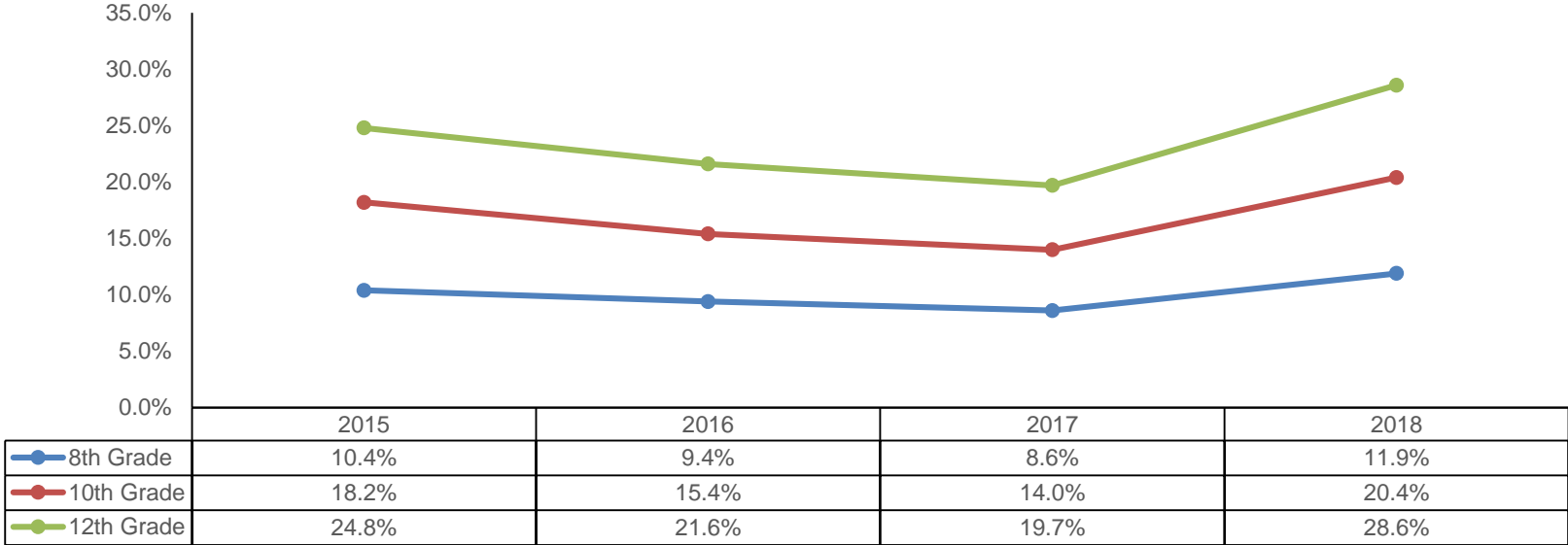




# Vaping nearly doubled among Indiana middle and high school students between 2016-2018 representing an increase of 35,000 students



# Vaping increased substantially across all grade levels from 2017-2018



SECTION 2

# Why do youth vape?

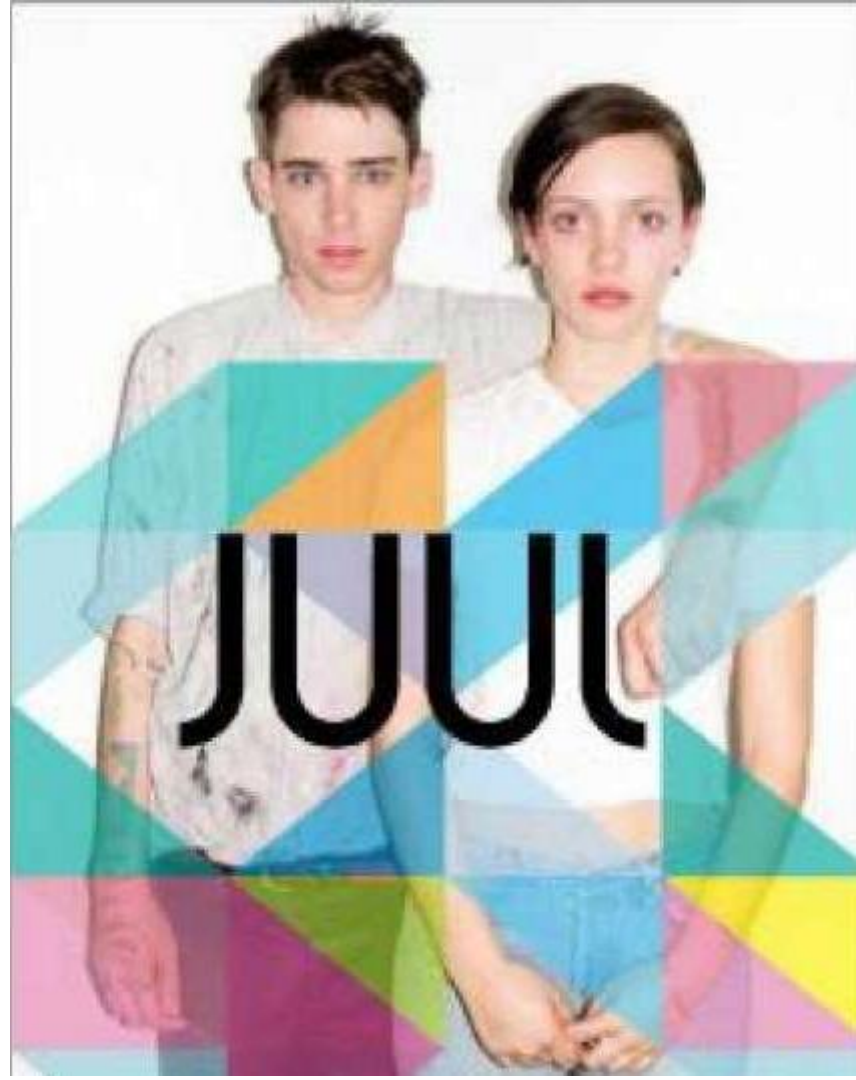
# Youth vape for several reasons:

