



TEEN TOBACCO/NICOTINE/CANNABIS USE: NOT HARMLESS

Laura Searcy MN, APRN, PPCNP-BC
Pediatric Nurse Practitioner

Economic Cost of Substance Abuse Disorder in the United States (2019), Summary View

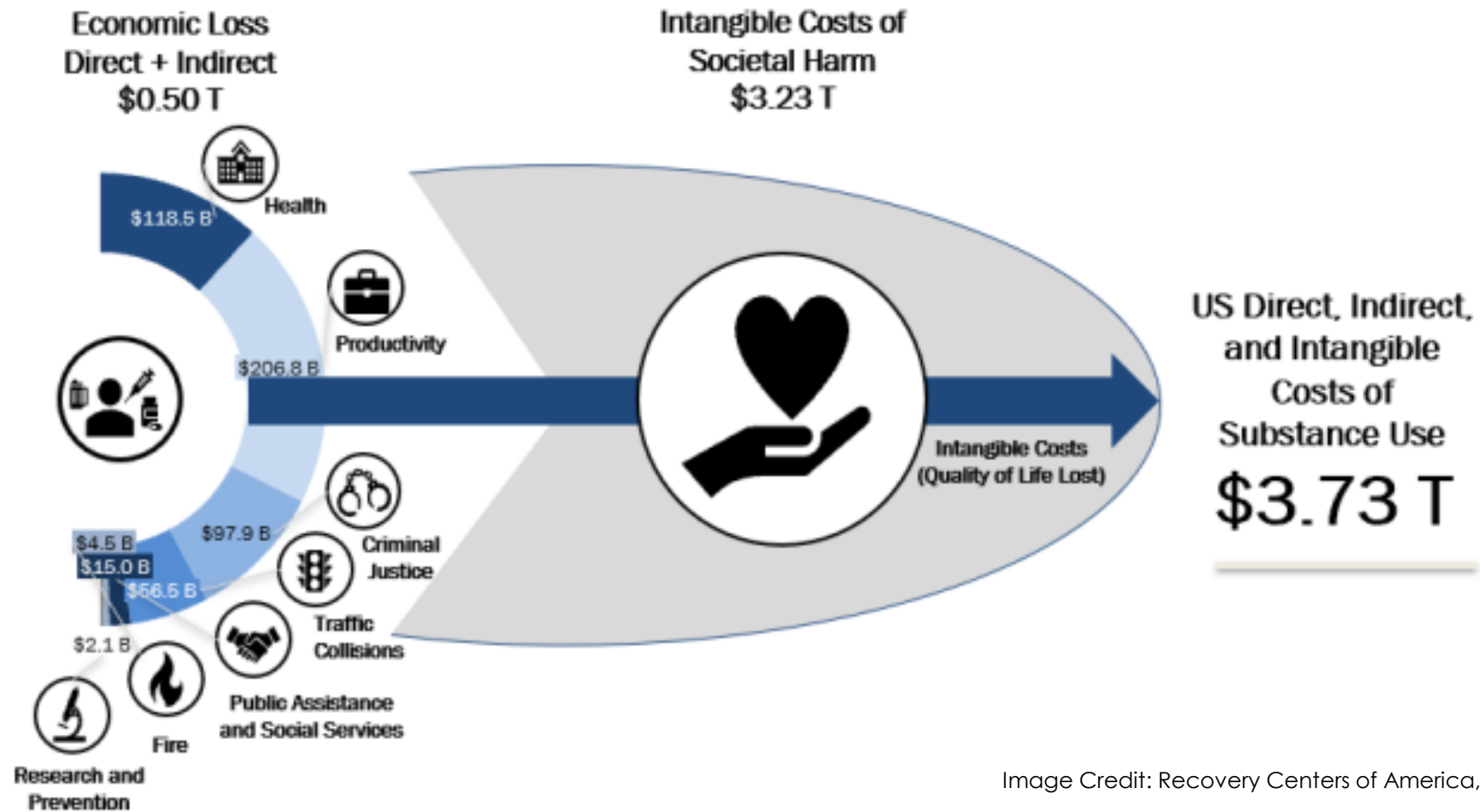


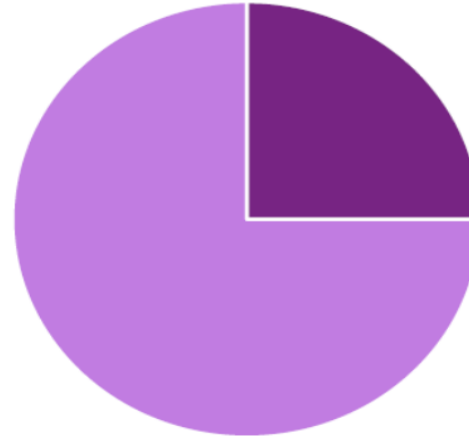
Image Credit: Recovery Centers of America, Used with permission

