Welcome to the Opioid Settlement Technical Assistance Learning Series

Medications for Opioid Use Disorder and Harm Reduction

April 16, 2024 | 1:00 p.m. – 2:30 p.m.









Welcome & Introduction of Presenter

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HOUSEKEEPING ITEMS

- This Zoom event will be recorded
- Participants will be on mute when presenters are speaking
- To ask a question, please use the chat
- Any follow-up questions or requests for the Technical Assistance Collaborative (TAC), please email:

MDHHS-opioidsettlementhelp@michigan.gov

• Following this event, please complete the brief evaluation survey, a poll will be provided at the end









Medications for Opioid Use Disorder and Harm Reduction

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Disclosures

The trainers have no conflicts of interest to report



Training Outline

- I. Terminology, data, and trends
- 2. Harm Reduction
- 3. Mindy's experiences with harm reduction
- 4. Medications for opioid use disorder (MOUD)
- 5. Mindy's experiences with MOUD
- 6. Stigma
- 7. Questions



Terminology, Data, & Trends



Evidence of language importance

Terminology for substance use matters for healthcare, 1,2 as well as public support for substance use interventions³

- Examples:
 - A 2010 study of mental health professionals found vignettes with "substance abuser" elicited greater agreement with punitive interventions like jail than "person with a substance use disorder (SUD)"
 - A 2003 study found using the term "addicts" decreased public support for syringe exchange programs, but providing public health information and avoiding stigmatizing language increased this support³



Terminology

	Old Terminology	New Terminology
Use of drugs	Substance abuse	Substance use
	"Clean"/"dirty" or "failed" screen	Unused/used or substance use/substance free
	Relapse	Return to use or Recurrence
	"Doctor shopping" or "drug seeking behavior"	Seeking relief Getting a second opinion Use descriptive language in documentation ("patient has seen multiple providers," "patient has chronic unmanaged pain," etc.)



Terminology

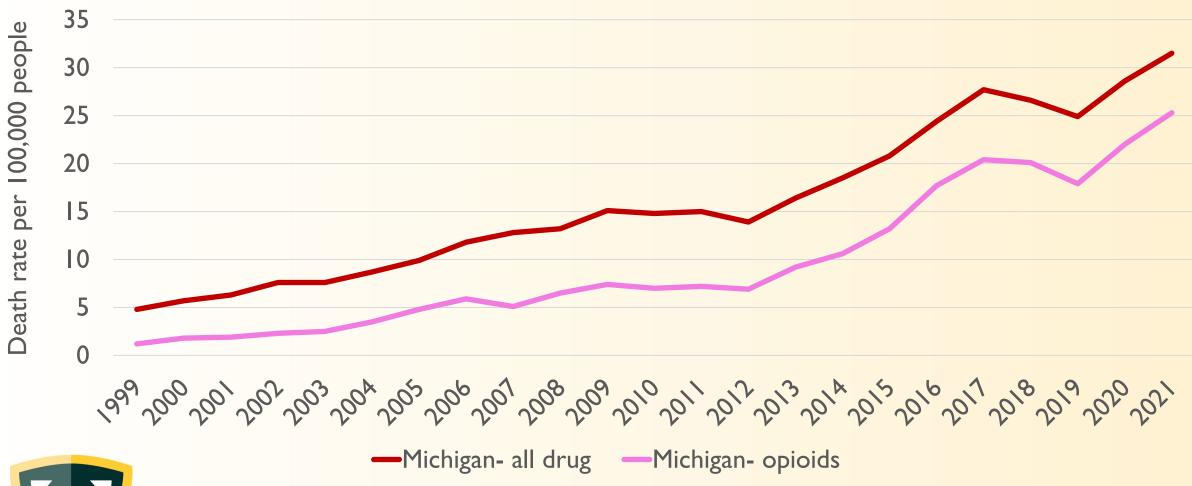
	Old Terminology	New Terminology
Diagnoses	Addiction Drug dependence Drug abuse Drug "habit" or "problem"	Addiction* Substance use disorder (SUD), no longer differentiates between abuse and dependence Examples: Opioid use disorder (OUD) Alcohol use disorder (AUD)
Individuals	"Addicts," "Alcoholics," "Abusers," "Users"	Person-first language Example: • People who use drugs
Babies born to parents who use drugs	Addicted baby	Newborn exposed to substances Baby with signs of withdrawal from prenatal drug exposure Baby with neonatal abstinence syndrome (NAS) or neonatal opioid withdrawal syndrome (NOWS)

Terminology

	Old Terminology	New Terminology
Treatment	Medication-assisted treatment (MAT) Replacement therapy Opioid substitution therapy	Medications for addiction treatment (MAT) Medications for opioid use disorder (MOUD) or Medications for substance use disorder Opioid agonist therapy (OAT) Pharmacotherapy
People in treatment/recovery	Being "clean"	Being in remission or recovery Abstinent from drugs*