- Curiosity – 55.3% of middle and high school students who ever tried an e-cigarette did so out of curiosity.
- Flavors - 69.6% of middle and high school students who used a tobacco product used a flavored product, the most commonly used product was e-cigarettes.
- Family & Peer Influence – 30% of youth who ever used e-cigarettes did so because a friend or family did so.



# Advertising

- Spending on advertising of e-cigarettes grew from 6.4 million in 2011 to 115 million in 2014.
- Increase in spending correlated to significant increase in e-cigarette use.
- In 2016, 4 in 5 youth (20.5 million) had been exposed to an e-cigarette ad.
- Young people regularly exposed to e-cigarette advertising have a higher likelihood of ever having tried e-cigarettes or of being a current user.



# JUUL

- Driving increase in vaping among young people.
- New type of e-cigarette known as a “stealth vaporizer”.
- Sleek, techy, and offers high levels of nicotine.
- Advertised aggressively through social media.
- Between 2016-2017 sales increased by 600%.
- By end of 2018, JUUL had captured 76% of retail e-cigarette market.
- In 2018, 6.0% of middle and 24.2% of high school students had used a JUUL in the past 30 days.



# Concerns about Vaping

# Vaping is a gateway to combustible cigarette use.

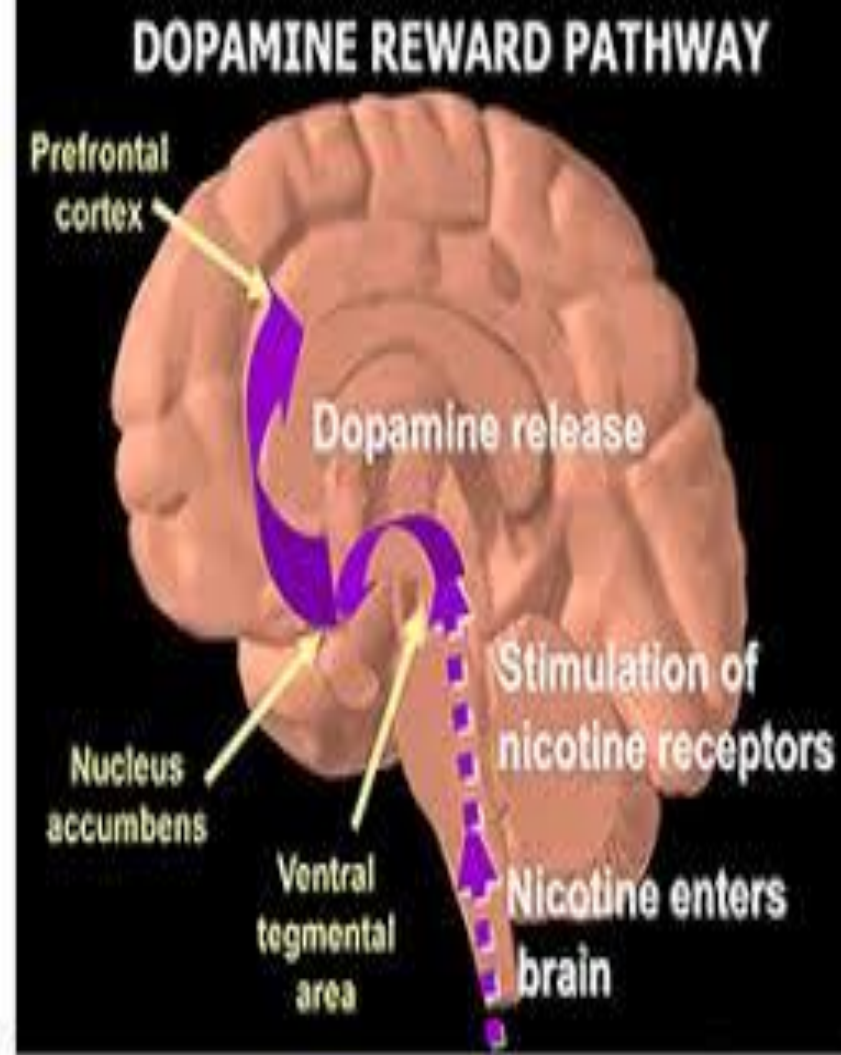
- Youth who reported ever using e-cigarettes were more likely to have experimented with cigarettes and more likely to be current smokers.
- Longitudinal studies indicate that youth who smoked e-cigarettes at baseline were 4 times more likely to be smoking cigarettes at follow up.





