HEALTH MANAGEMENT ASSOCIATES

The Intersection of HIV and Substance Use:

Enhancing the Care Continuum with Evidence-Based Practices

Training Series: Session 3
January 18, 2023

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DEPARTMENT OF HUMAN SERVICES

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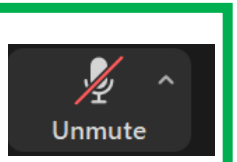

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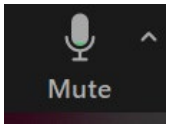

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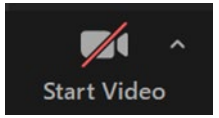

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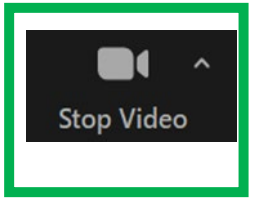

Camera ON

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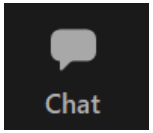

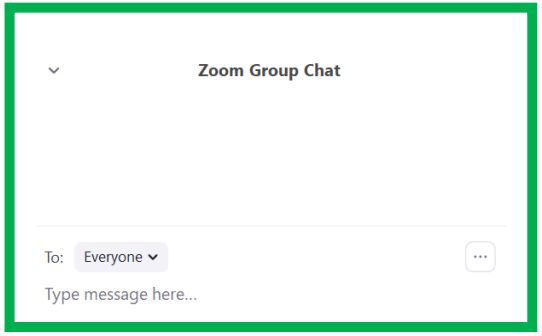

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Housekeeping

- Today is **Session 3**
- This series is eligible for both **CEUs** and **CMEs**
  - *These activities have been approved for CEUs by the Minnesota Board of Behavioral Health and Therapy for 3 hours of credit for LADCs and LPC/LPCCs (total of 12 hours if all four sessions are fully attended)*
  - *These activities have been approved for CMEs by the American Academy of Family Physicians for 3 hours of credit (total of 12 hours if all four sessions are fully attended)*
- **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.**

- Follow-up questions?

  Contact Ryan Maganini: rmaganini@healthmanagement.com

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Acknowledgments

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

Indigenous Peoples Task Force

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Land Acknowledgment

Every community owes its existence and vitality to generations from around the world who 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 has been 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 "oh-jib-way"), the Ho Chunk, and the other nations of people who also called 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

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Today's Presenters

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Faculty	Nature of Commercial Interest
Linda Follenweider, MS, APRN	Ms. Follenweider 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.
Charles Robbins, MBA	Mr. Robbins 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.
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.
Jeanene Smith, MD	Dr. Smith 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.

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Agenda for Webinar Series

Session	Topics
#1 WEDNESDAY, JAN 4 12:00 pm to 3:00 pm	❑ Understanding HIV ❑ HIV Testing and Treatment ❑ The Science of Addiction ❑ Screening, and Assessment
#2 **WEDNESDAY, JAN 11** 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, JAN 18** 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, JAN 25** 12:00 pm to 3:00 pm	❑ Cultural, Racial and Sexual Identities ❑ HIV Positivity, Pregnancy, and SUD ❑ Accessing, Obtaining, and Integrating Services for Individuals with HIV and SUD in Minnesota

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Time for a Poll

Please indicate the sector(s) in which you currently serve:

A. Community based organizations (Social Services, HIV, LGBT, etc.)
B. Corrections (includes Probation, Jail, Prison)
C. County Behavioral Health, Public Health, Human Services
D. Non-county behavioral health
E. Federally Qualified Health Center (FQHC)
F. Narcotic Treatment Program/Opioid Treatment Program
G. Outpatient Treatment Program
H. Residential Treatment Program
I. Aftercare services (e.g., sober living, other recovery housing, recovery community centers, etc.)
J. Harm Reduction Services/SSPs
K. Other (please specify in the chat)

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Time for a Poll

Please indicate your primary role or discipline:

A. Physicians, Physician Assistant, Nurse Practitioners, Nurses (RN, LVN)
B. Social Workers
C. Addiction Counselors (LADCs)
D. Peer Recovery Support Positions
E. Substance Use Navigators (SUNs)
F. Administrators, Program Managers
G. Psychologists, LMFTs
H. Criminal Justice Professionals
I. Community Members
J. Other (please specify in the chat)

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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

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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

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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

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Working with Justice-Involved Individuals

Learning Objectives:
Working with Justice-Involved Individuals

I

Describe the importance of substance use disorder treatment with medications in criminal justice settings

II

List 3 actions to take to ensure continuity of care for clients upon release from justice settings

III

Compare and contrast FDA approved medications for Alcohol Use Disorder (AUD), Opioid Use Disorder (OUD), and opioid reversal

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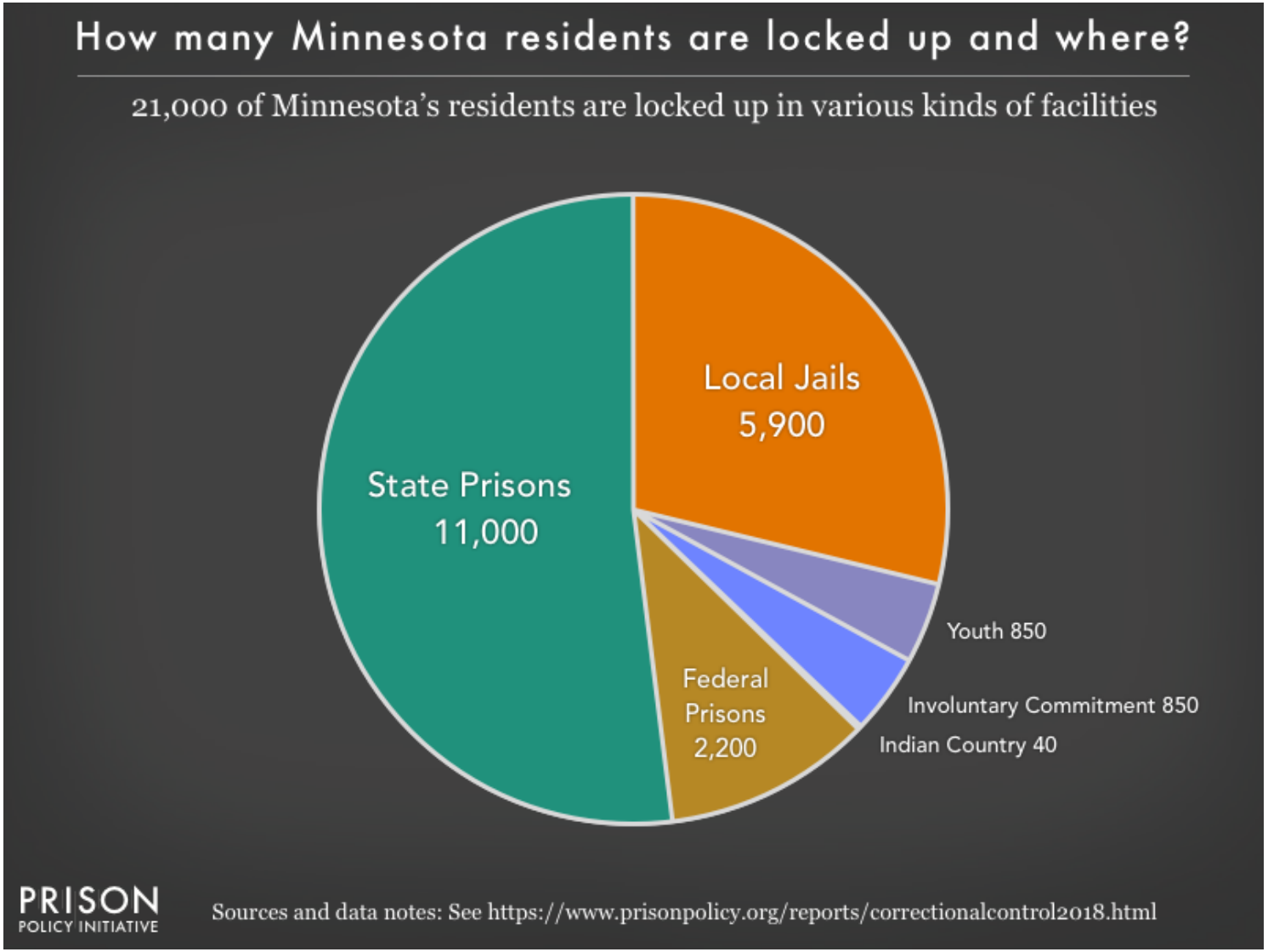
Incarceration in MN by Facility



https://www.prisonpolicy.org/profiles/MN.html

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Incarceration Rates in MN by Race

https://www.prisonpolicy.org/profiles/MN.html

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MINNESOTA DEPARTMENT OF CORRECTIONS ADULT PRISON POPULATION SUMMARY (AS OF 07/01/2022)

Race/Ethnicity	Count	Percentage (%)
White	4,010	51.2%
Black	2,782	36.7%
American Indian	725	9.3%
Asian	205	2.6%
Unknown/Other	21	0.3%
Total	7,833	100%
Note: 425 (5.4%) of the above are of Hispanic ethnicity.		

Average age: 39.2
Average ADP 2022: 7,527
Males: 7.332 (93.6%)
Females: 501 (6.4%)

https://mn.gov/doc/assets/Adult%20Prison%20Population%20Summary%207-1-2022_tcm1089-534656.pdf

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MINNESOTA DEPARTMENT OF CORRECTIONS ADULT PRISON POPULATION SUMMARY (AS OF 07/01/2022)

Top Six Offenses	Count	Percentage (%)
Criminal Sexual Conduct	1,512	19.3%
Homicide	1,511	19.3%
Drugs	1,203	15.4%
Assault	690	8.8%
Weapons	668	8.5%
Assault - Domestic	388	5.0%
Note: Percentages are based on the total population of 7,833.		

Releases (FY2022)	Count	Percentage (%)
Supervised Release/Parole	3,570	77.0%
Community Programs	683	14.7%
Discharge	281	6.1%
Work Release – COVID-19	55	1.2%
Other	43	0.9%
Cond Med Rel/Supv Release – COVID-19	7	0.2%
Total	4,639	100.0%

https://mn.gov/doc/assets/Adult%20Prison%20Population%20Summary%207-1-2022_tcm1089-534656.pdf

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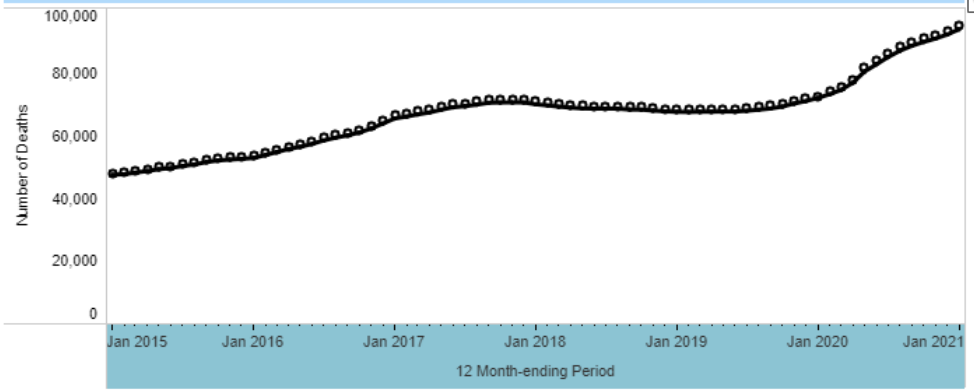
12 Month-ending Provisional Number of Drug Overdose Deaths

Based on data available for analysis on: 8/1/2021

Figure 1a. 12 Month-ending Provisional Counts of Drug Overdose Deaths: United States

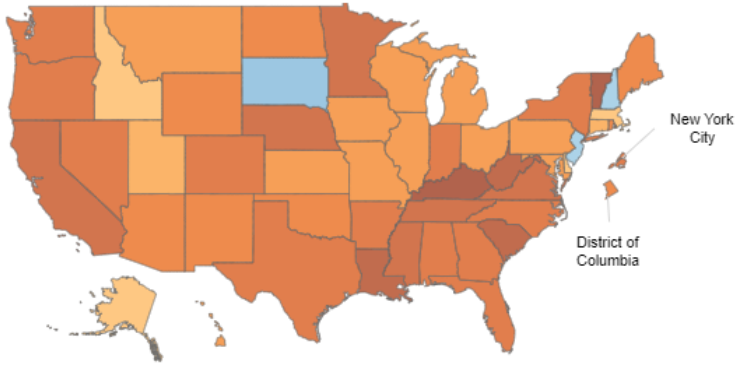


Select Jurisdiction: United States

Predicted Value

Reported Value

Figure 1b. Percent Change in Reported 12 Month-ending Count of Drug Overdose Deaths, by Jurisdiction: January 2020 to January 2021



Select predicted or reported number of deaths

Predicted

Reported

Percent Change for United States

30.5

Legend for Percent Change in Drug Overdose Deaths Between 12-Month Ending Periods

-16.2 64.7

NOTES: *Reported* provisional counts for 12-month ending periods are the number of deaths received and processed for the 12-month period ending in the month indicated. Drug overdose deaths are often initially reported with no cause of death (pending investigation), because they require lengthy investigation, including toxicology testing. Reported provisional counts may not include all deaths that occurred during a given time period. Therefore, they should not be considered comparable with final data and are subject to change. *Predicted* provisional counts represent estimates of the number of deaths adjusted for incomplete reporting (see **Technical notes**).
Deaths are classified by the reporting jurisdiction in which the death occurred. Percent change refers to the relative difference between the reported or predicted provisional numbers of deaths due to drug overdose occurring in the 12-month period ending in the month indicated compared with the 12-month period ending in the same month of the previous year. Drug overdose deaths are identified using ICD–10 underlying cause-of-death codes: X40–X44, X60–X64, X85, and Y10–Y14.

