# Recovery Support Services: Science and Practice

AAAP ORN

April 2021

RECOVERY RESEARCH INSTITUTE

MASSACHUSETTS GENERAL HOSPITAL

HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

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Content presented here represents the views of the presenter/author and do not necessarily represent the views of any other entity

# Sponsoring Organizations



# Opioid Response Network

- The SAMHSA-funded *Opioid Response Network (ORN)* assists states, organizations and individuals by providing the resources and technical assistance they need locally to address the opioid crisis and stimulant use.
- ✧ Technical assistance is available to support the evidence-based prevention, treatment and recovery of opioid use disorders and stimulant use disorders.

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# Working With Communities

- The *Opioid Response Network (ORN)* provides local, experienced consultants in prevention, treatment and recovery to communities and organizations to help address this opioid crisis and stimulant use.

✧ *ORN* accepts requests for education and training.

✧ Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.

# Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:

  - Visit www.OpioidResponseNetwork.org
  - Email orn@aaap.org
  - Call 401-270-5900


recoveryanswers.org

# Recovery Research Institute

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**free monthly Recovery Bulletin**

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# Outline

- Where have we come from? Where are we now? Where are we going? 50 years of Addiction Science, Practice, and Policy:
- What is “recovery” and why is everyone talking about it?
- Theory of addiction recovery: a biopsychosocial perspective
- Services for Attaining and sustaining addiction remission and recovery
- State of the Science and future directions

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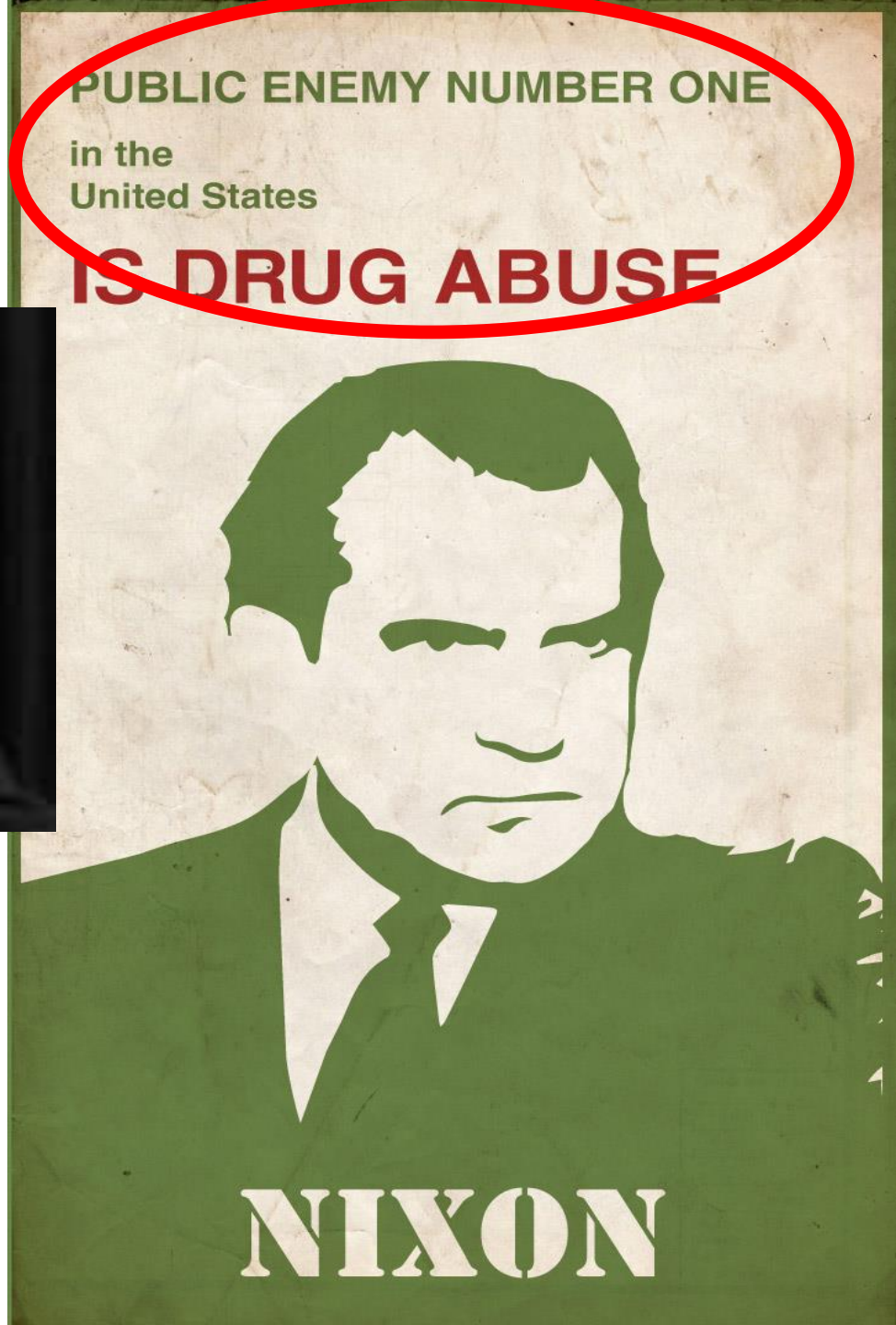
# 1970

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

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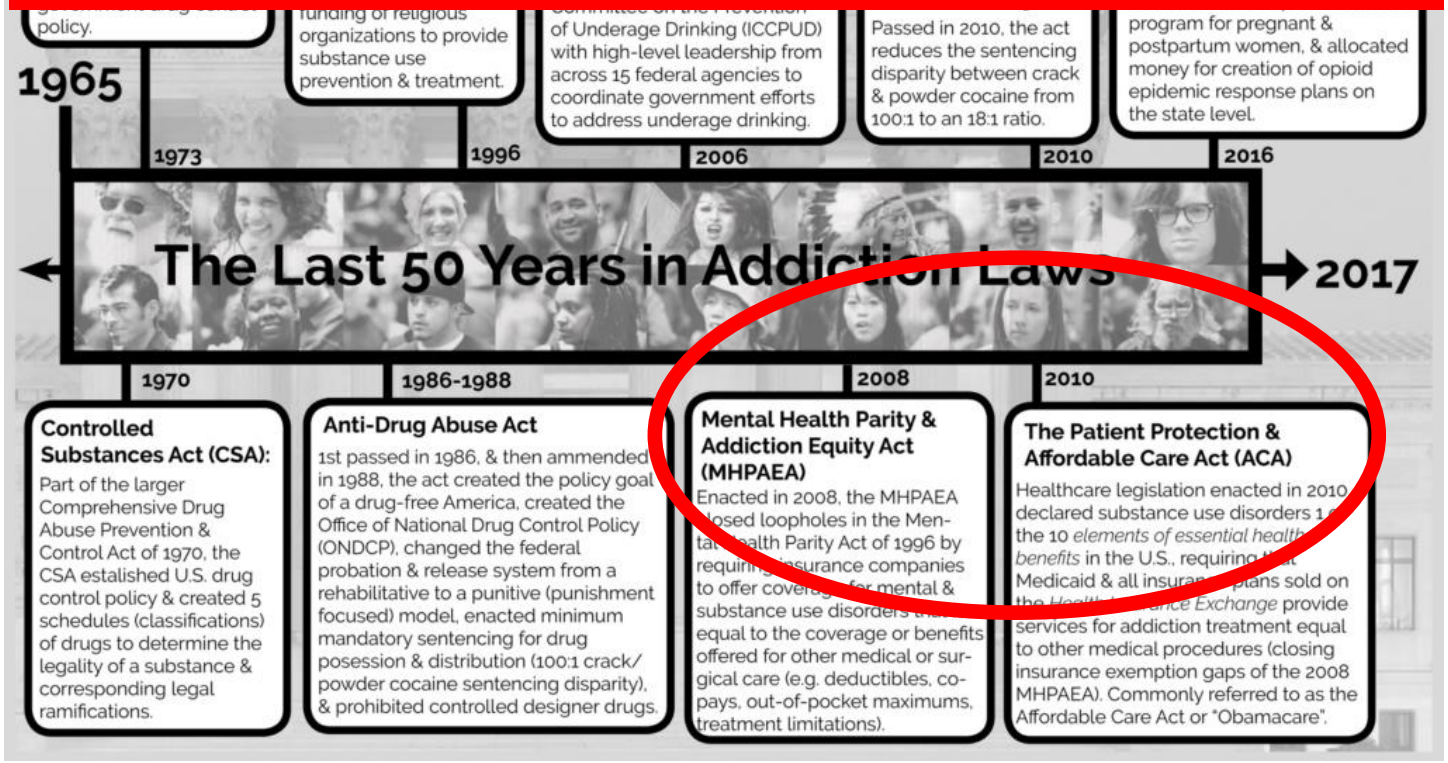
Reorganizational Plan No. 2
Creation of the Drug Enforcement Agency (DEA), consolidating a number of different entities to form a single federal agency to enforce government drug control policy.
1965
1973
Charitable Choice
Charitable choice allows direct U.S. government funding of religious organizations to provide substance use prevention & treatment.
1996
Sober Truth on Preventing Underage Drinking Act (STOP Act)
Passed in 2006, the STOP act created a grant program to target underage drinking within communities & established the federal Interagency Coordinating Committee on the Prevention of Underage Drinking (ICCPUD) with high-level leadership from across 15 federal agencies to coordinate government efforts to address underage drinking.
2006
Fair Sentencing Act
Passed in 2010, the act reduces the sentencing disparity between crack & powder cocaine from 100:1 to an 18:1 ratio.
2010
Comprehensive Addiction & Recovery Act (CARA)
Passed in 2016, CARA increased access to overdose treatment, naloxone (overdose reversal medication), & medication assisted treatments (MAT), reauthorized an opioid treatment program for pregnant & postpartum women, & allocated money for creation of opioid epidemic response plans on the state level.
2016
The Last 50 Years in Addiction Laws
2017
1970
Controlled Substances Act (CSA):
Part of the larger Comprehensive Drug Abuse Prevention & Control Act of 1970, the CSA estalished U.S. drug control policy & created 5 schedules (classifications) of drugs to determine the legality of a substance & corresponding legal ramifications.
1986-1988
Anti-Drug Abuse Act
1st passed in 1986, & then ammended in 1988, the act created the policy goal of a drug-free America, created the Office of National Drug Control Policy (ONDCP), changed the federal probation & release system from a rehabilitative to a punitive (punishment focused) model, enacted minimum mandatory sentencing for drug posession & distribution, 100:1 crack/ powder cocaine sentencing disparity), & prohibited controlled designer drugs.
2008
Mental Health Parity & Addiction Equity Act (MHPAEA)
Enacted in 2008, the MHPAEA closed loopholes in the Mental Health Parity Act of 1996 by requiring insurance companies to offer coverage for mental & substance use disorders that is equal to the coverage or benefits offered for other medical or surgical care (e.g. deductibles, co-pays, out-of-pocket maximums, treatment limitations).
2010
The Patient Protection & Affordable Care Act (ACA)
Healthcare legislation enacted in 2010, declared substance use disorders 1 of the 10 *elements of essential health benefits* in the U.S., requiring that Medicaid & all insurance plans sold on the *Health Insurance Exchange* provide services for addiction treatment equal to other medical procedures (closing insurance exemption gaps of the 2008 MHPAEA). Commonly referred to as the Affordable Care Act or "Obamacare".

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..



the WHITE HOUSE PRESIDENT BARACK OBAMA

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# 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 Directo
discussion at the White House on the future of drug p
approximately 140 people attended to engage in a co
hundreds more watched online. Limited video on dem


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

THE WHITE HOUSE
WASHINGTON

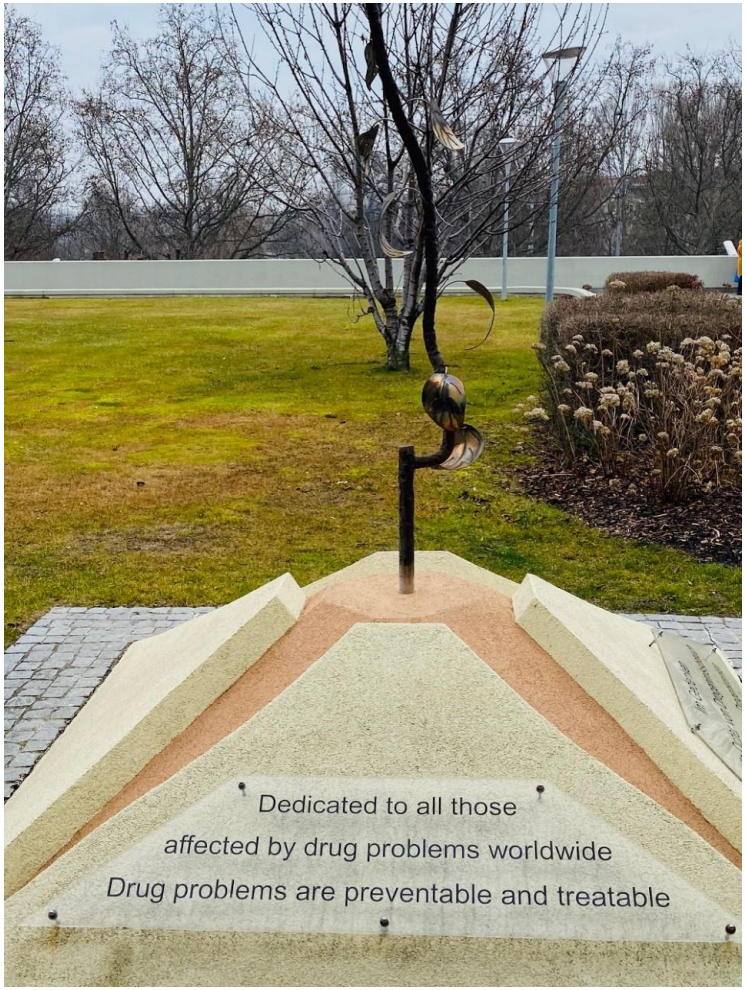
# Public Health Approaches to Addressing Drug-Related Crime: Drug Courts


# Public Health Approaches to Law Enforcement

- Chief Campanello
  - Angel Program

"Help not Handcuffs"

United Nations



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


NIDA
NATIONAL INSTITUTE ON DRUG ABUSE

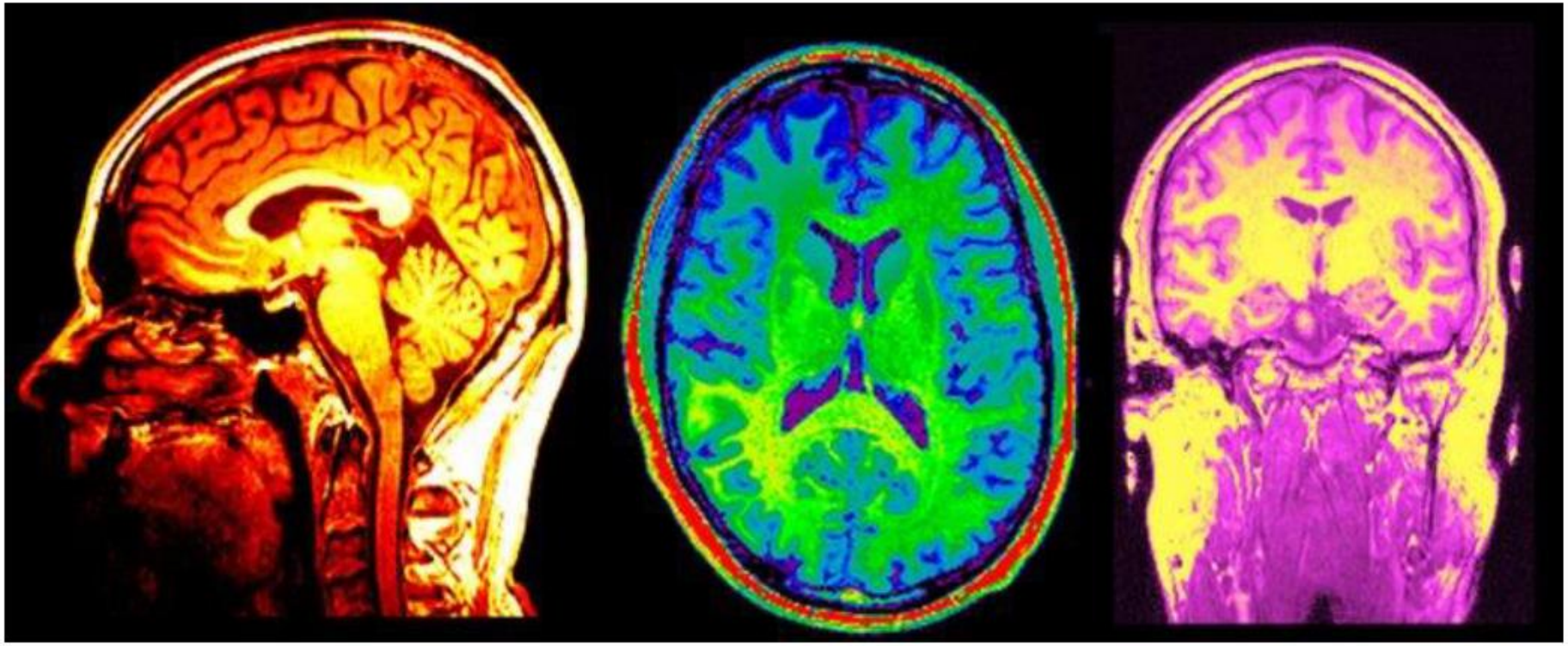
SAMHSA
Substance Abuse and Mental Health Services Administration

