



**HELPLINE YOUTH COUNSELING, INC.**

# **SUBSTANCE USE 101**

**Lauren Graziani, MA**  
Prevention Specialist

**Gabriela Morgado, MA**  
Prevention Specialist

**Jose Santiago, AMFT**  
DMC Clinician

**Abrianna Stubblefield, AMFT**  
DMC Clinician

*Celebrating 50 Years!*



# WHO WE ARE HELPLINE YOUTH COUNSELING

A 501(C)(3) ORGANIZATION THAT SEEKS TO  
ENHANCE WELL-BEING IN YOUTH AND THEIR  
FAMILIES THROUGH COUNSELING, EDUCATION  
AND UTILIZATION OF COMMUNITY RESOURCES.



@aodprevention\_hyc



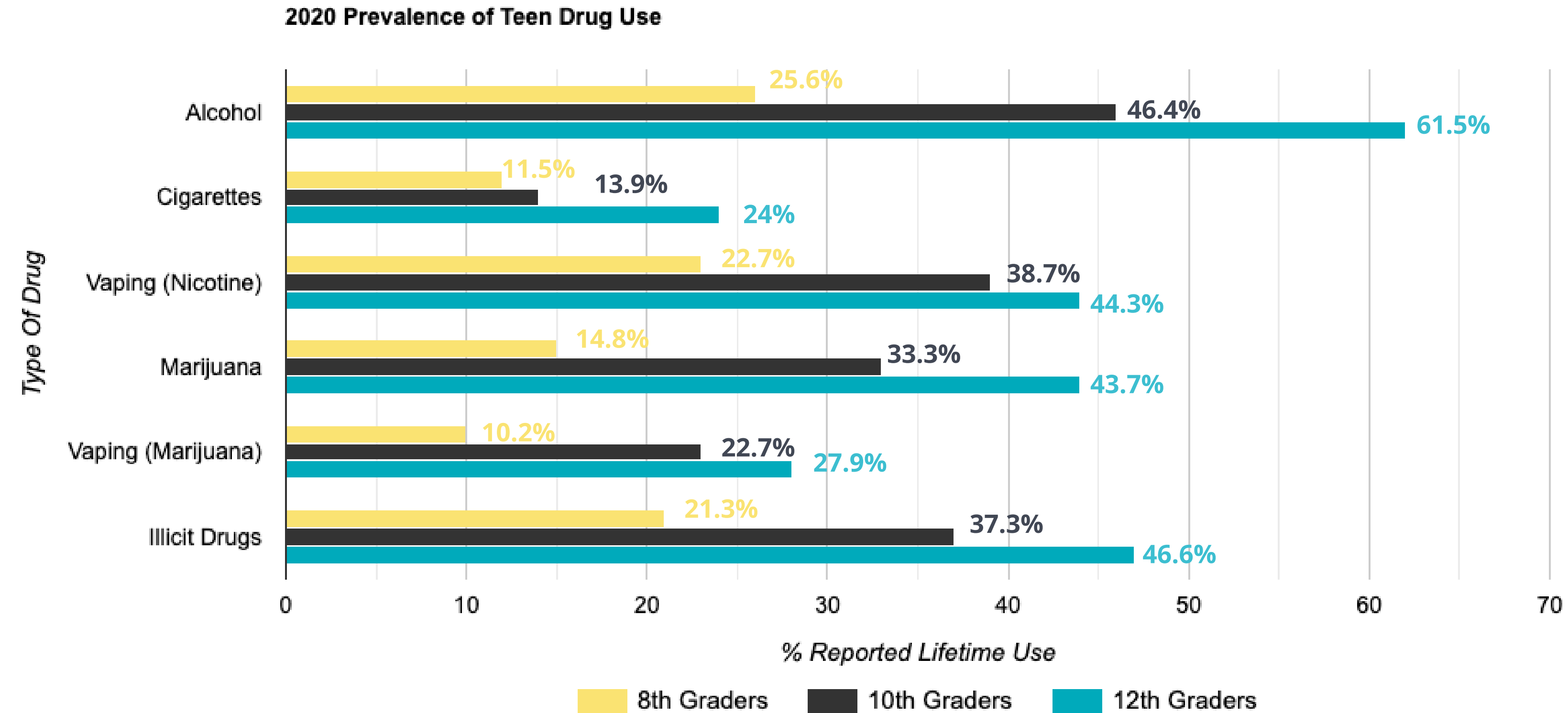


# What We Will Cover

- Prevalence of Drug Use
- Drugs & Neurotransmitters
- E-cigs/Vaping
- Marijuana
- Alcohol
- Methamphetamine
- Cocaine
- Prescription Drugs
- Signs of Drug Use
- Recovery

Methamphetamine is a strong (CNS) stimulant that is mainly used as a recreational drug and secondarily as a prescription stimulant.