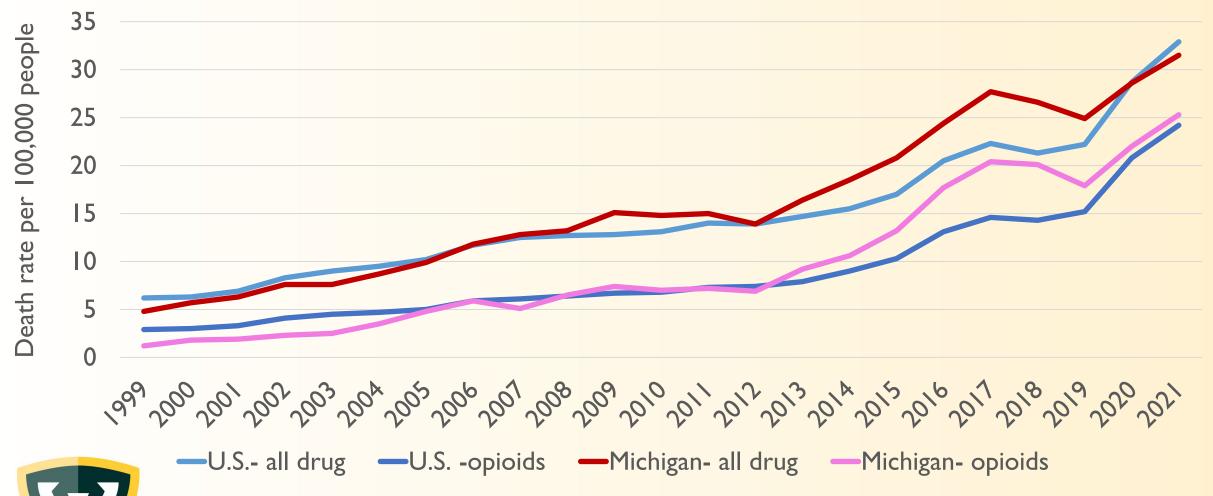


All Drug/Alcohol and Opioid Overdose Deaths, Michigan



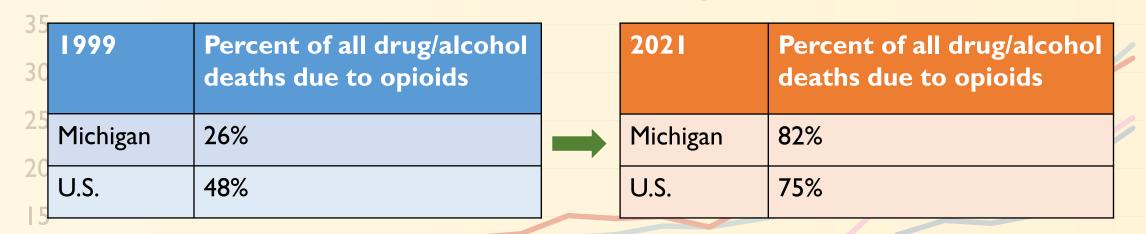


All Drug/Alcohol and Opioid Overdose Deaths, United States and Michigan



Source: CDC Multiple Cause of Death 1999-2021 on CDC WONDER Online Database

All Drug/Alcohol and Opioid Overdose Deaths, United States and Michigan



—U.S.- all drug —U.S. -opioids —Michigan- all drug —Michigan- opioids



10

Death rate per 100,000 people

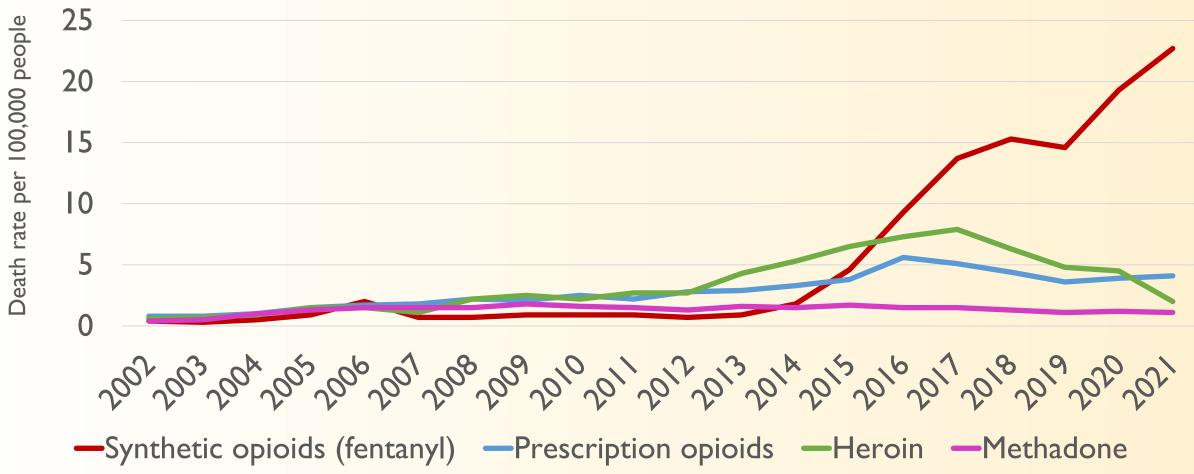
Opioid overdose deaths- but what kind?

A lot of attention has been given to **prescription opioids** and their role in overdose deaths. Do you think prescription opioids are what's driving overdose today?

- ☐ Yes- I think prescription opioids cause most overdose deaths now
- No- I think other kinds of opioids cause most overdose deaths now



Opioid Deaths in Michigan by Type





New contaminant: Xylazine ("tranq")

- A non-opioid veterinary tranquilizer sometimes added to illicit opioids
- Why is it added? To lengthen euphoric effects of opioids
- Adverse effects
 - Increases overdose risk- overdoses involving opioids and xylazine may still respond to naloxone, however overdoses driven primarily by xylazine will not
 - Chronic use may cause greater incidence of skin abscesses and soft tissue infections, even at sites not used for injection and among people who smoke/snort drugs
- In 2022, xylazine was present in 92 Michigan decedents, a 53% relative increase from 60 such decedents in 2021⁴





- Opioid prescribing in the U.S. today is at levels as low as the 1990s,⁵ yet a lot of policy focus remains on prescribed opioids
- So what do we do about this public health problem if the answer is not to simply further reduce opioid prescribing?



