Mass General Brigham

Understanding effective substance use disorder interventions

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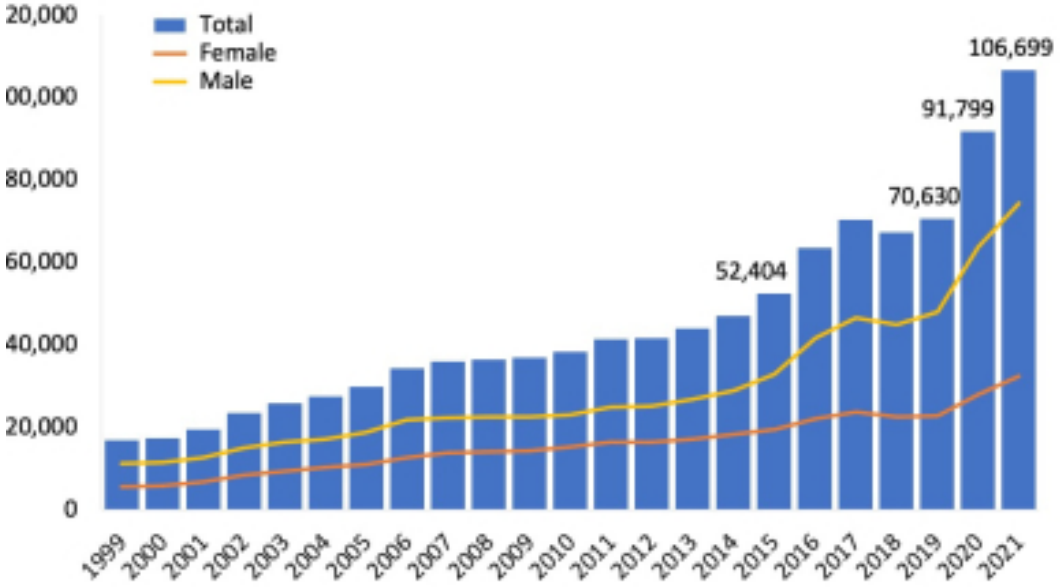
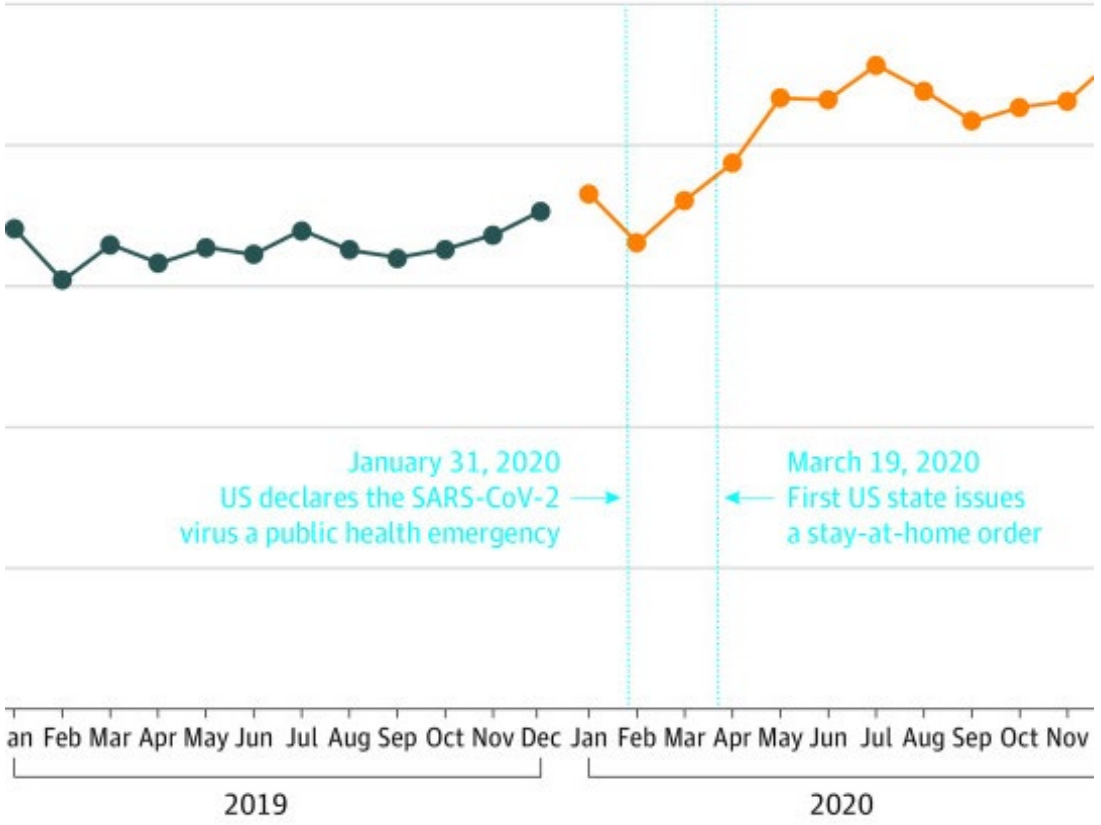
Reframing addiction as a treatable, good prognosis health condition

