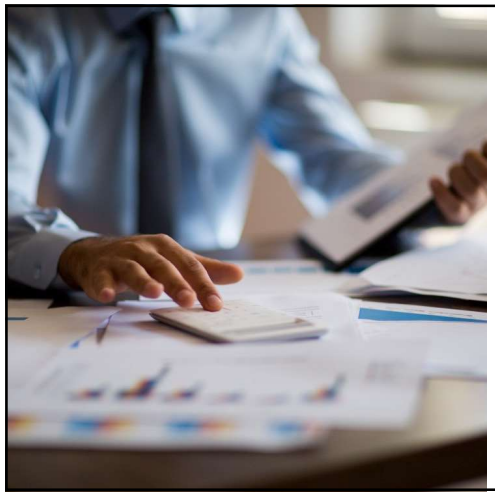

HMA

The Intersection of HIV and Substance Use:

Enhancing the Care Continuum with Evidence-Based Practices

Training Series: Session 3

July 23, 2025

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HOUSEKEEPING

Today is Session 3
Please complete the evaluation for the webinar that will be sent out via email after each session.
You will be receiving a PDF of today's presentation.
This session is being recorded.

Follow-up questions?

Contact Gabriel Velazquez:
gvelazquez@healthmanagement.com

CEUS ELIGIBILITY AND DISTRIBUTION

- This series is eligible for CEUs
  - These activities have been approved for CEUs by the Minnesota Board of Behavioral Health and Therapy for a total of 12 hours (if fully attended) for LADCs and LPC/LPCCs
- To qualify for CEUs, you are required to
  1. Complete the pre-training quiz
  2. Be in attendance for the entire session
  3. Complete the accompanying evaluation survey for each session attended
  4. Complete the post-training quiz
- CEU certificates will be issued approximately 1-2 weeks AFTER the completion of the training.
- Any follow-up questions, please contact Gabriel Velazquez: gvelazquez@healthmanagement.com

ACKNOWLEDGMENTS

We would also like to thank our community partners for their support in developing this curriculum.

MIAM REDUCTION SISTERS
the Aliveness project
Indigenous Peoples Task Force
RURAL AIDS ACTION NETWORK
Providing Care, Service, and Support

LAND ACKNOWLEDGMENT

Every community owes its existence and vitality to generations from around the world who have contributed their hopes, dreams, and energy to making the history that led to this moment. Some were brought here against their will, some were drawn to leave their distant homes in hope of a better life, and some have lived on this land for more generations than can be counted. Truth and acknowledgment are critical to building mutual respect and connection across all barriers of heritage and difference.

We begin this effort to acknowledge what is buried by honoring the truth. **We are standing on the ancestral lands of the Dakota people. We want to acknowledge the Dakota, the Ojibwe (pronounced ow·jeeb·way), the Ho Chunk, and the other nations of people who also call this place home.** We pay respects to their elders past and present.

Please take a moment to consider the treaties made by the Tribal nations that entitle non-Native people to live and work on traditional Native lands. Consider the many legacies of violence, displacement, migration, and settlement that bring us together here today. Please join us in uncovering such truths at any and all public events.*

*This is the acknowledgment given in the USDAC Honor Native Land Guide – edited to reflect this space by Shannon Geshick, MTAG, Executive Director Minnesota Indian Affairs Council

TODAY'S PRESENTERS

Charles Robbins, MBA
(he/him/his)

Principal
Health Management Associates

Shannon Robinson, MD
(she/her/hers)

Principal
Health Management Associates

DISCLOSURES

Faculty	Nature of Commercial Interest
Shannon Robinson, MD	Dr. Robinson discloses that she is an employee of Health Management Associates, a national research and consulting firm providing technical assistance to a diverse group of health care clients, including research and analysis for Indivior. Her husband manufactures suicide resistant bedding and garments.

AGENDA FOR WEBINAR SERIES

Session	Topics
#1 **WEDNESDAY,** **JULY 9** 12:00 pm to 3:00 pm	❑ Understanding HIV ❑ HIV Testing, Treatment and Prevention ❑ The Science of Addiction ❑ Screening and Assessment
#2 **WEDNESDAY,** **JULY 16** 12:00 pm to 3:00 pm	❑ Ethical and Legal Issues ❑ Funding and Policy Considerations ❑ HIV Risk Reduction ❑ SUD Harm Reduction ❑ HIV and Stigma ❑ Motivational Interviewing
#3 **WEDNESDAY,** **JULY 23** 12:00 pm to 3:00 pm	❑ **Working with Justice Involved Persons** ❑ **Substance Use Disorder Treatment with Medications** ❑ **Mental Health Treatment and Counseling** ❑ **Stimulant Use** ❑ **Chem Sex**
#4 **WEDNESDAY,** **JULY 30** 12:00 pm to 3:00 pm	❑ Cultural, Racial and Sexual Identities ❑ Pregnancy and HIV, SUD/OUD ❑ Accessing, Obtaining, and Integrating Services for Individuals with HIV and SUD in Minnesota

WORKING WITH LEGALLY-INVOLVED INDIVIDUALS AND MEDICATION FOR ADDICTION TREATMENT

LEARNING OBJECTIVES:

- Describe the importance of substance use disorder treatment for those who are legally involved
- List 3 actions to take to ensure continuity of care for clients upon release from incarceration
- Compare and contrast FDA approved medications for Alcohol Use Disorder (AUD), Opioid Use Disorder (OUD), and opioid reversal

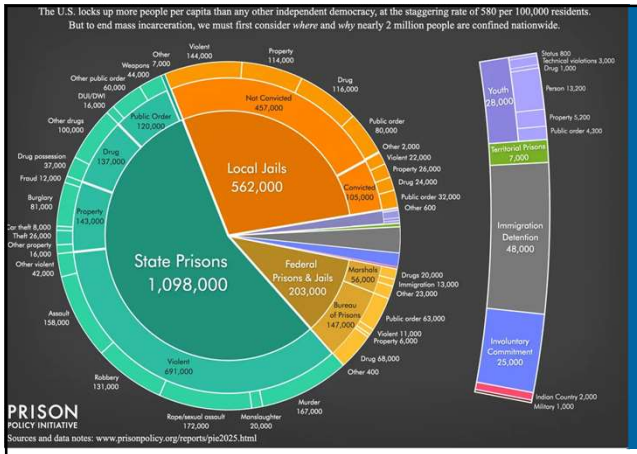
WHAT IS THE DIFFERENCE?

Jail

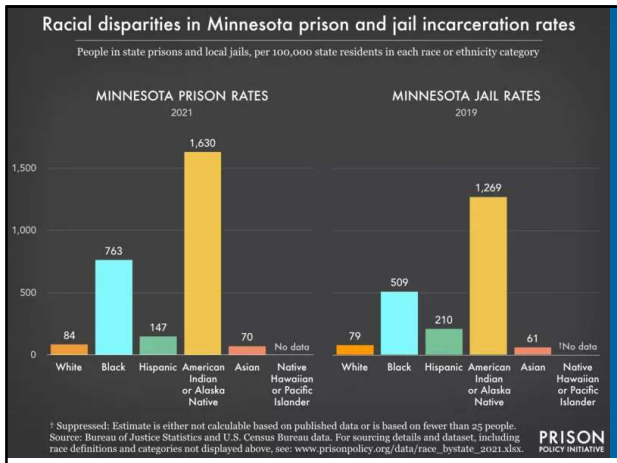
- Awaiting Trial or
- Short duration of sentence
- Run by County Sheriff or local government

Prison

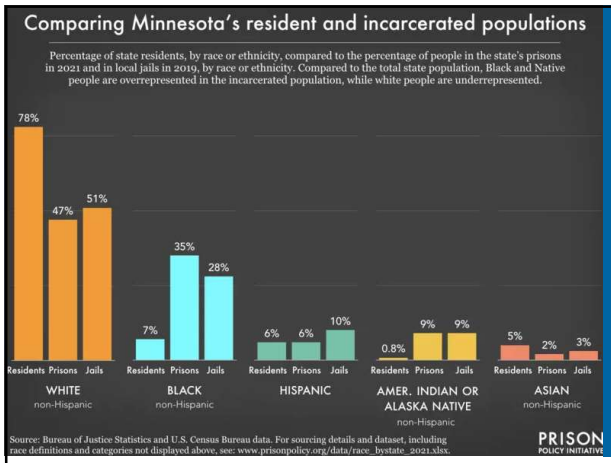
- Convicted of a crime
- Long duration of sentence
- Run by state or federal governments
- More education and rehabilitative programs



UNITED STATES CARCERAL POPULATION



RATES OF INCARCERATION IN MINNESOTA



PERCENTAGE OF STATE POPULATION COMPARED TO CARCERAL POPULATION BY RACE

MINNESOTA DEPARTMENT OF CORRECTIONS ADULT PRISON BY GENDER (AS OF 07/01/2024)

Total Population: 8,306

Males: 7,707 (92.8%)

Females 599 (7.2%)

Average Age 39.9

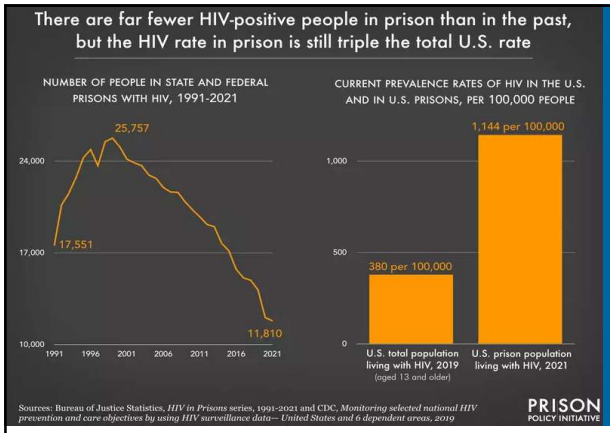
Source: https://mn.gov/doc/assets/Adult%20Prison%20Population%20Summary%207-1-2023_tcm1089-589994.pdf

Top Six Offenses	Count	Percentage (%)
Homicide	1,659	20.0%
Criminal Sexual Conduct	1,616	19.5%
Drugs	1,300	15.7%
Weapons	851	10.2%
Assault	712	8.6%
DWI	419	5.0%

Releases (FY2024)	Count	Percentage (%)
Supervised Release/Parole	3,698	78.9%
Community Programs	692	14.6%
Discharge	281	5.9%
Other	59	1.2%
Total	4,730	100.0%

MINNESOTA PRISON POPULATION 8,306 ON 7/1/2024

Source: Offender Statistics / Department of Corrections

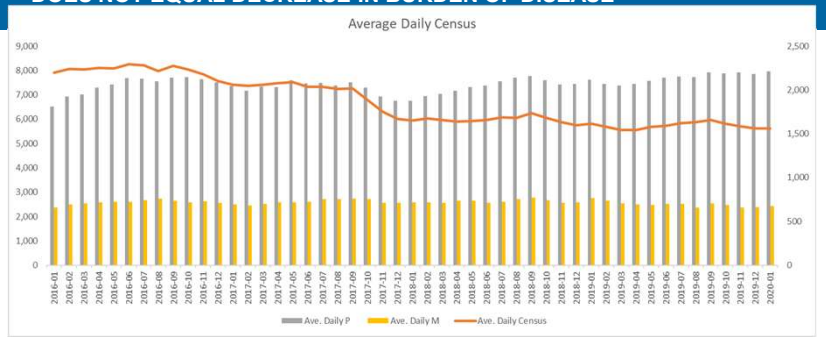


PERSON INCARCERATED WITH HIV

https://www.prisonpolicy.org/blog/2023/06/01/hiv_in_prisons

Bureau of Justice Statistics, Census of Jails, 2019; and Annual Survey of Jails, 2020

DECREASE IN JAIL POPULATION DOES NOT EQUAL DECREASE IN BURDEN OF DISEASE



"Ave. Daily P"= average daily census with physical health conditions

"Ave. Daily M"= average daily census with mental health conditions.