+ableau

Unexpected response from 'GetSessionInfo' command when fetching online analytics server info.

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

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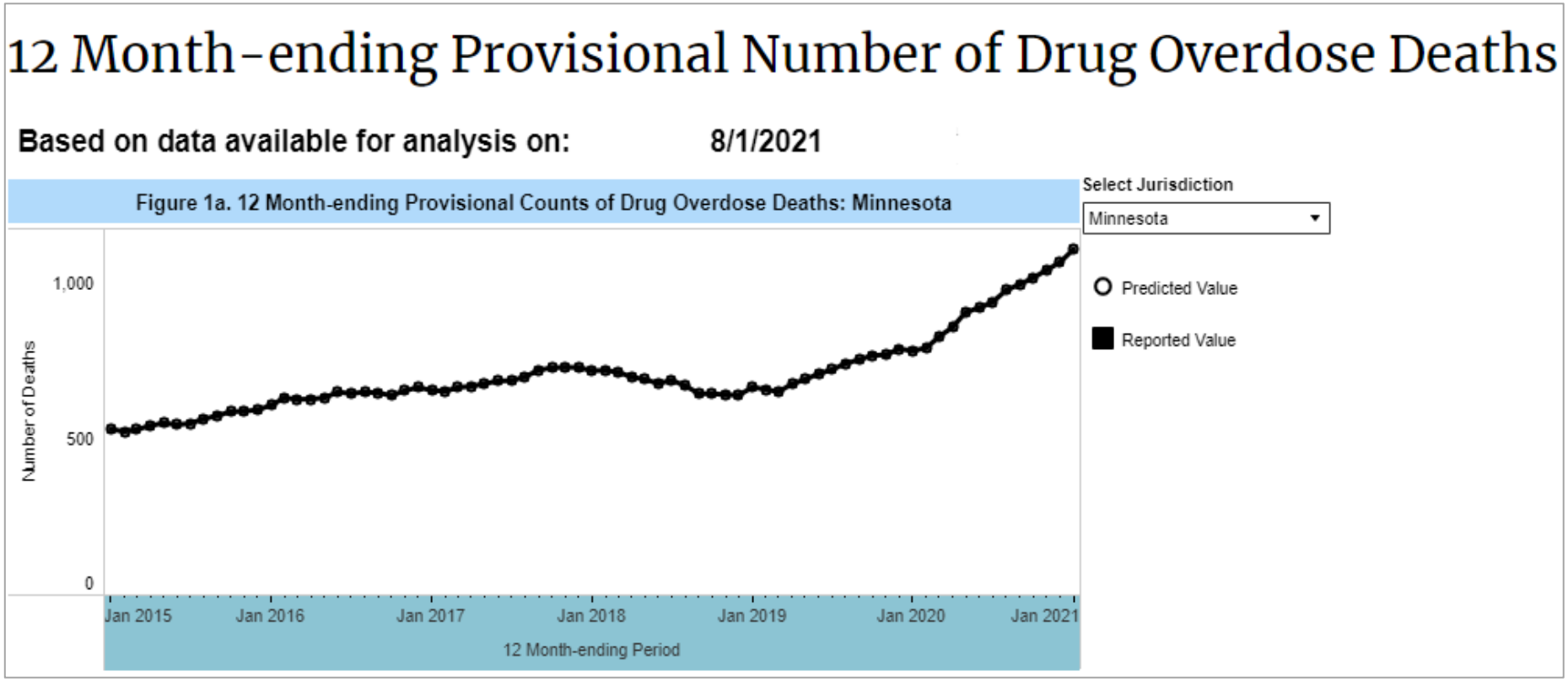
Worsening Problem



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

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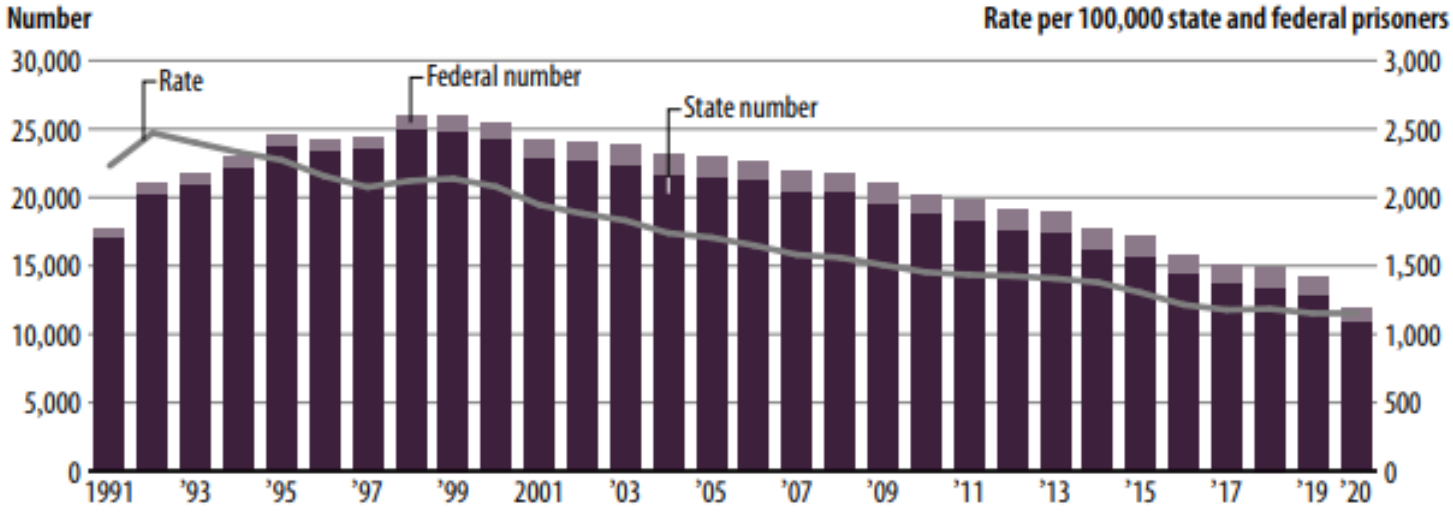
HIV in Prison

An estimated 11,940 persons in the custody of state and federal correctional authorities were known to be living with HIV, a decline of nearly 16% from yearend 2019 (14,180).

FIGURE 1

Persons living with HIV and rate of HIV per 100,000 persons in the custody of state and federal correctional authorities, yearend 1991–2020



Note: Between one and four jurisdictions did not report the number of persons living with HIV in each year of the 30-year period from 1991 to 2020. Data were imputed for those jurisdictions not reporting data using various methods; therefore, numbers presented are estimates. See *Methodology*. See appendix table 1 for estimates.

Source: Bureau of Justice Statistics, National Prisoner Statistics, 1991–2020.

HIV in Prisons, 2020 – Statistical Tables (ojp.gov)

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Burden of SUD and HIV in Carceral Settings

- It is estimated that 11% of 18-25 year olds, and 6% of those over 25 years old have a substance use disorder. It is estimated that 63% of people in jail and 58% in prison have a substance use disorder.*
- People with these disorders have challenges in getting appropriate treatment and often incarceration exacerbates their symptoms. This can lead to individuals staying incarcerated longer than those without behavioral health concerns.*
- Many jails and prisons are moving away from forced withdrawal which has been the historic approach to SUD in carceral settings.*
- Starting substance use disorder treatment with medications while incarcerated works better than post release.**
- The most recent Bureau of Justice Statistics HIV in Prisons report indicates HIV prevalence is 1.3 percent among state and federal prisoners; more than three times that of the general population. One study found one in five people with HIV are incarcerated in a jail or prison each year. ***

* https://www.samhsa.gov/criminal-juvenile-justice/about
**Rich J, et al. Methadone continuation versus force withdrawal on incarceration in a combined US prison and jail: a randomized open label trial. Lancet. 2015; 386: 350-359.
**Kinlock, TW et al. A randomized controlled trial of methadone maintenance for prisoners: results at twelve-months post release. J Substance Abuse Treatment 2009; 37(3): 277-85.
***Bureau of Justice Statistics, *Census of Jails*, 2019; and *Annual Survey of Jails*, 2020

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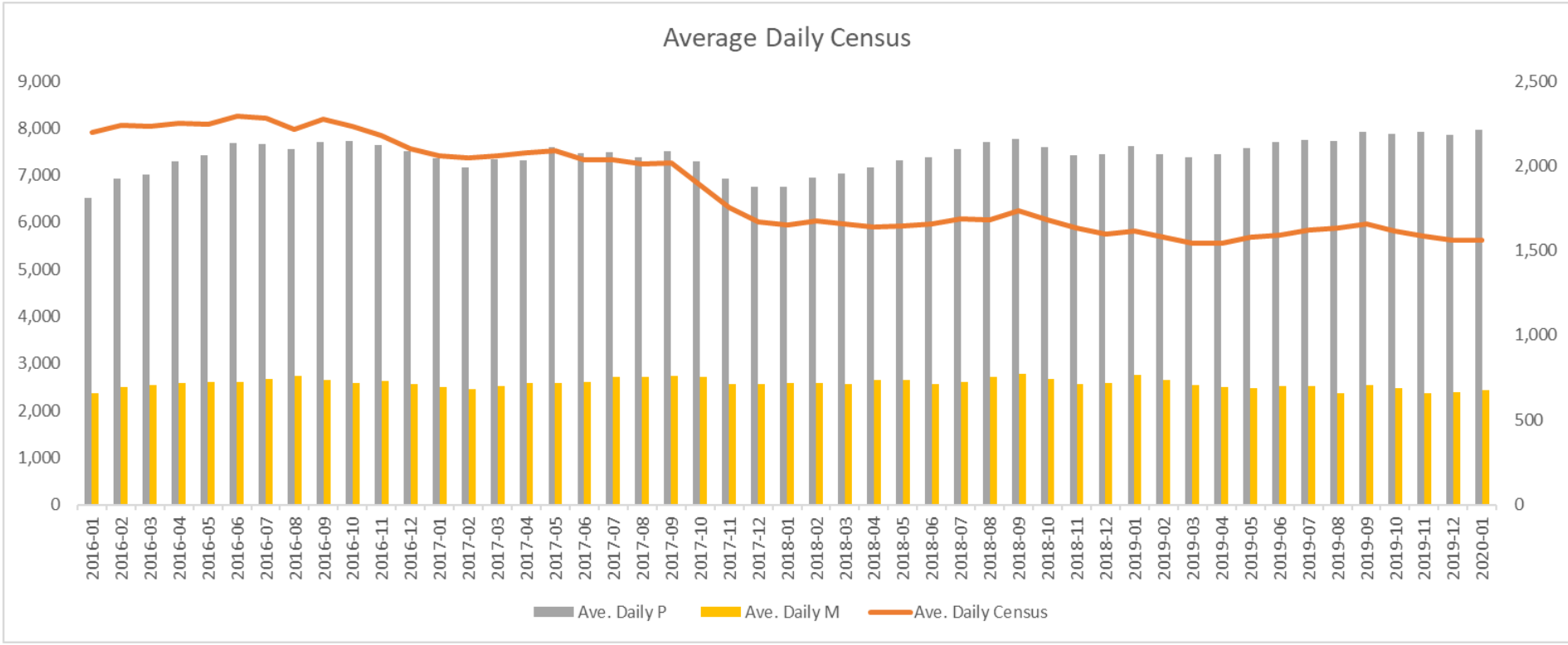
Decrease in Jail Population does not Equal Decrease in Burden of Disease for Carceral Setting



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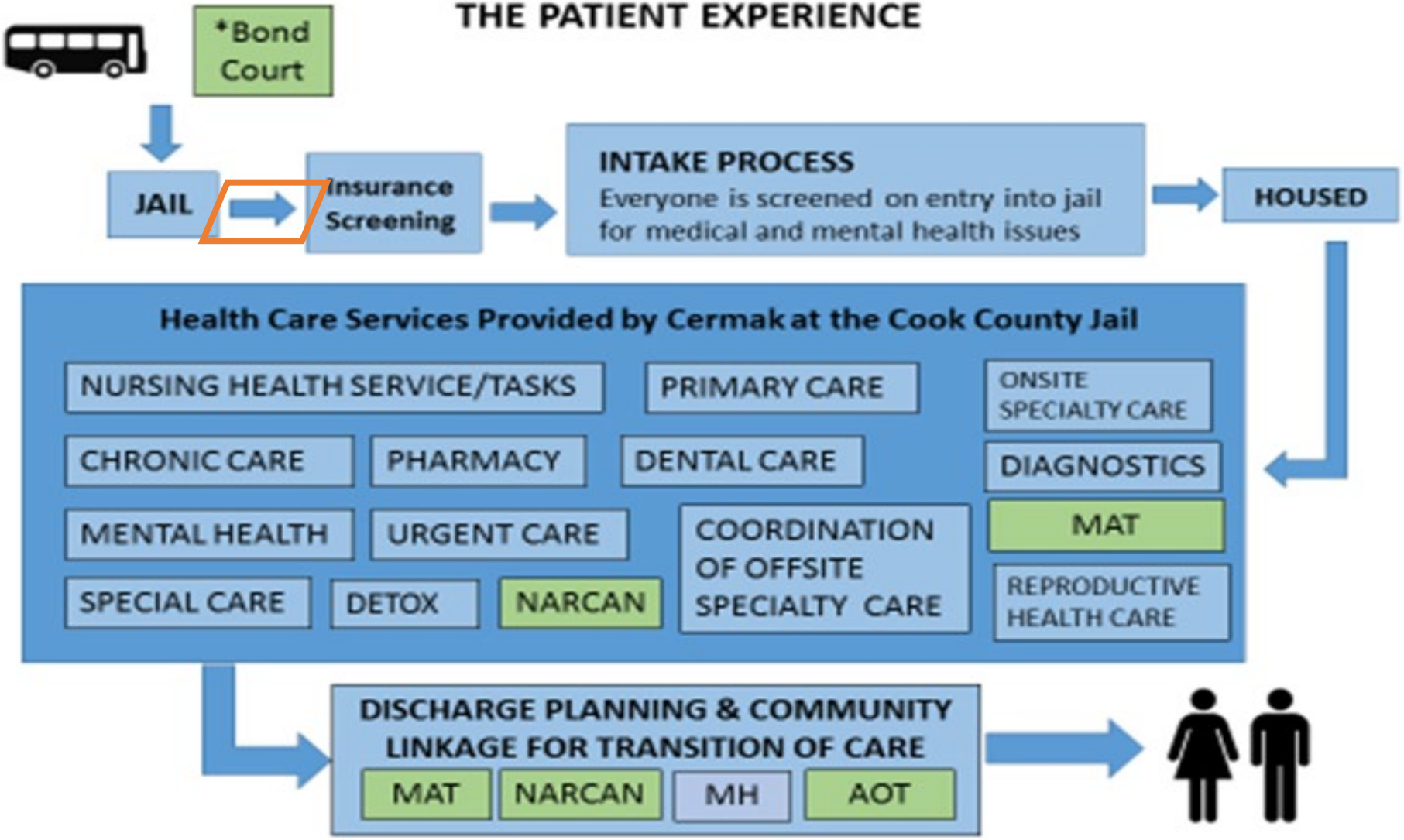
THE PATIENT EXPERIENCE



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Transition of Care: Definition

- **Transition of Care** – The movement of a patient from one setting of care (hospital, ambulatory primary care practice, ambulatory specialty care practice, long-term care, home health, rehabilitation facility) to another.

