Prevention Starts Here: Addressing Youth Substance Use in School Based Health

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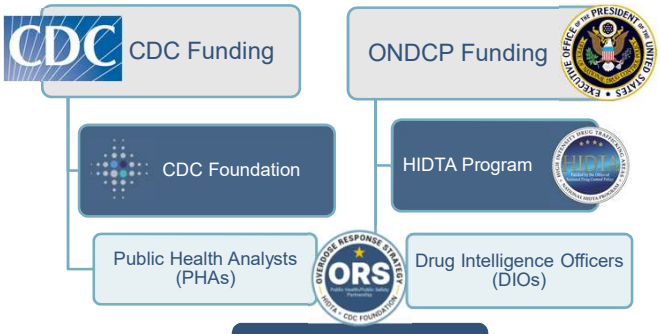
Overdose Response Strategy

About the ORS

The ORS is a nationally coordinated, cross-sector collaboration between public health and public safety.

The mission of the ORS is to **help communities reduce fatal and non-fatal drug overdoses** by connecting public health and public safety agencies, sharing information and supporting evidence-based interventions.



The ORS is implemented by 61 teams of DIOs and PHAs covering all 50 states, D.C., Puerto Rico, and the U.S. Virgin Islands.

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Overdose Response Strategy

Program Goals

1. **Share data systems** to inform rapid and effective community overdose prevention efforts
2. Support immediate, **evidence-based response** efforts that can directly reduce overdose deaths
3. Design and use promising strategies at the **intersection of public health and public safety**
4. Support the implementation of **evidence-informed prevention strategies** that can reduce substance use and overdose

Visit us at ORSprogram.org!

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Understanding Addiction

The Science of Addiction, Adolescent Brain Development and Risk and Protective Factors

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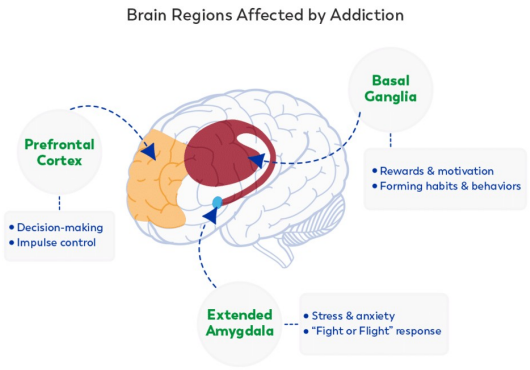
What Is Addiction?

Definition and Key Concepts

- Addiction is a chronic brain disease, not a moral failing or lack of willpower.
- It affects how people think, feel, and act, particularly around substances or behaviors.
- Over time, addiction changes brain structure and function, especially in areas responsible for decision-making, judgment, and impulse control.

Common Substances Involved:

- Opioids, alcohol, methamphetamine, cocaine, prescription medications, cannabis, and synthetic drugs.



Pathways to Addiction

Neural pathways are changed due to genetics, environment and developmental factors:

- Genetics– account for approx. half of an individual's vulnerability
- Environment – social environments; culture, neighborhood, school, peer groups
- Developmental – Life stages and brain development; periods of transition and brain maturation

There is no single path to addiction

The Developing Brain and Addiction Risk

- Adolescence is a crucial period of brain development and maturation.
- The brain undergoes significant structural and functional changes, including synaptic pruning and myelination, impacting various cognitive and behavioral aspects.
- These developmental changes can influence risk-taking behavior and vulnerability to substance abuse.
- Adolescent brains are more vulnerable to the effects of substances compared to adult brains.