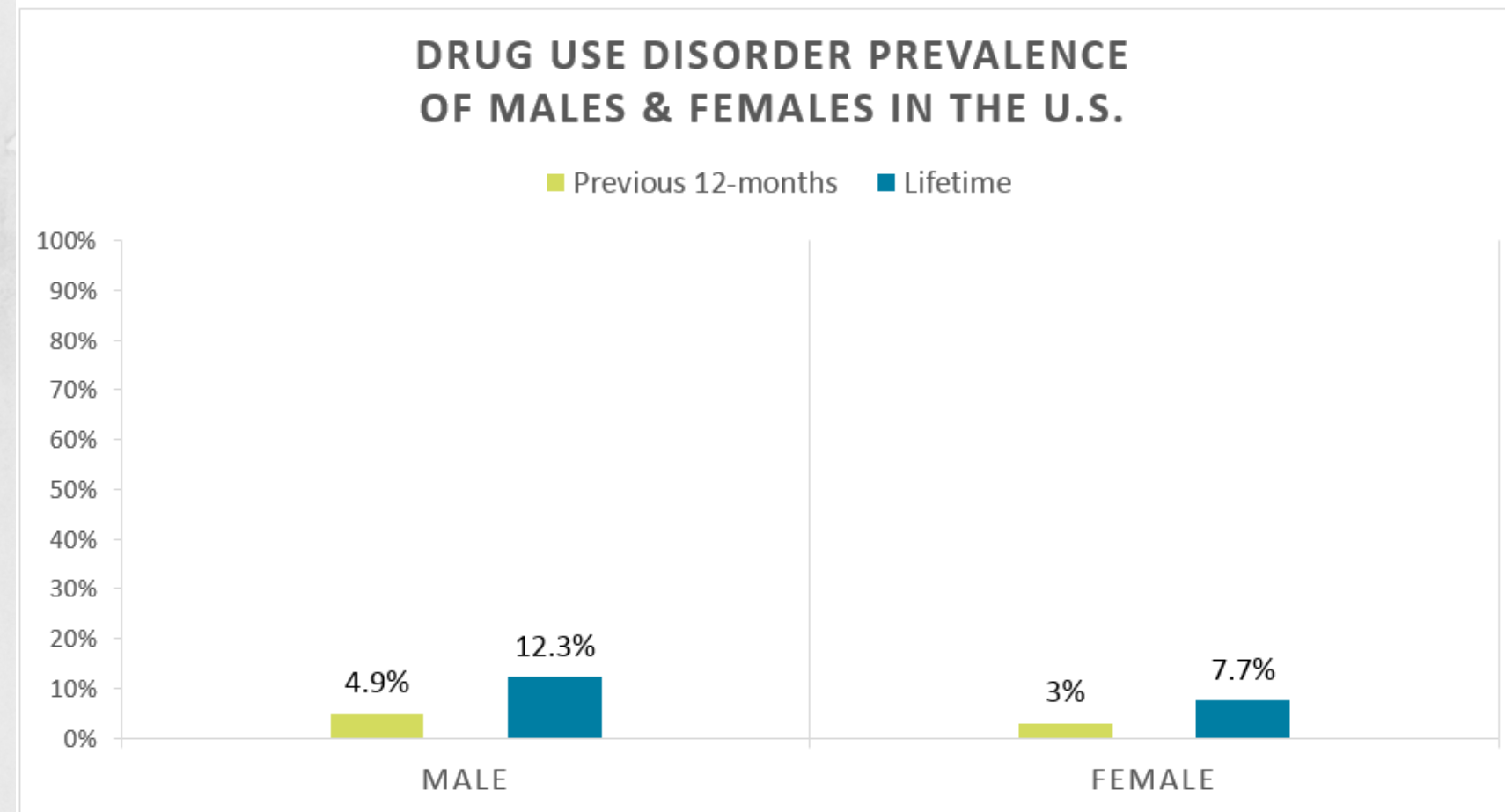
# 2020 Prevalence of Teen Drug Use





# Prevalence of Adult Drug Use

- Over the course of their entire lives, 29.1% of U.S. adults (18 and older) have met criteria for an alcohol use disorder.
- 9.9% met criteria for another drug use disorder (e.g., opioid, cocaine, or marijuana use disorder).
- In the past 12 months only - 13.9% of U.S. adults met criteria for an alcohol use disorder, and 3.9% for another drug use disorder.
- Males are also about twice as likely to meet criteria for a drug use disorder other than alcohol in the past 12 months and over the course of their lives compared to females.



Grant, B. F., Goldstein, R. B., Saha, T. D., Chou, S. P., Jung, J., Zhang, H., . . . Hasin, D. S. (2015).