Two evidence-based interventions for reducing overdose death



Image source: Todd Huffman. Creative Commons license...



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Harm Reduction:

An evidence-based public health approach to drugs



What is harm reduction?

- A set of <u>values</u> and evidence-based <u>strategies</u> aiming to reduce <u>negative</u> <u>social and physical consequences</u> associated with drug use
- May refer to reducing harms associated with other behaviors
 - Example: seatbelts as a strategy to reduce deaths from auto accidents



Image source: https://www.aclu.org/news/criminal-law-reform/drug-treatment-is-infrastructure



What are harm reduction strategies?

- Harm reduction tries to "meet people where they are at"
 - This means promoting safer use of drugs among people who are unable or unwilling to stop
 - And means supporting people seeking abstinence from drugs through effective treatment



Harm Reduction Services



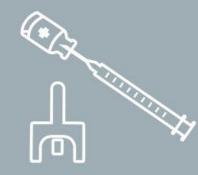
Syringe Access



Syringe Disposal



Safer Drug Use



Naloxone



Medication Treatment



Supervised Consumption Services



Drop-In Centers



Housing First



Pharmacy Access



What is <u>not</u> included in harm reduction?

- Punitive policies for drug use are not harm reduction
 - Discharging people from care/services
 - Jail or prison
 - Loss of child custody
 - Loss of government benefits like Medicaid or food stamps
- Beliefs that people who use drugs have to "hit rock bottom" before they can be helped is not harm reduction



Policing approaches can actually make drug use more dangerous

 A 2023 study by Wayne State researchers found that after police drug seizures, rates of overdose double in the immediate area⁶





Spatiotemporal Analysis Exploring the Effect of Law Enforcement Drug Market Disruptions on Overdose, Indianapolis, Indiana, 2020–2021

Bradley Ray, PhD, Steven J. Korzeniewski, PhD, George Mohler, PhD, Jennifer J. Carroll, PhD, MPH, Brandon del Pozo, PhD, Grant Victor, PhD, Philip Huynh, MPH, and Bethany J. Hedden, MSW

See also Dietze, p. 745, and Stahler et al., p. 747.

Objectives. To test the hypothesis that law enforcement efforts to disrupt local drug markets by seizing opioids or stimulants are associated with increased spatiotemporal clustering of overdose events in the surrounding geographic area.

Methods. We performed a retrospective (January 1, 2020 to December 31, 2021), population-based cohort study using administrative data from Marion County, Indiana. We compared frequency and characteristics of drug (i.e., opioids and stimulants) seizures with changes in fatal overdose, emergency medical services nonfatal overdose calls for service, and naloxone administration in the geographic area and time following the seizures.

Results. Within 7, 14, and 21 days, opioid-related law enforcement drug seizures were significantly associated with increased spatiotemporal clustering of overdoses within radii of 100, 250, and 500 meters. For example, the observed number of fatal overdoses was two-fold higher than expected under the null distribution within 7 days and 500 meters following opioid-related seizures. To a lesser extent, stimulant-related drug seizures were associated with increased spatiotemporal dustering overdose.

Conclusions. Supply-side enforcement interventions and drug policies should be further explored to determine whether they exacerbate an ongoing overdose epidemic and negatively affect the nation's life expectancy. (Am J Public Health. 2023;113(7):750–758. https://doi.org/10.2105/AJPH.2023.307291)



Principles of harm reduction

- Harm reduction is more than a collection of interventions
- It is also a set of values and principles guiding healthcare and other supportive services



Principles of harm reduction⁷

- I. Accept that drug use is part of our world and work to minimize its harmful effects rather than condemn them
- Acknowledge that some ways of using drugs are clearly safer than others
- Establish quality of life and well-being-not necessarily cessation of all drug use-as the criteria for successful interventions and policies



Principles of harm reduction⁵

- 4. Services should be non-judgmental and non-coercive
- 5. Ensure that people who use drugs routinely have a real voice in the creation of programs and policies designed to serve them
- 6. Affirm the **autonomy** of people who use drugs and that they are the ones who ultimately decide to reduce the harms of their drug use and **empower them** to share information and support each other

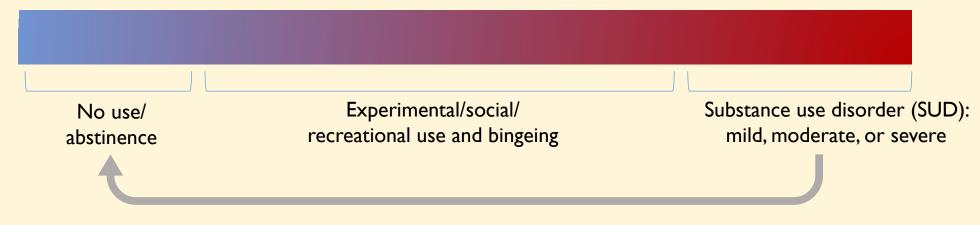


Principles of harm reduction⁵

- 7. Recognize that the realities of **poverty, racism, social isolation, past trauma,** and other social inequalities affect both people's vulnerability to and capacity for effectively dealing with drug-related harm
- 8. Do not attempt to minimize or ignore the real and tragic harm and danger associated with licit and illicit drug use