High rates of drug-related overdose and alcohol related mortality highlight the need for changes in policy and treatment

Figure 1. National Drug-Involved Overdose Deaths*, Number Among All Ages, by Gender, 1999-2021

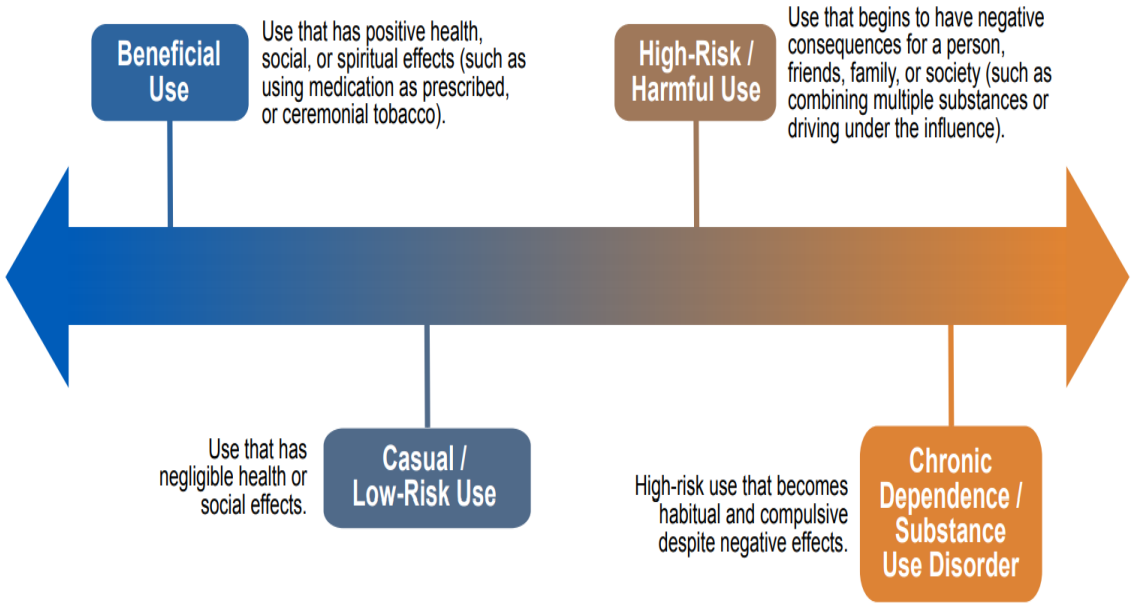


ades deaths with underlying causes of unintentional drug poisoning (X40–X44), suicide drug poisoning (X60–X64), homicide drug ning (X85), or drug poisoning of undetermined intent (Y10–Y14), as coded in the International Classification of Diseases, 10th Revision. e: Centers for Disease Control and Prevention, National Center for Health Statistics. Multiple Cause of Death 1999-2021 on CDC DER Online Database, released 1/2023.



What is and what isn't addiction?

- The defining feature of addiction is ***compulsively using a substance despite negative consequences***
- Defined as a problematic pattern of alcohol or drug use leading to clinically significant impairment or distress within a 1-year period
- Based on meeting at least 2 of 11 criteria from DSM-5
- Criteria assess for loss of control of use, use despite consequences, and craving