SUBSTANCE USE DISORDER IS LARGELY A PEDIATRIC-ONSET DISEASE

- **9 out of 10 adults (90%) with substance use disorders initiated their use before age 18**
- The earlier and heavier the use, the greater the chance and intensity of future consequences
- All substance use increases risk for a variety of adverse health outcomes

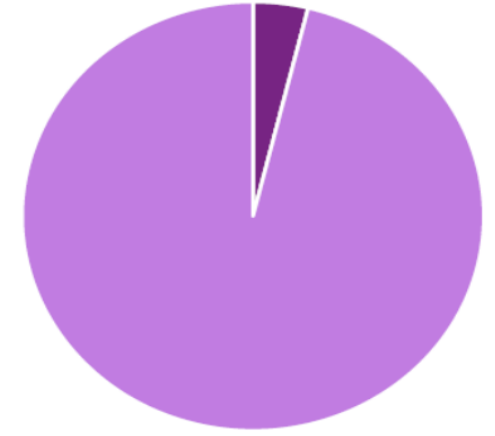
Use before age 18

1 in 4 chance of
developing addiction



Use after age 21

1 in 25 chance of
developing addiction



UNDERSTANDING ADDICTION AS A DISEASE



The Unique Vulnerability of the Teen Brain



Substance use hijacks the normal development of the brain's risk and reward system leading to greater risk of and shorter timeline for progression from use -> misuse -> disorder

Activities that increase dopamine production are highly reinforcing

Primitive parts of the brain broadcast a message - *that feels good...Do it again!*

Adolescent brains reinforce novel experiences in ways that are much stronger – and longer lasting – than those experienced by children or adults

Areas of the brain that adults use to weigh the risks of behaviors are still developing in adolescents

E-CIGARETTES AND NICOTINE

Physical and Mental Health Effects



Preventing tobacco use among youth is critical to ending the tobacco epidemic in the United States

- **Nearly 9 out of 10 cigarette smokers first tried smoking by age 18, and 99% first tried smoking by age 26**
- **After nearly two decades of steady decreases in cigarette smoking rates, teen tobacco product use rose dramatically between 2017-2019**
- **Use of alternative smoking products, particularly e-cigarettes are overwhelmingly responsible for this increase**



