THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

Understanding Substance Use Disorder

Adolescent Substance Use

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Brain Development

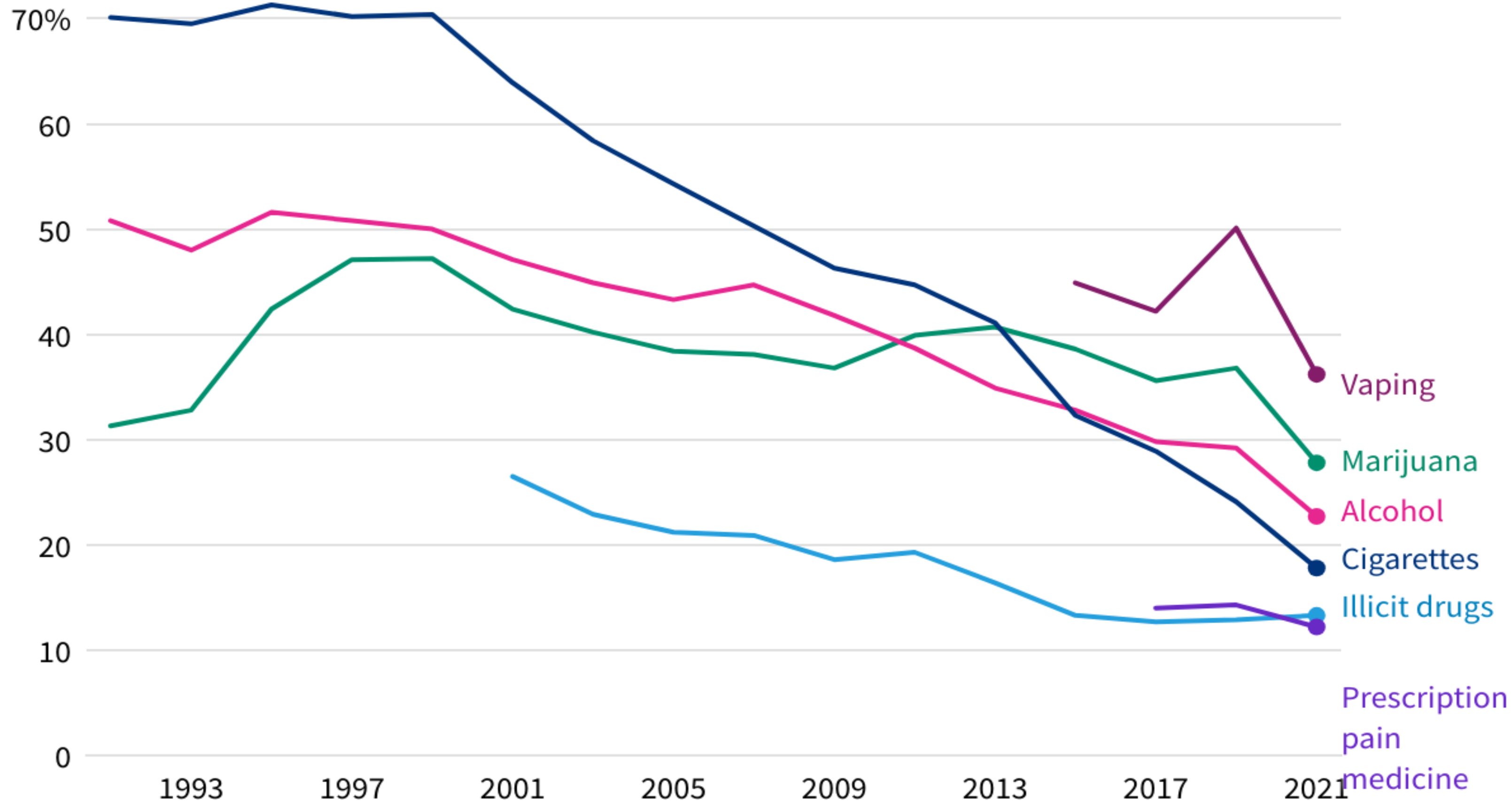
- Changes in dopaminergic activity
- Cognitive control system still developing