Rutherford, H. J., et al (2010)

Typical Adolescent Development

- Physical Development
- Cognitive Development
- Social Development
- Emotional Development

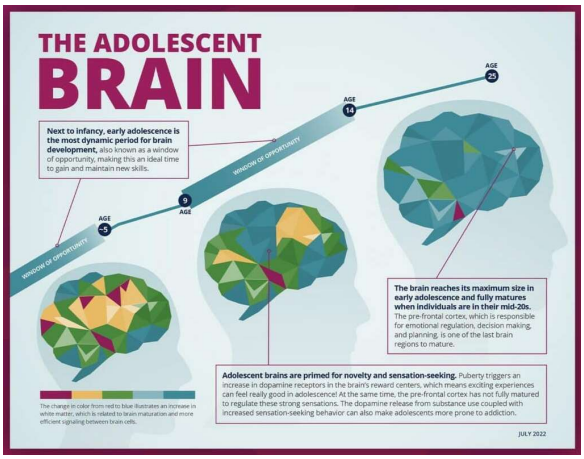
(Casey, B.J. et al 2008)(Spear, L.P. 2013)

Synaptic Pruning – Sculpting the Brain

- The brain engages in a process similar to “pruning,” eliminating unused neural connections to increase efficiency.
- This process, which intensifies during adolescence, refines neural circuits and specializes certain brain areas.
- Synaptic pruning allows adolescents to develop specialized neural networks and improve cognitive processing.

(Casey, B.J. et al 2008)(Spear, L.P. 2013)

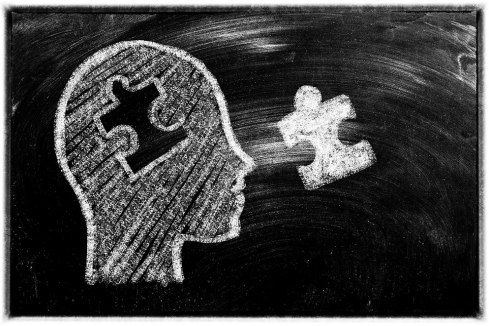
Brain Development and Risk



- The adolescent brain develops unevenly, with parts of the limbic system (involved in emotions and reward-seeking) maturing before the prefrontal cortex (responsible for judgement and impulse control).
- The imbalance can lead to increased risk-taking behaviors, including substance experimentation.
- Delayed drug use onset is crucial, as the prefrontal cortex continues to develop into the mid-20’s.

(Arain, M. et al 2013)(Guerri, C. & Pascual. M 2010)(Casey, B.J. et al 2008)(Hamiduallah, S. 2020)(RTI International Infographics, n.d.)

To Prevent: Delay, Delay, Delay!



- Introducing substances to the brain during this time can **change** the way the brain responds
- Studies show that the earlier youth try alcohol, nicotine, marijuana or other drugs the more likely they are to develop a substance use disorder.
- 90% of Americans with a SUD began using a substance before the age of 18.
- If a young person waits until they are 21 to use a substance, they are 90% less likely to develop an SUD.

(Partnership to End Addiction)

To Prevent: Delay, Delay, Delay!

- People who begin drinking alcohol before the age of 14–15 have a far higher lifetime risk of alcohol dependence, about 47% if they start before 14, versus ~9% if they wait until 21.
- The U.S. Surgeon General reports that nearly 70% of youth who first try an illicit drug before age 13 develop a substance use disorder within the next 7 years, compared with 27% of those whose first use is after age 17.

(NIAAA, 2006; Surgeon General, 2016)

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Hijacking Brain Reward Systems

- Drugs of abuse exploit the brain's natural reward system, particularly the nucleus accumbens, by modulating dopamine signaling.
- Many studies have shown that neurons that release dopamine are activated, either directly or indirectly, by all addictive substances, but particularly by stimulants such as cocaine, amphetamines, and nicotine.
- This leads to a sense of euphoria, which reinforces drug use and increases the likelihood of repeated use.
- Over time, chronic drug use can alter brain chemistry, potentially leading to neuroadaptation, where the brain attempts to normalize function in the continued presence of the drug.

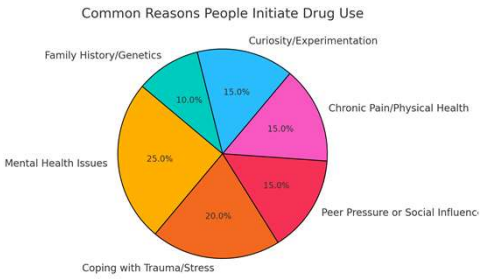
(Surgeon General, 2016)

Why Do People Use Drugs?