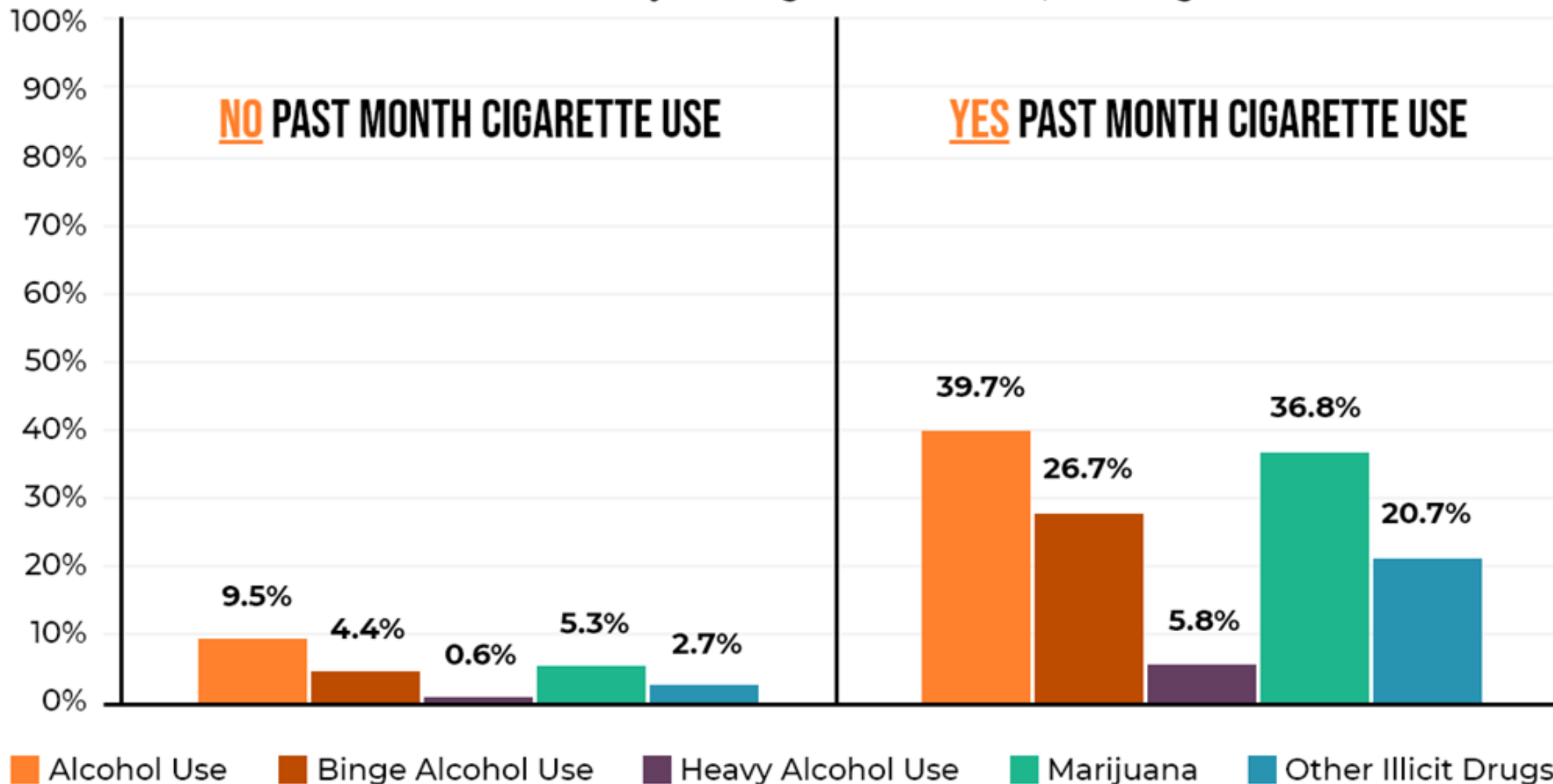
Photo courtesy of Truth Initiative at <https://truthinitiative.org/>

INCREASED RISK OF ADDICTION, FUTURE SUBSTANCE USE DISORDERS

- Youth who use nicotine are more likely to use other substances
 - marijuana
 - opioids
 - alcohol
- Alters development of dopamine reward pathways
 - high risk of nicotine addiction
 - increases the risk of development of future substance use disorders and addiction

TEEN CIGARETTE USE IS ASSOCIATED WITH HIGHER USE OF OTHER DRUGS

SAMHSA's National Survey on Drug Use and Health, Teens Aged 12-17



MORE THAN 2.5 MILLION YOUTH CURRENTLY USE E-CIGARETTES

Among current youth e-cigarette users:

More than **1 in 4**



used e-cigarettes daily



The most commonly used device type was

disposables

Approximately **85%**



used flavored e-cigarettes

CENTER FOR TOBACCO PRODUCTS

¹ National Survey on Drug Use and Health (NSDUH) 2019

² Levy, D.T., R. Meza, Z. Yuan, et al. "Public Health Impact of a US Ban on Menthol in Cigarettes and Cigars: A Simulation Study." Tobacco Control, 2021



WHAT'S IN A VAPE?



Diacetyl
(butter flavor)



Benzene
(gasoline)



Cadmium
(batteries)



Nickel
(cheap jewelry)



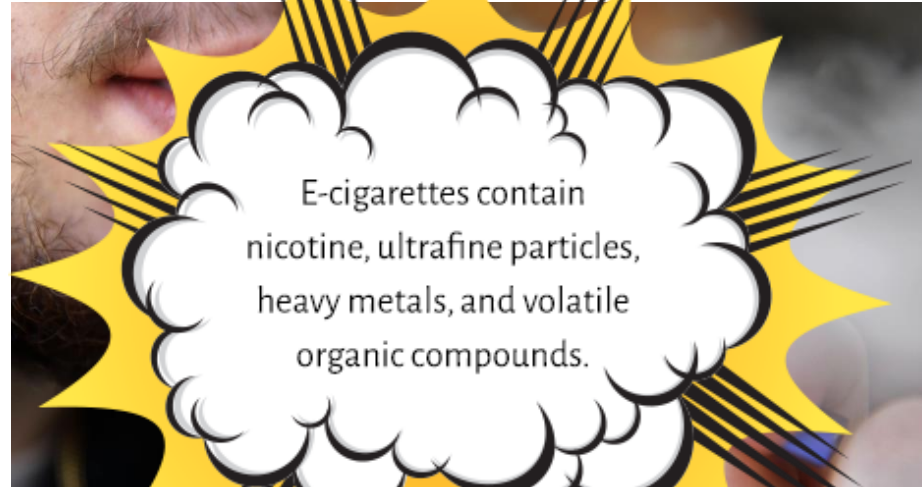
Formaldehyde
(dead tissue preservative)