SBIRT to SBI and STIR: screen, treatment initiation, refer if needed

Identify patients through screening or acute presentation

Make a diagnosis

Initiate treatment without delay

Retain patients in treatment

Brief intervention for unhealthy use that does not meet criteria for SUD

Initiating effective treatment

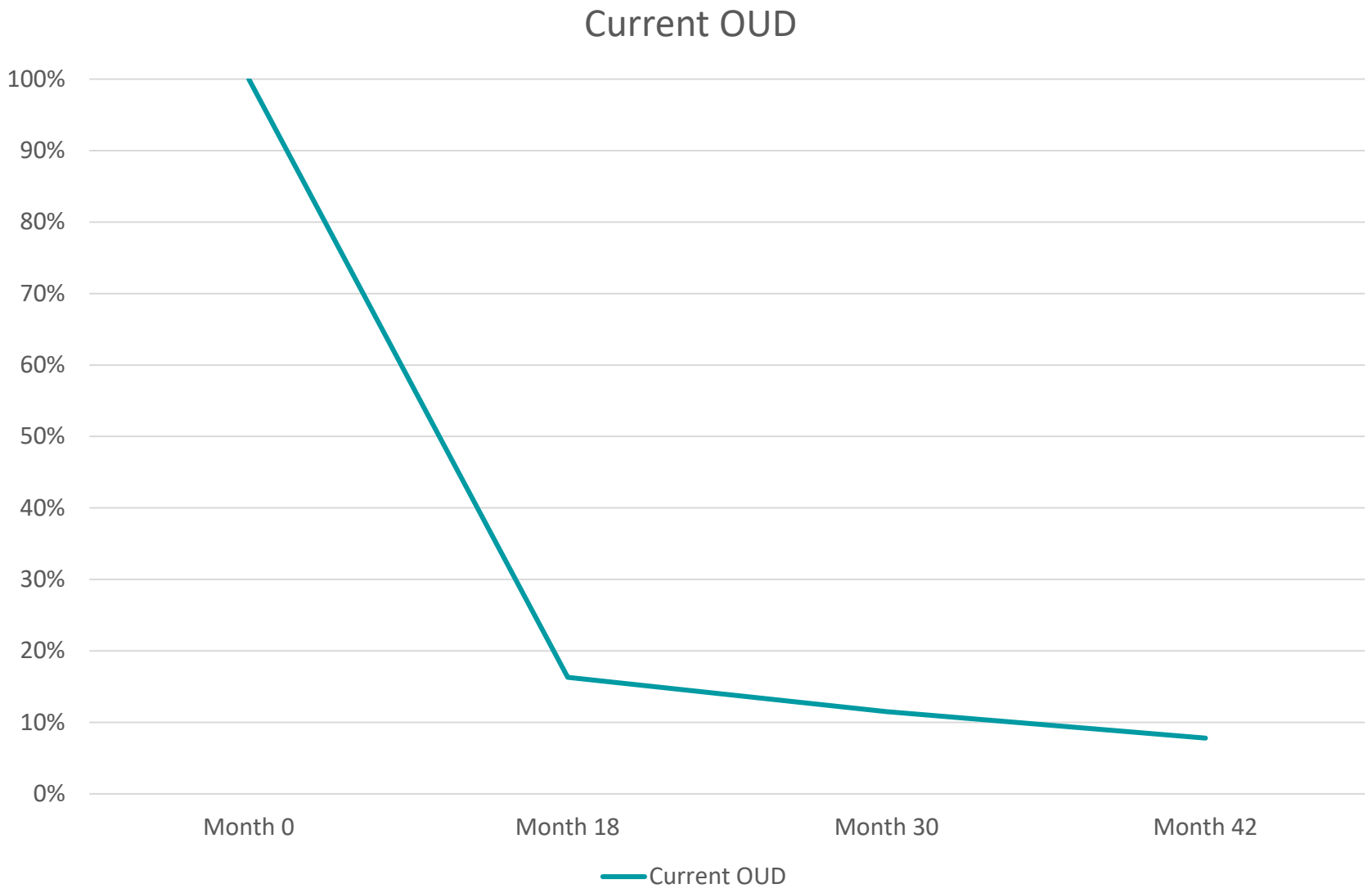
MEDICATION

PSYCHOSOCIAL INTERVENTIONS

RECOVERY SUPPORTS

HARM REDUCTION

Most treated patients with OUD achieve remission



Methadone and buprenorphine reduce mortality

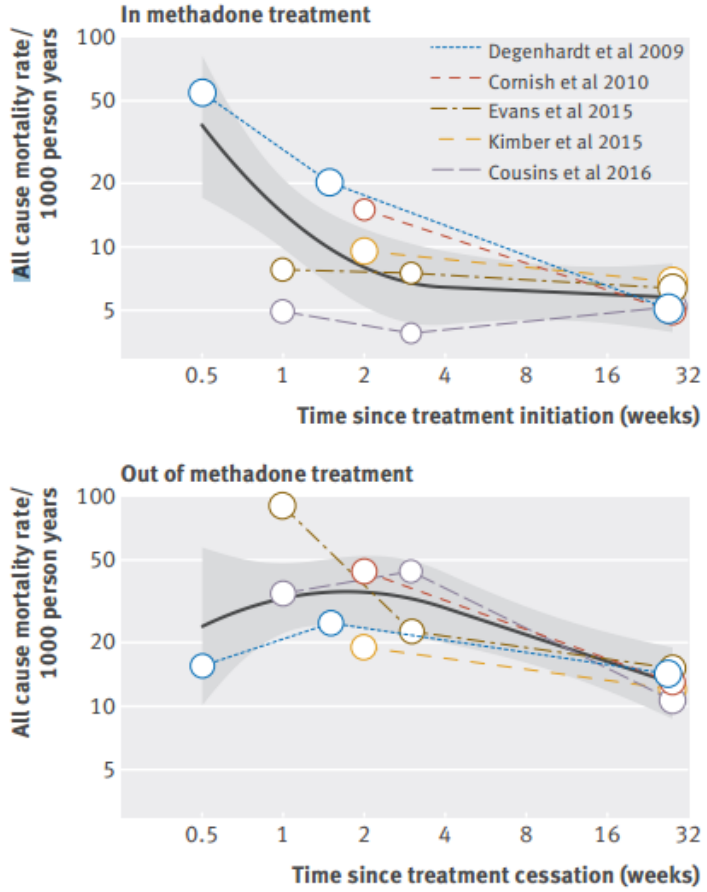
All cause **mortality rates (per 1000 person years):**