Majority of high school students engage in some form of substance use

- 50.1% e-cigarette
- 47% alcohol
- 27.8% cannabis
- 24.1% cigarettes
- 12.2% Rx opioid
- 8.1% inhalants
- 6.5% synthetic marijuana
- 2.9% ecstasy
- 2.5% cocaine
- <2% meth, heroin, IV drug use

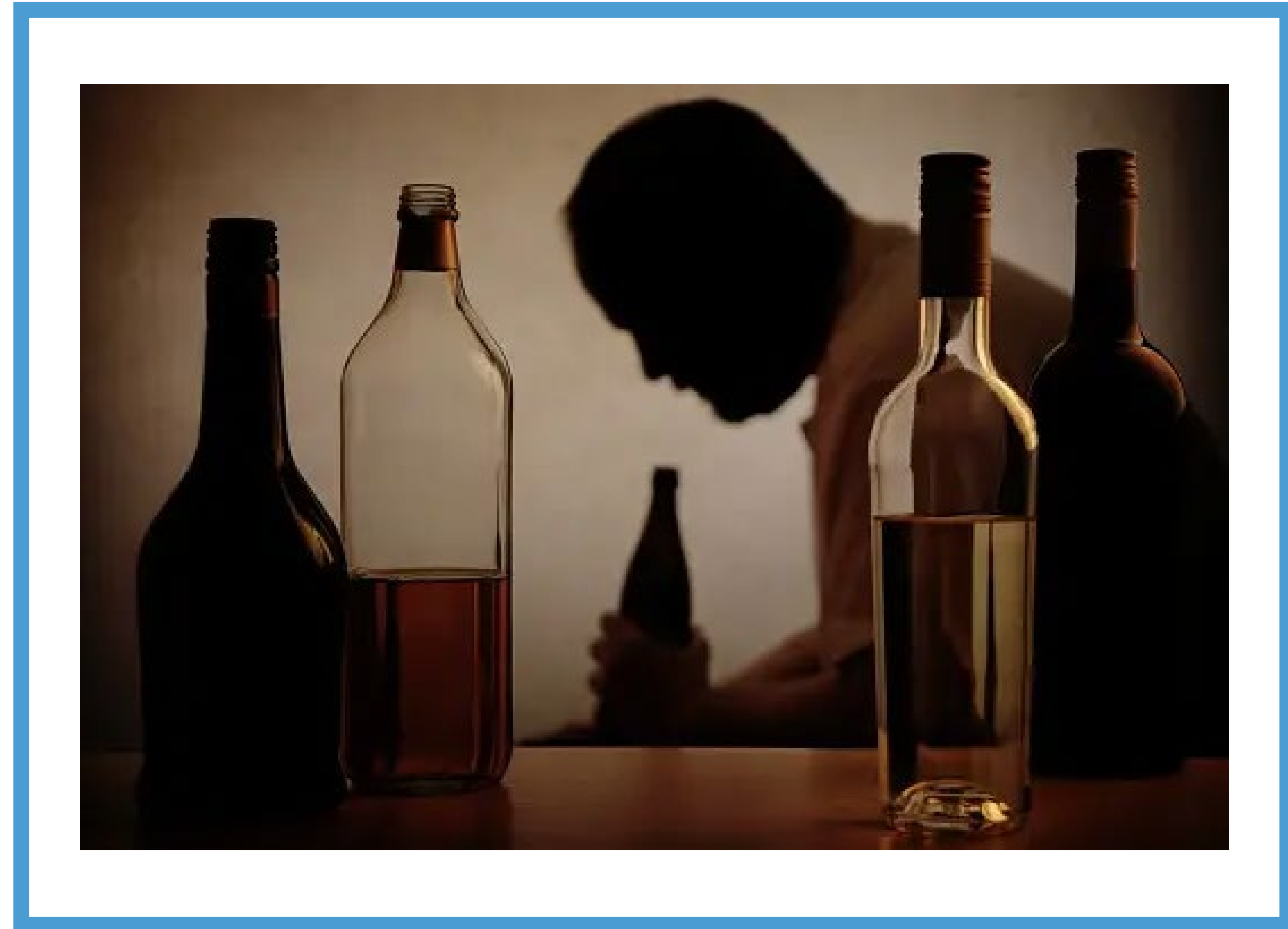
- Past Month:
- 11.3% e-cigarette
- 22.7% alcohol, 10.5% binge drinking
- 15.8% cannabis
- 6.0% Rx opioid misuse

