

# Examining Opioid Use Disorder Through the Lens of Recovery Research

Lauren A. Hoffman, PhD

Research Scientist

Recovery Research Institute, Center for Addiction Medicine, Massachusetts General Hospital

Member of the Faculty

Department of Psychiatry, Harvard Medical School



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# OUTLINE



Prevalence of OUD, Tx,  
recovery



Findings from RRI OUD  
research



Ways to promote  
successful Tx / recovery



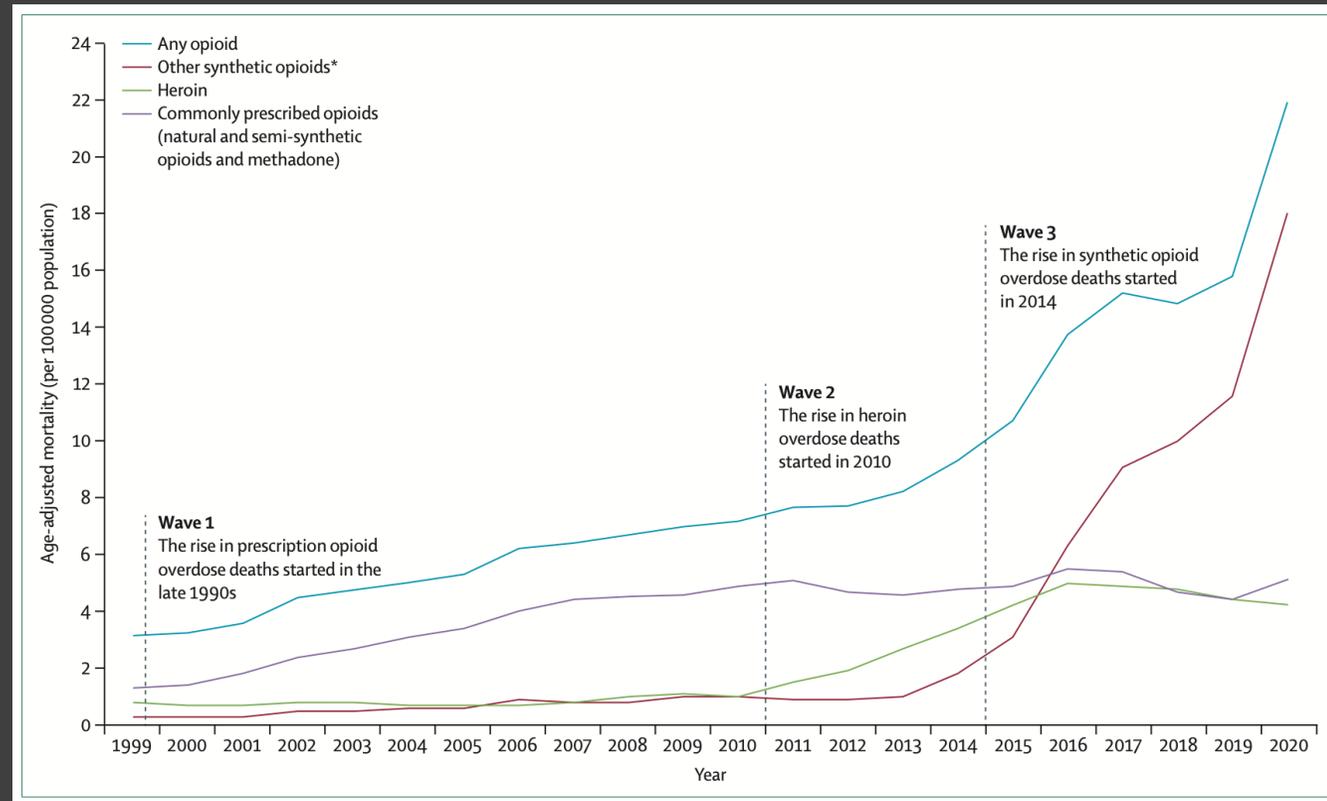
Summary of Discussion

# OUD-Related Prevalence Estimates

- Past year opioid misuse: 9.5 million Americans age 12+
- Past year OUD: 2.7 million Americans age 12+
- Tx receipt among past-year DUD
  - 13% received any Tx for illicit drug use
- Tx receipt among past-year OUD
  - 11% received MOUD Tx

# OUD-Related Prevalence Estimates

- ~207 opioid overdose deaths per day (75,673 deaths per year)
- Economic burden of Rx opioid misuse in US
  - \$78.5 billion a year
  - costs of healthcare, lost productivity, SUD treatment, criminal justice involvement



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# OPIOID USE DISORDER THROUGH THE LENSE OF...

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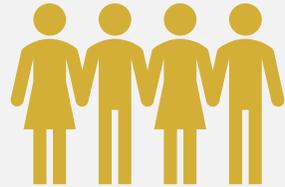
OPIOID USE  
DISORDER  
THROUGH  
THE LENSE  
OF...

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# SUD Recovery

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## Full Remission from SUD

5% - 15% of U.S. population = ~25 to ~40 million adults ([White, 2012](#)).  
~50% of those with lifetime SUD achieve remission



## NSDUH: Perceived recovery

72.5% of adults with a lifetime substance use problem report being in recovery/recovered  
(i.e. 21 million people)

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# National Recovery Study (NRS)

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Designed to:

- Estimate national “recovery” prevalence using nationally-representative, probability-based, sample of individuals who self-report once having a problem with AODs but no longer do...
- Uncover and discover more about chosen recovery pathways and their correlates

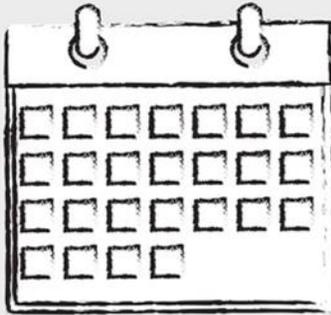
# METHODS

NRS

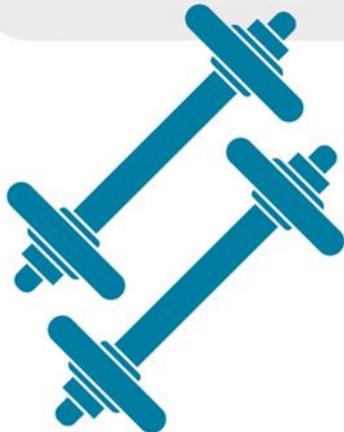


Using the National Recovery Survey (NRS), a cross sectional, random, nationally representative sampling frame of 39,809 was identified. Out of the 25,229 that then responded, 2,002 individuals self-identified as resolving a significant alcohol or other drug problem.

63% survey response rate, similar to other national epidemiological surveys



Data was collected in July & August of 2016



The data was weighted to accurately reflect the US population using iterative proportional fitting (raking), which produced weights based on eight geo-demographic benchmarks identified by the U.S. Census Bureau (CPS) in the 2015 Current Population Survey.

# What is the prevalence of alcohol or other drug problem resolution?



Drug and Alcohol Dependence 181 (2017) 162–169

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Drug and Alcohol Dependence

journal homepage: [www.elsevier.com/locate/drugalcdep](http://www.elsevier.com/locate/drugalcdep)



Full length article

## Prevalence and pathways of recovery from drug and alcohol problems in the United States population: Implications for practice, research, and policy



John F. Kelly<sup>a,\*</sup>, Brandon Bergman<sup>a</sup>, Bettina B. Hoepfner<sup>a</sup>, Corrie Vilsaint<sup>a</sup>, William L. White<sup>b</sup>

<sup>a</sup> Recovery Research Institute, Massachusetts General Hospital, 151 Merrimac Street, and Harvard Medical School, Boston, MA, 02114, United States

<sup>b</sup> Chestnut Health Systems, W Chestnut St, Bloomington, IL, 61701, United States

### ARTICLE INFO

**Keywords:**  
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Adults  
Population

### ABSTRACT

**Background:** Alcohol and other drug (AOD) problems confer a global, prodigious burden of disease, disability, and premature mortality. Even so, little is known regarding how, and by what means, individuals successfully resolve AOD problems. Greater knowledge would inform policy and guide service provision.

**Method:** Probability-based survey of US adult population estimating: 1) AOD problem resolution prevalence; 2) lifetime use of “assisted” (i.e., treatment/medication, recovery services/mutual help) vs. “unassisted” resolution pathways; 3) correlates of assisted pathway use. Participants (response = 63.4% of 39,809) responding “yes” to, “Did you use to have a problem with alcohol or drugs but no longer do?” assessed on substance use, clinical histories, problem resolution.

**Results:** Weighted prevalence of problem resolution was 9.1%, with 46% self-identifying as “in recovery”; 53.9% reported “assisted” pathway use. Most utilized support was mutual-help (45.1%, SE = 1.6), followed by treatment (27.6%, SE = 1.4), and emerging recovery support services (21.8%, SE = 1.4), including recovery community centers (6.2%, SE = 0.9). Strongest correlates of “assisted” pathway use were lifetime AOD diagnosis (AOR = 10.8[7.42–15.74], model R<sup>2</sup> = 0.13), drug court involvement (AOR = 8.1[5.2–12.6], model R<sup>2</sup> = 0.10), and, inversely, absence of lifetime psychiatric diagnosis (AOR = 0.3[0.2–0.3], model R<sup>2</sup> = 0.10). Compared to those with primary alcohol problems, those with primary cannabis problems were less likely (AOR = 0.7[0.5–0.9]) and those with opioid problems were more likely (AOR = 2.2[1.4–3.4]) to use assisted pathways. Indices related to severity were related to assisted pathways (R<sup>2</sup> < 0.03).

**Conclusions:** Tens of millions of Americans have successfully resolved an AOD problem using a variety of traditional and non-traditional means. Findings suggest a need for a broadening of the menu of self-change and community-based options that can facilitate and support long-term AOD problem resolution.

# RESULTS

NRS

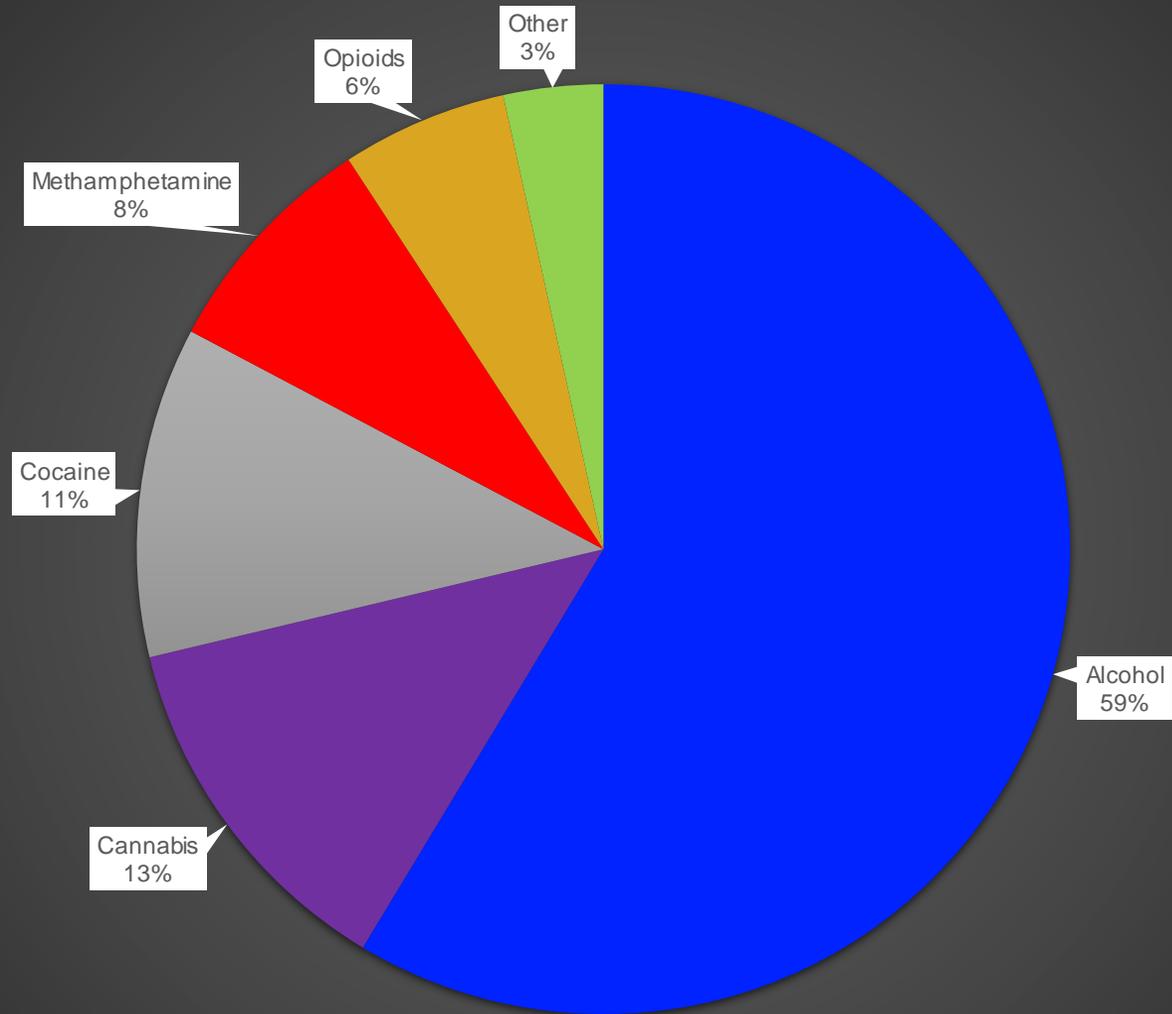


9.1% or  
22.35 million

**Americans** have  
resolved an alcohol or  
other drug problem



# Primary Substance



■ Alcohol ■ Cannabis ■ Cocaine ■ Methamphetamine ■ Opioids ■ Other

- What is the prevalence of OPI problem resolution?
- Pathways (Service Use)
- Psychological Well-being



ORIGINAL RESEARCH

## Recovery From Opioid Problems in the US Population: Prevalence, Pathways, and Psychological Well-Being

*Lauren A. Hoffman, PhD, Corrie Vilsaint, PhD, and John F. Kelly, PhD*

**Objectives:** Research has enhanced our understanding of opioid misuse prevalence and consequences, but few studies have examined recovery from opioid problems. Estimating national recovery prevalence and characterizing individuals who have resolved opioid problems can inform policy and clinical approaches to address opioid misuse.

**Methods:** We conducted a cross-sectional investigation of a nationally-representative sample of US adults who reported opioid problem resolution (OPI). For reference, OPI was compared with an alcohol problem resolution group (ALC). Analyses estimated OPI/ALC prevalence, differences in treatment/recovery service use, and psychological well-being, within 2 recovery windows: <1 year (early recovery) and 1 to 5 years (mid-recovery) since OPI/ALC problem resolution.

**Results:** Of those who reported alcohol or drug use problem resolution, weighted problem resolution prevalence was 5.3% for opioids (early recovery 1.2%, mid-recovery 2.2%) and 51.2% for alcohol (early recovery 7.0%, mid-recovery 11.5%). In mid-recovery, lifetime use of formal treatment, pharmacotherapy, recovery support services, mutual help, and current pharmacotherapy were more prevalent in OPI than ALC. Service utilization did not differ between early-recovery OPI and ALC. Common services used by OPI included inpatient treatment (37.8%) and state/local recovery organizations (24.4%) in mid-recovery; outpatient treatment (25.7%) and recovery community centers (27.2%) in early recovery; Narcotics Anonymous (40.2%–57.8%) and buprenorphine-naloxone (15.3%–26.7%) in both recovery cohorts. Regarding well-being, OPI reported

higher self-esteem than ALC in early recovery, and lower self-esteem than ALC in mid-recovery.

**Conclusions:** An estimated 1.2 million American adults report resolving an opioid problem. Given the service use outcomes and longer-term problem resolution of mid-recovery OPI, early-recovery OPI may require encouragement to utilize additional or more intensive services to achieve longer-term recovery. OPI beyond recovery-year 1 may need enhanced support to address deficient self-esteem and promote well-being.

**Key Words:** opioids, pathways, prevalence, recovery, well-being

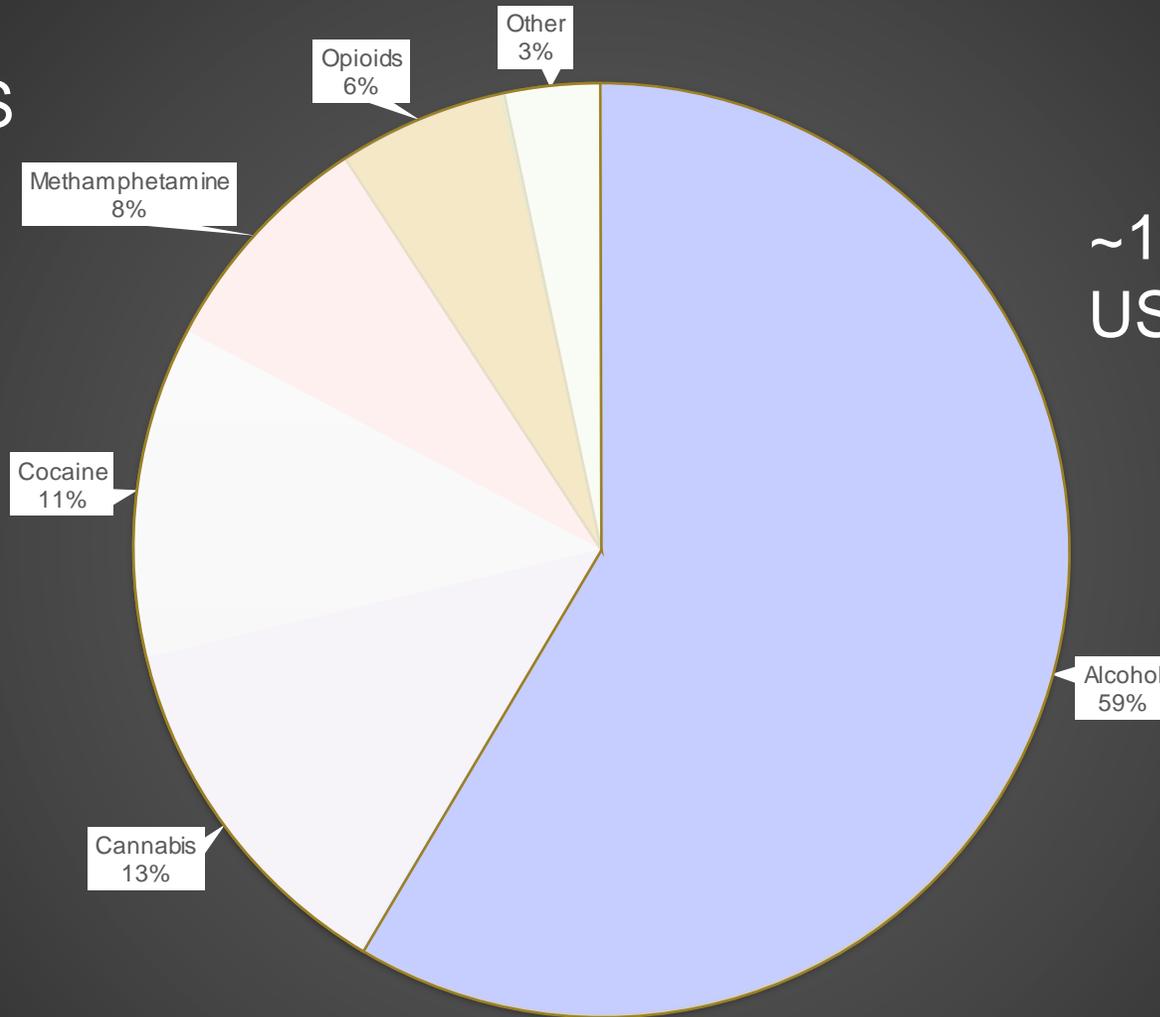
*(J Addict Med 2019;xx: xxx–xxx)*

Opioid misuse and related problems constitute 1 of the most devastating public health crises in modern times. In 2017, approximately 11.4 million Americans reported past-year heroin or prescription pain reliever misuse (SAMHSA, 2018). Although less than 20% of these individuals meet formal criteria for a past-year opioid use disorder (SAMHSA, 2018), opioid misuse itself poses life-threatening risk to individuals (eg, compromised mental/physical health, transmission of infectious disease) and substantial economic burden to society (loss of productivity, increased crime). Most notably, opioid-attributable overdose deaths have reached epidemic proportions. Over 42,000 overdose deaths occurred in 2016, rates 5 times higher than those reported in 1999 (U.S. Department of Health and Human Services, 2018). The gravity of the consequences of opioid misuse emphasizes the import of better understanding its nature to help individuals reduce and cease