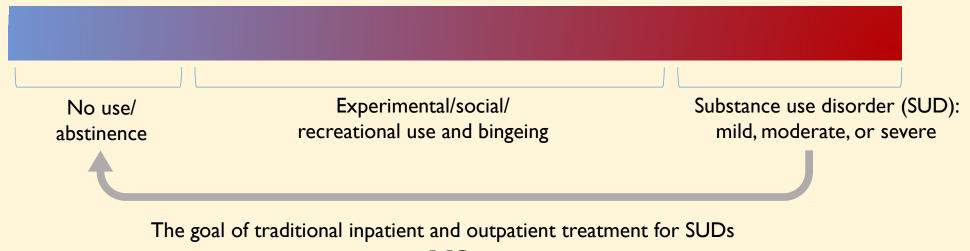


Traditional Treatment Programs and the Substance Use Spectrum:



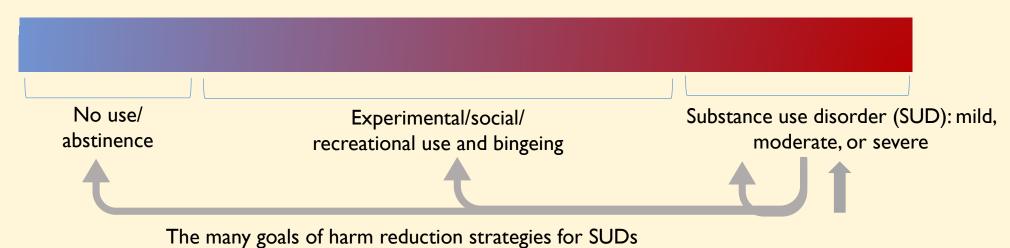
The goal of traditional inpatient and outpatient treatment for SUDs

Traditional Treatment Programs and the Substance Use Spectrum:



VS.

Harm Reduction and the Substance Use Spectrum:



Evidence of harm reduction effectiveness

Syringe Services Programs (SSPs)

- People who use syringe programs are 5x more likely to stop or reduce drug use and enter treatment than people who do not use such programs^{8,9}
- Reduction in syringe litter and accidental needle sticks in communities¹⁰

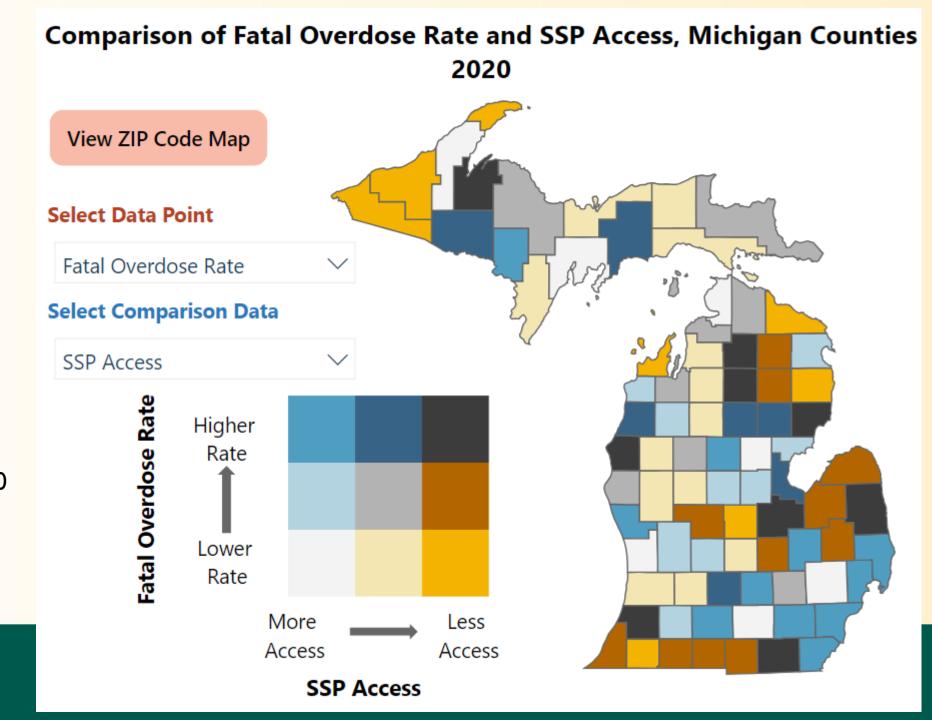
Naloxone distribution and overdose education

- Reduction in deaths due to overdose^{11,12}
- Small increase in people with SUDs enrolling in treatment programs 13,14



- There are 103 SSP sites in MI¹⁹
- But SSPs are still needed in some high overdose regions (especially counties shaded black or brown)²⁰





Evidence of harm reduction effectiveness

- Overdose prevention sites ("safe injection sites")
 - Reduction in overdose deaths and all-cause mortality^{15,16}
 - Cost-effective 16
 - Increase in treatment engagement¹⁶
 - Reduction in public drug use, crime, and discarded injection equipment in neighborhoods¹⁶
 - And public support increases when they are referred to as "overdose prevention sites" instead of "safe injection/consumption sites" 17
 - Currently not legal to operate an overdose prevention site in MI

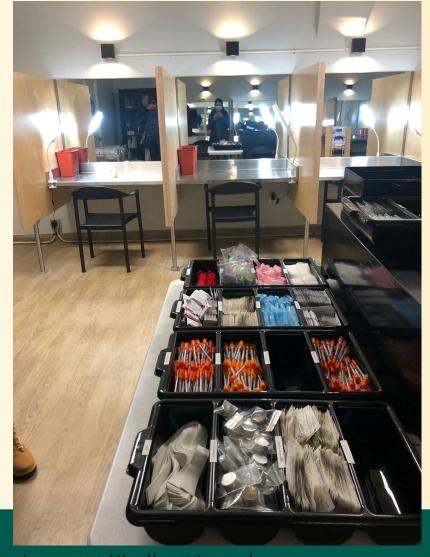


Image source: https://onpointnyc.org/

Mindy's professional experiences with harm reduction

Success stories and challenges



Medications for Opioid Use Disorders (MOUD)