Common Reasons:

- Relief from pain (physical or emotional)
- Mental health challenges (depression, trauma, anxiety, PTSD)
- Stress, poverty, or lack of support
- Peer pressure or early exposure
- Genetics and family history

Most people don't plan to become addicted. Use often starts as a coping tool or social behavior.

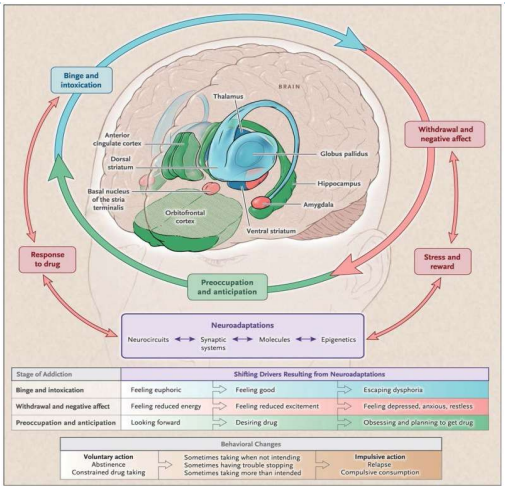


The Cycle of Addiction

The Four Key Stages:

- **Trigger** – Stress, trauma, emotions, or environments spark cravings
- **Use** – Substance is used to cope or escape
- **Temporary Relief** – Short-term comfort or high
- **Negative Consequences** – Legal issues, health problems, shame
  - Which leads to more triggers and starts the cycle again

Over time, tolerance builds, and more of the substance is needed to feel relief.

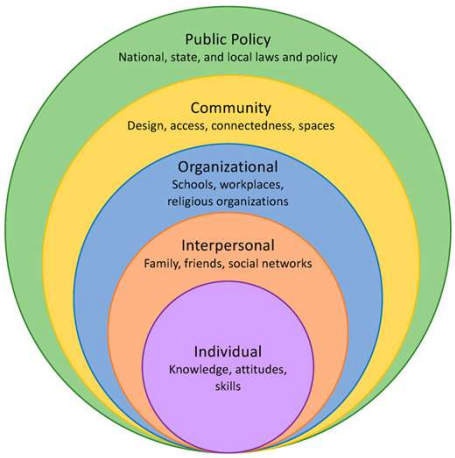


Trauma and Mental Health

- Chronic exposure to stress and trauma in childhood disrupts normal neurodevelopment.
- Persistent high levels of the stress hormone cortisol impair brain regions responsible for executive function, impulse control and emotional regulations (specifically the prefrontal cortex, hippocampus and amygdala).
- Coping mechanisms leads to difficulties in self-soothing and managing emotions.
  - Substance use often begins as a maladaptive coping mechanism or form of self-medication to numb emotional pain resulting from the neurobiological impact of trauma.

(Murphy et al., 2022) (Hoffmann & Hoffmann, 2025)

Environment Influences Youth Choices



- Substance use is influenced by surrounding context, not just personal choice.
- Environmental factors:
  - Social and retail access
  - Norms: perceived acceptability
  - Opportunity: presence of positive engagement an supportive environments

Risk and Protective Factors

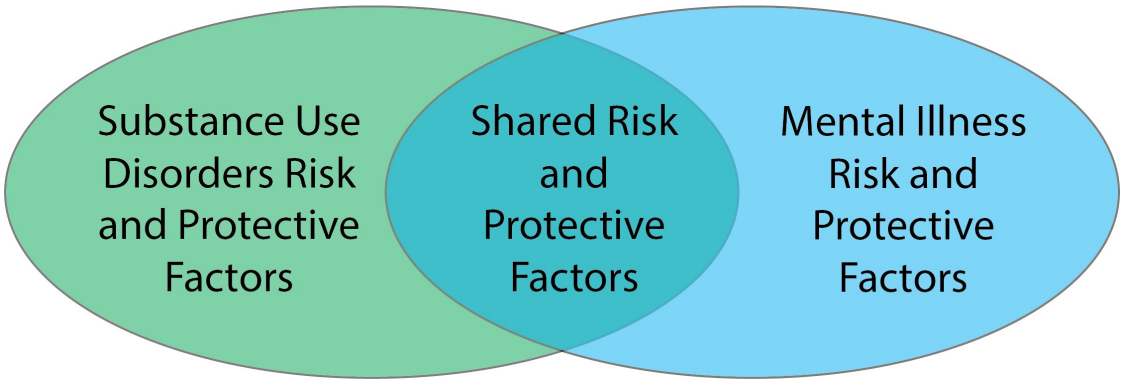


Chart by Substance Abuse and Mental Health Services Administration, Risk and Protective Factors, Public Domain