- In methadone treatment: 11.3
- Out of methadone treatment: 36.1

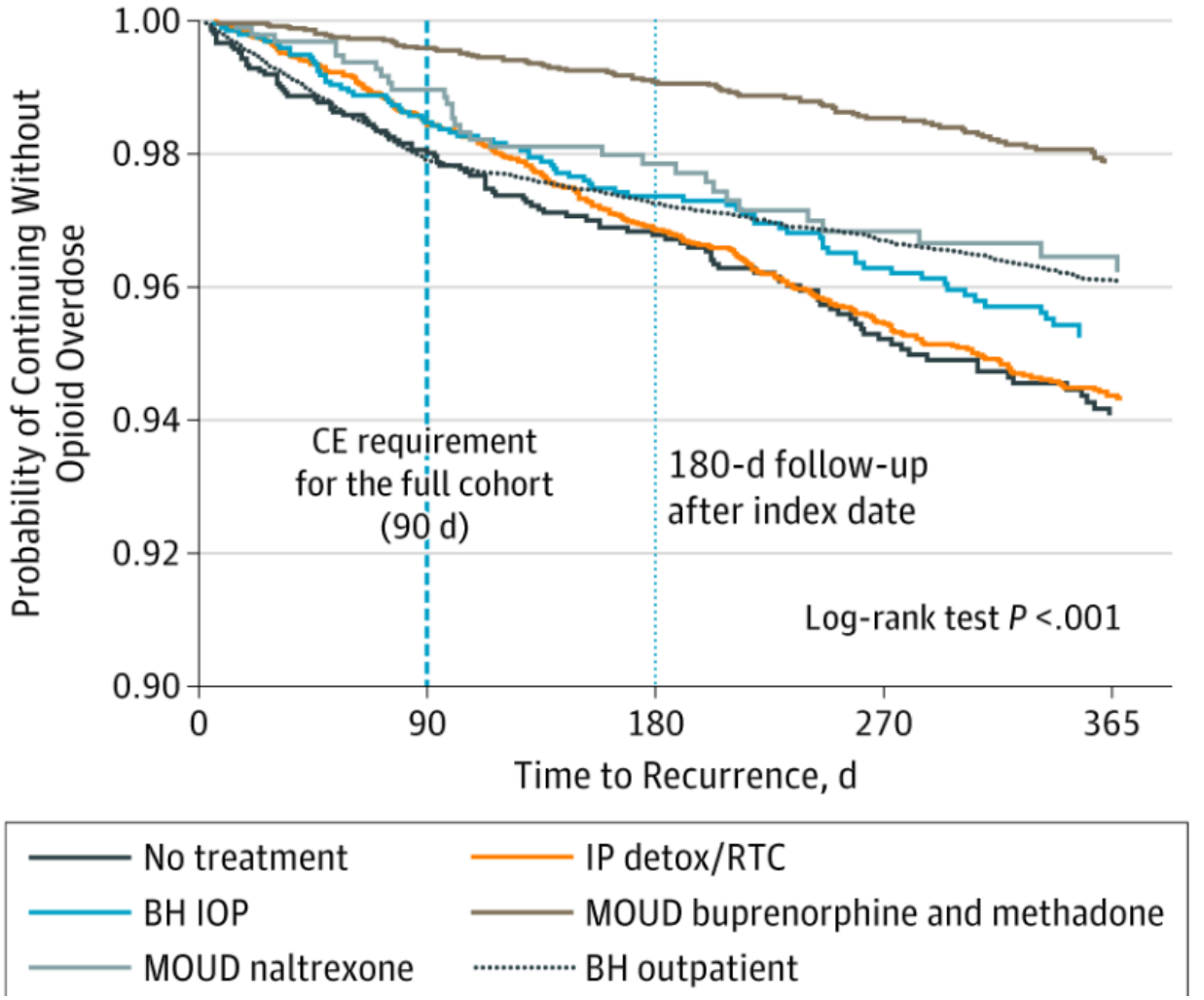
- In buprenorphine treatment: 4.3
- Out of buprenorphine treatment: 9.5