Methadone, buprenorphine, & naltrexone



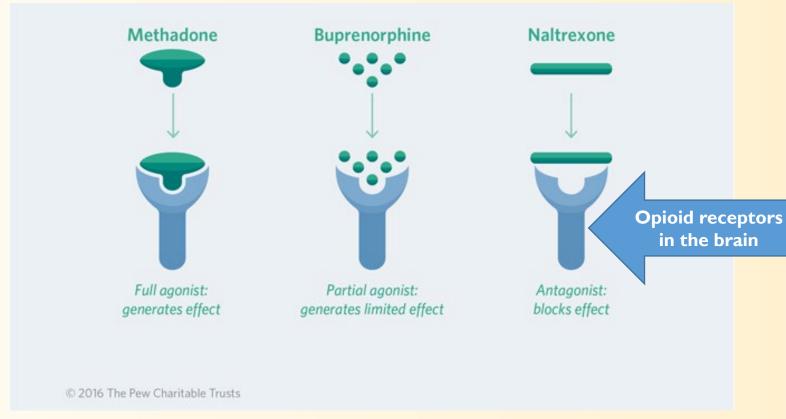
Medications for opioid use disorders (MOUD)

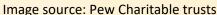
- What are they?
 - FDA-approved medications used to treat opioid use disorder (OUD)
 - Sometimes called MAT = "medication-assisted treatment" or "medications for addiction treatment"
 - 3 medications approved for OUD:
 - Methadone
 - Buprenorphine (Suboxone®)
 - Naltrexone (Vivitrol®)



3 kinds of MOUD

- Methadone and buprenorphine are both "opioid agonist treatment," sometimes called OAT
- Naltrexone is an opioid antagonist
- Patients are encouraged to stay in methadone or buprenorphine treatment as long as they feel helped by the medication¹⁸







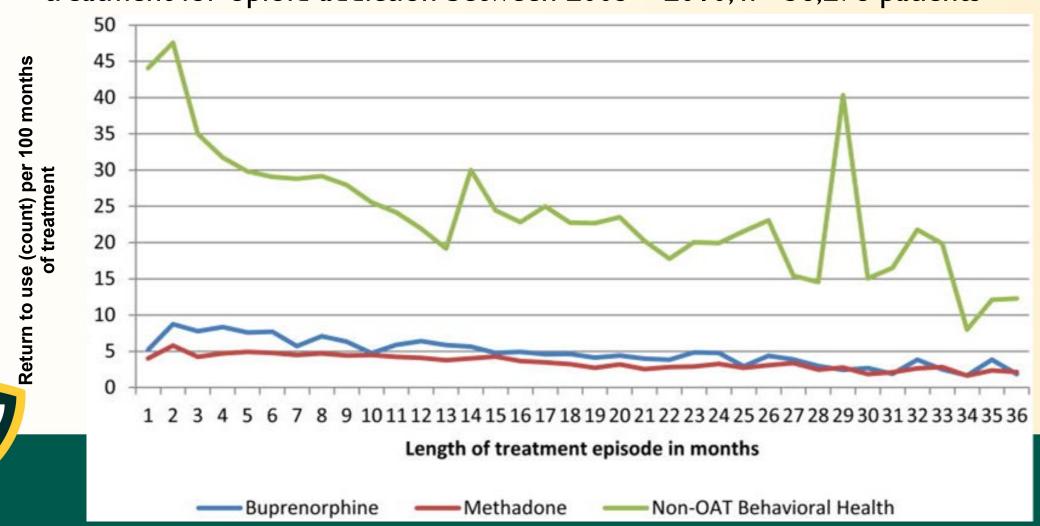
Opioid agonist treatment (OAT)

- Are they effective?
 - Yes! Methadone and Buprenorphine
 - Are the "gold-standard" of care for OUDs
 - Are more effective than counseling alone for retaining people with OUDs in treatment and reducing drug use and overdose and criminal activities^{21,22}
 - Reduce probability of HIV infection²⁴



Effectiveness of OAT

Return to use during treatment among MassHealth members who received treatment for opioid addiction between 2003 – 2010, n= 56,278 patients²⁴



OAT and diversion?

- Selling/sharing OAT is a common concern
- But use of diverted buprenorphine is often for therapeutic reasons
 - 97% to prevent cravings²⁵
 - 8% for euphoric effects²⁵
 - 21-29% to relieve physical pain²⁶
- Studies of expanded methadone take-home doses during COVID-19 show low levels of overdose^{27,28}
 - Past studies also show use of diverted methadone is most often for therapeutic reasons²⁹



Naltrexone

- Used for both OUDs and AUDs
 - Extended-release injectable naltrexone (e.g., Vivitrol®) is recommended for OUDs
- Is it effective?
 - Yes, for alcohol and <u>some</u> opioid-related outcomes
 - Alcohol: Reduces risk of return to heavy use³⁰
 - Opioids: Reduces cravings for opioids and illicit drug use, however, less effective than methadone and buprenorphine, 31-34 and no evidence it reduces overdose risk34



Naltrexone and opioids

- Why is it less effective than OAT?
 - Requires a 7–10-day opioid detox, which heightens risk of relapse and overdose³¹
 - Only 72% of naltrexone patients are able to start treatment with the medication vs. 94% of buprenorphine and methadone patients³²
- Receiving counseling and naltrexone is still more effective than counseling alone for some populations of people with OUDs, such as those under criminal justice supervision³⁵



Mindy's professional experiences with MOUD

Success stories and challenges



Stigma



Stigma toward people with substance use conditions

- Stigma: When a person or group experiences prejudice or discrimination in society because of a particular characteristic
- May be intentional or unintentional



Stigma operates at multiple levels

- Lowest level: Stigma that is internalized by people who use drugs
- Middle levels: Stigma among people in their social network and their doctors, social workers, etc.
- **Higher levels**: Stigma among the general public and structural stigma through laws, hospital/clinic rules, government agency policies, etc.