# Drugs & Neurotransmitters

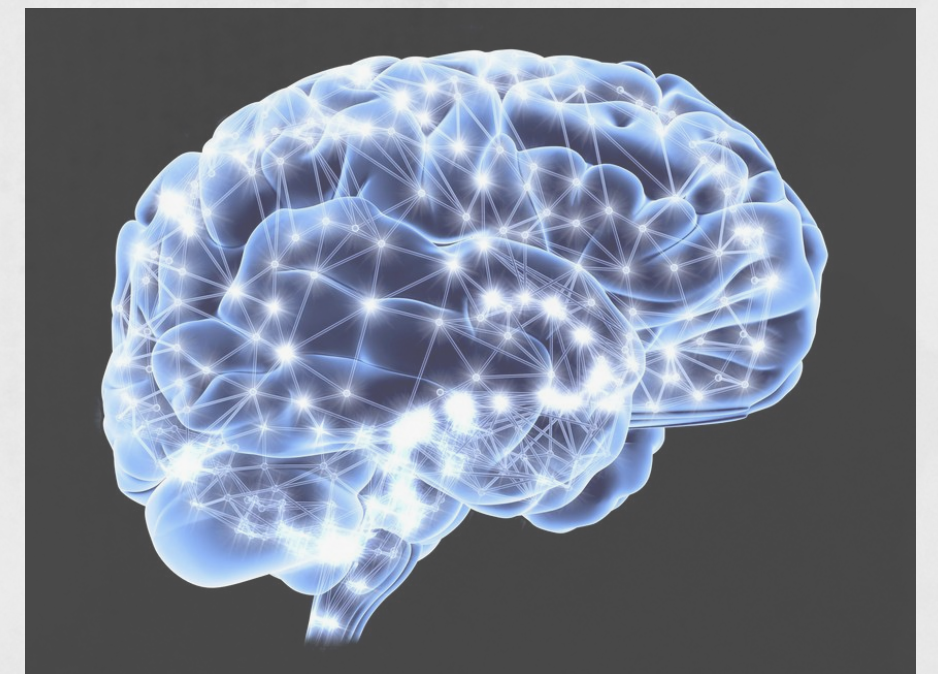


# Neurotransmitters

Our brain naturally produces chemicals called neurotransmitters that affect a wide variety of both physical and psychological functions including heart rate, sleep, appetite, mood, and fear.

## Drugs & Neurotransmitters

|                                                                                                                              |                                                                                                                                                                              |                                                                                                                                                |                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SERATONIN</b><br>MOOD <ul style="list-style-type: none"><li>• MDMA (ecstasy)</li><li>• LSD</li><li>• Cocaine</li></ul>    | <b>DOPAMINE</b><br>PLEASURE <ul style="list-style-type: none"><li>• Cocaine</li><li>• Methamphetamine</li><li>• Amphetamine</li><li>• Virtually all drugs of abuse</li></ul> | <b>ADRENALINE</b><br>FIGHT OR FLIGHT <ul style="list-style-type: none"><li>• Cocaine</li><li>• Methamphetamine</li><li>• Amphetamine</li></ul> | <b>NORADRENALINE</b><br>CONCENTRATION <ul style="list-style-type: none"><li>• Cocaine</li><li>• <b>Methamphetamine</b></li><li>• Amphetamine</li></ul> |
| <b>GABA</b><br>CALMING <ul style="list-style-type: none"><li>• Sedatives</li><li>• Tranquilizers</li><li>• Alcohol</li></ul> | <b>ACETYLCHOLINE</b><br>LEARNING <ul style="list-style-type: none"><li>• Nicotine</li></ul>                                                                                  | <b>GLUTAMINE</b><br>MEMORY <ul style="list-style-type: none"><li>• Ketamine</li><li>• Phencyclidin</li><li>• Alcohol</li></ul>                 | <b>ENDORPHINS</b><br>EUPHORIA <ul style="list-style-type: none"><li>• Heroin</li><li>• Morphine</li><li>• Prescription pain relievers</li></ul>        |





# How Does Dopamine Reinforce Drug Use?

Drugs, produce large surges of dopamine, reinforcing the connection between consumption of the drug, the resulting pleasure, and all the external cues linked to the experience.



**These surges  
"teach" the brain to  
seek drugs  
at the expense of  
other,  
healthier goals and  
activities.**



Cues in a person's environment that have become linked with drug use can trigger uncontrollable cravings whenever the person is exposed to these cues.



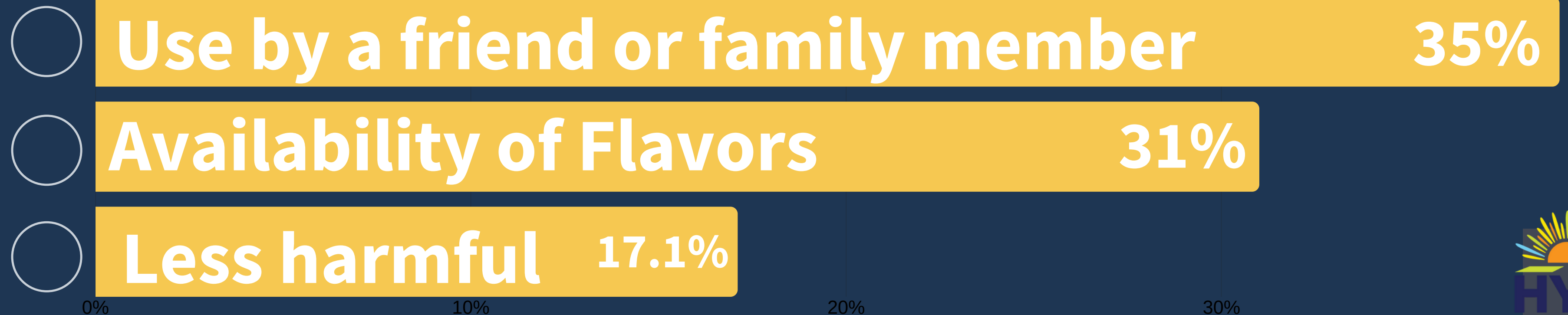


Vaping



# Vaping

- Inhaling aerosols produced by vaporizing e-liquids and e-cigs through battery-operated devices that can contain nicotine, THC and other harmful chemicals.
- They can resemble cigarettes, cigars, pipes or even everyday objects like pens or USB memory sticks. Other devices, such as those with fillable tanks, may look different.