- Narcan on release
- 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 in supporting recovery
  - Overdose risk higher first two weeks post release
  - Variability in provision of substance use disorder treatment with medications

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

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Community Opportunities to Minimize Incarceration

- Early identification of individuals with mental and substance use disorders at all points of contact with the justice system – pre-arrest, booking, adjudication, reentry.
- Use of screening and assessment to ensure linkage with evidence-based treatment, services and supports.
- Diversion of individuals from the justice system into home- and community-based treatment.
- Engaging law enforcement, first responders, and crisis management teams, justice court personnel, and community treatment providers in diversion strategies that meet both clinical and public safety needs.

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

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Community Opportunities to Minimize Incarceration (cont.)

- Provision of training and technical assistance for law enforcement officers, juvenile and family court judges, probation officers, and other judicial decision-makers on behavioral health issues; and conversely, training for behavioral health treatment providers on criminogenic risk and the criminal and juvenile justice system.
- Provision of an array of services and supports to enable successful reentry into the community for those transitioning from incarceration or detention including housing.
- Assurance of equitable opportunities for diversion and linkage to community services and supports for all populations in order to decrease disproportionate minority contact with the justice system.
- Promotion of cross-sector collaboration to better serve these populations dually involved with the behavioral health and criminal justice systems.

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

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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. Not Sure

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Substance Use Disorder Treatment with Medications

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What is Substance Use Disorder Treatment with Medications?

- Substance Use Disorder Treatment with Medications is 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 substance use disorder treatment with medications for opioid use disorder.

- Substance Use Disorder Treatment with Medications has proven clinically effective to alleviate symptoms of withdrawal, reduce cravings, and block the brain's ability to experience the effect of opioids. Substance Use Disorder Treatment with Medications 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 Substance Use Disorder Treatment with Medications and behavioral therapies is a successful method to treat OUD.

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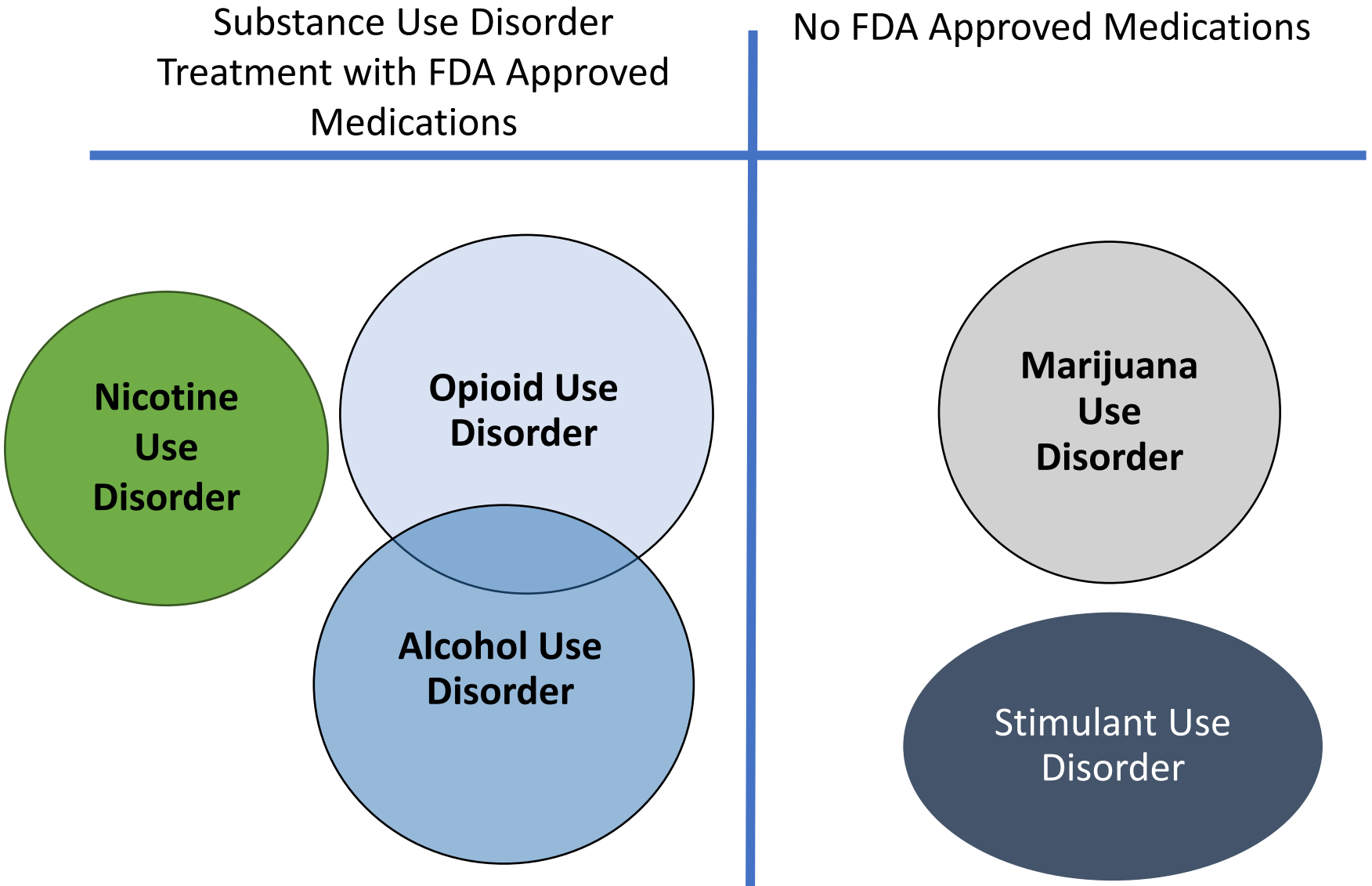
Which Substance Use Disorders are Treated with Medications?



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Why is Medications for Opioid Use Disorder (OUD) Important?

Treat Withdrawal	Address Dopamine Depletion	Treat OUD/Achieve Results
• Muscle pain, dilated pupils, nausea, diarrhea, abdominal cramping, piloerection • Lasts 3-7 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	• Abstinence based treatment results in 85% using opioids within 1 year; decreased opioid use • Decreased craving • Decreased complications from IVDU • Decreased criminal behavior • 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

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FDA Approved Medication for OUD

Agonist Treatment (turns on the receptor):

- Methadone- approved for cough in 1940s, for OUD 1972
- Buprenorphine (Suboxone™ & Subutex™)- 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 1961, autoinjector 2014, nasal spray (Narcan™) 2015

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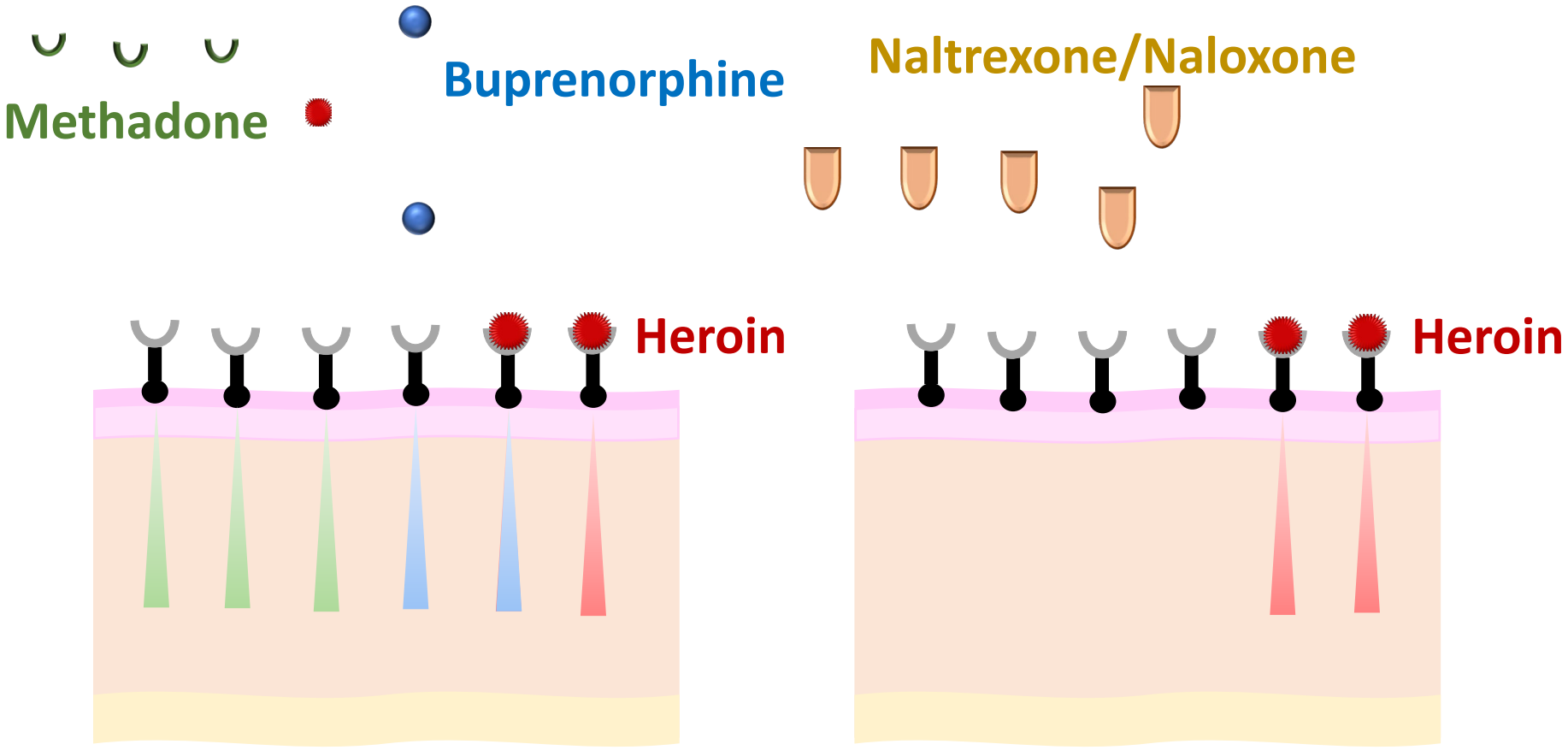
How do these medications work?



Agonist Treatment

Antagonist Treatment

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Methadone: What and for Whom?