Structural stigma

Public stigma

Provider-based stigma

Peer & family stigma

Internalized and selfstigma



Stigma examples

Being called a "junkie," "addict," etc.

Structural stigma

Public stigma

Provider-based stigma

Peer & family stigma

Internalized and selfstigma



Stigma examples

- Laws criminalizing drug use instead of treating it as a health issue
- Investing more money in law enforcement and incarceration as responses to drug use than public health approaches like harm reduction or MOUD

Structural stigma Public stigma **Provider-based** stigma **Peer & family** stigma **Internalized** and selfstigma



Stigma examples

- Laws that require extra training for buprenorphine prescribers (now eliminated!)
- Laws and clinic policies that require supervised daily methadone dosing
- Laws that ban physicians from prescribing methadone for addiction treatment in regular office settings

Structural stigma

Public stigma

Provider-based stigma

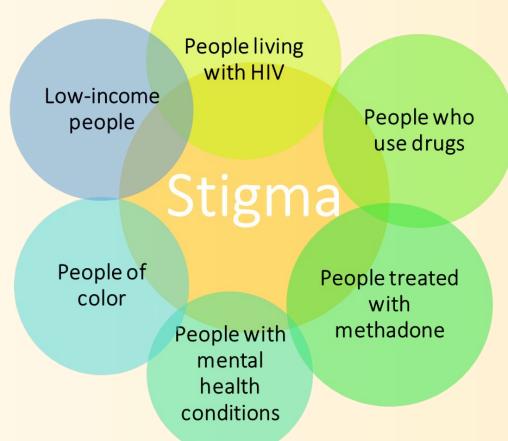
Peer & family stigma

Internalized and selfstigma



Intersections of substance use stigma and race stigma

- Stigma towards substance use can be amplified toward people who also hold other stigmatized identities
- Intersection with racism:
 Black patients, regardless of SUD history, have a higher likelihood of being tested for drug use during birth/delivery³⁶
 - Black patients do not have higher rates of positive tests!





Effects of substance use stigma

- Stigma worsens healthcare quality
 - Creates barriers to MOUD³⁷
 - Contributes to barriers to prenatal care³⁸
- Stigma worsens patient health and behavioral outcomes
 - Poor perinatal health outcomes: Risk of NAS among infants is <u>higher</u> in states with punitive policies towards parental substance use!³⁹
 - Lower rates of addiction treatment^{40,41}
 - Worse adherence to HIV treatment⁴²
 - Less consistent sterile syringe use⁴³



Policy change is a powerful anti-stigma tool

- Most stigma reduction efforts focus on education
- But changing policies in ways that target the upstream drivers of stigma is likely much more effective^{44,45}



Policy change is a powerful anti-stigma tool

- Policy changes that may reduce structural stigma include
 - Eliminating the "x-waiver" (extra training requirement for buprenorphine prescribing)
 - Expanding funding for harm reduction interventions and programs
 - □ Supporting the establishment of legal overdose prevention sites
 - □ Reducing regulatory barriers to providing or using MOUD treatment (e.g., office-based methadone prescribing, methadone dispensing at community pharmacies)



Questions?

Thank you!

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Thank You!

For questions and to make requests to the Technical Assistance Collaborative, please email:

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https://www.michigan.gov/opioids/opioidsettlements









- 1. Kelly JF, Westerhoff CM. Does it matter how we refer to individuals with substance-related conditions? A randomized study of two commonly used terms. Int J Drug Policy. 2010 May;21(3):202-7. doi: 10.1016/j.drugpo.2009.10.010. Epub 2009 Dec 14. PMID: 20005692.
- 2. Ashford RD, Brown AM, McDaniel J, Curtis B. Biased labels: An experimental study of language and stigma among individuals in recovery and health professionals. Subst Use Misuse. 2019;54(8):1376-1384. doi: 10.1080/10826084.2019.1581221. Epub 2019 Apr 4. PMID: 30945955; PMCID: PMC6510618.
- 3. Vernick, J. S., Burris, S., & Strathdee, S. A. (2003). Public opinion about syringe exchange programmes in the USA: an analysis of national surveys. *International Journal of Drug Policy*, 14(5-6), 431-435. doi: 10.1016/S0955-3959(03)00144-0
- 4. Michigan Department of Health and Human Services (MDHHS). Emerging Trend Update: Xylazine in Michigan, 2019-2023 Year-to-Date. https://www.michigan.gov/opioids/-/media/Project/Websites/opioids/documents/Emerging-Trend Xylazine-2022.pdf?rev=357a7cbe248843e29cf9c9ff9e031eb9
- 5. Guy GP. Vital Signs: Changes in Opioid Prescribing in the United States, 2006–2015. MMWR Morb Mortal Wkly Rep. 2017;66. doi:10.15585/mmwr.mm6626a4
- 6. Bradley Ray, Steven J. Korzeniewski, George Mohler, Jennifer J. Carroll, Brandon del Pozo, Grant Victor, Philip Huynh, and Bethany J. Hedden, 2023: Spatiotemporal Analysis Exploring the Effect of Law Enforcement Drug Market Disruptions on Overdose, Indianapolis, Indiana, 2020–2021 American Journal of Public Health 113, 750_758, https://doi.org/10.2105/AJPH.2023.307291
- 7. Harm Reduction Coalition. Principles of Harm Reduction. Accessed October 19, 2018. https://harmreduction.org/about-us/principles-of-harm-reduction/
- 8. Determination of Need for Syringe Services Programs | CDC. https://www.cdc.gov/ssp/determination-of-need-for-ssp.html. Published December 13, 2018. Accessed February 21, 2019.
- 9. Hagan H, McGough JP, Thiede H, Hopkins S, Duchin J, Alexander ER. Reduced injection frequency and increased entry and retention in drug treatment associated with needle-exchange participation in Seattle drug injectors. J Subst Abuse Treat. 2000;19(3):247-252. doi:10.1016/s0740-5472(00)00104-5
- 10. Lorentz J, Hill L, Samimi B. Occupational needlestick injuries in a metropolitan police force. Am J Prev Med. 2000;18(2):146-150. doi:10.1016/s0749-3797(99)00137-3