CSAT
Center for Substance Abuse Treatment
*SAMHSA*

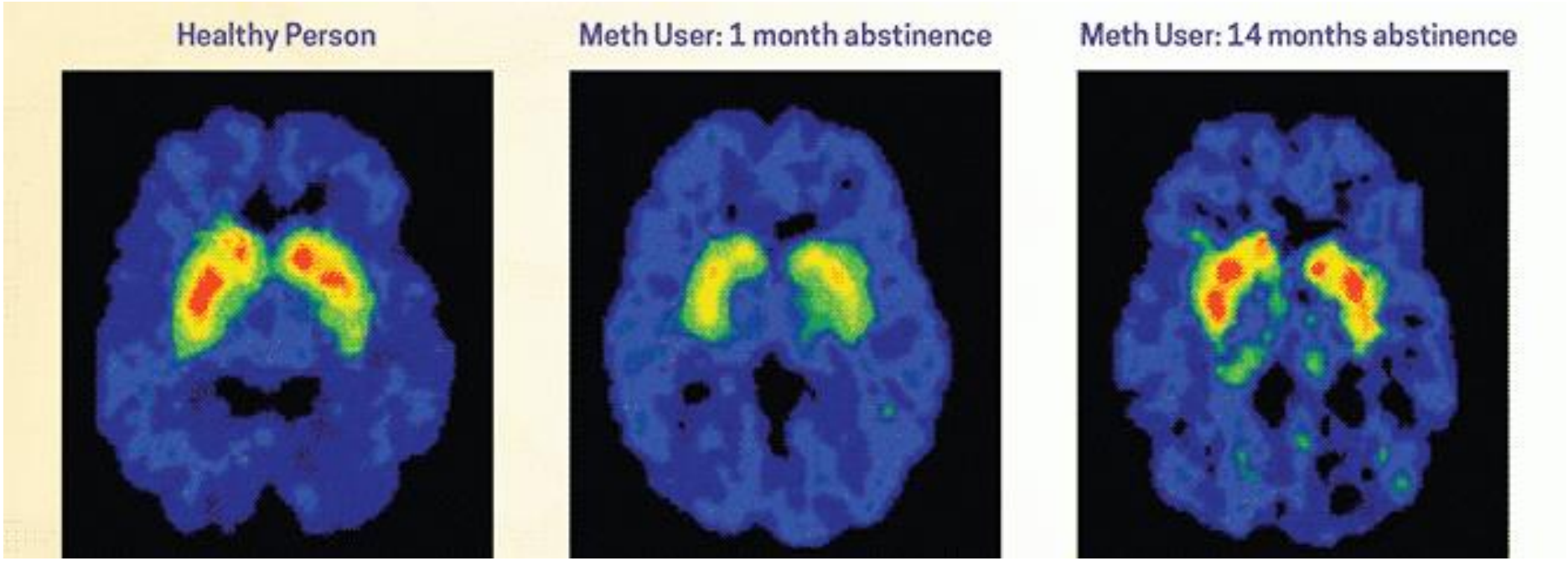
# Paradigm Shifts

# Genetics, Genomics, Pharmacogenetics

# Neuroscience: Neural plasticity



# Changes in the brain in recovery



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# 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 Exhanges
* Supervised Injection Sites

SCREENING & FEEDBACK
* Brief Advice
* Motivational Interventions

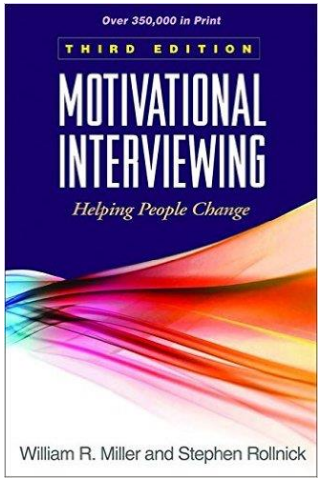
SREENING, BRIEF INTERVENTION, & REFFERAL TO TREATMENT (SBIRT)

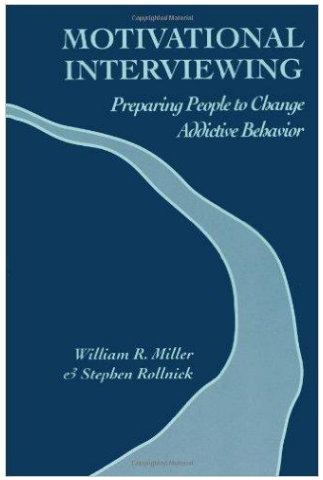
CLINCAL INTERVENTION
* Phases/Levels (e.g., inpatient, residential, outpatient)
* Intervention Types
  - Psychosocial (e.g. Cognitive Behavioral Therapy)
  - Medications: Agonists (e.g. Buprenorphine, Methadone) & Antagonists (Naltrexone)

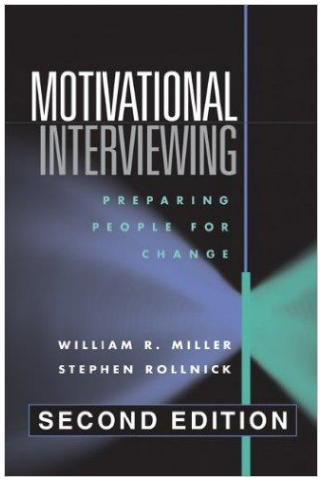
NON-CLINICAL INTERVENTION
* Self-Management/Natural Recovery (e.g. self-help books, online resources)
* Mutal Help Organizations (e.g. Alcoholics Anonymous, SMART Recovery, Lifering Secular Recovery)
* Community Support Services (e.g. Recovery Community Centers, Recovery Ministries, Recovery Employment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

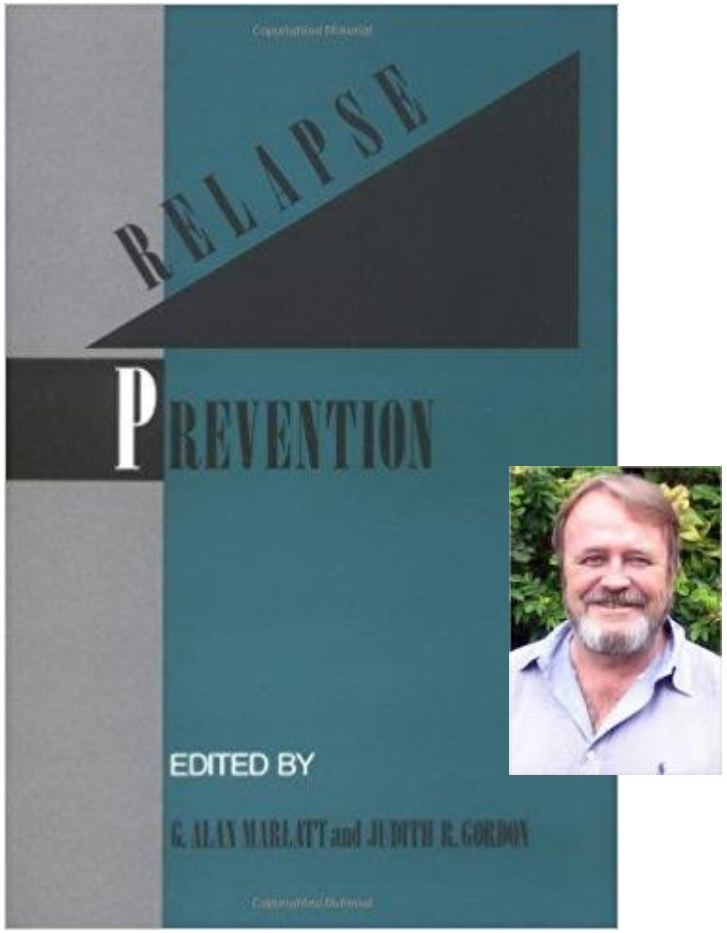


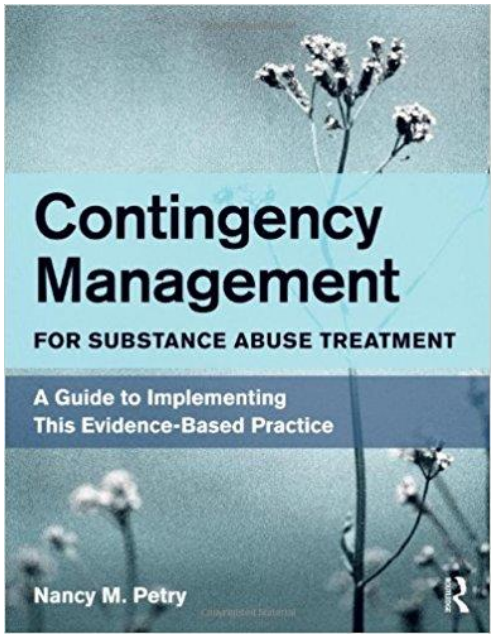




What people really need is a good listening to…

"Quitting smoking is easy, I've done it dozens of times" –Mark Twain



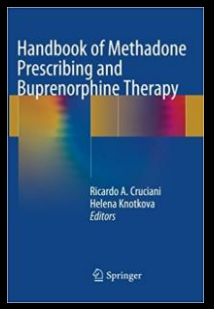
Swift, certain, modest,
consequences shape behavioral choices…




Effective Medications

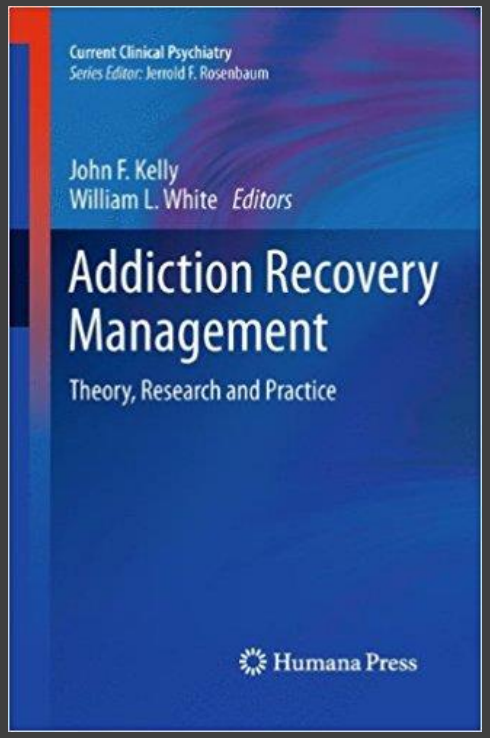




# Harm Reduction Strategies

- Anti-craving/anti-relapse medications (“MAT”)
- Overdose reversal medications (Narcan)
- Needle service programs
- Safe supply/testing services
- Heroin prescribing
- Safe Injection Facilities/Safe Consumption sites/Overdose prevention facilities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Addiction Recovery Management
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# EQUIFINALITY: MULTIPLE PATHWAYS TO RECOVERY

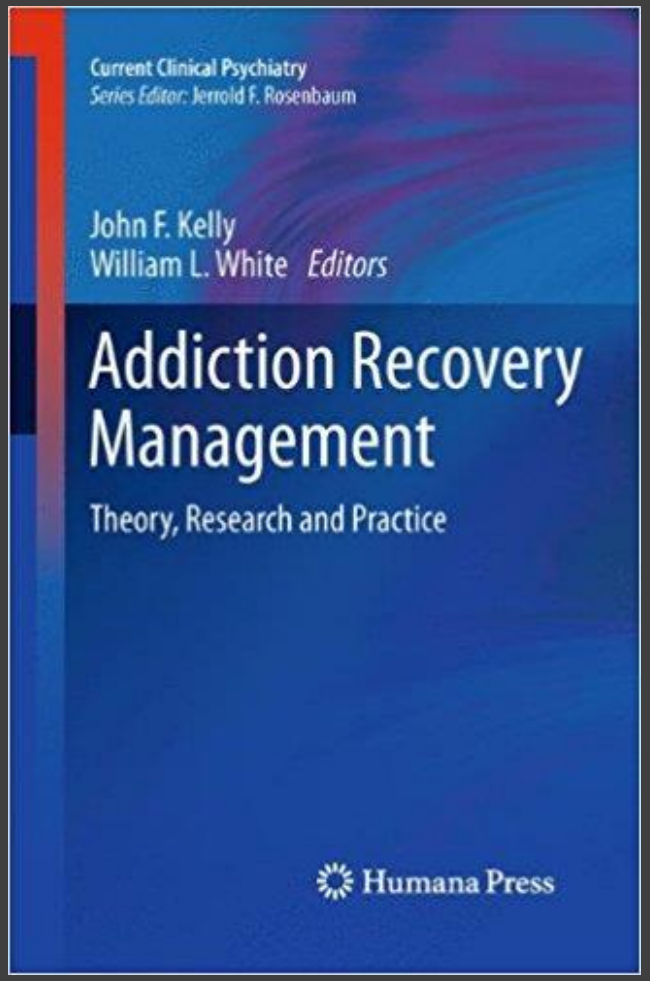
- Acknowledges myriad ways in which individuals can recover:

- 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”).

More recently, the first ever U.S. Surgeon General's Report on Alcohol, Drugs, and Health was published in 2016 describing the nature of addiction, treatment, and recovery based on 50 yrs of research and policy …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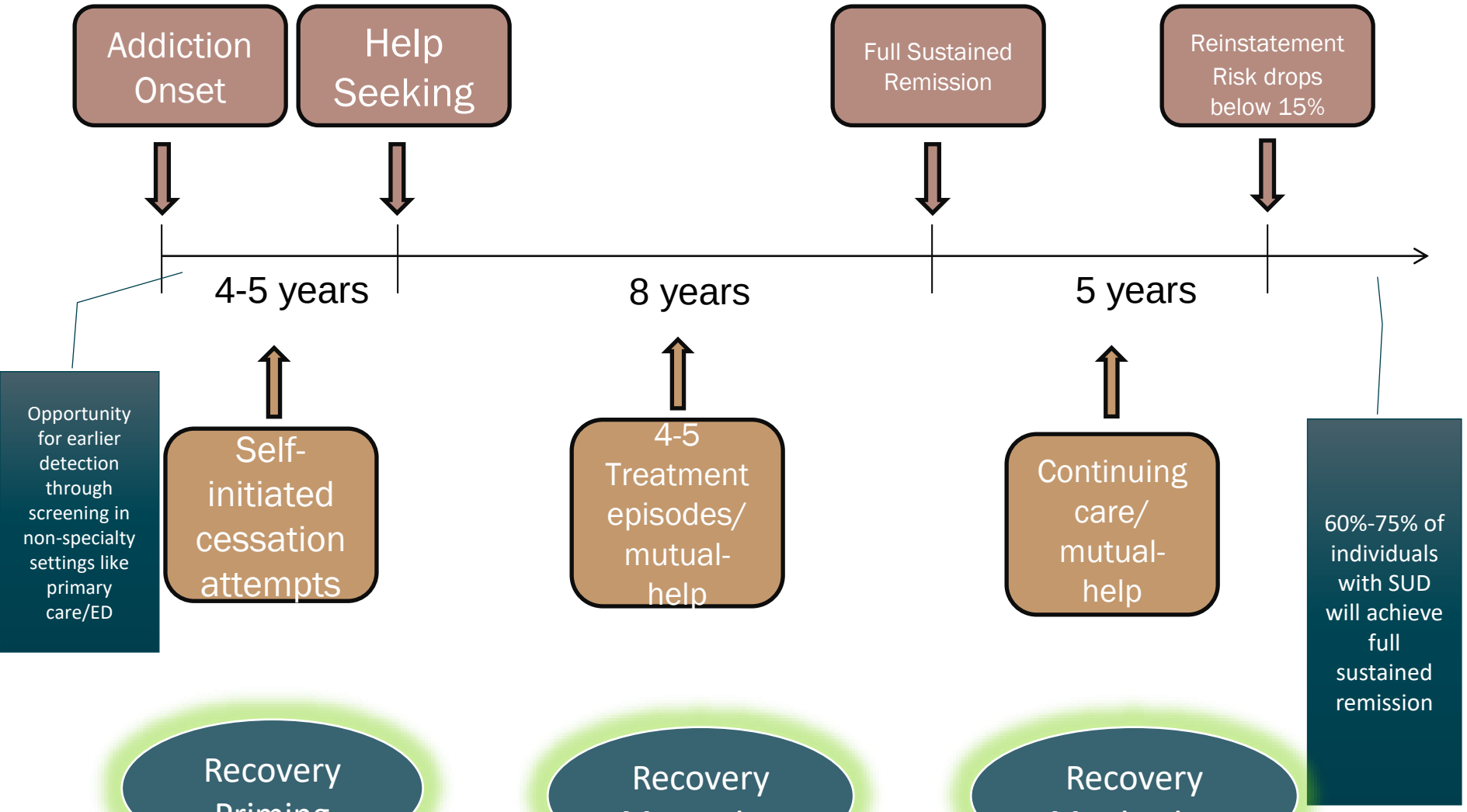
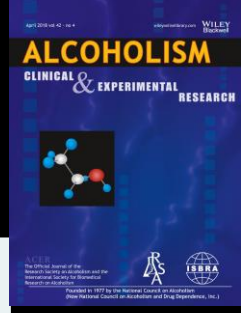
# The clinical course of addiction and achievement of stable recovery can take a long time …