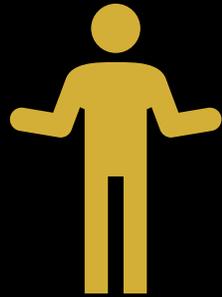
# Primary Substance

~1.18 million US adults

~11.43 million US adults



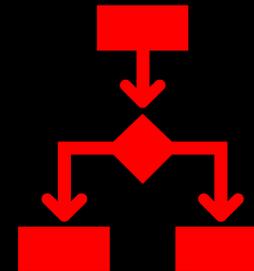
■ Alcohol ■ Cannabis ■ Cocaine ■ Methamphetamine ■ Opioids ■ Other



**OPI VS. ALC**



**2 Recovery Durations**

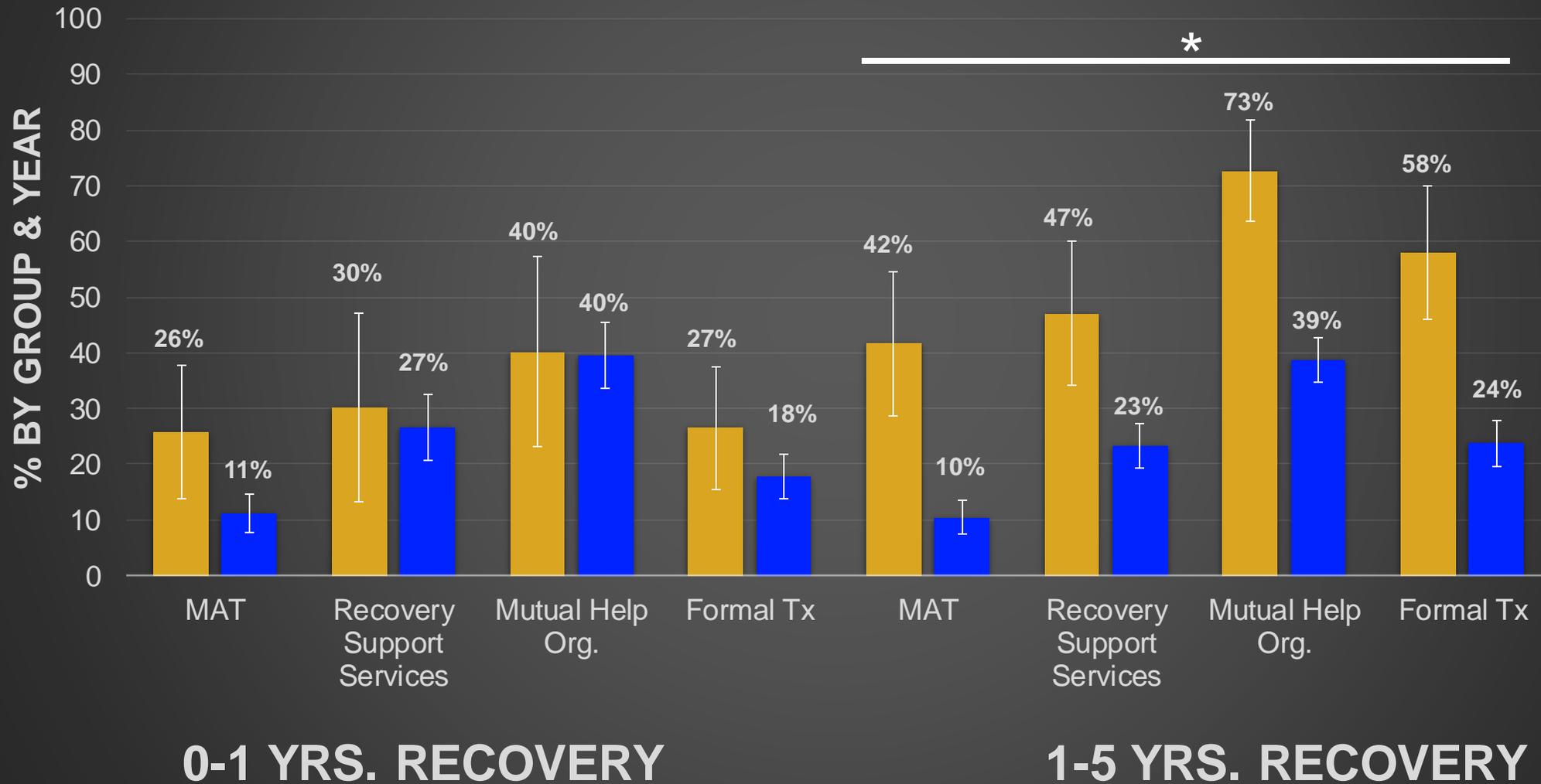


**“Early Recovery” 0-1 years**

**“Mid Recovery” 1-5 years**

Figure 1: Lifetime Use of Treatment & Recovery Services

■ Opioid ■ Alcohol



# Current Service Use

**TABLE 2.** Current Service Utilization (Within Drug Group and Recovery Cohort)

	0–1 yrs		<i>P</i>	1–5 yrs		<i>P</i>
	% (SE)			% (SE)		
	OPI	ALC		OPI	ALC	
Any mutual-help service (current)	26.76 (18.04)	16.06 (4.90)	NS	12.76 (9.65)	16.05 (3.50)	NS
Any non-12-step service	2.38 (2.48)	2.88 (1.33)	NS	1.08 (1.11)	2.60 (1.44)	NS
Any 12-step service	26.76 (18.04)	14.60 (4.86)	NS	12.76 (9.65)	13.73 (3.28)	NS
Alcoholics Anonymous (AA)	22.11 (18.34)	14.60 (4.86)	NS	11.43 (9.62)	11.22 (2.61)	NS
Narcotics Anonymous (NA)	26.76 (18.04)	1.66 (0.97)	*	12.76 (9.65)	1.17 (0.61)	*
Other 12-Step services (MA, CA, or CMA)	0 (0)	0.54 (0.54)	—	10.35 (9.62)	2.53 (2.22)	NS
Any pharmacotherapy (current)	14.45 (8.40)	4.42 (2.22)	NS	20.12 (10.48)	5.07 (2.02)	†
Methadone	2.09 (2.18)	0 (0)	—	0 (0)	1.00 (0.99)	—
Levomethadyl acetate (Orlaam)	0 (0)	0 (0)	—	0 (0)	2.24 (2.20)	—
Buprenorphine-naloxone (Suboxone)	12.36 (7.92)	1.74 (1.73)	NS	8.77 (5.44)	0 (0)	—
Buprenorphine (Subutex)	0 (0)	0 (0)	—	0 (0)	0.32 (0.32)	—
Oral Naltrexone (Revia)	0 (0)	0.87 (0.62)	—	0 (0)	0.18 (0.13)	—
Long-acting injectable naltrexone (Vivitrol)	0 (0)	0 (0)	—	0 (0)	1.33 (1.32)	—
Acamprosate (Campral)	0 (0)	0 (0)	—	0 (0)	0 (0)	—
Nalmefene (Selincro)	0 (0)	0 (0)	—	10.35 (9.62)	2.24 (2.20)	NS
Topiramate (Topamax)	0 (0)	0.96 (0.96)	—	1.00 (1.03)	0 (0)	—
Disulfiram (Antabuse)	0 (0)	0 (0)	—	0 (0)	0 (0)	—
Baclofen (Lioresal)	0 (0)	0 (0)	—	0 (0)	0 (0)	—
Other Pharmacotherapy	0 (0)	0.85 (0.85)	—	0 (0)	0 (0)	—

Values depict the distribution of individuals reporting mutual help service use in the past 90 days and current ongoing pharmacotherapy.

—, Significance testing not applicable (see text for more detail); ALC, individuals who resolved a primary alcohol problem; CA, Cocaine Anonymous; CMA, Crystal Methamphetamine Anonymous; MA, Marijuana Anonymous; NS, not significant; OPI, individuals who resolved a primary opioid problem.

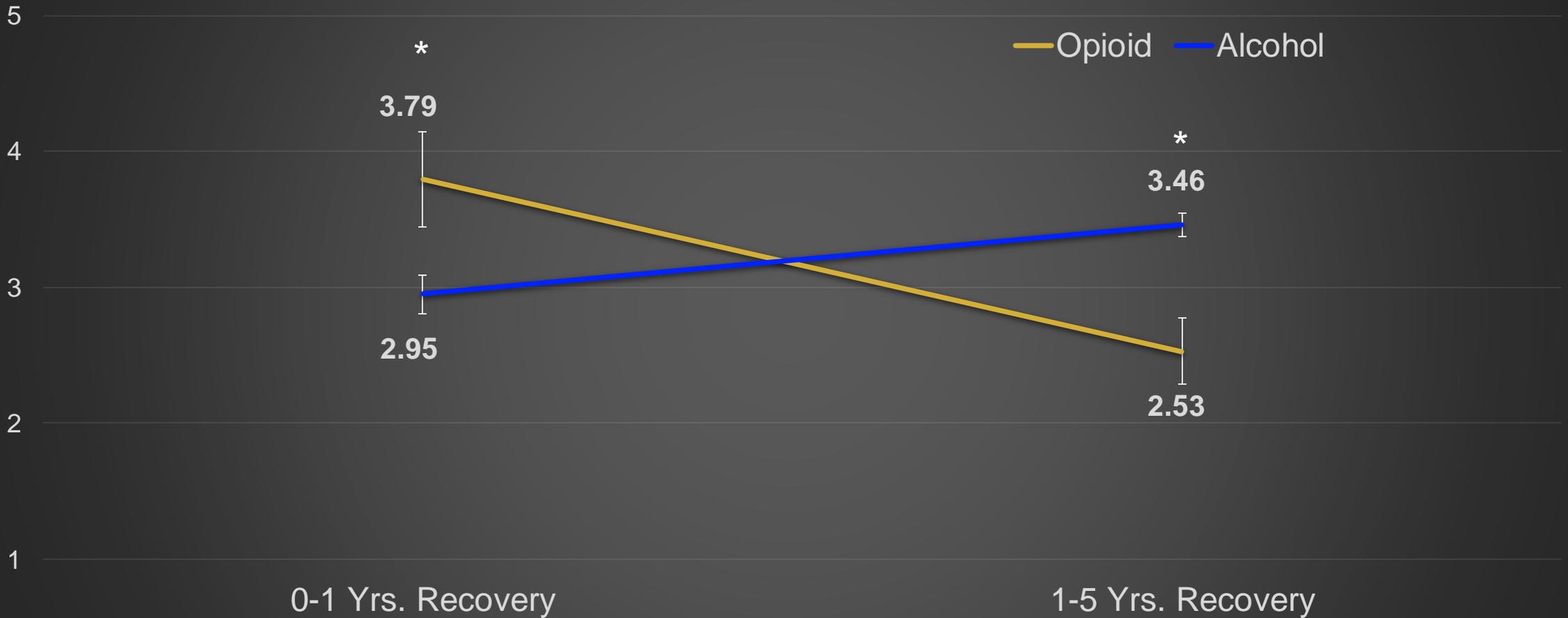
Significant difference between OPI and ALC, within recovery cohort:

\* $P \leq 0.01$ .

† $P \leq 0.05$ .

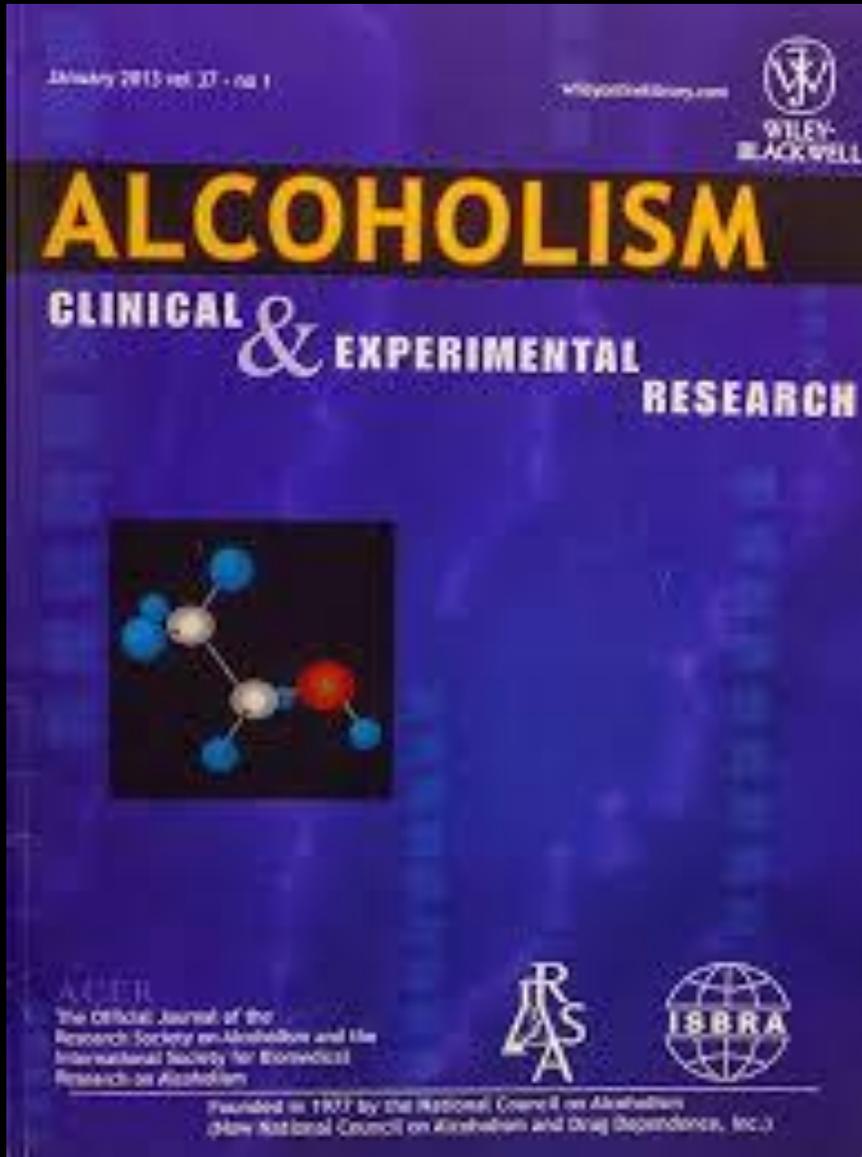
# Psychological Well-Being

Figure 2. Current Self-Esteem



**Table 3. Well-Being (Within Drug Group & Recovery Cohort)**

	0-1 Years			1-5 Years		
	OPI	ALC	p	OPI	ALC	p
Non-SUD psychiatric Diagnosis (lifetime), % yes (SE)	51.83 (19.69)	43.40 (6.40)	NS	43.89 (14.33)	37.96 (4.83)	NS
Psychological Distress (past 30 days), M(SE)	9.31 (1.96)	7.62 (0.73)	NS	6.56 (1.00)	5.73 (0.53)	NS
Happiness (current), M(SE)	3.08 (0.32)	3.25 (0.11)	NS	3.54 (0.21)	3.60 (0.10)	NS
Employed (current), % yes (SE)	77.58 (10.97)	62.69 (6.16)	NS	59.32 (12.30)	61.99 (4.78)	NS



ALCOHOLISM: CLINICAL & EXPERIMENTAL RESEARCH

ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

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# How Many Recovery Attempts Does it Take to Successfully Resolve an Alcohol or Drug Problem? Estimates and Correlates From a National Study of Recovering U.S. Adults

John F. Kelly , Martha Claire Greene, Brandon G. Bergman, William L. White, and Bettina B. Hoepfner

**Background:** Alcohol and other drug (AOD) problems are commonly depicted as chronically relapsing, implying multiple recovery attempts are needed prior to remission. Yet, although a robust literature exists on quit attempts in the tobacco field, little is known regarding patterns of cessation attempts related to alcohol, opioid, stimulant, or cannabis problems. Greater knowledge of such estimates and the factors associated with needing fewer or greater attempts may have utility for health policy and clinical communication efforts and approaches.

**Methods:** Cross-sectional, nationally representative survey of U.S. adults ( $N = 39,809$ ) who reported resolving a significant AOD problem ( $n = 2,002$ ) and assessed on number of prior serious recovery attempts, demographic variables, primary substance, clinical histories, and indices of psychological distress and well-being.

**Results:** The statistical distribution of serious recovery attempts was highly skewed with a mean of 5.35 ( $SD = 13.41$ ) and median of 2 (interquartile range [IQR] = 1 to 4). Black race, prior use of treatment and mutual-help groups, and history of psychiatric comorbidity were associated with higher number of attempts, and more attempts were associated independently with greater current distress. Number of recovery attempts did not differ by primary substance (e.g., opioids vs. alcohol).

**Conclusions:** Estimates of recovery attempts differed substantially depending on whether the mean (5.35 recovery attempts) or median (2 recovery attempts) was used as the estimator. Implications of this are that the average may be substantially lower than anticipated because cultural expectations are often based on AOD problems being "chronically relapsing" disorders implicating seemingly endless tries. Depending on which one of these estimates is reported in policy documents or communicated in public health announcements or clinical settings, each may elicit varying degrees of help-seeking, hope, motivation, and the use of more assertive clinical approaches. The more fitting, median estimate of attempts should be used in clinical and policy communications given the distribution.

