



**What is New in Addiction?  
New Findings on The Course  
of Recovery from Alcohol and  
Drug Problems in the U.S.**

**MGH Psychopharmacology Conference  
OCTOBER 2020**

**John F. Kelly, PhD, ABPP**



RECOVERY  
RESEARCH  
INSTITUTE



MASSACHUSETTS  
GENERAL HOSPITAL



HARVARD MEDICAL SCHOOL  
TEACHING HOSPITAL

# Disclosures

Neither I nor my spouse/partner has a relevant financial relationship with a commercial interest to disclose.

# Outline

Why long-term remission/recovery important?

National Recovery Study

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

What proportion self-identify as being “in recovery”?

What are the pathways followed?

How many serious attempts does it take to resolve AOD problems?

What is quality of life and functioning like in recovery?

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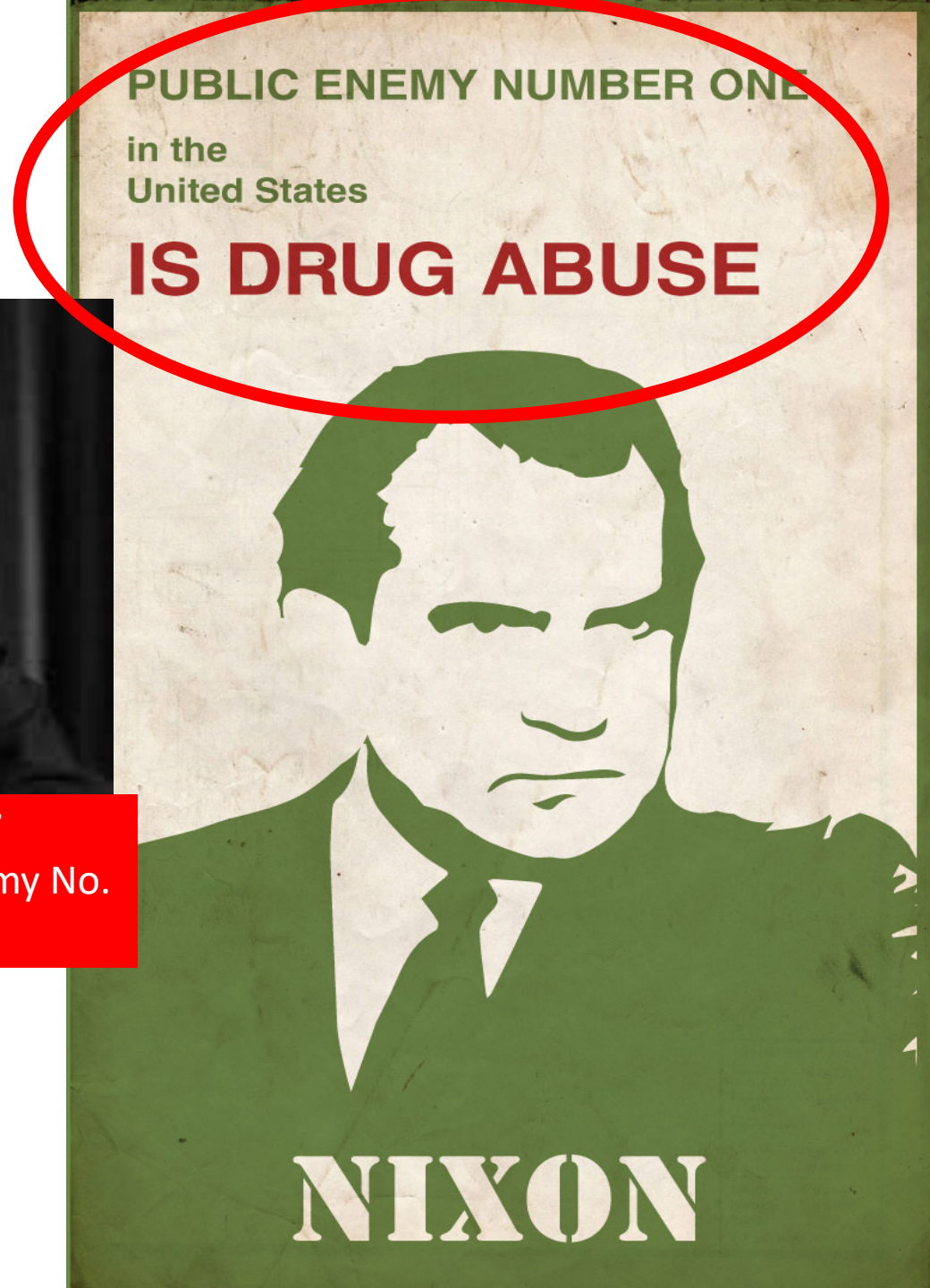
How many serious attempts does it take to resolve AOD problems?

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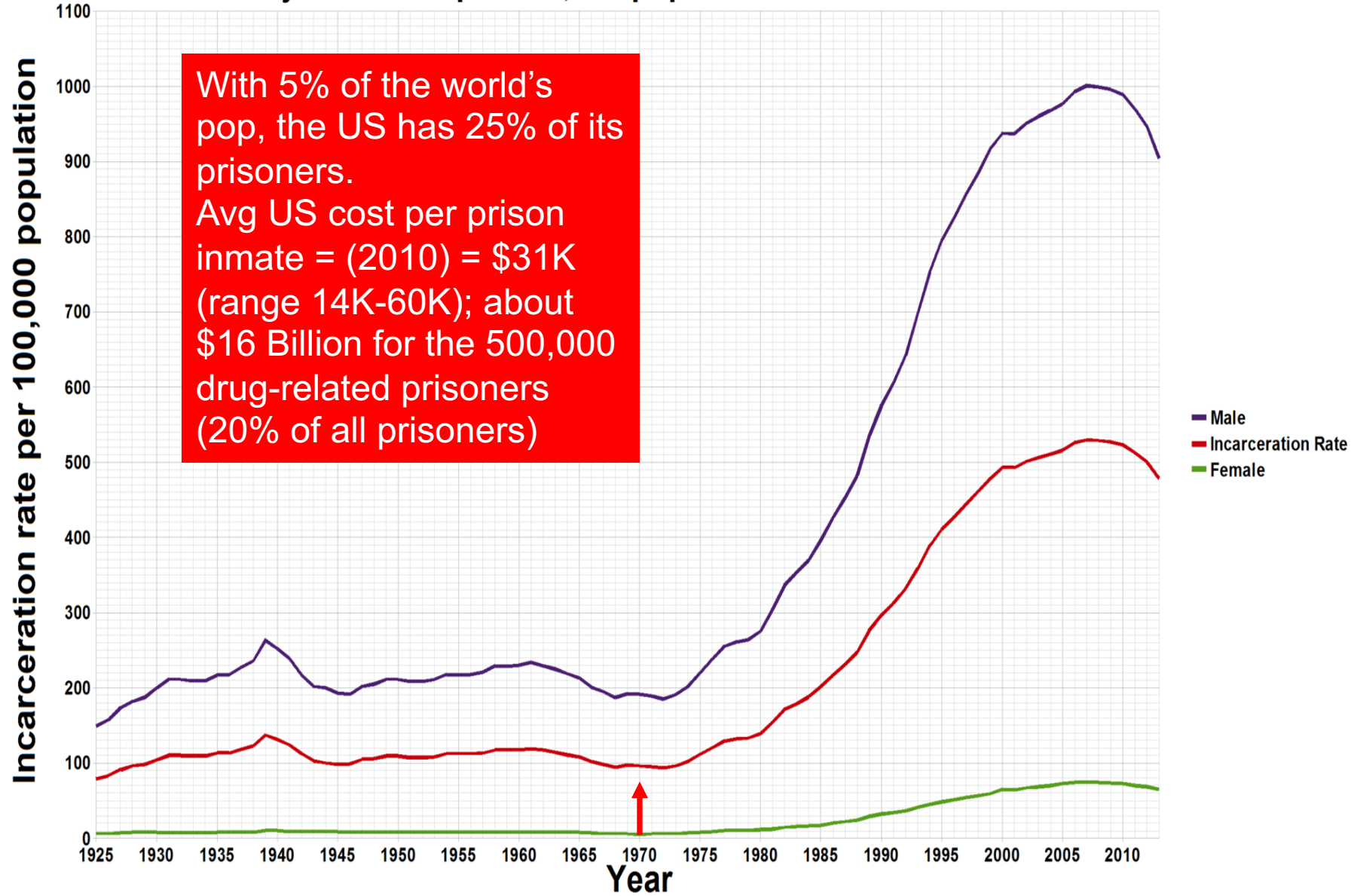


During the past 50 yrs since “War on Drugs” declared, we have moved from “Public Enemy No. 1” to “Public Health Problem No. 1”





# Incarceration rate of inmates incarcerated under state and federal jurisdiction per 100,000 population 1925-2013



With 5% of the world's pop, the US has 25% of its prisoners.  
Avg US cost per prison inmate = (2010) = \$31K (range 14K-60K); about \$16 Billion for the 500,000 drug-related prisoners (20% of all prisoners)

Male  
Incarceration Rate  
Female

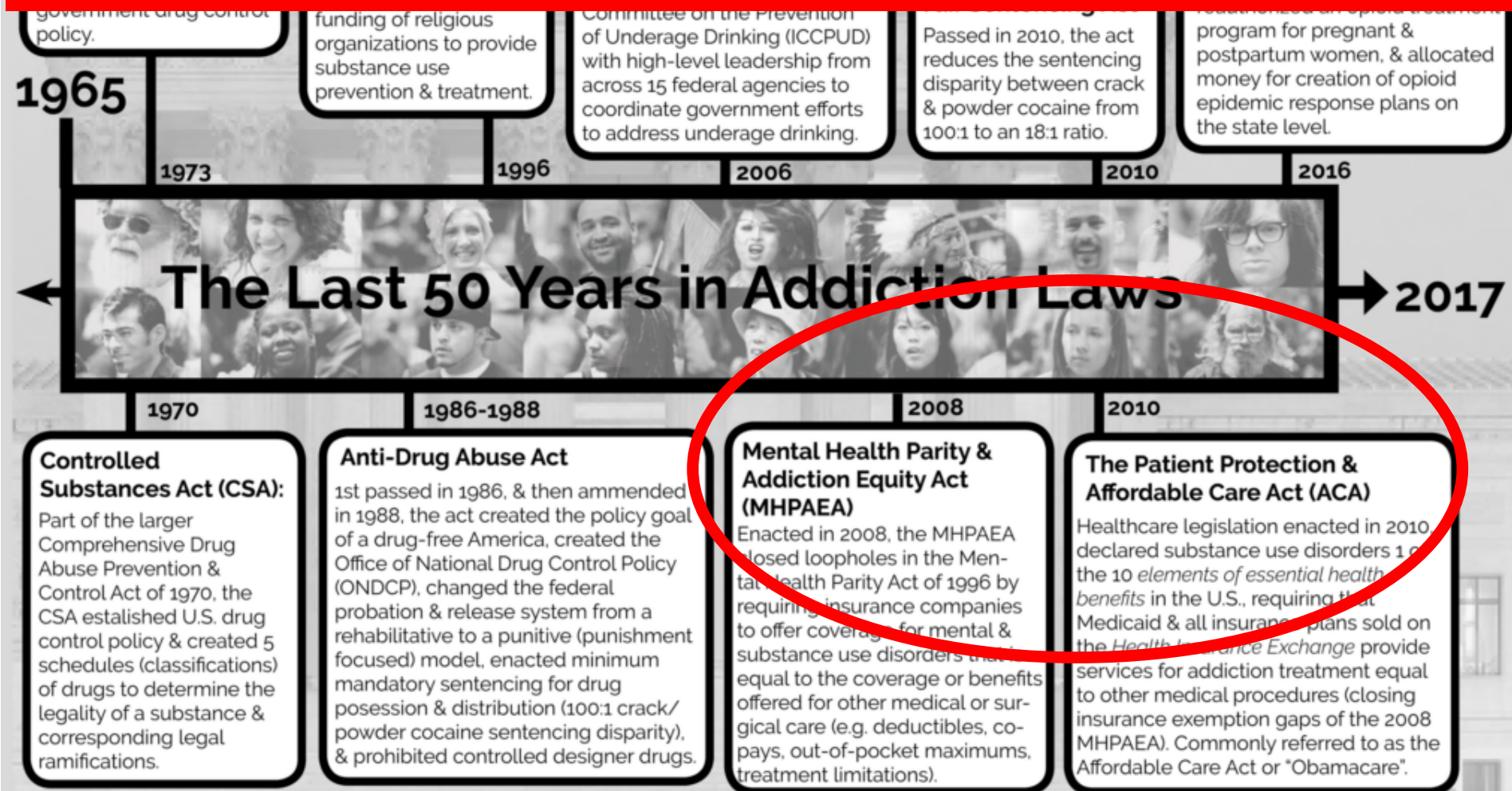
Prisons overcrowding: 20% (500,000) of US prisoners are in prison due to drug offences



• Photo: California Department of Corrections



Laws passed in the past 50 yrs have moved from more punitive ones to public health oriented ones....  
increasing availability, accessibility and affordability of treatment..





BRIEFING ROOM

ISSUES

THE ADMINISTRATION

PARTICIPATE

1600 PENN



HOME · BLOG

# ONDCP Hosts First-Ever Drug Policy Reform Conference

DECEMBER 11, 2013 AT 10:57 AM ET BY CAMERON HARDESTY



On Monday, Director Kerlikowske and Deputy Director... discussion at the White House on the future of drug policy... approximately 140 people attended to engage in a conference... hundreds more watched online. Limited video on demand...

2013 ONDCP Director Kerlikowske declares move away from “war on drugs” toward broader public health approach



# PAST 50 YRS GONE FROM...

War on drugs



War on the war on drugs



**BUT... not just about interdiction, supply reduction, incarceration....**



**Also, a great deal carried out on the demand reduction side...**

The “war on drugs” was part of a national concerted effort to reduce “supply” but also “demand” that created treatment and public health oriented federal agencies..



