UNIVERSITY of WASHINGTON

Methamphetamine Use Among Persons with Opioid Use Disorder: Implications for Treatment

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Financial disclosures

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Objectives

- Review trends in methamphetamine use among person with opioid use disorder (OUD)
- Present research examining association between methamphetamine use and retention in buprenorphine treatment
- Discuss strategies for improving engagement and retention among patients with OUD who use methamphetamine

Patient stories: T.S.*

- 55 yr. old woman seen at opioid treatment program
- Back injury in her 40s, used prescription opioids then heroin
- Initiated treated for opioid use disorder (OUD) a year ago with methadone
- Introduced to methamphetamine 6 months ago by a patient (“it’s everywhere”), now uses few times a week, either smokes or injects
- She uses for “focus” and “energy”, to combat sedation from methadone
- Had recent ED visit for abscess/cellulitis
- Interested having stimulant agonist medications for ADHD prescribed to help her cut back on methamphetamine use

*Composite of multiple individual patients

Trends in methamphetamine use among treatment seeking opioid users

Ellis MS, Kasper ZA, Cicero TJ. Drug Alcohol Depend. 2018

Methamphetamine use among persons who inject opioids

- Increasing methamphetamine use among persons who inject heroin observed in Western cities (Denver[1], Seattle[2], San Diego[3])
- Heroin/methamphetamine may be taken separately or in a combined injection ("goofball")
- Emerging data on morbidity and high-risk injecting behaviors associated with goofball use[2]

1. Al-Tayyib A, et al. Subst Use Misuse. 2017
2. Glick SN, et al. Am J Addict. 2021
3. Meacham MC, et al. J Stud Alcohol Drugs. 2016

Research Questions

- Is methamphetamine use associated with worse buprenorphine treatment outcomes like retention?
- What happens to methamphetamine use over time among patients who are treated for OUD with buprenorphine?

ELSEVIER

Journal of Substance Abuse Treatment

Volume 109, February 2020, Pages 80-85

Association between methamphetamine use and retention among patients with opioid use disorders treated with buprenorphine

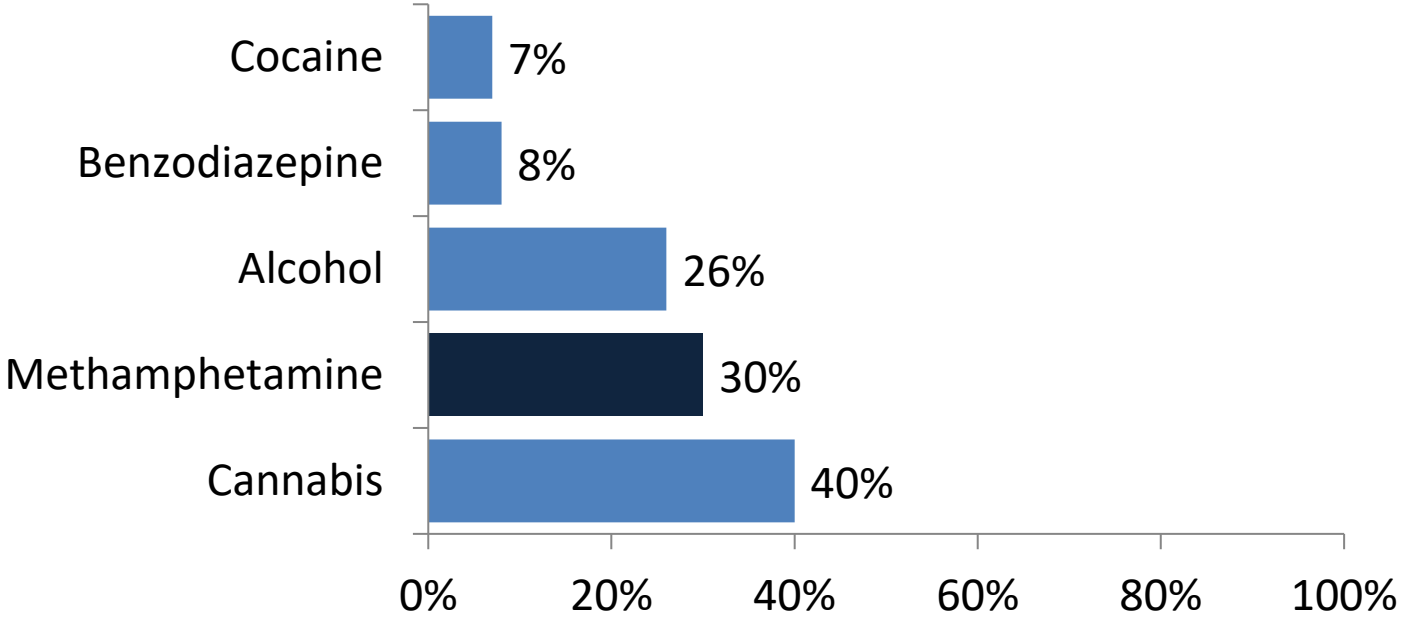
Judith I. Tsui [a], Jim Mayfield [b], Elizabeth C. Speaker [b], Sawir Yakup [b], Richard Ries [e], Harvey Funai [d], Brian G. Leroux [c], Joseph O. Merrill [a]