## Recovery Indices by Years Since Problem Resolution

Recovery Index Z-score

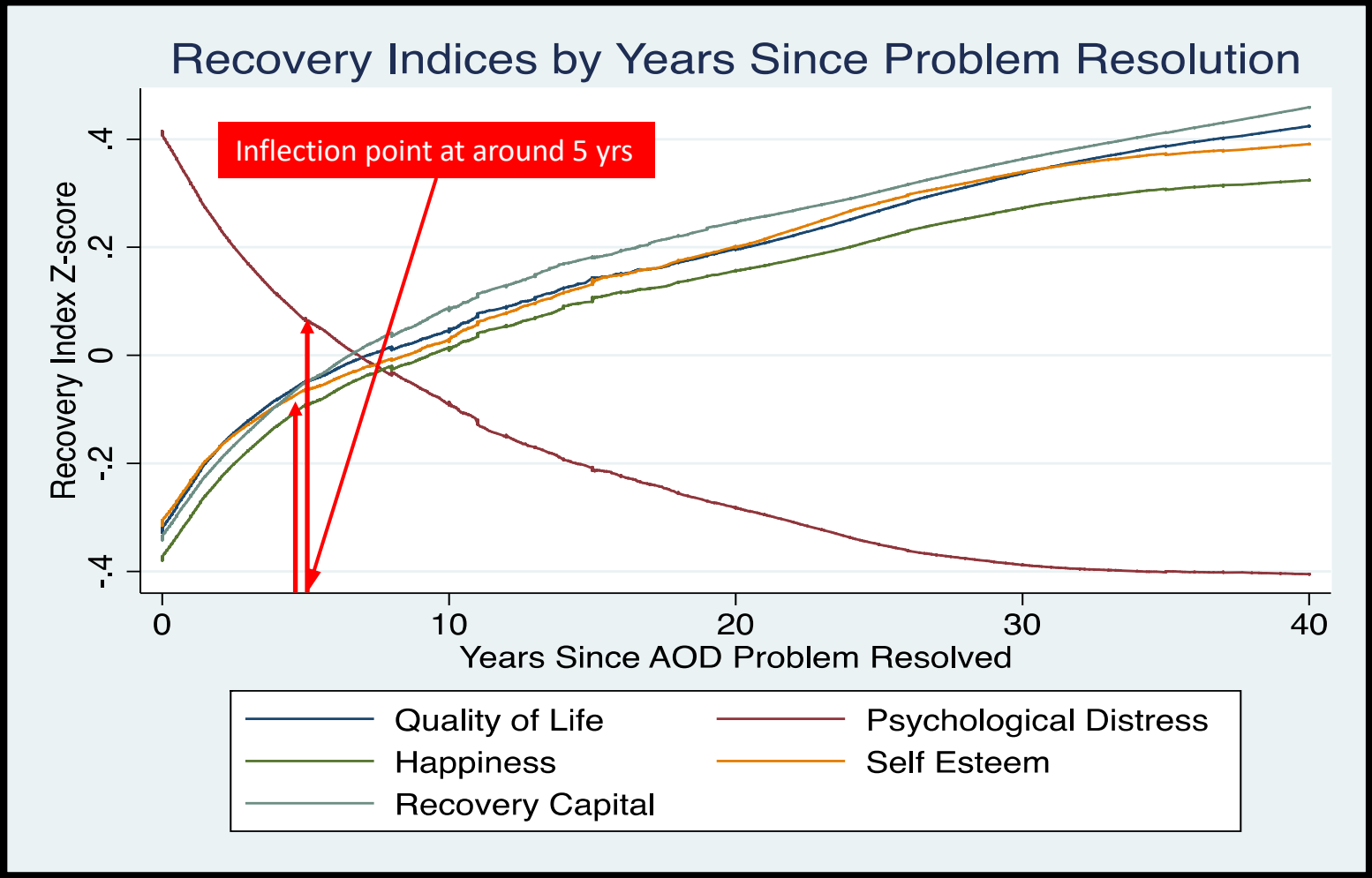
-.4 -.2 0 .2 .4

0 10 20 30 40

Years Since AOD Problem Resolved

Quality of Life
Psychological Distress
Happiness
Self Esteem
Recovery Capital

Kelly et al (2018) *Alcoholism: Clinical and Experimental Research*

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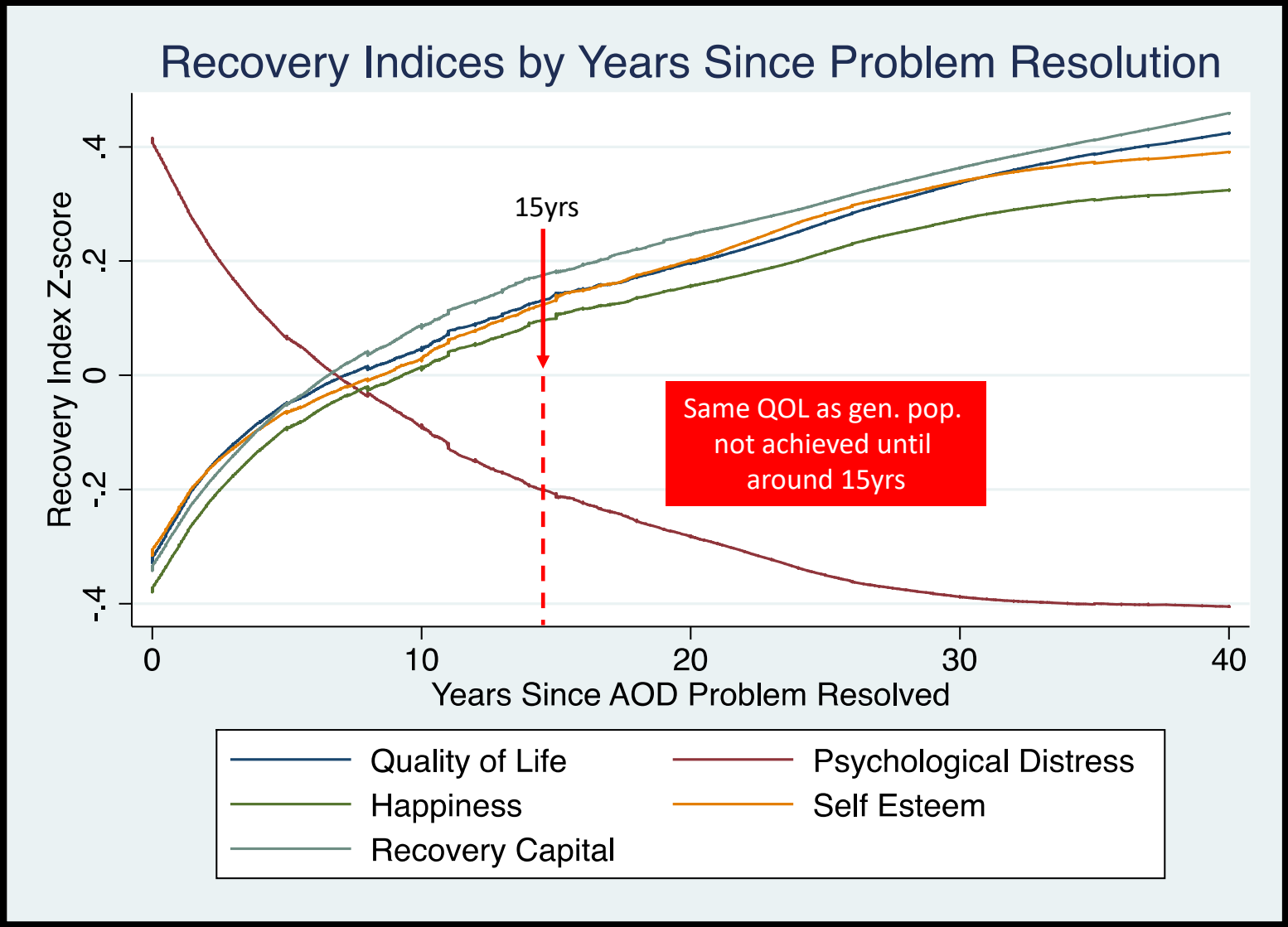


Kelly et al (2018) *Alcoholism: Clinical and Experimental Research*

# 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) neglected

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# Outline

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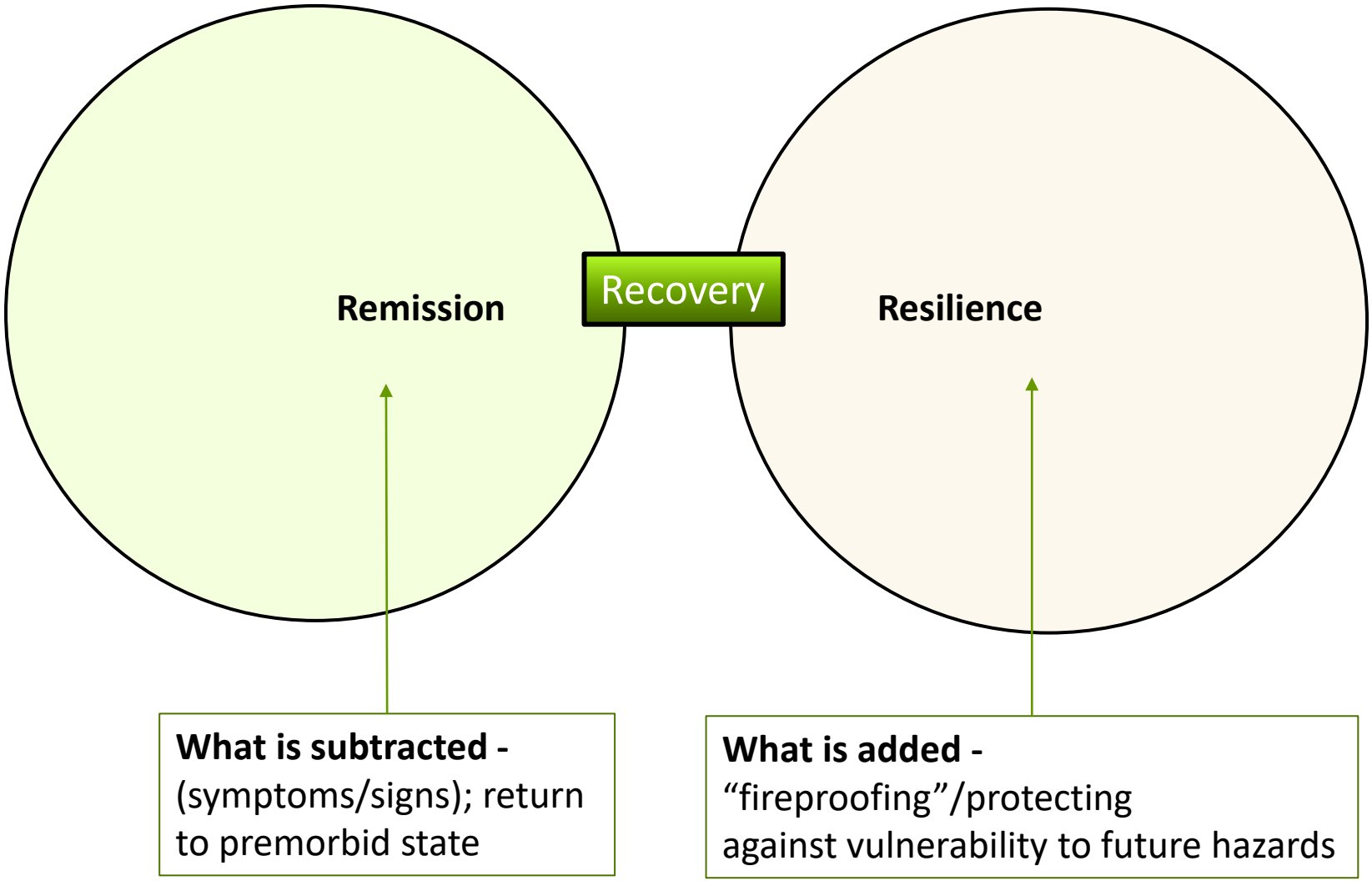
# What is "Recovery"?

- Addiction "Recovery", culturally, is both a process and an outcome…
- Process: Lots of definitions – most describe a process of adaptive change and enhanced functioning, resilience, and self-determination
- Outcome: Also an outcome – people describe themselves as "being in recovery" currently but did not previously - reflecting also a categorical endpoint

# Recovery often goes beyond surviving to thriving
# Contains both remission and resilience



# A Deck Metaphor…

- Newly replaced deck makes deck functional
- Staining the deck protects it against vulnerability to hazards/harms (and looks better too…)