**Key Words:** Recovery, Opioid Use Disorder, Quit Attempts, Alcohol Use Disorder, Remission.

Median = 2 attempts  
for all substances  
combined

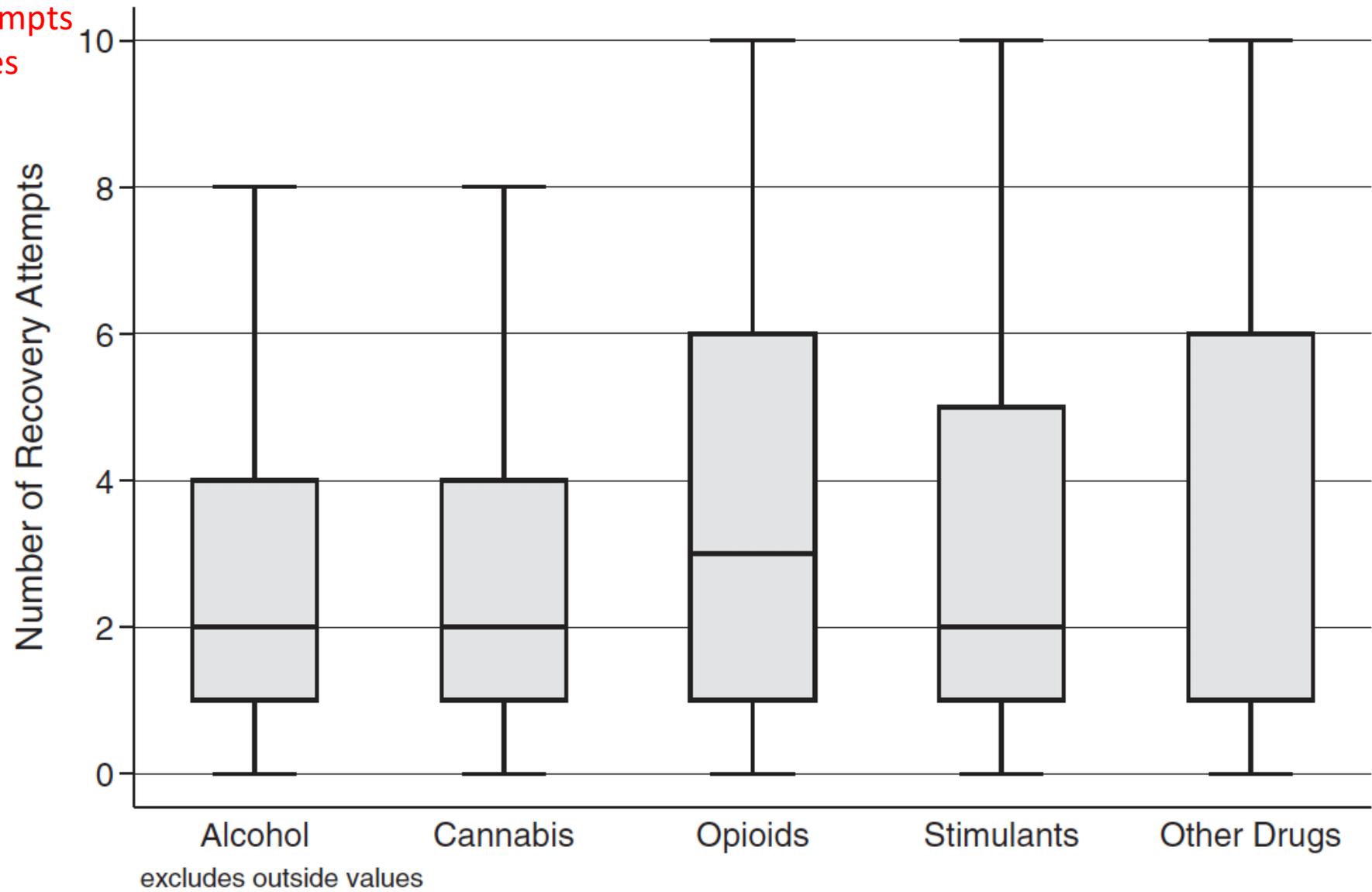


Fig. 4. Number of recovery attempts by primary substance.



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## Journal of Substance Abuse Treatment

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### Whether, when, and to whom?: An investigation of comfort with disclosing alcohol and other drug histories in a nationally representative sample of recovering persons

Valerie A. Earnshaw<sup>a,\*</sup>, Brandon G. Bergman<sup>b</sup>, John F. Kelly<sup>b</sup>

<sup>a</sup> University of Delaware, 111 Alison Hall West, Newark, DE 19716, United States of America

<sup>b</sup> Recovery Research Institute, Massachusetts General Hospital and Harvard Medical School, 151 Merrimac St, 6th Floor, Boston, MA 02114, United States of America

#### ARTICLE INFO

**Keywords:**  
Disclosure  
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Remission  
Substance use disorder

#### ABSTRACT

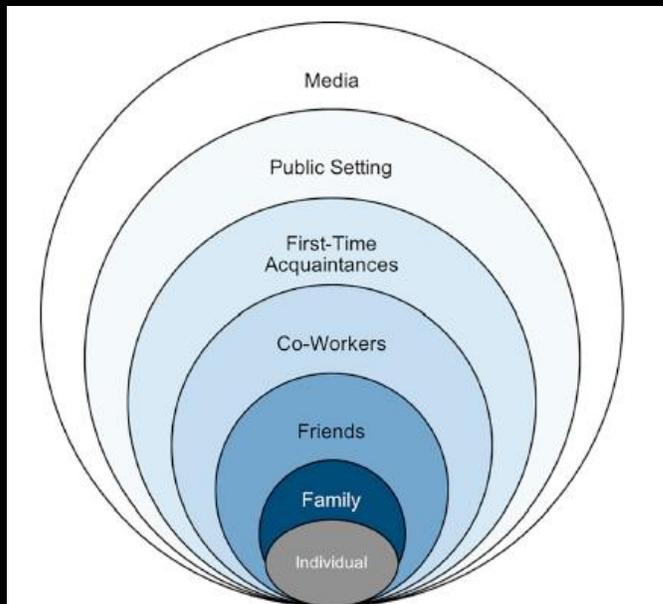
**Background:** Due to shame and fear of discrimination, individuals in, or seeking, recovery from alcohol and other drug (AOD) problems often struggle with whether, when, and to whom to disclose information regarding their AOD histories and recovery status. This can serve as a barrier to obtaining needed recovery support. Consequently, disclosure may have important implications for recovery trajectories, yet is poorly understood.

**Design and sample:** Cross-sectional, U.S. nationally-representative survey conducted in 2016 among individuals with resolved AOD problems ( $N = 1987$ ) investigated disclosure comfort and whether disclosure comfort differed by time since problem resolution, disclosure recipient (i.e., with interpersonal intimacy), or primary substance (i.e., alcohol [51%], cannabis [11%], opioids [5%], or “other” [33%]). Predictors of disclosure comfort were also examined. Data were analyzed using LOWESS analyses, analyses of variance, and regression.

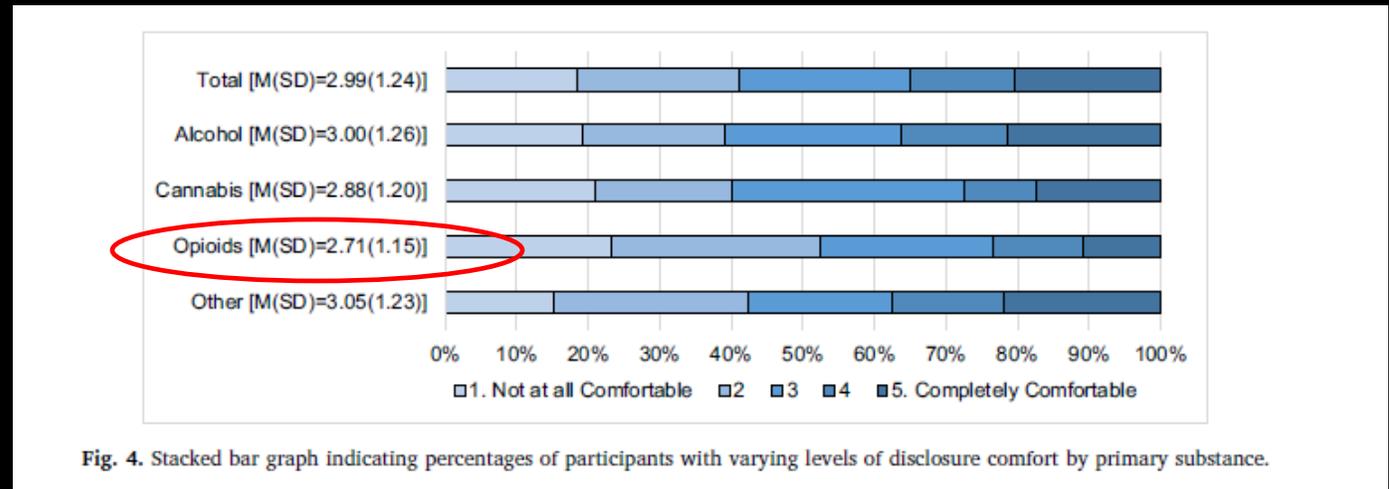
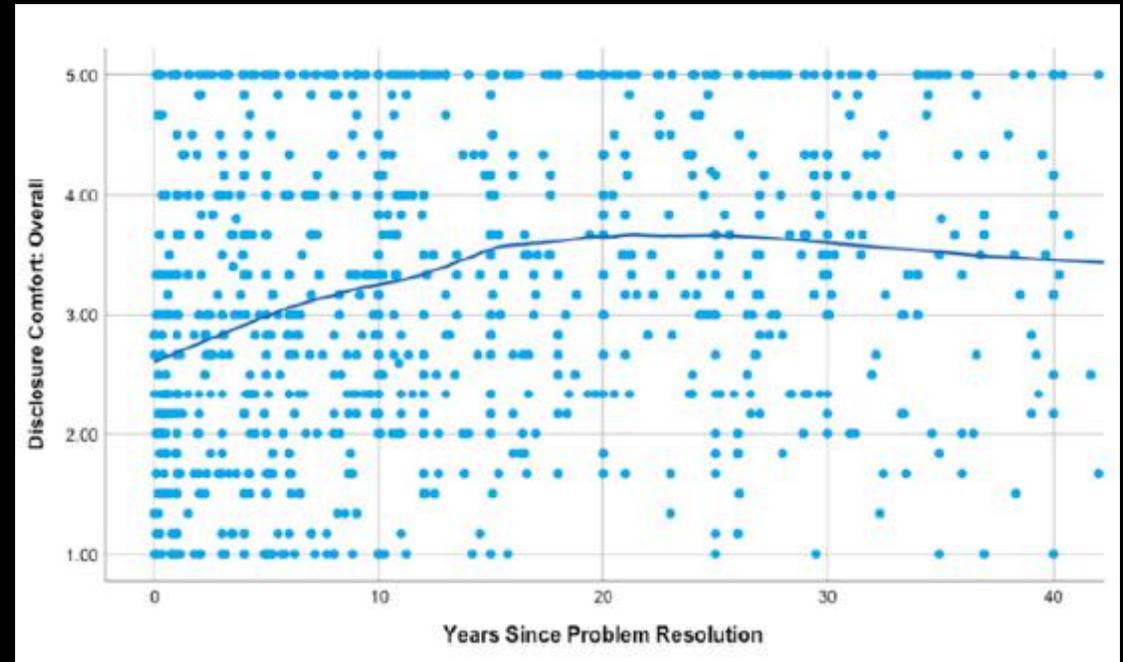
**Results:** Overall, longer time since problem resolution was associated with greater disclosure comfort. In general, participants reported greater comfort with disclosure to family and friends, and less comfort with disclosure to co-workers, to first-time acquaintances, in public settings, and in the media, but these effects varied by primary drug with participants who had problems with alcohol and “other” drugs having significantly more disclosure comfort than those who had problems with opioids.

**Conclusion:** Dimensions of time since AOD problem resolution, interpersonal intimacy, and primary drug are significantly associated with disclosure comfort. Individuals seeking recovery may benefit from more formal coaching around disclosure, particularly those with primary opioid problems, but further research is needed to determine the desire for and effects of such coaching among those seeking recovery.

Comfort disclosing  
recovery status:  
Compared to other  
primary substances,  
opioid group had the most  
difficult time disclosing ...



**Fig. 1.** Hypothesized disclosure comfort by level of interpersonal intimacy. Note: Darker colors indicate more hypothesized disclosure comfort. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)



**Fig. 4.** Stacked bar graph indicating percentages of participants with varying levels of disclosure comfort by primary substance.



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# Psychology of Addictive Behaviors

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## On Being “In Recovery”: A National Study of Prevalence and Correlates of Adopting or Not Adopting a Recovery Identity Among Individuals Resolving Drug and Alcohol Problems

John F. Kelly, Alexandra W. Abry, Connor M. Milligan, Brandon G. Bergman, and Bettina B. Hoepfner  
Massachusetts General Hospital, Boston, Massachusetts

The concept of recovery has become an organizing paradigm in the addiction field globally. Although a convenient label to describe the broad phenomena of change when individuals resolve significant alcohol or other drug (AOD) problems, little is known regarding the prevalence and correlates of adopting such an identity. Greater knowledge would inform clinical, public health, and policy communication efforts. We conducted a cross-sectional nationally representative survey ( $N = 39,809$ ) of individuals resolving a significant AOD problem ( $n = 1,995$ ). Weighted analyses estimated prevalence and tested correlates of label adoption. Qualitative analyses summarized reasons for prior recovery identity adoption/nonadoption. The proportion of individuals currently identifying as being in recovery was 45.1%, never in recovery 39.5%, and no longer in recovery 15.4%. Predictors of identifying as being in recovery included formal treatment and mutual-help participation, and history of being diagnosed with AOD or other psychiatric disorders. Qualitative analyses regarding reasons for no/prior recovery identity found themes related to low AOD problem severity, viewing the problem as resolved, or having little difficulty of stopping. Despite increasing use of the recovery label and concept, many resolving AOD problems do not identify in this manner. These appear to be individuals who have not engaged with the formal or informal treatment systems. To attract, engage, and accommodate this large number of individuals who add considerably to the AOD-related global burden of disease, AOD public health communication efforts may need to consider additional concepts and terminology beyond recovery (e.g., “problem resolution”) to meet a broader range of preferences, perspectives and experiences.

**Keywords:** recovery, addiction, identity, social, remission



Proportion self-identify  
as being “in recovery”

45%

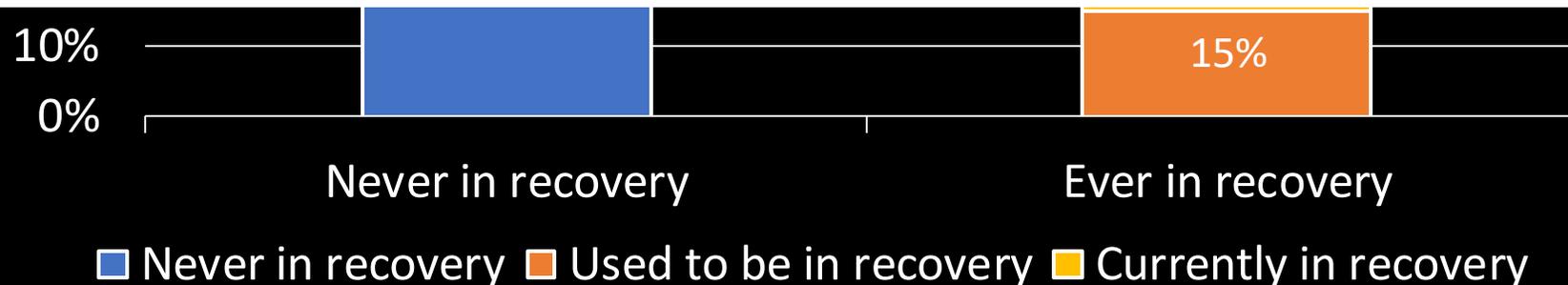
- Odds of self-identifying in this manner associated with greater indices of greater severity (earlier age of onset, psychiatric comorbidities, greater treatment and recovery support services use)

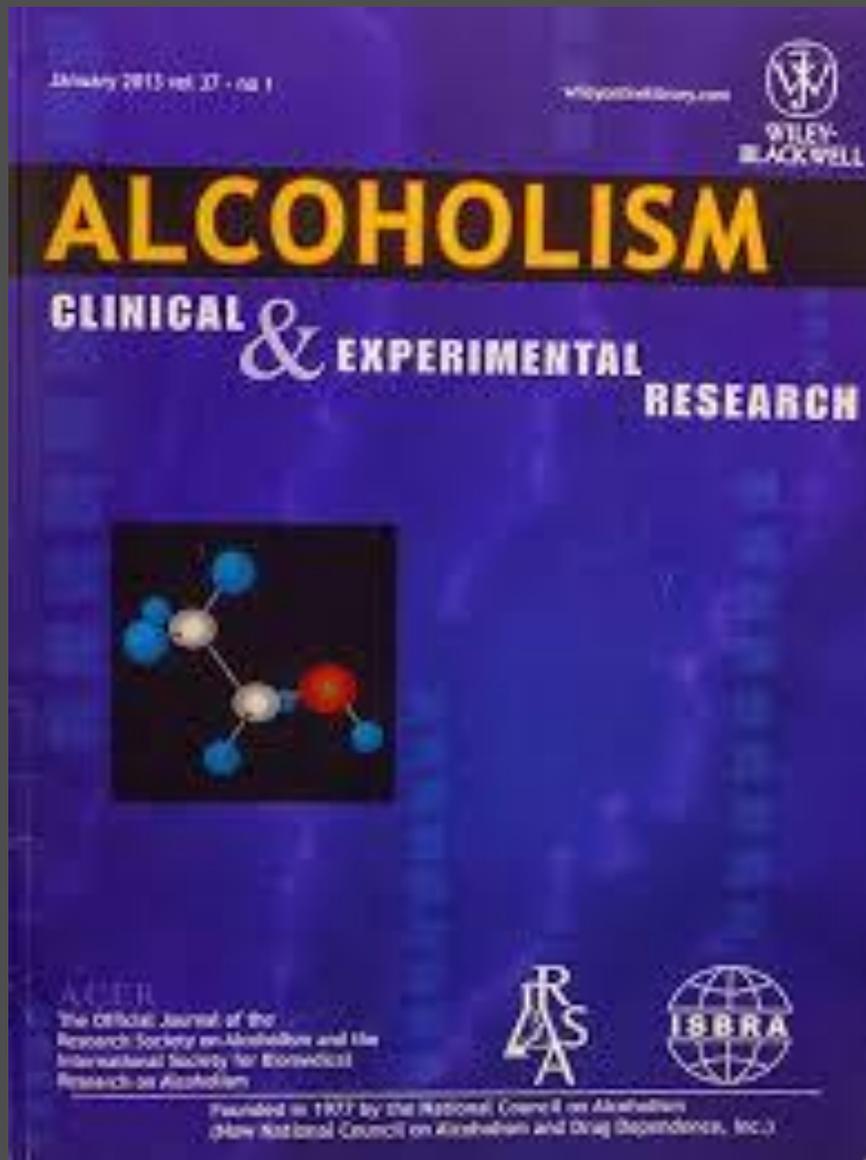
# Recovery Identity

Table 2

Comparison of Individuals Self-Labeling as “Being in Recovery” Versus “Used to be” Versus “Never” in Recovery

Variable	Currently in recovery (n = 936; 45.1%)		Used to be in recovery (n = 306; 15.4%)		Never in recovery (n = 753; 39.5%)		p	r <sup>2</sup>
	%	SE	%	SE	%	SE		
Primary substance <sup>a</sup>							.13	.03
Alcohol	53.72	2.39	54.05	4.09	47.20	2.58		
Cannabis	9.23	1.69	9.03	2.08	13.68	1.94		
Cocaine	9.27	1.21	10.67	2.41	10.64	1.62		
Methamphetamine	7.73	1.39	8.70	2.52	6.22	1.30		
Opioids	7.06	1.32	5.16	1.97	3.39	.98		
Other	4.02	.97	2.12	1.11	1.27	.39		





## Beyond Abstinence: Changes in Indices of Quality of Life with Time in Recovery in a Nationally Representative Sample of U.S. Adults

John F. Kelly , M. Claire Greene, and Brandon G. Bergman

**Background:** Alcohol and other drug (AOD) treatment and recovery research typically have focused narrowly on changes in alcohol/drug use (e.g., “percent days abstinent”) with little attention on changes in functioning or well-being. Furthermore, little is known about whether and when such changes may occur, and for whom, as people progress in recovery. Greater knowledge would improve understanding of recovery milestones and points of vulnerability and growth.