Overdose **mortality rates:**

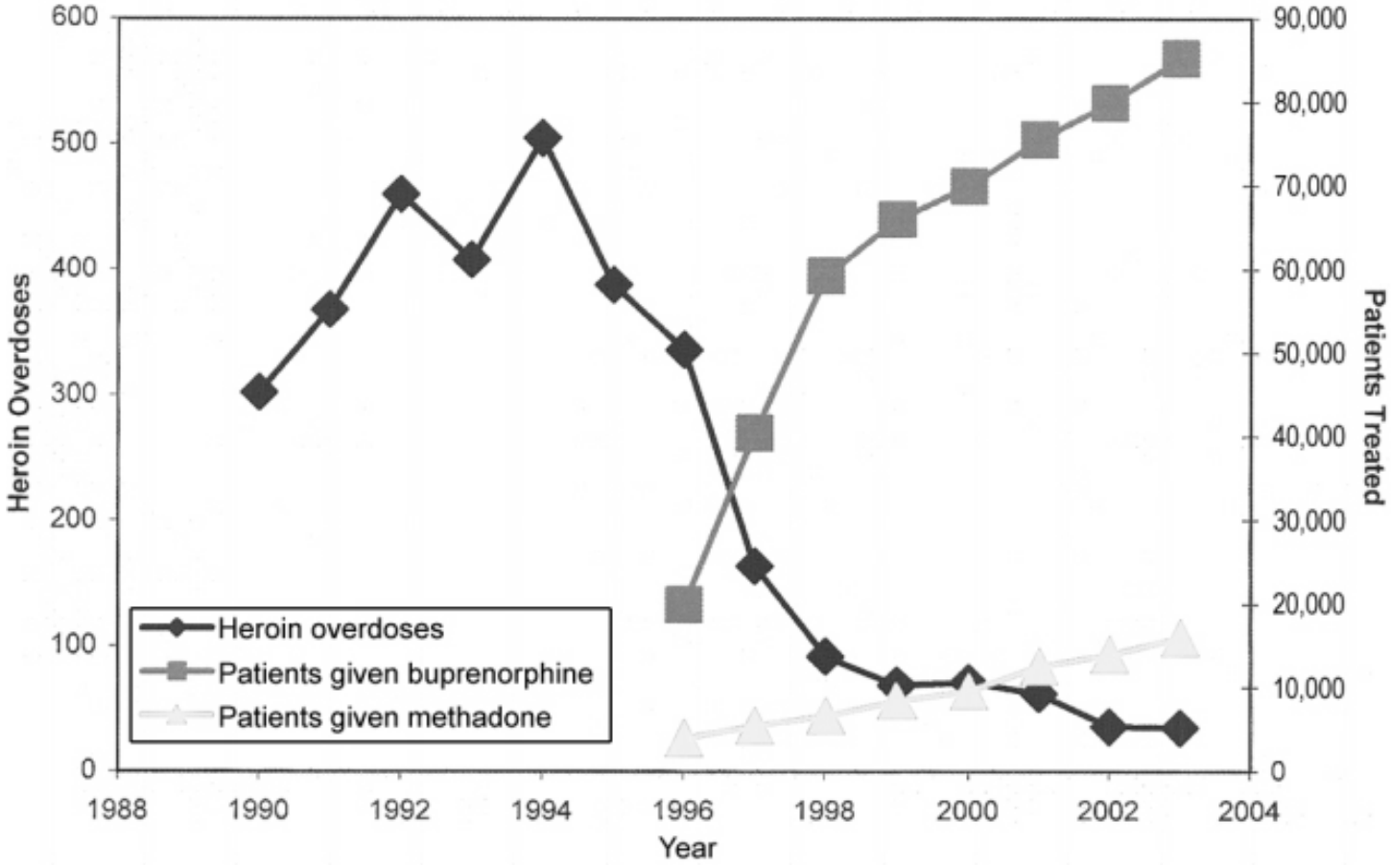
- In methadone treatment: 2.6
- Out of methadone treatment: 12.7
- In buprenorphine treatment: 1.4
- Out of buprenorphine treatment: 4.6



Medication treatment associated with reduced overdose



Expansion of access to medications saves lives



France expanded access to buprenorphine

No required physician training, no patient limits, no toxicology or counseling requirements

~90,000 pts treated with buprenorphine, 10,000 with methadone

5-fold reduction in heroin overdose deaths, 6-fold reduction in active IDU, HIV prevalence among PWID decreased from 40% to 20%

Touchpoints with healthcare system are reachable moments

J Gen Intern Med. Aug 2010; 25(8): 803–808; JAMA Intern Med 2014 Aug;174(8):1369-76.)