# SUD Process Stages (5 Rs)

- Recurrence
- Remission
- Resilience
- Recovery
- Renaissance

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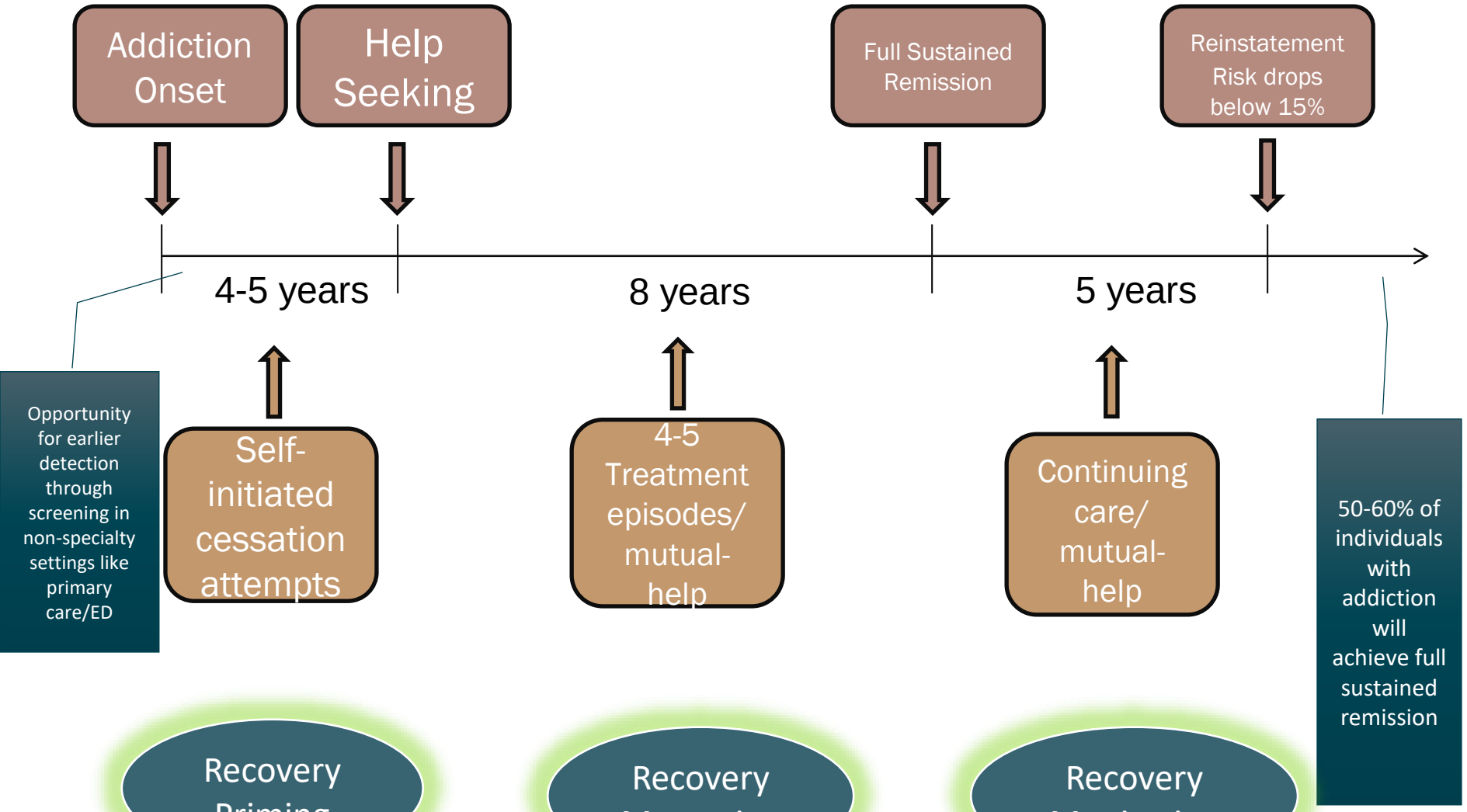
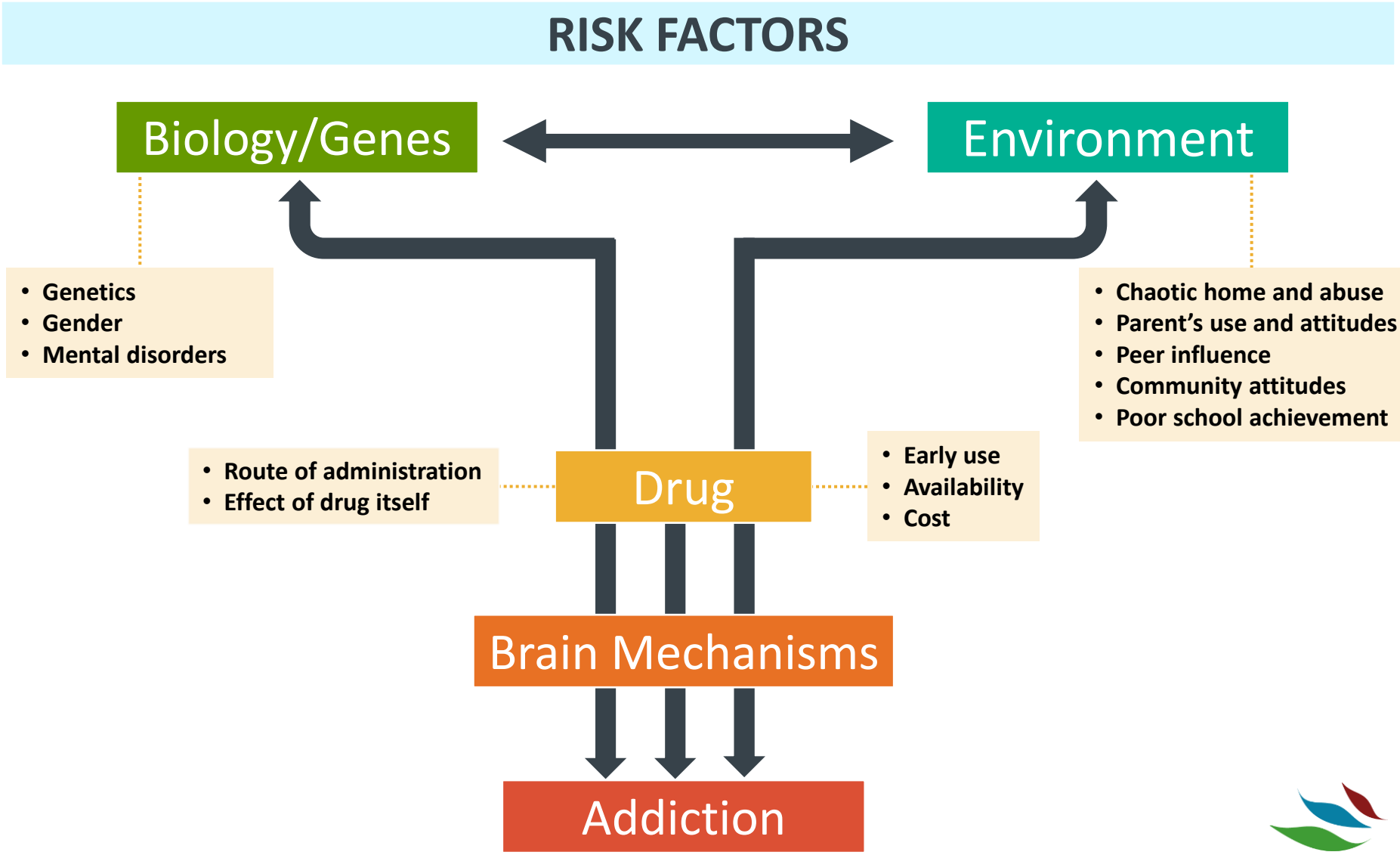
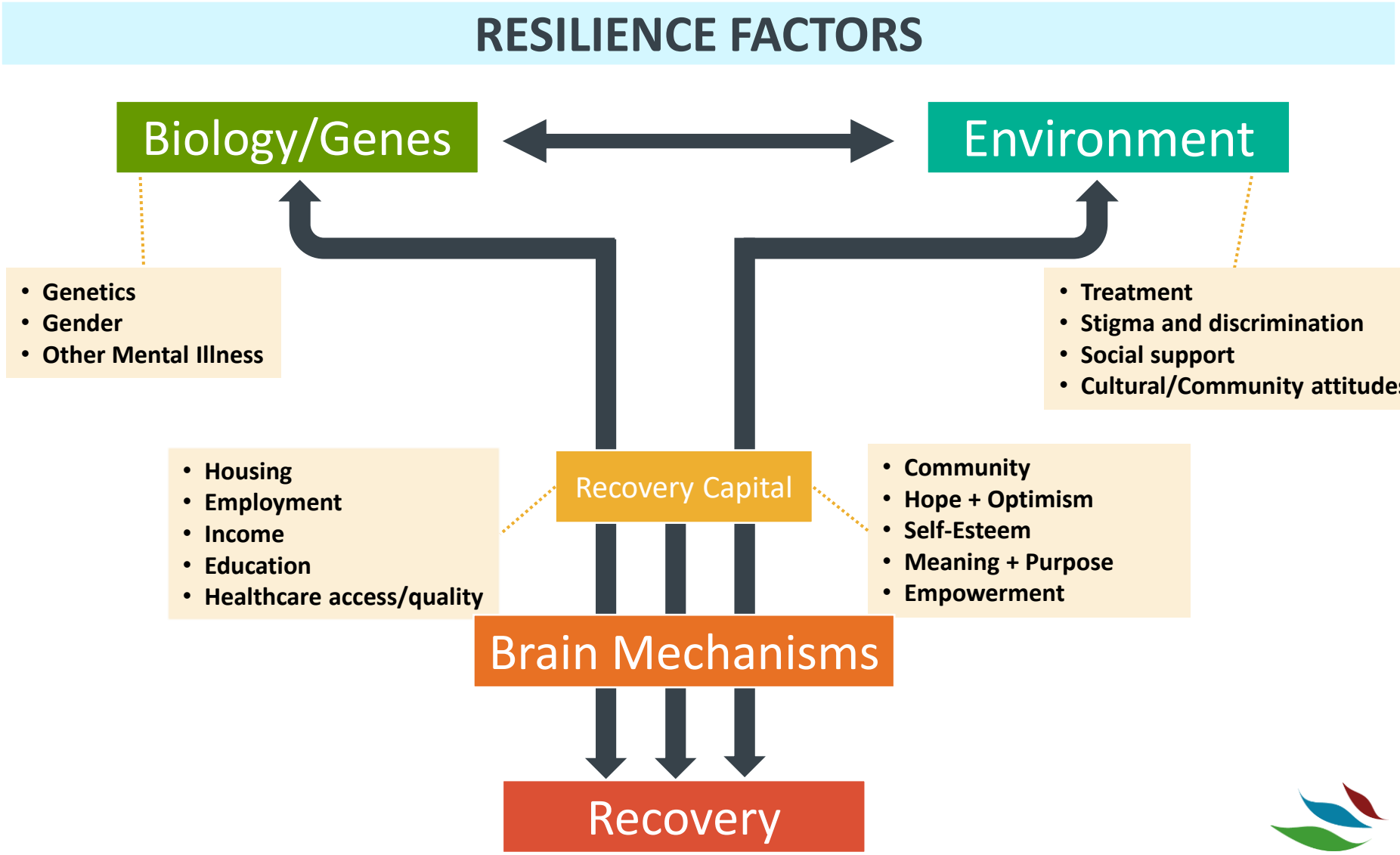
# So, *why does establishing remission and stable recovery take such a long time?*

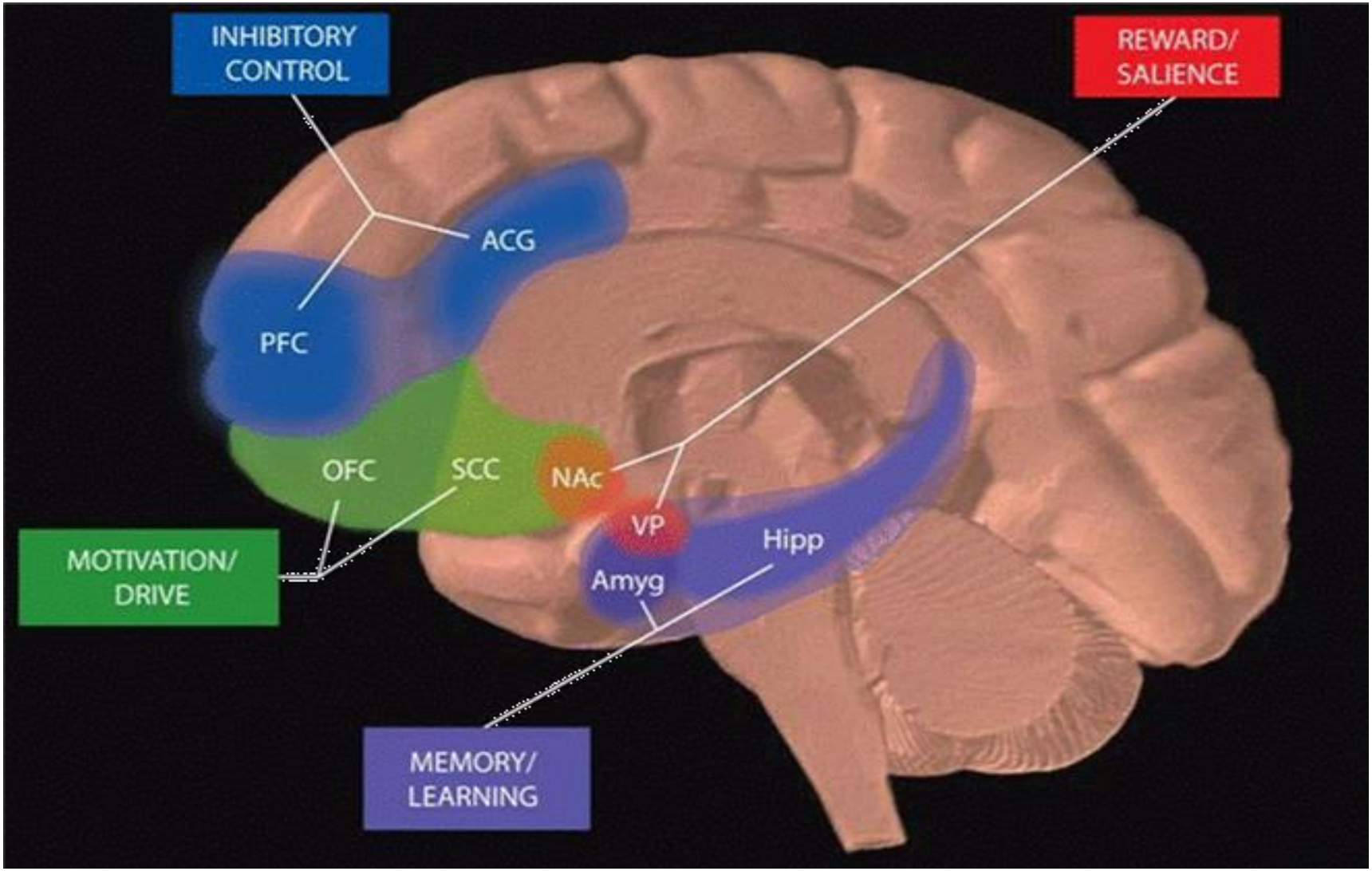


# ADDICTION IS A COMPLEX DISORDER



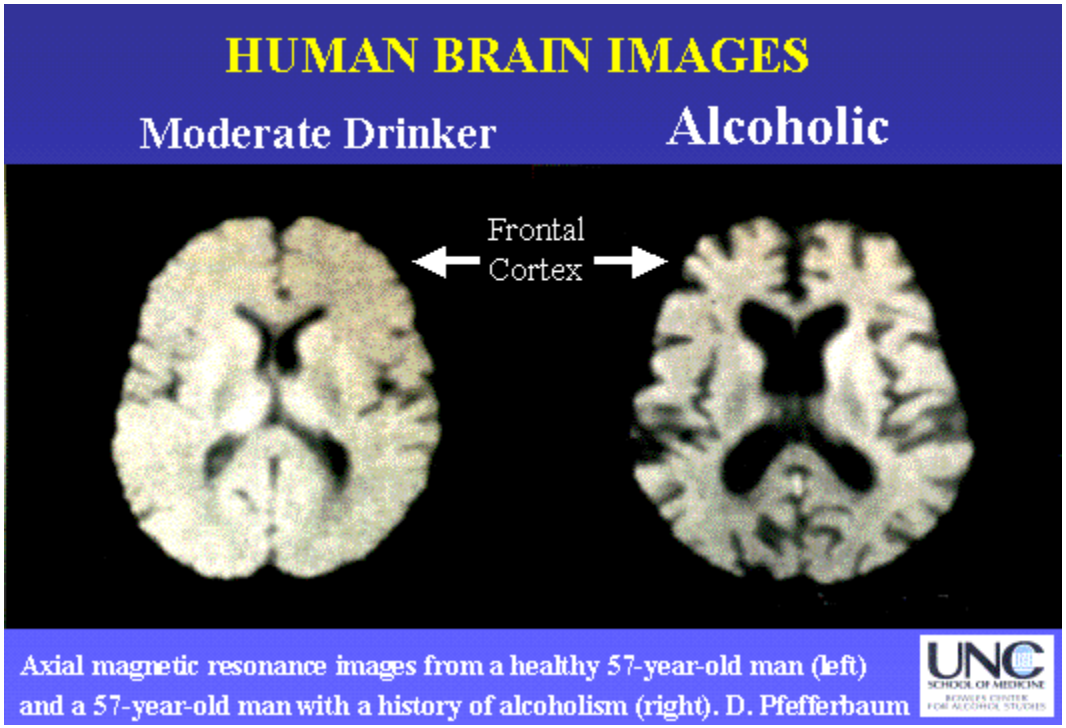
# RECOVERY IS A COMPLEX PROCESS






All of these brain regions must be considered in developing strategies to effectively treat addiction.


Normal
43-year-old
Alcoholic
43-year-old


HUMAN BRAIN IMAGES
Moderate Drinker
Alcoholic
Frontal
Cortex
Axial magnetic resonance images from a healthy 57-year-old man (left) and a 57-year-old man with a history of alcoholism (right). D. Pfefferbaum
UNC
SCHOOL OF MEDICINE

# Post-acute withdrawal effects

- More stress and lowered ability to experience normal pleasures

**Increased sensitivity to stress via…**

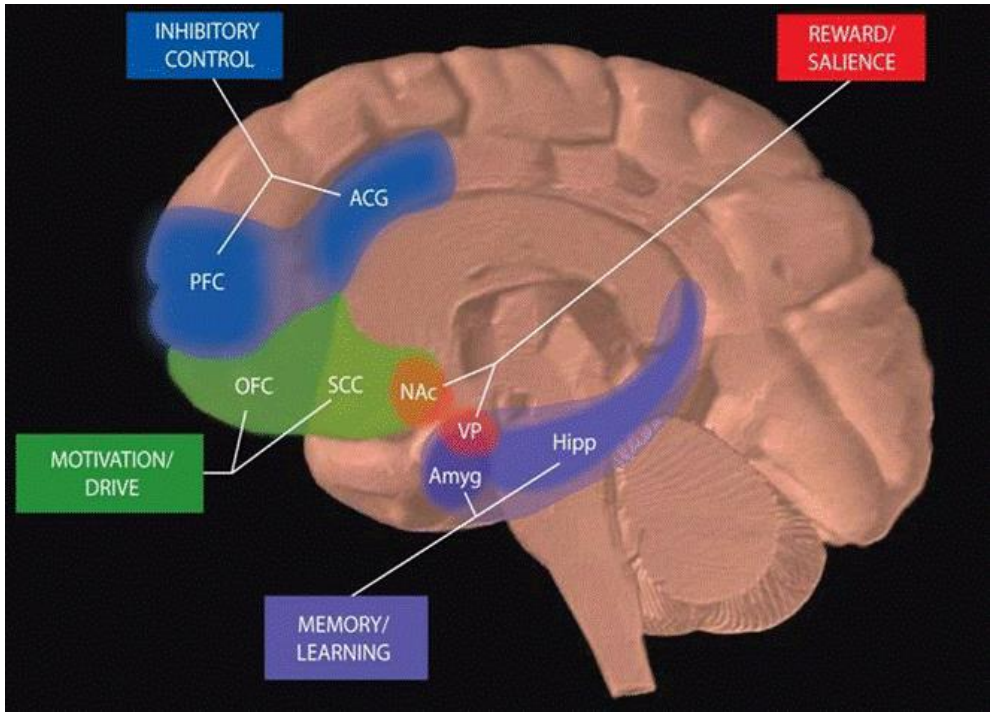
- Increased activity in hypothalamic-pituitary-adrenal axis (HPA-axis) and CRF/Cortisol release

**Lowered capacity to experience normal levels of reward via…**

- Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk

# Neuroscience of Recovery Capital

If addiction is a disorder of radically altered/damaged brain neurocircuits could social factors, recovery housing, and employment, change the brain, mitigate stress, upregulate down-regulated receptor systems, and increase the chances of long-term remission?