BURDEN OF SUBSTANCE USE DISORDER (SUD) IN CARCERAL SETTINGS

- 63% of people in jail and 58% in prison have a SUD.*
- Historically jails withdrew people from medication for addiction treatment.**
- Outcomes are much better if continued on treatment.**
- 77% of deaths within 2 weeks of release are related to overdose.
- This can be decreased by 60-80% with access to medication ***

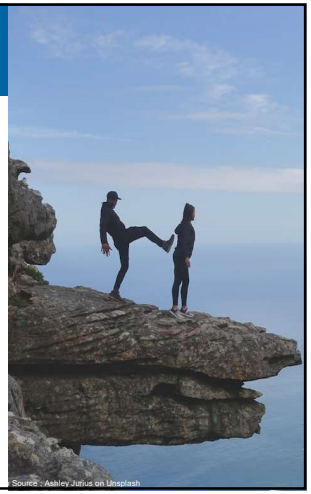
* https://www.samhsa.gov/criminal-juvenile-justice/about
**Rich 2015; **Kinlock 2007.
***Green 2019 ; Lim 2023
GUIDELINES FOR MANAGING SUBSTANCE WITHDRAWAL IN JAILS A Tool for Local Government Officials, Jail Administrators, Correctional Officers, and Health Care Professionals.
National Commission on Correctional Healthcare. (2025) Jail guidelines for the medical treatment of substance use disorders 2025.

SERVICES PROVIDED IN CARCERAL SETTINGS

- Screening for medical, mental health, substance use disorders and dental issues
- Assessments for medical, mental health, substance use disorders and dental issues
- Acute and chronic treatment of these conditions, including
  - Overdose reversal & overdose prevention education
  - Withdrawal management
  - Medications
  - Counseling
  - Preventative care
  - Linkage to care in the community
  - Naloxone upon release

TRANSITION OF CARE

- Transition of Care – The movement of a patient from one setting of care to another.
- Actions to ensure continuity of care
  - Provide overdose reversal agent on release
  - Provide medication until first community appointment
  - Strive for a warm handoff to community provider
- Challenges in jails and beyond
  - No clear discharge date/time
  - Release not correlated to clinical condition
  - Housing options frequently suboptimal


Source : Ashley Jurius on Unsplash

Source: https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4998.pdf
https://www.ncchc.org/wp-content/uploads/2025-JG-Guidelines-for-Substance-Use-Disorders-3-6-25.pdf

COMMUNITY OPPORTUNITIES TO MINIMIZE INCARCERATION

- Early identification of individuals with mental and substance use disorders at all points of contact with the legal system
- Diversion from the legal system to community-based treatment
- Engaging law enforcement, first responders, and crisis management teams, court personnel, and community treatment providers in diversion strategies that meet both clinical and public safety needs
- Use of validated screening and assessment tools

Source: https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4998.pdf

COMMUNITY OPPORTUNITIES TO MINIMIZE INCARCERATION CONT.

- Training and technical assistance for law enforcement, judges, probation officers, child welfare staff on behavioral health issues; training for behavioral health providers on criminogenic risk and the adult and juvenile legal system.
- Provide of services and supports to enable successful reentry
  - Identification
  - Insurance
  - Transportation
  - Housing
  - Education, vocational training, resume writing, interview skills and clothing
- Equitable opportunities for diversion and community services.
  - Must track data
- Collaboration to better serve those involved with behavioral health and legal systems.

Source: https://store.samhsa.gov/sites/default/files/d7/priv/sma16-4998.pdf

TIME FOR A POLL

Statement: My organization has an active working process to identify and provide a soft landing into the community for patients with complex care management needs related to addiction and HIV upon release from carceral settings.

A. Yes
B. No
C. I Am Not Sure

INTERVENTIONS TO REDUCE HARMS RELATED TO DRUG USE AMONG PEOPLE WHO EXPERIENCE INCARCERATION

- 126 studies reviewed of 18 different interventions
  - Receiving opioid agonist treatment in first 4 weeks following release reduces risk of death in community
    - More likely to engage in treatment and take agonist treatment if it was prescribed while in prison
  - Receiving opioid agonist treatment in prison reduces risk of death in prison
  - Therapeutic communities in prison reduce rearrest

Macdonald C, Macpherson G, Leppan O, Tran LT, Cunningham EB, Hajarizadeh B, Grebely J, Farrell M, Altice FL, Degenhardt L. Interventions to reduce harms related to drug use among people who experience incarceration: systematic review and meta-analysis. Lancet Public Health. 2024 Sep;9(9):e684-e699. doi: 10.1016/S2468-2667(24)00160-9. PMID: 39214637.

COURT / PROFESSIONAL MANDATED TREATMENT

- Outcomes are variable but generally not worse than non-mandated treatment.
- Important issues to consider
  - This data only reviews court mandates for criminal behavior, not civil commitment for SUD and data is significantly influenced by lack of evidence-based treatments offered in programs reviewed.
    - Ensure equitable access to diversion from incarceration
    - Only mandate people to treatment who have a SUD
    - Ensure people enter the appropriate level of care- individualized treatment planning, not a preference for residential treatment
    - Ensure equitable access to medication for addiction treatment

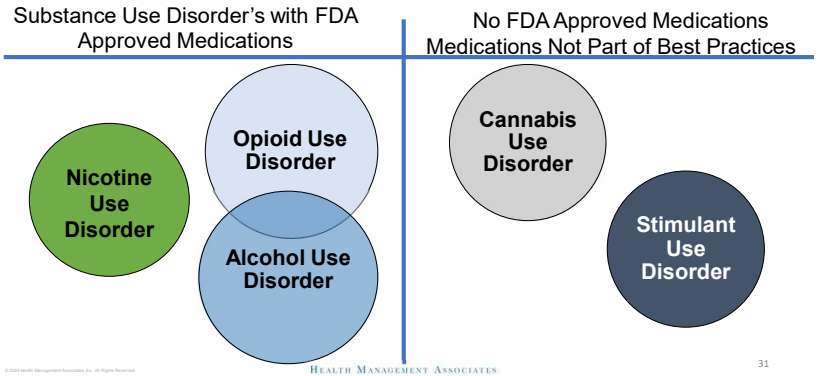
Drug Policy Alliance (2024). The Drug Treatment Debate. Retrieved on 7.23.25 from https://drugpolicy.org/wp-content/uploads/2024/09/TheDrugTreatmentDebate_10.30.24-Interactive.pdf
Hachtel H, Vogel T, Huber CG. (2019) Mandated Treatment and Its Impact on Therapeutic Process and Outcome Factors. Front Psychiatry. 10:219.
Werb D, et al. The effectiveness of compulsory drug treatment: A systematic review. Int J Drug Policy. 2016 Feb;28:1-9.
White, S. What to Know About Mandated Treatment Programs. Retrieved 7.23.25 from https://opioidprinciples.jhsph.edu/what-to-know-about-mandated-treatment-programs/
Pilarinos A, et al. (2020). Coercion into addiction treatment and subsequent substance use patterns among people who use illicit drugs in Vancouver, Canada. Addiction;115(1):97-106.
Farabee, D et al. (1998). Effectiveness of coerced treatment of drug abusing offenders. Federal Probation 62:1.

SUBSTANCE USE DISORDER TREATMENT WITH MEDICATIONS

WHAT IS SUBSTANCE USE DISORDER TREATMENT WITH MEDICATIONS?

- The use of FDA-approved prescription medications, usually in combination with counseling and behavioral therapies, to provide a whole-person approach to the treatment of substance use disorders (SUD).
- When discussing medication for opioid use disorder this is frequently referred to as Medications for Opioid Use Disorder (MOUD).
- MOUD has proven clinically effective to alleviate symptoms of withdrawal & reduce cravings. MOUD maintenance has been proven to cut overdose rates in half and decrease rates of HIV and hepatitis C transmission.
- Research shows that a combination of MOUD and behavioral therapies is a successful method to treat OUD.

WHICH SUBSTANCE USE DISORDERS ARE TREATED WITH MEDICATIONS?



WHY IS MEDICATION FOR OPIOID USE DISORDER IMPORTANT?

Treat Withdrawal	Address Dopamine Depletion	Treat OUD/Achieve Results

• Muscle pain, dilated pupils, nausea, diarrhea, abdominal cramping, piloerection
• Lasts 14 days
• Methadone or buprenorphine are recommended over abrupt cessation due to risk of return to use, overdose (OD) & death
	• Reward/motivation pathway abnormalities persists for months after people stop using
	• Treated with methadone or buprenorphine
		• Without medication 85% return to opioid use within 1 year and results in more deaths than not treatment
		• MOUD decreases
		  • Use
		  • Craving
		  • Complications from IVDU
		  • Criminal behavior
		• MOUD increases retention in treatment

Sources: ASAM, (2020) National Practice Guidelines for the Treatment of OUD, Mattick, RP & Hall W (1996) Lancet 347: 8994, 97-100. Mattick, RP et al. (2008) Cochrane Systematic Review. Mattick, RP, et al. (2009) Cochrane Systematic Review. Lobmaier, P et al. (2008) Cochrane Systematic Review. Krupitsky et al. (2011) Lancet 377, 1506-13. Kakko et al. (2003) Lancet 361(9358),662-8. Rich, JD, et al. (2015) Lancet; Heimer, R (2024) Drug and Alcohol Dependence.

FDA APPROVED MEDICATION FOR OUD

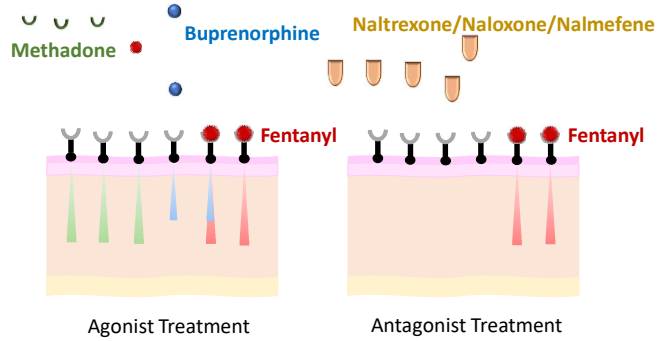
Agonist Treatment (turns on the receptor):

- Methadone- approved for cough in 1940s, for OUD 1972
- Buprenorphine (Suboxone™, Subutex™, Sublocade™ and Brixadi™)- approved in 1981 for pain; oral approved for OUD 2002, patch, implants & injection later

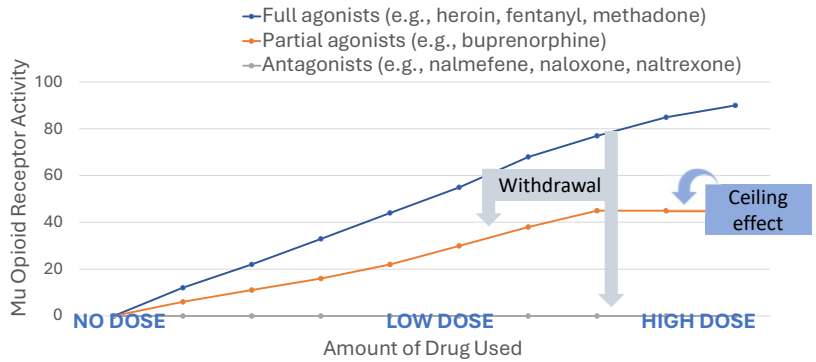
Antagonist Treatment (blocks receptor from turning on):

- Naltrexone (Revia™)- oral approved 1984; injectable (Vivitrol™) 2006 for AUD, 2010 for OUD
- Naloxone- approved 1971, autoinjector 2014, nasal spray (Narcan™) 2015
- Nalmefene (Opvee™) - injectable approved 1995; nasal spray approved 2023

HOW DO THE FDA APPROVED MEDICATIONS WORK?