Study design

- Utilized data from SAMHSA-funded Washington State Medication Assisted Treatment-Prescription Drug and Opioid Addiction (WA-MAT-PDOA) program between November 1, 2015 and April 31, 2018
  - 3 clinic sites (Seattle, Hoquiam and Olympia)
- Past 30-day substance use (collected baseline and 6 months)
- Dates of reported “discharge” defined as having no contact with program and no buprenorphine script for ≥30 days
  - Discharge is an administrative term referring to patient not being active in the program
- Tested associations between baseline methamphetamine use and time to discharge; described the proportion using methamphetamine at baseline and 6 months

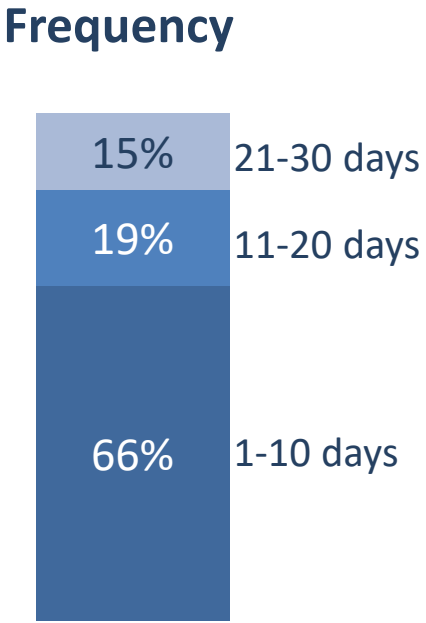
Tsui JI, et al. J Subst Abuse Treat. 2020

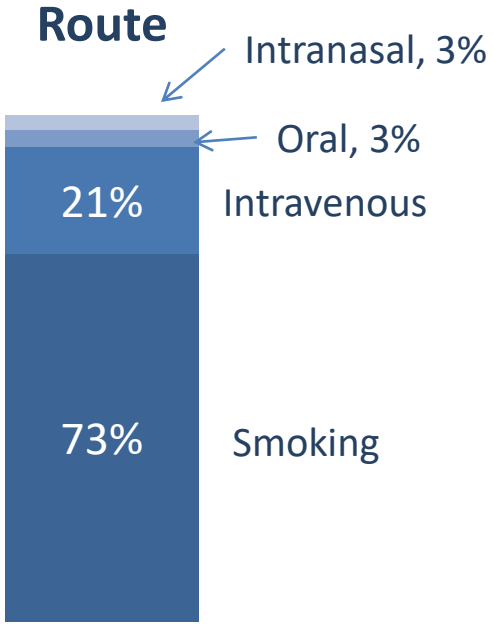
Baseline past 30-day substance use (n=799)