OPEN ACCESS Freely available online

PLoS MEDICINE

# Social Relationships and Mortality Risk: A Meta-analytic Review

**Julianne Holt-Lunstad[1]*, Timothy B. Smith[2], J. Bradley Layton[3]**

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## Abstract

*Background:* The quality and quantity of individuals' social relationships has been linked not only to mental health but also to both morbidity and mortality.

*Objectives:* This meta-analytic review was conducted to determine the extent to which social relationships influence risk for mortality, which aspects of social relationships are most highly predictive, and which factors may moderate the risk.

*Data Extraction:* Data were extracted on several participant characteristics, including cause of mortality, initial health status, and pre-existing health conditions, as well as on study characteristics, including length of follow-up and type of assessment of social relationships.

*Results:* Across 148 studies (308,849 participants), the random effects weighted average effect size was OR = 1.50 (95% CI 1.42 to 1.59), indicating a 50% increased likelihood of survival for participants with stronger social relationships. This finding

ignificant differences were

t for complex measures of

status (living alone versus

established risk factors for

Social factors influence both stress and reward … as well as health and longevity

# Social Buffering

- Stress-buffering effects of social relationships- one of the major findings of past century
- Mechanisms of this poorly understood

Psychological Bulletin


0033-2909/13/$12.00 DOI: 10.1037/a0032671

## Psychobiological Mechanisms Underlying the Social Buffering of the Hypothalamic–Pituitary–Adrenocortical Axis: A Review of Animal Models and Human Studies Across Development

Camelia E. Hostinar
University of Minnesota

Regina M. Sullivan
New York University Langone Medical Center

Megan R. Gunnar
University of Minnesota

Discovering the stress-buffering effects of social relationships has been one of the major findings in psychobiology in the last century. However, an understanding of the underlying neurobiological and psychological mechanisms of this buffering is only beginning to emerge. An important avenue of this research concerns the neurocircuitry that can regulate the activity of the hypothalamic–pituitary–adrenocortical (HPA) axis. The present review is a translational effort aimed at integrating animal models and human studies of the social regulation of the HPA axis from infancy to adulthood, specifically focusing on the process that has been named *social buffering*. This process has been noted across species and consists of a dampened HPA axis stress response to threat or challenge that occurs with the presence or assistance of a conspecific. We describe aspects of the relevant underlying neurobiology when enough information exists and expose major gaps in our understanding across all domains of the literatures we aimed to integrate. We provide a working conceptual model focused on the role of oxytocinergic systems and prefrontal neural networks as 2 of the putative biological mediators of this process, and propose that the role of early experiences is critical in shaping later social buffering effects. This synthesis points to both general future directions and specific experiments that need to be conducted to build a more comprehensive model of the HPA social buffering effect across the life span that incorporates multiple levels of analysis: neuroendocrine, behavioral, and social.

*Keywords:* stress, social support, early caregiving, oxytocin, prefrontal cortex

It is an empirical reality that some individuals succumb, whereas others thrive, when confronted with similar stressors. Having access to social support may be an important modulator of these widespread individual differences in responses to potentially stressful events. Indeed, some exciting experiments in humans (e.g., Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003; Kirschbaum, Klauer, Filipp, & Hellhammer, 1995; Taylor et al., 2008) and animals (e.g., Hennessy, 1984, 1986; Vogt, Coe, & Levine, 1981) have identified a dampening of the hypothalamic–pituitary–adrenocortical (HPA) axis response to stressors by social factors as one of the possible mechanisms underlying the benefits of social support. Longitudinal studies also reveal relations between social support and basal levels of stress hormones such as salivary cortisol (Rosal, King, Ma, & Reed, 2004). Understanding the social buffering processes affecting this neuroendocrine axis would allow the possibility of interventions that might have cascading positive effects across multiple biological and psychological systems. Despite the important implications of this knowledge, our understanding of the underlying neurobiology and relevant components of social interaction that permit these HPA activity-regulating effects remains vastly incomplete.

### General Framework

# RESPONDING TO STRESS: SOCIAL BUFFERING

**…and researchers have started to examine possible neurobiological connections between social support and individual stress responses**

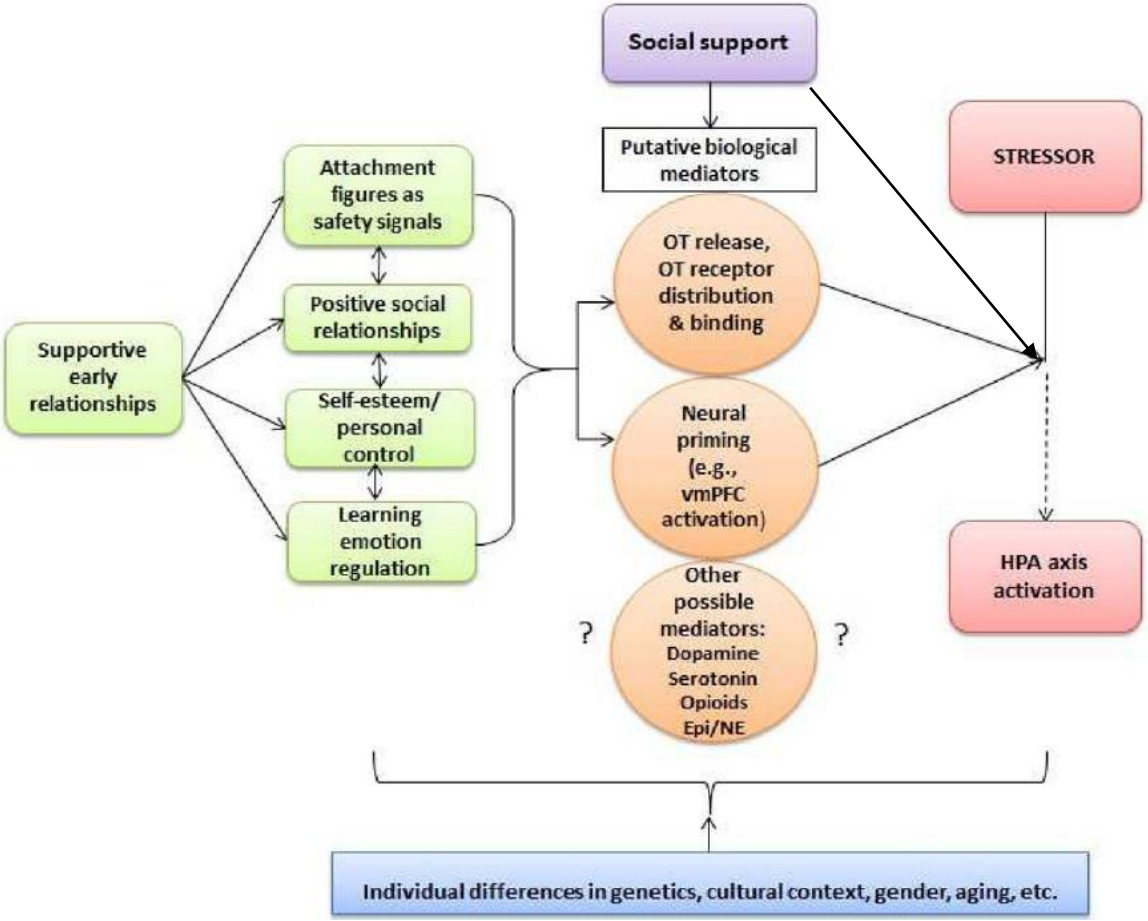


**Figure 1. A Developmental Working Model of Social Buffering of the HPA Axis in Humans**

OT = oxytocin, vmPFC = ventro-medial prefrontal cortex, Epi = epinephrine, NE = norepinephrine

Hostinar, C. E., Sullivan, R. M., & Gunnar, M. R. (2014). Psychobiological Mechanisms Underlying the Social Buffering of the HPA Axis: A Review of Animal Models and Human Studies across Development. Psychological Bulletin, 140(1).

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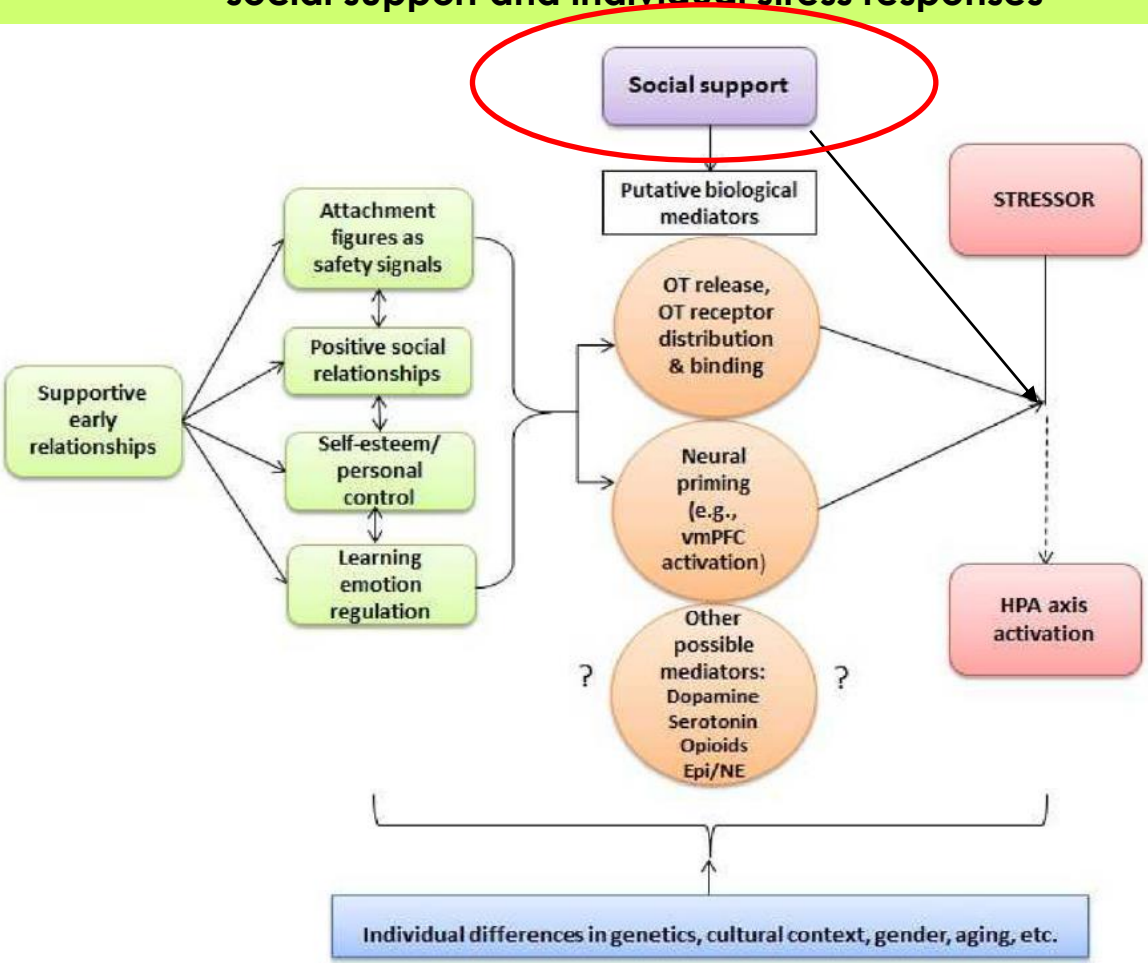


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# Post-acute withdrawal effects

- More stress and lowered ability to experience normal pleasures

**Increased sensitivity to stress via…**

- Increased activity in hypothalamic-pituitary-adrenal axis (HPA-axis) and CRF/Cortisol release

**Lowered capacity to experience normal levels of reward via…**

- Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk

# D2/D3 RECEPTOR BINDING & SOCIAL STATUS AND SUPPORT

**AIM**

Assess whether $D_{2/3}$ receptor levels correlate with social status and social support (particularly, to determine if low social status and low social support correlate with low $D_{2/3}$ receptor binding)

**SAMPLE**

N = 14 healthy participants (i.e., non-smoking with no Axis I disorders, significant medical conditions, or use of medications before the scan) who were scanned using positron emission tomography (PET) imaging to measure $D_{2/3}$ receptor binding potential (BP)

**MEASURES**

- Barratt Simplified Measure of Social Status (BMSSS) to measure social status
- Scale of Perceived Social Support (MSPSS) to measure social support
- [$^{11}$C]raclopride to measure $D_{2/3}$ receptor binding in the striatum

**OUTCOMES**

- Positive correlation between **$D_{2/3}$ receptor** binding potential and **social status**
- Positive correlation between **$D_{2/3}$ receptor** binding potential and **perceived social support**
- Results similar to prior studies of nonhuman primates, which show higher $D_{2/3}$ receptor levels in monkeys who are dominant in their social hierarchy, compared to those who are subordinate

BRIEF REPORTS

## Dopamine Type 2/3 Receptor Availability in the Striatum and Social Status in Human Volunteers

Diana Martinez, Daria Orlowska, Rajesh Narendran, Mark Slifstein, Fei Liu, Dileep Kumar, Allegra Broft, Ronald Van Heertum, and Herbert D. Kleber

**Background:** Previous positron emission tomography (PET) imaging studies in nonhuman primates have shown that striatal dopamine type 2/3 ($D_{2/3}$) receptors correlate with social hierarchy in monkeys and that dominant animals exhibit higher levels of $D_{2/3}$ receptor binding. The goal of the present study was to examine this phenomena in human subjects using PET and the radiotracer [$^{11}$C]raclopride.

**Methods:** Fourteen healthy volunteers were scanned with [$^{11}$C]raclopride to measure $D_{2/3}$ receptor binding potential (BP). Social status was assessed using the Barratt Simplified Measure of Social Status. In addition, participants were asked to assess their level of social support using the Multidimensional Scale of Perceived Social Support (MSPSS).

**Results:** A correlation was seen between social status and dopamine $D_{2/3}$ receptors, where volunteers with the higher status had higher values for [$^{11}$C]raclopride BP. A similar correlation was seen with the perceived social support, where higher [$^{11}$C]raclopride BP correlated with higher scores on the MSPSS.

**Conclusions:** The results of this study support the hypothesis that social status and social support is correlated with $D_{2/3}$ receptor binding.

**Key Words:** [$^{11}$C]raclopride, dopamine 2/3 receptor, PET imaging, social status

Previous studies in animals have shown a correlation between dopamine transmission in the brain and social hierarchy (1). In monkeys, dominant and subordinate social rank are determined by physical and social triumph and defeat. Dominant animals win more physical confrontations and receive more social attention, such as grooming or huddling. Two positron emission tomography (PET) imaging studies have investigated the relationship between social status and $D_{2/3}$ receptors in the striatum in monkeys. Both showed that social dominance was associated with higher $D_{2/3}$ receptor binding compared with subordinate animals (2,3).

In humans, social hierarchy is a more subtle phenomenon that can be approximated by measuring social status and social support (4). Thus, the goal of the present study was to examine the correlation between these factors and dopamine $D_{2/3}$ receptor binding in human subjects. Given the known effect of disease states on striatal $D_{2/3}$ receptors, including substance dependence, schizophrenia, and anxiety disorders (5–7), only healthy control volunteers were included in this study. Social status was measured using the Barratt Simplified Measure of Social Status (BMSSS) (8) and social support was measured using the Multidimensional Scale of Perceived Social Support (MSPSS) (9). Our hypothesis was that low social status and low levels of social support would correlate with low $D_{2/3}$ receptor binding in the striatum measured with [$^{11}$C]raclopride.

From the Departments of Psychiatry (DM, DO, MS, FL, DK, AB, HDK) and Radiology (RVH), Columbia University, College of Physicians and Surgeons, New York, New York; and Department of Radiology (RN), University of Pittsburgh, Pittsburgh, Pennsylvania.
Address correspondence to Diana Martinez, M.D., New York State Psychiatric Institute, 1051 Riverside Drive, Box #31, New York, NY 10032; E-mail: dm437@columbia.edu.
Received Dec 18, 2008; revised Jul 23, 2009; accepted Jul 28, 2009.

### Methods and Materials

The study was approved by the Institutional Review Board of the New York State Psychiatric Institute and all subjects provided written informed consent. Study participants were nonsmoking healthy control subjects and were required to have no DSM-IV Axis I disorder (including substance abuse or dependence), no significant medical conditions, and no use of medications before the scan (6 months for medications that could affect dopamine, 2 weeks for all others). Subjects (nine men and five women) were recruited from the New York City metropolitan area. Participant screening included a psychiatric assessment with the *Structured Clinical Interview for DSM-IV Axis I Disorders* (10), physical examination, electrocardiogram, and laboratory tests. All subjects were asked for data to complete the Barratt Simplified Measure of Social Status and to complete the Multidimensional Scale of Perceived Social Support. The scans performed on female subjects were not controlled for menstrual cycle phase.