Nicotine
(tobacco)



Lead
(car batteries)



Toluene
(paint thinner)



N-Nitrosornicotine
(pesticides)

Flavors of Vapes



15,500

tobacco flavors
and counting

NS, BOOGER SUGAR, BANANA BUTT, HONEY DOO DOO, BARNEY PEBBLES, DRAGON'S BLOOD, D



Stanford REACH Lab,
used with permission

(Stanford Tobacco Prevention Toolkit, 2021)

HARMS BRAIN DEVELOPMENT

- **Nicotine negatively affects:**
 - attention
 - learning
 - memory
- **Nicotine use:**
 - decreases processing speed
 - permanently lowers impulse control
 - comorbid with attention deficit disorder
 - associated with emotional dysregulation

PHYSICAL HARMS ASSOCIATED WITH TOBACCO USE:

Nearly every organ system and across the lifespan

- Cancer
- Cardiovascular disease
- Stroke
- Lung diseases
- Diabetes
- Chronic obstructive pulmonary disease (COPD)
- Reduces woman's chances of becoming pregnant
- Increases risk of pregnancy complications
- Tissue damage, fetal lungs and brains
- Increased risk of miscarriage
- Second and third-hand smoke and vapor

ASSOCIATION BETWEEN NICOTINE USE AND MOOD DISORDERS

- worsens anxiety symptoms
- amplifies feelings of depression
- current e-cigarette users have at least double the risk of being diagnosed with depression than those who have never vaped

Nicotine cessation is associated with positive mental health changes including reduced depression, anxiety and improved mood

- Truth initiative youth messaging: Vaping Nicotine: Its a Breath of Stress Air

DISTURBING TRENDS IN PATTERNS OF USE

- 27.6% of adolescents using e-cigarettes use the devices daily
- Age of first use dropped by 1.9 months per year between 2014 and 2021
- Median e-cigarette use:
 - 3 to 5 days per month in 2018
 - 6 to 9 days per month in 2019-2020
 - 10 to 19 days per month in 2021.

REASONS WHY YOUTH SAY THEY VAPE

Reasons for first trying NYTS 2019

- curiosity (55.3%)
- a friend or family member used them (30.8%)
- availability of flavors like mint, candy, fruit, or chocolate (22.4%)
- they can be used to do tricks (21.2%)

Reasons for first trying NYTS 2021

- a friend used them (57.8%)
- I was curious about them 47.6%
- **I am feeling anxious, stressed, or depressed**
- **to get a high or buzz from nicotine**

REASONS FOR CONTINUED USE

- **I am feeling anxious, stressed, or depressed”
(43.4%)**
- **to get a high or buzz from nicotine (42.8%)**
- a friend uses them
- I can use them to do tricks

AN EVER-EXPANDING ARRAY OF PRODUCT CHOICES

There are three general categories of tobacco products:

- **Combustible or smoked:** cigarettes, cigars, little cigars (cigarillos), bidis, kreteks, hookah
- **Electronic Nicotine Delivery Systems (ENDS):** e-cigarettes, e-hookah, mods, tanks, vape pens, heated tobacco products
- **Smokeless tobacco products:** chewing tobacco, snuff, snus, nicotine pouches, dissolvable nicotine lozenges, other oral nicotine products (gummies), toothpicks

TYPES OF NICOTINE DELIVERY DEVICES

Among high schoolers who vape, there was a 1,000% rise in use of disposables in 2020.