- Mu opioid receptor agonist
  - No “ceiling effect”
- Reaching a therapeutic dose takes time
  - <60 mg/d is not therapeutic
  - Typical dose 60-120 mg/d (if not pregnant)
  - Increased frequency and daily dose required during pregnancy
- Several significant 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 hospitalized
- Despite having the best outcomes, it has the highest level of stigma

Patients with greater than a year of an OUD*

Patients with a more severe OUD, such as injecting opioids

Patients who have not reached tx goals with other MOUD

Patients who would benefit from the closest follow up

* Legislatively addressed in Omnibus bill; effective date pending

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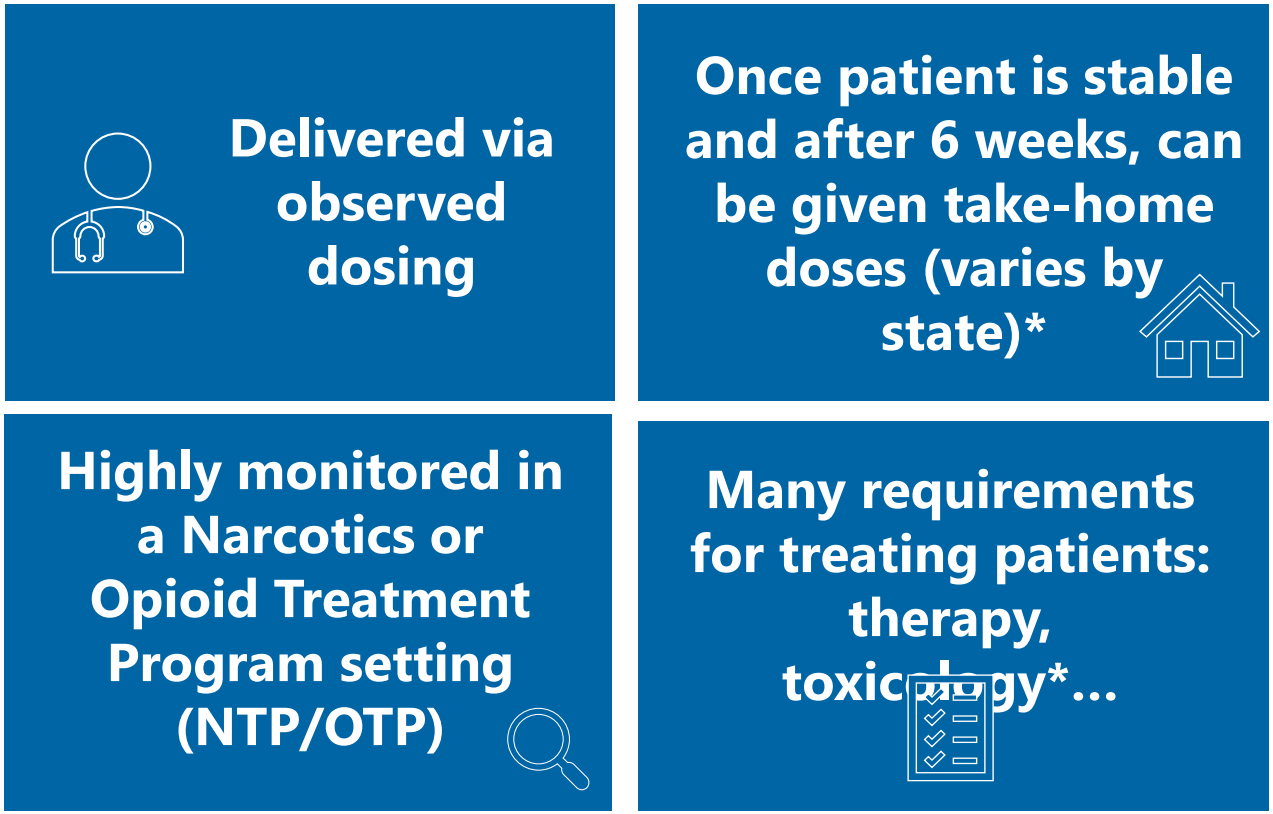
Methadone: General Federal Regulations



* OUD ≥1 y requirement for methadone removed by Omnibus Bill 12.29.22, 18 months for HHS to implement; Proposed Rule https://public-inspection.federalregister.gov/2022-27193.pdf

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Methadone: Efficacy Data

- Methadone resulted in 33% fewer opioid positive toxicology tests compared to those receiving no medication*
  - everyone receiving 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

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Buprenorphine: What and for Whom?

- Partial mu opioid agonist with ceiling effect
  - Available alone or in combination w/naloxone
  - Doses >32 mg don't cause greater effect
  - Different formulations (sub-lingual [SL] buccal pill/film, injectable)
- 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 16-24 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

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Buprenorphine: General Regulations

DEA X-Waiver updates
https://www.deadiversion.usdoj.gov/pubs/docs/index.html
X waiver no longer required
Use standard DEA number for buprenorphine prescriptions
No cap on number of people treated with buprenorphine

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Buprenorphine: Efficacy Data

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

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

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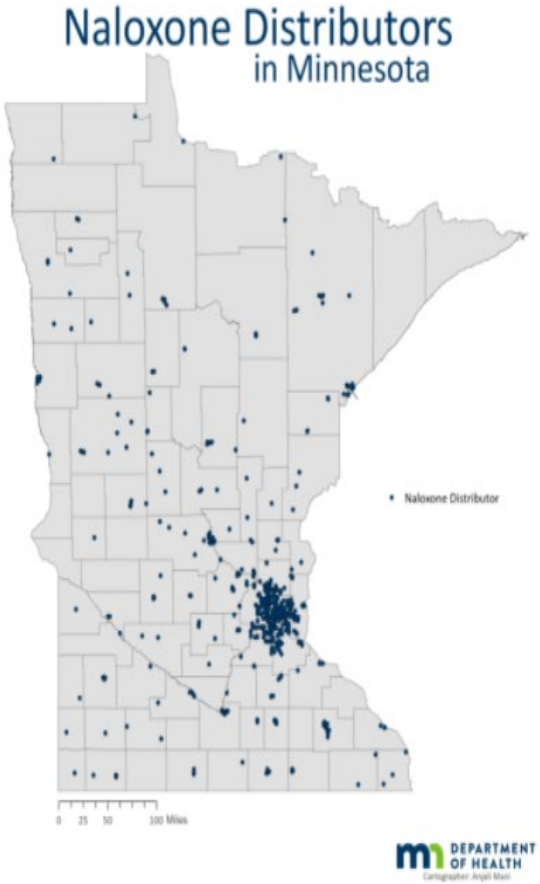
Naloxone: OD Reversal Agent as Harm Reduction

- Mu opioid antagonist
- 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
- <1% of those in need have access



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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

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Time for a Poll

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

a) **Yes**

b) **No**

c) **I don't know**

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Naltrexone: What and for Whom?

- Mu opioid antagonist with high, competitive binding affinity
- Does not treat withdrawal or underlying dopamine depletion
- Must be opioid free x 7 days before starting
- More widespread acceptance in criminal justice and "abstinence-only" communities
- Evidence of decreased mortality is limited

Patients with a high degree of motivation (dopamine)

Patients with a history of OUD and Alcohol Use Disorder (AUD)

Patients who had poor results 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.

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Naltrexone: General Regulations

No Federal regulations inhibit the use

Some payer restrictions make it difficult to obtain the long-acting injectable form

Multiple formulations:

- Pills at 25mg and 50 mg (50-100 mg for AUD)
- Long acting injectable 380mg (28-30 days)

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Naltrexone: Efficacy Data

- XR Naltrexone 90% opioid abstinent toxicology tests vs. 35% placebo*
  - Decreased incarceration**
  - Does not decrease death***
- 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
***Wakeman 2020 JAMA Open Network
**** Korthuis 2022

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How Long to Treat OUD?

It takes over a year for brain healing to occur

- 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 making appropriate 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 or
    - Active in church
    - Not living with people who are using
  - Able to handle interpersonal conflicts without relapsing…
  - Avoid tapering during big life transitions such as leaving incarceration, pregnancy or delivery, moving across the country, changing jobs

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To taper or not to taper?

Evidence is clear that long-term or indefinite treatment with medications for OUDs is often required for effective and sustained outcomes[1]

In practice, successful tapers from methadone or buprenorphine typically occur in only about 15 percent of cases[2,3]

According to the U.S. Surgeon General, successful tapers typically occur, if at all, when individuals have been treated with Medicated Assisted Treatment (MAT) for at least 3 years[4]

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- www.druginserts.com
- Healthresearchfunding.org(2019) https://healthresearchfunding.org/24-opiate-addiction-recovery-statistics/ 24 Shocking Opiate Addiction Recovery Statistics
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Why Medications for Alcohol Use Disorder is Important?

- Increased retention in treatment
- Decreased drinking
- Decreased cravings
- Decreased healthcare costs

- Disulfiram
- Naltrexone (oral and intramuscular)
- Acamprosate

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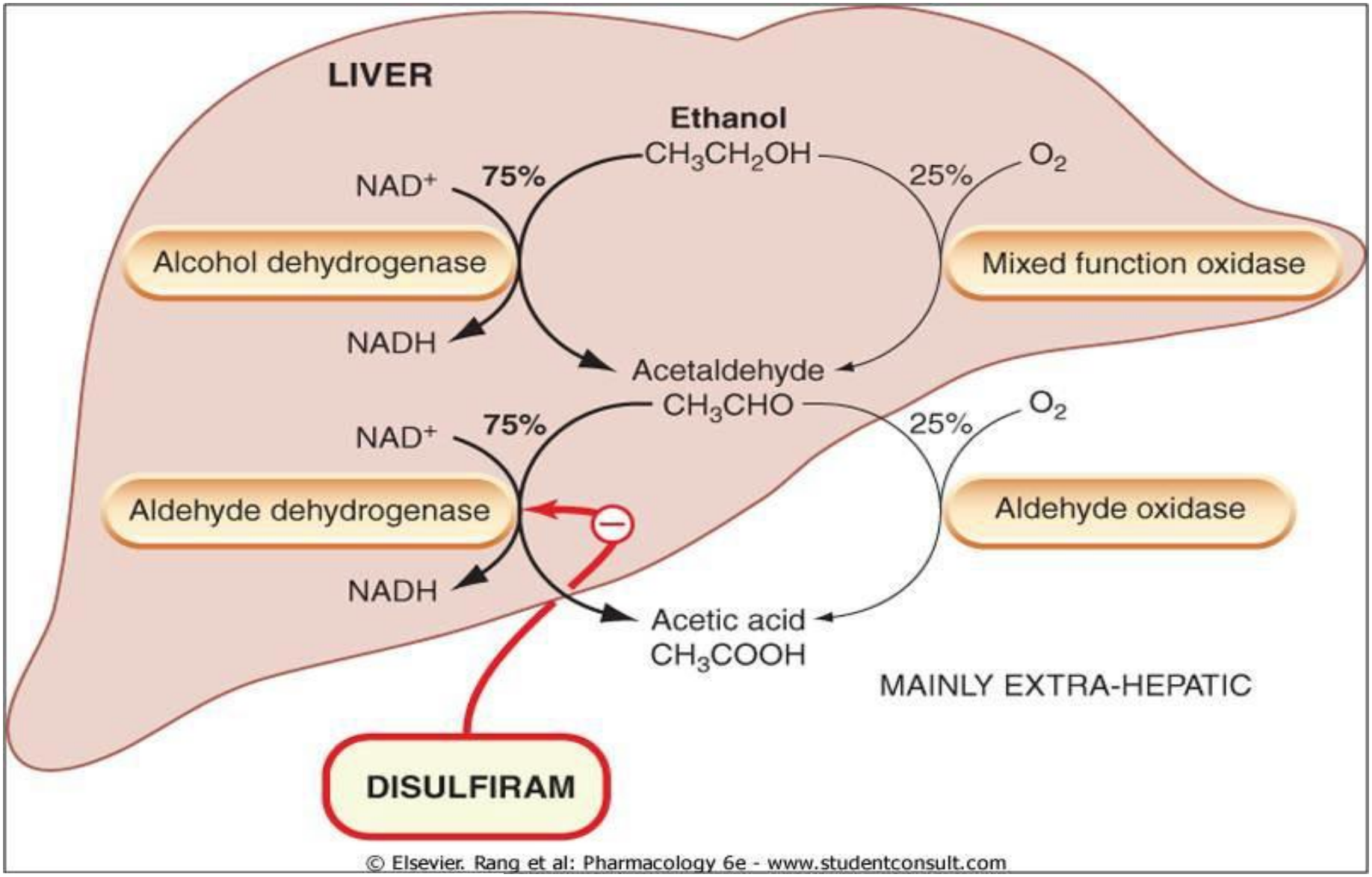
Disulfiram: Mechanism of Action



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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: * Garbutt JC, West SL, Carey TS, et al. Pharmacological treatment of alcohol dependence. J Am Med Assoc. 1999; 281(14):1318-1325.

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Naltrexone for AUD

- Few side effects
- Drug Interactions: opioids
  - No P450 interactions
- Contraindications: severe acute hepatitis
- Well studied in mild and moderate cirrhosis
- Safe in mild renal disease

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Naltrexone Efficacy: Grade A

	Oral	Intramuscular
Reduced drinking days	Yes	Yes
Reduced heavy drinking days	Yes	Yes
Decreased opioid use	Yes	Yes
Decreased cravings	Yes	
Increased time to first drink	Yes	Yes
Treatment retention	Higher	Highest
Discontinuation of medication		Lower than oral
Decreased ED visits		Lower
Decreased hospitalizations		Lower
Decreased pharmacy cost		Lower
Decreased nonpharmacy costs		Lower

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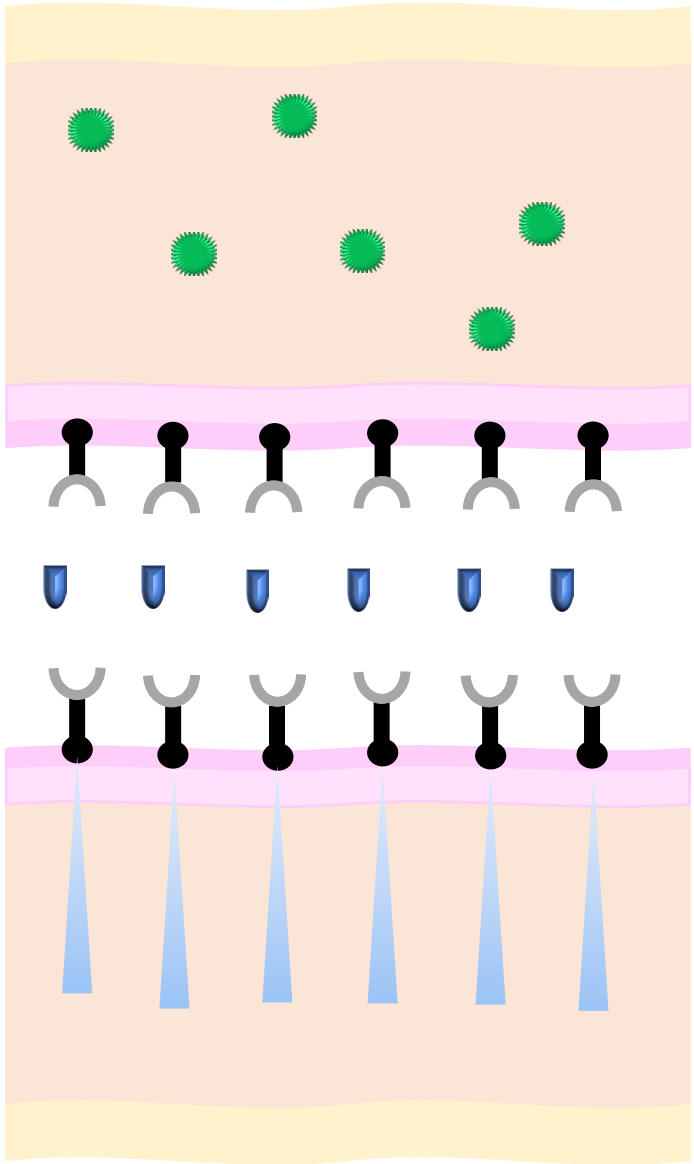
Acamprosate: Mechanism

Glutamate Cell



Glutamate

Acamprosate

N-methyl-D-aspartic acid receptor (NMDA)

Gamma Amino Butyric Acid (GABA) cell

In someone with an active alcohol use disorder acamprosate decreases glutamate release and decreases GABA transmission

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Acamprosate for AUD

- Effective: Grade A recommendation
- Three times per day dosing
- Drug Interactions: none
- Contraindications: severe renal impairment
- 333mg three times a day (TID) moderate renal impairment (creatinine clearance 30-50ml/m)
- Few side effects
- No metabolism

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Time for a Poll

Question: Do you know anyone on medication for AUD?