Tsui JI, et al. J Subst Abuse Treat. 2020

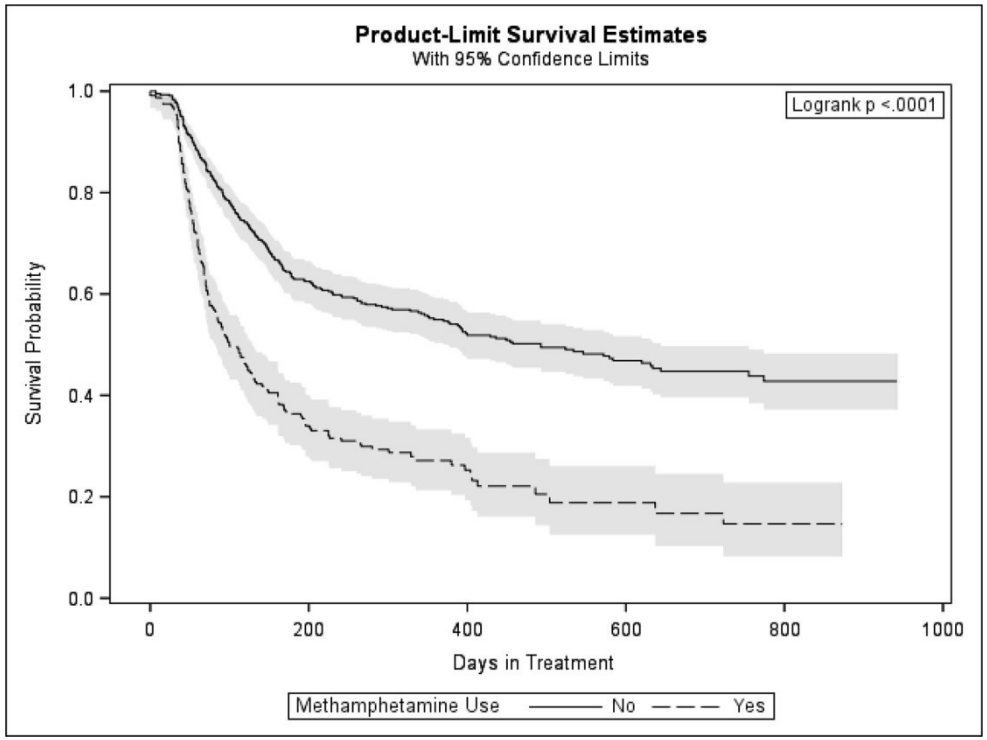
Patterns of methamphetamine use (n = 237)





Tsui JI, et al. J Subst Abuse Treat. 2020

Kaplan-Meier survival curves for methamphetamine users and non-users (n=770)



Tsui JI, et al. J Subst Abuse Treat. 2020

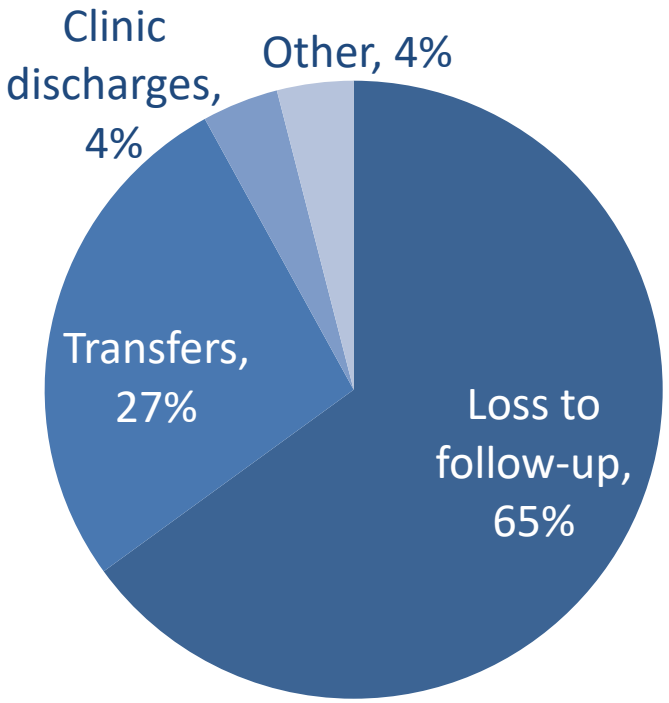
Hazard ratios for non-retention associated with using methamphetamine at baseline

Model	Hazard Ratio (95% CI)
Any Methamphetamine Use (past month)	2.39 (1.94–2.93)
Days Used Methamphetamine (past month)	
None	(Ref)
1–10	2.05 (1.63–2.57)
11–20	3.04 (2.12–4.23)
21–30	3.61 (2.40–5.23)

*Adjusted for site, time period, age, gender, race, ethnicity, and education; sample includes 768 with complete data.