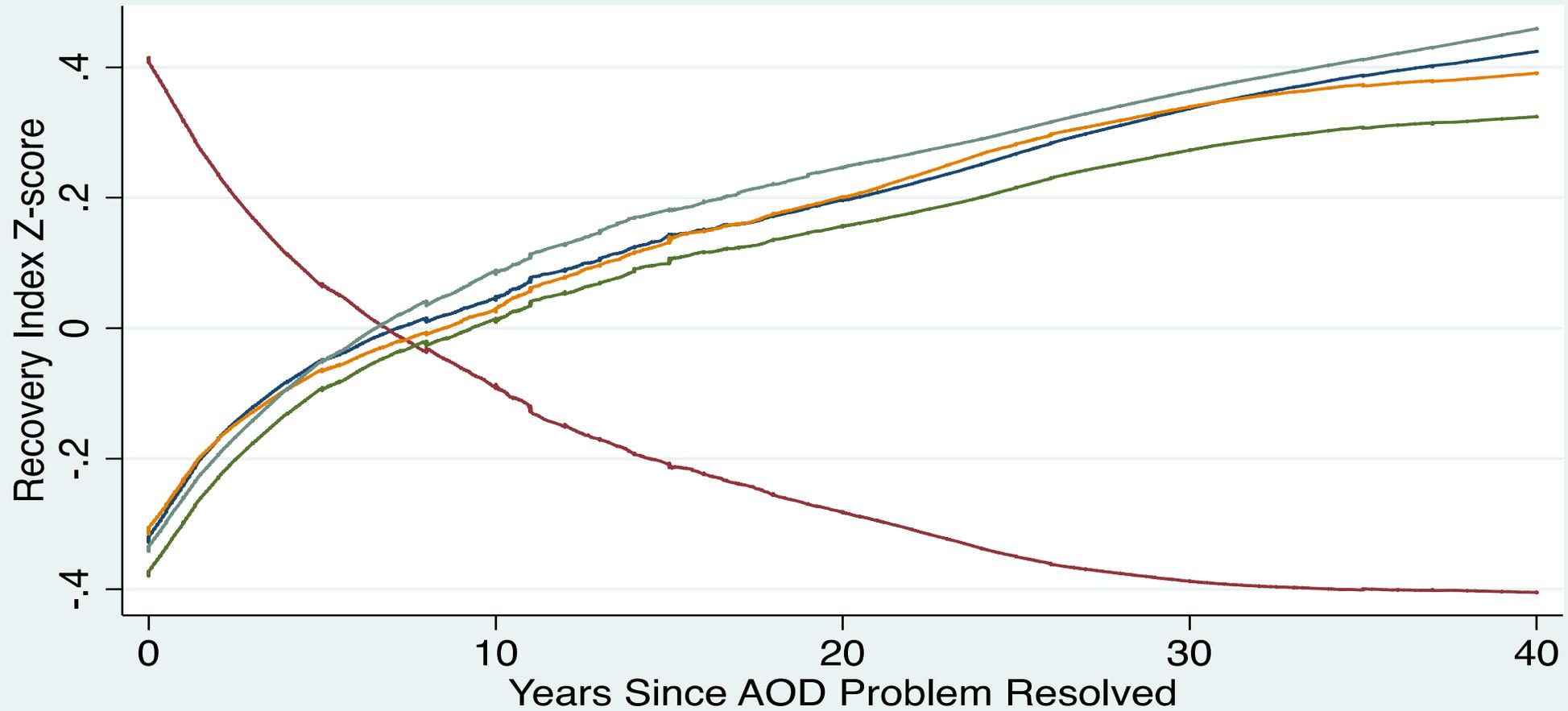
**Methods:** National, probability-based, cross-sectional sample of U.S. adults who screened positive to the question, “Did you used to have a problem with alcohol or drugs but no longer do?” (Response = 63.4% from 39,809; final weighted sample  $n = 2,002$ ). Linear, spline, and quadratic regressions tested relationships between time in recovery and 5 measures of well-being: quality of life, happiness, self-esteem, recovery capital, and psychological distress, over 2 temporal horizons: the first 40 years and the first 5 years, after resolving an AOD problem and tested moderators (sex, race, primary substance) of effects. Locally Weighted Scatterplot Smoothing regression was used to explore turning points.

**Results:** In general, in the 40-year horizon there were initially steep increases in indices of well-being (and steep drops in distress), during the first 6 years, followed by shallower increases. In the 5-year horizon, significant drops in self-esteem and happiness were observed initially during the first year followed by increases. Moderator analyses examining primary substance found that compared to alcohol and cannabis, those with opioid or other drugs (e.g., stimulants) had substantially lower recovery capital in the early years; mixed race/native Americans tended to exhibit poorer well-being compared to White people; and women consistently reported lower indices of well-being over time than men.

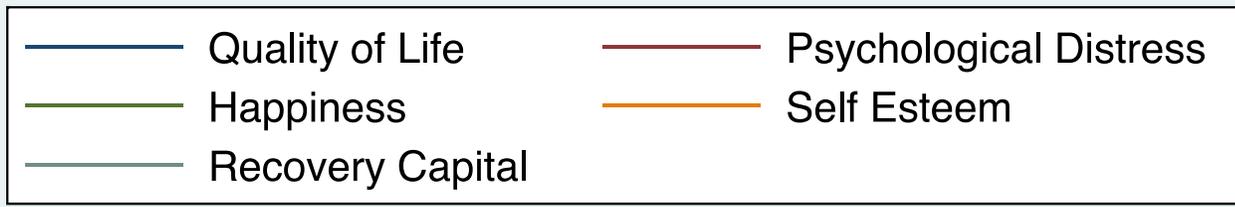
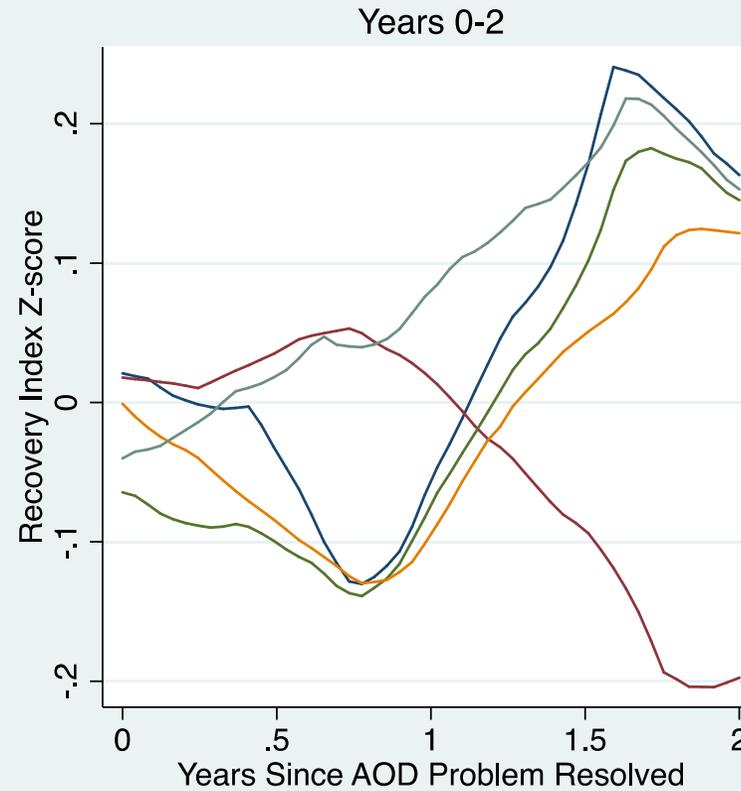
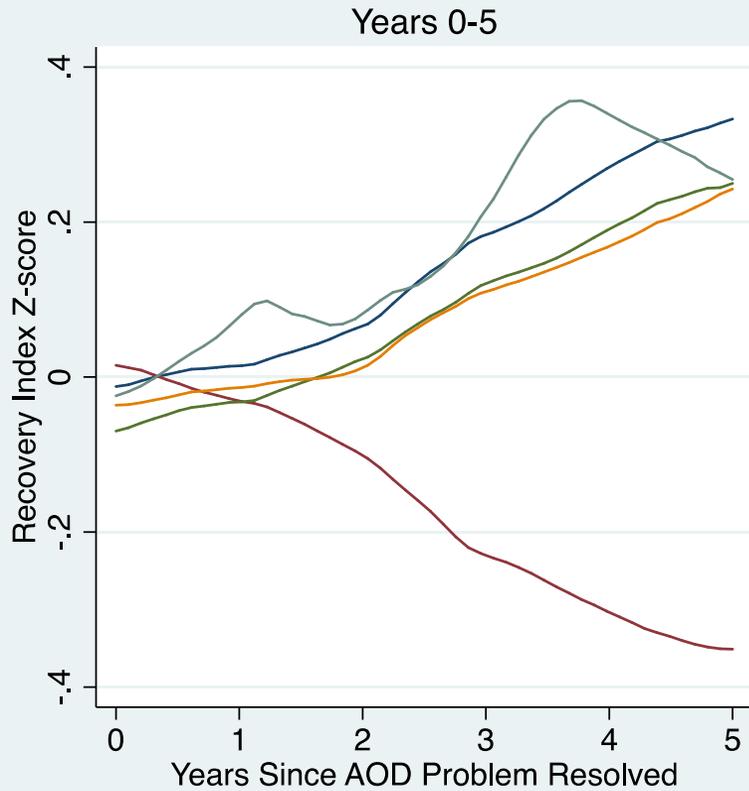
**Conclusions:** Recovery from AOD problems is associated with dynamic monotonic improvements in indices of well-being with the exception of the first year where self-esteem and happiness initially decrease, before improving. In early recovery, women, certain racial/ethnic groups, and those suffering from opioid and stimulant-related problems appear to face ongoing challenges that suggest a need for greater assistance.

**Key Words:** Recovery, Remission, Alcohol Use Disorder, Quality of Life, National, Epidemiology.

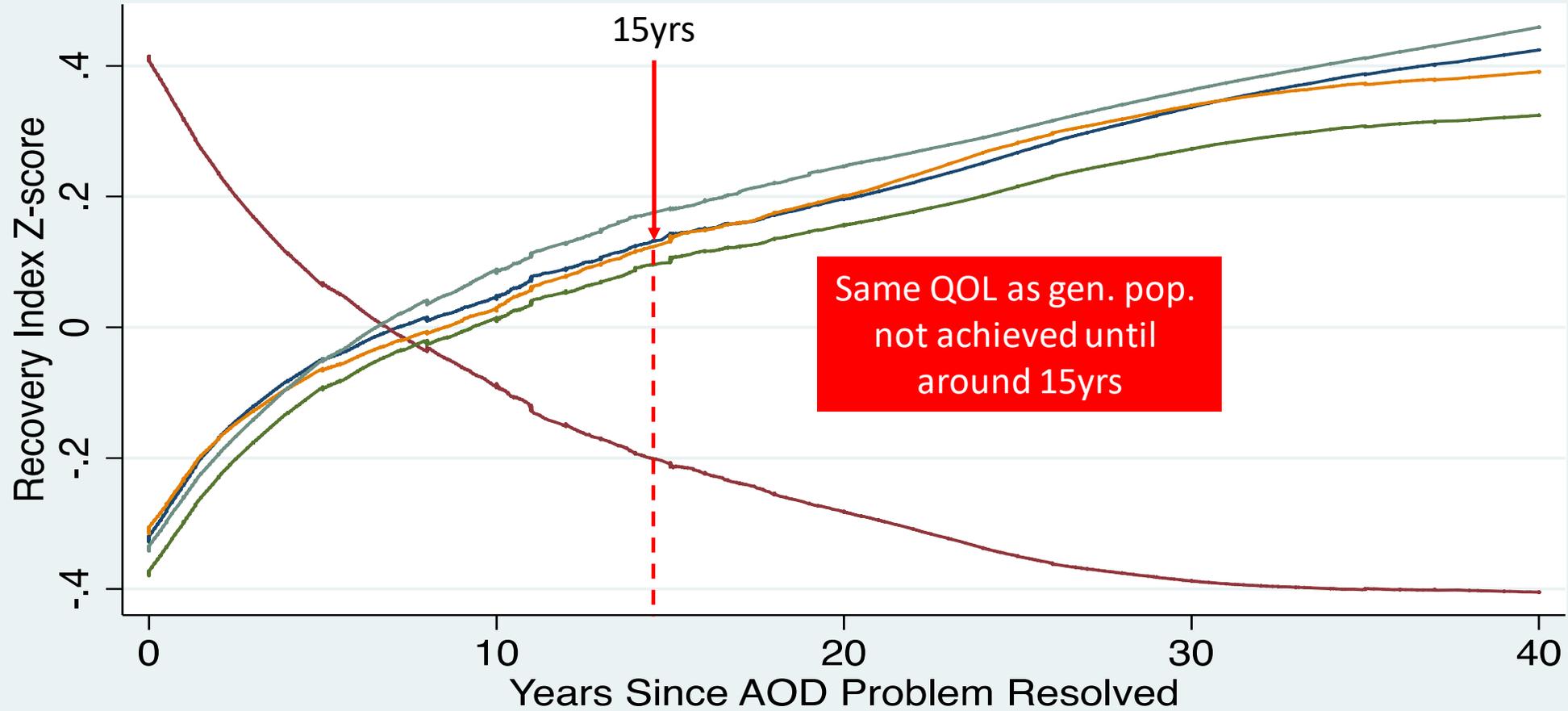
# Recovery Indices by Years Since Problem Resolution



# Recovery Indices by Years Since Problem Resolution

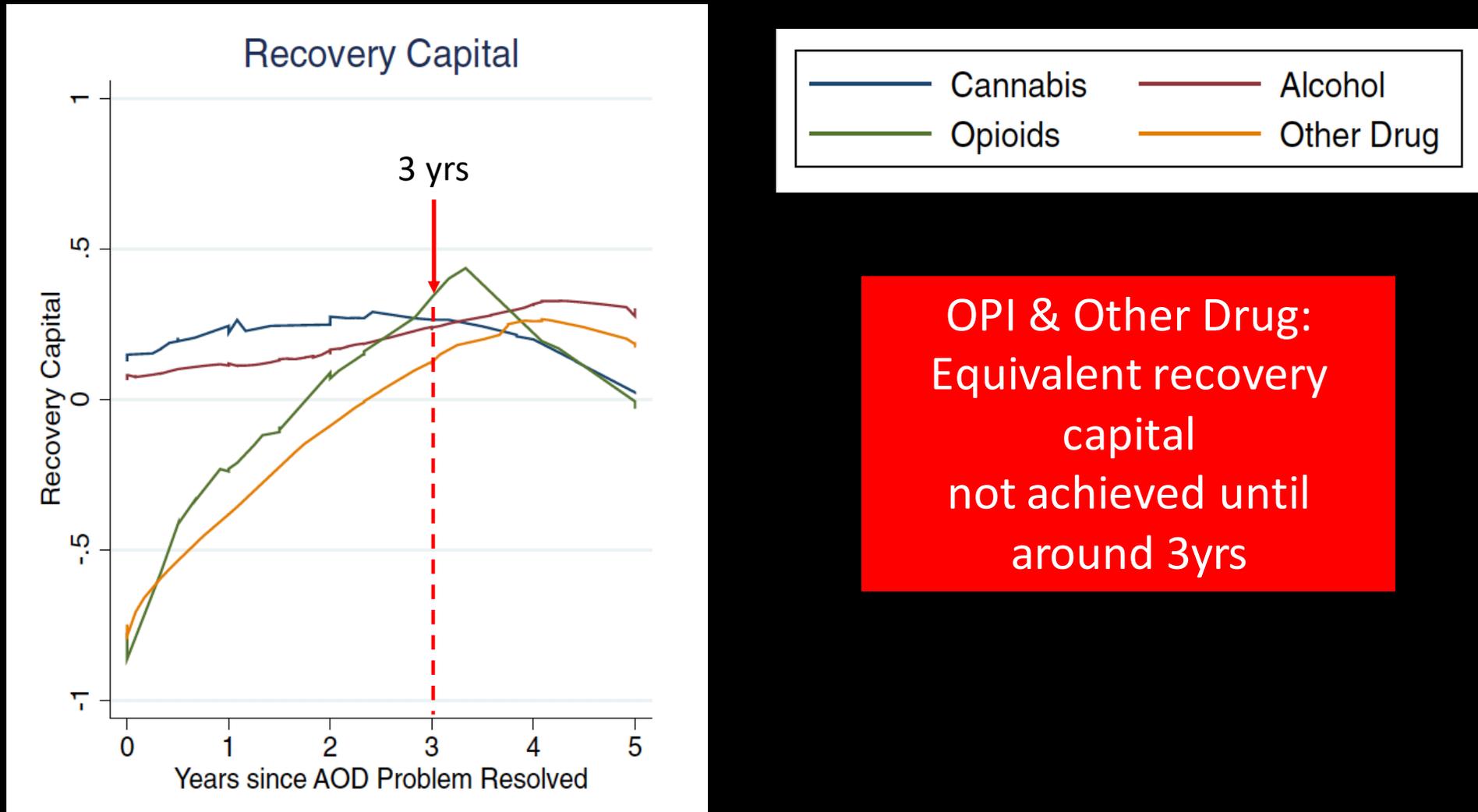


# Recovery Indices by Years Since Problem Resolution



- Quality of Life
- Happiness
- Recovery Capital
- Psychological Distress
- Self Esteem

# Recovery Indices by Years Since Problem Resolution

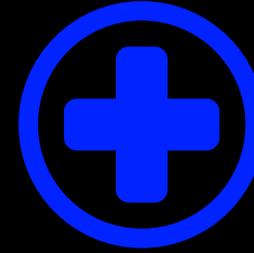


OPI & Other Drug:  
Equivalent recovery  
capital  
not achieved until  
around 3yrs

**Fig. 5.** Locally Weighted Scatterplot Smoothing (LOWESS) analysis of recovery indices by years since problem resolution stratified by primary substance.