**NIAAA**  
National Institute on Alcohol  
Abuse and Alcoholism



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# NIDA

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**NATIONAL INSTITUTE  
ON DRUG ABUSE**

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**CSAT**  
Center for Substance  
Abuse Treatment  
*SAMHSA*

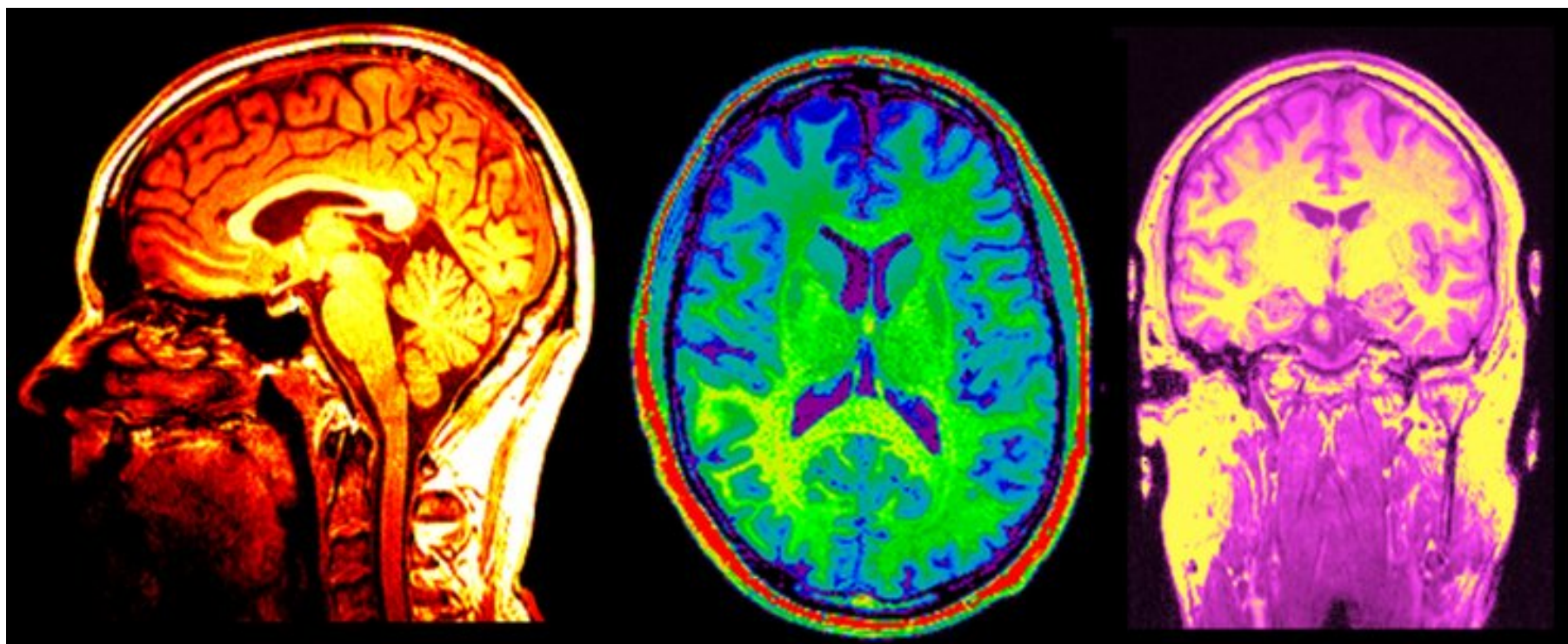


# Paradigm Shifts

# Genetics, Genomics, Pharmacogenetics



# Neuroscience: Neural plasticity

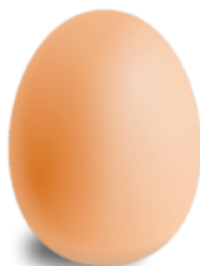


# STAGES OF CHANGE

## 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

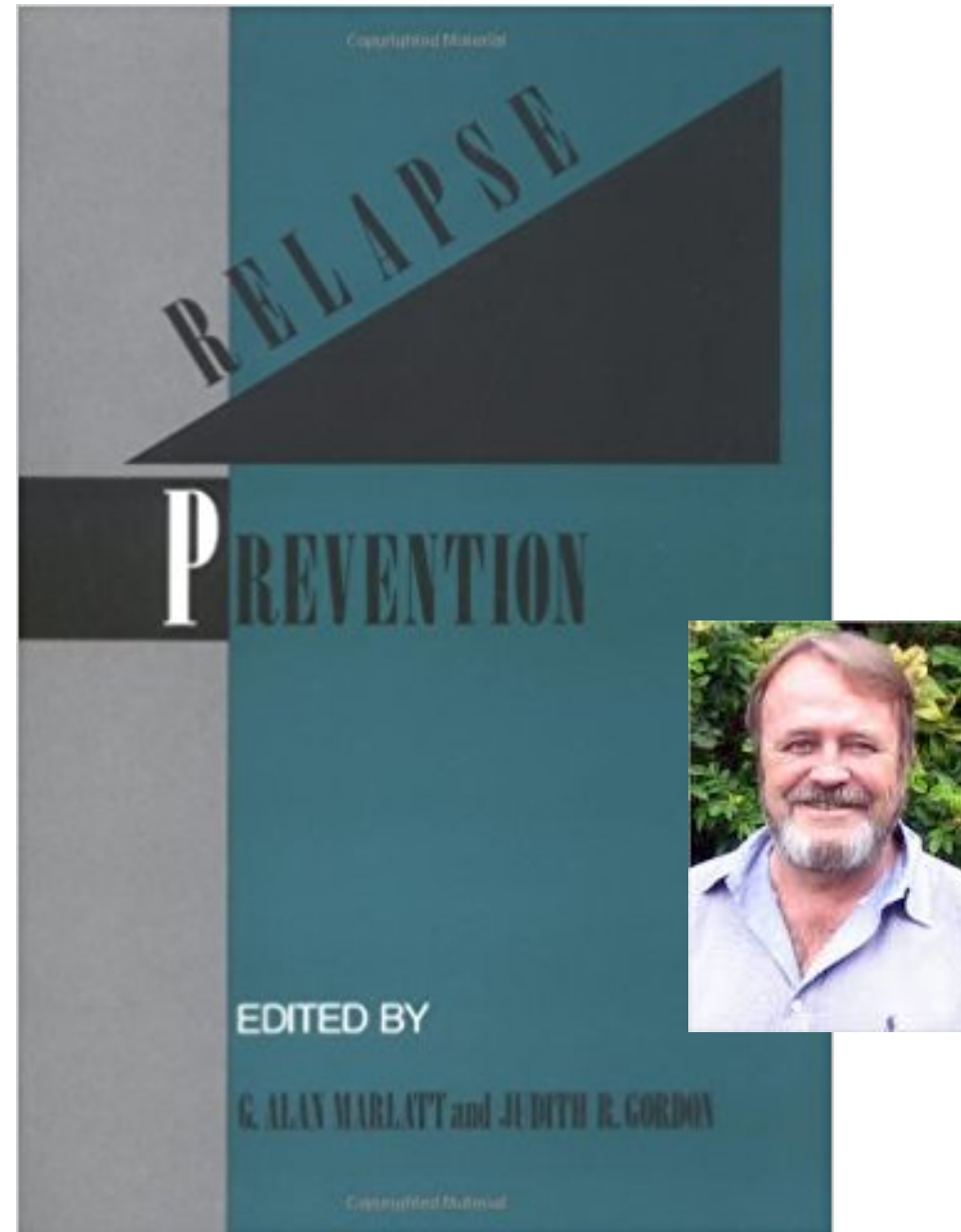
#### RECOVERY MONITORING (1-5+ yrs)

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

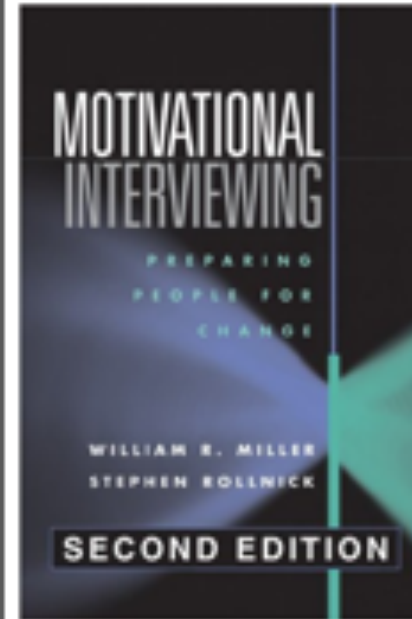
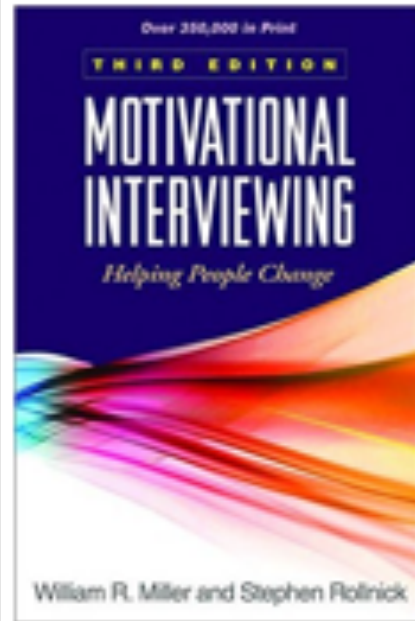


“Quitting  
smoking is  
easy, I’ve done  
it dozens of  
times” –Mark  
Twain

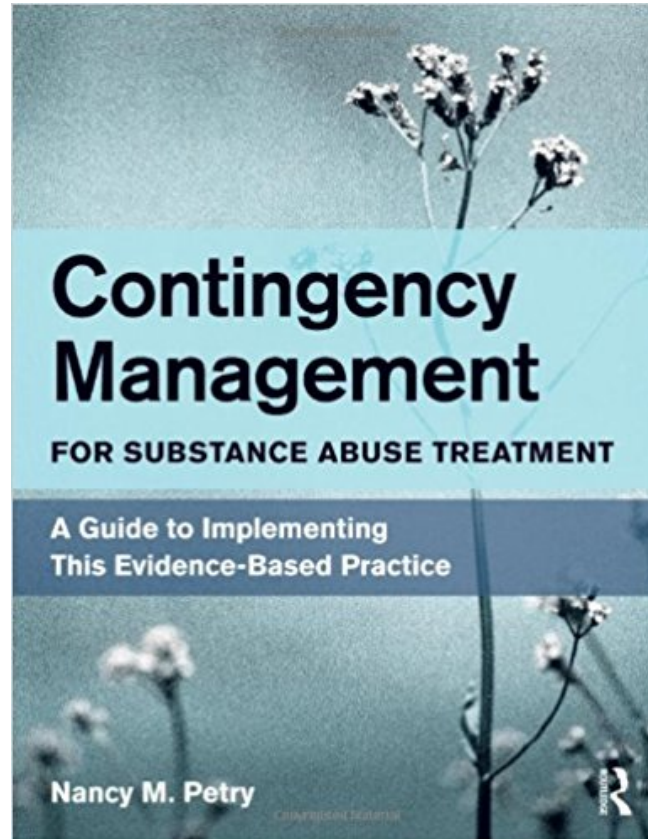
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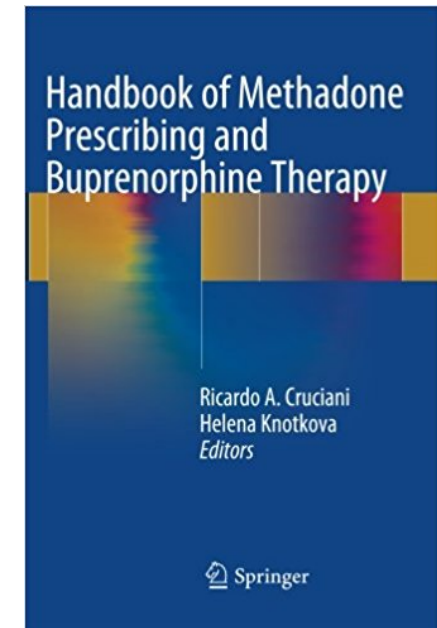
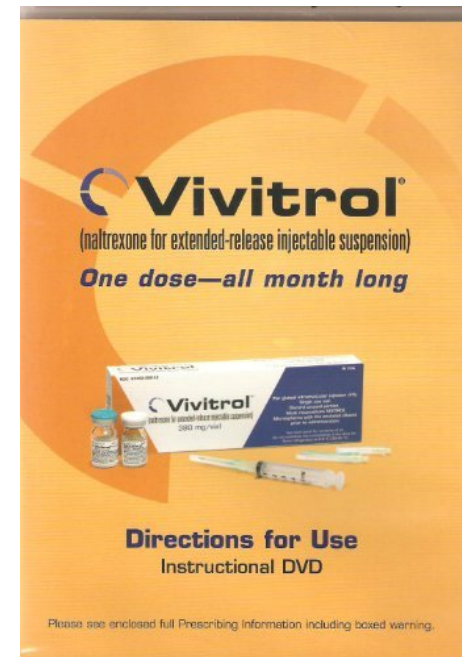
# What people really need is a good listening to...



# Swift, certain, modest, consequences shape behavioral choices...

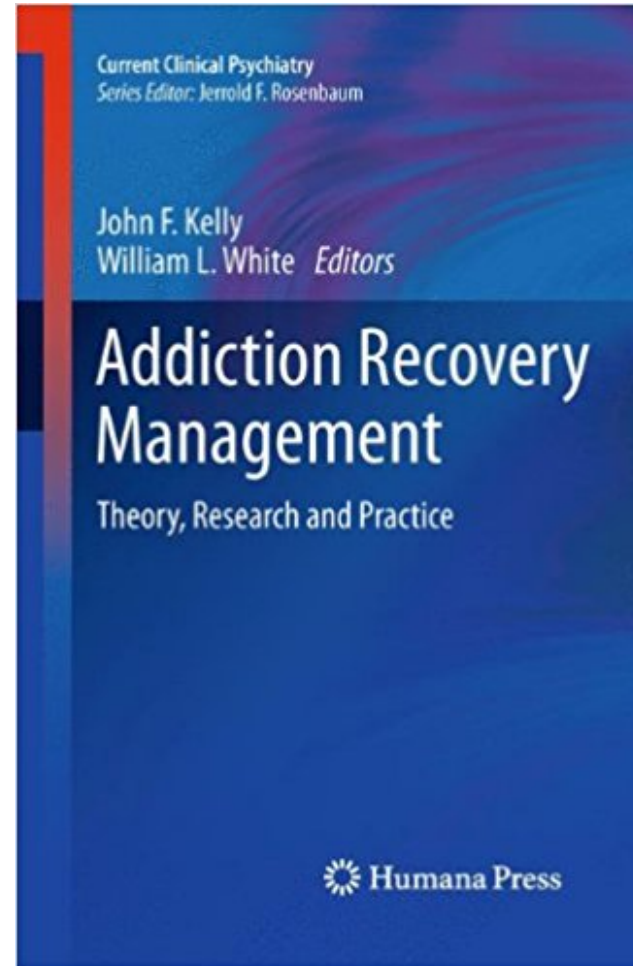


# Effective Medications



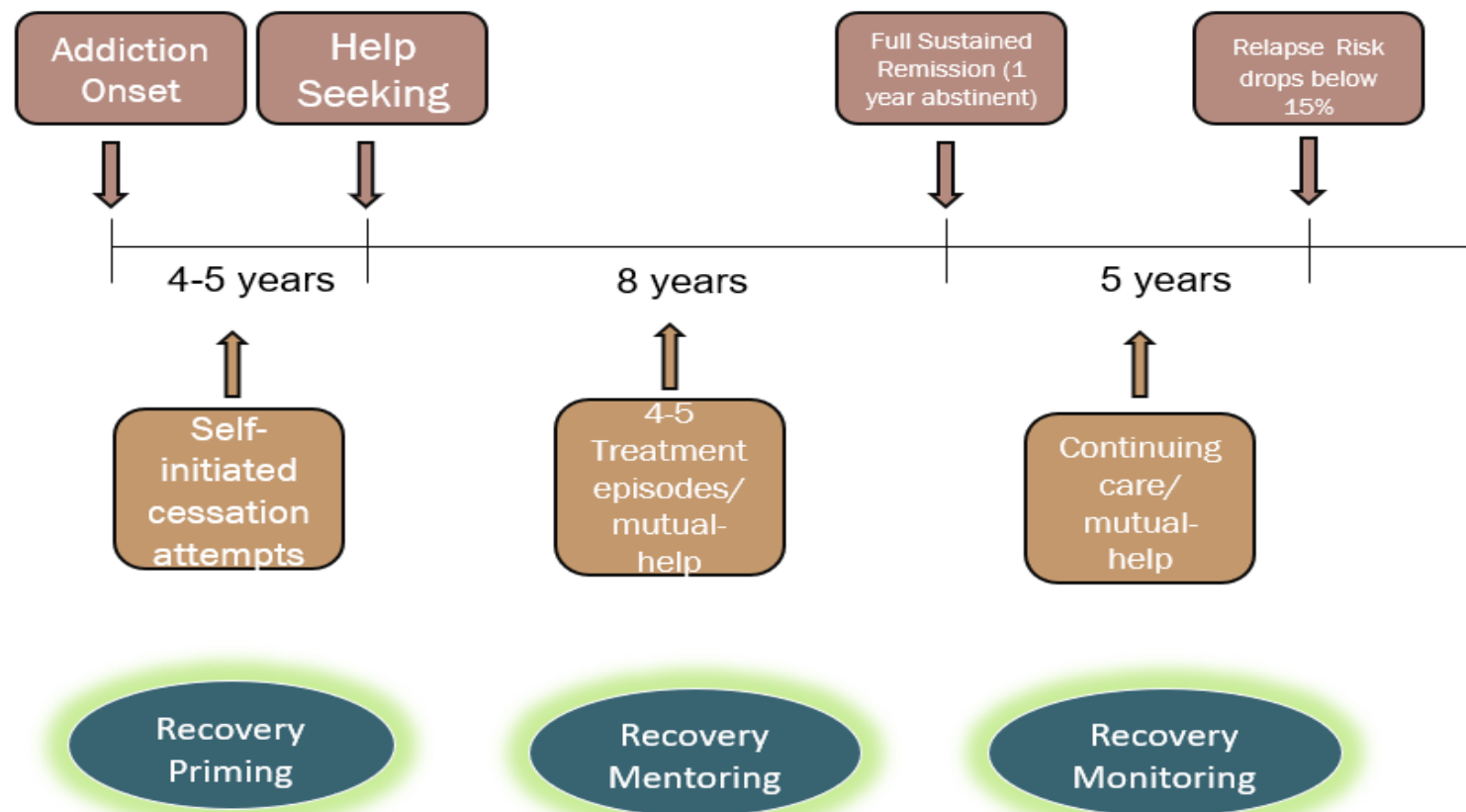
# Harm Reduction Strategies

- Anti-craving/anti-relapse medications (“MAT”)
- Overdose reversal medications (Narcan)
- Needle exchange programs
- Heroin prescribing
- Safe Injection Facilities/Safe Consumption sites/Overdose prevention facilities