Tsui JI, et al. J Subst Abuse Treat. 2020

Reasons for non-retention



Tsui JI, et al. J Subst Abuse Treat. 2020

Methamphetamine use decreased over time among buprenorphine treated patients

- 516 completed both baseline and 6-month follow-up surveys
- 135 (26%) were using methamphetamine at baseline; of those, **98 (73%) were no longer using at 6 months**
- Average number of days of methamphetamine use reported in the past month decreased by 6.10 days (±SD 9.11) at 6 months

Tsui JI, et al. J Subst Abuse Treat. 2020

Study limitations

- Data from 3 programs in WA State, may not generalize
- Patterns of methamphetamine use over time based on sub-sample of patients having 6-month follow-up (517/799; 65%)
  - Issues of recall bias and bias from missing data (more likely to use)
- Definition of “retention” is simple, based on single tx episode
  - No data on cumulative days of treatment that can account for intermittent treatment/re-engagement

Study conclusions

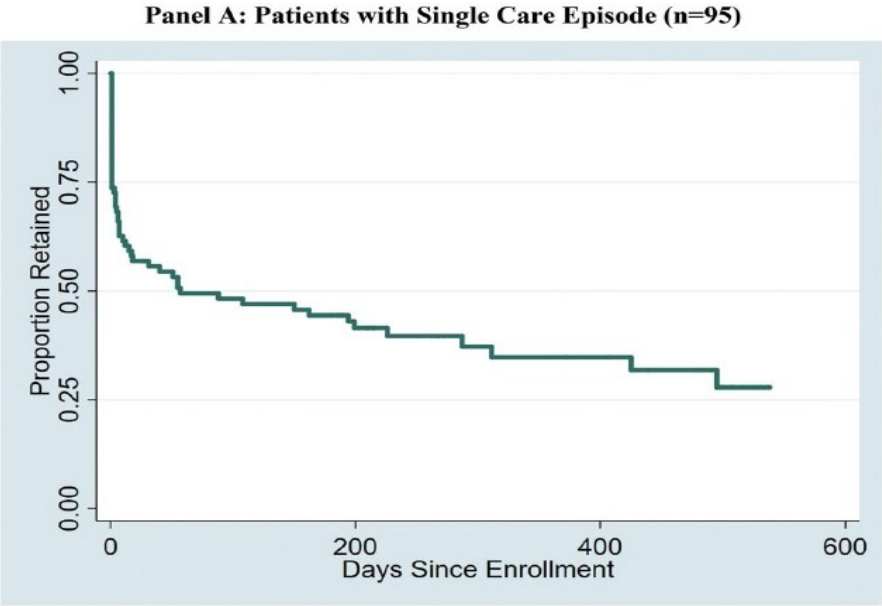
- Patients who used methamphetamine at baseline appeared less likely to be retained in buprenorphine treatment
  - However, reductions in methamphetamine use were observed over time
- As such, methamphetamine use should not be a barrier to initiating or maintaining OUD treatment
  - Need for “Low barrier” programs/policies that can successfully engage patients with OUD who use stimulants/methamphetamine

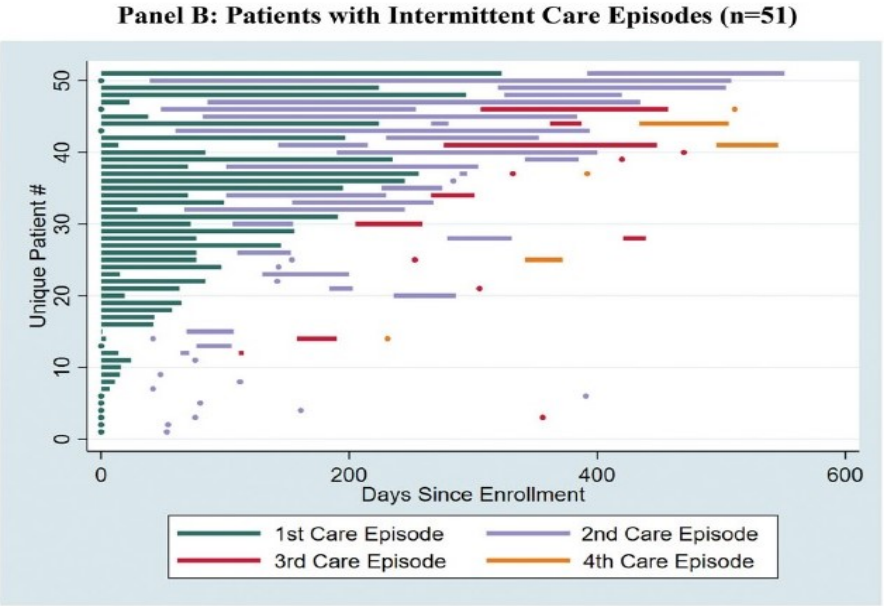
Bupe Pathways: “Low Barrier”clinic

- Buprenorphine program in Seattle, WA that is co-located with King County Public Health Syringe Services Program (SSP)[1]
  - Similar programs in many other parts of the country[2-3]
- Provides flexible scheduling with rapid access to medication; care delivered through “harm reduction lens”
- Serves patients who are primarily homeless and using stimulants