**1.2 million Americans resolved a significant opioid use problem**



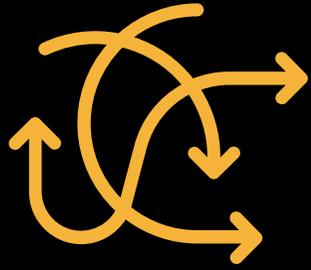
**Additional, more intensive, ongoing service use to achieve longer-term recovery**



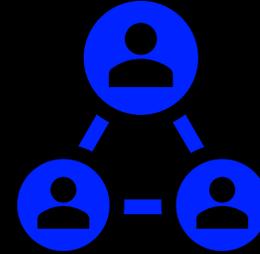
**Enhanced support to address deficits in self-esteem**



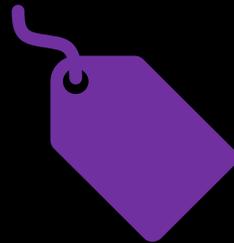
**Happiness, psychological distress, employment, psychiatric DXs similar to alcohol prob resolution**



**High variability in # of serious quit attempts, emphasizing heterogeneity**



**Less comfort disclosing status as someone who has resolved AOD problem**



**Most but not all identify as being in recovery now or in the past**



**Deficient QOL & recovery capital**

# How can we facilitate recovery from OUD?

## STAGES OF CHANGE

### RELATED TREATMENT & RECOVERY SUPPORT SERVICES

#### PRECONTEMPLATIVE

In this stage, individuals are not even thinking about changing their behavior. They do not see their addiction as a problem: they often think others who point out the problem are exaggerating.



#### CONTEMPLATIVE

In this stage people are more aware of the personal consequences of their addiction & spend time thinking about their problem. Although they are able to consider the possibility of changing, they tend to be ambivalent about it.



#### PREPARATION

In this stage, people have made a commitment to make a change. This stage involves information gathering about what they will need to change their behavior.



#### ACTION

In this stage, individuals believe they have the ability to change their behavior & actively take steps to change their behavior.



#### MAINTENANCE

In this stage, individuals maintain their sobriety, successfully avoiding temptations & relapse.

#### HARM REDUCTION

- \* Emergency Services (i.e. Narcan)
- \* Needle Exchanges
- \* Supervised Injection Sites

#### SCREENING & FEEDBACK

- \* Brief Advice
- \* Motivational Interventions

#### SCREENING, BRIEF INTERVENTION, & REFERRAL TO TREATMENT (SBIRT)

#### CLINICAL INTERVENTION

- \* Phases/Levels (e.g., inpatient, residential, outpatient)
- \* Intervention Types
  - Psychosocial (e.g. Cognitive Behavioral Therapy)
  - Medications: Agonists (e.g. Buprenorphine, Methadone) & Antagonists (Naltrexone)

#### NON-CLINICAL INTERVENTION

- \* Self-Management/Natural Recovery (e.g. self-help books, online resources)
- \* Mutual Help Organizations (e.g. Alcoholics Anonymous, SMART Recovery, Lifering Secular Recovery)
- \* Community Support Services (e.g. Recovery Community Centers, Recovery Ministries, Recovery Employment Assistance)

#### CONTINUING CARE (3m- 1 year)

Recovery Management Checkups, Telephone Counseling, Mobile Applications, Text Message Interventions

#### RECOVERY MONITORING (1-5+ yrs)

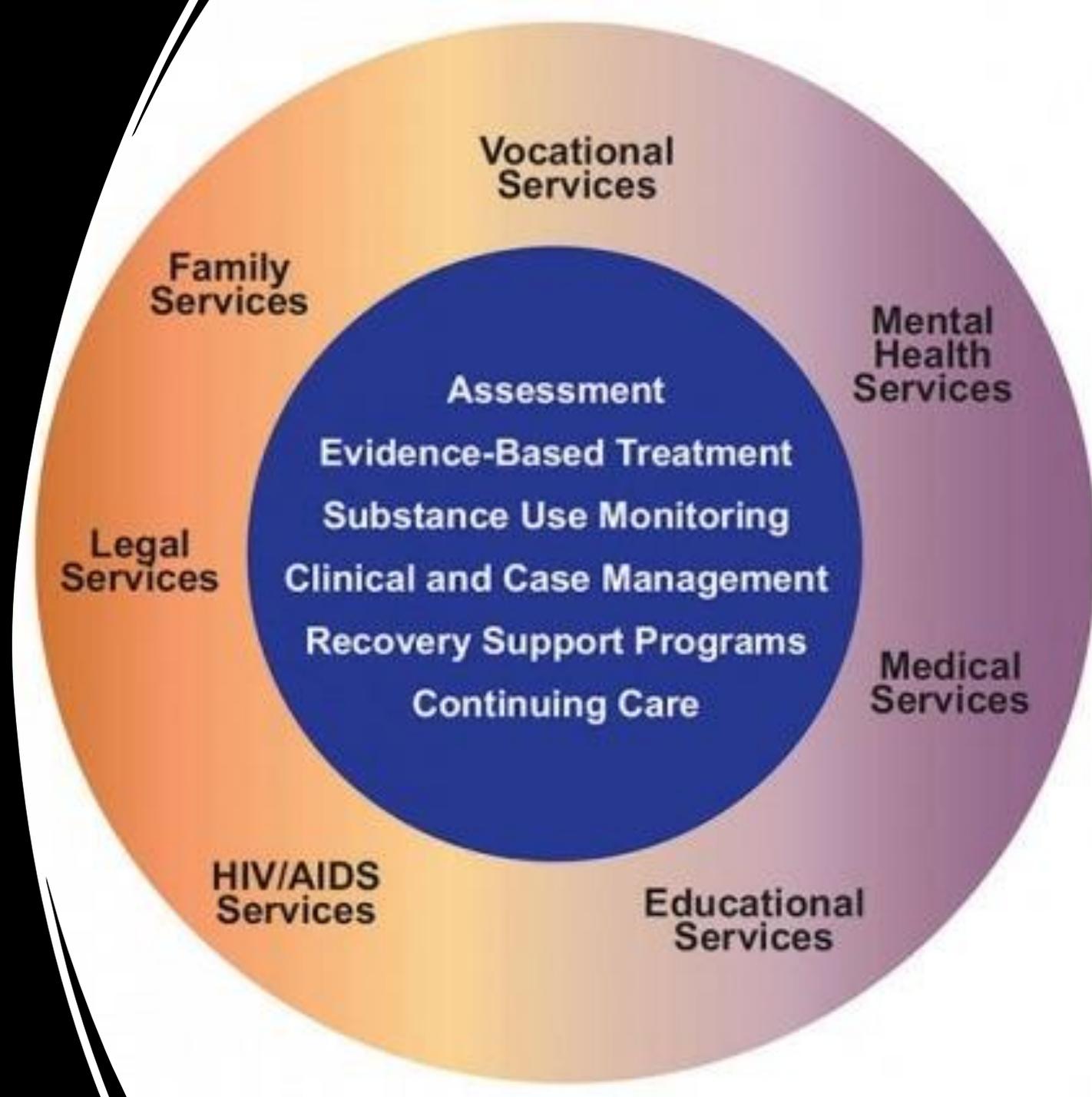
Continued Recovery Management Checkups, therapy visits, Primary Care Provider Visits

# Comprehensive Treatment Approaches

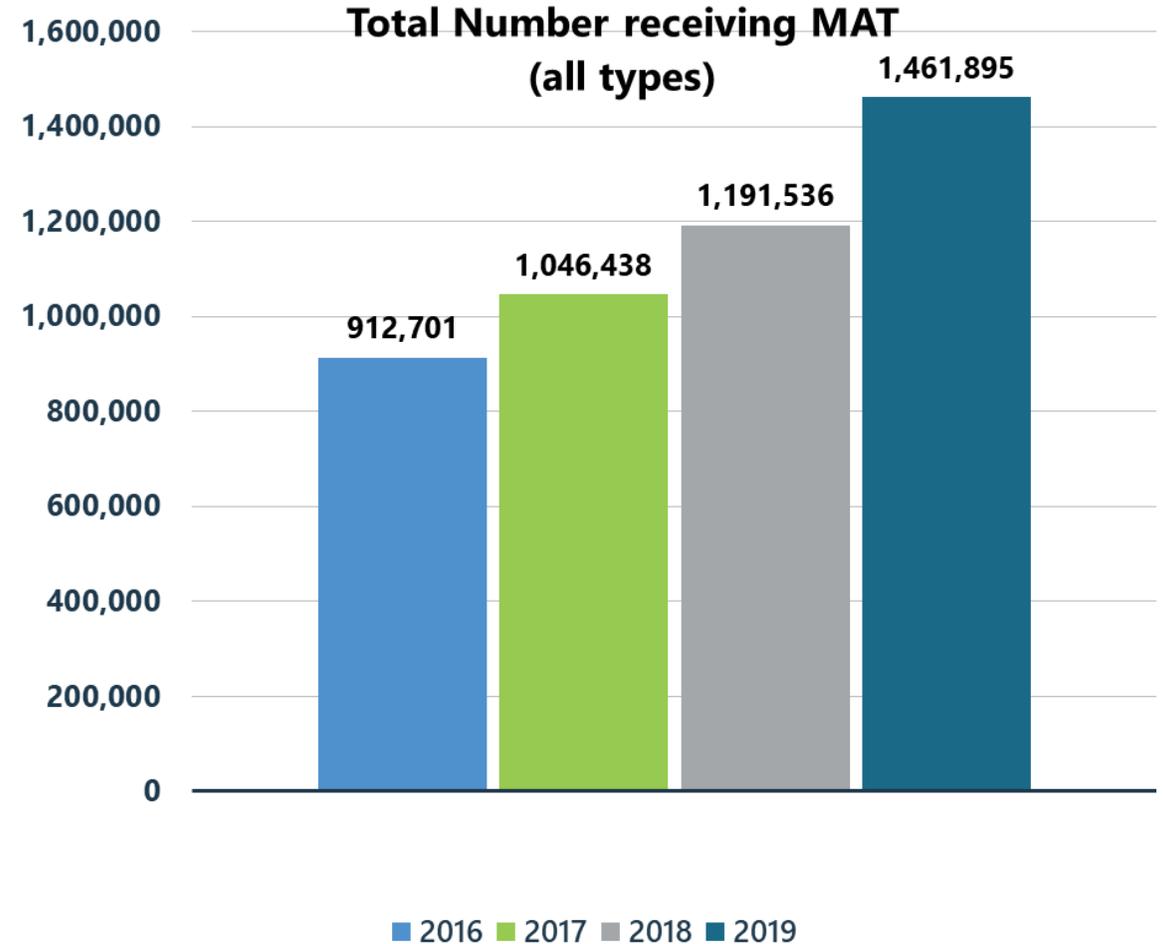
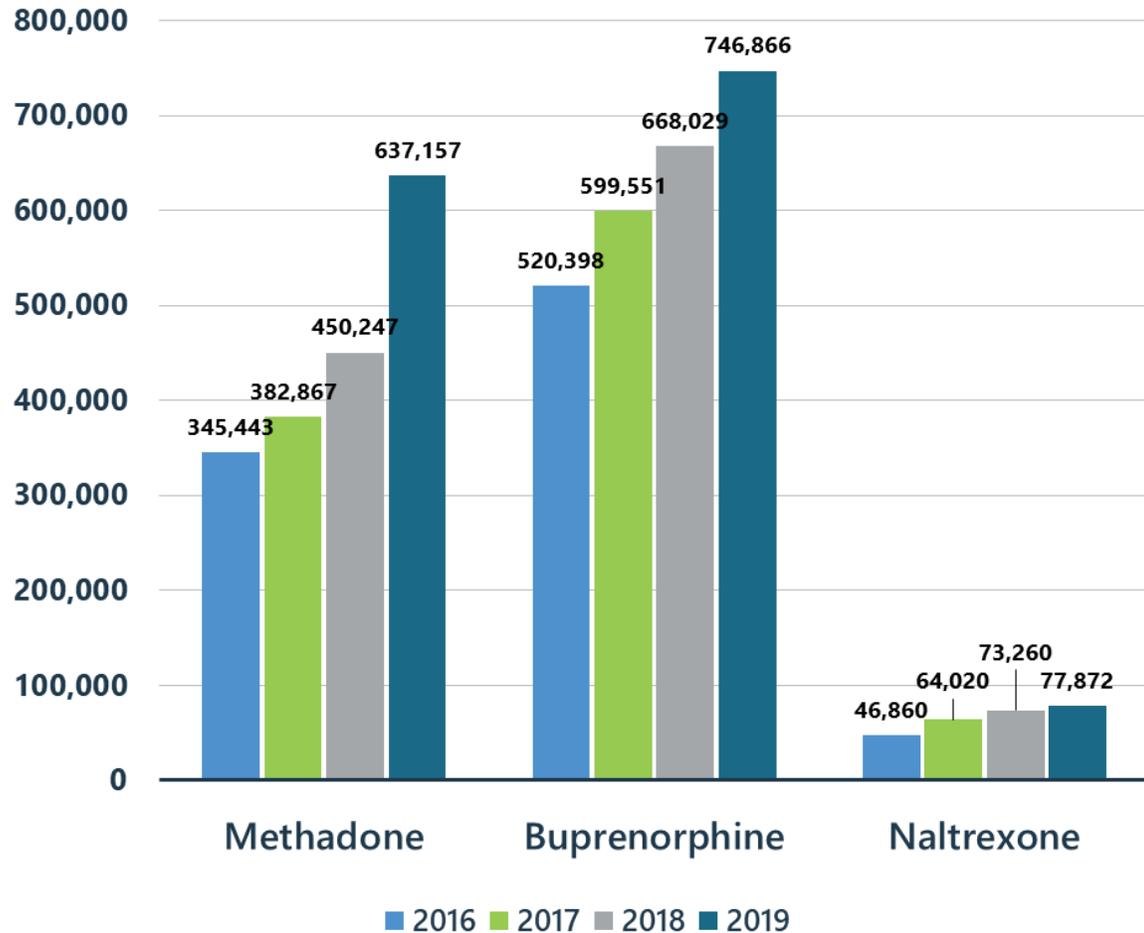
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Source: NIDA

“The best treatment programs provide a combination of therapies and other services to meet the needs of the individual patient.”



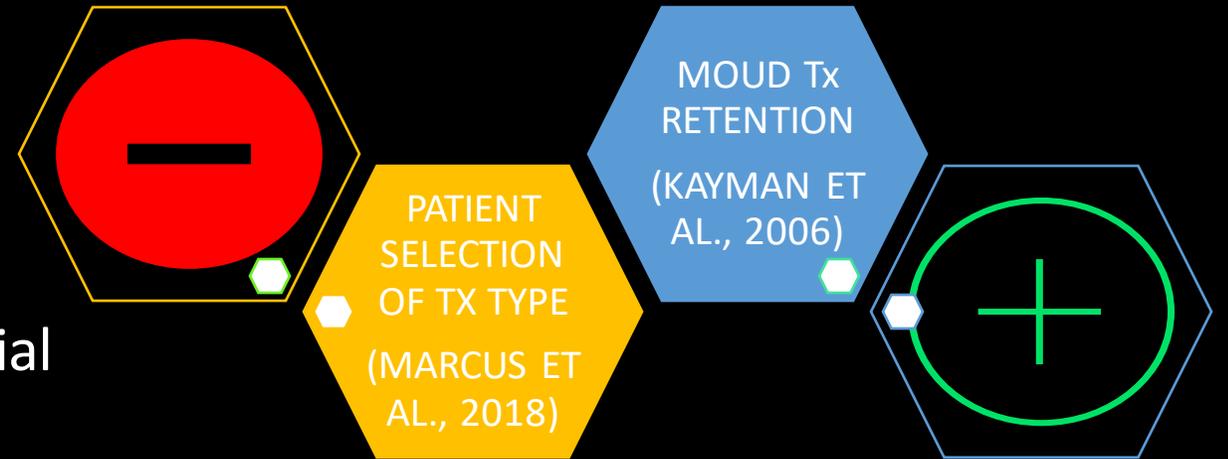
# Treatment Gains: Number of Individuals Receiving Pharmacotherapy for Opioid Use Disorder (NSDUH; 2019)





# MOUD Treatment

- Unmet need for MOUD Tx
  - ~11% w/ OUD receive MOUD Tx
- WHY? → Barriers to MOUD receipt
  - Institutional, provider, policy, financial
  - Individual-level
    - Attitudes toward MOUD



**Likely to impact MOUD provision & use**

# MOUD Attitudes Among Recovering Individuals

- Clinical commentaries, qualitative studies, anecdotal
  - Touch on predominantly negative attitudes, especially for agonists
    - Positive Attitudes:



20%

RECOVERY FROM AOD  
PROBLEMS

(BERGMAN ET AL., 2020)



31%

OUT-OF-TREATMENT OUD  
(SCHWARTZ ET AL., 2008)



32-51%

OXFORD HOUSE RESIDENTS  
(MAJER ET AL., 2008)



30-40%

BLACK & LATINO/A, IV USE  
(ZALLER ET AL., 2009)