# DRUG PARAPHERNALIA (VAPING)

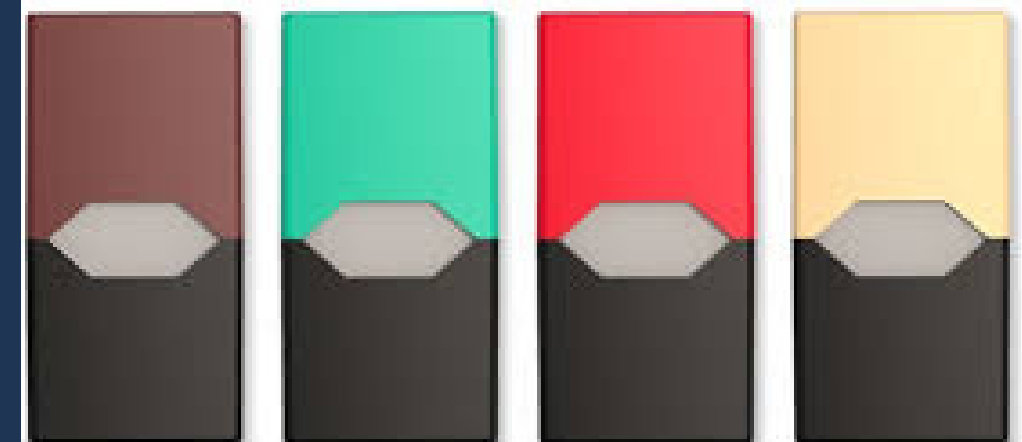
## VAPING DEVICES



## PUFF BAR



## JUUL

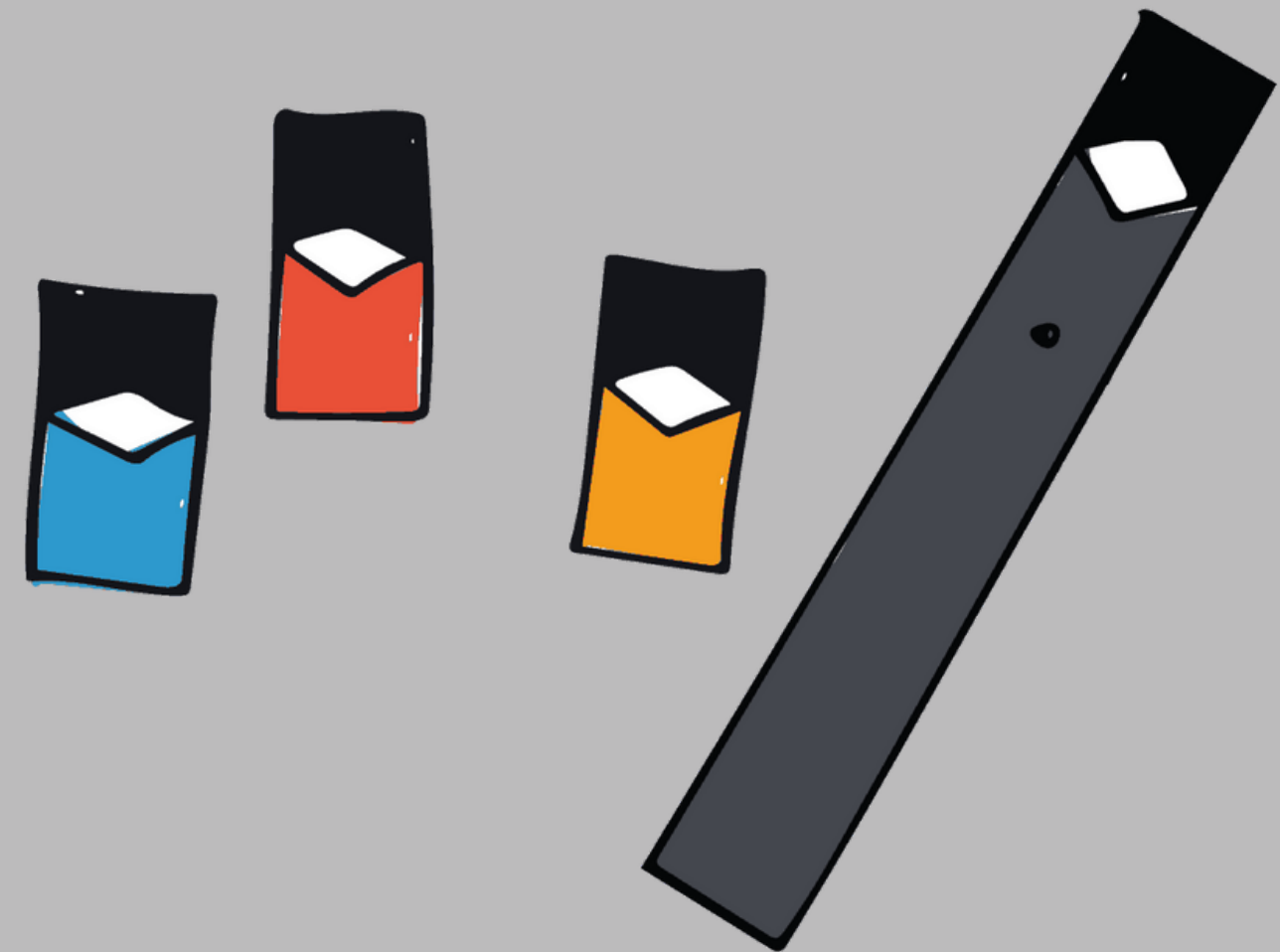




# 1 JUUL POD = 1 PACK OF CIGARETTES



**Typical e-liquids contain  
between 6mg - 60mg of nicotine**



**One 5% Juul pod  
contains 50mg of Nicotine Salts**

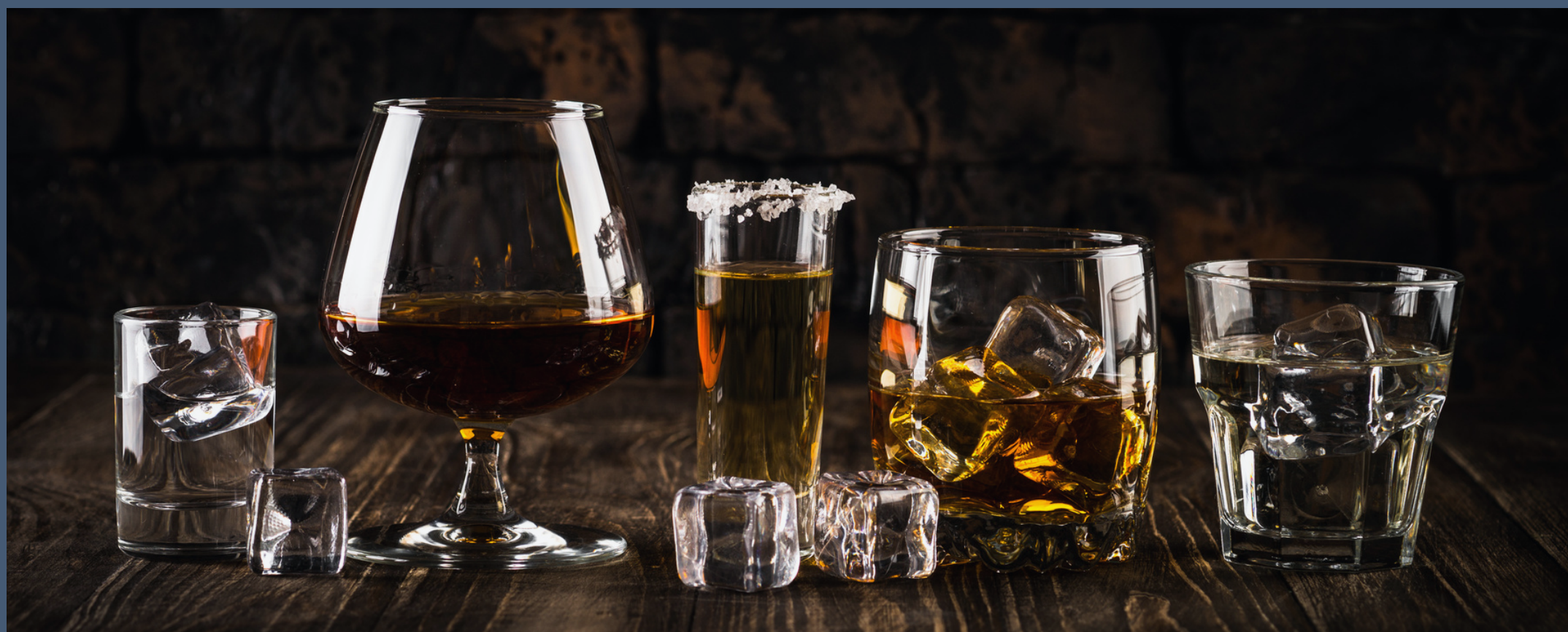




# Nicotine Addiction

- Nicotine is a **stimulant**
  - Increase heart rate and blood pressure
  - Decrease appetite
  - Activates dopamine receptors
- **Can be as addictive as heroin and cocaine**
  - Affects brain within 10 seconds of inhaling
  - Nicotine affects the part of the brain that is responsible for attention, memory, & learning
- **Nicotine sickness:** nausea, stomach pains, dizzy, headache and lack of energy





# Alcohol



# WHY DO PEOPLE DRINK?

- Cultural/Religious Beliefs
- Normalization in Society
- Changes in behavior
  - "Relax"
  - "Become more talkative"
- Self-Medication
  - Addiction
  - "Numb emotions"





# ALCOHOL USE PREVALENCE

In 2018, the NSDUH found that:

## **Prevalence of Drinking:**

- 30% of 15 year olds report they have had at least one drink in their lives.
- 55% of full-time college students between the ages of 18 and 22 had drank in the past month.