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

I

Discuss coping with a HIV diagnosis and preparing patients for disclosure

II

Identify at least 3 considerations for mental health treatment of individuals with HIV and SUD

III

Distinguish acute and chronic risk of suicidality in individuals with HIV and SUD

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Why is it Important to Address SUD in Persons with HIV?

- Substance use accelerates the progression of HIV
  - Increases the viral load
  - Increases likelihood of AIDs related morbidity (even when adherent to antiretroviral medications)
  - Decreases medication adherence
- "Substances of abuse" 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
  - Precipitates neuroinflammation or brain swelling
    - 50% of people with HIV have neurocognitive disorders
  - Damage to subcortical areas of the brain
    - Producing dementia

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/

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SUD Providers

- Only 19% of 15-44yo were tested for HIV in the past year
  - One-third of SUD programs offer onsite HIV testing
  - One-third of persons being treated at these clinics received testing
- SAMHSA recommends universal HIV testing for
  - Persons 15-65yo (and all pregnant persons)
  - Younger and older persons at increased risk
    - People who inject drugs
    - Have condomless sex
    - Participate in commercial sex work
    - US Preventative Task Force Rating A
      - Requires Medicare and Medicaid to pay for testing
      - Rapid tests are available- results within 30 minutes
      - Provide pre and post test counseling- reviewed in other talks

Sources:
NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders
Substance Abuse and Mental Health Services Administration. (2021). Treating Substance Use Disorders Among People with HIV. Advisory.

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STTR Model of Care

Testing person who inject drugs every 6 months is cost effective

- **S**eek those who need tested
- **T**est
- **T**reat
- **R**etain

Chart review compared to remnant blood samples from 2 inpatient psychiatric units:
1/3 of patients with HIV positive blood samples did not have documentation of infection

Inpatient and outpatient mental health settings should offer routine opt out testing to improve case finding

Sources: NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders
Blank MB, Himelhoch S, Walkup J, Eisenberg MM. Treatment considerations for HIV-infected individuals with severe mental illness. Curr HIV/AIDS Rep. 2013 Dec;10(4):371-9. doi: 10.1007/s11904-013-0179-3. PMID: 24158425

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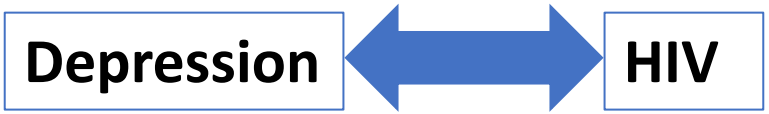
Epidemiology

- Up to 70% of people living with HIV have a history of trauma; 54% have post-traumatic stress disorder (PTSD)
- People with HIV have twice the risk of depression as those at risk of HIV but without infection
- Higher rates of depression than general population



- Key feature of depression, as compared to adjustment disorder or side effects from medication, is loss of pleasure
- Twenty-two percent (22%) of people with HIV have depression
  - Of those 78% ALSO have an anxiety disorder
  - Of those 61% have an SUD
- Six percent (6%) of people with HIV have schizophrenia
  - Compared to 1% in general population
- Those with schizophrenia are 1.5 times as likely to have HIV
- Those with affective disorders were 3.8 times as likely to have HIV

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

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Epidemiology

- 35% of people in 10 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

- Substance use may increase high-risk sexual practices

Sources: Staruss, S.M. 2009
Andriote, JM. 2012

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Counseling: Coping with an HIV Diagnosis

- Coping with the diagnosis of HIV (a form of grieving) is different from having a major depressive episode
- May require treatment- support or psychotherapy
  - Will not respond to antidepressants
  - Support & structure
    - Don’t try to solve or fix things, but….
      - Housing is important
      - Social support is important
      - Medical care is important- helps establish control
    - Don’t minimize someone’s feelings
    - Don’t tell people to pull themselves together
    - Listen… for risks and for talk of the <u>future</u>

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

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Considerations for Mental Health Treatment of Individuals with HIV and SUD

- Depression in the context of HIV responds to the same treatments
  - Evidence-based psychotherapy
  - Evidence-based medications
    - As with other medical conditions…
      - Keep drug-drug interactions in mind
- Depression & bipolar disorder leads to challenges with medication adherence
- Persons with bipolar disorder and HIV are more likely to have unprotected intercourse with HIV negative partners
- **ANTIDEPRESSANT TREATMENT OF DEPRESSION RESULTS IN LOWER HEALTHCARE COSTS**
- Risk of suicide is higher for those with HIV than general population
  - True for all stages of HIV

Sources: Andriote, JM. 2012 & Blank MB 2013

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SUD Treatment in Those with HIV

- Cognitive Behavioral Therapy (CBT) and Motivational Interviewing (MI)
  - Reduce drug use
  - Reduce high risk sexual behaviors
  - Reduced viral load
  - Improve adherence to antiretrovirals
- Medication for opioid use disorder
  - Methadone and buprenorphine are associated with a 54% reduction in risk of HIV infection in persons who inject drugs

SUD Treatment is HIV Prevention

Source: NIDA 2021 https://www.drugabuse.gov/publications/research-reports/common-comorbidities-substance-use-disorders

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Suicidality

- Suicide
  - 3rd most common cause of death in 15-29yo women
  - 4th most common cause of death in 15-29yo men
  - No relationship to income
  - A life-threatening illness is a one of the most strongly predictive factors for completed suicide
- Suicide attempt rate, in people with HIV 16%
  - Compared to 3% in general population
- Suicidal ideation rate, in people with HIV 23%
  - Compared to 9% in general population
- Suicide rate in first year post diagnosis is 5 times population rate
  - This accounts for 40% of all suicide in persons with HIV

Sources: http://wwwaidsmap.com/news/aug-2021/hardest-outcome-all-hiv-and suicide
https://www.health.state.mn.us/people/syringe/suicide.pdf

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Time for a Poll

People who talk about suicide, do not complete suicide.

A. True
B. False

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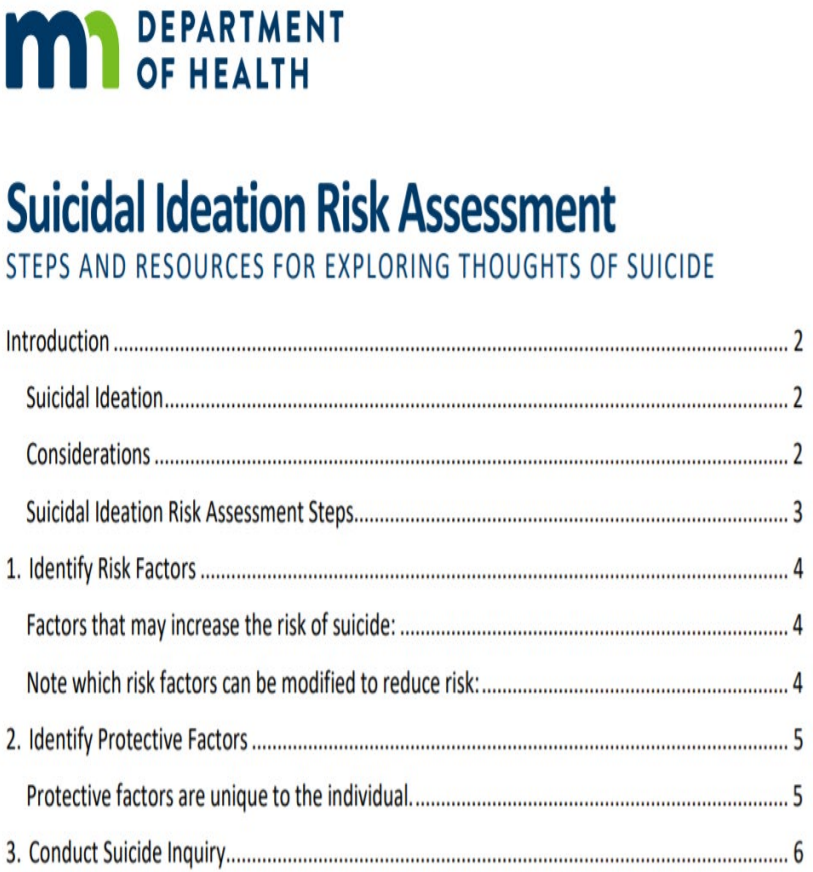
Risk Factors for Suicide

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



DEPARTMENT OF HEALTH

Suicidal Ideation Risk Assessment

STEPS AND RESOURCES FOR EXPLORING THOUGHTS OF SUICIDE

Introduction 2
Suicidal Ideation 2
Considerations 2
Suicidal Ideation Risk Assessment Steps 3
1. Identify Risk Factors 4
Factors that may increase the risk of suicide: 4
Note which risk factors can be modified to reduce risk: 4
2. Identify Protective Factors 5
Protective factors are unique to the individual. 5
3. Conduct Suicide Inquiry 6

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

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Assessment

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

- Protective factors are unique to each person
  - Use the person's language
  - Ask open ended questions
    - 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?
  - Which factors can be enhanced

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

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Integrated Primary HIV & Behavioral Health Care

- 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
    - Universal depression and SUD screening
    - Establishment of follow up plan

    - However, although MH screening is between 80-100%
      - SUD screening is much lower

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Stimulant Use

Learning Objectives:

Stimulant Use and Persons Who Engage In Chemsex

I

List at least 5 risks associated with methamphetamine usage

II

Define and identify at least 2 benefits of contingency management

III

Identify at least 3 risk behaviors of persons who engage in Chemsex

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What are Stimulants?