# The clinical course of addiction and achievement of stable recovery can take a long time ...

The clinical course of addiction and achievement of stable recovery can take a long time ...





# FACING ADDICTION IN AMERICA

*The Surgeon General's Report on  
Alcohol, Drugs, and Health*

1<sup>st</sup> Surgeon General's  
Report on Alcohol, Drugs,  
and Health 2016

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# Focus on Recovery

- Bill White for decades has talked about understanding more about recovery from the tens of millions already in recovery-untapped resource.
- Whole libraries/volumes written about etiology, epidemiology, and treatment, but little about recovery...
- A lot might be learned from the millions of people already successfully in long-term recovery; how they did it; what helped, made the difference.



# Outline

Why long-term remission/recovery important?

National Recovery Study

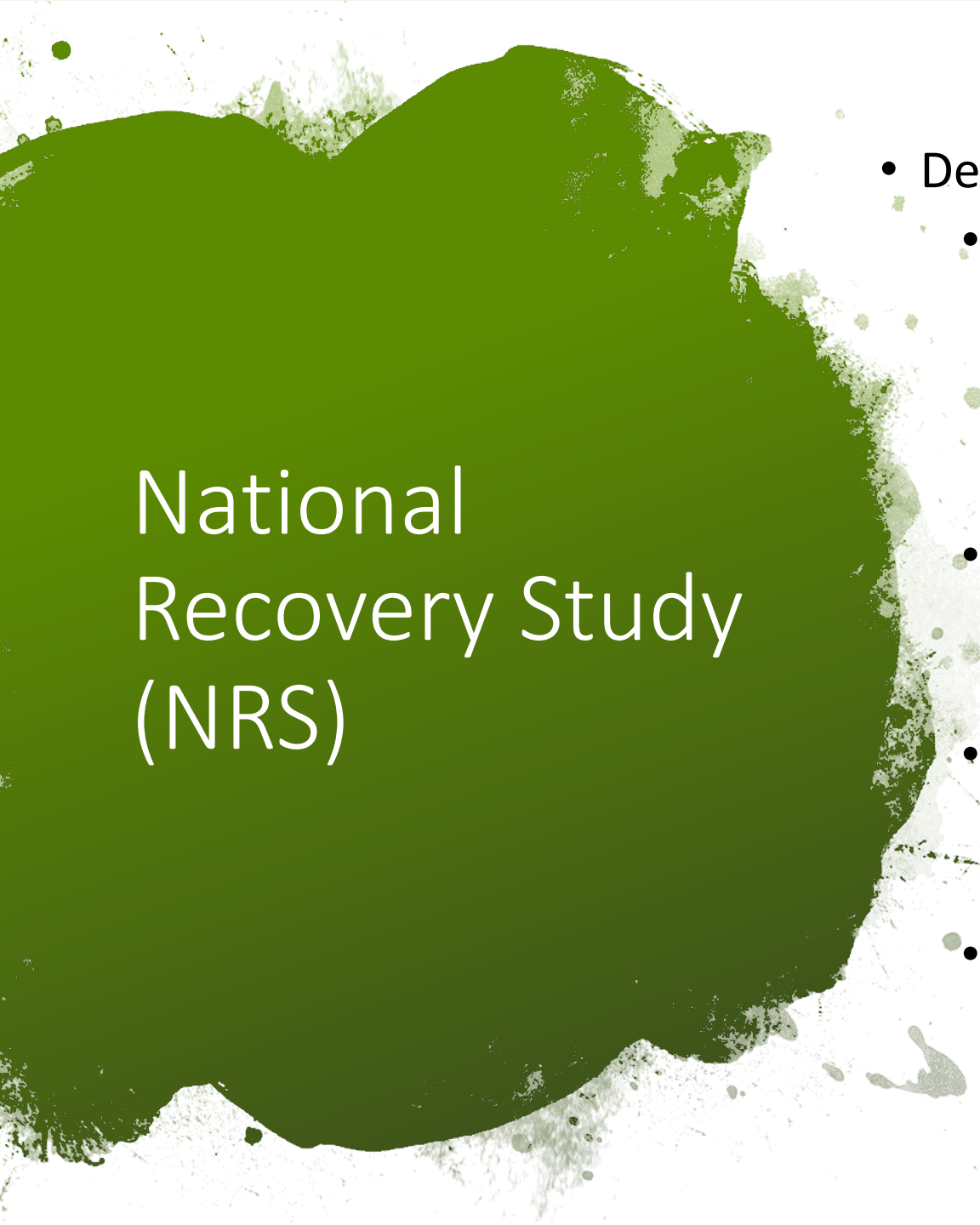
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# National Recovery Study (NRS)

- 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
  - Estimate number of serious quit attempts prior to problem resolution
  - Investigate relationships between duration of recovery and changes in other health behaviors (e.g. smoking cessation) indices of functioning and quality of life

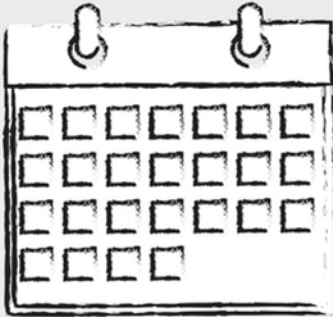
# METHODS

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



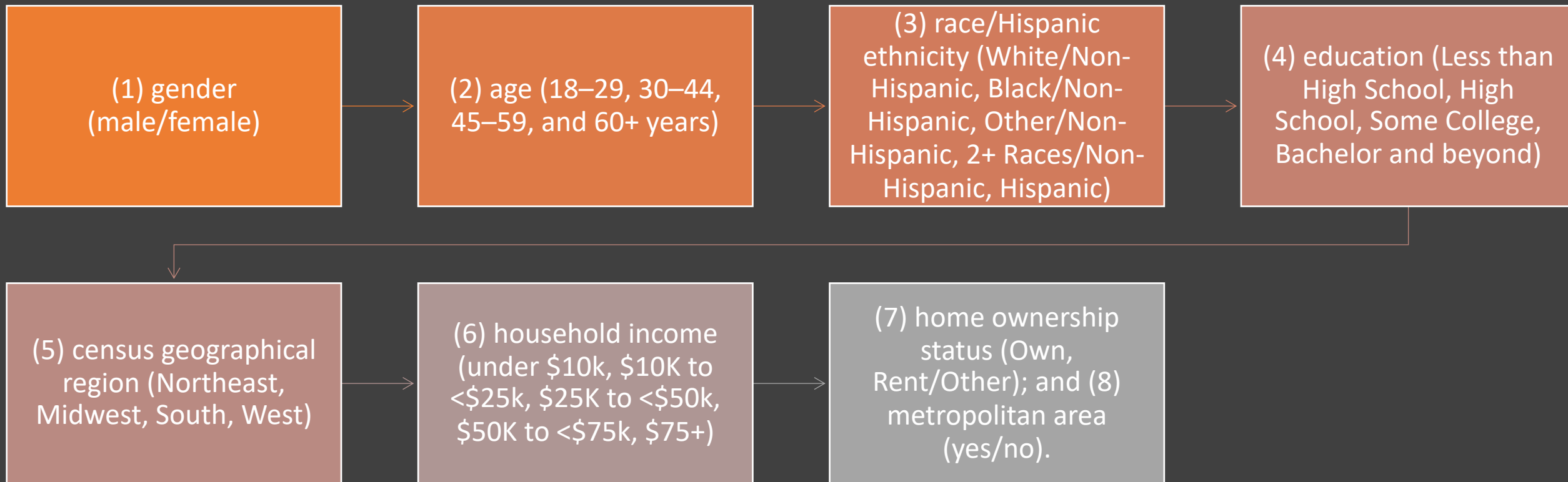
Data was collected in July & August of 2016



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.

## Sample Weighting

Weights were computed via comparisons to benchmarks from the March 2015 Current Population Survey (CPS; United States Census Bureau, 2015) along eight dimensions..



# Response rate similar to other national epidemiological surveys

- This response rate is comparable to most other current nationally representative surveys
- NESARC-III; 60.1% (Grant et al., 2015)
- 2015 National Survey on Drug Use and Health (NSDUH; 58.3%; Center for Behavioral Health Statistics and Quality, 2016)
- 2013-2014 National Health and Nutrition Examination Survey (NHANES; 68.5%; Centers for Disease Control and Prevention [CDC], 2013)
- Data were weighted to accurately represent the civilian population using the method of iterative proportional fitting, which is commonly referred to as “raking” (Battaglia, Hoaglin, & Frankel, 2013).

# MEASURES

- Demographic characteristics
- Substance Use History
- Medical History
- Criminal Justice History
- Treatment and Other Recovery Support Services
- Problem Resolution/Recovery History
- Recovery Capital
- Psychological Distress
- Quality of Life
- Happiness
- Self-Esteem

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ELSEVIER

Contents lists available at ScienceDirect

## Drug and Alcohol Dependence

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



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:**  
Recovery  
Problem resolution  
Treatment  
Assisted  
Unassisted  
Mutual-help  
Prevalence  
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

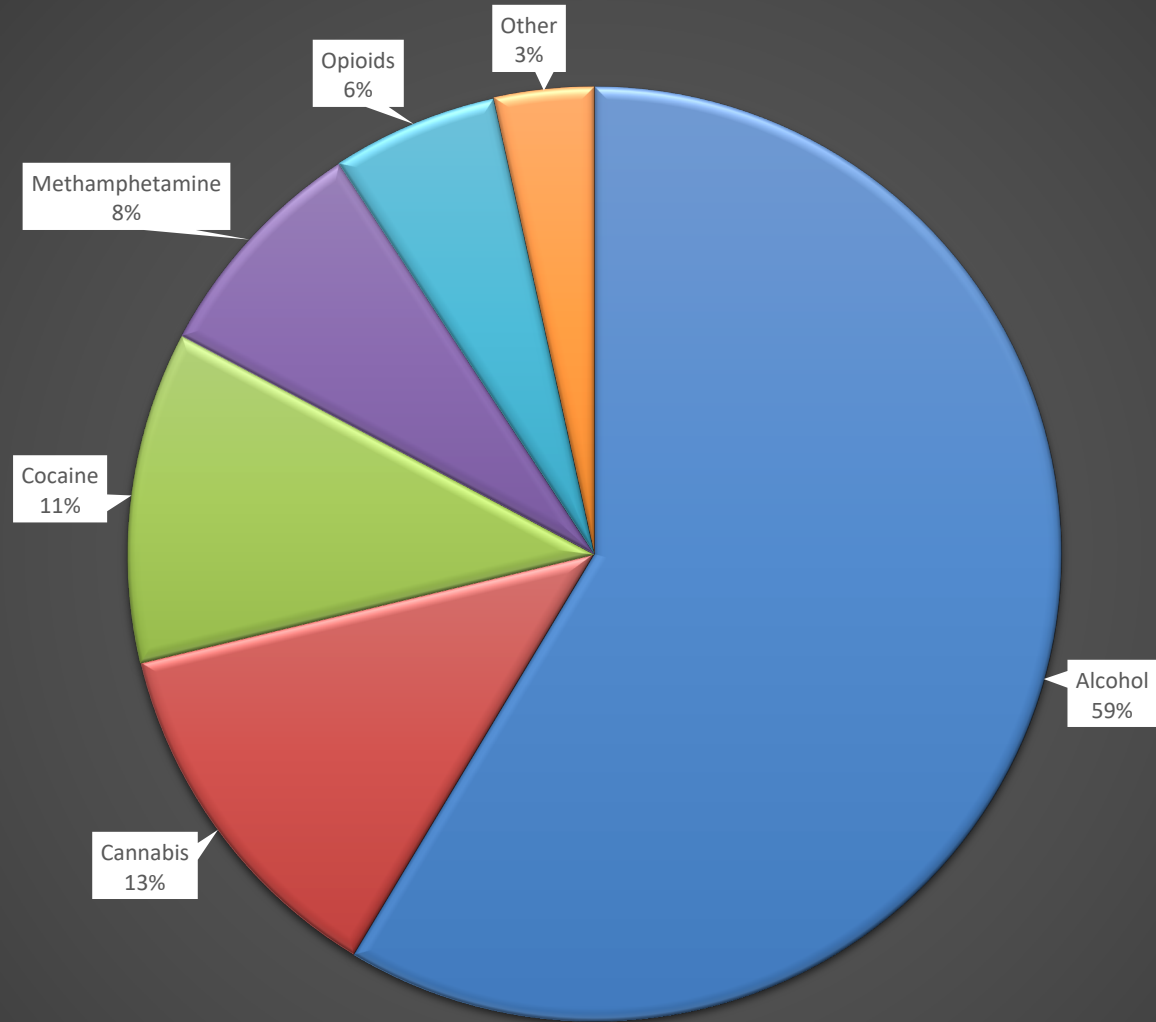


9.1% or  
22.35 million

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



# Primary Substance



Alcohol Cannabis Cocaine Methamphetamine Opioids Other

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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”

46%

- 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)

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# MULTIPLE PATHWAYS TO RECOVERY

**Acknowledges myriad ways in which individuals can recover:**

**Clinical pathways (provided by a clinician or other medical professional – both medication and psychosocial interventions)**