Initiating methadone in hospital:

- 82% present for follow-up addiction care

Initiating buprenorphine vs detox:

- Buprenorphine: 72.2% enter into treatment after discharge
- Detox : 11.9% enter treatment after discharge

Treatment initiation and linkage in the ED

Table 2. Baseline and 30-Day Secondary Outcome Measures Among Opioid-Dependent Patients Treated in the Emergency Depart

	Referral	Brief Intervention	Buprenorphine	*P* Value[b]
Days of Self-reported Illicit Opioid Use in the Past 7 Days, Mean (95% CI)				
Baseline	5.4 (5.1-5.7)	5.6 (5.3-5.9)	5.4 (5.1-5.7)	<.001, Tr
30 d	2.3 (1.7-3.0)	2.4 (1.8-3.0)	0.9 (0.5-1.3)	<.001, Ti .02, Int
Outpatient Addiction Treatment in the Past 30 Days, Mean (95% CI)[c]				
No. of outpatient visits				
Baseline	0.38 (0.0-1.0)	1.16 (0.6-1.7)	0.20 (0.0-0.8)	.07, Trea
30 d	4.99 (3.1-6.8)	5.67 (4.0-7.4)	3.71 (2.1-5.3)	<.001, Ti .63, Inte
ED-Based Addiction Treatment in the Past 30 Days, No./Total (%)				
Any addiction-related ED visit				
Baseline	8/104 (7.7)	6/111 (5.4)	5/114 (4.4)	.57
30 d	15/69 (21.7)	12/82 (14.6)	18/93 (19.4)	.51
Inpatient Addiction Treatment in the Past 30 Days, No./Total (%)[d]				
Any inpatient addiction treatment				
Baseline	10/104 (9.6)	7/111 (6.3)	7/114 (6.1)	.55
30 d	31/84 (36.9)	32/91 (35.2)	11/100 (11.0)	<.001

Abbreviation: ED, emergency department.

[a] All patients were screened and referred to a community-based treatment service. Patients in the brief intervention group received a 10- to 15-min manual-driven, audiotaped Brief Negotiation Interview and facilitated referral to treatment services. Patients in the buprenorphine group received a Brief Negotiation Interview and ED-initiated treatment with buprenorphine if they exhibited moderate to severe opioid withdrawal until a scheduled appointment within 72 hours in the hospital's primary care center could be arranged.

[b] χ^2 Test with 2 degrees of freedom used to test for differe ED treatment. Mixed-model procedures used to test for self-reported illicit opioid use and outpatient addiction tr patients in the sample were included. Treatment × time effect.

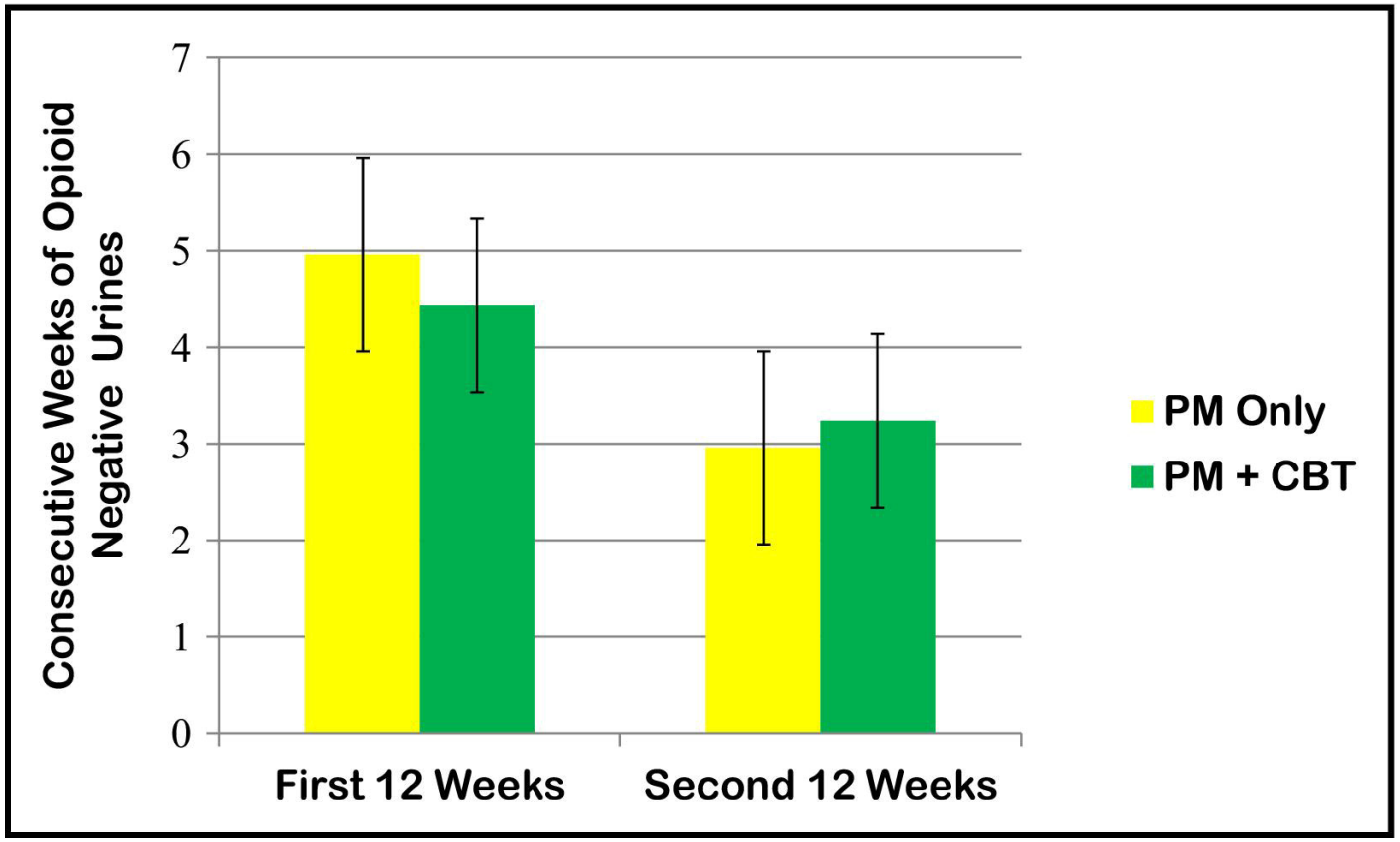
[c] Includes both office-based and addiction treatment cent