FULL, PARTIAL, OR NO EFFECT



This table is an HMA-generated table compiled from numerous sources.

METHADONE: WHAT AND FOR WHOM?

- Mu opioid receptor full agonist
  - No "ceiling effect"
- Can start prior to being in withdrawal
- Reaching a therapeutic dose takes time
  - <60 mg/d is not therapeutic
  - Typical dose 60-120 mg/d
  - Increased frequency and daily dose required during pregnancy
- Several drug-drug interactions
- Illegal to write prescription for methadone to treat OUD unless:
  - Narcotic Treatment Program (NTP)
  - Covering a gap of no more than 3 days
  - Patient is in a DEA licensed clinic or hospital with another condition

Patients with a more severe OUD, such as injecting opioids

Patients who have not reached treatment goals with other MOUD

Patients who would benefit from the closest follow up at NTP

METHADONE: GENERAL FEDERAL REGULATIONS

- Delivered via observed dosing
- Once patient is stable, can be given take-home doses (varies by state)
- Highly monitored in a Narcotics or Opioid Treatment Program setting (NTP/OTP)
- Requirements for onsite services including therapy, toxicology…

https://www.federalregister.gov/documents/2024/02/02/2024-01693/medications-for-the-treatment-of-opioid-use-disorder

METHADONE: EFFICACY DATA

- Methadone resulted in 33% fewer opioid positive toxicology tests compared to those receiving no medication* when everyone receives psychosocial treatment
- 4.4x more likely to stay in treatment *
- Reduced crime *
- Reduced infectious disease*
- Reduced death**

Source:
* Mattick 2009 Cochrane Review
** Wakeman 2020 JAMA Open Network

BUPRENORPHINE: WHAT AND FOR WHOM?

- Partial mu opioid agonist with ceiling effect
  - Doses >32 mg don't cause greater respiratory effects
  - Available sublingually alone or in combination w/naloxone and as a long acting- weekly or monthly injections
- Greater binding affinity than full agonists
  - Start buprenorphine when client in moderate withdrawal (to avoid causing precipitated withdrawal)
  - Other opioids are not as effective when buprenorphine is present
  - Typical dose is 16-32 mg/d
  - Increased frequency and daily dose required during pregnancy
- Fewer drug-drug interactions than methadone

Opioid use disorder or withdrawal

Patient wants agonist treatment

Mattick, R. P., et al. (2014). Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. The Cochrane Database of Systematic Reviews, 2014(2), CD002207. Weimer, M. B., et al. (2023). ASAM clinical considerations: Buprenorphine treatment of opioid use disorder for individuals using high-potency synthetic opioids. Journal of Addiction Medicine, 17(6), 632–639. Bureau of Justice Assistance. (June 2023). Guidelines for managing substance withdrawal in jails. U.S. Department of Justice.

BUPRENORPHINE EFFICACY

- Rate of return to opioid use for persons taking placebo was 100% vs 25% for persons taking buprenorphine
- If taking ≥16mg buprenorphine you are 1.82 times more likely to stay in treatment than if on placebo
- Decreased crime, infectious disease and death*

Source:
NIDA Medications to Treat Opioid Use Disorder Research Report Updated December 2021
Mattick 2014 Cochrane Review
* Wakeman 2020 JAMA Open Network

NALTREXONE: WHAT AND FOR WHOM?

- Mu opioid antagonist with high, competitive binding affinity
- Does not treat withdrawal or low dopamine levels
- Must be opioid free x 14 days before starting and/or have completed withdrawal if recently using
- No evidence of decreased mortality

Patients with a high degree of motivation (dopamine)

Patients with a history of OUD and Alcohol Use Disorder (AUD): FDA approved for both

Patients who did not reach treatment goals with methadone or buprenorphine

Can be useful for occasional use or after discontinuation of methadone or buprenorphine

Source: Larochelle, et al. Medication for opioid use disorder after nonfatal opioid overdose and association with mortality. A cohort study. Annals of Internal Medicine. 169:3 (2018) 137-45. Wakeman, SE. et. al. (2020) Comparative Effectiveness of Different Treatment Pathways for Opioid Use Disorder. JAMA Open Network. 3 (2).

NALTREXONE: GENERAL REGULATIONS

No Federal regulations inhibit the use

Not all BH clinics have RN to give injections

Multiple formulations:
- –Pills at 25mg and 50 mg (50-100 mg for AUD)
- –Long acting injectable 380mg (28-30 days) for AUD and OUD

NALTREXONE: EFFICACY DATA

- Extended Release (XR) Naltrexone 90% opioid abstinent toxicology tests vs. 35% placebo*
  - Decreased incarceration**
- XR Naltrexone vs usual care in HIV clinic***
  - Fewer days of opioid use for those on XR Naltrexone

Source:
*Krupitsky 2011 Lancet
**Minozzi 2011 Cochrane Review
*** Korthuis 2022

OD REVERSAL IS HARM REDUCTION

- Mu opioid antagonists: naloxone & nalmefene
- Shorter half-life & more rapid onset of action than naltrexone
- High affinity, competitive binding & displaces agonists
- Intranasal or intramuscular by bystander
- May require more than one dose
- Opioids have longer half-life than naloxone
- Saves lives; no evidence for increasing drug use
- Good Samaritan law in MN
- MN no age restriction:
  https://www.health.state.mn.us/communities/opioids/documents/naloxonestandingorder.pdf
- Available over the counter

In 2019, 77.3% of 33,084 opioid-involved overdose deaths across 37 states + the District of Columbia had no evidence of naloxone administration.

Sources:Dasmit, et. al. (2021). National administration among opioid-involved overdose deaths in 38 United States jurisdictions in the State Unintentional Drug Overdose Reporting System, 2019. Drug and alcohol dependence, 235, 109467.

With additional substances within on illicit drug supply it is imperative that we remember to provide breaths/ oxygen between doses of naloxone. Sources:Dezfulian C, et al.; American Heart Association Council on Cardiopulmonary, Critical Care, Perioperative and Resuscitation; Council on Arteriosclerosis, Thrombosis and Vascular Biology; Council on Cardiovascular and Stroke Nursing; Council on Quality of Care and Outcomes Research; and Council on Clinical Cardiology. Opioid-Associated Out-of-Hospital Cardiac Arrest: Distinctive Clinical Features and Implications for Health Care and Public Responses: A Scientific Statement From the American Heart Association. Circulation. 2021 Apr 20;143(16):e835-e870. doi: 10.1161/CIR.0000000000000998. Epub 2021 Mar 8.

NALOXONE DISTRIBUTORS IN MINNESOTA

- In response to the opioid crisis in Minnesota, the Minnesota Department of Health (MDH) developed **KnowTheDangers.com** to provide clear, fact-based information, access to recovery programs, and essential harm reduction resources.
- One key resource on the site is the Naloxone Finder, which helps locate naloxone distribution sites.

NALOXONE RESOURCES

- https://www.health.state.mn.us/communities/opioids/opioid-dashboard/resources.html#naloxone
- University of Minnesota Naloxone Resources https://www.pharmacy.umn.edu/degrees-and-programs/continuing-pharmacy-education/continuing-education-courses/naloxone
- Naloxone overdose training and kits free of charge. The following community-based organizations provide Naloxone overdose training and kits free of charge:
- Steve Rummler HOPE Network—Call 952-943-3937 or sign up for training from the Steve Rummler HOPE Network.
- Rural AIDS Action Network (RAAN)—Call 320-257-3036.
- Red Door Clinic—Call 612-543-5555.
- Indigenous Peoples Task Force—Call 612-870-1723.
- Lutheran Social Services—Call 800-582-5260.
- https://knowthedangers.com/

TIME FOR A POLL

Question:

Do you know if your organization is currently prescribing (or providing) or doing any training on naloxone?

A. Yes
B. No
C. I Don't Know

HOW LONG TO TREAT OUD?

- Studies of all FDA approved meds for OUD indicate a risk of return to opioid use upon discontinuation of meds
- **Year(s) post sobriety**, if changes to decrease likelihood of future substance use, stable in recovery and life and wants to discontinue
  - Social Support that supports recovery
    - Active in 12 step meetings or
    - Active in Self-Management and Recovery Training (SMART) meetings
    - Active in church
    - Not living with people who are using
  - Able to handle interpersonal conflicts without returning to use
  - Avoid tapering during big life transitions such as leaving incarceration, pregnancy or delivery, moving across the country, changing jobs

HOW LONG SHOULD SOMEONE BE ON MEDICATION?

Long-term or indefinite treatment with medications for OUD is often needed to maintain outcomes

Discontinuing buprenorphine or methadone is usually only successful in about 15% of cases

Discontinuing medication without return to opioid use usually occurs, if at all, when people have been treated with MOUD for at least 3 years

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- www.druginserts.com

ALCOHOL

- Alcohol is the most used addictive substance.
- Alcohol-related deaths (worldwide)
  - 2.6 million alcohol-related deaths/year compared to
    - .6 million drug-related deaths/year.
  - 4.7% of all deaths are related to alcohol consumption.
  - Alcohol is the most common substance causing withdrawal related deaths in jails.

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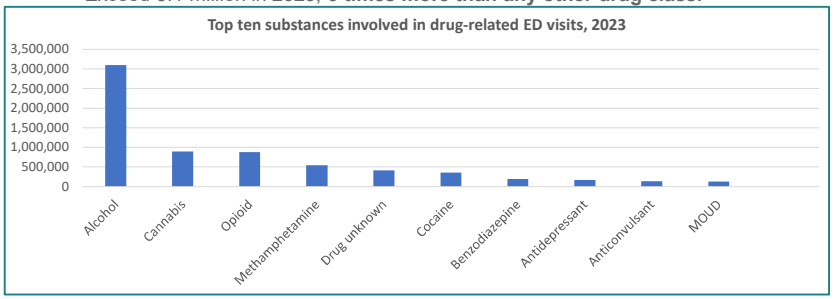
ALCOHOL AND DRUG EMERGENCY DEPARTMENT VISITS

- Alcohol-related ED visits are higher than for any other substance:
  - Exceed 3.1 million in 2023, **3 times more than any other drug class.**



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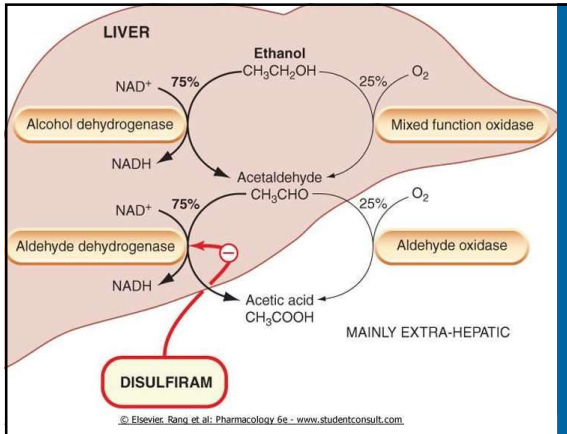
MEDICATIONS FOR ALCOHOL USE DISORDER