1. Hood JA, et al. Subst Ab. 2020
2. Fox AD, et al. Harm Red J. 2017
3. Bachhuber MA, et al. Subst Ab. 2018

“Low Barrier” care: Bupe Pathways program





Hood JA, et al. Substance Abuse. 2020

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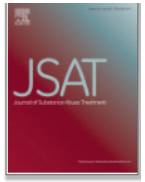
Journal of Substance Abuse Treatment

Volume 129, October 2021, 108375

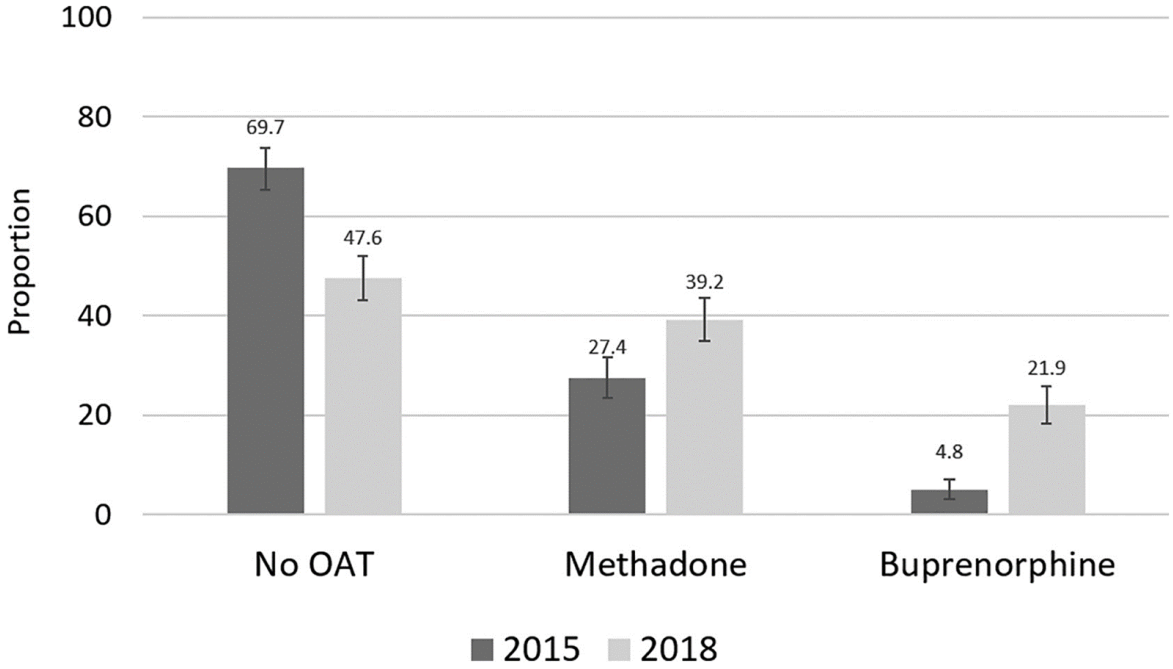


Increased utilization of buprenorphine and methadone in 2018 compared to 2015 among Seattle-area persons who inject drugs

Elisabeth Poorman [a], Sara N. Glick [b, c], Jonathan K.D. Hiser [a], Elenore Bhatraju [a], Judith I. Tsui [a]

Poorman E, et al. J Sub Ab Treat. 2021

Past-year Use of Medications for OUD Among PWID: Data from 2018 Seattle Area National HIV Behavioral Surveillance (NHBS) System (N=498)



Poorman E, et al. JSAT. 2021.