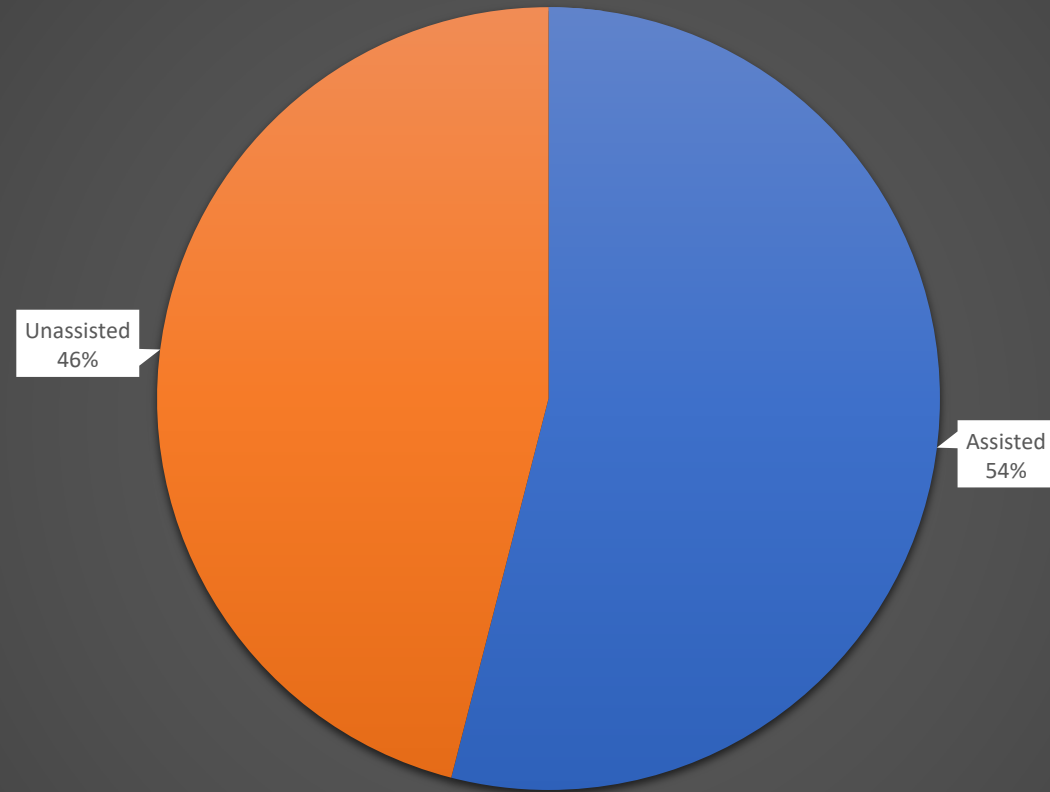
**Non-clinical pathways (services not involving clinicians like AA)**

**Self-management pathways (recovery change processes that involve no formal services, sometimes referred to as “natural recovery”).**



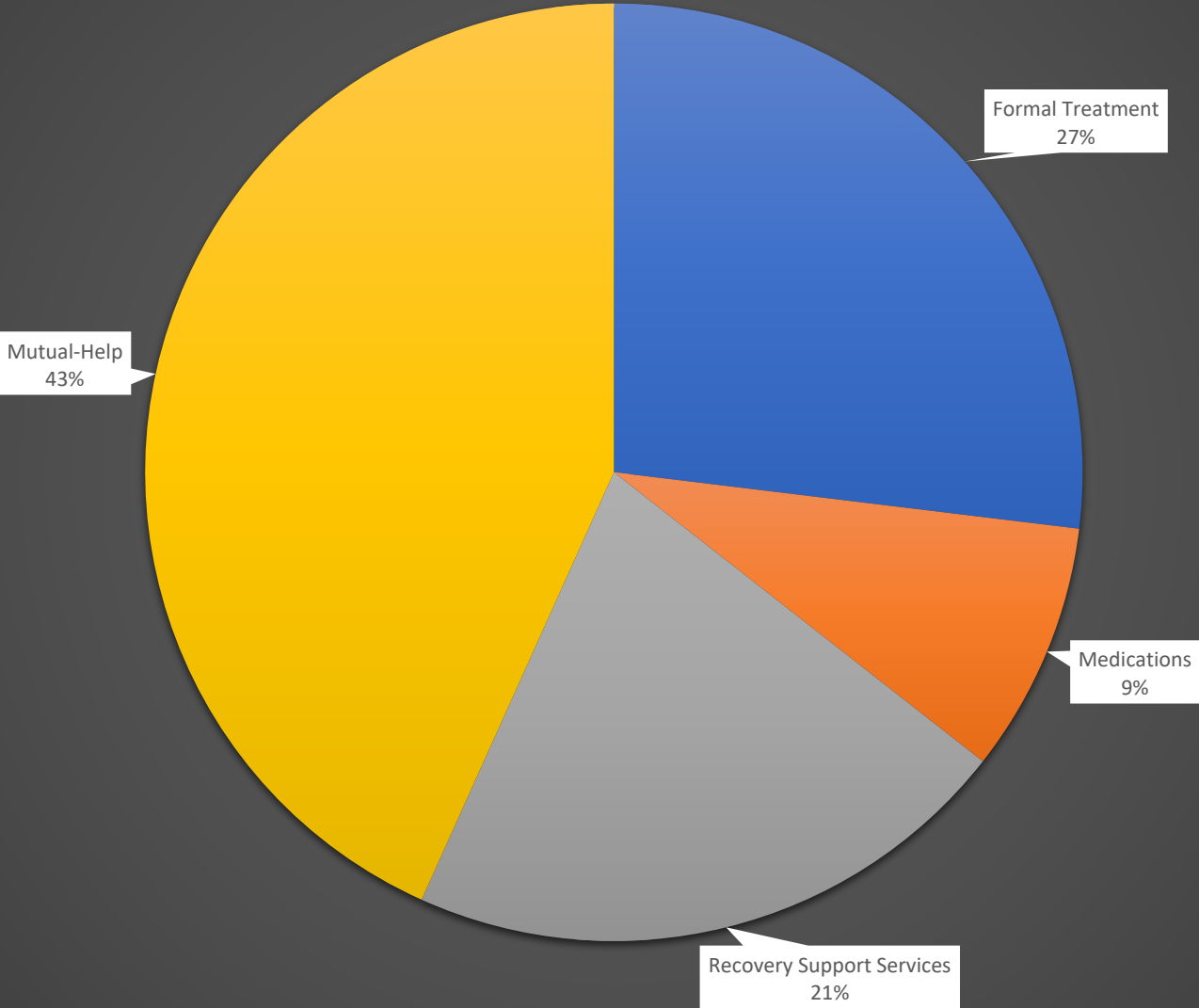


## Recovery Pathways: Assisted vs Unassisted



■ Assisted    ■ Unassisted

# Assisted Pathway: Services Used



■ Formal Treatment   ■ Medications   ■ Recovery Support Services   ■ Mutual-Help



Cochrane Database of Systematic Reviews

## Alcoholics Anonymous and other 12-step programs for alcohol use disorder (Protocol)

Kelly JF, Humphreys K, Ferri M

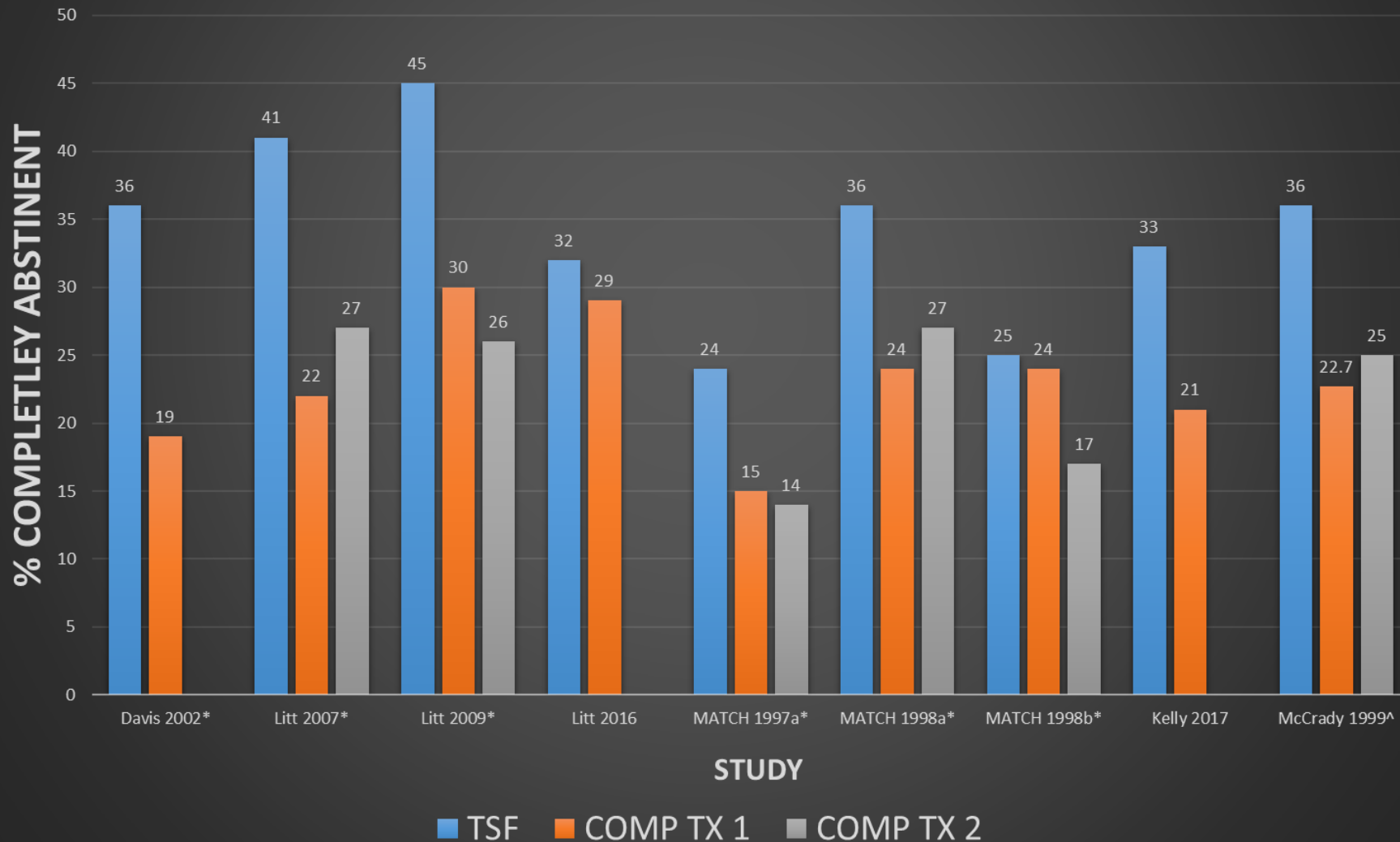
Kelly JF, Humphreys K, Ferri M.  
Alcoholics Anonymous and other 12-step programs for alcohol use disorder.  
*Cochrane Database of Systematic Reviews* 2017, Issue 11. Art. No.: CD012880.  
DOI: 10.1002/14651858.CD012880.

[www.cochranelibrary.com](http://www.cochranelibrary.com)

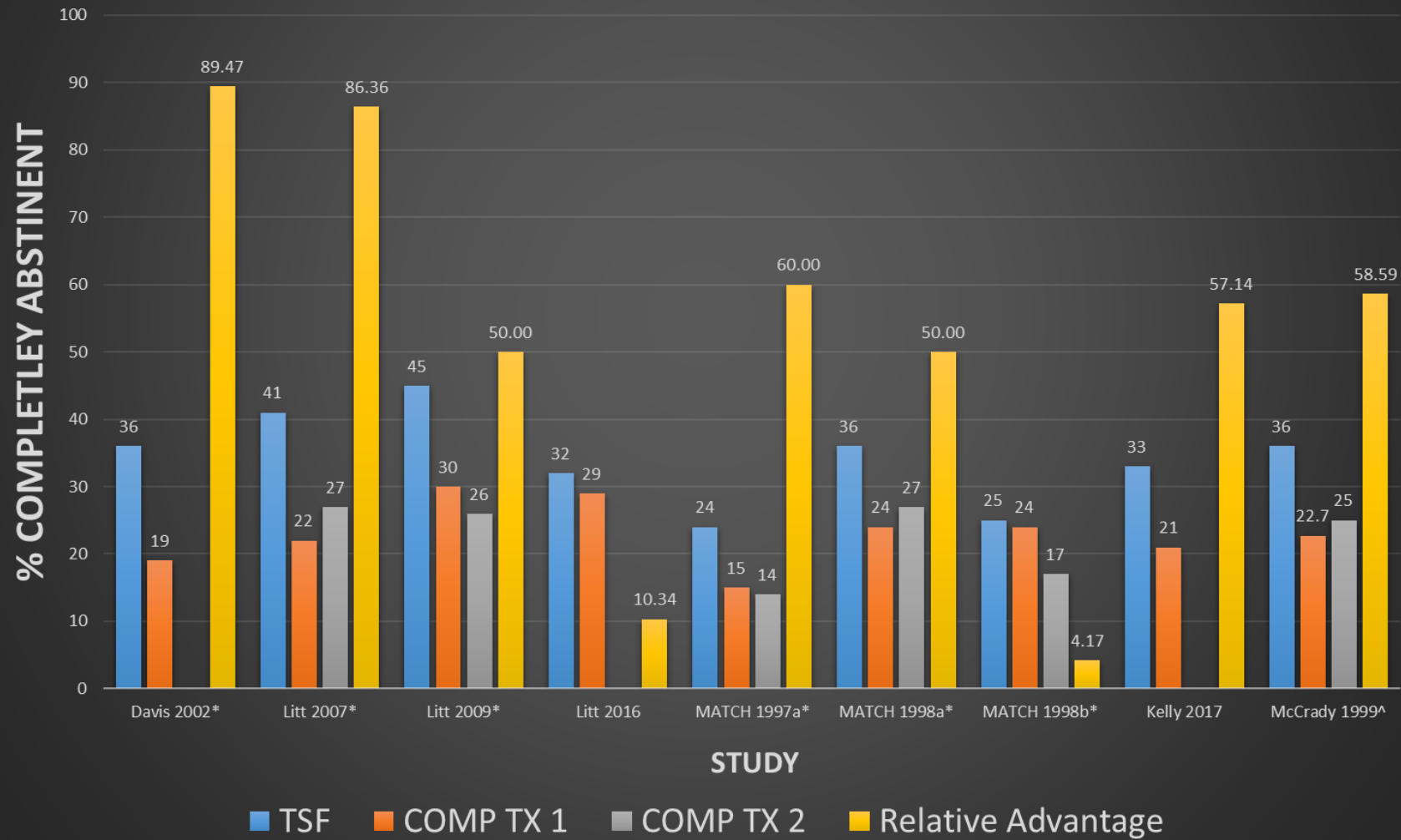
Alcoholics Anonymous and other 12-step programs for alcohol use disorder (Protocol)  
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WILEY