For every risk factor, there is a protective factor to counter-balance it. Prevention focuses on strengthening the protective factors that we can control to decrease the likelihood that a person or community will struggle with addiction.

Early Intervention is Key in Adolescence

Early intervention strategies, such as therapy, behavioral interventions, family therapy, and support groups, aim to strengthen protective factors and reduce the impact of risk factors. By addressing challenges early, interventions can help adolescents build coping skills, improve resilience, and manage emotions before problems escalate, thereby enhancing their overall development and future outcomes.

Opportunity for intervention during adolescence (Created by author using AI-generated graphic, 2025).

Mental Health and Substance Use Trends

Mental Health Trends Among Youth

- In the 2021 Connecticut School Health Survey, 35.6% of Connecticut high school students reported feeling sad or hopeless almost every day for two weeks or more.
- Also from the 2021 survey: 14.1% of students in grades 9-12 said they *seriously considered attempting suicide* during the previous 12 months.
- About 20.4% of adolescents age 12-17 reported a major depressive episode in the past year.
- From the Cigna Evernorth Research Institute data: the number of young people in Connecticut with *two or more mental health diagnoses* increased by 24% from 2018 to 2022.

(CSHS, 2022) (CSDE, 2023) (Connecticut Prevention Portal, 2022) (NEPM, 2024)

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Youth Substance Use Rates

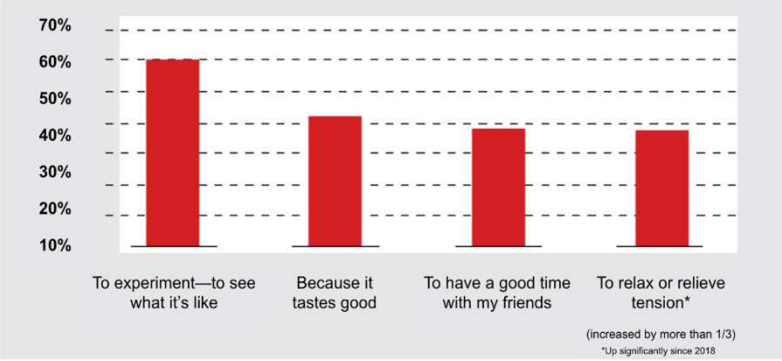
- Alcohol is by far the most commonly abused substance among teens and young adults. In 2024, 41.7% of 12th graders reported use of alcohol in the past year.
- Marijuana is the most common illicit drug used by youth. 61.3% of current adolescent marijuana users consume it via vaping.
- Nicotine vaping rates are ~6% (12-17) but 21% for 12th graders.
- Adolescents with a past-year major depressive episode (MDE) are significantly more likely to use illicit drugs (28.4%) than those without an MDE (11.6%).

National Institute on Drug Abuse (NIDA) Monitoring the Future Survey, Substance Abuse and Mental Health Services Administration (SAMHSA) National Survey on Drug Use and Health (NSDUH), and Centers for Disease Control and Prevention (CDC) Youth Risk Behavior Survey (YRBS).