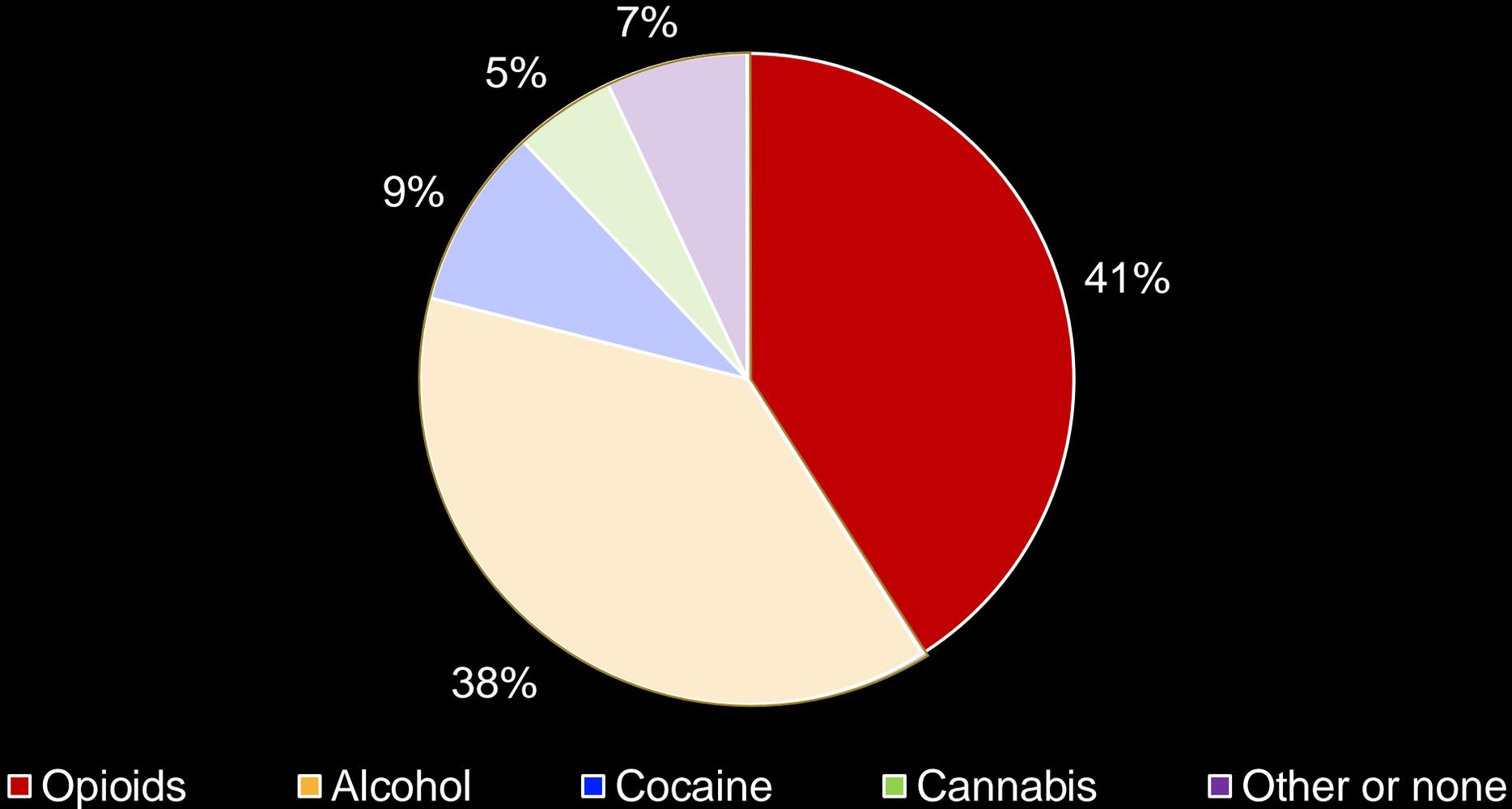


# MOUD ATTITUDES & RCCs

- RCCs: a promising venue for fostering MOUD support?
  - Especially inclusive
    - Do not follow a particular recovery model (e.g., 12- step)
    - “Many pathways [to recovery], all should be celebrated”
    - Member OUD prevalence



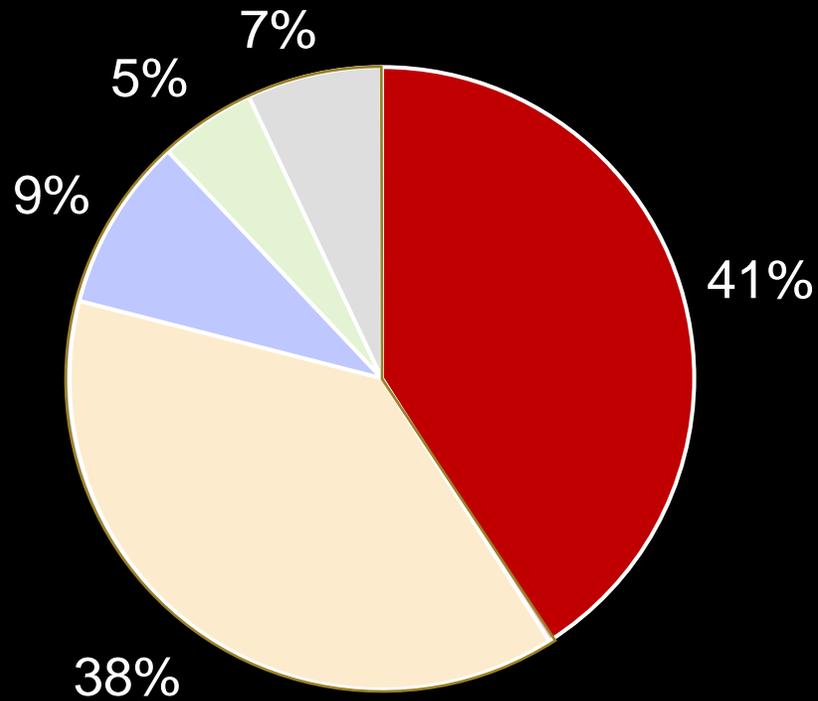
# Primary Substance among RCC Attendees



Kelly, J. F., Fallah-Sohy, N., Vilsaint, C., Hoffman, L. A., Jason, L. A., Stout, R. L., ... & Hoepfner, B. B. (2020). New kid on the block: An investigation of the physical, operational, personnel, and service characteristics of recovery community centers in the United States. *Journal of substance abuse treatment*, 111, 1-10.

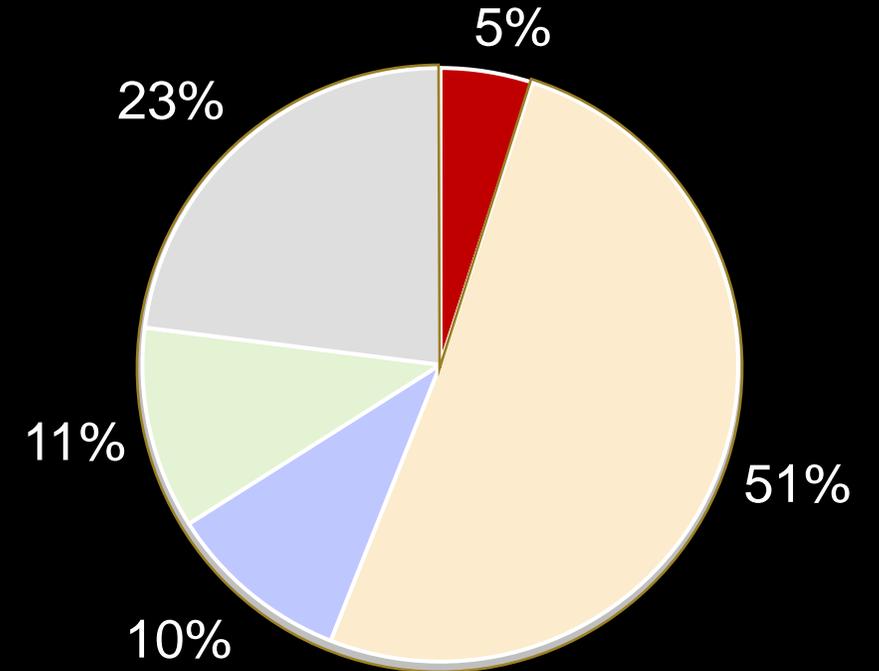
# Primary Substance

## Primary Substance RCCs



■ Opioids      ■ Alcohol      ■ Cocaine  
■ Cannabis      ■ Other or none

## Primary Substance NRS



■ Opioids      ■ Alcohol  
■ Cocaine      ■ Cannabis  
■ Other or not reported

Do RCCs offer an environment that is supportive and accepting of individuals using medications for OUD Tx?



# Medication Treatment for Opioid Use Disorder: Medication Attitudes at RCCs



Contents lists available at [ScienceDirect](#)

**Journal of Substance Abuse Treatment**

journal homepage: [www.elsevier.com/locate/jsat](http://www.elsevier.com/locate/jsat)

**Attitudes toward opioid use disorder pharmacotherapy among recovery community center attendees**

Lauren A. Hoffman<sup>\*</sup>, Corrie L. Vilsaint, John F. Kelly

*Recovery Research Institute, Massachusetts General Hospital and Harvard Medical School, 151 Merrimac Street, Boston, MA 02114, United States of America*

**ARTICLE INFO**

**Keywords:**  
Recovery community centers  
Opioid use disorder  
Buprenorphine  
Methadone  
Naltrexone  
Addiction recovery

**ABSTRACT**

**Background:** Despite their proven efficacy, medications for opioid use disorder (MOUD) are underutilized. Negative beliefs and attitudes toward MOUD are quite common, yet rapidly expanding recovery community centers (RCCs) may offer a promising venue for fostering MOUD support as they operate under the maxim, “many pathways [to recovery], all should be celebrated” and are utilized mainly by those with opioid use disorder. The current study provides a first look at MOUD attitudes and their correlates in RCC attendees.

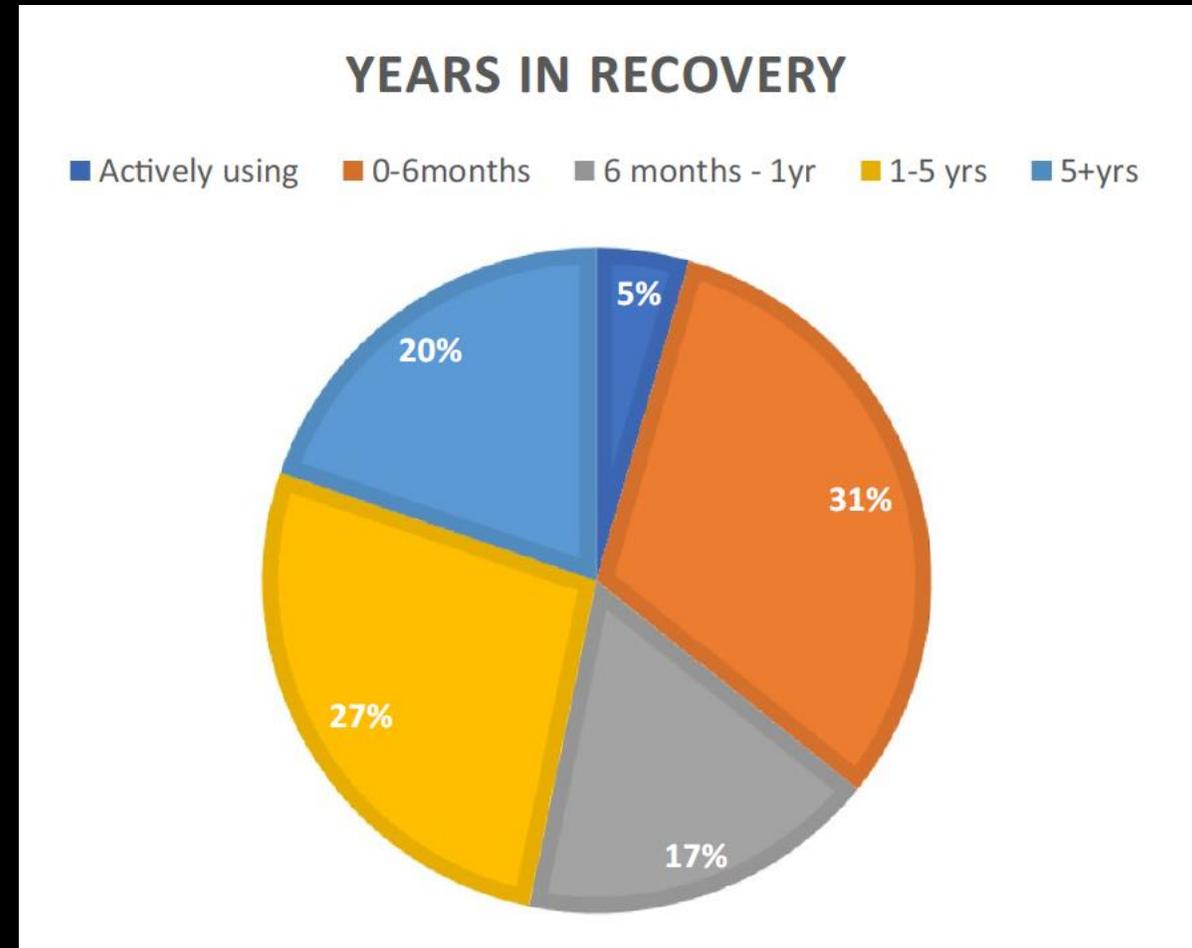
**Methods:** The study conducted a cross-sectional survey ( $N = 320$ ) of recovering adults attending 31 RCCs across New England, assessing demographic, treatment, and recovery-relevant factors, as well as attitudes (positive vs. negative) toward the use of agonist and antagonist MOUD. The study used frequencies and confidence intervals to obtain prevalence estimates for positive and negative attitudes toward agonist and antagonist MOUD, and to examine differences between them. Spearman correlations identified correlates of MOUD attitudes (at  $p < 0.10$ ), and significant correlates were assessed for unique contributions via multivariable logistic regression.

**Results:** Positive attitudes were common and more prevalent than negative attitudes for both agonist (positive: 71.4 [66.1, 76.3]%; negative: 28.6 [23.7, 33.9]%) and antagonist (positive: 76.5 [71.4, 81.1]%; negative: 23.5 [18.9, 28.6]%) MOUD, which did not differ. The study identified several correlates of MOUD attitudes at the  $p < 0.10$  level, but only four variables emerged as unique predictors controlling for other correlates. Lifetime history of agonist MOUD treatment was uniquely associated with positive agonist attitudes ( $p = 0.008$ ), whereas greater social support for recovery was associated with positive antagonist attitudes ( $p = 0.007$ ). Lower educational attainment was uniquely associated with negative antagonist attitudes ( $p = 0.005$ ), and a greater degree of spirituality was related to negative attitudes toward both agonists ( $p = 0.005$ ) and antagonists ( $p = 0.01$ ).

**Conclusions:** Findings reveal very high rates of positive MOUD attitudes among RCC participants, highlighting the potential for this growing tier of recovery support to foster acceptance and peer support for medication-facilitated recovery pathways. Correlates of attitudes further reveal opportunities for facilitating MOUD acceptance within and beyond the RCC network.

# Methods

- Cross-sectional survey
  - Data collection: 2016-2017
- Participants: 336 recovering, adult RCC attendees
- RCCs: 31 across New England region



# Methods

## Agonist MOUD

“It is a good idea for someone with an OPIOID problem to take a substitute opioid medication like **Suboxone** or **methadone** to help them stop using”

## Antagonist MOUD

“It is a good idea for someone with an OPIOID problem to take an opioid blocking medication like **naltrexone/Vivitrol** to help them stop using”

## AUD

“It is a good idea for someone with an ALCOHOL problem to take a medication to help them stop drinking”

## Mood Disorders

“It is a good idea for someone with an EMOTIONAL problem to take a medication to help”

## Negative Attitude

- Likert scale (1 – 6)