Benefits	FDA-Approved Medications
• Decreased Drinking • Decreased Cravings • Cost Effective	• Acamprosate • Naltrexone (oral and intramuscular) • Disulfiram (not effective)

McPheeters, M, et al.(2023); Marin MCD, et al. (2023); Higginbotham B, et al. (2023)



HEALTH MANAGEMENT ASSOCIATES

DISULFIRAM (ANTABUSE®): MECHANISM OF ACTION

DISULFIRAM FOR ALCOHOL USE DISORDER (AUD)

- Approved decades ago; most recent data does NOT show overwhelming efficacy*
- Once per day dosing
- Inhibits multiple P450 and other liver enzymes
- Drug Interactions: benzodiazepines, phenytoin, pimozide, tricyclic antidepressants (TCAs), warfarin, sulfonylureas, metronidazole, amoxicillin, isoniazid
- Contraindications/precautions: alcohol use, hypersensitivity to rubber, severe coronary artery disease (CAD), cirrhosis, severe renal impairment, psychosis, depression, diabetes mellitus (DM), epilepsy
- Extensively metabolized
- Extensive list of side effects

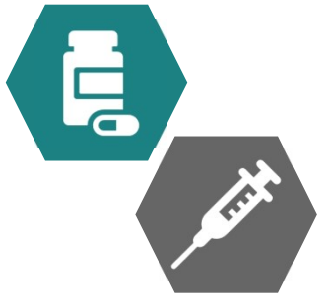
Source: * McPheeters M, O'Connor EA, Riley S, Kennedy SM, Voisin C, Kuznacic K, Coffey CP, Edlund MD, Bobashev G, Jonas DE. Pharmacotherapy for Alcohol Use Disorder: A Systematic Review and Meta-Analysis. JAMA. 2023 Nov 7;330(17):1653-1665. doi: 10.1001/jama.2023.19761. PMID: 37934220; PMCID: PMC10630900.

NALTREXONE FOR ALCOHOL USE DISORDER

- Few side effects
- Drug Interactions: opioids
- Contraindications: severe acute hepatitis
- Well studied in mild and moderate cirrhosis
- Safe in mild renal disease

NALTREXONE EFFECTIVENESS FOR ALCOHOL USE DISORDER

- Oral naltrexone:
  - Decrease return to any drinking.
  - Decrease in return to heavy drinking.
- Long-acting injectable naltrexone:
  - Greater time to first drink.
  - Lower number of heavy drinking days.



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Kedia SK, Ahuja N, Dillon PJ, Jones A, Kumar S, Satapathy S. Efficacy of Extended-Release Injectable Naltrexone on Alcohol Use Disorder Treatment: A Systematic Review. J Psychoactive Drugs. 2023 Apr-Jun;55(2):233-245. doi: 10.1080/02791072.2022.2073300. Epub 2022 May 28.

EXTENDED RELEASE NALTREXONE COMPARED TO OTHER AGENTS FOR ALCOHOL USE DISORDER

- In multiple studies extended-release injectable naltrexone resulted in the following compared to oral naltrexone or other oral medications for alcohol use disorder:
  - Longer time on medication.
  - Decreased:
    - Emergency department visits.
    - Hospitalizations.
    - Nonpharmacy costs.

References: Bryson, W. C., et al. (2011). Extended-release naltrexone for alcohol dependence: persistence and healthcare costs and utilization. The American Journal of Managed Care, 17 Suppl 8(Suppl 8), S222–S234.
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ACAMPROSATE: MECHANISM

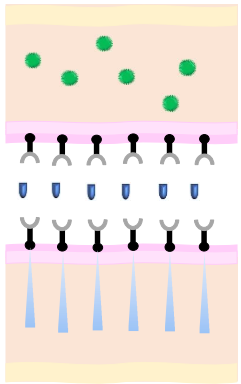
In someone with an active alcohol use disorder acamprosate decreases glutamate

Glutamate Cell

Glutamate

Acamprosate

Gamma Amino Butyric Acid (GABA) cell



ACAMPROSATE FOR ALCOHOL USE DISORDER

- Effective
  - Decreased quantity and frequency
  - Increased retention in treatment and abstinence
- Three times per day dosing
- Drug Interactions: none
- Contraindications: severe renal impairment
  - Dose reduce if someone has moderate renal impairment
- Few side effects
- No metabolism

Photo Source: Microsoft Stock Images

BEHAVIORAL HEALTH AND MEDICATION FOR ALCOHOL USE DISORDER

Impact of Behavioral and Medication Treatment for Alcohol Use Disorder on Changes in HIV-Related Outcomes Among Patients with HIV: A Longitudinal Analysis

Kathleen A. McGinnis[a], Melissa Skanderson[a], E. Jennifer Edelman[b,g], Adam J. Gordon[c], P. Todd Korthuis[d], Benjamin Oldfield[b], Emily C. Williams[e,f], Jessica Wyse[d], Kendall Bryant[g], David A. Fiellin[b,h], Amy C. Justice[a,b], Kevin L. Kraemer[i,j]

Medication and therapy improved HIV related outcomes

McGinnis KA, et al. Impact of behavioral and medication treatment for alcohol use disorder on changes in HIV-related outcomes among patients with HIV: A longitudinal analysis. Drug Alcohol Depend. 2020 Dec 1;217:108272.

TIME FOR A POLL

Question:

Do you know anyone on medication for Alcohol Use Disorder?

A. Yes

B. No

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5-MINUTE STRETCH BREAK!

COUNSELING FOR CO-OCCURRING HIV & SUD

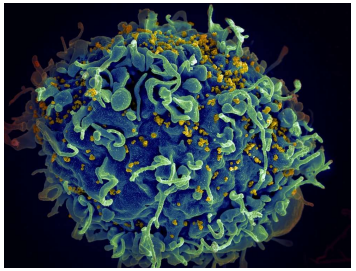
LEARNING OBJECTIVES: COUNSELING FOR CO-OCCURRING HIV & SUD

- Discuss coping with a HIV diagnosis and preparing patients for disclosure
- Identify at least 3 considerations for mental health treatment of individuals with HIV and SUD
- Distinguish acute and chronic risk of suicidality in individuals with HIV and SUD

WHY IS IT IMPORTANT TO ADDRESS SUD IN PERSONS WITH HIV?

Substance use accelerates the progression of HIV

- Increases viral load
- Increases likelihood of AIDs related morbidity (even when adherent to antiretroviral medications)
- Decreases medication adherence

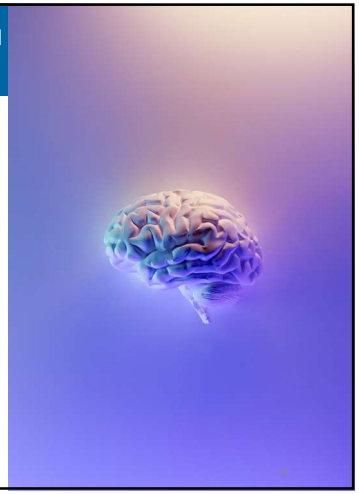


Sources: Dash, 2015; Schaffer 2017; Strazza 2011; Dahal 2015; Andriote 2012; NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/
Photo Source: National Cancer Institute on Unsplash

WHY IS IT IMPORTANT TO ADDRESS SUD IN PERSONS WITH HIV?

Addictive substances weaken the blood brain barrier

- Allowing HIV to more easily enter the brain
- Allows infection and damage to nerves and supporting cells (glia)
- Triggers release of neurotoxins
- Can lead to dementia
  - 50% of people with HIV have neurocognitive disorders



Sources: Dash, 2015; Schaffer 2017; Strazza 2011; Dahal 2015; Andriote 2012; NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders/
Photo Source: Milad Fakurian on Unsplash

CURRENT SCREENING AND TESTING RATES

- Only 38% of adults 18-64 yo in the US report ever being tested for HIV.
- Only 76% of HIV clinics in North America reported screening HIV patients for alcohol use disorder.
- Only 36% of HIV clinics in North America screened for other SUD.
- Only 33% of SUD programs offer onsite HIV or HCV testing.
- Only 49% of people with mental illness have had an HIV test.

Sources: National Institute on Drug Abuse (NIDA). (2021). Co-occurring disorders and health conditions
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HIV / VIRAL HEPATITIS TESTING RECOMMENDATIONS

- SAMHSA recommends HIV/ HBV/ HCV testing:
  - All persons >15 years of age, at least once in lifetime.
  - Younger persons at increased risk.
  - Anyone at high-risk test yearly.
  - All SUD treatment programs should offer onsite same day oral fluid testing for HIV & fingerstick tests for HCV.
  - Medicare and Medicaid pay for testing.

People are at high risk if:

- They share drug injection or preparation equipment
- They have condomless sex
- They exchange sex for drugs or money

Sources: Substance Abuse and Mental Health Services Administration. (2021). Treating Substance Use Disorders Among People with HIV. Advisory. CDC: https://www.cdc.gov/hiv/basics/hiv-testing/getting-tested.html#:~:text=You%20should%20get%20tested%20at%20least%20once%20a%20year%20if%3A&text=You've%20shared%20needles%2C%20syringes,for%20another%20sexually%20transmitted%20disease
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STTR MODEL OF CARE

- Testing persons who inject drugs every 6 months is cost effective
- **Recommendation:** Inpatient and outpatient mental health settings should offer routine opt out testing to improve case finding

**Chart review compared to blood samples from 2 inpatient psychiatric units:
21% of patients with HIV positive blood samples did not have documentation of infection in medical record**

Sources: NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders
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Rothbard AB, Blank MB, Staab JP, et al. Previously Undetected Metabolic Syndromes and Infectious Diseases Among Psychiatric Inpatients. *Psychiatric services*. 2009;60(4):534–537.

TIME FOR A POLL

Question:

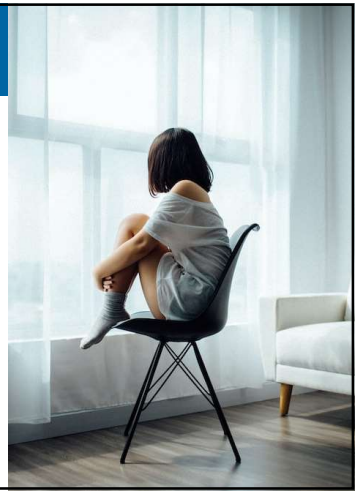
In your organizations, do you test for HIV?