CDC YOUTH BEHAVIOR RISK SURVEY, 2021


Teen substance abuse has been declining for decades.
Percent of high school students who have used select drugs or alcohol
70%
60
50
40
30
20
10
0
1993
1997
2001
2005
2009
2013
2017
2021
Vaping
Marijuana
Alcohol
Cigarettes
Illicit drugs
Prescription pain medicine
Alcohol data reflects students who currently drink (at least 1 drink in the last 30 days). All other data reflects students who have ever used the substance. Illicit drugs counted in this survey are cocaine, inhalants, heroin, methamphetamines, ecstasy, or hallucinogens.
Source: Centers for Disease Control and Prevention

Most who use substances do not become addicted

- 3-11% of youth who use substances meet criteria for alcohol/substance use disorder by age 18
  - Require 2+/10 criteria in past year
- Higher rate in juvenile offenders (25-65%)



CHASSIN, 2008

SUBSTANCE USE IN

Adolescence versus Adulthood

Choice of substances

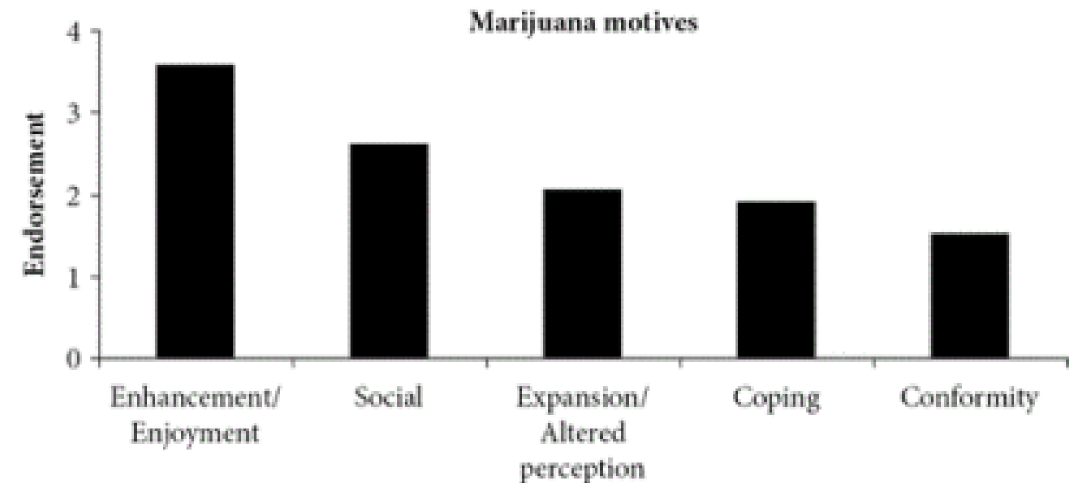
- Alcohol, cannabis, tobacco by far most common in both age groups
- Adolescents more likely to binge drink
- Adults more likely to misuse Rx pain medications & sedatives
- Adults more likely to use illicit drugs

Substance	PAST YEAR → % Usership	
	Youth 12-17	Adults 18+
Marijuana	10.1%	18.7%
Opioids	1.6%	3.6%
Prescription pain medication	1.6%	3.5%
Prescription stimulants	1.2%	1.9%
LSD	0.9%	1.0%
Cocaine	0.3%	2.0%
Prescription sedatives	0.1%	2.4%
Methamphetamines	0.1%	1.0%
Heroin	*	0.4%

Reasons / motives

What do you think?