[$^{11}$C]raclopride was prepared as previously described (11), and PET studies were acquired using a bolus injection of the radiotracer. The PET scans were obtained on the ECAT EXACT HR+ (Siemens/CTI, Knoxville, Tennessee) in three-dimensional (3-D) mode. Emission data were obtained as 15 frames of increasing duration up to 60 minutes. The PET images were reconstructed by filtered backprojection (Shepp .5 filter) with attenuation correction using the data from a 10-minute transmission scan.

All image analysis was performed in MEDx (Sensor Systems, Inc, Sterling, Virginia). Each subject underwent a transaxial T1 magnetic resonance imaging (MRI) scan, acquired on the GE Signa EXCITE 3 T/94 cm scanner (GE Medical Systems, Milwaukee, Wisconsin), for delineation of the regions of interest (ROIs). The regions of interest outlined on the MRI included the subdivisions of the striatum, which have been previously described (12). Briefly, these included the ventral striatum (VST), the dorsal caudate rostral to the anterior commissure (AC) (precommissural dorsal caudate [preDCA]), the dorsal putamen rostral to the AC (precommissural dorsal putamen [preDPU]), the caudate caudal to the AC (postcommissural caudate [postCAU]), and the putamen caudal to the AC (postcommissural putamen [postPUT]).

Martinez, D., Orlowska, D., Narendran, R., Slifstein, M., Liu, F., Kumar, D., . . . Kleber, H. D. (2010). Dopamine type 2/3 receptor availability in the striatum and social status in human volunteers. *Biological Psychiatry, 67*(3), 275-278. doi:10.1016/j.biopsych.2009.07.037

# D2/D3 RECEPTOR BINDING & SOCIAL STATUS AND SUPPORT

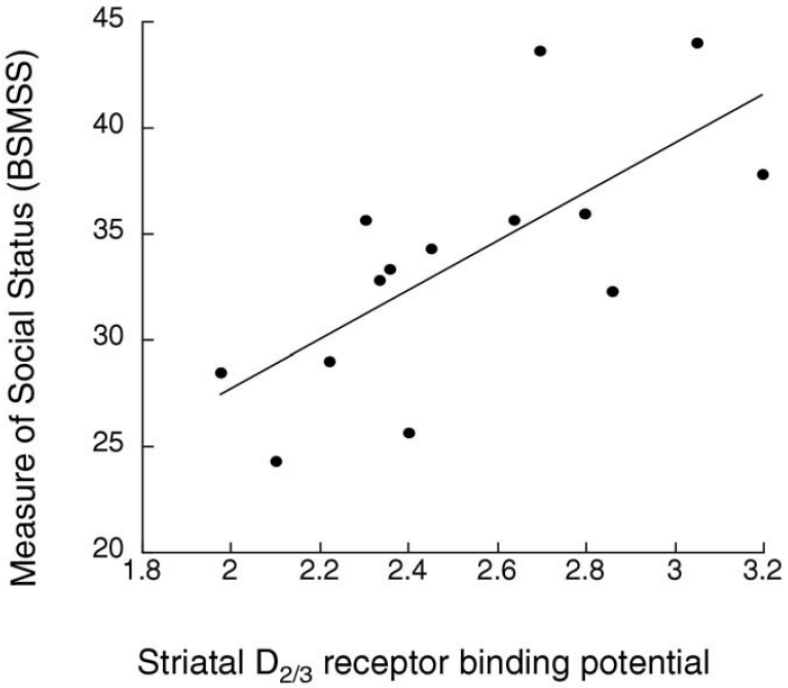


**Figure 1.** Correlation between [$^{11}$C]raclopride BP (x axis) and social status, measured with the Barratt Simplified Measure of Social Status (BSMSS). A positive correlation was seen, where higher BP correlated with higher BSMSS ($r = .71$, $p = .004$, age-corrected $p = .007$). BP, binding potential.

$D_{2/3}$ receptor binding increases as **social status** increases.

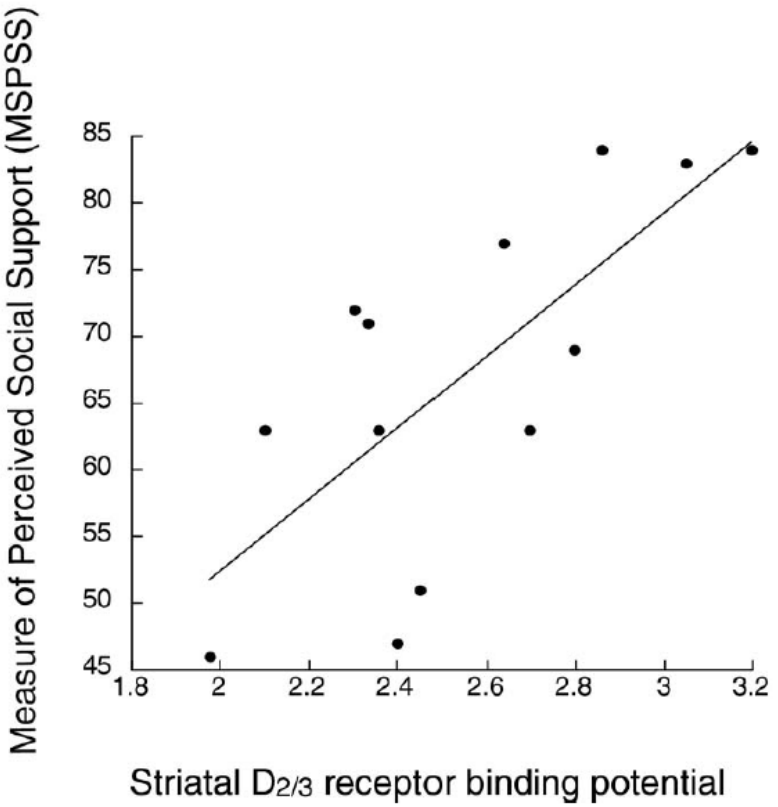


**Figure 2.** Correlation between [$^{11}$C]raclopride BP (x axis) and score on the Multidimensional Scale of Perceived Social Support (MSPSS). A positive correlation was seen, where higher BP correlated with higher score on the MSPSS ($r = .73$, $p = .005$, age-corrected $p = .02$). BP, binding potential.

$D_{2/3}$ receptor binding increases as **social support** increases.

Martinez, D., Orlowska, D., Narendran, R., Slifstein, M., Liu, F., Kumar, D., . . . Kleber, H. D. (2010). Dopamine type 2/3 receptor availability in the striatum and social status in human volunteers. *Biological Psychiatry, 67*(3), 275-278. doi:10.1016/j.biopsych.2009.07.037

# Social dominance in monkeys: dopamine $D_2$ receptors and cocaine self-administration

Drake Morgan[1], Kathleen A. Grant[1], H. Donald Gage[2], Robert H. Mach[1,2], Jay R. Kaplan[3], Osric Prioleau[1], Susan H. Nader[1], Nancy Buchheimer[2], Richard L. Ehrenkaufer[2] and Michael A. Nader[1,2]

[1] *Department of Physiology and Pharmacology,* [2]*Department of Radiology,* [3]*Departments of Pathology (Comparative Medicine) and Anthropology, Wake Fores*

*Corresponde*

Monkeys, like humans, love to be with each Other, and also like cocaine…

Published

**Disruption of the dopaminergic system has been implicated in the etiology of many pathological conditions, including drug addiction. Here we used positron emission tomography (PET) imaging to study brain dopaminergic function in individually housed and in socially housed cynomolgus macaques ($n = 20$). Whereas the monkeys did not differ during individual housing, social housing increased the amount or availability of dopamine $D_2$ receptors in dominant monkeys and produced no change in subordinate monkeys. These neurobiological changes had an important behavioral influence as demonstrated by the finding that cocaine functioned as a reinforcer in subordinate but not dominant monkeys. These data demonstrate that alterations in an organism's environment can produce profound biological changes that have important behavioral associations, including vulnerability to cocaine addiction.**

# The importance of social context, control over environment, and relapse risk

- When all monkeys were individually housed no difference in DA D2 receptor volume
- After 3 months of social housing, dominant monkeys showed 22% increase in DA D2 volume; subordinate monkeys - no change
- Increase in DA D2 associated with lower likelihood of cocaine use
- "Dominance" defined as: **easy access to food and water, social mobility, and greater environmental control.**

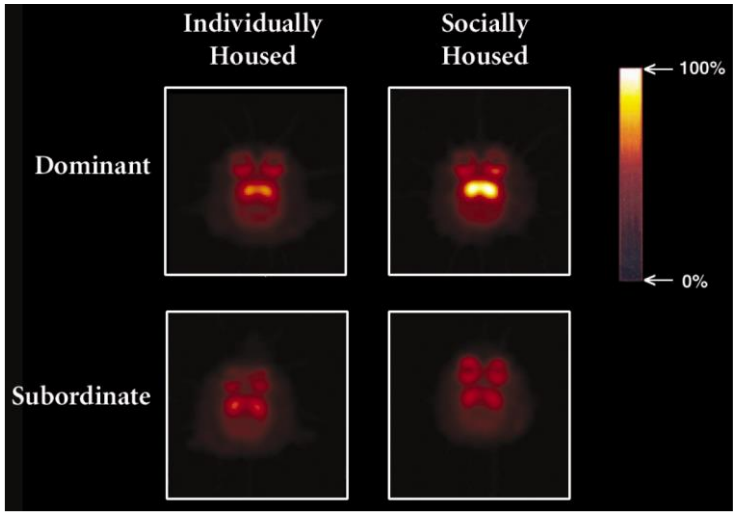


**Table 1. Dopaminergic characteristics of monkeys.**

| Social rank[a] | [$^{18}$F]FCP distribution volume ratios | | |
|---|---|---|---|
| | Individually housed | Socially housed | Percent change |
| 1 | 2.49 ± 0.08 | 3.04 ± 0.23[b,c] | +22.0 ± 8.8 |
| 2 | 2.58 ± 0.13 | 2.99 ± 0.13 | +16.7 ± 6.0 |
| 3 | 2.58 ± 0.13 | 2.88 ± 0.30 | +13.4 ± 15.3 |
| 4 | 2.40 ± 0.06 | 2.49 ± 0.10 | +3.9 ± 5.3 |

Mean ± s.e.m. [$^{18}$F]FCP DVR as determined with PET imaging in male cynomolgus monkeys as a function of social rank while individually and socially housed. [a]For individually housed scans, these numbers represent eventual social rank. [b]Significantly higher than individually housed 'dominants.' [c]Significantly higher than socially housed subordinates.

# The importance of social context, control over environment, and relapse risk

- When
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- After 3
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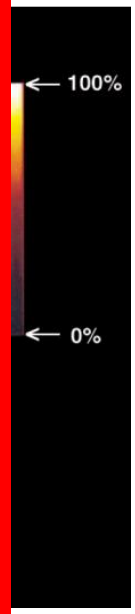
- Increa
  likeliho
- "Domi
  **and w**
  **enviro**

**Human Implications:**

**Facilitating greater access to and availability of recovery capital may induce neuroreceptor and neurochemical change that reduces risk of SUD recurrence**

**This may be reflected psychologically as instilling hope, empowerment, increasing environmental control and social contact and social mobility through the environment and thereby reduce relapse risk…**




hange
8.8
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5.3

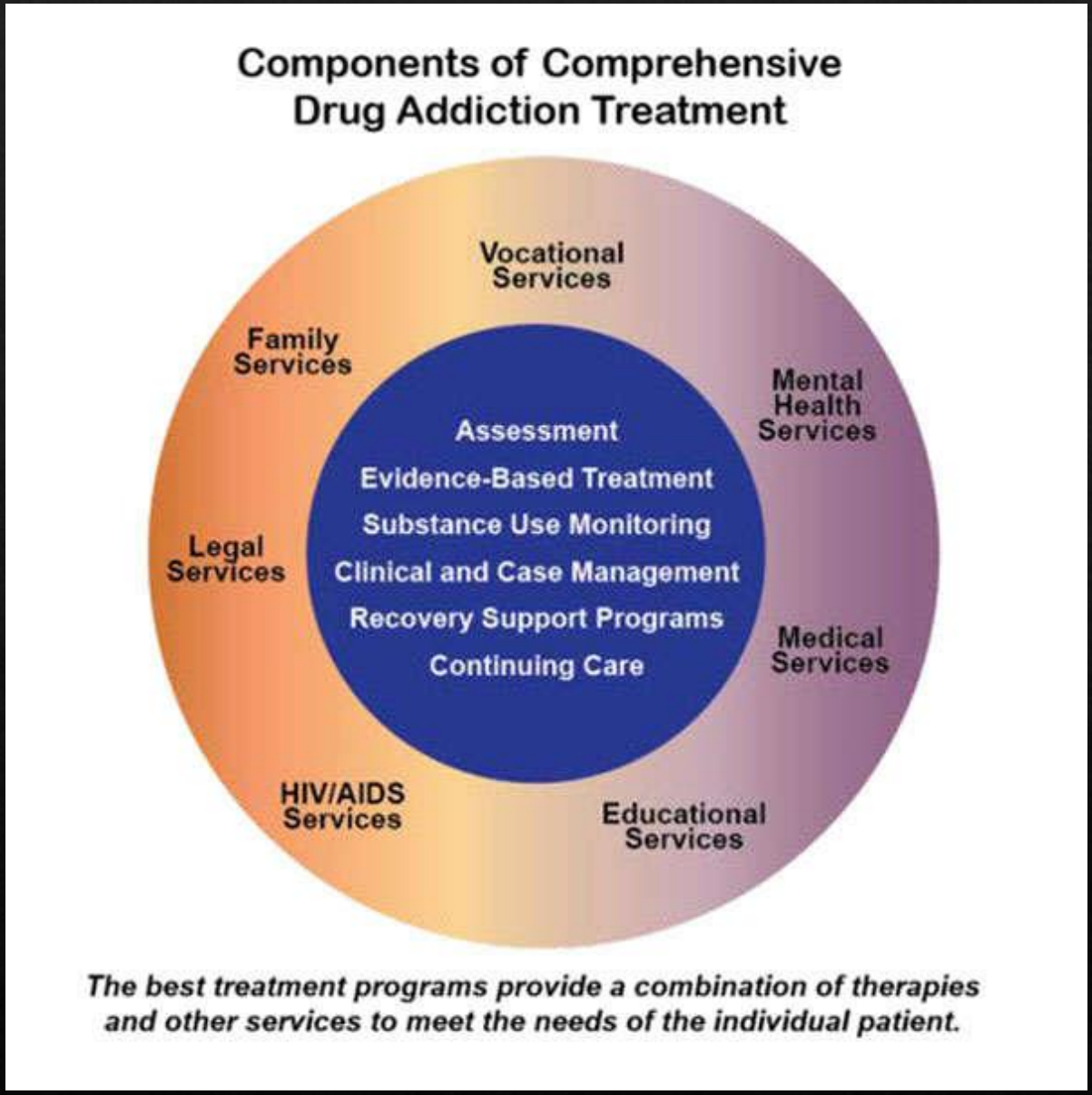
n male
lly and
present

eventual social rank. [b]Significantly higher than individually housed 'dominants.' [c]Significantly higher than socially housed subordinates.