A. Yes
B. No
C. I Don't Know

EPIDEMIOLOGY- HIV & MENTAL HEALTH

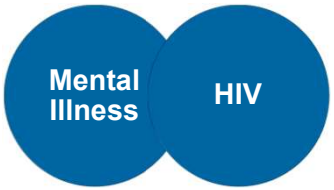
- Up to 70% of people living with HIV have a history of trauma
- 54% of people living with HIV have post-traumatic stress disorder (PTSD)
- People living with HIV are twice as likely to develop depressive symptoms compared to those at risk but who are not living with HIV
- People living with HIV experience higher rates of depression than the general population
- Key feature of depression, as compared to adjustment disorder or side effects from medication, is loss of pleasure

Sources: Kessler, R.C. 2005, Andriote, JM. 2012, Gaynes, B.N. 2008, Blank M.B.2013



EPIDEMIOLOGY- HIV & MENTAL ILLNESS

- Twenty-two percent (22%) of people with HIV have depression
  - Of those 78% **ALSO** have an anxiety disorder
  - Of those 61% **ALSO** have an SUD
- Six percent (6%) of people with HIV have schizophrenia, as compared to 1% of the general population
- Those with schizophrenia are **1.5x** as likely to contract HIV
- Those with affective disorders were **3.8x** as likely to contract HIV

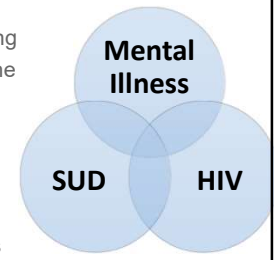


Sources: Kessler, R.C. 2005, Andriote, JM. 2012, Gaynes, B.N. 2008, Blank M.B.2013

SUD, HIV AND MENTAL ILLNESS

- 54% people with HIV report moderate to high-risk cannabis use
- 40% people with HIV report moderate to high-risk drinking
- 12% people with HIV report moderate to high-risk cocaine
- 11% people with HIV reported moderate to high risk of amphetamine use

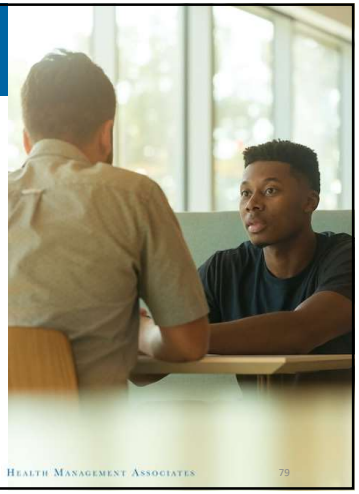
- Only 35% of people in 10 outpatient HIV clinics reported talking to primary care provider (PCP) about alcohol use
- < 50% of providers in hospital-based HIV care programs conducted recommended screening and brief interventions for reducing alcohol



Sources: Staruss, S.M. 2009
Andriote, JM. 2012
Dawson Rose 2017

COUNSELING: COPING WITH AN HIV DIAGNOSIS

- Coping with the diagnosis of HIV
  - is a form of grieving
  - is different from having a major depressive episode
  - may require treatment
    - support or psychotherapy
    - will not respond to antidepressants



Sources: Andriote, JM. 2012 http://wwwaidsmap.com/news/aug-2021/hardest-outcome-all-hiv-and-suicide
Photo Source :LinkedIn Sales Solutions on Unsplash

COUNSELING RECOMMENDATIONS

1. Don't try to solve or fix things, but….
   - Housing is important
   - Social support is important
   - Medical care is important
   - These things helps establish a sense of control over one's life
2. Don't minimize someone's feelings
3. Don't tell people to pull themselves together
4. Listen… for risks and for talk of the future

Sources: Andriote, JM. 2012 http://wwwaidsmap.com/news/aug-2021/hardest-outcome-all-hiv-and suicide

CONSIDERATIONS FOR MENTAL HEALTH TREATMENT OF INDIVIDUALS WITH HIV AND SUD

- Major Depression, among those living with HIV, responds to the same treatments:
  - Evidence-based psychotherapy
  - Evidence-based medications
  - Medication and psychotherapy
- As with other conditions, keep drug-drug interactions in mind
- Depression & bipolar disorder can make medication adherence challenging

ANTIDEPRESSANT TREATMENT OF DEPRESSION RESULTS IN LOWER HEALTHCARE COSTS

- Persons with bipolar disorder and HIV are more likely to have unprotected intercourse with HIV negative partners
- The risk of suicide is higher for those with HIV (at all stages) as compared to the general population

Sources: McGinnis 2020, Andriote, JM. 2012 & Blank MB 2013

SUD TREATMENT FOR THOSE LIVING WITH HIV

- Cognitive Behavioral Therapy (CBT) & Motivational Interviewing (MI)
  - Reduce drug use
  - Reduce high risk sexual behaviors
  - Reduce viral load
  - Improve adherence to antiretrovirals

SUD Treatment is HIV Prevention!

Resources: Florida State University Center for Translational Behavioral Sciences: Tailored Motivational Interviewing and National Minority AIDS Counsel Motivational Interviewing and HIV a Guide for Navigators

Source: National Institute on Drug Abuse (NIDA). (2021) Co-occurring disorders and health conditions.
Glasner S, Patrick K, Ybarra M, Reback CJ, Ang A, Kalichman S, Bachrach K, Garneau HC, Venegas A, Rawson RA. Promising outcomes from a cognitive behavioral therapy text-messaging intervention targeting drug use, antiretroviral therapy adherence, and HIV risk behaviors among adults living with HIV and substance use disorders. Drug Alcohol Depend. 2022 Feb 1;231:109229. doi: 10.1016/j.drugalcdep.2021.109229. Epub 2021 Dec 25. PMID: 34979421.
https://www.ohtn.on.ca/rapid-response-87-effectiveness-of-motivational-interviewing-in-changing-risk-behaviours-for-people-living-with-hiv/

SUD TREATMENT FOR THOSE LIVING WITH HIV

- Opioid Use Disorder
  - Methadone and buprenorphine are associated with a 54% reduction in risk of HIV infection in persons who inject drugs
- Alcohol Use Disorder (AUD)
  - Behavioral and medication for AUD
    - Increase intensity of behavioral treatment led to greater improvements than lower intensity behavioral treatments among those with detectable viral loads
      - AUDIT C scores improved
      - Viral loads, CD4
      - Adherence
    - Medication for AUD was associated with
      - Increased CD4 among those with detectable viral loads
      - Increased adherence among those with detectable and undetectable viral loads

Source: NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders;
McGinnis KA, et. al. Impact of behavioral and medication treatment for alcohol use disorder on changes in HIV-related outcomes among patients with HIV: A longitudinal analysis. Drug Alcohol Depend. 2020 Dec 1;217:108272..

EPIDEMIOLOGY- SUICIDALITY & HIV

Suicide

- 2nd leading cause of death in 10-14 and 25-34 y.o.
- 3rd most common cause of death in 15-24 y.o.
- 4th leading cause of death in 35-44 y.o.
- A life-threatening illness is a one of the most strongly predictive factors for completed suicide
- Suicide rate in those with HIV is at least twice the rate in the general population.
- The rates of depression & suicide are greatest in the first 2 years after diagnosis but remain elevated.

Suicide Attempt Lifetime Rate
People living with HIV:
16 to 10%
General Population: 3%

Suicidal Ideation Rate
People living with HIV:
23 to 22%
General Population: 9%

Sources: National Institute of Mental Health. (2025)Suicide is one of the leading causes of death in the U.S. Cairns, G. 2021 The hardest outcome of all: HIV and suicide.
AIDSMAP. Tsai YT, et al. Suicidality Among People Living With HIV From 2010 to 2021: A Systematic Review and a Meta-regression. Psychosom Med. 2022 Oct 1;84(8):924-939.; Vollmond CV, et al. Risk of Depression in People With HIV: A Nationwide Population-based Matched Cohort Study. Clin Infect Dis. 2023 Nov 30;77(11):1569-1577.

TIME FOR A POLL

Question:

People who talk about suicide, do not have attempts or complete suicide.

A. True
B. False

RISK FACTORS FOR SUICIDE

DEPARTMENT OF HEALTH

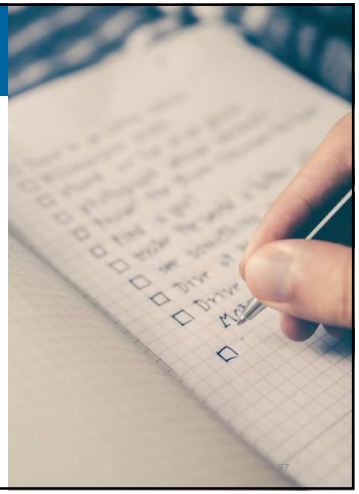
Suicidal Ideation Risk Assessment
STEPS AND RESOURCES FOR EXPLORING THOUGHTS OF SUICIDE

- ❑ Trauma
- ❑ Triggering event- stressor
- ❑ Ideation & past behavior
- ❑ Health-medical, mental and substance
- ❑ Purposeless, hopeless
- ❑ Poor sleep
- ❑ Mood, anxiety, anger, withdrawal
- ❑ Reckless, impulsive

Sources: https://www.health.state.mn.us/people/syringe/suicide.pdf

ASSESSMENT FOR SUICIDALITY

- Which factors can be modified to reduce risk?
  - Opportunities for healing
  - Reduce harms
- Protective factors
  - Connectedness
  - Support
  - Skills- problem solving, coping, healing



Sources: https://www.health.state.mn.us/people/syringe/suicide.pdf
Photo Source: Glenn Carstens-Peters on Unsplash

ASSESSMENT RECOMMENDATIONS

1. Be mindful that protective factors are unique to each person
2. Use the person's language
3. Ask open ended questions such as:
   - What are things that keep you safe?
   - When this occurred in the past what has stopped you?
   - Who are the people who lift your spirits?
   - What activities lift your spirits?
   - What would you like to develop within yourself in the future?
4. Try to identify protective factors that can be enhanced

Sources: https://www.health.state.mn.us/people/syringe/suicide.pdf

INTEGRATED PRIMARY HIV & BEHAVIORAL HEALTH CARE

Benefits of Integration

- ≫Increases likelihood of follow through on referrals
- ≫Improve physical health outcomes
- ≫Increased savings in healthcare cost
- ≫Reduce emergency room use

Ryan White HIV/ AIDS Treatment Extension Act 2009

- ≫Aligns with HHS guidelines
- ≫Mandates include:
  1. Universal depression and SUD screening
     - ≫MH screening rates currently are between 80%-100%
     - ≫SUD screening rates currently are much lower
  2. Establishment of follow up plan

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STIMULANT USE

LEARNING OBJECTIVES: STIMULANT USE AND PERSONS WHO ENGAGE IN CHEMSEX

- List at least 5 risks associated with methamphetamine usage
- Define and identify at least 2 benefits of contingency management
- Identify at least 3 risk behaviors of persons who engage in Chemsex

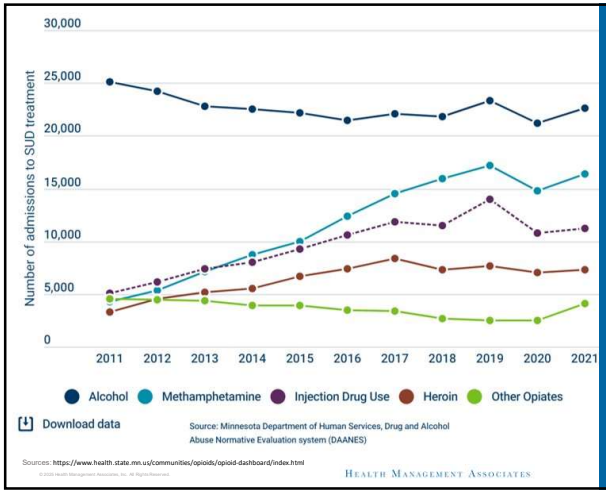
WHAT ARE STIMULANTS?