[d] Includes residential and hospital-based treatment.

- 78% vs 37% engaged in buprenorphine treatment
- Fewer days of self-reported opioid use

D'Onofrio et al. JAMA 2015 Apr 28;313(16):1636-44

Treatment in primary care +/- CBT



No difference in opioid use, study completion, or cocaine use between groups

Medications are effective for AUD treatment

Table 1. Summary of Findings and Strength of Evidence From Trials Assessing Efficacy of FDA-Approved Medications for Alcohol Use Disorders

Medication	Outcome	No. of Studies	No. of Participants[a]	Results Effect Size (95% CI)[b]	NNT (95% CI)[c]	Strength of Evidence
Acamprosate	Return to any drinking	16	4847	RD: −0.09 (−0.14 to −0.04)	12 (8 to 26)	Moderate
	Return to heavy drinking	7	2496	RD: −0.01 (−0.04 to 0.03)	NA	Moderate
	% DDs	13	4485	WMD: −8.8 (−12.8 to −4.8)	NA	Moderate
	% HDDs	1	100	WMD: −2.6 (−11.4 to 6.2)	NA	Insufficient
	Drinks per DD	1	116	WMD: 0.4 (−1.8 to 2.6)	NA	Insufficient
	Accidents or injuries	0	0	NA	NA	Insufficient
	QoL or function	1	612	NSD	NA	Insufficient
	Mortality	8	2677	7 events (acamprosate) vs 6 events (placebo)	NA	Insufficient
Disulfiram	Return to any drinking	2	492	RD: −0.04 (−0.11 to 0.03)	NA	Low
	Return to heavy drinking	0	0	NA	NA	Insufficient
	% DDs	2	290	NSD[d]	NA	Insufficient
	% HDDs	0	0	NA	NA	Insufficient
	Drinks per DD	0	0	NA	NA	Insufficient
	Accidents or injuries	0	0	NA	NA	Insufficient
	QoL or function	0	0	NA	NA	Insufficient
	Mortality	0	0	NA	NA	Insufficient
Naltrexone, 50 mg oral	Return to any drinking	16	2347	RD: −0.05 (−0.10 to −0.002)	20 (11 to 500)	Moderate
	Return to heavy drinking	19	2875	RD: −0.09 (−0.13 to −0.04)	12 (8 to 26)	Moderate
	% DDs	15	1992	WMD: −5.4 (−7.5 to −3.2)	NA	Moderate
	% HDDs	6	521	WMD: −4.1 (−7.6 to −0.61)	NA	Moderate
	Drinks per DD	9	1018	WMD: −0.49 (−0.92 to −0.06)	NA	Low

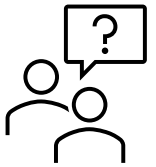
Similar to management of Diabetes or HIV

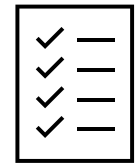
Goal to prevent acute and chronic complications