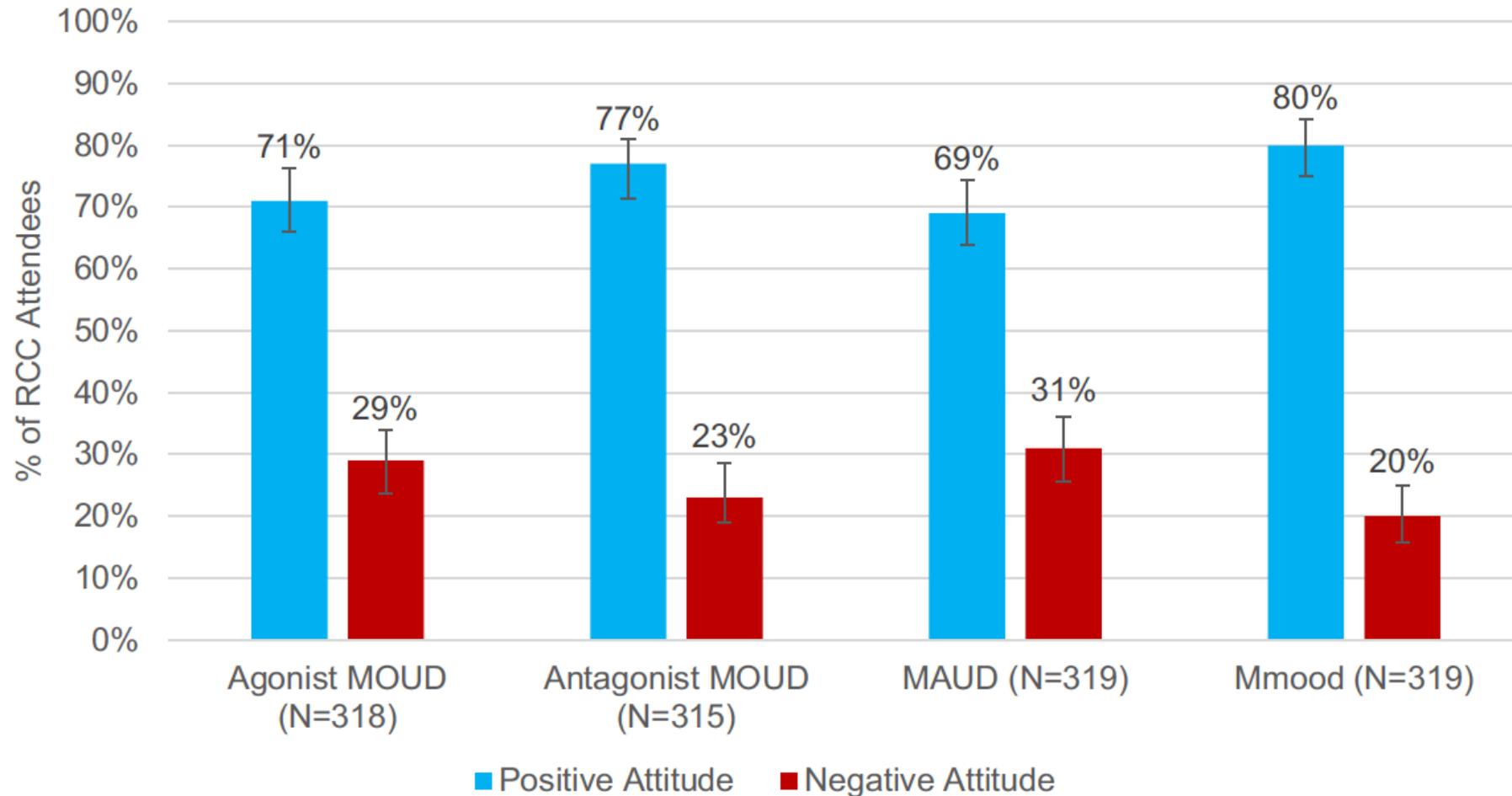


Positive Attitude

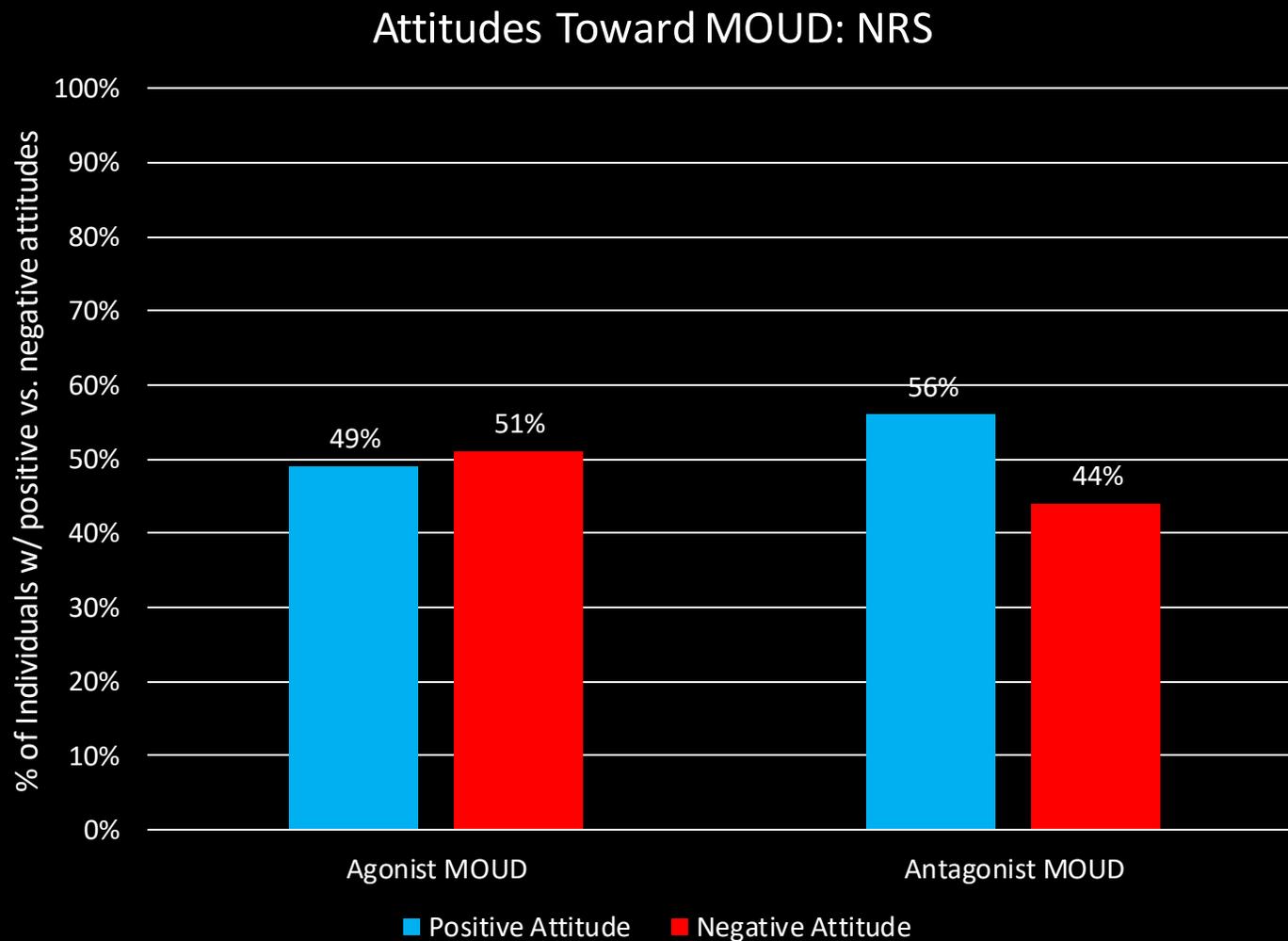
# RCC Attendees: MOUD Attitudes



Hoffman, L. A., Vilsaint, C. L., & Kelly, J. F. (2021). Attitudes toward opioid use disorder pharmacotherapy among recovery community center attendees. *Journal of Substance Abuse Treatment, 131*, 108464.

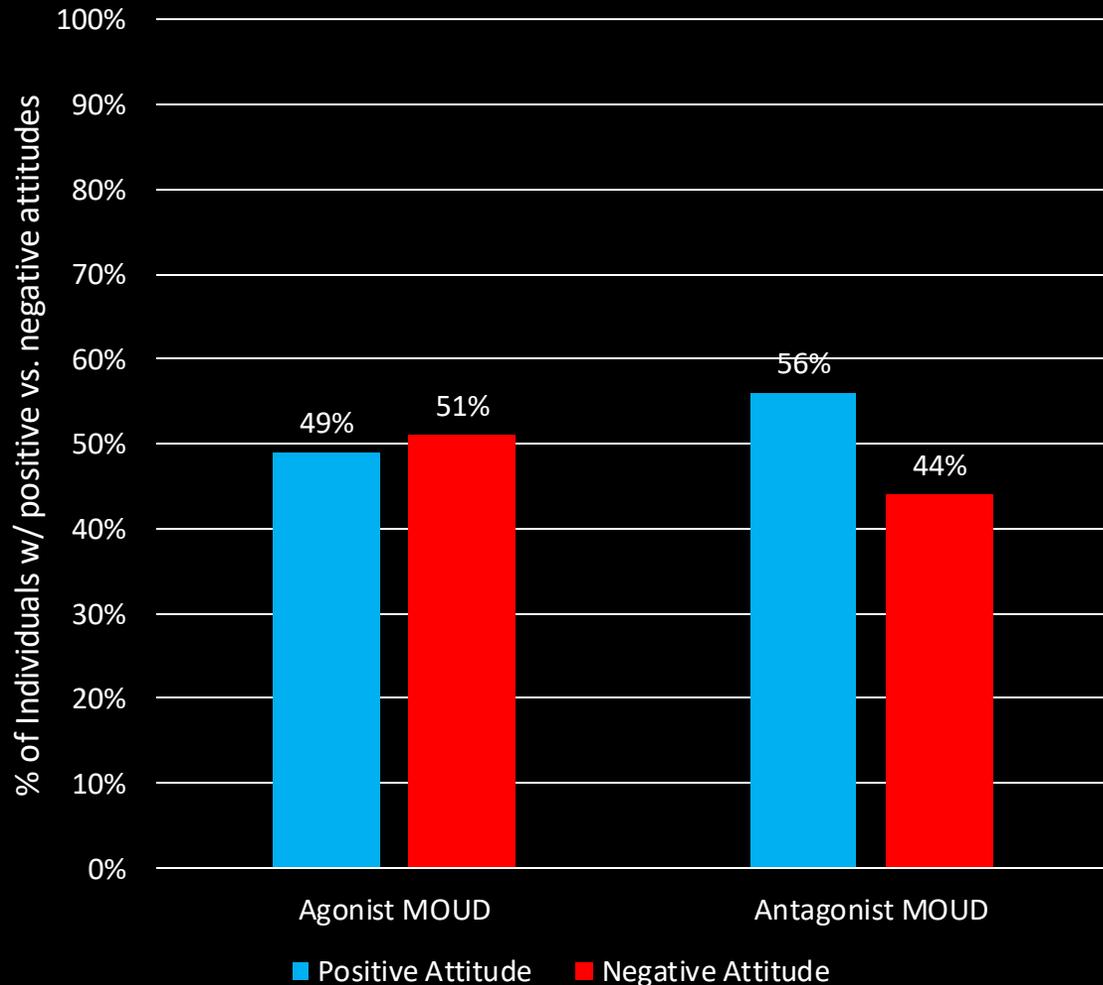


MOUD  
Attitudes:  
NRS  
*Unpublished  
Data*

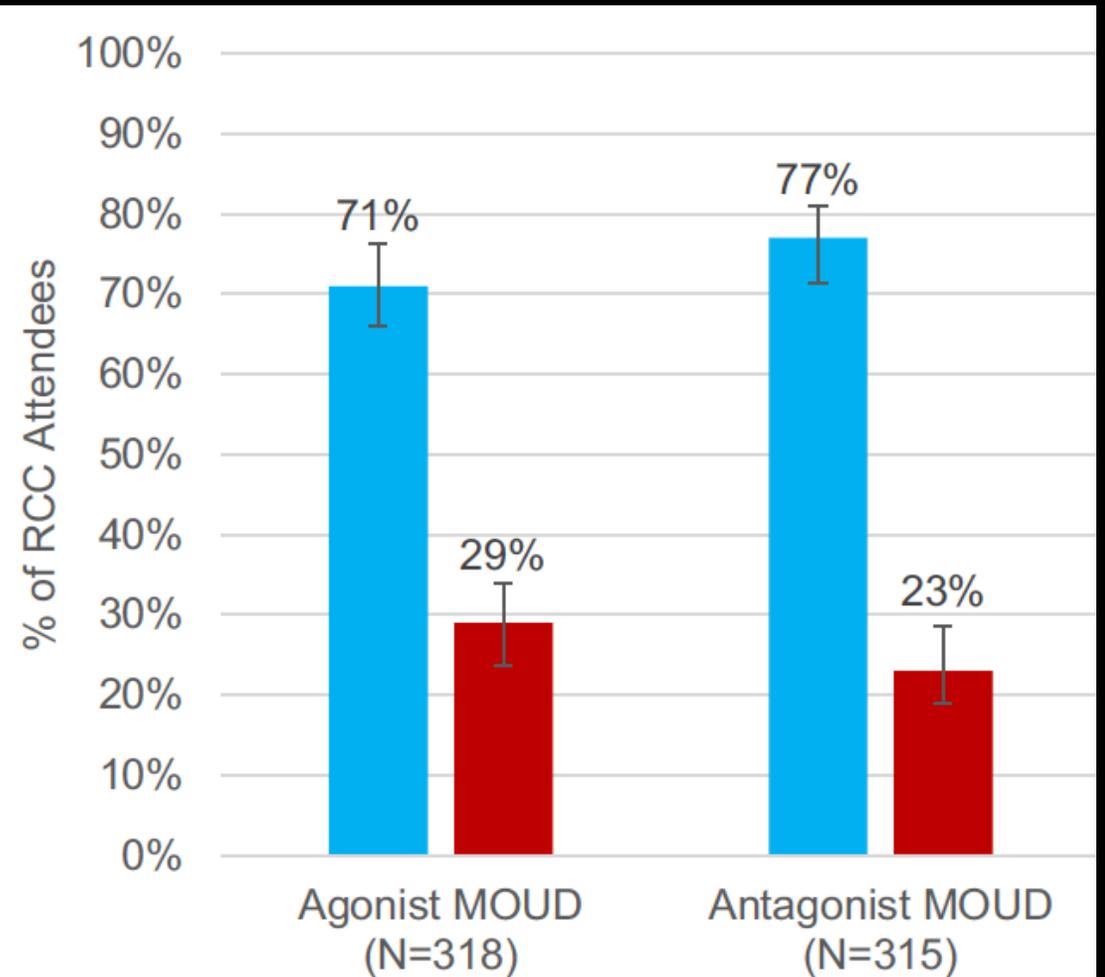


# MOUD Attitudes: Direct Comparison

## Attitudes Toward MOUD: NRS

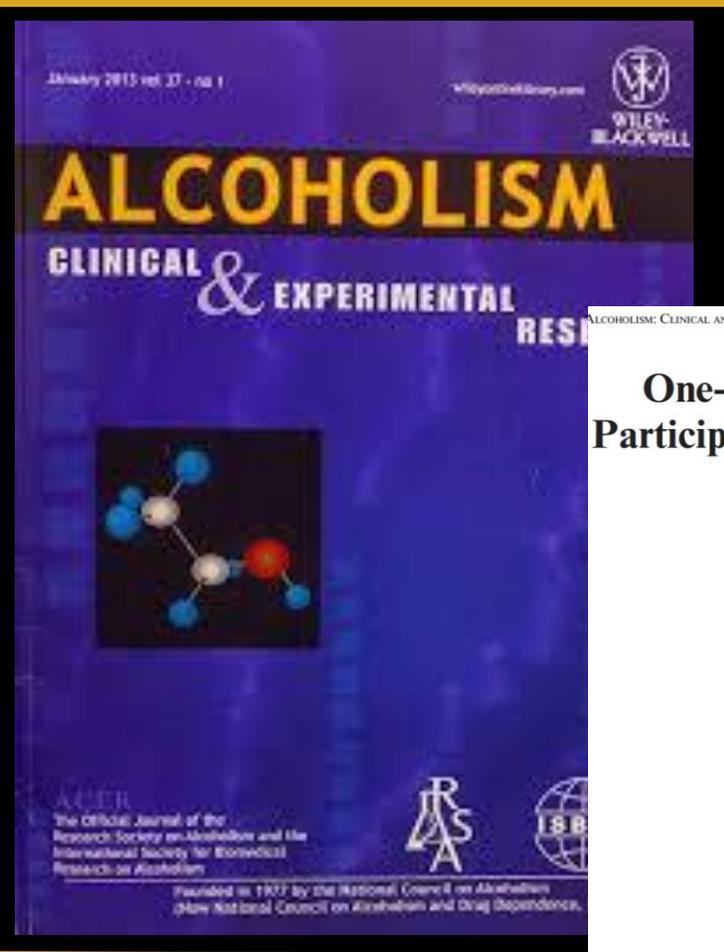


## Attitudes Toward MOUD: RCCs



# Recovery Community Centers

Kelly et al.,  
2020



ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

Vol. \*\*., No. \*  
\*\*0000

## One-Stop Shopping for Recovery: An Investigation of Participant Characteristics and Benefits Derived From U.S. Recovery Community Centers

John F. Kelly , Robert L. Stout, Leonard A. Jason, Nilofar Fallah-Sohy, Lauren A. Hoffman, and Bettina B. Hoepfner

**Background:** Recovery community centers (RCCs) are the “new kid on the block” in providing addiction recovery services, adding a third tier to the 2 existing tiers of formal treatment and mutual-help organizations (MHOs). RCCs are intended to be recovery hubs facilitating “one-stop shopping” in the accrual of recovery capital (e.g., recovery coaching, employment/educational linkages). Despite their growth, little is known about who uses RCCs, what they use, and how use relates to improvements in functioning and quality of life. Greater knowledge would inform the field about RCC’s potential clinical and public health utility.

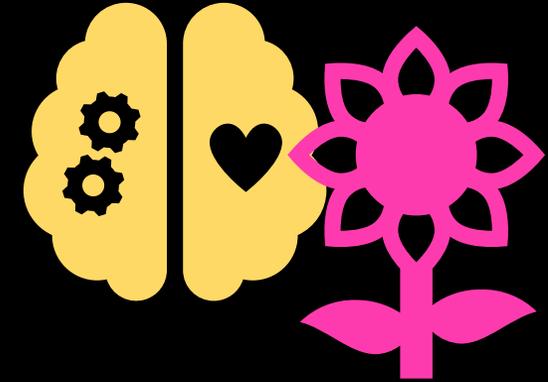
**Methods:** Online survey conducted with participants ( $N = 336$ ) attending RCCs ( $k = 31$ ) in the northeastern United States. Substance use history, services used, and derived benefits (e.g., quality of life) were assessed. Systematic regression modeling tested a priori theorized relationships among variables.

**Results:** RCC members ( $n = 336$ ) were on average  $41.1 \pm 12.4$  years of age, 50% female, predominantly White (78.6%), with high school or lower education (48.8%), and limited income (45.2% < \$10,000 past-year household income). Most had either a primary opioid (32.7%) or alcohol (26.8%) problem. Just under half (48.5%) reported a lifetime psychiatric diagnosis. Participants had been attending RCCs for  $2.6 \pm 3.4$  years, with many attending <1 year (35.4%). Most commonly used aspects were the socially oriented mutual-help/peer groups and volunteering, but technological assistance and employment assistance were also common. Conceptual model testing found RCCs associated with increased recovery capital, but not social support; both of these theorized proximal outcomes, however, were related to improvements in psychological distress, self-esteem, and quality of life.

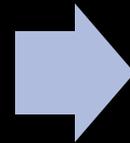
**Conclusions:** RCCs are utilized by an array of individuals with few resources and primary opioid or alcohol histories. Whereas strong social supportive elements were common and highly rated, RCCs appear to play a more unique role not provided either by formal treatment or by MHOs in facilitating the acquisition of recovery capital and thereby enhancing functioning and quality of life.

**Key Words:** Recovery Community Centers, Recovery, Addiction, Support Services, Recovery Coaching, Addiction, Substance Use Disorder.