# Historically, two major ways most societies have addressed endemic alcohol/drug problem…

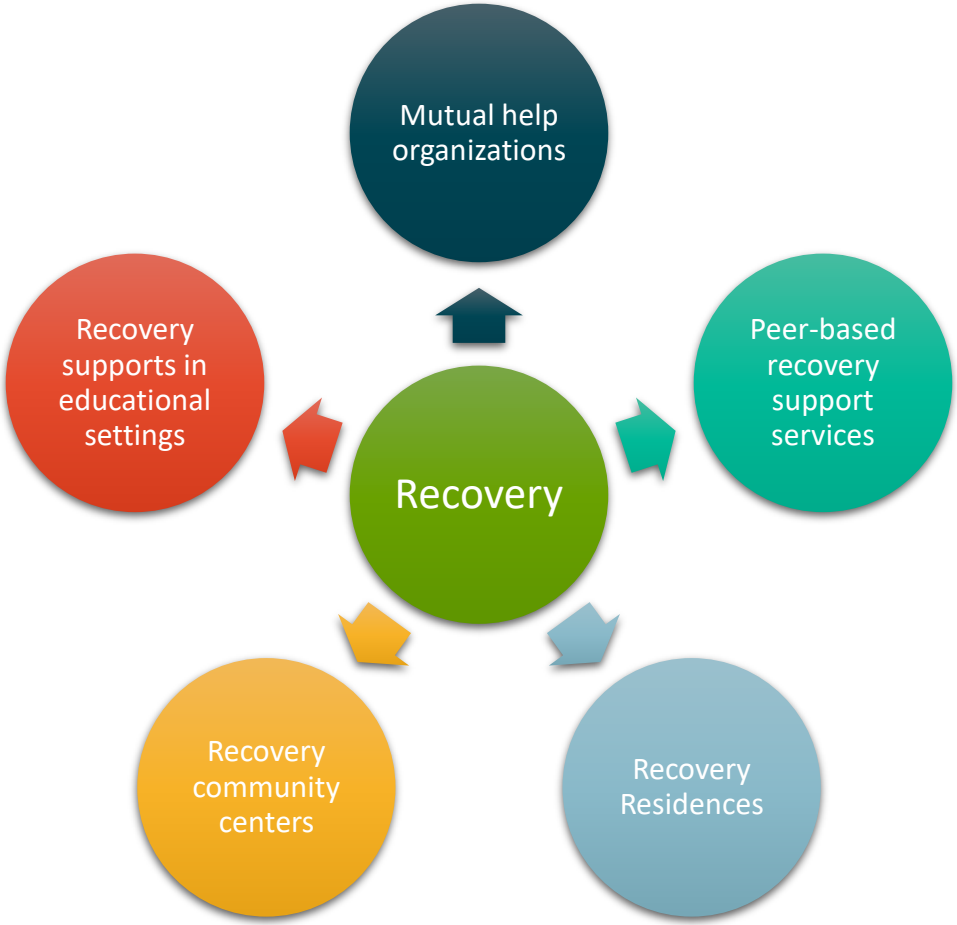
# Now, third wave of services emerging….to try to meet addiction needs of recovery capital…

*In fact, the concept of SUD "treatment" is changing…*

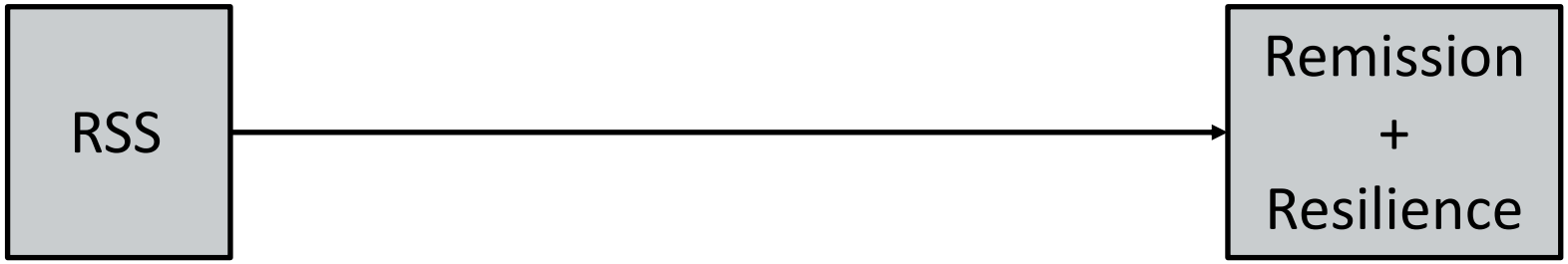



NIH National Institute on Drug Abuse
The Science of Drug Abuse & Addiction

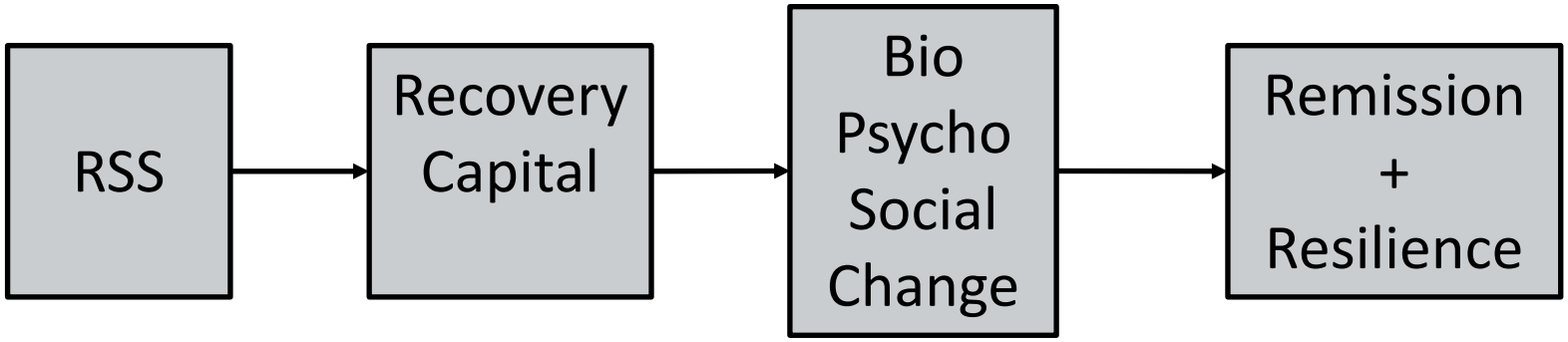
# Cadre of Emerging and Growing Long-term Recovery Support Services now exist…



# RSS Goal



# RSS Mechanisms



# Outline

- Where have we come from? Where are we now? Where are we going? 50 years of Addiction Science, Practice, and Policy:
- What is “recovery” and why is everyone talking about it?
- Theory of addiction recovery: a biopsychosocial perspective
- Services for Attaining and sustaining addiction remission and recovery
- State of the Science and future directions

# Recovery Support Services

RECOVERY RESEARCH INSTITUTE

MASSACHUSETTS GENERAL HOSPITAL

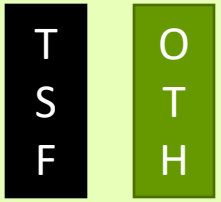
HARVARD MEDICAL SCHOOL TEACHING HOSPITAL

# Mutual help Organizations


# Substance Focused Mutual-help Groups

| Name | Year of Origin | Number of groups in U.S. | Location of groups in U.S. |
|---|---|---|---|
| **Alcoholics Anonymous (AA)** | 1935 | 65,000 | all 50 States |
| **Narcotics Anonymous (NA)** | 1940s | Approx. 32,000 | all 50 States |
| **Cocaine Anonymous (CA)** | 1982 | Approx. 2000 groups | most States; 6 online meetings at www.ca-online.org |
| **Methadone Anonymous (MA)** | 1990s | Approx. 100 groups | 25 States; online meetings at http://methadone-anonymous.org/chat.html |
| **Marijuana Anonymous (MA)** | 1989 | Approx. 200 groups | 24 States; online meetings at www.ma-online.org |
| **Rational Recovery (RR)** | 1988 | No group meetings or mutual helping; emphasis is on *individual* control and responsibility | ---------- |
| **Self-Management and Recovery Training (S.M.A.R.T. Recovery)** | 1994 | Approx. 3,000 groups | 40 States; 19 online meetings at www.smartrecovery.org/meetings/olschedule.htm |
| **Secular Organization for Sobriety, a.k.a. Save Ourselves (SOS)** | 1986 | Approx. 500 groups | all 50 States; Online chat at www.sossobriety.org/sos/chat.htm |
| **Women for Sobriety (WFS)** | 1976 | 150-300 groups | Online meetings at http://groups.msn.com/ WomenforSobriety |
| **Moderation Management (MM)** | 1994 | Approx.18 face-to-face meetings | 12 States; Most meetings are online at www.angelfire.com/trek/mmchat/; |

Source: Kelly & Yeterian, 2015




# TSF Delivery Modes

Stand alone
Independent therapy

Integrated into an existing therapy

Component of a treatment package (e.g., an additional group)

As Modular appendage linkage component

In past 25 years, MHO research has gone from contemporaneous correlational research to rigorous RCTs and …

# Cochrane Systematic Review on AA/TSF (2020)

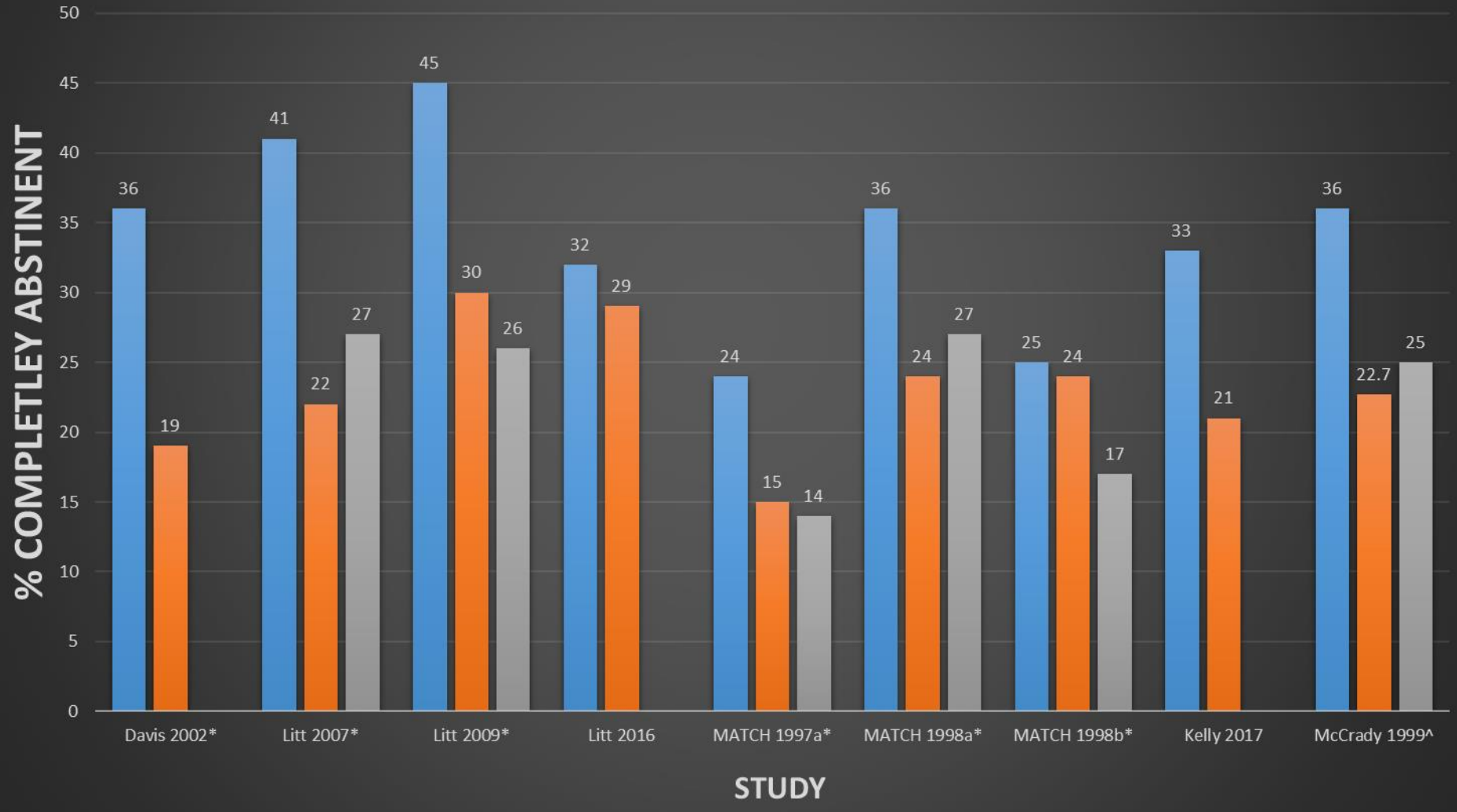
- Kelly, JF
- Humphreys, K
- Ferri, M


**Alcoholics Anonymous and other 12-step programs for alcohol use disorder (Review)**

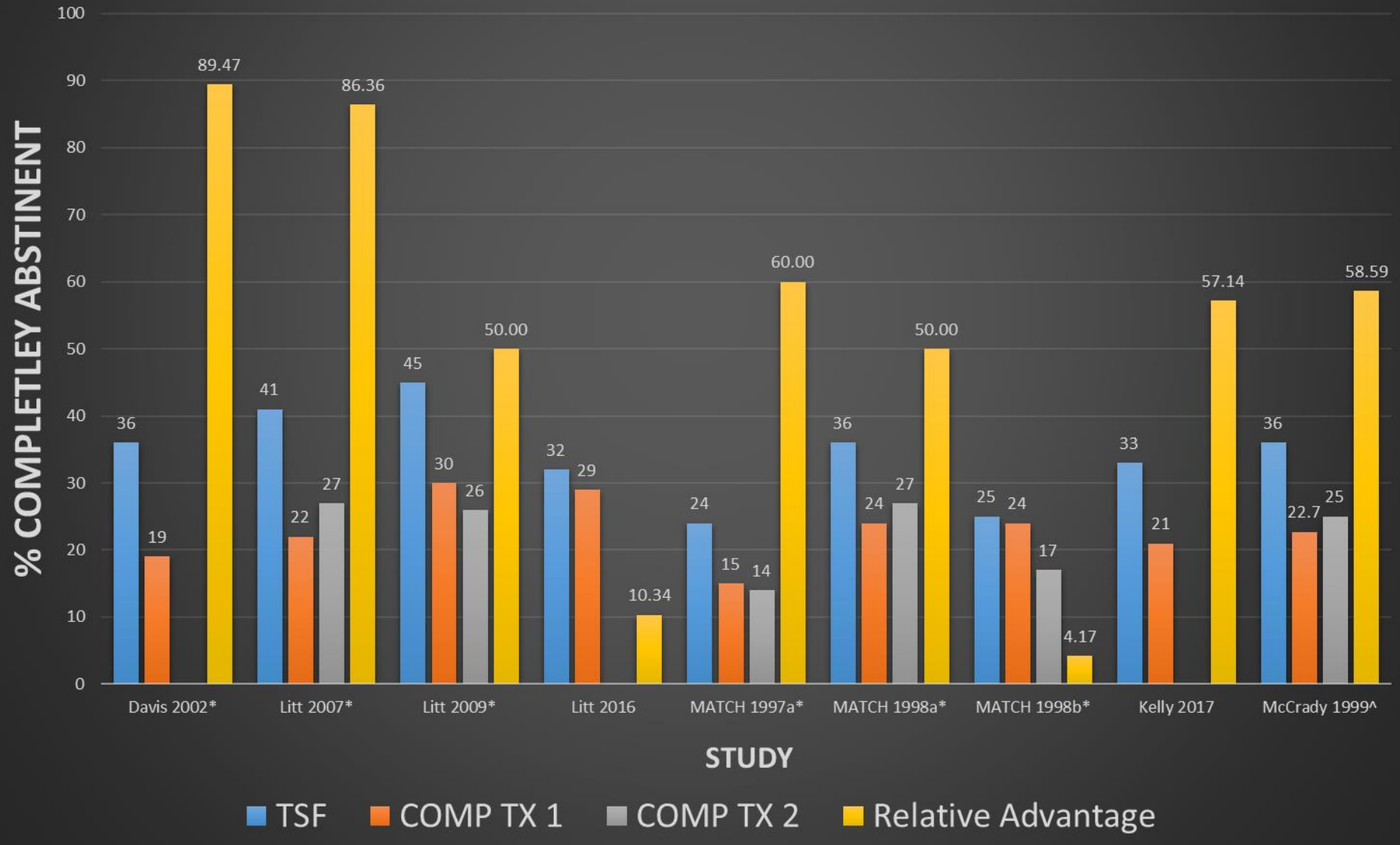
Kelly JF, Humphreys K, Ferri M

Kelly JF, Humphreys K, Ferri M.
Alcoholics Anonymous and other 12-step programs for alcohol use disorder.
*Cochrane Database of Systematic Reviews* 2020, Issue 3. Art. No.: CD012880.
DOI: 10.1002/14651858.CD012880.pub2.