-2020 National Youth Tobacco Survey



Learn how to refill on YouTube



Lucy gum and lozenges

Zyn p

Zyn pouches and Velo lozenges



Discreet nicotine toothpicks

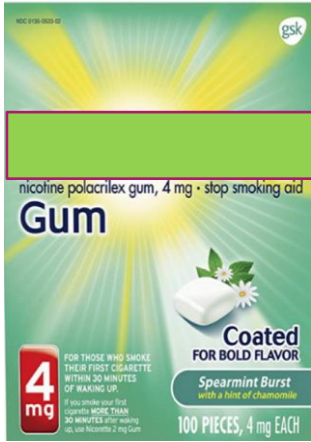


Non-therapeutic commercial products

Therapeutic, FDA approved



2 and 4 mg strength



Nicotine pouches 4 and 7 mg and 12 mg strength



Lucy gum and lozenges

2mg, 4mg, 6mg



Discontinued after FDA warning 1 mg piece, 12/pkg

Flavored Non-Tobacco Oral Nicotine Products

Adapted from PAVE Core Presentation, 2023 Used with permission



CANNABIS

Approximately 1 in 10 people who use marijuana will become addicted.

When they start before age 18, the rate of addiction rises to 1 in 6.

CANNABIS/MARIJUANA RISKS



Brain health: Marijuana can cause permanent IQ loss of as much as 8 points when people start using it at a young age. These IQ points do not come back, even after quitting marijuana.



Mental health: Studies link marijuana use to depression, anxiety, suicide planning, and psychotic episodes. It is not known, however, if marijuana use is the cause of these conditions.



Athletic Performance: Research shows that marijuana affects timing, movement, and coordination, which can harm athletic performance.



Driving: People who drive under the influence of marijuana can experience dangerous effects: slower reactions, lane weaving, decreased coordination, and difficulty reacting to signals and sounds on the road.

CANNABIS/MARIJUANA RISKS



Baby's health and development: [Marijuana use during pregnancy](#) may cause fetal growth restriction, premature birth, stillbirth, and problems with brain development, resulting in hyperactivity and poor cognitive function. Tetrahydrocannabinol (THC) and other chemicals from marijuana can also be passed from a mother to her baby through breast milk, further impacting a child's healthy development.



Daily life: Using marijuana can affect performance and how well people do in life. Research shows that people who use marijuana are more likely to have relationship problems, worse educational outcomes, lower career achievement, and reduced life satisfaction.



CANNABIS CONCENTRATES



CRUMBLE
Dried oil with a honey-comb like consistency



BADDER/BUDDER
Concentrates whipped under heat to create a cake-batter like texture



SHATTER
A translucent, brittle, & often golden to amber colored concentrate made with a solvent



DISTILLATE
Refined cannabinoid oil that is typically free of taste, smell & flavor. It is the base of most edibles and vape cartridges



CRYSTALLINE
Isolated cannabinoids in their pure crystal structure



DRY SIFT
Ground cannabis filtered with screens leaving behind complete trichome glands. The end-product is also referred to as kief



ROSIN
End product of cannabis flower being squeezed under heat and pressure



BUBBLE HASH
Uses water, ice, and mesh screens to pull out whole trichomes into a paste-like consistency

HELPING OUR YOUNG PEOPLE QUIT

Text based Cessation Resources

- [SmokefreeTXT](#) to quit smoking
- [SmokefreeTXT](#) en Español
- [DipfreeTXT](#) to quit smokeless tobacco
- [Practice Quit](#) (give quitting a try for a few days)
- [Daily Challenges](#) (build your quitting skills)
- [THIS IS QUITTING](#) (Text DITCHVAPE to 88709)

[My Life, My Quit](#)

Web-Based Resources

- [Smokefree Teen](#)
- [Smokefree en Espanol](#)
- [My Life, My Quit](#)
- [American Indian Commercial Tobacco Program](#)
- [NOT for ME](#)

Smartphone App

- QuitSTART

REDUCING YOUTH TOBACCO PRODUCT USE

WHAT WORKS

- Higher costs for tobacco products (for example, through increased taxes)
- Prohibiting smoking/vaping in indoor and outdoor areas of workplaces and public places
- Raising the minimum age of sale for tobacco products to 21 years
- TV and radio commercials, posters, and other media messages aimed at kids and teens in order to counter tobacco product ads
- Community programs and school and college policies that encourage tobacco-free places and lifestyles
- Community programs that lower tobacco advertising, promotions, and help make tobacco products less easily available

E-Cigarettes Authorized by the FDA

As of Aug. 2023, these are the only e-cigarettes authorized to be sold in the U.S.