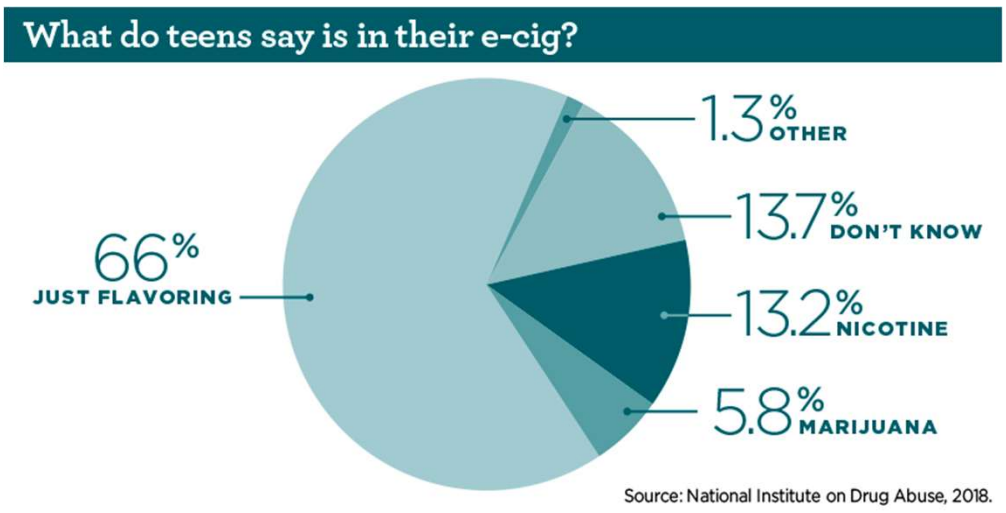
Why do Teens Vape?

Teens often vape because vapes come in fun flavors, have sleek enticing packaging and can be charged in a USB port.

Teens have been led to believe that vapes are much less harmful than cigarettes.



(Catch My Breathe Presentation)



Risks Associated With Vaping THC

- Increased risk of addiction
- Early onset and/or increase in mental health issues
- Impaired cognitive functions
- Risk of vaping-related lung injury
- Altered perception and coordination

Risks Associated With Vaping Nicotine

- Increased risk of addiction
- Impacts on brain development
- Increase in mental health issues
- Increased risk for respiratory problems
- Impact on physical health and development
- Increase in using other substances, such as various nicotine products, alcohol and illicit substances

Other Effects from Vaping Nicotine

- Behavior changes: Irritability, anxiety, prone to mood change, lack of impulse control
- Difficulty concentrating: Cognitive and performance impairment leading to poor grades
- Changes in eating patterns
- Mouth sores, dry mouth, and frequent nosebleeds

Transition of Products

Oral nicotine pouches include brands such as Zyn, On! and Velo have gained popularity in recent years.

- Higher concentration of nicotine (8mg)
- Easy to conceal looks like mints
- Mint flavored

Navigating Risks

Desensitization to Drug Prevention Messages: Many adolescents and youth have been exposed to a variety of drug prevention messaging and education from a young age (like the TRUTH campaign, D.A.R.E. program, One Pill Can Kill campaign), which can lead to desensitization. They might perceive these messages as repetitive or irrelevant, making it challenging to engage them effectively.

Misinformation and Glamorization on Social Media: Social media can spread misinformation about drug use, sometimes even glamorizing it. Young people are heavily influenced by online content, which causes favorable attitudes and countering these pervasive and often subtle messages can be challenging.

Access and Availability: The ease of obtaining drugs can undermine prevention efforts. When these drugs are readily available in a community, the risk of youth experimentation and regular use increases, despite awareness of the potential dangers.

(BMC Public Health)(Hashemi et al, 2024)(Klobucista, 2021)(U.S. Dept of State)(HHS, 2022)

Youth Prevention and Harm Reduction Strategies

Partnering with Parents for Prevention

- Parents are the strongest protective factor
- Consistent communication reduces risk behaviors
- Frame collaborations as supporting their child's wellness, not correcting behavior
- Encourage empathy: most parents feel guilt, fear or shame when they hear about possible substance use or mental health challenges; validate those feelings first

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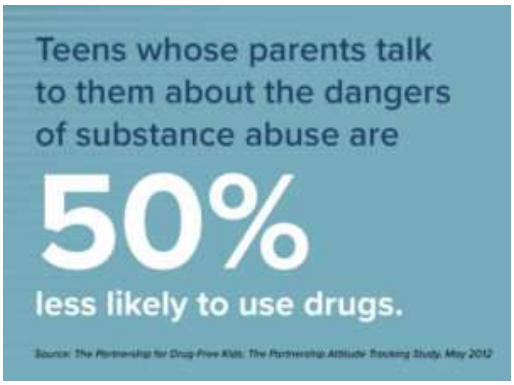
Talking Tips for Parents/Caregivers



Partnering with Your School Team

- Integrate prevention and early-intervention into existing school systems.
- Collaborate with teachers, counselors, and administrators on shared goals.
- Create clear communication loops between SBHC staff and student support teams.
- Promote a consistent, stigma-free message across hallways and the health center.