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

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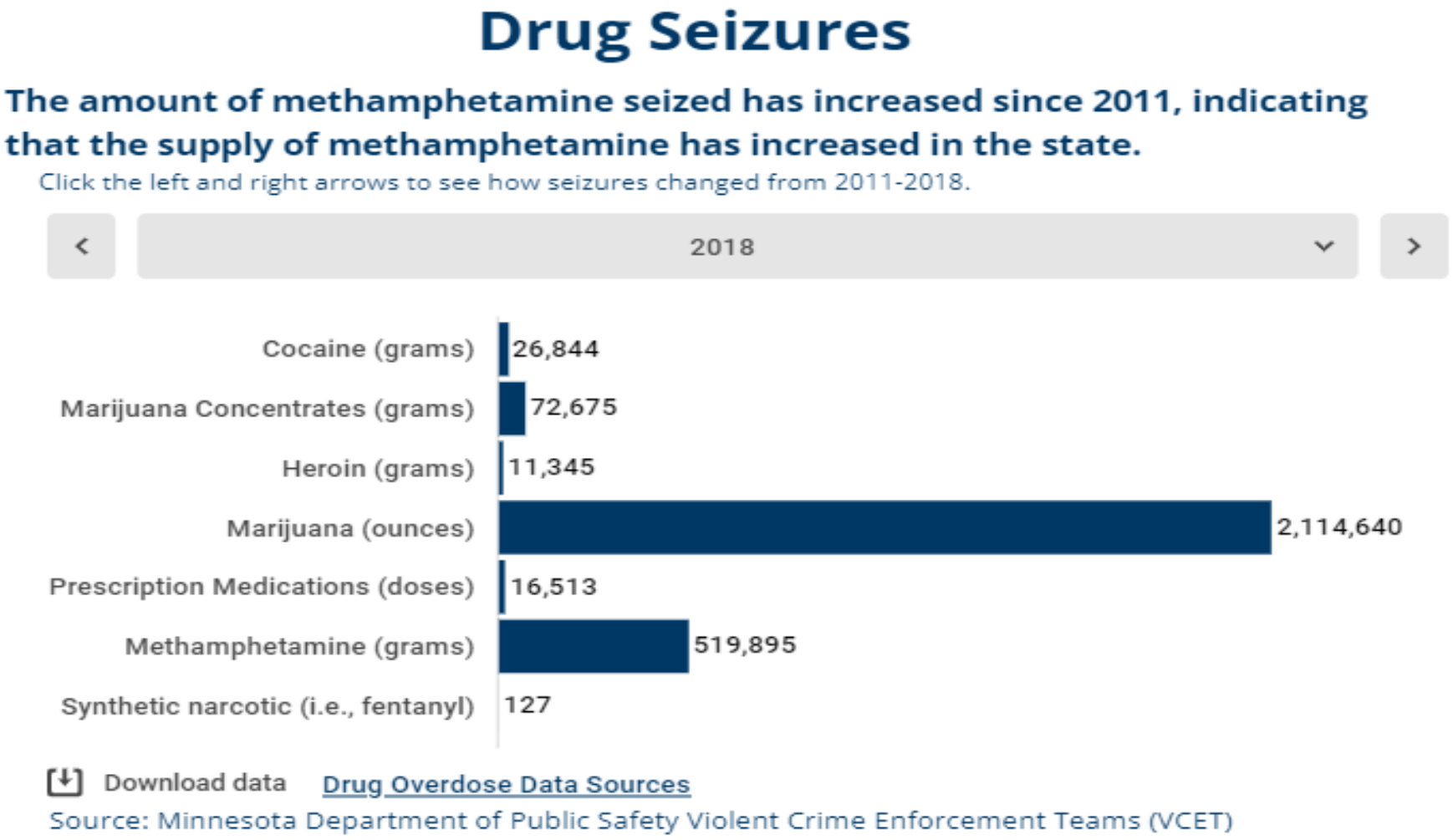
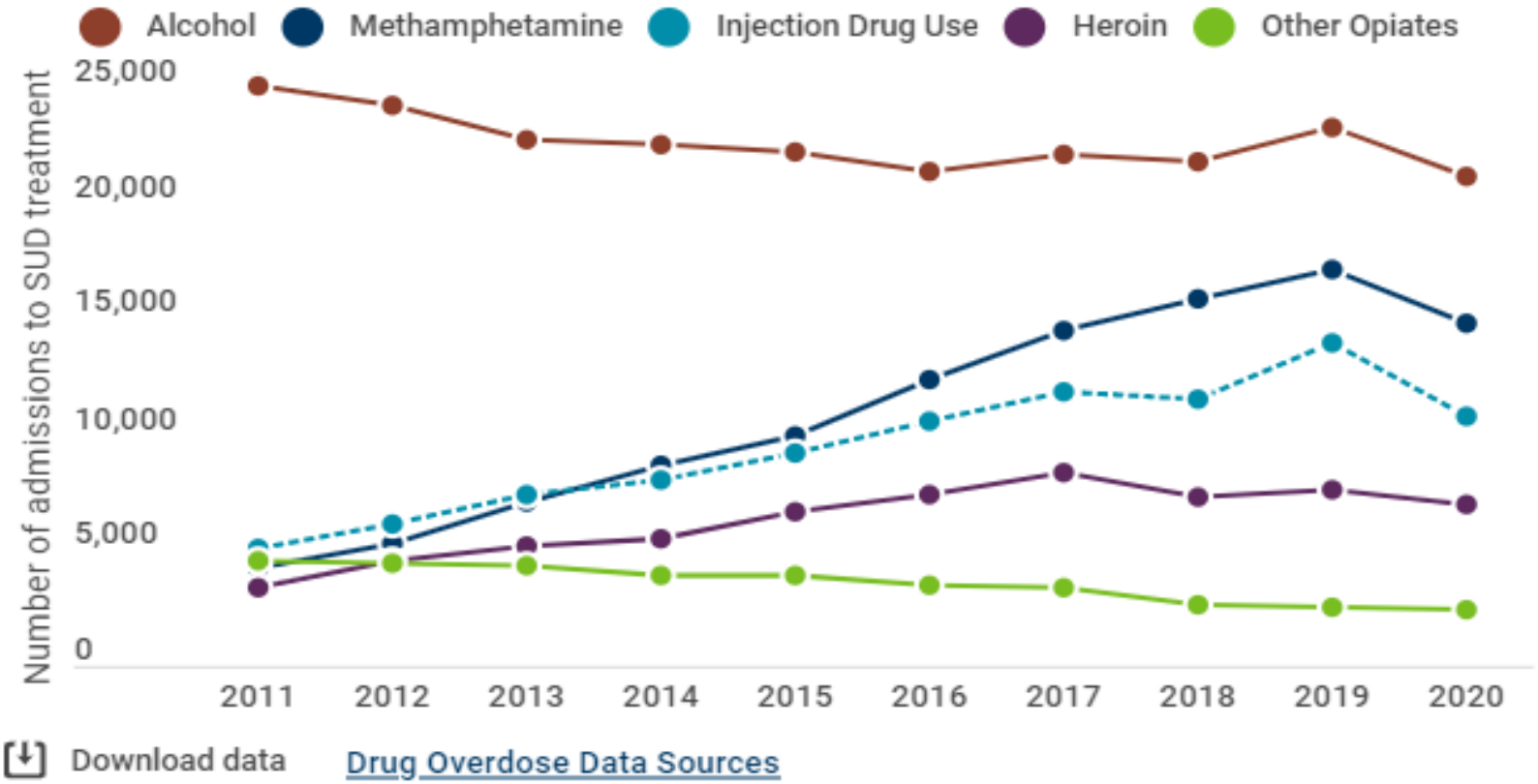
Drug Seizures in Minnesota



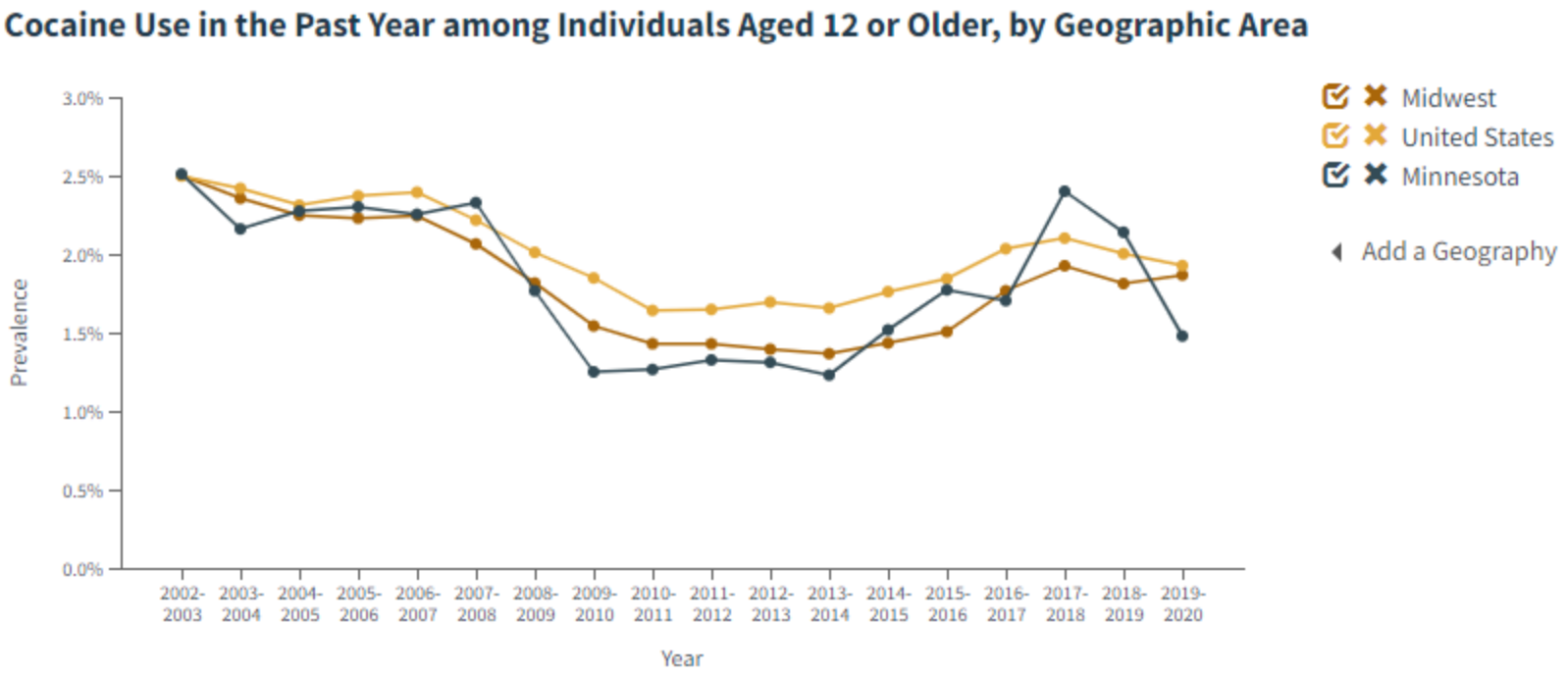
Admissions to SUD Treatment: MN



Download data Drug Overdose Data Sources

Source: Minnesota Department of Human Services, BHD, DAANES

Stimulant Use Nationally & Locally



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

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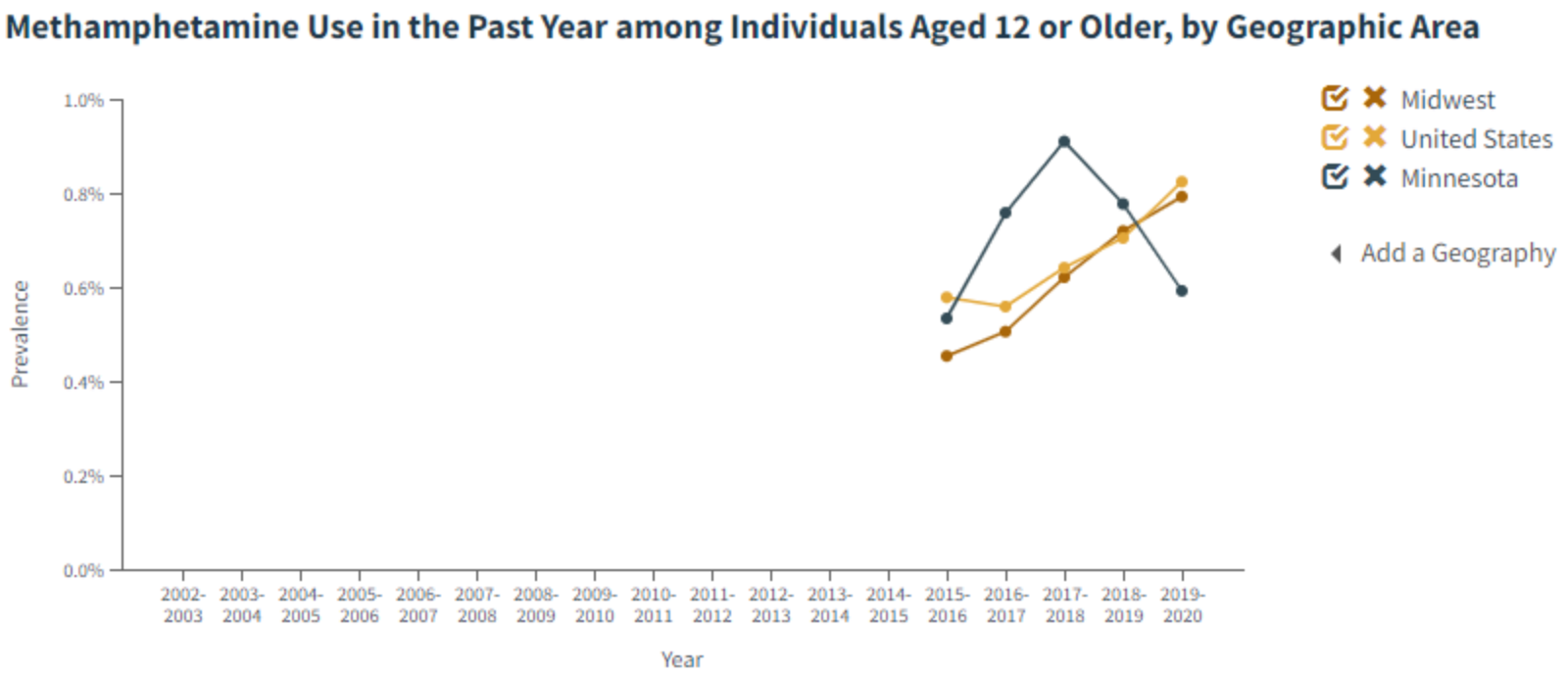
Stimulant Use Nationally & Locally



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

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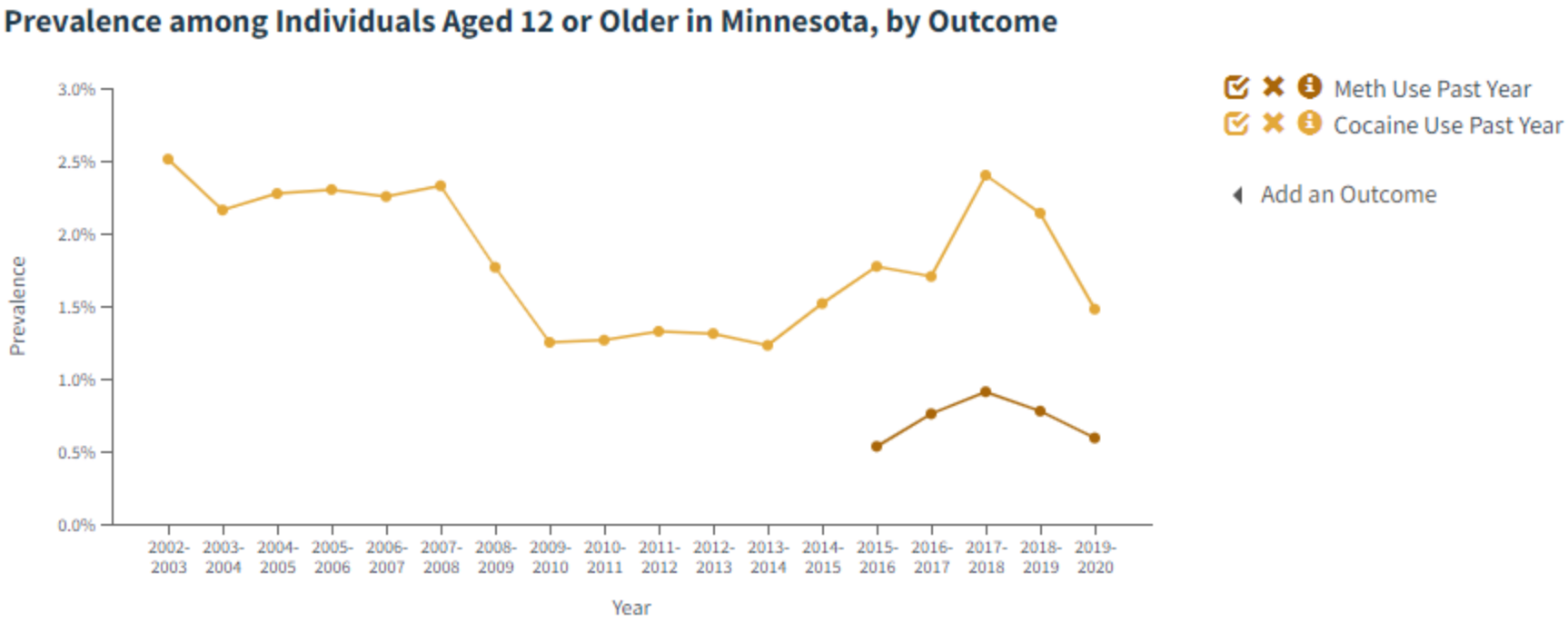
Stimulant Use Minnesota