Manufacturer	Product Name
Logic Technology Development LLC	Logic Regular Cartridge/Capsule Package
	Logic Vapeleaf Cartridge/Capsule Package
	Logic Vapeleaf Tobacco Vapor System
	Logic Pro Tobacco e-Liquid Package
	Logic Pro Capsule Tank System [1]
	Logic Pro Capsule Tank System [2]
	Logic Power Tobacco e-Liquid Package
	Logic Power Rechargeable Kit
NJOY LLC	NJOY DAILY Rich Tobacco 4.5%
	NJOY DAILY EXTRA Rich Tobacco 6%
	NJOY ACE Device
	NJOY ACE POD Classic Tobacco 2.4%
	NJOY ACE POD Classic Tobacco 5%
	NJOY ACE POD Rich Tobacco 5%
R.J. Reynolds Vapor Company	Yuse Vibe Power Unit [1]
	Yuse Vibe Tank Original 3.0%
	Yuse Vibe Power Unit [2]
	Yuse Ciro Power Unit [1]
	Yuse Ciro Cartridge Original 1.5%
	Yuse Ciro Power Unit [2]
	Yuse Soto Power Unit
	Yuse Replacement Cartridge Original 4.8% G1
	Yuse Replacement Cartridge Original 4.8% G2

For the most up-to-date list of authorized e-cigarettes, visit the [Premarket Tobacco Product Marketing Granted Orders webpage](#).

While these products are authorized to be sold in the U.S., it does not mean these products are safe nor are they "FDA approved." All tobacco products are harmful and potentially addictive. Those who do not use tobacco products shouldn't start.



YOUTH POPULAR, UNAUTHORIZED BRANDS (NOT LEGAL TO DISTRIBUTE OR SELL)

- **Elf Bar**
- **EB Design,**
 - **FUME**
 - **ELF BAR**
 - **HQD**
 - **SUPREME**
 - **ELF BAR EB-DESIGN**
 - **FOODGOD ZERO**

- **Lava**
- **Cali**
- **Bang**
- **Kang**



Fume Unlimited Disposable Vape – 7,000 puffs per vape



Supreme becomes 'master distributor' for top vape brands as shares spike



HQD Cuvie Bar - 7000 Puffs & 14 flavors





FDA warns stores to stop selling Elf Bar the top disposable e-cigarette in the U.S.
June 23, 2023:10 AM ET
By The Associated Pressbar



How Can I Report a Potential Tobacco Violation?

If you see what you believe to be a violation of the Tobacco Control Act or other related regulations, you can:

- Submit online: [Potential Tobacco Product Violations Reporting - Form FDA 3779](#)
- Call the Tobacco Call Center using CTP's toll-free number: 1.877.CTP.1373
- Send an email: CTPCompliance@FDA.hhs.gov
- Print and mail:

[Paper form](#) to

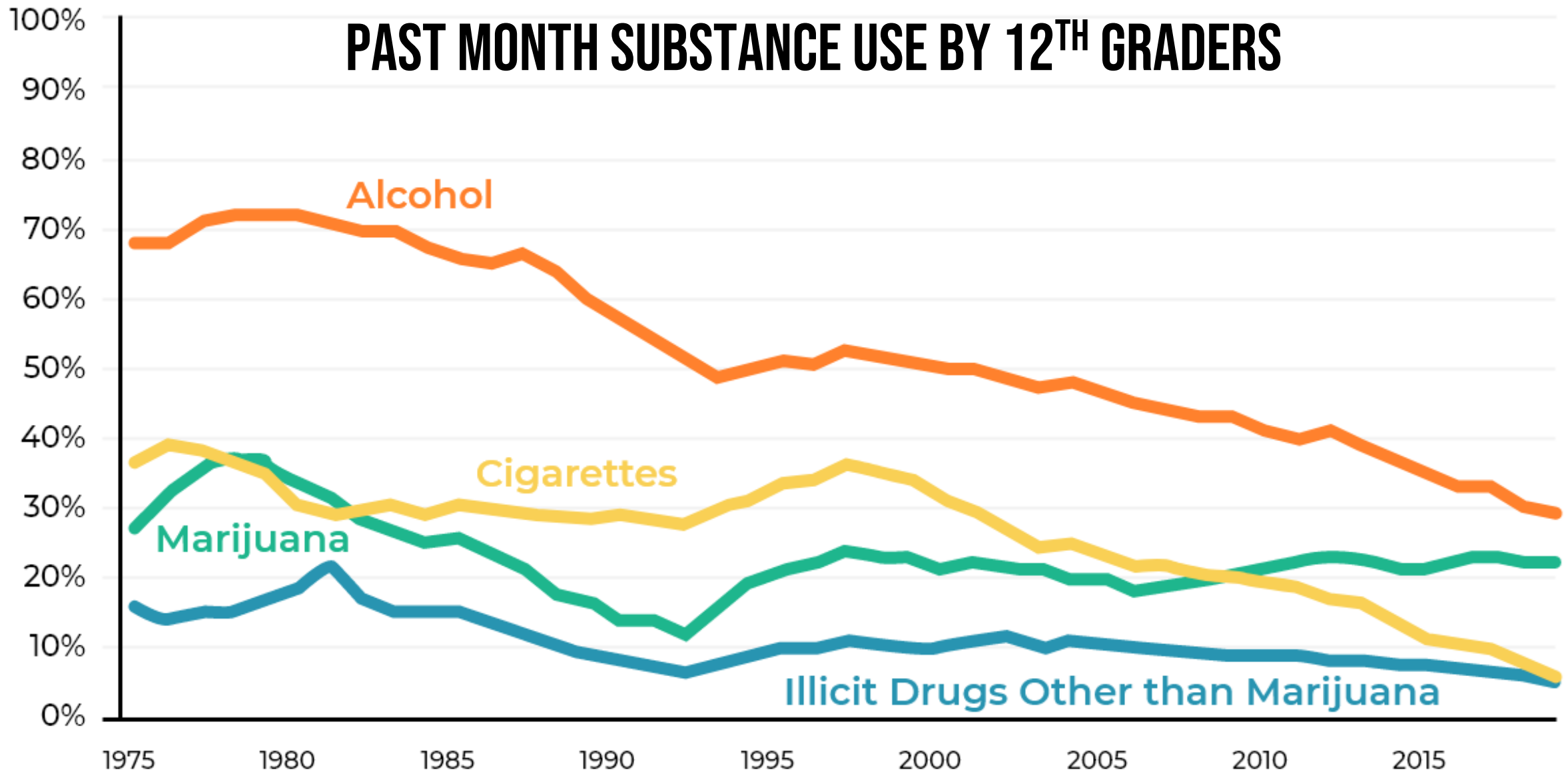
Potential Tobacco Products Violation Report

Food and Drug Administration
Center for Tobacco Products
Office of Compliance and Enforcement
Document Control Center
Building 71, Room G335
10903 New Hampshire Avenue
Silver Spring, MD 20993

NOW THE GOOD NEWS!