Characteristics of PWID with and without past-year medications for OUD: Data from 2018 Seattle area NHBS (N=498)

	Past-Year Medications for OUD				
	No Medication	Methadone		Buprenorphine	
Characteristic	**N=237**	**N=195[b]**	**p-value[c]**	**N=109[b]**	**p-value[c]**
Age (years), mean [SD]	41.9 [11.6]	43.1 [12.5]	0.311	35.8 [10.9]	<0.001
Male (n, %)	156 (65.8)	108 (55.4)	0.027	66 (60.6)	0.342
Race/Ethnicity (n, %)			0.161		0.133
White, non-Hispanic	116 (49.0)	96 (49.2)		53 (48.6)	
Black, non-Hispanic	40 (16.9)	20 (10.3)		9 (8.3)	
Hispanic	26 (11.0)	30 (15.4)		16 (14.7)	
Other[a]	55 (23.2)	49 (25.1)		31 (28.4)	
Currently homeless	152 (64.1)	91 (46.7)	<0.001	82 (75.2)	0.040
Has health insurance	212 (89.5)	191 (98.0)	<0.001	102 (93.6)	0.218
Years since first injection (n, %)			0.041		0.006
0–5 years	50 (21.1)	25 (12.8)		25 (22.9)	
6–15 years	64 (27.0)	68 (34.9)		46 (42.2)	
>15 years	123 (51.9)	102 (52.3)		38 (34.9)	
Overdosed, past year	62 (26.2)	45 (23.1)	0.460	40 (36.7)	0.046
Methamphetamine use, past year (n, %)	182 (76.8)	142 (72.8)	0.343	98 (89.9)	0.004

Poorman E, et al. JSAT. 2021

Reported site of receipt for buprenorphine treatment among PWID: Data from 2018 Seattle area NHBS (N=108)

Location	Percentage (%)
Syringe Services Program	28.7
Hospital Based Program	21.3
Community Health Center Program	15.7
Tribal Program	13.9
Non-profit Program	9.3
Jail/Diversion Program	3.7
Other	14.8

Poorman E. et al. JSAT. 2021

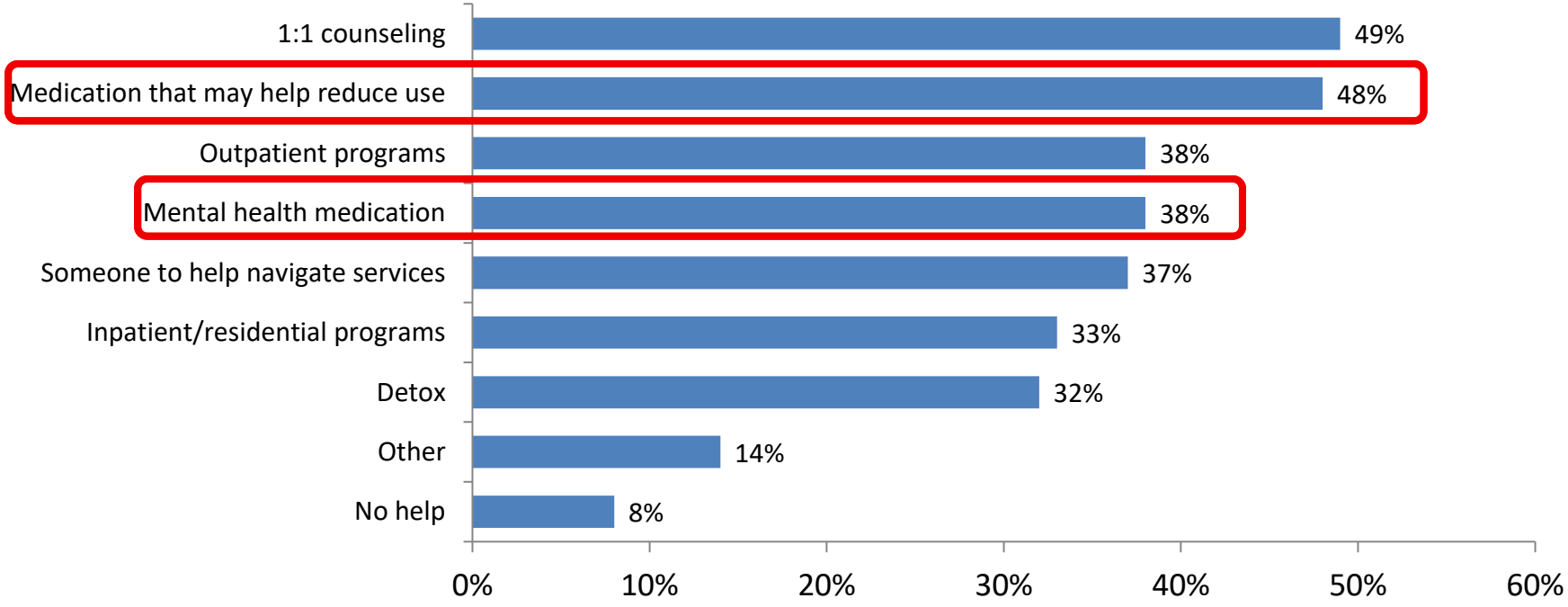
Why is it important to keep persons with OUD and methamphetamine use retained in care?