# TSF Compared to Different Theoretical Orientation Treatments (RCTs all Manualized)

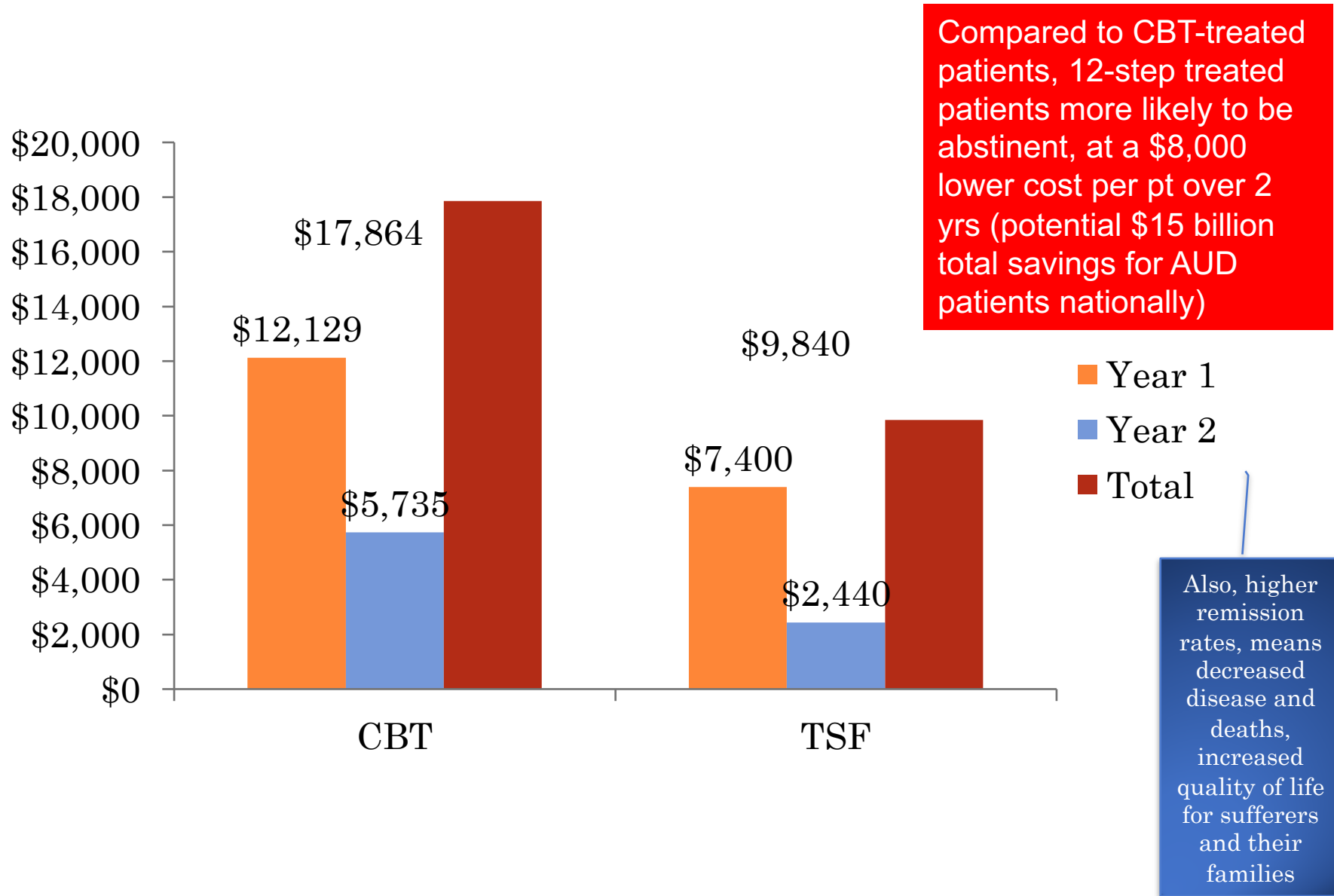


# TSF Compared to Different Theoretical Orientation Treatments (RCTs all Manualized)



# HEALTH CARE COST OFFSET

## CBT VS 12-STEP RESIDENTIAL TREATMENT



## Facilitating involvement in Alcoholics Anonymous during out-patient treatment: a randomized clinical trial

Kimberly S. Walitzer, Kurt H. Dermen & Christopher Barrick

Buffalo, NY, USA

*Addiction* (1998) 93(9), 1313–1333

### RESEARCH REPORT

#### Network support for drinking, Alcoholics Anonymous and long-term matching effects

RICHARD LONGABAUGH<sup>1</sup>, PHILIP W. WIRTZ<sup>2</sup>, ALLEN ZWEBEN<sup>3</sup> & ROBERT L. STOUT<sup>4</sup>

<sup>1</sup>Brown University, Center for Alcohol & Addiction Studies, Providence, RI,

<sup>2</sup>George Washington University, Washington, DC, <sup>3</sup>University of Wisconsin-Milwaukee, Center for Addiction & Behavioral Health Research, Milwaukee, WI, <sup>4</sup>Brown University and Butler Hospital, Center for Alcohol & Addiction Studies, Providence, RI, USA

#### Abstract

**Aims.** (1) To examine the matching hypothesis that Twelve Step Facilitation Therapy (TSF) is more effective than Motivational Enhancement Therapy (MET) for alcohol-dependent clients with networks highly supportive of drinking 3 years following treatment; (2) to test a causal chain providing the rationale for this effect. **Design.** Outpatients were re-interviewed 3 years following treatment. ANCOVAs tested the matching hypothesis. **Setting.** Outpatients from five clinical research units distributed across the United States. **Participants:** Eight hundred and six alcohol-dependent clients. **Intervention.** Clients were randomly assigned to one of three 12-week, manually-guided, individual treatments: TSF, MET or Cognitive Behavioral Coping Skills Therapy (CBT). **Measurements.** Network support for drinking prior to treatment, Alcoholics Anonymous (AA) involvement during and following treatment, percentage of days abstinent and drinks per drinking day during months 37–39. **Findings.** (1) The a priori matching hypothesis that TSF is more effective than MET for clients with networks supportive of drinking was supported at the 3 year follow-up; (2) AA involvement was a partial mediator of this effect; clients with networks supportive of drinking assigned to TSF were more likely to be involved in AA; AA involvement was associated with better 3-year drinking outcomes for such clients. **Conclusions.** (1) In the long-term TSF may be the treatment of choice for alcohol-dependent clients with networks supportive of drinking; (2) involvement in AA should be given special consideration for clients with networks supportive of drinking, irrespective of the therapy they will receive.

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TSF often produces significantly better outcomes relative to active comparison conditions (e.g., CBT)

Although TSF is not “AA”, its beneficial effect is explained by AA involvement post-treatment.

at Buffalo, The State University of New York, 1021 Main Street,

Buffalo, NY 14203, USA. Email: walitzer@buffalo.edu

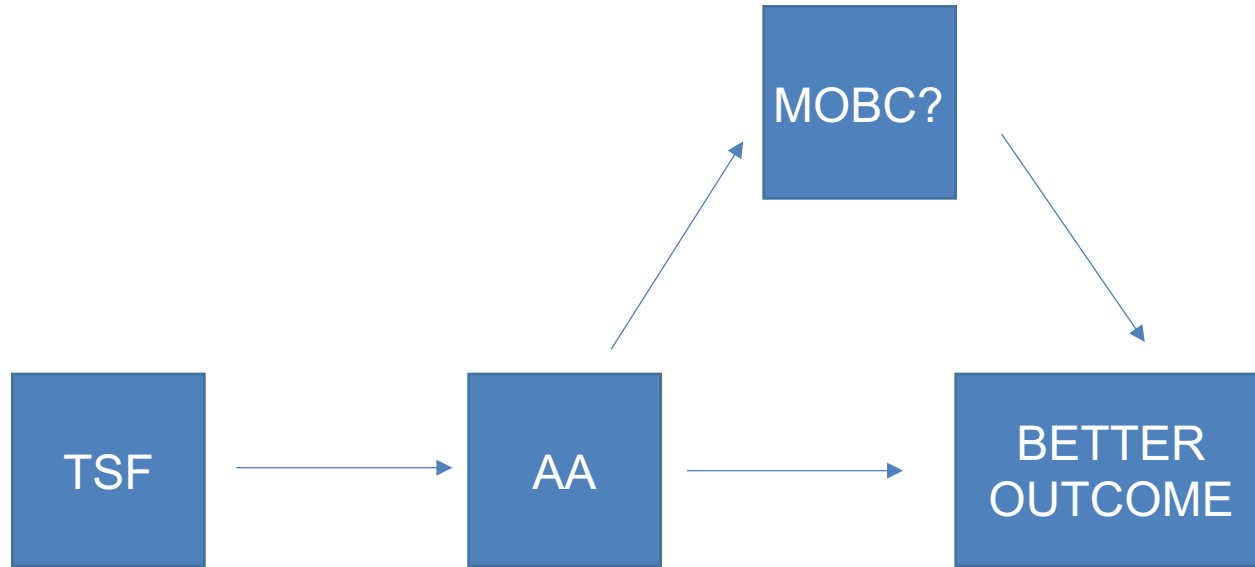
Submitted 12 December 2007; initial review completed 28 February 2008; final version accepted 29 October 2008

# TSF-AA-OUTCOME Causal chain supported..

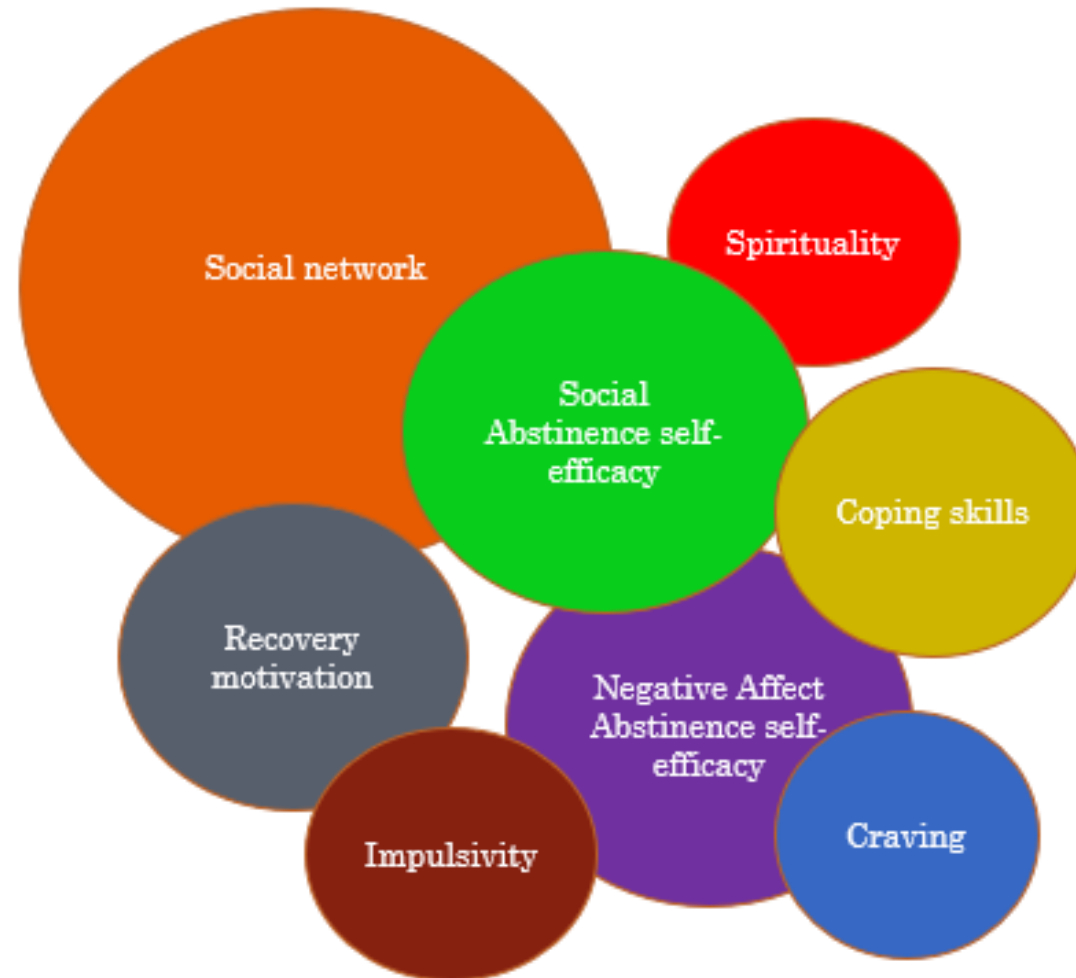




# What about support for causal chain of purported mobc of AA on outcomes?



# Empirically-supported MOBCs through which AA confers benefit



# Outline

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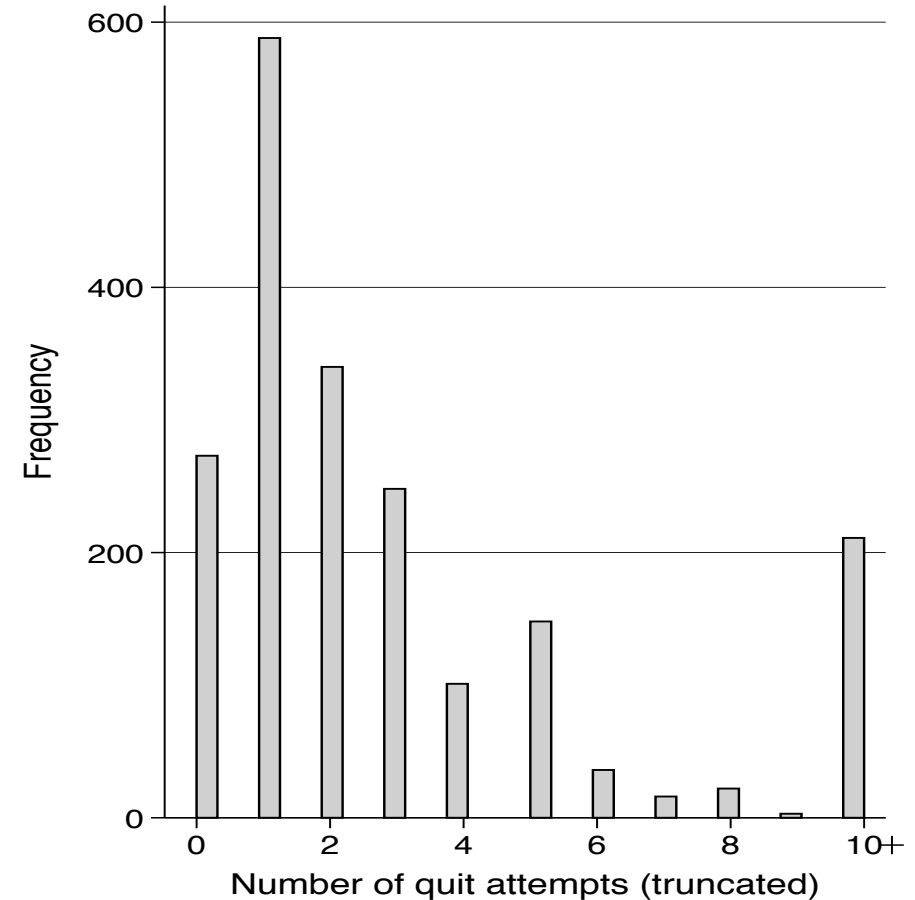
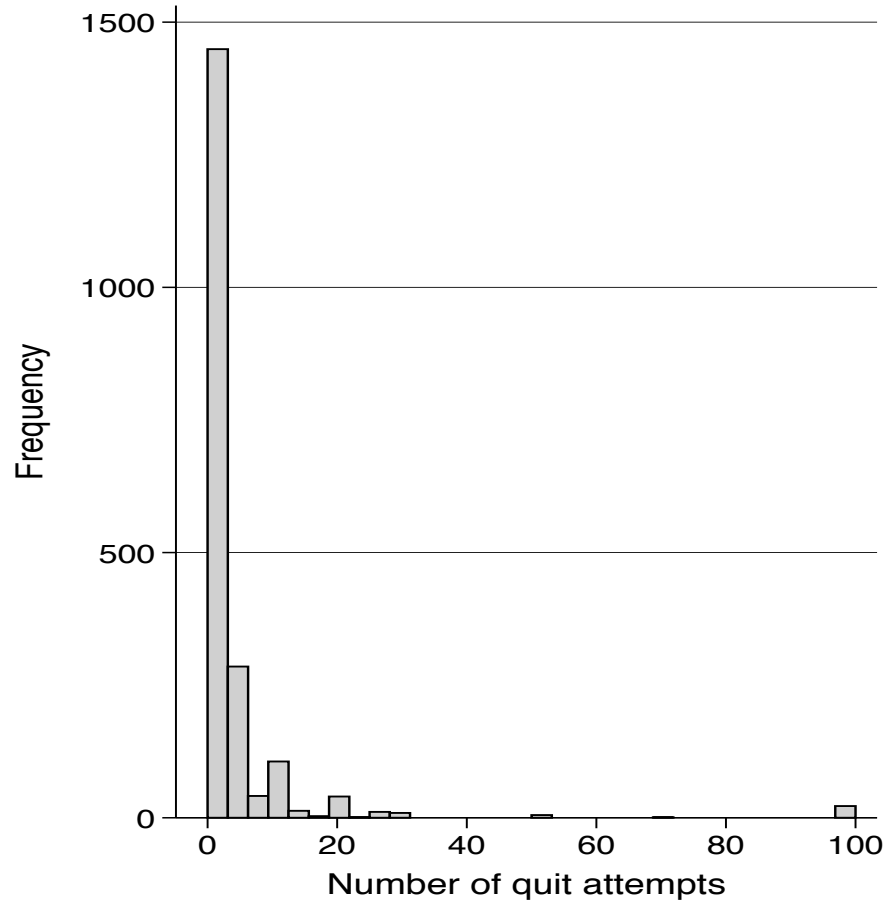
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# Frequency Distribution of Serious Recovery Attempts Prior to Successful Resolution