- 11. Walley AY, Xuan Z, Hackman HH, et al. Opioid overdose rates and implementation of overdose education and nasal naloxone distribution in Massachusetts: interrupted time series analysis. BMJ. 2013;346. doi:10.1136/bmj.f174
- 12. Katzman JG, Takeda MY, Bhatt SR, Moya Balasch M, Greenberg N, Yonas H. An Innovative Model for Naloxone Use Within an OTP Setting: A Prospective Cohort Study. J Addict Med. 2018;12(2):113-118. doi:10.1097/ADM.00000000000374
- 13. Seal KH, Thawley R, Gee L, et al. Naloxone distribution and cardiopulmonary resuscitation training for injection drug users to prevent heroin overdose death: a pilot intervention study. J Urban Health Bull N Y Acad Med. 2005;82(2):303-311. doi:10.1093/jurban/jti053
- 14. Doe-Simkins M, Quinn E, Xuan Z, et al. Overdose rescues by trained and untrained participants and change in opioid use among substance-using participants in overdose education and naloxone distribution programs: a retrospective cohort study. BMC Public Health. 2014;14:297. doi:10.1186/1471-2458-14-297
- 15. Levengood, T. W., Yoon, G. H., Davoust, M. J., Ogden, S. N., Marshall, B. D., Cahill, S. R., & Bazzi, A. R. (2021). Supervised injection facilities as harm reduction: a systematic review. *American journal of preventive medicine*, 61(5), 738-749.
- 16. Kennedy, M. C., Karamouzian, M., & Kerr, T. (2017). Public Health and Public Order Outcomes Associated with Supervised Drug Consumption Facilities: a Systematic Review. *Current HIV/AIDS reports*, 14(5), 161–183. https://doi.org/10.1007/s11904-017-0363-y
- 17. Socia, K. M., Stone, R., Palacios, W. R., & Cluverius, J. (2021). Focus on prevention: The public is more supportive of "overdose prevention sites" than they are of "safe injection facilities". *Criminology & Public Policy*, 20(4), 729-754. https://doi.org/10.1111/1745-9133.12566
- 18. American Society of Addiction Medicine. National Practice Guideline for the Use of Medications in the Treatment of Addiction Involving Opioid Use.; 2015:66. https://www.asam.org/docs/default-source/practice-support/guidelines-and-consensus-docs/asam-national-practice-guideline-supplement.pdf
- 19. https://www.michigan.gov/mdhhs/-/media/Project/Websites/mdhhs/SSP/Michigan-SSP-2023-Q4-Report.pdf?rev=a2e128c4cf894b87b1989be8a28fb72c&hash=74F3B1EB164BE0A837B1A80D1745B825

<u>ttps://www.michigan.gov/opioids/category-data</u>

- 21. Mattick RP, Breen C, Kimber J, Davoli M. Methadone maintenance therapy versus no opioid replacement therapy for opioid dependence. Cochrane Database Syst Rev. 2009;(3):CD002209. doi:10.1002/14651858.CD002209.pub2
- 22. Mattick RP, Kimber J, Breen C, Davoli M. Buprenorphine maintenance versus placebo or methadone maintenance for opioid dependence. Cochrane Database Syst Rev. 2004;(3):CD002207. doi:10.1002/14651858.CD002207.pub2
- 23. MacArthur GJ, Minozzi S, Martin N, et al. Opiate substitution treatment and HIV transmission in people who inject drugs: systematic review and meta-analysis. *BMJ*. 2012;345:e5945. doi:10.1136/bmj.e5945
- 24. Clark RE, Baxter JD, Aweh G, O'Connell E, Fisher WH, Barton BA. Risk Factors for Relapse and Higher Costs among Medicaid Members with Opioid Dependence or Abuse: Opioid Agonists, Comorbidities, and Treatment History. J Subst Abuse Treat. 2015;57:75-80. doi:10.1016/j.jsat.2015.05.001
- 25. Schuman-Olivier Z, Albanese M, Nelson SE, Roland L, Puopolo F, Klinker L, Shaffer HJ. Self-treatment: illicit buprenorphine use by opioid-dependent treatment seekers. J Subst Abuse Treat. 2010 Jul;39(1):41-50. doi: 10.1016/j.jsat.2010.03.014. PMID: 20434868.
- 26. Han, B., Jones, C. M., Einstein, E. B., & Compton, W. M. (2021). Trends in and characteristics of buprenorphine misuse among adults in the US. *JAMA network open*, 4(10), e2129409-e2129409.
- 27. Brothers, S., Viera, A., & Heimer, R. (2021). Changes in methadone program practices and fatal methadone overdose rates in Connecticut during COVID-19. *Journal of substance abuse treatment*, 131, 108449.
- 28. Jones, C. M., Compton, W. M., Han, B., Baldwin, G., & Volkow, N. D. Methadone-Involved Overdose Deaths in the US Before and After Federal Policy Changes Expanding Take-Home Methadone Doses From Opioid Treatment Programs. *JAMA psychiatry*.
- 29. Duffy P, Mackridge AJ. Use and diversion of illicit methadone under what circumstances does it occur, and potential risks associated with continued use of other substances. *J Subst Use*. 2014;19(1-2):48-55. doi:10.3109/14659891.2012.734539.
- 30. Roozen, H. G., de Waart, R., van der Windt, D. A., van den Brink, W., de Jong, C. A., & Kerkhof, A. J. (2006). A systematic review of the effectiveness of naltrexone in the maintenance treatment of opioid and alcohol dependence. *European* neuropsychopharmacology, 16(5), 311-323.