- Many will discontinue methamphetamine use over time without any specific interventions
- Even if patients don't want to change their use it is important to offer counseling and provide care that will reduce harms
- By keeping a patient engaged you create window of opportunities to offer interventions

Harm reduction/safer drug use counseling

- Carry naloxone
- Avoid using alone, use with people you trust
- Avoid mixing drugs
- Be wary of fentanyl contamination
  - Use a test dose or fentanyl test strips
- Choose safest mode possible
  - Oral > snort > smoke > inject IV
- Practice good vein care
- Don’t share any injecting equipment
- Avoid using in settings that can lead to risky sex, prepare for safer sex
  - Consider PrEP
- Stay hydrated, avoid getting overheated
- Pay attention to oral/dental hygiene
- Get tested for HIV and HCV regularly

Desired "help" for reducing methamphetamine use among syringe service program participants in WA State (n = 79)



Adapted from McMahan V, et al. Drug and Alcohol Dependence. 2020

Pharmacotherapy for methamphetamine use disorder (MUD)

- There are currently no FDA approved medications for treatment of MUD
  - ~20% of all medications are prescribed "off-label"[1]
- Many medications/combinations have been studied, but not specifically among patients with concurrent OUD
  - Study of naltrexone implants for heroin and amphetamine use disorder[2]
- Recent systematic review/meta-analysis concluded that medications evaluated for MUD have not clearly shown a significant benefit[3]
  - However, *stated there was "low-strength" evidence that methylphenidate may reduce use*

1. Radley DC, et al. Arch Int Med. 2006
2. Tiihonen J, et al. Am J Psychiatry. 2012
3. Chan B, et al. Addiction. 2019

JAMA Psychiatry | Original Investigation

Effects of Mirtazapine for Methamphetamine Use Disorder Among Cisgender Men and Transgender Women Who Have Sex With Men
A Placebo-Controlled Randomized Clinical Trial

Phillip O. Coffin, MD, MIA; Glenn-Milo Santos, PhD, MPH; Jaclyn Hern, MPH; Eric Vittinghoff, PhD; John E. Walker, MSN; Tim Matheson, PhD, MS; Deirdre Santos, RN, MSN; Grant Colfax, MD; Steven L. Batki, MD

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Bupropion and Naltrexone in Methamphetamine Use Disorder

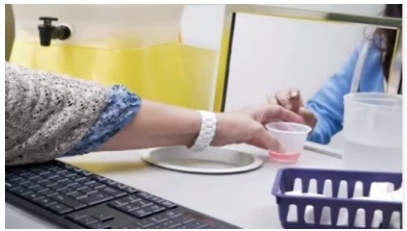
Madhukar H. Trivedi, M.D., Robrina Walker, Ph.D., Walter Ling, M.D., Adriane dela Cruz, M.D., Ph.D., Gaurav Sharma, Ph.D., Thomas Carmody, Ph.D., Udi E. Ghitza, Ph.D., Aimee Wahle, M.S., Mora Kim, M.P.H., Kathy Shores-Wilson, Ph.D., Steven Sparenborg, Ph.D., Phillip Coffin, M.D., M.I.A., et al.

Coffin PO, et al. JAMA Psychiatry. 2020
Trivedi MH, et al. N Engl J Med. 2021

Summary

- Methamphetamine use is increasingly common among persons with OUD and has been shown to be associated with worse retention in buprenorphine treatment.
- “Low-barrier” buprenorphine programs have demonstrated success engaging patients with OUD who use stimulants.
- Patient-centered interventions that can be implemented in real-world settings are needed to reduce methamphetamine use and improve retention among patients with treated OUD.

Acknowledgement to Research Partners and Patients



Evergreen Treatment Services

HEP HEPATITIS EDUCATION PROJECT

UW Medicine HARBORVIEW MEDICAL CENTER

Public Health Seattle & King County

Thank you!

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