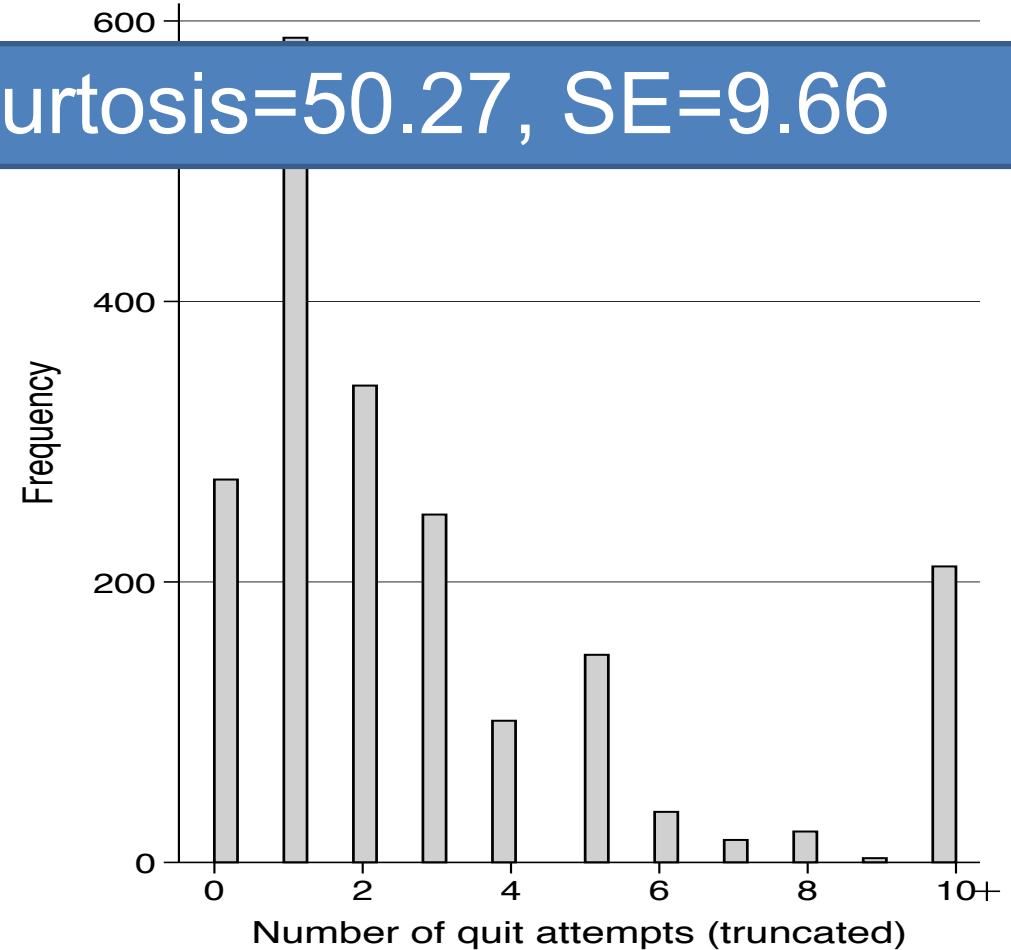
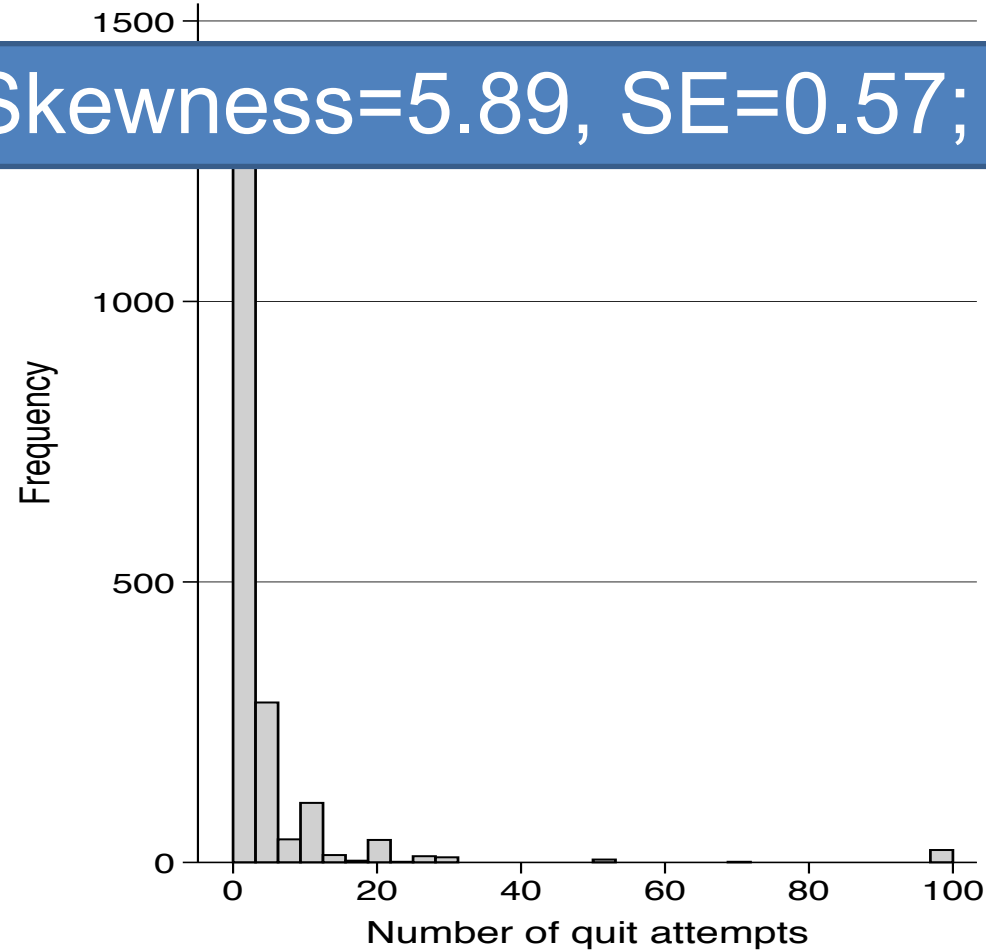
(LEFT: Full sample RIGHT PANEL: Outliers removed)



# Frequency Distribution of Serious Recovery Attempts Prior to Successful Resolution

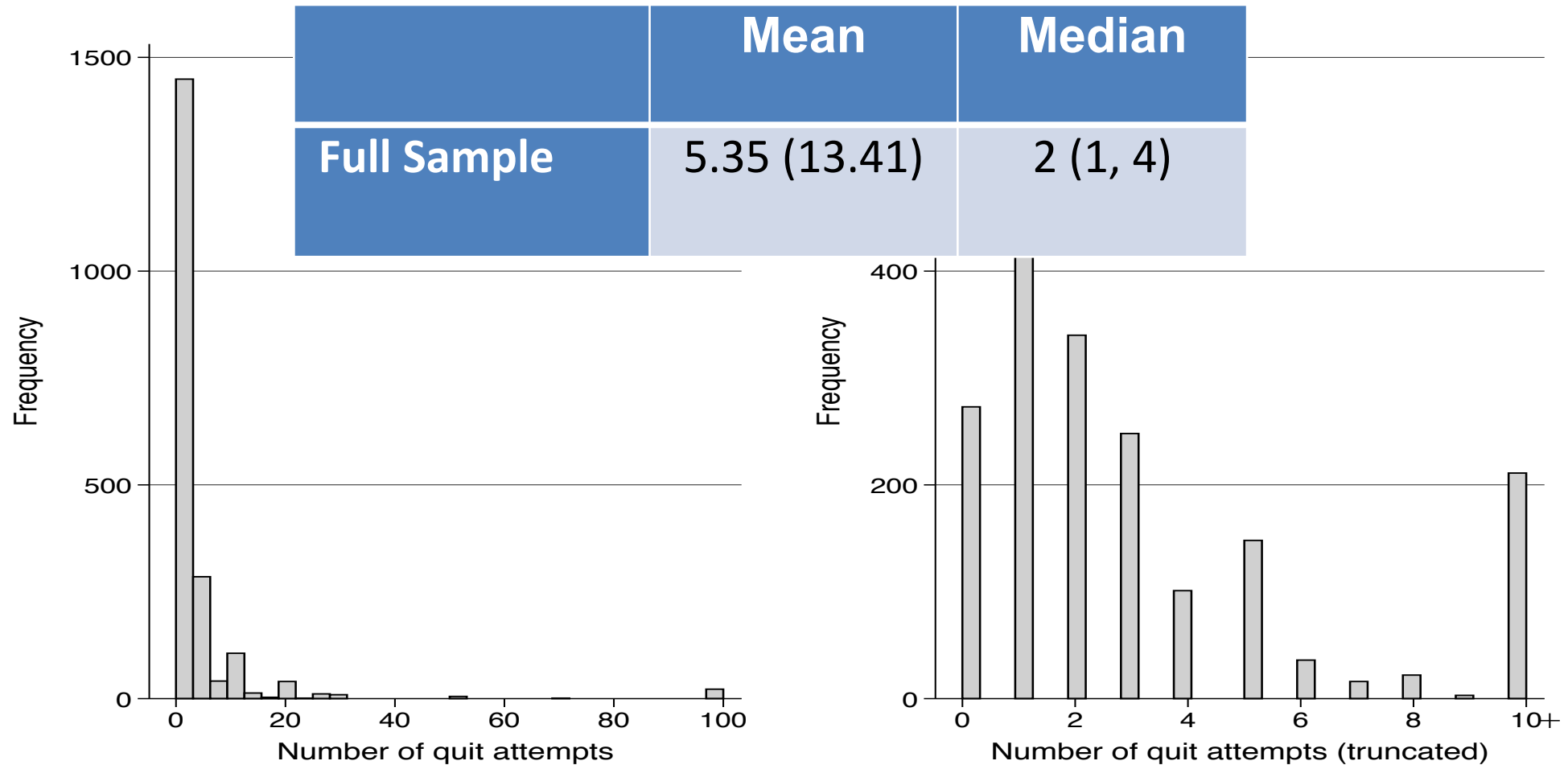
(LEFT: Full sample RIGHT PANEL: Outliers removed)