## **Prevalence of Binge Drinking:**

- 11% of people between the ages of 12 and 20 reported binged drinking in the last month.
- 36.9% of college students between the ages of 18 and 22 reported binge drinking in the last month.

## **Prevalence of Heavy Alcohol Use:**

- 2% of people between the ages of 12 and 20 reported heavy alcohol use in the past month.
- 9.6% of college students between the ages of 18 and 22 reported heavy alcohol use in the past month.

# WHAT IS ALCOHOL?

- Depressant: Slows down things the body does naturally
  - Ex. Central Nervous System
    - Controls all voluntary and involuntary movement
  - Ex. Brain Function
    - Frontal Lobe
      - Controls judgement, thinking & self-control





# EFFECTS OF ALCOHOL

## Short-Term Effects

- Slurred speech
- Drowsiness
- Vomiting
- Diarrhea
- Headaches
- Breathing difficulties
- Distorted vision and hearing
- Impaired judgment
- Decreased perception and coordination
- Unconsciousness
- Coma
- Blackouts (memory lapses, where the drinker cannot remember events that occurred while under the influence)

## Long-Term Effects

- Unintentional injuries such as car crash, falls, burns, drowning
- Intentional injuries such as firearm injuries, sexual assault, domestic violence
- Increased on-the-job injuries and loss of productivity
- Alcohol poisoning
- High blood pressure, stroke, and other heart-related diseases
- Liver disease
- Nerve damage
- Sexual problems
- Permanent damage to the brain
- Ulcers

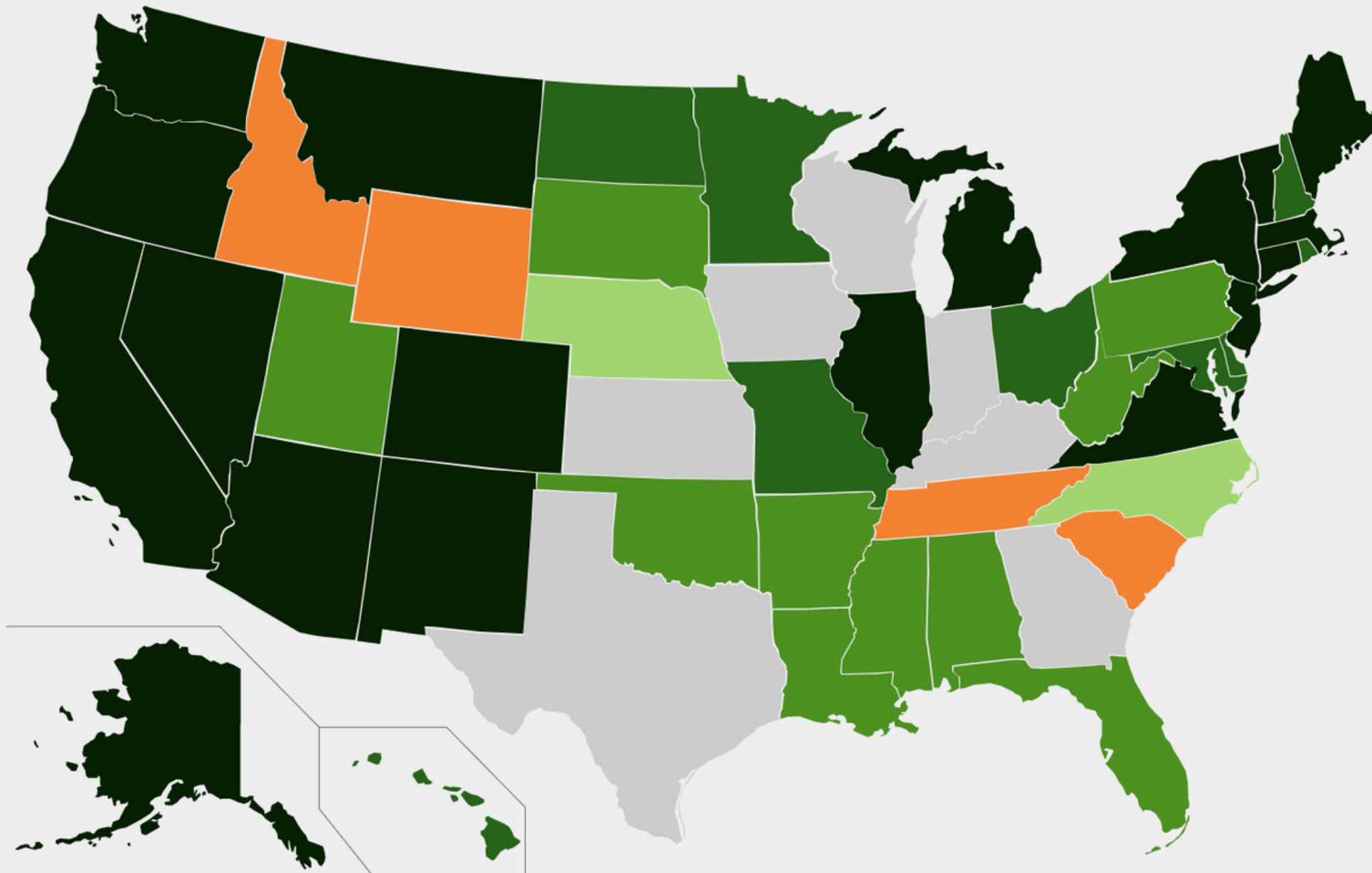


# Marijuana



## MEDICALLY LEGAL IN 36 STATES RECREATIONALLY LEGAL IN 18 STATES

● Legalized ● Medical and Decriminalized ● Medical ● Decriminalized  
● CBD Only ● Fully illegal