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

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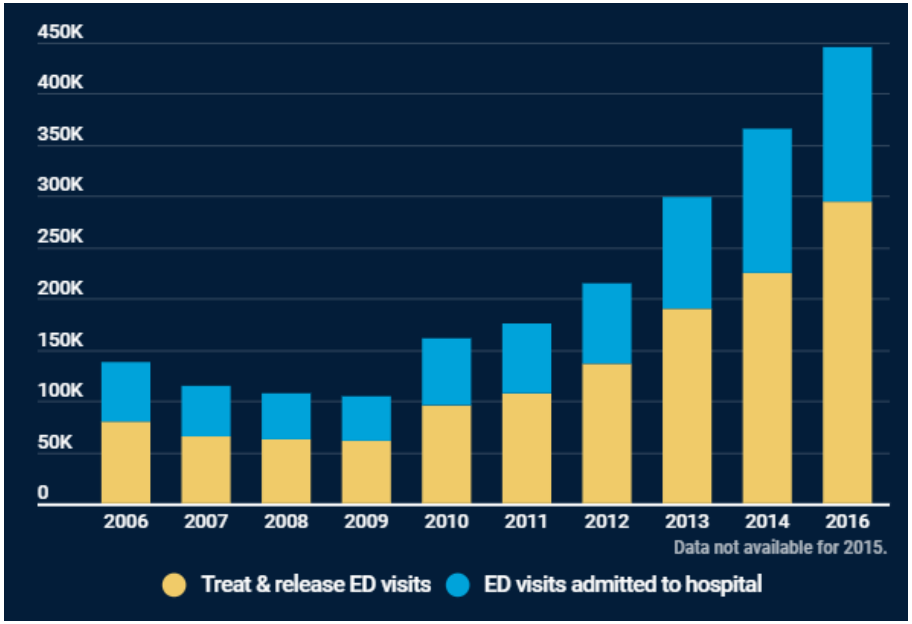
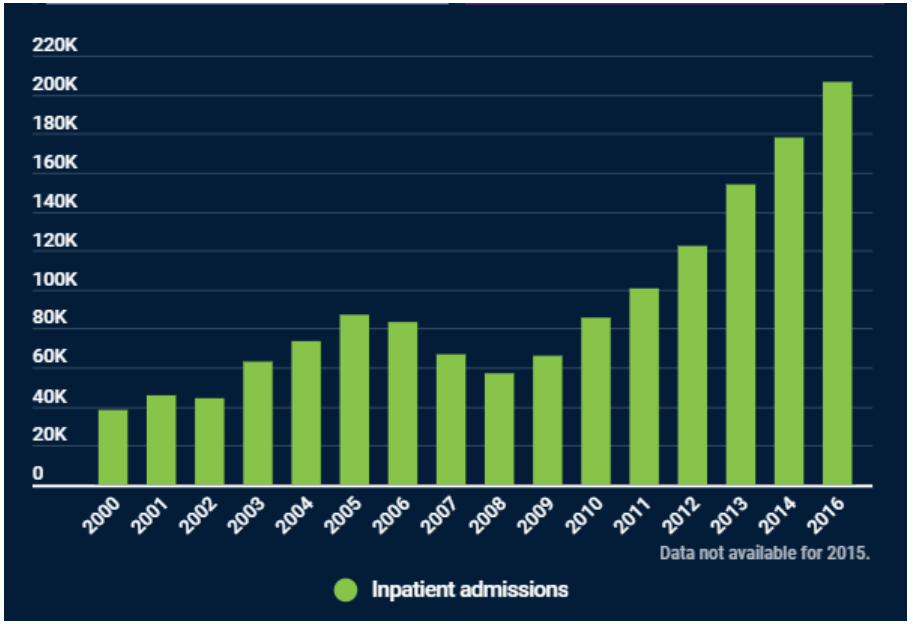
Methamphetamine use Emergency Visits & Hospital Utilization in the US





Source: https://www.nihcm.org/categories/beyond-opioids-rapid-increase-in-drug-deaths-involving-stimulants

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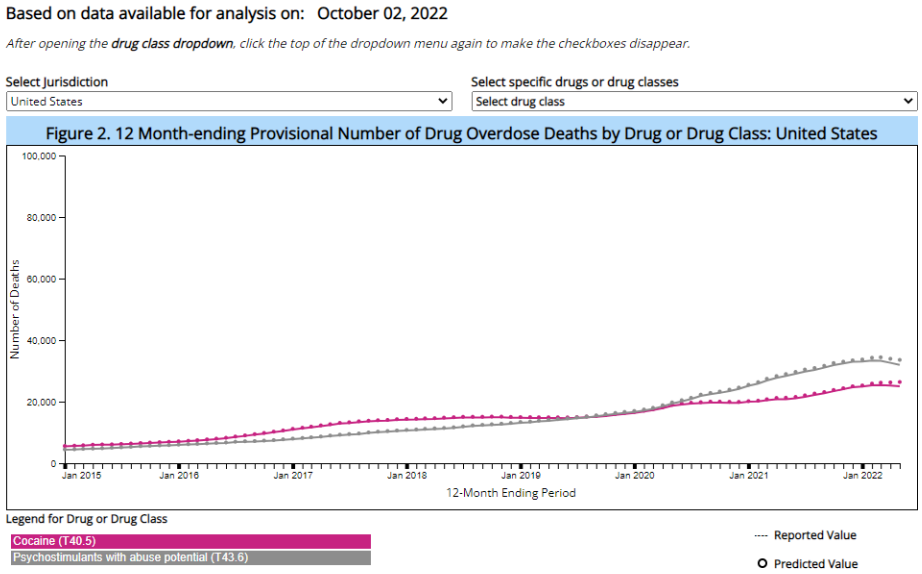
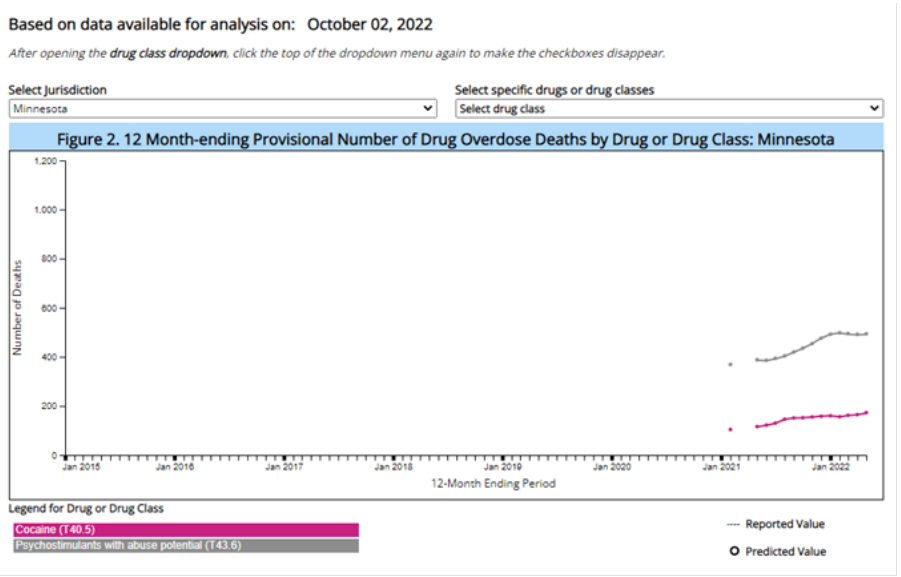
Stimulant Overdose Deaths Continue to Rise Nationally



United States



Minnesota

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

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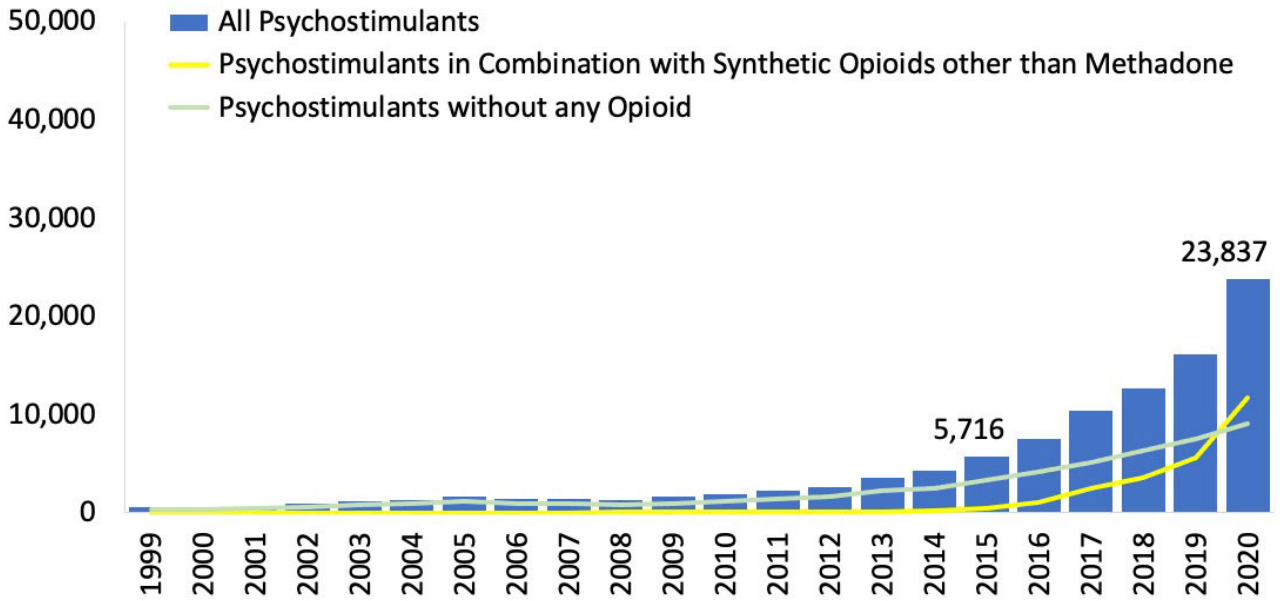
Psychostimulant Overdoses with and without Opioids

Figure 6. National Overdose Deaths Involving Psychostimulants with Abuse Potential (Primarily Methamphetamine)*, by Opioid Involvement
Number Among All Ages, 1999-2020



*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 1999-2020 on CDC WONDER Online Database, released 12/2021.

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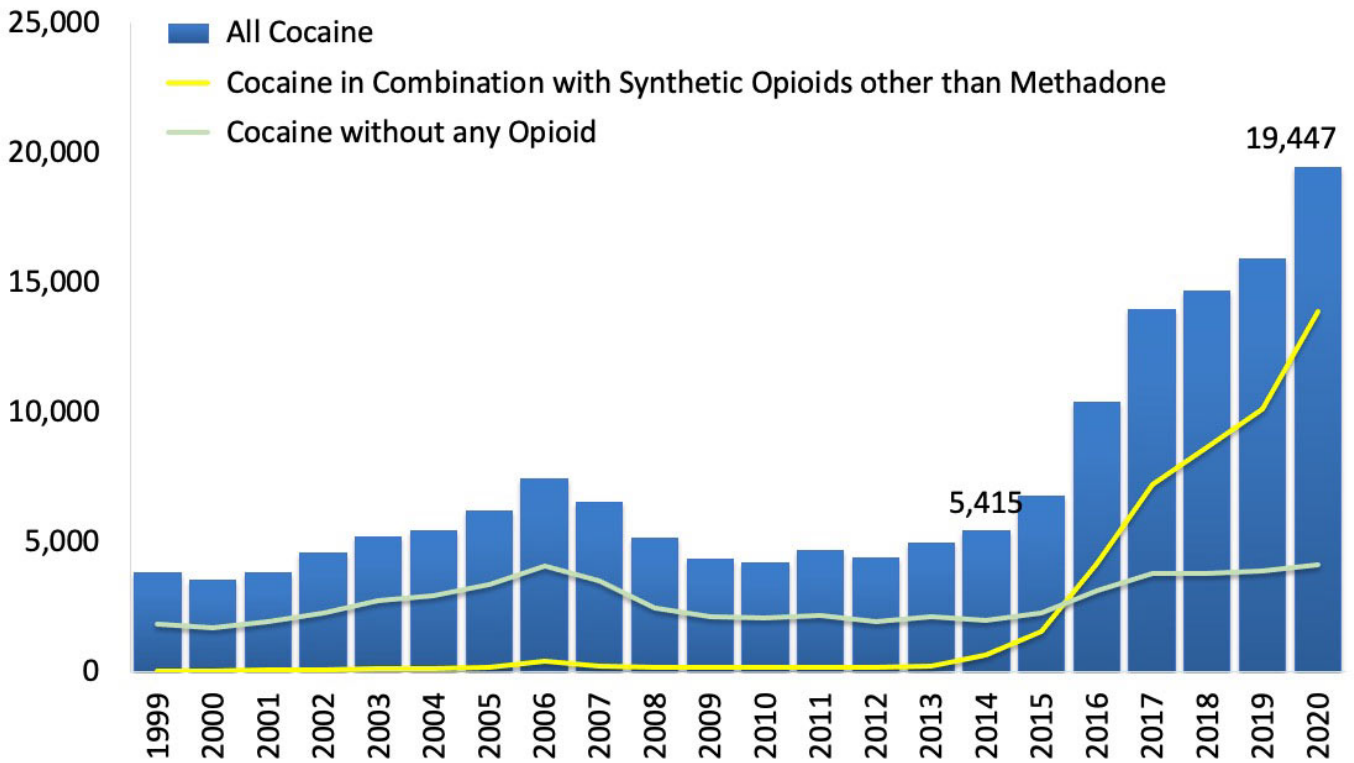
Cocaine Overdoses with and without Opioids

Figure 7. National Drug Overdose Deaths Involving Cocaine*, by Opioid Involvement, Number Among All Ages, 1999-2020



*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 1999-2020 on CDC WONDER Online Database, released 12/2021.