# Vaping exposes adolescent brains to nicotine

- The adolescent brain is more sensitive to nicotine.
- Nicotine impairs development of areas of the brain that control mood, attention, learning, and impulse control.
- Youth who use nicotine-containing products are more likely to develop dependence on nicotine.
- Young people can develop an addiction to nicotine with relatively little exposure, as little as 40 puffs on a JUUL on a daily or near daily basis.



# The contents of e-cigarette liquid exposes young people to other risks:

1. The components of e-liquid have not been deemed safe for inhalation.
2. When heated, many of the components of e-liquid can form carcinogens.
3. Inhalation of fine particles in e-cigarette aerosol can promote lung disease like chronic bronchitis and asthma in young people who are regular users.
4. E-cigarette aerosol also contains various heavy metals, all of which can be toxic when inhaled.



# Key Informant Interviews

# Background

- Interviews were completed with 9 key informants.
- Informants were involved with state- or county-level tobacco control and prevention efforts.
- The purpose of the interviews was to better understand how vaping was affecting Hoosier youth.



# How much of a problem do you think vaping/e-cigarette use is among Indiana's youth?

1. All informants expressed that vaping was a significant problem within Indiana:
  - “I totally agree with the Surgeon General, Dr. Jerome Adams, that it’s an epidemic”.
2. Informants believed JUUL was responsible for the current level of vaping and that it was popular because it doesn’t smell, is sleek, can be used discreetly, and does not carry the stigma of cigarettes but most importantly:
  - “I definitely think it is the flavors”
3. In terms of access informants believed that “the majority of youth report getting products from social sources”.



# What groups of young people are particularly vulnerable to vaping or are vaping at higher rates?

1. While some informants believed that young people in middle school were most vulnerable, the overall consensus was reflected by one informant as:
  - “I say in every presentation that I give JUUL did not care who it targeted. It did not target to the African-American or the LGBT community alone. It targeted to us. I feel it targeted to the poor, to the rich, to the low education, to the high education, it did not discriminate.



# What is vaping problematic and why should we be concerned about it?

- Similar to what the national literature says, informants cited concerns that “we are concerned about nicotine on the developing brain...the area that affects learning mood, impulse control, concentration...” and that it “results in symptoms of dependence”.
- Informants expressed that little is known about the components of e-cigarette liquid and that it “may take years before we understand the health consequences”.
- One informant stated it as:
  - “...this generation is the new guinea pig for the tobacco industry and by the time they really get the data and the science behind it...the current generation is already going to be hooked and addicted”.



# What would the ideal prevention/intervention model look like?

- Informants agreed that following CDC recommendations and better funding of TPC would be ideal:
  - “I think it starts with a well-funded and well-run state prevention program following CDC best practices. I think it would also include reaching kids where they are. A program needs to have community resources, they need to be staffed. Each community would need to have resources to help people quit. It’s going to mean investing in [web-based and social-media-based] communications. I think policy makers are uncomfortable investing state dollars that way. We’re going to have to get over that hesitation if we really want to reach kids...”



Best Practice  
for Comprehensive  
Tobacco Control  
Programs





# Policy Recommendations

1. Ban all non-tobacco flavors in not just e-cigarette products but all tobacco products.
2. Cap the level of nicotine available in e-cigarettes to levels that would reduce the risk of addiction.
3. Tax e-cigarettes and price them at levels comparable to cigarettes.
4. Adopt more comprehensive smoke free laws.
5. Implement public education/media campaigns.
6. Increase restrictions on tobacco licenses and improve enforcement efforts for retailers.
7. Develop effective school-based strategies that de-emphasize suspensions or expulsions while emphasizing counseling, education, and in-school services for quitting.