- Cocaine
- "Psychostimulants with abuse potential"
  - Mahuang, ephedra & khat- plants
  - Pseudoephedrine, ephedrine & cathinone & cathine
  - "Bath salts" (synthetic man made cathinones)
  - Amphetamine (synthetic)
    - Methamphetamine
    - Amphetamine
    - MDMA/ecstasy = Molly = methylenedioxy-methamphetamine
    - Methylphenidate = Ritalin™
  - Methylxanthines (naturally occurring)
    - Caffeine (coffee)
    - Theophylline (tea)
    - Theobromine (chocolate)

VIOLENT CRIME ENFORCEMENT TEAMS (VCET) ARRESTS 2022 IN MINNESOTA

Drug Involved in Arrest	Number of Arrests
Cocaine	207
Methamphetamine	1426
Prescription drugs	260
Heroin	155
Synthetic narcotics	106
Heroin + synthetic narcotics	261

Office of justice programs. VCET activities and data. https://dps.mn.gov/divisions/ojp/ojp-grants/grant-programs/vcet-vcet



ADMISSIONS TO SUD TREATMENT MINNESOTA

AMPHETAMINE USE NATIONALLY & LOCALLY

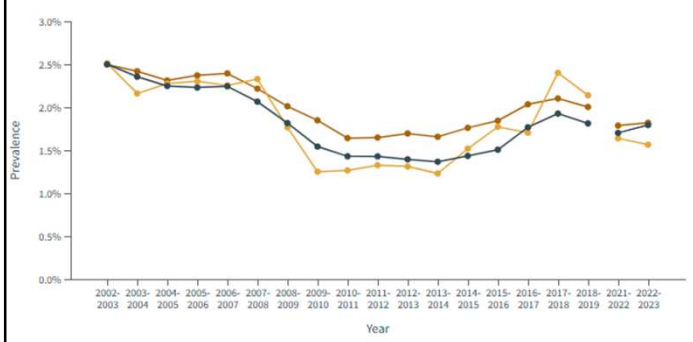
Methamphetamine Use in Past Year Among Individuals Aged 12 or Older, by Geographic Area

United States
Minnesota
Midwest

NOTE: Estimates from 2021-2022 are not comparable to estimates from previous years due to changes in NSDUH survey methodology.

COCAINE USE NATIONALLY & LOCALLY

Cocaine Use in Past Year Among Individuals Aged 12 or Older, by Geographic Area



United States
Minnesota
Midwest

HEALTH MANAGEMENT ASSOCIATES

Source: https://datatools.samhsa.gov/saes/state

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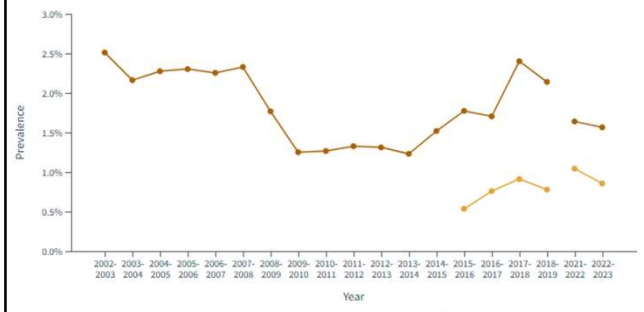
STIMULANT (COCAINE AND METHAMPHETAMINE) USE MINNESOTA

Prevalence Among Individuals Aged 12 or Older in Minnesota, by Outcome



Cocaine
Methamphetamine

NOTE: Estimates from 2021-2022 are not comparable to estimates from previous years due to changes in NSDUH survey methodology.

HEALTH MANAGEMENT ASSOCIATES

Source: https://pdas.samhsa.gov/saes/state

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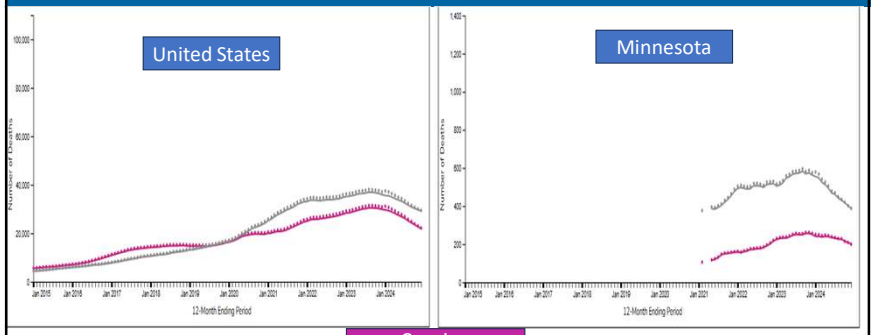
STIMULANT OVERDOSE DEATHS NATIONALLY AND LOCALLY



Cocaine
Psychostimulants with Abuse Potential

HEALTH MANAGEMENT ASSOCIATES

https://www.cdc.gov/nchs/nvss/vsrr/drug-overdose-data.htm#dashboard

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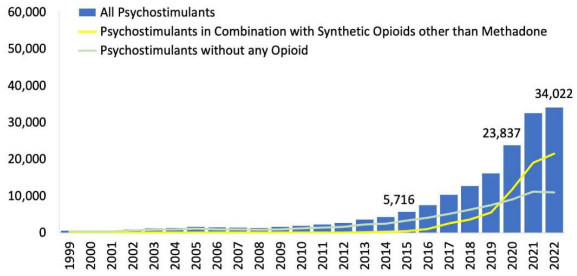
Figure 7. National Overdose Deaths Involving Psychostimulants with Abuse Potential (Primarily Methamphetamine)*, by Opioid Involvement, Number Among All Ages, 1999-2022



*Among deaths with drug overdose as the underlying cause, the psychostimulants with abuse potential (primarily methamphetamine) category was determined by the T43.6 ICD-10 multiple cause-of-death code. Abbreviated to *psychostimulants* in the bar chart above. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2022 on CDC WONDER Online Database, released 4/2024.

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METHAMPHETAMINES OVERDOSES WITH AND WITHOUT OPIOIDS

Source: https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates#:~:text=Drug%20overdose%20deaths%20involving%20psychostimulants,to%2032%2C537%20deaths%20in%202021.

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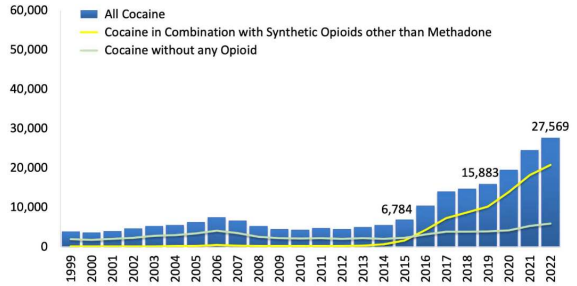
Figure 8. National Drug Overdose Deaths Involving Cocaine*, by Opioid Involvement, Number Among All Ages, 1999-2022



*Among deaths with drug overdose as the underlying cause, the cocaine category was determined by the T40.5 ICD-10 multiple cause-of-death code. Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2022 on CDC WONDER Online Database, released 4/2024.

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COCAINE OVERDOSES WITH AND WITHOUT OPIOIDS

Source: https://nida.nih.gov/research-topics/trends-statistics/overdose-death-rates#:~:text=Drug%20overdose%20deaths%20involving%20psychostimulants,to%2032%2C537%20deaths%20in%202021.

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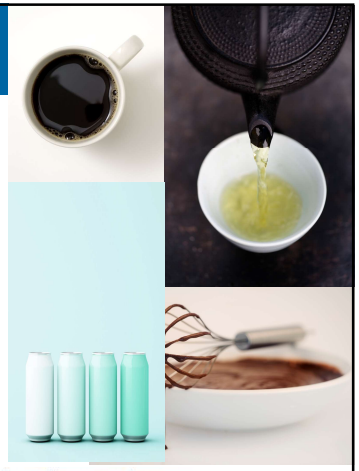
IN THE CHAT BOX PLEASE ANSWER THIS QUESTION:

Do you prefer:

Coffee
Tea
Chocolate
Soda
I refuse to pick just one



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MEDICINAL USES FOR STIMULANTS

- Cocaine- used as a vasoconstrictor & numbing agent
- "Psychostimulants with abuse potential"
  - Ephedra- made into pseudoephedrine and used for allergies and colds
  - Khat used for depression, obesity, fatigue in middle east
  - Amphetamines are used for obesity, narcolepsy & Attention Deficit Hyperactivity Disorder (ADHD)
  - Methylxanthines
    - Theophylline (tea) used for asthma

Amphetamine dosing:
ADHD 2.5 mg/day to 70mg/ day
Narcolepsy 5 mg/day to 60 mg/day

Methamphetamine dosing:
ADHD approved but not commonly used
5 mg/day to 25 mg/ day

Illicit use of amphetamines/ methamphetamines up to 1 g / day

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SOME CONSEQUENCES ARE DUE TO MODE OF CONSUMPTION

- Smoking
  - Burned lips
  - Throat problems
  - Lung problems- acute (50% of those who smoke cocaine) and chronic
- Injection (unsafe practices)
  - Skin & heart infections
  - Hepatitis or HIV
- Snorting
  - Sinus infections
  - Holes in nasal septum
  - Nosebleeds
  - Hoarseness

NOTE:
There is cross tolerance from one class of stimulants to another

EFFECTS DEPENDENT UPON MODE OF CONSUMPTION

Drug Reaches Brain
- Smoking- 6-8 seconds
- Injection- seconds
- Snorting- 15 minutes
- Oral-45 minutes

Half-Life
- Cocaine .75-1.5h
- Bath Salts (Cathinone) .7-2.3 hours
- Amphetamine 7-34 hours
- Methamphetamines 6-15 hours

TIME FOR A POLL

Question:

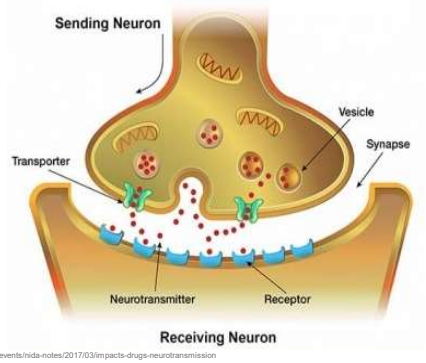
Have you had trouble retaining patients with stimulant use disorders in treatment?

A. Yes
B. No

STIMULANTS EFFECTS ON BRAIN CHEMISTRY

Cocaine: Reuptake Blocker
INDIRECT agonist of
+ dopamine
+ norepinephrine
+ serotonin

BLOCKS
+ **neurotransmitters reuptake**
+ **sodium channels**



Amphetamines: Releaser
INDIRECT agonist of
+ dopamine
+ norepinephrine
+ serotonin

INHIBITS
+ **metabolism of neurotransmitters**
+ **vesicular storage**
+ **reverses reuptake**

Photo Source: https://www.drugabuse.gov/news-events/nida-notes/2017/03/impacts-drugs-neurotransmission

ACUTE EFFECTS OF STIMULANTS

- Increased
  - Alertness/vigilance, concentration, mental acuity
  - Energy, movement
  - Sensory awareness & sexual desire
  - Self confidence, grandiosity, anxiety, irritability, paranoia
  - Heart rate & blood pressure, irregular heartbeat, vasoconstriction
  - Breathing rate, temperature, pupil size & blood sugar
  - Electrical activity, seizures
- Euphoria
- Abnormal bowel and bladder function
- Toxic effects on muscles including
  - tremors, stereotypy (i.e., ritualistic movements)
- Decreased
  - Brain blood flow & glucose metabolism
  - Appetite & sleep
  - Judgment & complex multi-tasking
- Cardiovascular effects
  - Heart attacks
  - Arrhythmias
  - Severe hypertension
  - Strokes
- Increased potential for violence and psychosis

STIMULANT INTOXICATION: TREAT THE PRESENTING SIGN/SYMPTOM

Overdose:

Seek immediate medical attention for:

- Hypertensive (HTN) crisis
- Cardiac arrythmias
- Heart attack
- Stroke – Act F.A.S.T.*
- Psychosis

* **F**acial drooping, **A**rm weakness, **S**peech difficulty, **T**ime to call 9-1-1