# LEGAL EXCEPTIONS

- Marijuana is still illegal under federal law.
- Undocumented people can be at risk for deportation if caught with marijuana.
- It is against the law to carry marijuana on school properties, and can be punishable by law and school policy.
- Each city has their own jurisdiction, meaning that they can allow or ban dispensaries, deliveries, and growing plants.



## WAX/OIL CONCENTRATE

Vape pens carry nicotine and flavor, it can also contain THC concentrate in the form of a wax or oil.

## CONCENTRATION

Back in the 70s, THC had a 4 to 5% level of concentration. Now, wax/oil concentrates and edibles contain much **higher concentration** (Up to 90% THC).



## WHAT DOES THIS MEAN?

Weed pens/vapes **don't leave a smell**, and only a few puffs are needed to feel the effects making **overdose** a high possibility.



# EDIBLES

## Effect Time

Digesting THC in an edible form can take 30 minutes to three hours to feel effects. Only a small amount needs to be taken to prevent overdose.

## Strength

Packaging should state the concentration of THC used, however, the process of mixing ingredients can cause different strengths within the edible.



## Symptoms

- Intense feeling of mindlessness
- Intense feeling of paranoia or panic
- Altered perception of time and body movement

## Appearance

Edibles are extremely similar to everyday desserts and candy. Dangers of this include accidental overdose in someone who is unaware of a product containing THC.

# Dependence

Physical dependence can occur with chronic use of any substance & is characterized by symptoms of tolerance & withdrawal. The body will require a higher dose of the medication to feel the same effects as the first-time & if use is stopped withdrawal symptoms will kick in.



# Addiction

A physical & mental need to use a substance regardless of consequences. Characterized by compulsive drug seeking, disregard for responsibilities, & long-lasting changes in the brain. Often considered a brain disorder, & a mental illness. About 1 in 6 teens who repeatedly use marijuana can become addicted.





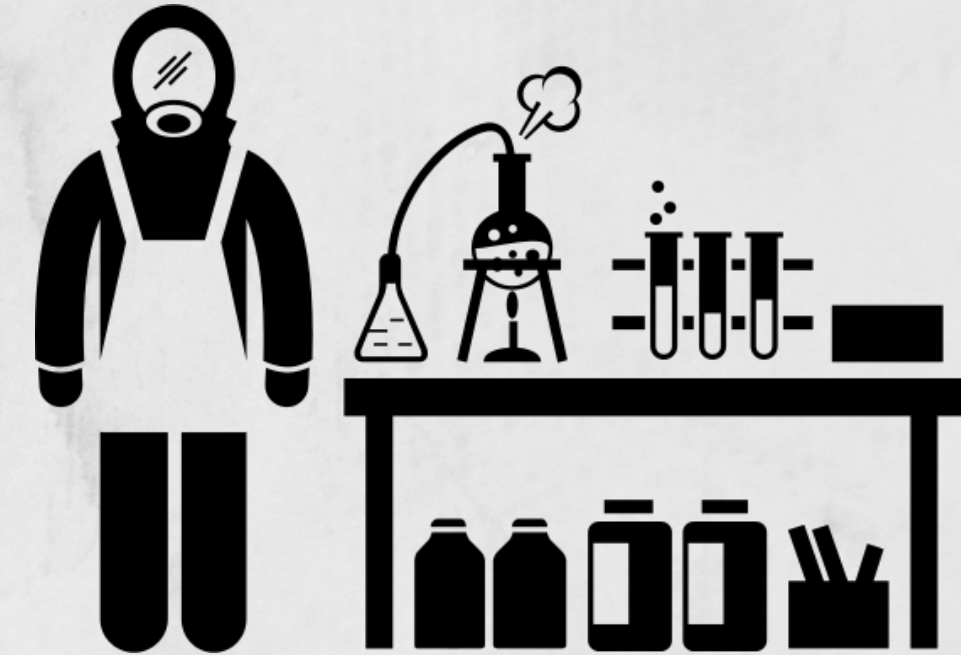
**METHAMPHETAMINE**

# What is it?



## Stimulant

- Increases activity in the Central Nervous System
- Powerful, highly addictive
- Produces large surges of Dopamine and norepinephrine
- Chemically similar to amphetamine (Used to treat ADHD & Narcolepsy)



## Synthetic Drug

- Synthetic Drug: Created using man-made chemicals rather than natural ingredients (Ecstasy, LSD, K2/Spice)
- Looks like white powder or glass fragments, shiny bluish-white or clear rock
- Nicknames: Blue, Crystal, Ice, Meth, Speed
- Cooking these chemicals can cause toxic fumes and explosions



# METHAMPHETAMINE ADDICTION



- **Crystal meth's effect is highly concentrated, and many users report getting hooked (addicted) from the first time they use it.**
- **People using the drug can develop a tolerance quickly, needing higher amount to get high, and going on longer binges.**
  - **Some people avoid sleep for three to 15 days while binging.**



# HOW IS IT CONSUMED?

## SMOKING

- Smoking methamphetamine puts the drug very quickly into the bloodstream and the brain
- Most common way of use

## INJECTING

- The powdered form of methamphetamine can be injected into the bloodstream (after being dissolved).