PAST MONTH SUBSTANCE USE BY 12TH GRADERS





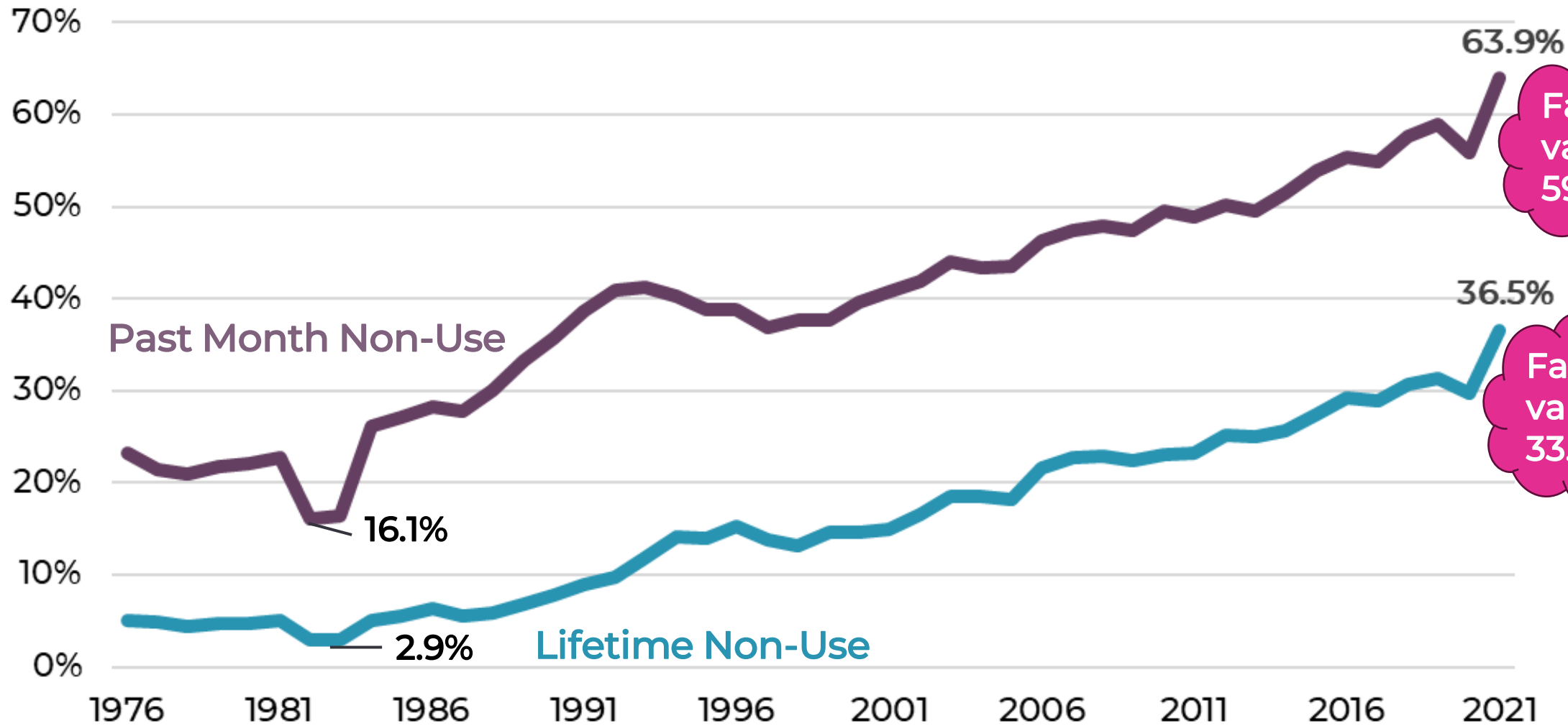
One Choice

No use of any alcohol, nicotine, marijuana, or other drugs by youth under age 21 for reasons of health



A clear health standard analogous to other standards like using seat belts, wearing bicycle helmets, eating healthy foods, and exercising regularly

NO USE OF ALCOHOL, CIGARETTES, MARIJUANA, AND OTHER ILLICIT DRUGS BY US HIGH SCHOOL SENIORS: 1976-2021



National Institute on Drug Abuse

Supporting scientific research on drug use and addiction

RESOURCES



 Nora's Blog

Innovative projects answer NIDA's challenge to implement substance use prevention in primary care

Winners generate ideas for primary care practices to provide screening and prevention for substance use disorders



 News Release

Marijuana and hallucinogen use, binge drinking reached historic highs among adults 35 to 50

For younger adults 19 to 30, marijuana, vaping, hallucinogen use are at or near historically high levels



 News Release

Only 1 in 5 U.S. adults with opioid use disorder received medications to treat it in 2021

NIH and CDC study finds telehealth associated with increased likelihood of receiving evidence-based standard of care



 News Release

Xylazine appears to worsen the life-threatening effects of opioids in rats

NIH study deepens understanding of possible mechanism through which xylazine impacts overdose risk

For more information and resources: <https://nida.nih.gov/>

RESOURCES

Talk. They Hear You. Mobile App



Download only

“Talk. They Hear You.” is a free mobile app that helps you prepare for one of the most important conversations you may ever have with your children about underage drinking. The app provides parents and caregivers of children and teens ages 9 to 15 with the tools and information they need to start talking with their children early about the dangers of alcohol. It includes a suite of materials that helps reinforce the underage drinking prevention campaign's messages.

App Features

With “Talk. They hear You.”, parents and caregivers can:

- Practice bringing up the topic of alcohol using avatars in an interactive simulation
- Learn the questions to ask
- Get ideas for keeping the conversation going

For more information, email SAMHSA at samhsainfo@samhsa.hhs.gov

RESOURCES

Resources for Clinicians

Stanford [VISIT \(Vaping Information, Solutions and Interventions\) Toolkit for Clinicians](#)

American Academy of Pediatrics [Tobacco Use: Considerations for Clinicians](#)

Award winning youth game

Resources for Schools

- [Stanford Tobacco Prevention Toolkit](#)
- [Stanford Cannabis Awareness and Prevention Toolkit](#)
- [Catch My Breath Vaping Prevention Program](#)
- [American Heart Association Tobacco Free Schools Toolkit](#)
- [American Lung Association N-O-T: Not On Tobacco—Proven Teen Smoking and Vaping Cessation Program](#)

RESOURCES

One Choice messaging resources are all free of charge and reproducible for educational use

[One Choice Prevention Toolkit](#)

[One Choice Community](#)

[One Choice Community Produced Print Materials](#)

Social Media

Video

[The Teen Brain is Primed for Addiction](#) (expert panel discussion)