Patient-centered and directed treatment plans and goals

Treatment includes a menu of options & supports

- ✓ Medication
- ✓ Behavioral support
- ✓ Lifestyle changes
- ✓ Regular monitoring
- ✓ Addressing SDoH





Pharmacotherapy: FDA approved (and non-approved) medications for AUD, OUD, TUD, no FDA-approved medications for stimUD, some with limited benefit in trials

Alcohol use disorder: naltrexone, acamprosate, disulfiram, topiramate, gabapentin

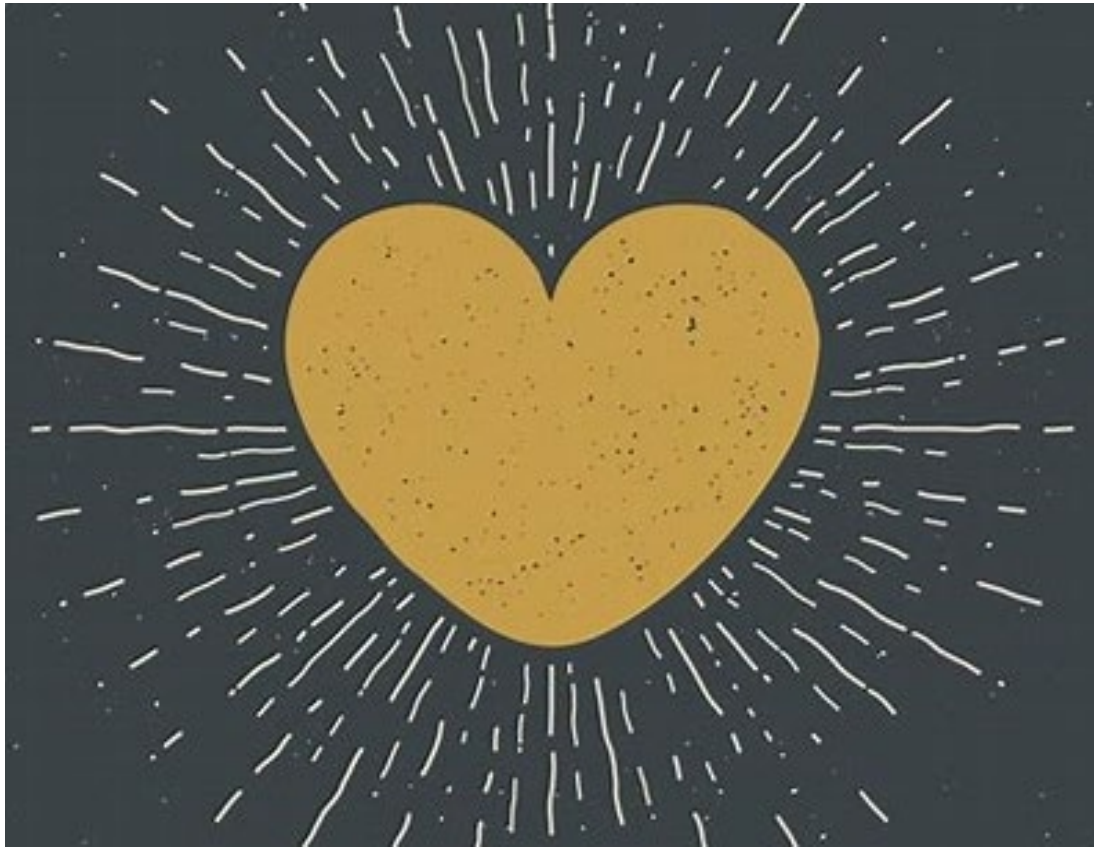
Opioid use disorder: methadone, buprenorphine, naltrexone

Tobacco use disorder: varenicline, bupropion, NRT

Stimulant use disorder: topiramate, mirtazapine, bupropion +/- naltrexone, stimulants

What are the goals of treatment? Patient-centered, patient-driven care

- First and foremost, for the patient's life and health to improve
- It doesn't matter why anyone thinks someone should make changes to their substance use, it only matter that the affected individual thinks their life will get better if they do
- Goal is to prevent acute and chronic complications from untreated condition
- Giving a menu of options, based on science
- Rooted in respect for autonomy, enhancing self-efficacy, holding hope
- Celebrating progress, not perfection



Systematic approach to investing in effective SUD treatment

1. Integrate SUD care into general medical settings
2. Train a robust and diverse workforce to provide interdisciplinary SUD treatment
3. Embrace patient-centered care approaches which aim to reduce inequities
4. Address social determinants of health which are intertwined with SUD
5. Fund public health interventions to reduce substance use morbidity and mortality
6. Identify and update policies which may work at cross purposes with effective SUD principles

Thank you!

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