## SNORTING

- Snorting methamphetamine in powder form
- Snorting powder is often done by new users

## SWALLOWING (PILL)

- Users can still take methamphetamine by a manufactured pills or homemade pills

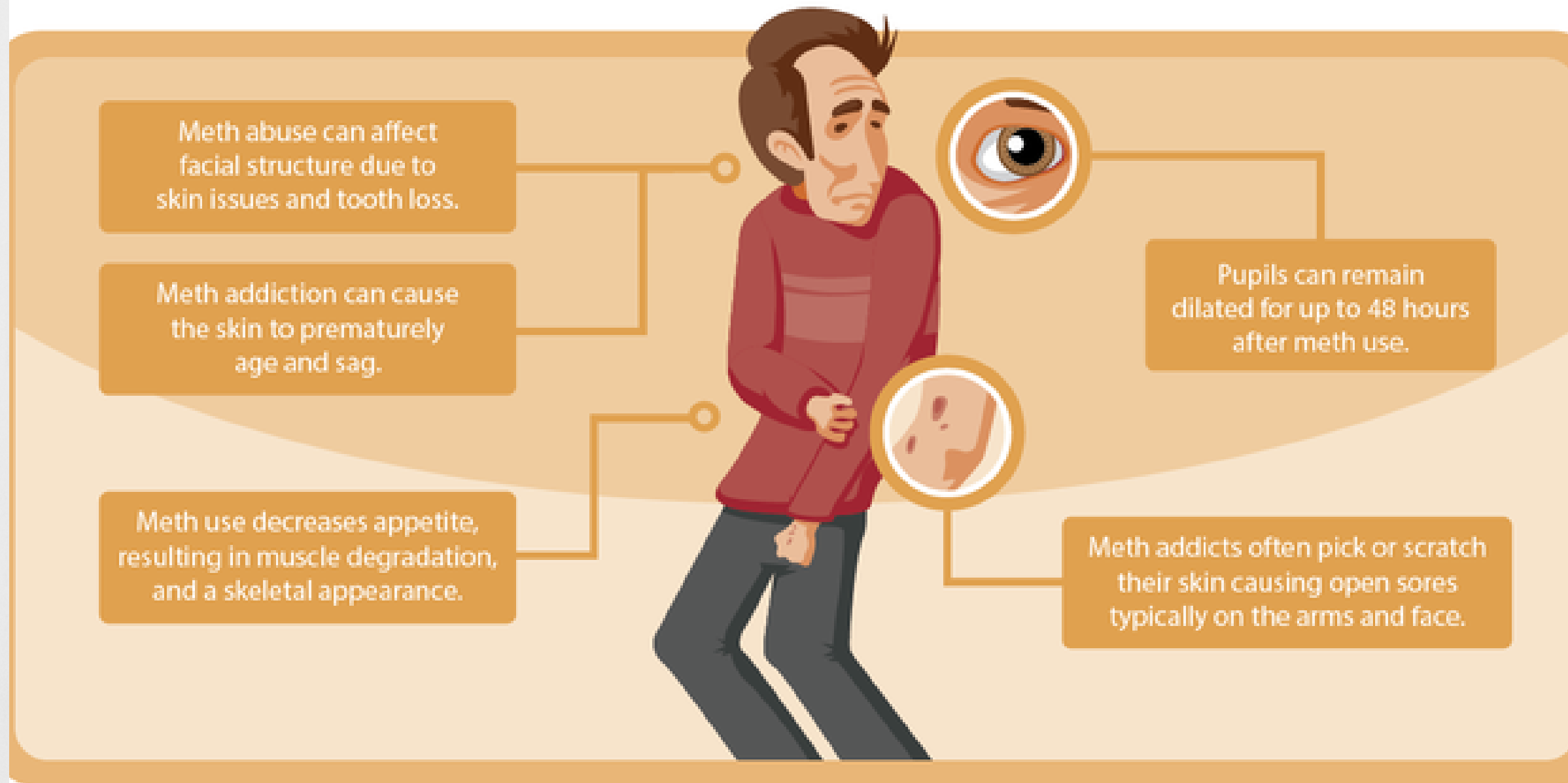


# SIGNS OF METHAMPHETAMINE USE



# Methamphetamine

## HOW METHAMPHETAMINE USE AFFECTS YOUR LOOKS



## PHYSICAL EFFECTS

- Facial Structure
- Dilated Pupils
- Pick/Scratching of skin
- Saggy skin
- Muscle degradation