Source: https://www.drugabuse.gov/drug-topics/trends-statistics/overdose-death-rates

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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

Image provided by Unsplash Photos

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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
  - Methylxanthines
    - Caffeine (coffee)
    - Theophylline (tea) used for asthma
    - Theobromine (chocolate)

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

<u>Methamphetamine dosing:</u>
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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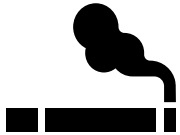
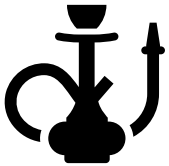
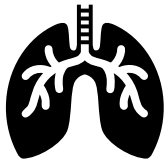
Some Consequences are Dependent upon Mode of Consumption

- 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

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Effects Dependent Upon Mode of Consumption

Drug Reaches Brain

- Smoking- seconds
- Injection- seconds
- Snorting- 15 minutes
- Oral-45 minutes

Half-Life

- Cocaine 1h
- Bath Salts 3 hours
- Amphetamine 7 hours
- Methamphetamines 12 hours

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Time for a Poll

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

a) **Yes**

b) **No**

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Effect of Stimulants on Brain Chemistry

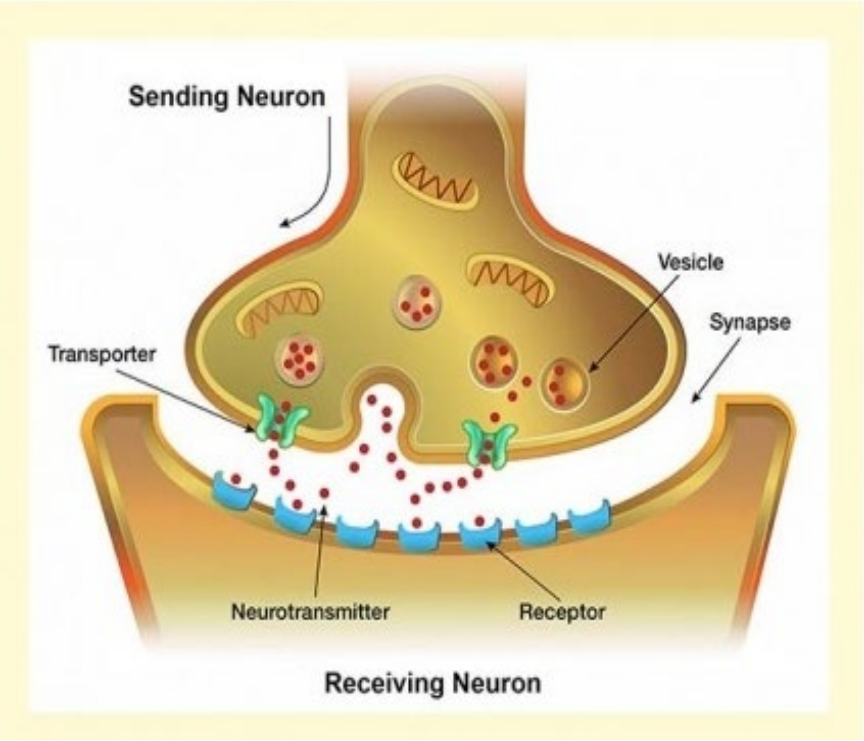
Cocaine:
Reuptake Blocker

INDIRECT agonist of

+ dopamine
+ norepinephrine
+ serotonin

BLOCKS

+ **monoamine reuptake**
+ **sodium channels**



Amphetamines:
Releaser

INDIRECT agonist of

+ dopamine
+ norepinephrine
+ serotonin

INHIBITS

+ **metabolism of monoamines**
+ **vesicular storage**

REVERSES reuptake

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

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Acute Effects of Stimulant Intoxication

- Increased
  - Alertness/vigilance, concentration, mental acuity
  - Energy, locomotion
  - 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
  - Dystonia, 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

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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

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

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

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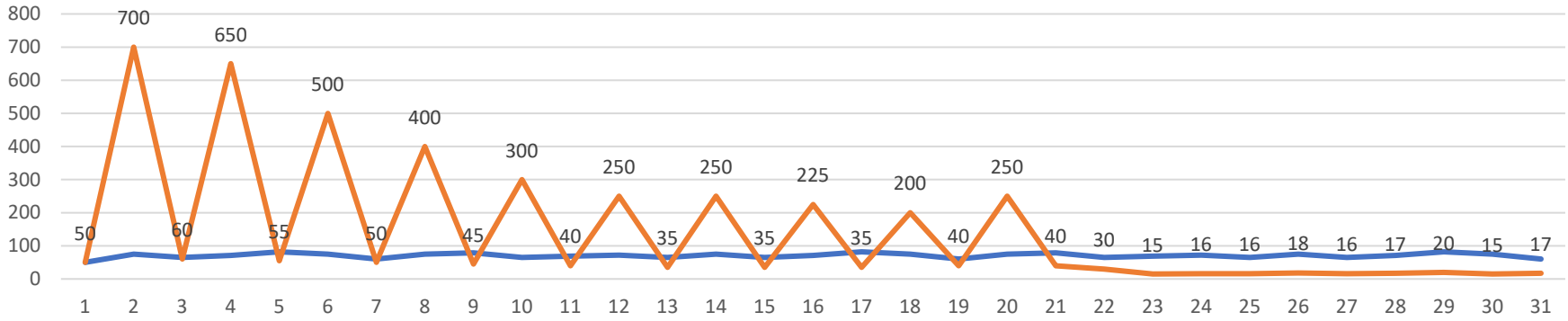
Long term Psychological Effects of Illicit Stimulants

- Tolerance to euphoria and appetite suppression
- **Loss of ability to concentrate & severe memory loss***
- Loss of ability to feel pleasure without drug



- 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 this effect

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Long term Physical Effects of Illicit Stimulants

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

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Stimulants and Pregnancy

- Maternal death- pregnancy may increase risk of cardiovascular events
- Preterm labor
- Earlier gestational age at delivery
- Low birth rate
- 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- cocaine; Kalaitzopoulos, 2018
*Smid, M. C., Metz, T. D., & Gordon, A. J. (2019). Stimulant Use in Pregnancy: An Under-recognized Epidemic Among Pregnant Women. *Clinical obstetrics and gynecology*, *62*(1), 168–184. https://doi.org/10.1097/GRF.0
**Deruf et al. 2007

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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
- Rileya, ED. Risk factors for stimulant use among homeless and unstably housed adult women. Drug Alcohol Depend. 2015 August 1; 153: 173–179. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4510017/pdf/nihms694947.pdf
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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

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Amphetamines and Cognitive Impairment

- Two-thirds of people with amphetamine use disorder have cognitive impairment
  - Oxidative Stress
  - Neurotoxicity
  - Neuro Inflammation

- 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

- 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

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

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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

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Treatment of Stimulant Use Disorder

- Harm Reduction needed due to IV use & risk of fentanyl
  - Educational materials on psychological & physical effects
  - Fentanyl 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 safe sex practices
  - Water for hydration
  - Tooth paste and toothbrush
- Increased risks with COVID and Stimulant Use Disorder
  - Harm reduction sites closed; resources limited
  - Social distancing prevents rescues
  - Increased risk of serious infection due to lung damage associated with use
  - Fewer treatment slots
  - Treatment delivery may not be of the same intensity or quality

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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

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Treatment of Stimulant Use Disorder: SAMHSA Evidence Based Resource Guide

- 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 Compared to Other Therapies
  - Decreased days of stimulant use
  - Decreased stimulant cravings
  - Decreased 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

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How does CM Work?

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

- Select objective target behavior (abstinence)
  - Define the behaviors
    - Attendance at clinic (group appt, urine)
    - 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

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

Source: Dominick DePhilippis, Ph.D. Philadelphia CESATE: Center of Excellence in Substance Addiction Tx & Education

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In the Chat box please answer this question:

Do you have a Contingency Management Program?

Yes

No

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Chemsex

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), cocaine, ketamine, poppers (amyl nitrite) or cannabis (the latter two gave rise to the term SDU)

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).
- Hook-up apps: slang used include PnP, ParTy, Tina, G

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SUD and HIV Risk

- The co-occurrence of HIV and SUD in a community increases the risk of HIV transmission due to:
  - Sharing of syringes
  - Intoxicant and/or stimulant involved unprotected sex
  - Sexual violence and victimization
  - Unaware of HIV status
  - Unsuppressed viral load

HIV can be a risk factor for substance use.
But also…
Substance use can be a risk factor for HIV transmission.

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Methamphetamine and Its Impact on HIV Infection

Methamphetamine use:

- Decreases sexual inhibitions, 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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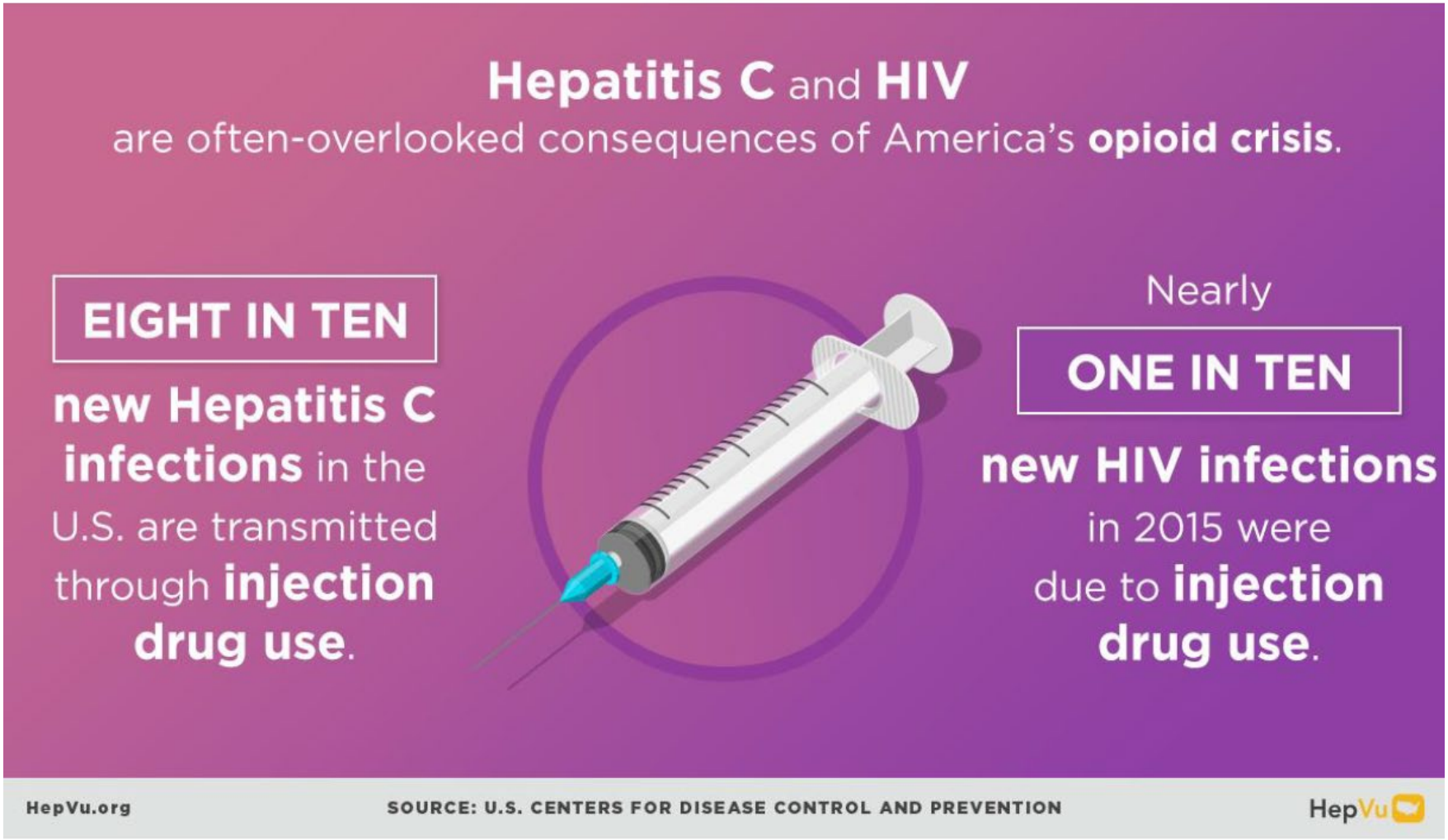
HIV and Hepatitis C Co-Infections



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HIV and Hepatitis C Co-Infections

- In 2018 in Minnesota, there were 60 acute HCV cases and 33,856 chronic cases
  - 8,140 Co-infected for 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).

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QUESTIONS?

Next Steps

- Join us for **Session 4 next Wednesday!**
- 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 (those requests CEU/CME must complete the evaluations).**

Follow-up questions?

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