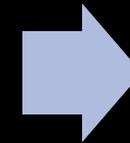
# BENEFITS OF RCC ATTENDANCE



RCC attendance



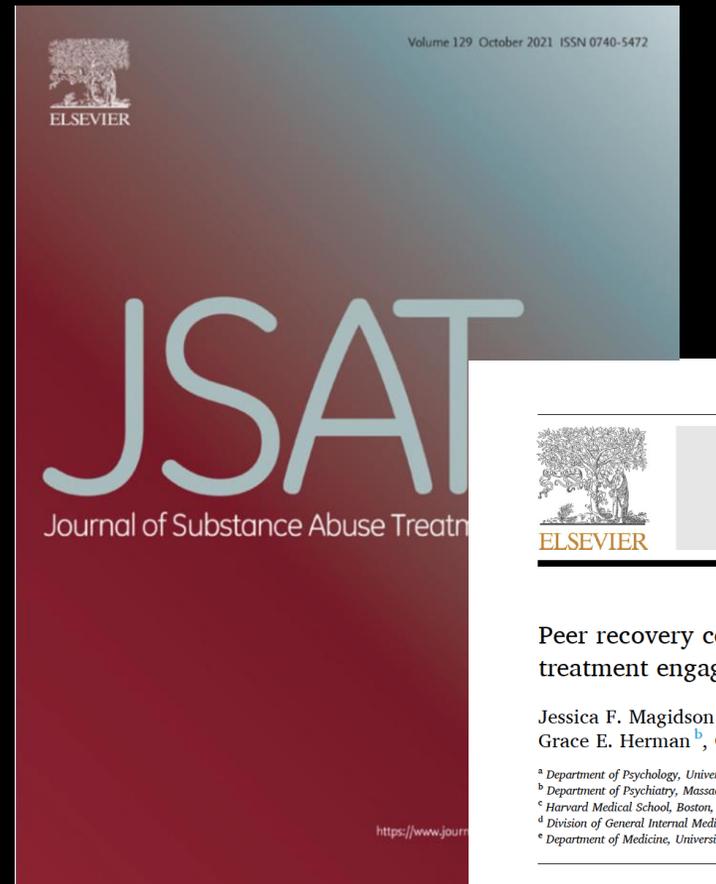
Enhanced recovery  
capital  
(i.e. resources for  
recovery)



Lower psychological  
distress  
Higher self-esteem  
Higher quality of life

# Peer Recovery Coaches in General Medical Settings

Magidson et al., 2021



Journal of Substance Abuse Treatment 122 (2021) 108248

Contents lists available at ScienceDirect

Journal of Substance Abuse Treatment

journal homepage: [www.elsevier.com/locate/jsat](http://www.elsevier.com/locate/jsat)

Check for updates

## Peer recovery coaches in general medical settings: Changes in utilization, treatment engagement, and opioid use

Jessica F. Magidson<sup>a,b,c,\*</sup>, Susan Regan<sup>c,d</sup>, Elizabeth Powell<sup>b</sup>, Helen E. Jack<sup>e</sup>, Grace E. Herman<sup>b</sup>, Christopher Zaro<sup>b</sup>, Martha T. Kane<sup>b,c</sup>, Sarah E. Wakeman<sup>c,d</sup>

<sup>a</sup> Department of Psychology, University of Maryland, College Park, MD, USA  
<sup>b</sup> Department of Psychiatry, Massachusetts General Hospital, Boston, MA, USA  
<sup>c</sup> Harvard Medical School, Boston, MA, USA  
<sup>d</sup> Division of General Internal Medicine, Massachusetts General Hospital, Boston, MA, USA  
<sup>e</sup> Department of Medicine, University of Washington, Seattle, WA, USA

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**ARTICLE INFO**

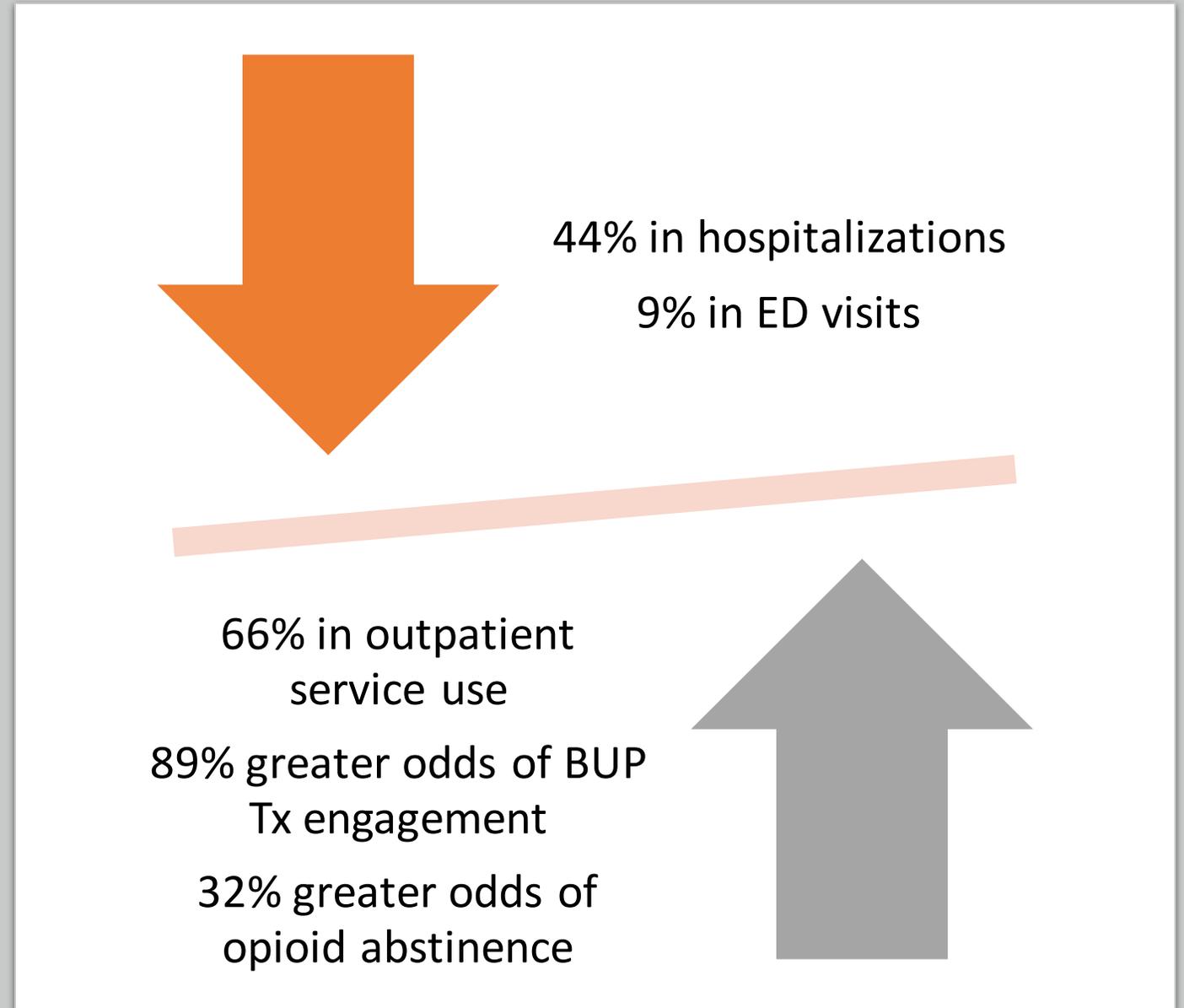
**Keywords:**  
Peer recovery coach  
Opioid use disorder  
Buprenorphine  
Health care utilization  
Treatment engagement

**ABSTRACT**

Recovery coaches, trained peers with a history of substance use disorder (SUD) who are formally embedded in the health care team, may be a cost-effective approach to support outpatient management of SUD treatment. Although recovery coach programs are scaling nationwide, limited data exist to support their impact on costs or clinical outcomes. This study aimed to evaluate the integration of peer recovery coaches in general medical settings. Staff hired and trained nine recovery coaches as a part of a health system-wide effort to redesign SUD care. We examined reductions in acute care utilization and increases in outpatient treatment utilization among patients connected to a recovery coach. Additionally, we examined buprenorphine treatment engagement and opioid abstinence among a subset of patients who initiated buprenorphine prior to or within 30 days of their first recovery coach contact. We hypothesized recovery coach contact would strengthen outpatient SUD treatment and be associated with reductions in SUD severity and preventable acute care utilization. We included patients with an initial recovery coach contact between January 2015 and September 2017 in the main analyses ( $N = 1171$ ). We assessed utilization outcomes via medical records over one year, comparing the six months before and after first recovery coach contact. We used chart review to extract toxicology results and buprenorphine treatment engagement for the subset of patients initiated on buprenorphine ( $n = 135$ ). In the six months following recovery coach contact, there was a 44% decrease in patients hospitalized and a 9% decrease in patients with an ED visit. There was a 66% increase in outpatient utilization across primary care, community health center visits, mental health, and laboratory visits. Among patients who initiated buprenorphine, current recovery coach contact was associated with significantly increased odds of buprenorphine treatment engagement (OR = 1.89; 95% CI: 1.49–2.39;  $p < 0.001$ ) and opioid abstinence (OR = 1.32; 95% CI: 1.02–1.70;  $p < 0.001$ ). Recovery coaches may be an impactful and potentially cost-effective addition to an SUD care team, but future research is needed that uses a matched comparison condition.

- Recovery Coaches

- Motivation
- Overcome barriers to care & behavior change
- Help w/ navigating systems
- Offer harm reduction
- Provide social support



# Mutual Help Organizations

Weiss et al.,  
2019



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#### CME Objective

After studying this article, you should be able to:

- Consider recommending both opioid agonist treatment and mutual-help group attendance to improve opioid abstinence in patients with opioid use disorder

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#### Financial Disclosure

All individuals in a position to influence the content of this activity were asked to complete a statement regarding all relevant personal financial relationships between themselves or their spouse/partner and any commercial interest. The CME Institute has resolved any conflicts of interest that were identified. In the past year, Marlene P. Freeman, MD, Editor in Chief, has received research funding from Janssen and Sage; has been a member of the advisory boards for Otsuka, Alkermes, and Sunovion; has been a member of the Independent Data Safety and Monitoring Committee for Janssen; and, as a Massachusetts General Hospital (MGH) employee, works with the MGH National Pregnancy Registry, which is sponsored by Teva, Alkermes, Otsuka, Actavis, and Sunovion, and works with the MGH Clinical Trials Network and Institute, which receives research funding from multiple pharmaceutical companies and the National Institute of Mental Health. No member of the CME Institute staff reported any relevant personal financial relationships. Faculty financial disclosure appears at the end of the article.

## Correlates of Opioid Abstinence in a 42-Month Posttreatment Naturalistic Follow-Up Study of Prescription Opioid Dependence

Roger D. Weiss, MD<sup>ab\*</sup>; Margaret L. Griffin, PhD<sup>ab</sup>; David E. Marcovitz, MD<sup>c</sup>; Blake T. Hilton, PsyD<sup>d</sup>; Garrett M. Fitzmaurice, ScD<sup>bd,e</sup>; R. Kathryn McHugh, PhD<sup>ab</sup>; and Kathleen M. Carroll, PhD<sup>f</sup>

#### ABSTRACT

**Objective:** The natural course of prescription opioid use disorder has not been examined in longitudinal studies. The current study examined correlates of opioid abstinence over time after completion of a treatment trial for prescription opioid dependence.

**Methods:** The multisite Prescription Opioid Addiction Treatment Study examined different durations of buprenorphine-naloxone treatment and different intensities of counseling to treat prescription opioid dependence, as assessed by DSM-IV following the clinical trial, a longitudinal study was conducted from March 2009–January 2013. At 18, 30, and 42 months after treatment entry, telephone interviews were conducted (N = 375). In this exploratory, naturalistic study, logistic regression analyses examined the association between treatment modality (including formal treatment and mutual help) and opioid abstinence rates at the follow-up assessments.

**Results:** At the 3 follow-up assessments, approximately half of the participants reported engaging in current substance use disorder treatment (47%–50%). The most common treatments were buprenorphine maintenance (27%–35%) and mutual-help group attendance (27%–30%), followed by outpatient counseling (18%–23%) and methadone maintenance (4%). In adjusted analyses, current opioid agonist treatment showed the strongest association with current opioid abstinence (odds ratios [ORs] = 5.4, 4.6, and 2.8 at the 3 assessments), followed by current mutual-help attendance (ORs = 2.2, 2.7, and 1.9); current outpatient counseling was not significantly associated with abstinence in the adjusted models.

**Conclusions:** While opioid agonist treatment was most strongly associated with opioid abstinence among patients with prescription opioid dependence over time, mutual-help group attendance was independently associated with opioid abstinence. Clinicians should consider recommending both of these interventions to patients with opioid use disorder.

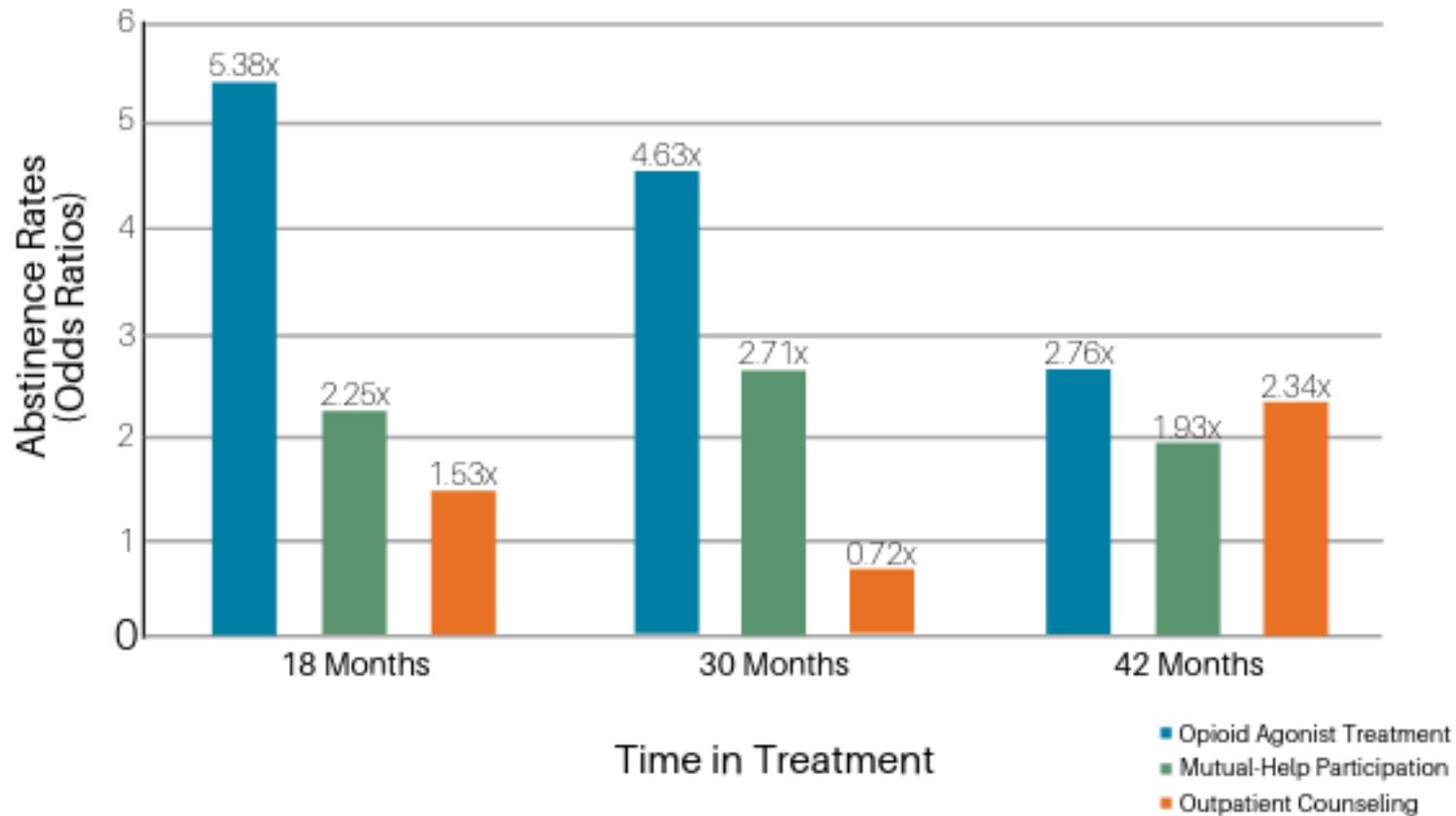
**Trial Registration:** ClinicalTrials.gov Identifier: NCT00316277  
*J Clin Psychiatry* 2019;80(2):18m12292

**To cite:** Weiss RD, Griffin ML, Marcovitz DE, et al. Correlates of opioid abstinence in a 42-month posttreatment naturalistic follow-up study of prescription opioid dependence. *J Clin Psychiatry*. 2019;80(2):18m12292.

**To share:** <https://doi.org/10.4088/JCP.18m12292>

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### Odds Ratios: Likelihood of Being Abstinent Compared Between Treatment Types to Individuals Not in Treatment



MHO  
Attendance  
&  
Abstinence

# AA/NA Attendance & Long-Term Abstinence

Table 2 Self-help attendance and abstinence (%) from opiates, stimulants and alcohol at 1, 2 and 4–5 years follow-up.

	1 year			2 years		
	No self-help (n = 107)	Self-help (n = 35)	Adjusted OR (95% CI)	No self-help (n = 114)	Self-help (n = 28)	Adjusted OR (95% CI)
Opiates	37	69	2.72* (1.12, 6.56)	42	71	2.73* (1.03, 7.25)
Stimulants	60	86	3.22* (1.04, 10.04)	57	75	2.35 (0.82, 6.71)
Alcohol	34	63	4.26* (1.74, 10.43)	31	57	3.66* (1.35, 9.88)

4–5 years		
No self-help (n = 114)	Self-help (n = 28)	Adjusted OR (95% CI)
40	71	3.37* (1.26, 8.90)
58	75	2.33 (0.84, 6.44)
27	61	5.44*** (1.98, 14.95)

Gossop et al., 2007



# Other mechanisms for promoting recovery

Post overdose outreach teams in the ED (peer recovery coaches, licensed paramedics) for Tx engagement, retention, overdose prevention (Langabeer et al., 2020)

Peer outreach workers in recovery to help connect individuals to MOUD Tx (Scott et al., 2020)

Individual therapy or contingency management during MOUD to promote abstinence & prevent overdose (Harvey et al., 2020; Fairley et al., 2021)

# Summary



1.18 Million Americans resolved sig. OPI prob



OPI may require additional or more intensive services to achieve longer-term recovery



OPI > 1 Yr. recovery may need enhanced support to address deficient self-esteem



Number of recovery attempts may be somewhat greater or more variable for OPI (additional study needed)



OPI have the lowest levels of comfort disclosing their recovery status



OPI have deficient recovery capital in the first 3 years of problem resolution



About 60% of OPI currently identify as “in recovery” – ¼ never identified as “in recovery”

# Summary



Facilitate recovery w/ combination of clinical Tx, non-clinical RSS, continuing care, recovery monitoring



Evidence-based Tx: MOUD; reduce barriers, enhance access, promote retention



RCCs may be a particularly accepting environment for MOUD patients – positive MOUD attitudes



RCC attendance might address deficient recovery capital to promote increased self-esteem / well-being



Recovery coaches at practices: ↑ appt. attendance, MOUD retention, abstinence; ↓ hospitalizations, ED visits



MHOs benefit short & long-term abstinence (independent, additive benefits compliment MOUD)



Much to be learned from recovery research to guide Tx & recovery efforts

# Recovery Research Institute Faculty and Staff



John F. Kelly, PhD, ABPP  
Founder and Director



Brandon Bergman, PhD  
Associate Director;  
Associate Director of  
Communications



Bettina Hoepfner, PhD  
Associate Director of  
Research



Emily Hennessy, PhD  
Associate Director of  
Biostatistics



David Eddie, PhD  
Research Scientist



Corrie Vilsaint, PhD  
Research Fellow



Lauren Hoffman, PhD  
Research Scientist



Alexandra Abry  
Clinical Research Program  
Manager



Madison Cirillo, MPH  
Senior Clinical Research  
Coordinator



Sam Lapoint  
Senior Clinical Research  
Coordinator



Maya Matlack  
Clinical Research  
Coordinator



Chris Rattan, MPH  
Health Communications  
Coordinator



Catherine Weerts  
Clinical Research  
Coordinator



Aaron Yang  
Clinical Research  
Coordinator



Katie Siegel  
Clinical Research  
Coordinator



Hazel Simpson  
Clinical Research  
Coordinator



Agata Pietrzak  
Clinical Research  
Coordinator



Ji Won Yoon  
Clinical Research  
Coordinator



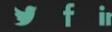
Sam Levy  
Clinical Research  
Coordinator



SEARCH

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