Skewness=5.89, SE=0.57; Kurtosis=50.27, SE=9.66

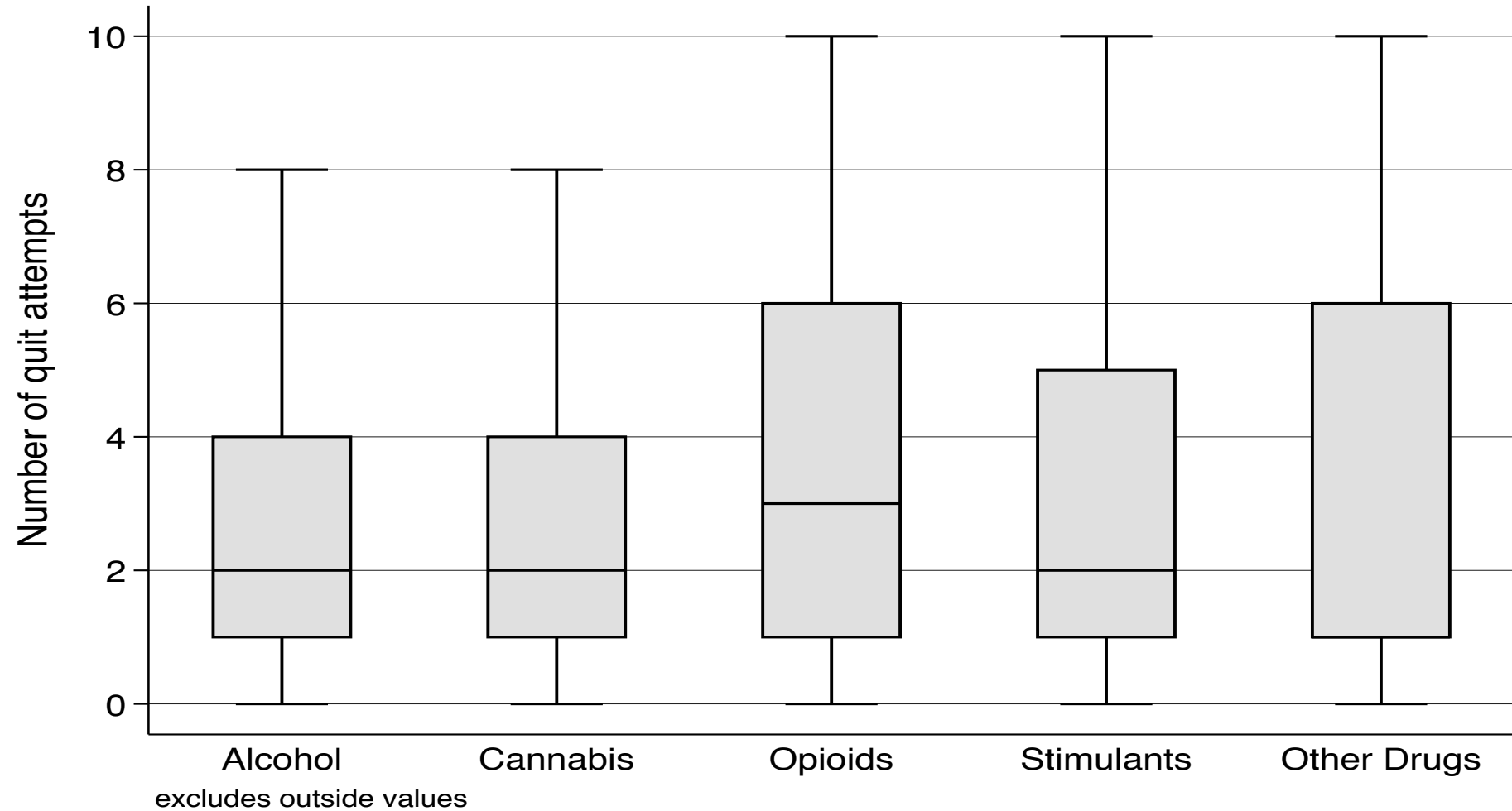


# Frequency Distribution of Serious Recovery Attempts Prior to Successful Resolution

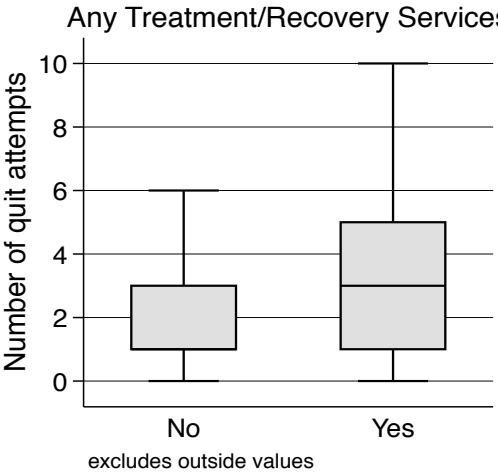
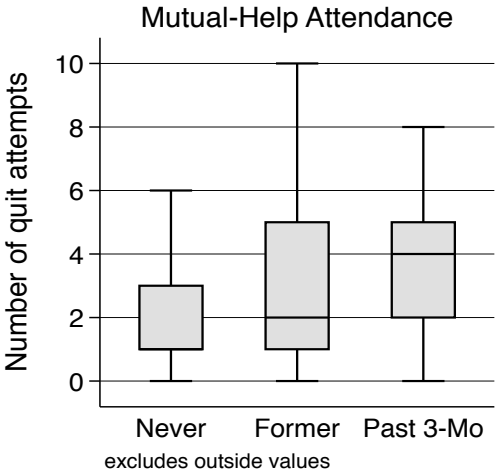
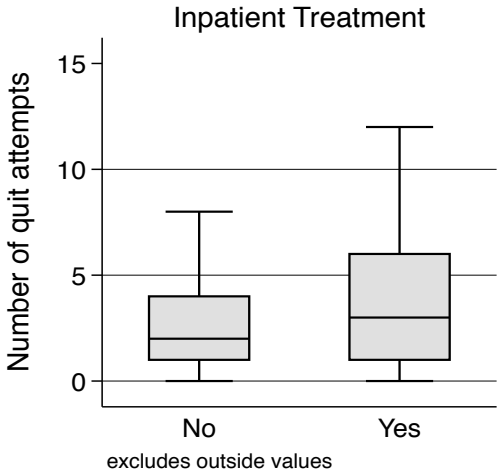
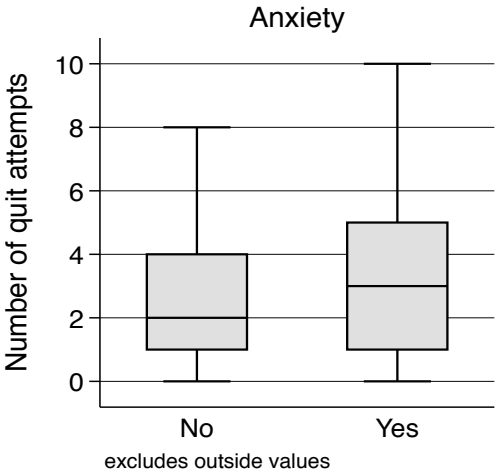
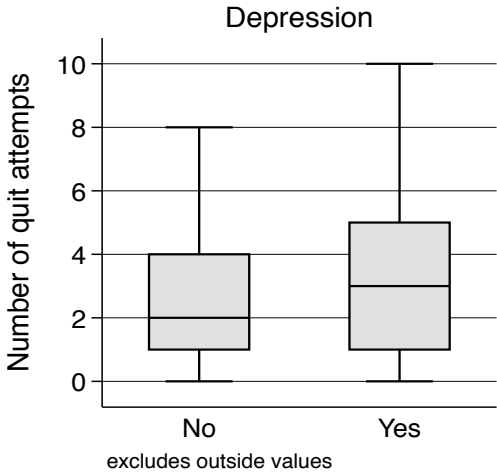
(LEFT: Full sample      RIGHT PANEL: Outliers removed)



# Median Recovery Attempts by Primary Drug



# Number of Recovery Attempts by Clinical and Recovery Support Services Use





# Outline

Why long-term remission/recovery important?

National Recovery Study

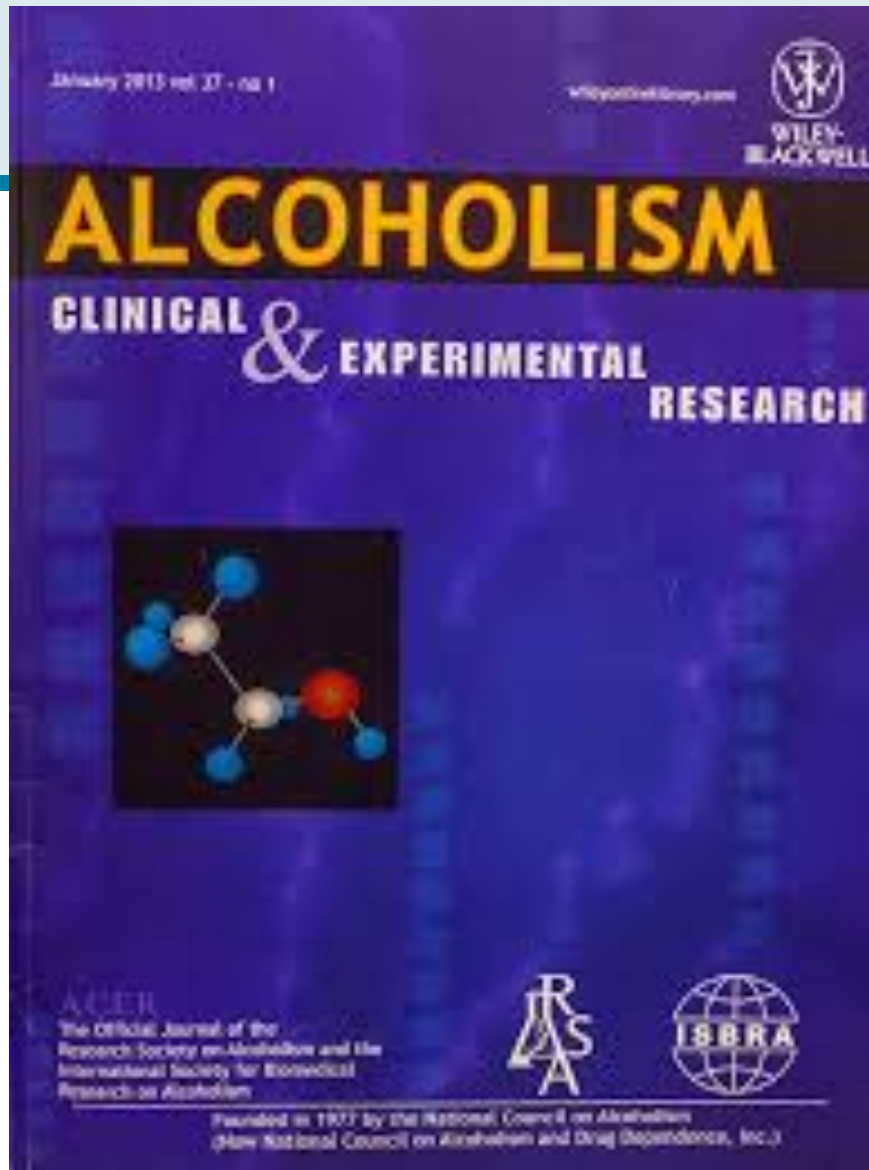
What is the prevalence of alcohol or other drug problem resolution?

What proportion self-identify as being "in recovery"?


What are the pathways followed?

How many serious attempts does it take to resolve AOD problems?

What is quality of life and functioning like in recovery?



## 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.

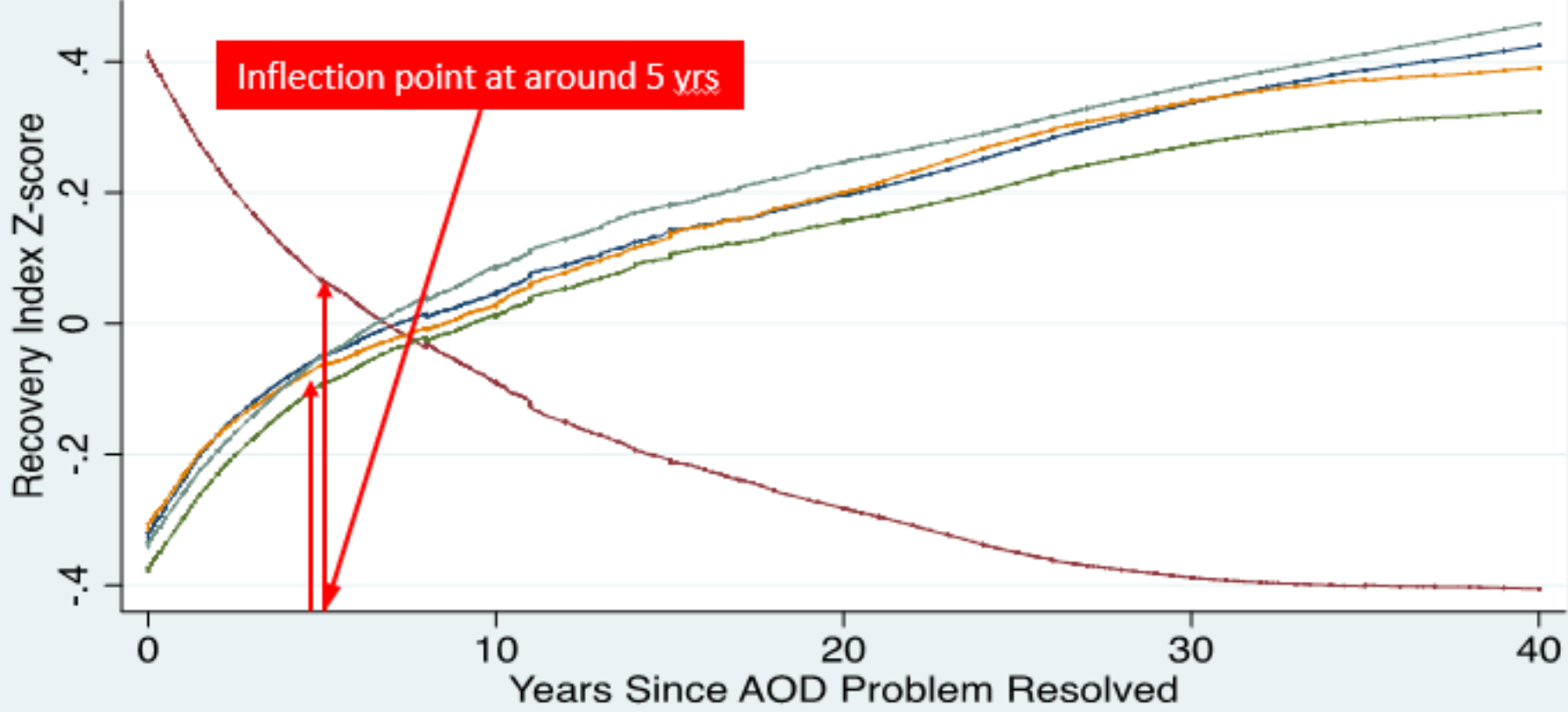
**Methods:** National, probability-based, cross-sectional sample of U.S. adults who screened positive to the question, “Did you used to have a problem with alcohol or drugs but no longer do?” (Response = 63.4% from 39,809; final weighted sample  $n = 2,002$ ). Linear, spline, and quadratic regressions 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.

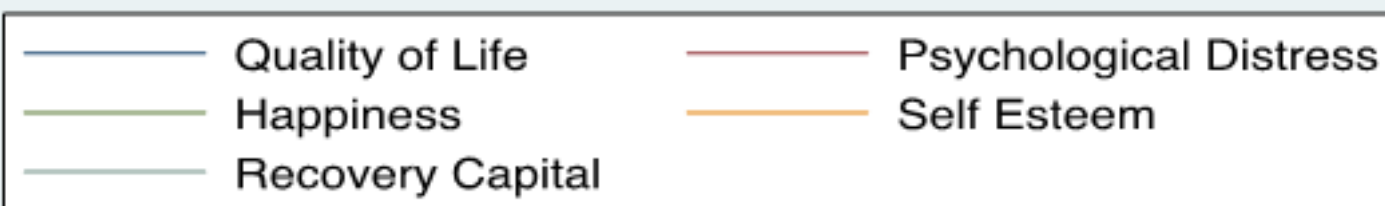
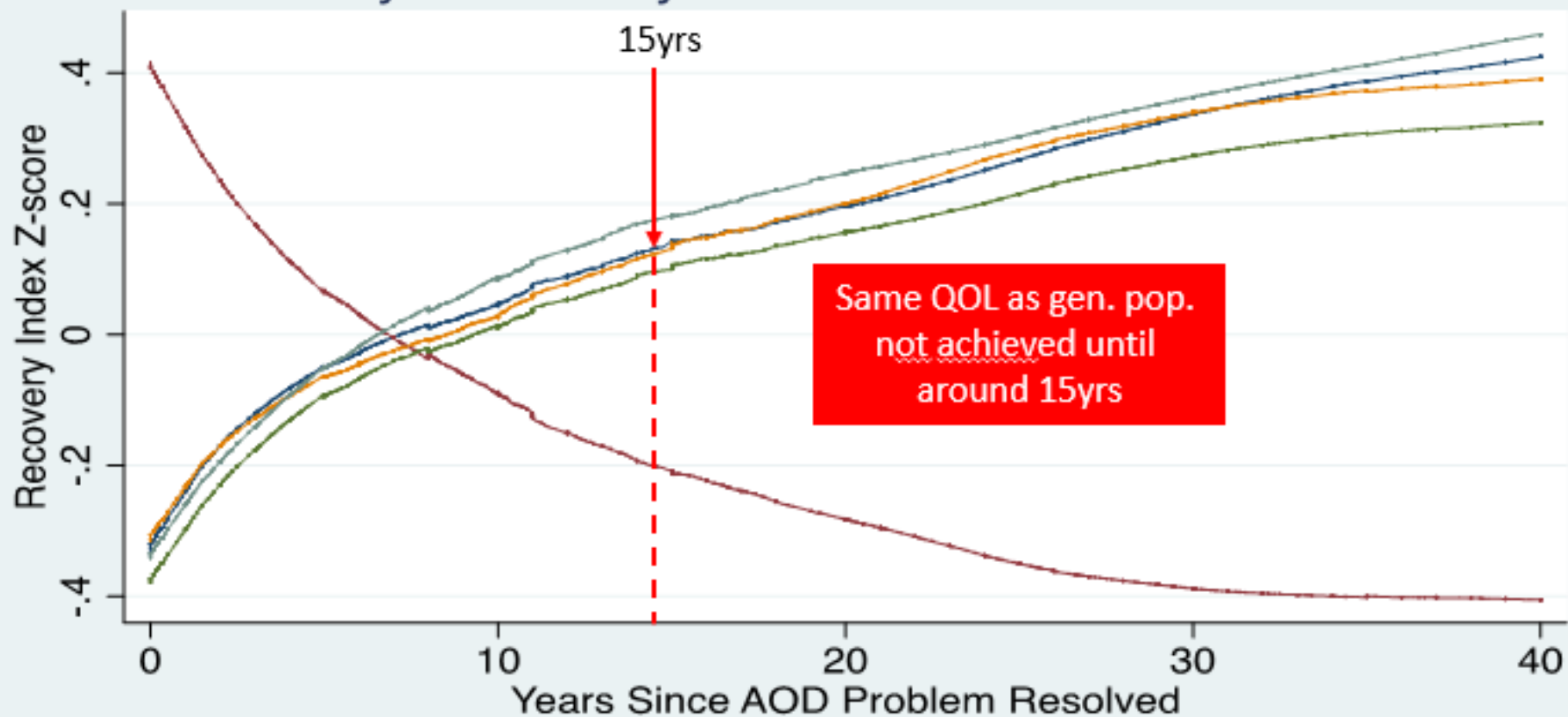
**Key Words:** Recovery, Remission, Alcohol Use Disorder, Quality of Life, National, Epidemiology.