Partnering with Community Organizations

- Connect with local prevention councils/coalitions, youth service bureaus and treatment providers.
- Share data trends and coordinate consistent messaging on youth substance use and mental health.
- Utilize community partners for education, parent nights and resource distribution.
- Establish warm referral pathways between the SBHC and community supports.

Creating a Wellness Corner in Your SBHC

- Offer quick coping tools: grounding exercises, coloring sheets, fidget tools, music, sensory cards, etc.
- Display mental health and prevention materials: stress management, sleep hygiene, vaping facts, local supports, etc.
- Rotate seasonal wellness themes and have a resource wall/bulletin board
- Include anonymous reflection prompts and resource request cards
- Promote through classrooms, advisory periods and school announcements

School as an Environmental Influencer

- Schools can reduce availability and acceptability of substances.
- Examples:
  - Social norms campaigns and education
  - Positive school climate and relationships
  - Safe space, after-school programs
  - “Warm climate” interventions: belonging, connection, and mentorship.
  - Peer leadership and youth voice initiatives.
  - Coalition collaboration

What are environmental risk and protective factors in your school right now?

Building Trauma-Informed School Health Practices

- **Predictability, safety, empowerment, and collaboration**
  - Structure SBHC routines and communication so students know what to expect; build trust through consistent, calm interactions.
- **Avoid re-traumatization through language and tone**
  - Use neutral, compassionate phrasing; avoid authoritative or shaming language (“Why did you do that?” → “Can you tell me what was happening for you?”).
- **Encourage student agency and choice**
  - Let students help decide next steps or coping tools — even small choices restore a sense of control and safety.

Using Screening Tools

- Mental Health and Trauma
  - Patient Health Questionnaire (PHQ-9 or PHQ-A)
  - Generalized Anxiety Disorder (GAD-7)
  - Adverse Childhood Experiences (ACES)
  - Columbia Suicide Severity Rating Scale (C-SSRS)
- Substance Use
  - CRAFFT 2.1 (gold standard)
  - ASSIST
  - Screening to Brief Intervention (S2BI)
  - ASBIRT

What is SBIRT?

- S = Screening (CRAFFT 2.1, PHQ-9)
- BI = 5–10 min motivational interviewing
- RT = Warm handoff/referral

Sample Conversation Prompts:

- “Tell me about what you’ve heard about vaping.”
- “How does that help you when you’re stressed?”
- “What do you like about it? What don’t you like?”

Statewide Campaign Materials

- 21 for a Reason
  - www.seracct.org/21-for-a-reason/
- You Think You Know
  - www.YouThinkYouKnowCT.org
- Lets Mention Prevention
- Know Ur Vape
- Change the Script
- Live LOUD
  - www.DrugFreeCT.org
- NORA App
  - egov.ct.gov/norasaves/

Prevention and Education Tools

- Stanford Cannabis Awareness & Prevention Toolkit
- Stanford Cannabis: Decoded Campaign
- T-Break (University of Vermont)
- Quit Cannabis App

Cessation Resources

Commit to Quit

DPH sponsors a statewide tobacco use cessation telephone quitline:

1-800-QUIT-NOW or via COMMITTOQUITCT.COM

Truth Initiative

Prevention messages are aired across television and digital platforms targeted to youth and young adults, ages 15-24. The messages describe the harms associated with smoking and nicotine vaping.

SmokeFree

US Department of Health and Human Services website with customized FREE online resources for when teens, veterans, seniors, and Spanish language resources.

Become an EX

Online software that allows you to create a customized quitting plan that grows and learns as with you.

Thank you!

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