- Lee JD, Nunes EV, Novo P, et al. Comparative effectiveness of extended-release naltrexone versus buprenorphine-naloxone for opioid relapse prevention (X:BOT): a multicentre, open-label, randomised controlled trial. The Lancet. 2018;391(10118):309-318. doi:10.1016/S0140-6736(17)32812-X
- 32. Jarvis BP, Holtyn AF, Subramaniam S, et al. Extended-release injectable naltrexone for opioid use disorder: a systematic review. Addiction. 2018;113(7):1188-1209. doi:10.1111/add.14180
- Morgan JR, Schackman BR, Leff JA, Linas BP, Walley AY. Injectable naltrexone, oral naltrexone, and buprenorphine utilization and discontinuation among individuals treated for opioid use disorder in a United States commercially insured population. J Subst Abuse Treat. 2018;85:90-96. doi:10.1016/i.jsat.2017.07.001
- Degenhardt L, Larney S, Kimber J, Farrell M, Hall W. Excess mortality among opioid-using patients treated with oral naltrexone in Australia. Drug Alcohol Rev. 2015;34(1):90-96. doi:10.1111/dar.12205
- 35. Lee JD, Friedmann PD, Kinlock TW, et al. Extended-Release Naltrexone to Prevent Opioid Relapse in Criminal Justice Offenders. New England Journal of Medicine. 2016;374(13):1232-1242. doi:10.1056/NEJMoa1505409
- 36. Jarlenski M, Shroff J, Terplan M, Roberts SCM, Brown-Podgorski B, Krans EE. Association of Race With Urine Toxicology Testing Among Pregnant Patients During Labor and Delivery. *JAMA Health Forum*. 2023;4(4):e230441. doi:10.1001/jamahealthforum.2023.0441
- 37. Peterson JA, Schwartz RP, Mitchell SG, Reisinger HS, Kelly SM, O'Grady KE, et al. Why don't out-of-treatment individuals enter methadone treatment programmes? International Journal of Drug Policy. 2010 Jan 1;21(1):36–42.
- 38. Jessup, M. A., Humphreys, J. C., Brindis, C. D., & Lee, K. A. (2003). Extrinsic barriers to substance abuse treatment among pregnant drug dependent women. Journal of Drug Issues, 33(2), 285-304.
- Faherty, L. J., Kranz, A. M., Russell-Fritch, J., Patrick, S. W., Cantor, J., & Stein, B. D. (2019). Association of Punitive and Reporting State Policies Related to Substance Use in Pregnancy With Rates of Neonatal Abstinence Syndrome. *JAMA Network Open*, 2(11), e1914078. https://doi.org/10.1001/jamanetworkopen.2019.14078
- 40. Radcliffe P, Stevens A. Are drug treatment services only for "thieving junkie scumbags"? Drug users and the management of stigmatised identities. Soc Sci Med. 2008;67(7):1065-1073. doi:10.1016/j.socscimed.2008.06.004

- 41. Browne T, Priester MA, Clone S, Iachini A, DeHart D, Hock R. Barriers and Facilitators to Substance Use Treatment in the Rural South: A Qualitative Study. J Rural Health. 2016;32(1):92-101. doi:10.1111/jrh.12129
- 42. Stringer KL, Marotta P, Baker E, et al. Substance Use Stigma and Antiretroviral Therapy Adherence Among a Drug-Using Population Living with HIV. AIDS Patient Care STDs. 2019;33(6):282-293. doi:10.1089/apc.2018.0311
- 43. Rivera AV, DeCuir J, Crawford ND, Amesty S, Lewis CF. Internalized stigma and sterile syringe use among people who inject drugs in New York City, 2010–2012. Drug Alcohol Depend. 2014;144:259-264. doi:10.1016/j.drugalcdep.2014.09.778
- 44. Hatzenbuehler ML, Phelan JC, Link BG. Stigma as a Fundamental Cause of Population Health Inequalities. Am J Public Health. 2013;103(5):813-821. doi:10.2105/AJPH.2012.301069
- 45. Hatzenbuehler M. L. (2016). Structural stigma: Research evidence and implications for psychological science. *The American psychologist*, 71(8), 742–751. https://doi.org/10.1037/amp0000068