# Recovery Indices by Years Since Problem Resolution



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

## Recovery Indices by Years Since Problem Resolution

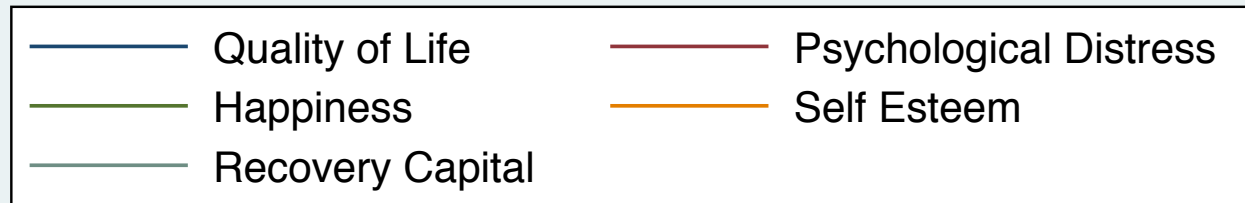
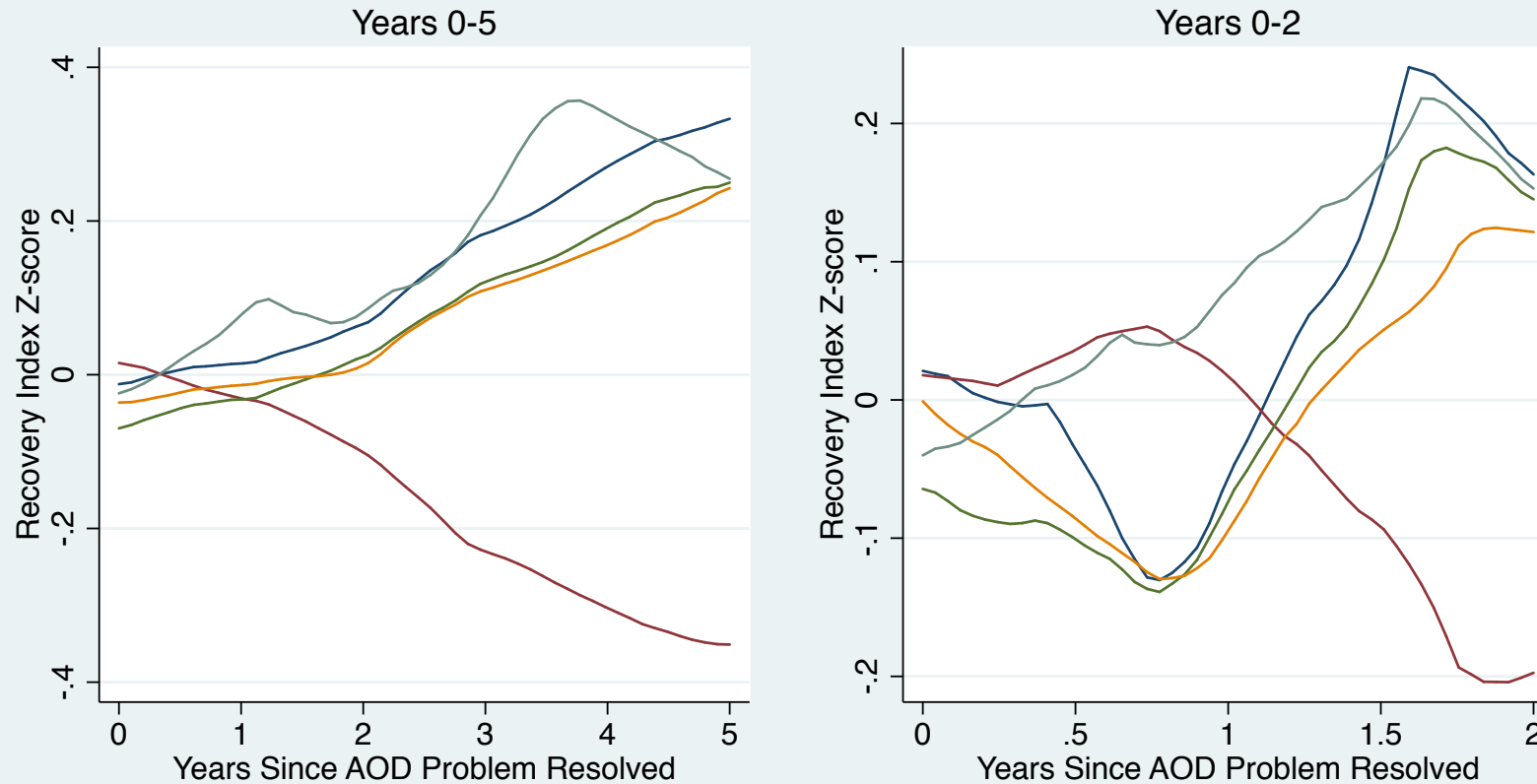


Traditional addiction  
treatment approach:  
Burning building  
analogy

- Putting out the fire -good job
- Preventing it from re-igniting (RP) - less emphasis
- Architectural planning (recovery plan) –neglected
- Re-building materials (recovery capital) –neglected
- Granting “rebuilding permits” - (removing barriers)



# Recovery Indices by Years Since Problem Resolution



## Recovery Indices by Years Since Problem Resolution

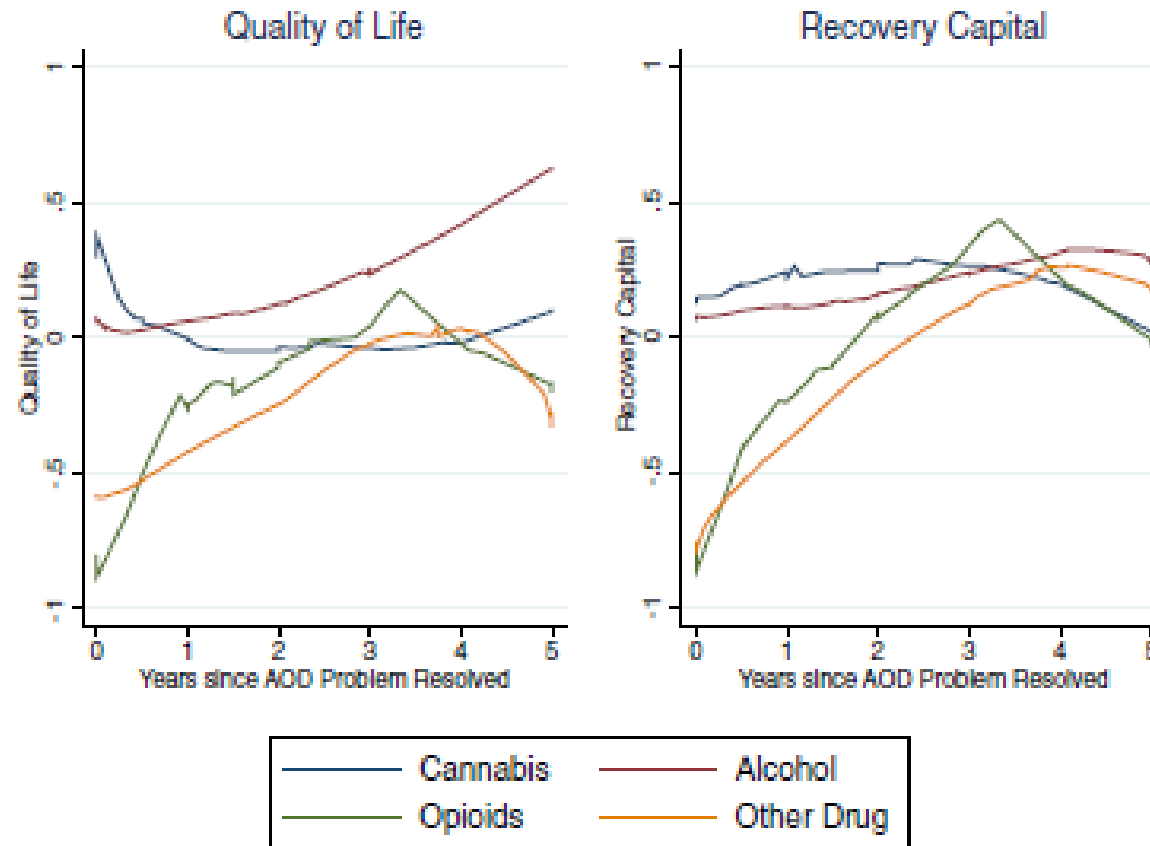


Fig. 5. Locally Weighted Scatterplot Smoothing (LOWESS) analysis of recovery indices by years since problem resolution stratified by primary substance.



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



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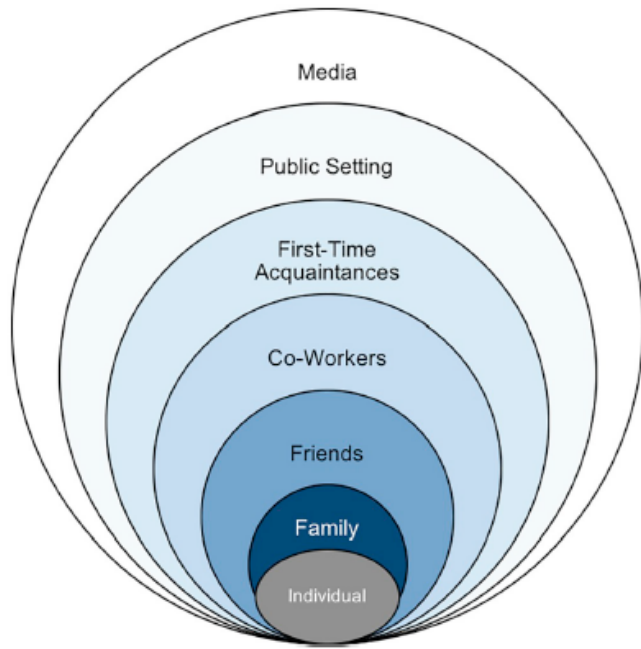
### ARTICLE INFO

**Keywords:**  
Disclosure  
Recovery  
Remission  
Substance use disorder

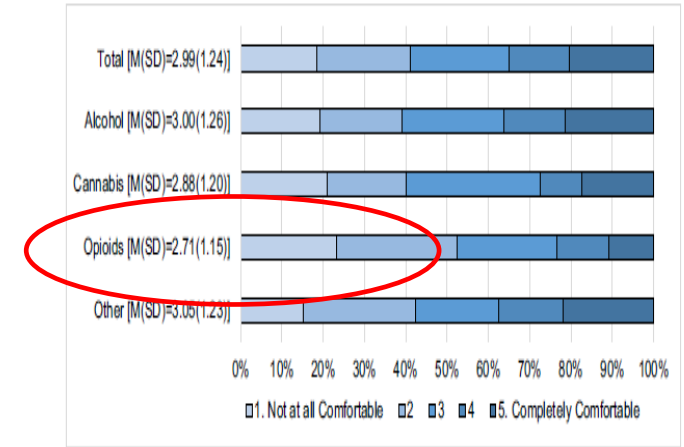
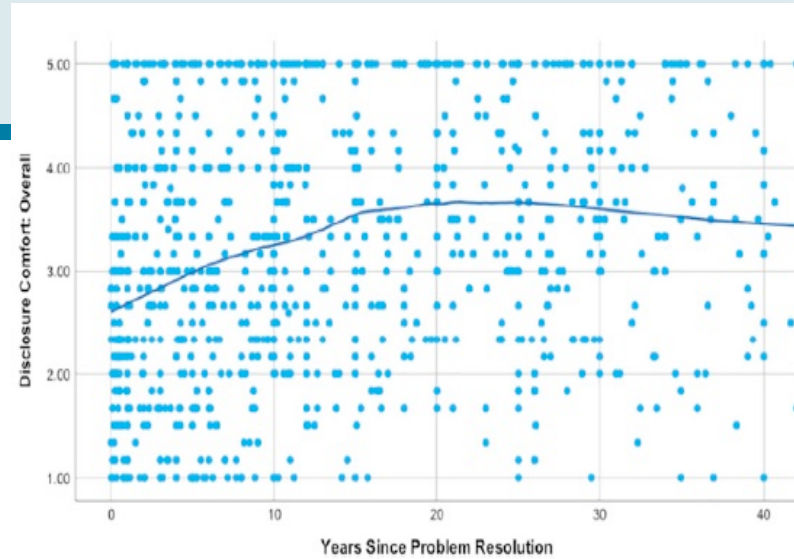
### ABSTRACT

**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.





**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.

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

# Results Summary



9.1% or 22.35 Million Americans resolved sig. AOD prob.



Only about half self-identify as “in recovery” –those with less severe histories; similar crises but greater ability to stop sans help



Approximately half resolve these problems without any external assistance- related to less severity/complexity



Mean problem resolution attempts is around 5.5 but this number heavily skewed; Mdn number = 2; with high variability around estimates



QOL indices monotonic improvements over time, with steeper increases first 5 years, then ongoing, shallower, improvement; post “pink cloud” drop early; opioid/stimulant tougher time early on



# Implications

- **RESEARCH AND POLITICAL ADVOCACY:** Estimates here similar to prior national/regional, non probability-based estimates suggesting approximately 9.1% (20-25M) of adult Americans “in recovery”. Could learn more from this large, diverse, group; mobilize for change?
- **PUBLIC HEALTH & POLICY COMMUNICATION:** Although term “recovery” used in past estimates, only about half identify as “in recovery”. Label adoption may serve adaptive funx; qualitative analyses suggest many resolving AOD may not relate and/or oppose this term; thus to engage more people public health and policy communication efforts might include “problem resolution” in addition to “recovery”.
- **HOW TO REACH MANY NOT SEEKING SERVICES, LESSEN IMPACT:** In keeping with other studies, half resolved problem without help – those with lower severity and higher recovery capital. This large group still cause harm; how to reach/lessen impact.
- **RECOVERY NEEDS DYNAMIC, VARY BY SUBGROUP:** QOL changes suggest “pink cloud” phase end may create early challenge; 1-yr things looking rosier; continue to improve; marginalized opioid/meth groups need recovery capital/support early on
- **REASONS FOR OPTIMISM:** Prior estimates of quit/recovery attempts, may be “mean” averages, thus biased upwards (with skew); while reflective of high variability, medians should be used. These were low in non-clinical (Mdn=1) and higher in clinical (Mdn=3) samples (overall = 2 serious attempts prior to resolution; Mean=5.6; SD=13.41). Hopeful.



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