- Social/ enjoyment, enhancement
  - More common than “to fit in”
- Experimentation also commonly endorsed reason for adolescents
- “Coping” more common in SUD / offender populations



How are adolescents introduced to substances?

Exposure to alcohol / drugs

- Family / friends who use substances
- Associating with peers who engage in antisocial activities
- Limited parental supervision
- Medical/ dental procedures

”Gateway” drugs?

MCINTOSH ET AL., 2003

“Gateway” drugs

- Most recent studies do not reliably support view that cannabis is a “gateway” cause of other illicit drug use

- Rather, those who are more vulnerable to drug-taking (due to genetic and environmental factors) are more likely to start with more readily available substances
  - Subsequent interactions with others who use drugs increases their chances of trying other drugs

Factors that predict continuation of hazardous use

- Earlier age of initiation (before age 14/15) & steeply escalating course of use associated with elevated risk of development of SUDs
  - Family history of substance use
  - Temperament/ attachment
  - Parenting difficulties
  - High level of childhood conduct problems
  - Severe and persistent stress (trauma, neglect, abuse)
  - Difficulties in school
    - Rejection from mainstream peer group & affiliation with deviant peers

Normative experimental behavior? Or time to recommend treatment?

- What are some important factors to consider?
- What additional information would you need?

17 y.o. Black male. Snuck out of parents' house to attend party down the street. Got caught walking home with open container of beer. BAC 0.10%

14 y.o. White female. Repeated school suspensions due to smoking cannabis in the bathroom during class

Age
Quantity/ frequency of use
Problems experienced or risks taken
Level of family support
Impact on school performance, relationships, etc.
*Assessment for clinical substance use disorder

Treatment

Engagement in treatment

- Largest proportion of adolescents who receive treatment are referred by juvenile justice system
  - Only ~50% of juvenile offenders with an SUD receive treatment

- May feel like they don’t need help. Engaging adolescents in treatment requires special considerations

Engagement in treatment

Abstinence only?

- Zero-tolerance approaches ineffective
- “setting up to fail”

Harm reduction

- Strategies to reduce *consequences/ harms* of use
- Acknowledges that many will at least experiment with use
- Not “condoning” use

Principles of Treatment for Criminal Justice Populations

- Drug addiction is a brain disease that affects behavior
- Recovery requires effective treatment & management over time
- Treatment must last long enough (& be comprehensive enough) to produce stable behavioral changes
- Assessment = first step in treatment
- Treatment should be tailored to fit needs of individual
- Continuity of care/ aftercare essential
- *Least restrictive setting that is safe and effective
- *Family involvement

NATIONAL INSTITUTE ON DRUG ABUSE, 2014; AACAP, 2005

Psychosocial/ Behavioral Treatments

- Involving families increases participation & improves treatment outcomes
  - Can be challenging!

- Family-based treatment (e.g., Multisystemic Therapy)
- Individual Therapy (CBT, Motivational Enhancement)

Medications

- Often underutilized
- Work well in combination with behavioral treatments

- Buprenorphine-naloxone: improve outcomes and tx retention opioid use disorder
- Nicotine patch or bupropion SR to improve tobacco cessation
- N-acetylcysteine (NAC) reduce cannabis craving
- Acamprosate and naltrexone to decrease pleasurable effects of alcohol

Consider sanctions violating probation?

- Apply in response to lack of effort or adherence to treatment (rather than exhibiting signs of SUD)
- Harms of use (including public safety) vs. detection of use
- Consistency & predictability
- Graduated consequences

Thank you!

ANY QUESTIONS?