Treatment of Overdose

Treat HTN with alpha and/ or beta blockers

Treat arrythmias with anti-arrhythmics

Treat vasoconstriction with nitroglycerin

BH interventions for Overdose

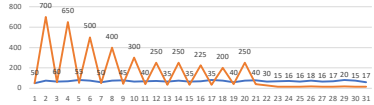
Talk down the client in a calm environment

Treat agitation with benzodiazepine

Treat psychosis with antipsychotics

LONG-TERM MENTAL EFFECTS OF ILLICIT STIMULANTS

- Tolerance to euphoria and appetite suppression
- **Loss of ability to concentrate & severe memory loss**
- Loss of ability to feel pleasure without drug
- Dopamine depletion after repeated use of addictive substances to intoxication
- Paranoia and psychosis (hallucinations & delusions)
- Insomnia and fatigue
- Irritability and anger
- **Depression (suicidal ideation)**
- Impulsive, risky sexual behavior



* Use of stimulants in doses approved by FDA for treatment of medical conditions do not result in these effects

LONG TERM PHYSICAL EFFECTS OF ILLICIT STIMULANTS

- **Dry mouth, severe dental decay and gum problems**
- **Bruxism (tooth grinding)**
- Weight loss
- Increased sweating; oily skin
- Skin lesions from injection and formication (leading to skin picking)
- Headaches
- Movement disorders and seizures
- **Strokes (bleeding into the brain) and heart attacks**
- Irregular heart beats
- Cardiomyopathy
- Kidney and liver failure
- Pulmonary hypertension
- Damaged brain cells
- Neonatal effects

Strokes & heart attacks are the leading cause of death for stimulant users, even young users

STIMULANTS AND PREGNANCY

- Pregnancy may increase risk of cardiovascular events
- Preterm labor
- Earlier gestational age at delivery
- Low birth weight
- Small for gestational age
- Strokes in utero
- Secreted in breast milk

Child:
Dysregulated behavior, growth, inhibitory control, attention and abstract reasoning, but these effects appear to be related to gestational age at delivery, psychiatric disorders, other prenatal exposures and quality of postnatal environment. *
Anxiety, depression at 3-year-old **
Worse cognitive function at 7-year-old **

Source: Gouin 2011; Kalaitzopoulos, 2018; *Smid, 2019; **Deruf, 2007

STIMULANT USE IN PREGNANT PEOPLE

- Pregnancy
  - During pregnancy stimulant use is more common than opioid use
  - Cannabis is the most used substance during pregnancy
    - Followed by stimulants
- Homelessness and sexual violence predict stimulant use in women…

If Post-traumatic Stress Disorder (PTSD) is present

- Integrated treatment is more effective for co-occurring disorder (COD)

Sources:
- Center for Behavioral Health Statistics Quality. 2015 National survey on drug use and health: Detailed tables In:2016
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CESSATION FROM STIMULANTS

- Acute withdrawal:
  - 4 days
  - No medication recommended
- Symptoms
  - Increased appetite
  - Increased sleep & dreaming
  - Decreased activity & energy
  - Depression & anhedonia
  - Decreased concentration
  - Craving

- Protracted withdrawal
  - Up to 10 weeks
  - No medication recommended
- Lingering effects on the brain; may be permanent
  - Psychosis
  - Movement Disorders
  - Cognitive Issues

Handout: Stimulant Withdrawal: Monitoring & Treatment; available here through 5-2025
https://addictionfreeca.org/r/fpnseg8rpkgg

AMPHETAMINES AND COGNITIVE IMPAIRMENT

- Two-thirds of people with amphetamine use disorder have cognitive impairment
- Impairment is "associated" with:
  - Older age
  - Earlier onset of use
  - Longer duration of use
  - Greater frequency of use
- May limit ability to follow through on treatment

- Damage cell structures
  - Mitochondria in neurons & microglia
- Damage DNA
  - Chromosomal alterations
- Inflammation of microglia
- Disruption of blood brain barrier
  - Inflammatory markers in peripheral blood
- Cell death

Source: Paulus, M (2020) Neurobiology, clinical presentation, and treatment of methamphetamine use disorder a review. JAMA Psychiatry 77(9): 959-66.

AMPHETAMINES AND LINGERING EFFECTS ON BRAIN

- May be permanent even with prolonged abstinence
  - Attention
  - Memory
  - Learning efficiency
  - Visual- spatial processing
  - Processing speed
  - Psychomotor speed
  - Executive dysfunction

Cognitive Impairment
Impairs ability to engage in treatment due to trouble

- Sequencing events to get to treatment
- Remembering what is taught
- Applying what is taught

TREATMENT OF STIMULANT USE DISORDER

- Harm Reduction
  - Educational materials on psychological & physical effects
  - Fentanyl & xylazine test strips
  - Syringe Exchange/distribution & other clean injection supplies
  - Naloxone and overdose prevention education
  - Quiet rooms to come down
  - Showers & antibiotics for infection prevention & treatment
  - Condoms & info on safer sex practices
  - Water for hydration
  - Toothpaste and toothbrush

Photo sources: Reproductive Health Supplies Coalition, Sara Groblechner, and Giorgio Trovato on Unsplash

TREATMENT OF STIMULANT USE DISORDER: SAMHSA EVIDENCE BASED RESOURCE GUIDE

- Motivational Interviewing (MI)
  - Decreased days of stimulant use & amount of stimulant used/ day
- Cognitive Behavior Therapy (CBT)
  - Decreased quantity of stimulant use & frequency/ week
  - Decreased risky sexual behaviors
- Community Reinforcement Approach- see next slide
- Contingency Management- see next slide

STRONG EVIDENCE FOR THESE AS INDIVIDUAL INTERVENTIONS OR IN COMBINATION APPROACHES

TREATMENT OF STIMULANT USE DISORDER

- Community Reinforcement Approach (CRA)
  - Decreased addiction severity
  - Decreased drug use (weeks of use, frequency/week, $/week)
  - Increased cocaine abstinence
- Contingency Management (CM): Strongest Effect Size
  - Decreased
    - days of stimulant use
    - stimulant cravings
    - HIV risk behaviors
  - Studies Veterans Administration National Rollout
    - Pre-CM: compared to 42% completed 2 sessions in 1 year
    - Post-CM Implementation: 50% completed 14 sessions in 12 week
    - 92% of >69,000 toxicology tests negative

Sources: SAMHSA
Oliva, EM (2013)
Warner & DePhilippis (2020)

CONTINGENCY MANAGEMENT

- Select objective target behavior (ex. abstinence)
  - Define the behaviors
    - Abstinence from DOC? all illicit drugs? prescribed drugs? alcohol?
- Provide immediate, consistent, tangible, desired rewards for target behavior
- Escalate size of reward for consistent behavior
- When target behavior does not occur
  - Withhold the reward
  - Reset size of reward for next occurrence of behavior
- Example: Fishbowl Method
  - 250 good job cards/gifts
  - 209 vouchers for $1; 40 for $20; 1 for $100

Measure objectively & frequently
Don't set the bar too high or low

Reinforcement totaling $80 = treatment as usual. Reinforcements of $240 improves outcomes.
Petry 2004

SAMHSA Advisory Jan. 2025
Grant Funds up to $750/year/patient For CM for SUD.

TIME FOR A POLL

Question:

Do you have a Contingency Management Program?

A. Yes
B. No
C. I don't know

WHAT TREATMENTS HAVE BEEN TRIED FOR STIMULANT USE DISORDER?

- Cocaine & amphetamines not consistently effective
- Antidepressants: SSRIs and tricyclic antidepressants not effective
- Bupropion: risk of seizures; 5 failed trials for amphetamine use disorder *
- Mirtazapine: risk of weight gain; single small study + for amphetamine use disorder in men who have sex with men
- Treatment of co-occurring Opioid Use Disorder (OUD)
- Opioid agonists: increased dose of buprenorphine or methadone shows decreased cocaine use generally
- Naltrexone: + results in multiple small studies amphetamine use disorder and cocaine use disorder *
- Antiseizure medications: Topiramate (risks); + one or two small studies in amphetamine use disorder

* See next slide

WHAT TREATMENTS HAVE BEEN TRIED FOR STIMULANT USE DISORDER?

https://downloads.asam.org/sitefinity-production-blobs/docs/default-source/quality-science/stud_guideline_document_final.pdf?sfvrsn=71094b38_1

The ASAM/AAAP
CLINICAL PRACTICE GUIDELINE ON THE

Management of Stimulant Use Disorder

There are NO FDA approved medications for stimulant use disorders. Best Practices and Standards of Care do NOT endorse medication for stimulant disorders, by prescribers who are not experienced in addiction medicine.

WHAT'S ALL THE FUSS ABOUT?

- New England Journal of Medicine article 2021
- 400 adults with methamphetamine use disorder
- Bupropion 450mg per day + placebo or bupropion 450mg per day + extended-release naltrexone 380mg IM q 3w (XR NTX)
- Response defined as 3 of 4 toxicology tests negative for methamphetamines
- 14% of patients on Bupropion + XR NTX responded vs 3% on Bupropion + placebo
- Buprenorphine vs. placebo has a 21% difference for negative tox screen

This 6-week study has NOT been replicated yet. 11% improvement over placebo. Compare this to the EXCELLENT outcomes from psychosocial treatments.

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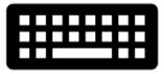
CHEMSEX

TIME FOR A CHAT

What does the term Chemsex mean?



Type in the chat

CHEMSEX

Definition:

Chemsex (also known as sexualized drug use – SDU) is the **use of drugs to enhance sexual experience**.

Common drugs used include methamphetamine, gamma-hydroxybutyrate (GHB), gamma-butyrolactone (GBL), methylenedioxymethamphetamine (MDMA), cocaine, ketamine, poppers (amyl nitrite) or cannabis (the latter two gave rise to the term SDU).

CHEMSEX

What You Should Know:

- Chemsex is popular among some gay, bisexual, transgender, and queer persons, **but can be experienced by persons of any gender**
- Chemsex participants have higher odds of condomless anal sex with partners of different or unknown HIV status (bareback sex)
- Persons engaged in Chemsex have greater risk of acquiring sexually transmitted infections (STIs) and hepatitis C (HCV)
- Participants are at higher risk of HIV transmission
- The association with sexual risk indicates the importance of promoting harm reduction among this population (e.g., condoms, PrEP, PEP, drug knowledge).

COMMON TERMINOLOGY USED TO COMMUNICATE THE DESIRE TO ENGAGE IN CHEMSEX

Injecting	Meth	GHB	Ketamine	ChemSex
Pointing, slamming, darts	Blowing clouds, Cloudy, ice cream, tea, T, tina	Water, Gina, Swirling	K, Special K	Party, PNP, Party and play

Grindr · sniffies · S · ADAM 4 ADAM

IMPACT OF CHEMSEX DRUGS

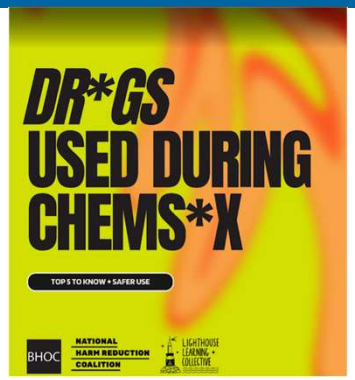
» Engaging in chemsex can be managed by some. This can mean that there is minimal impact on an individual's general wellbeing, work, relationships with partners, friends, and family.

» For others it can prove problematic, and individuals may experience:

- impaired decision making
- it dominates social life and free time
- can lead to chaotic sexual encounters
- sexual boundaries are often crossed while high
- issues around sexual consent
- impact on sexual health: Hep C, HIV, as well as other STI's
- behaviors associated with addiction

•impact on mental health
•health issues associated with injecting drugs
•being vulnerable to mental and physical harm by others
•isolation
•unmanageable comedowns
•suicidal ideation
•an impact on work performance
•a breakdown of personal relationships

SAFER CHEMSEX



POPPERS

Poppers are an inhaled depressant that relaxes muscles in the body (including anal and vaginal sphincters). The effects are short-lived but felt immediately. The most common reasons for using these during s*x are to relax (typically for bottoms) and to prevent cumming too quickly.

SAFER USE

- **TRY TO AVOID mixing with erectile meds that help you stay hard.** It can cause a lethal drop in blood pressure.
- **Avoid contact with your skin and eyes.** Put liquid on a cotton ball or get a sniff cap.
- **Don't forget lube!** Even though the muscles are relaxed, the skin around your ass or vagina can still get hurt.

SAFER CHEMSEX

GHB/GBL (G)

G is a depressant in liquid form that's usually measured with a syringe and mixed into a drink to help mask the taste. What's called "G" can refer to GHB, GBL, 1,4-BD, or other similar substances—so effects can vary depending on the type and dose. The main reason for using G during s*x is its ability to increase libido and sexual feelings.

SAFER USE

- **Use a syringe to keep track of how much you're taking.** Write it down or set an alarm.
- **TRY TO AVOID using with alcohol or other depressants** like benzos or antihistamines (like Benadryl) which increase risk of overdose and unconsciousness.
- **Try to stay awake.** Have someone put you in the recovery position if you fall asleep.
- **Be mindful of physical dependence.**

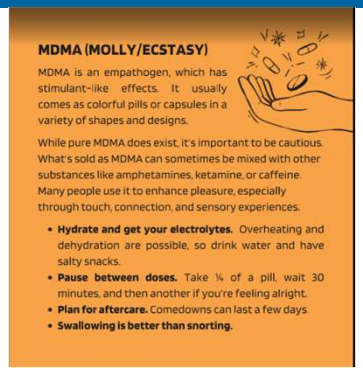
KETAMINE (K)

Ketamine is a white/off white powder that has both dissociative and depressive effects. It can be swallowed, snorted, or injected. The main reasons for using it during s*x is that it lowers your inhibitions and improves your ability to last.

SAFER USE

- **HYDRATE.** K can cause a long-term health issue called ketamine bladder syndrome. Getting your fluids helps prevent it.
- **Be mindful of how much you're taking.** Write it down. K is stronger than cocaine, so start low and go slow.
- **Plan ahead for STI + HIV prevention.** Take your condoms, PrEP, doxyPEP, and lube with you and communicate that it's important to you before using. When inhibitions are lower, we are more likely to take risks.

SAFER CHEMSEX



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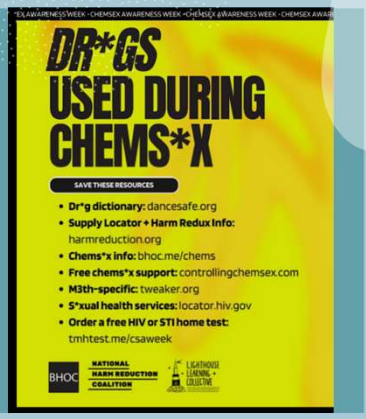
RESOURCES



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METHAMPHETAMINE AND ITS IMPACT ON HIV INFECTION

Methamphetamine use:

- Increases sexual desire, impairs judgment, and provides energy and confidence to engage in sexual activity for long periods of time (hyper-sexual)
- Causes erectile dysfunction
- Causes mucosal dryness
- Decreases adherence to HIV treatment and medical follow-up
- Increases HIV replication
- Accelerates progress of HIV-related dementia

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DOES METHAMPHETAMINE ACCELERATE HIV AND HCV?

- In test tube studies, when methamphetamine is added to immune cells, it significantly increases HIV replication
  - Particularly in CD4 cells and monocytes (white blood cells)
- In mouse models, methamphetamine activated a portion of the HIV genetic code (long terminal repeat – LTR), prompting cells to release a protein tied to more rapid HIV disease progression
- The Journal of Viral Hepatitis published a study indicating that methamphetamine increases Hepatitis C replication.

Source: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2675873/

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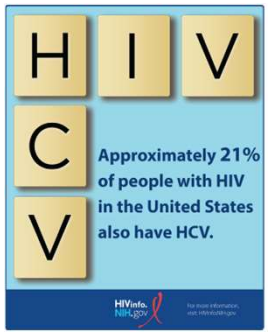
HIV AND HEPATITIS C

HIV AND HEPATITIS C CO-INFECTIONS



- HIV may cause chronic HCV to advance more quickly.
- Impact of HCV on HIV advancement is unclear.
- In the US, between 62% - 80% of people who inject drugs who have HIV also have HCV.

Sources: HIVinfo.NIH.gov. (2021). HIV and Hepatitis C. https://hivinfo.nih.gov/understanding-hiv/fact-sheets/hiv-and-hepatitis-c#:~:text=According%20to%20the%20Centers%20for,be%20treated%20for%20both%20infections. Centers for Disease Control and Prevention (CDC). (2024). Fast Facts: HIV in the United States. https://www.cdc.gov/hiv/data-research/facts-stats/index.html#:~:text=HIV%20diagnoses%20among%20people%20who%20inject%20drugs%20(PWID),1%2C161)%20of%20new%20HIV%20diagnoses.

HIV AND HEPATITIS C CO-INFECTIONS

- In 2023 in Minnesota, there were 31,942 chronic cases of HCV
  - Approximately 6,000 Co-infected with HIV and HCV
- The U.S. Public Health Service/Infectious Diseases Society of America guidelines recommend that all HIV-infected persons be screened for HCV infection (CDC, 2014).

WHO SHOULD BE SCREENED FOR HCV?

- Universal screening of all adults ≥ 18yo, at least once.
- All pregnant women during each pregnancy.

Periodic screening while risk factors persist:

- Persons who inject drugs and/or share needles, syringes or other drug preparation equipment.
- Persons with selected medical conditions, including receipt of hemodialysis- see next slide.

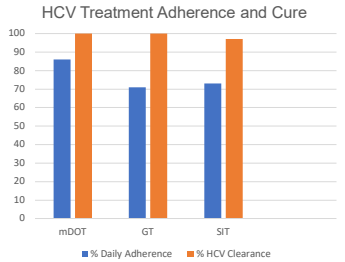
WHO SHOULD BE SCREENED FOR HCV CONTINUED

- Screening regardless of age:
  - Persons with HIV.
  - Persons who use drugs.
  - Persons with selected medical conditions (e.g., hemodialysis, persistently elevated ALT).
  - Healthcare personnel post needlesticks, sharps, or mucosal exposures.
  - Children born to mothers who are HCV+.
  - Persons receiving blood transfusion or organ transplant before July. 1992 or clotting factor concentrates before 1987.

Sources: Schillie, S., et al. (2020). CDC Recommendations for Hepatitis C Screening Among Adults - United States, 2020. MMWR. Recommendations and reports : Morbidity and mortality weekly report. Recommendations and reports, 69(2), 1–17. https://doi.org/10.15585/mmwr.rr6902a1
Debika Bhattacharya and others, Hepatitis C Guidance 2023 Update: American Association for the Study of Liver Diseases– Infectious Diseases Society of America Recommendations for Testing, Managing, and Treating Hepatitis C Virus Infection, *Clinical Infectious Diseases*, 2023;, ciad319, https://doi.org/10.1093/cid/ciad319

HCV TREATMENT IN PEOPLE WHO USE DRUGS

- Injection drug use accounts for ~ 70% of new HCV infections.
- Active or recent drug use is **NOT** a contraindication for HCV treatment.
- Cure rates ~ 95% in persons reporting drug use at start of HCV treatment.
- Opioid agonist treatment (methadone or buprenorphine) reduces rate of HCV acquisition by 50%.



mDOT = modified directly observed therapy; GT= group therapy; SIT= self-administered individual treatment

QUESTIONS?

NEXT STEPS

- Join us next week for Session 4!
- Your registration should have included a reoccurring calendar invite for all four sessions
- Please complete the evaluation for this session that will be sent out after via email (evaluations must be completed for those seeking CEU/CME credits).

Follow-up questions?

Contact Gabriel Velazquez at gvelazquez@healthmanagement.com

AGENDA FOR WEBINAR SERIES

Session	Topics
#1 **WEDNESDAY,** **JULY 9** 12:00 pm to 3:00 pm	❑ Understanding HIV ❑ HIV Testing, Treatment and Prevention ❑ The Science of Addiction ❑ Screening and Assessment
#2 **WEDNESDAY,** **JULY 16** 12:00 pm to 3:00 pm	❑ Ethical and Legal Issues ❑ Funding and Policy Considerations ❑ HIV Risk Reduction ❑ SUD Harm Reduction ❑ HIV and Stigma ❑ Motivational Interviewing
#3 **WEDNESDAY,** **JULY 23** 12:00 pm to 3:00 pm	❑ Working with Justice Involved Persons ❑ Substance Use Disorder Treatment with Medications ❑ Mental Health Treatment and Counseling ❑ Stimulant Use ❑ Chem Sex
#4 **WEDNESDAY,** **JULY 30** 12:00 pm to 3:00 pm	❑ **Cultural, Racial and Sexual Identities** ❑ **Pregnancy and HIV, SUD/OUD** ❑ **Accessing, Obtaining, and Integrating Services for Individuals with HIV and SUD in Minnesota**

GLOSSARY OF TERMS (REVISITED)

- Sexual orientation – a person's identity in relation to the gender or genders to which they are sexually attracted (straight, gay, lesbian, asexual, bisexual, pansexual)
- Gender identity and/or expression - internal perception of one's gender; how one identifies or expresses oneself.
  - Cisgender – a term used to describe a person whose gender identity aligns with those typically associated with the sex assigned to them at birth
  - Transgender – refers to an individual whose current gender identity and/or expression differs from the sex they were assigned at birth (may have transitioned or be transitioning in how they are living)
  - Gender Expansive - refers to an individual who expresses identity along the gender spectrum (genderqueer, gender nonconforming, nonbinary, agender, two spirit)
- Sexual Minority – refers to a group whose sexual identity orientation or practices differ from the majority of and are marginalized by the surrounding society.

SOURCE: Centers for Educational Justice and Community Engagement, UC Berkeley

GLOSSARY OF TERMS (REVISITED)

- Race - is usually associated with inherited physical, social and biological characteristics. In this context that means race is associated with biology. Institutionalized in a way that has profound consequences (White, African American, American Indian Alaskan Native, Native Hawaiian or Pacific Islander)"
- Ethnicity - a term used to categorize a group of people with whom you share learned characteristics and identify according to common racial, national tribal, religious, linguistic, or cultural origin or background. (Hispanic, Non-Hispanic Black, Non-Hispanic Black, etc.)

SOURCE: US Office of Management and Budget: Federal Register Vol. 62(210): 58782

COMMON ACRONYMS (REVISITED)

ART – Antiretroviral therapy
AUD – Alcohol use disorder
IDU – Injection or intravenous drug use
MSM – Men who have sex with men
OUD – Opioid use disorder
PEH – Person(s) experiencing homelessness
PEP – Post-exposure prophylaxis
PrEP – Pre-exposure prophylaxis
PLWH – Person(s) living with HIV
PWID – Person(s) who injects drugs
SUD – Substance use disorder