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



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



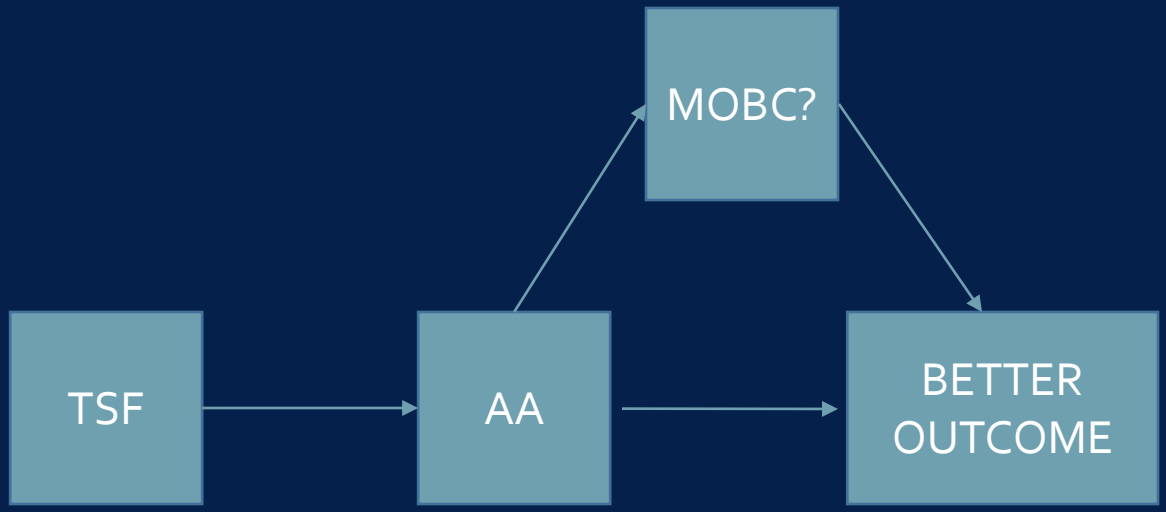
# Economic Studies

Healthcare Cost Savings

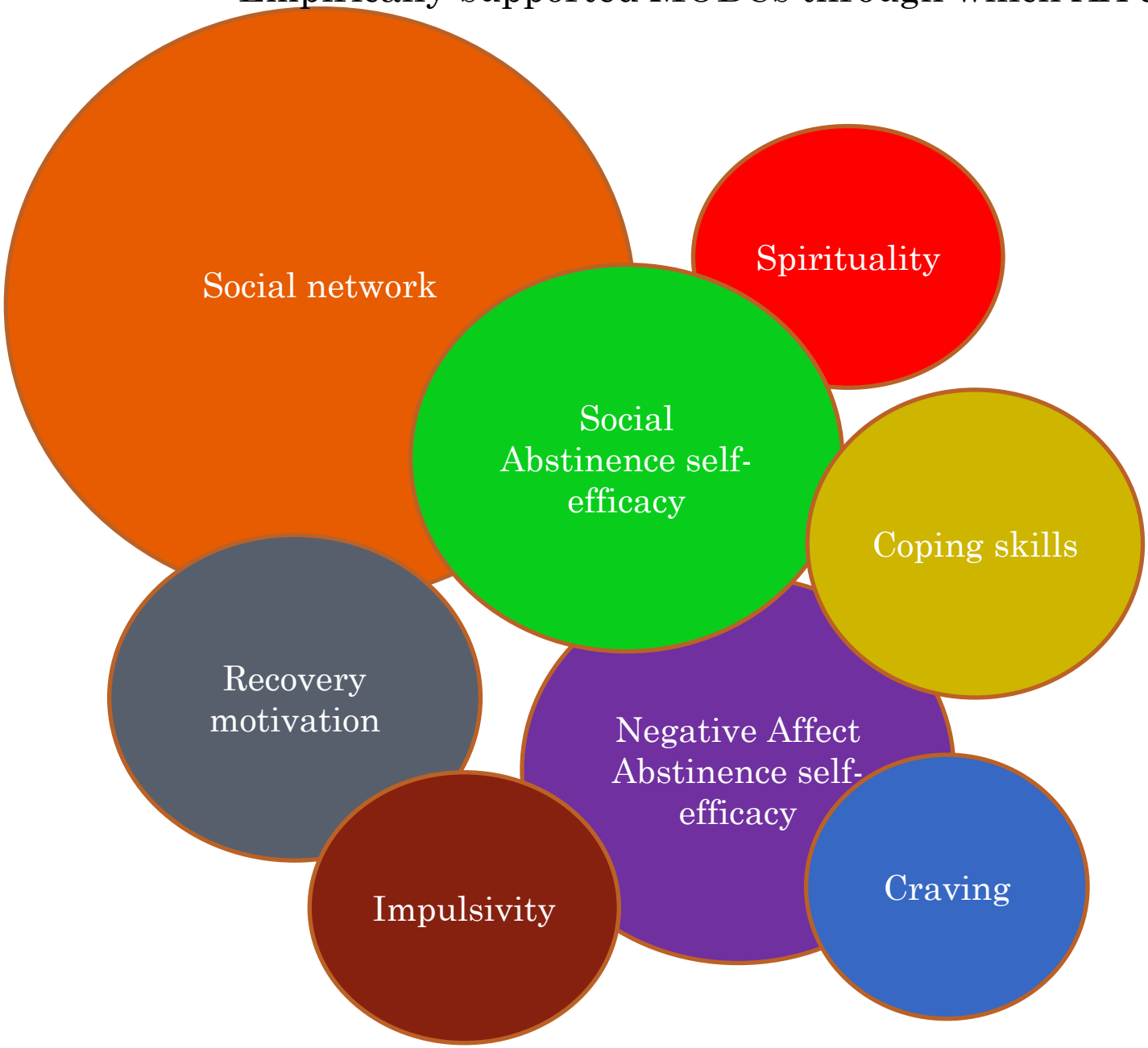
- 3/4 included studies in this category (n reports = 4/5; found sig. health care cost saving in favor of the AA/TSF condition.
- Economic analyses found benefits in favor of AA/TSF relative to outpatient treatment, and CBT interventions.
- Magnitude quite large. In addition to sig. increased abstinence, compared to CBT interventions delivered in residential VA, AA/TSF reduces mental health and substance use related healthcare costs over the next two years by over $10,000 per patient (converted to 2018 U.S. dollars).
- More than 1M people treated for AUD in U.S. annually - reducing their health care costs by this amount would produce an large aggregate economic saving (e.g., >$10 billion in the U.S. alone) as well as improving clinical outcomes.

# In Studies the conducted and reported mediational analyses…AA/TSF Causal chain supported…

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



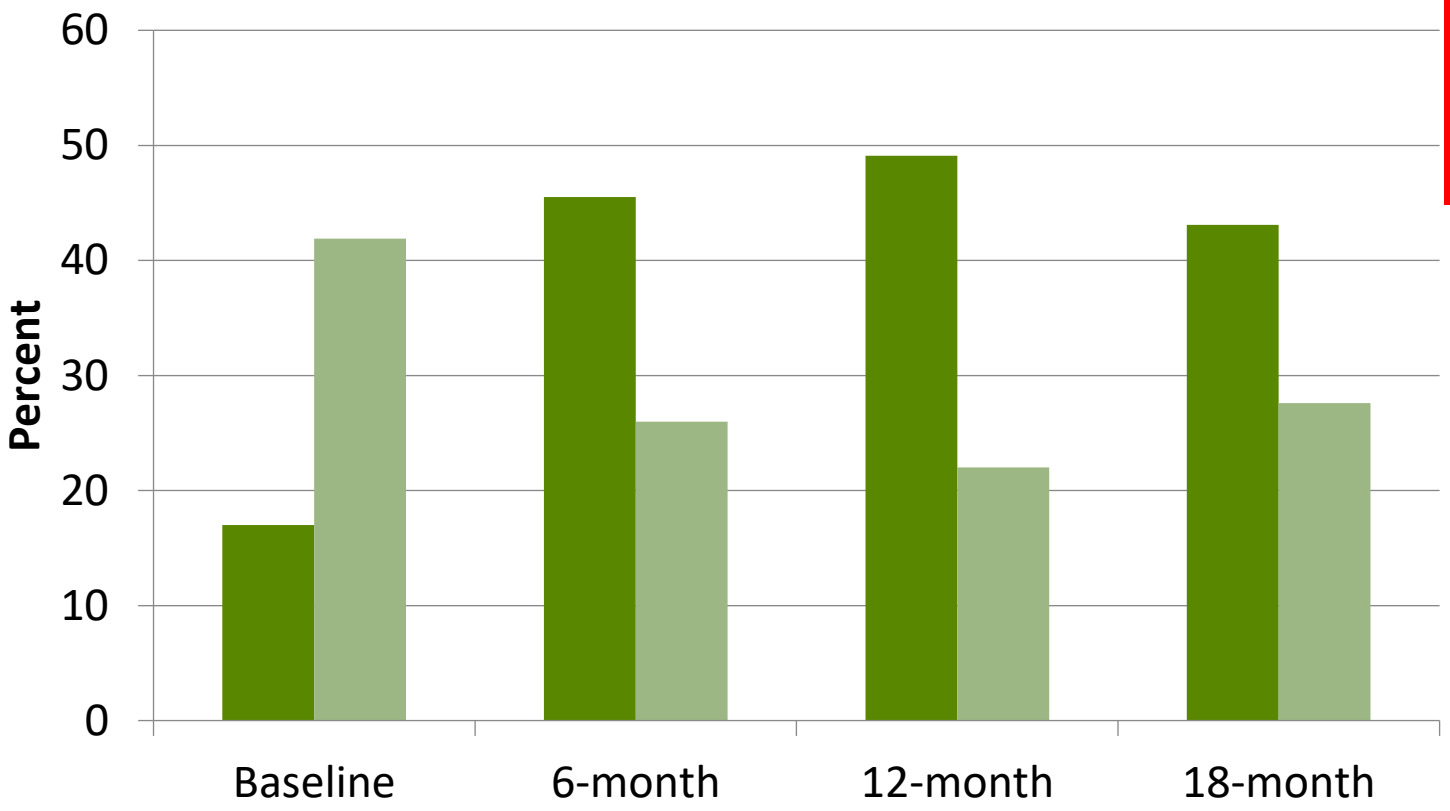
Empirically-supported MOBCs through which AA confers benefit



# Sober Living Environments Peer Run/Self-Governing


# Sober Living Homes

Outcomes for residents in free standing SLHs




SLHs associated with tripling abstinence rates and halving arrest rates

Polcin et al., 2010

# Societal Benefits of Oxford Houses

- **Sample**: 150 individual completing treatment in the Chicago metropolitan area
- **Design**: Randomized controlled trial
- **Intervention**: Oxford House vs. community-based aftercare services (usual care)
- **Follow-up**: 2 years
- **Outcome**: Substance use, monthly income, incarceration rates

FIELD ACTION REPORT

## Communal Housing Settings Enhance Substance Abuse Recovery

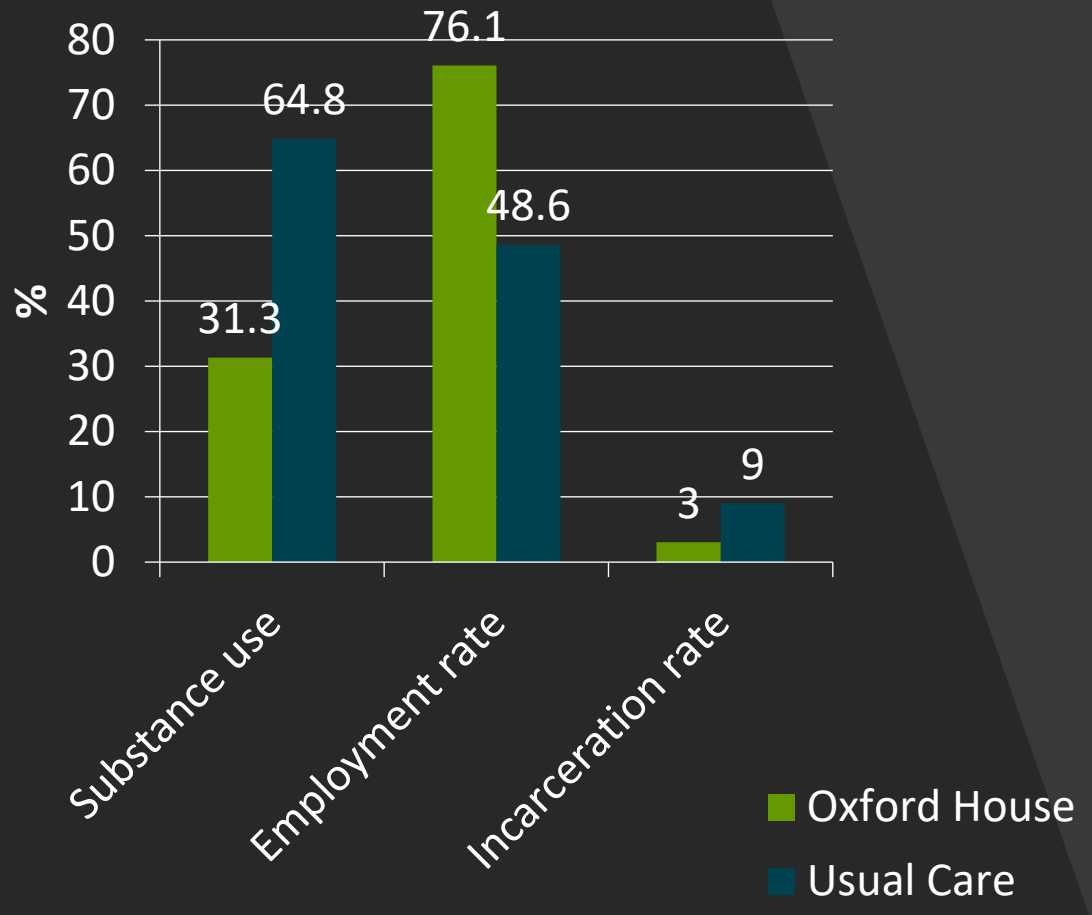
Leonard A. Jason, PhD, Bradley D. Olson, PhD, Joseph R. Ferrari, PhD, and Anthony T. Lo Sasso, PhD

Oxford Houses are democratic, mutual help–oriented recovery homes for individuals with substance abuse histories. There are more than 1200 of these houses in the United States, and each home is operated independently by its residents, without help from professional staff.

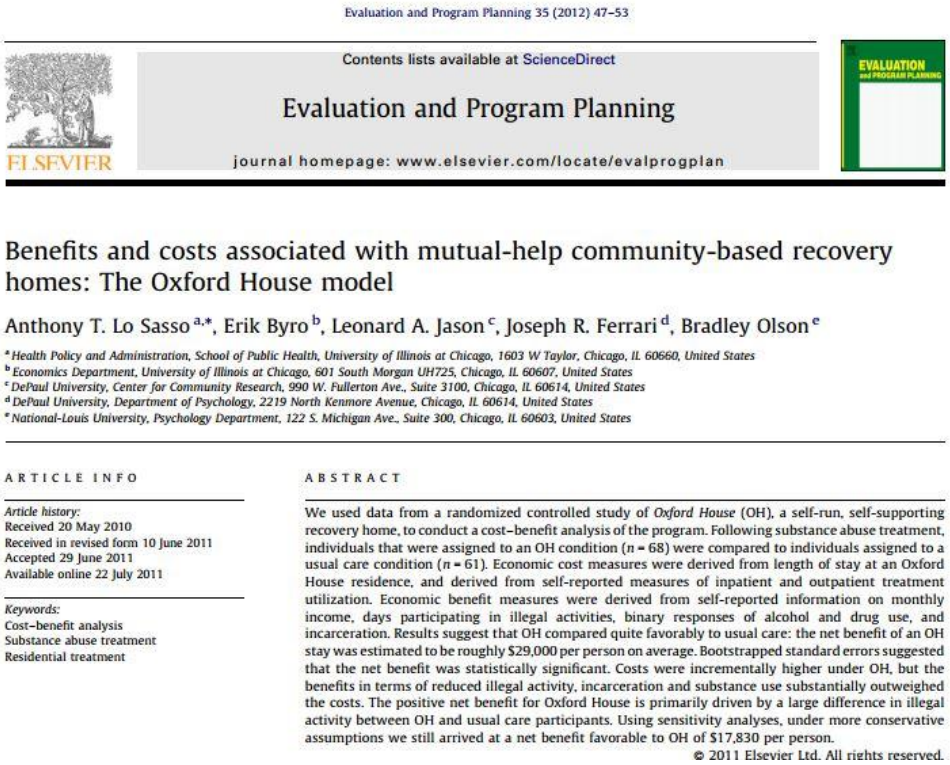
In a recent experiment, 150 individuals in Illinois were randomly assigned to either an Oxford House or usual-care condition (i.e., outpatient treatment or self-help groups) after substance abuse treatment discharge. At the 24-month follow-up, those in the Oxford House condition compared with the usual-care condition had significantly lower substance use, significantly higher monthly income, and significantly lower incarceration rates. (*Am J Public Health*. 2006;96:1727–1729. doi:10.2105/AJPH.2005.070839)

# Oxford House vs. Usual Care

- Sober living had –
- half as many persons using substances across 2 yr follow-up as usual care
- 50% more likely to be employed
- 1/3 re-incarceration rate



# Cost-benefit analysis of the Oxford House Model



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## Benefits and costs associated with mutual-help community-based recovery homes: The Oxford House model

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ABSTRACT

We used data from a randomized controlled study of *Oxford House* (OH), a self-run, self-supporting recovery home, to conduct a cost–benefit analysis of the program. Following substance abuse treatment, individuals that were assigned to an OH condition ($n = 68$) were compared to individuals assigned to a usual care condition ($n = 61$). Economic cost measures were derived from length of stay at an Oxford House residence, and derived from self-reported measures of inpatient and outpatient treatment utilization. Economic benefit measures were derived from self-reported information on monthly income, days participating in illegal activities, binary responses of alcohol and drug use, and incarceration. Results suggest that OH compared quite favorably to usual care: the net benefit of an OH stay was estimated to be roughly $29,000 per person on average. Bootstrapped standard errors suggested that the net benefit was statistically significant. Costs were incrementally higher under OH, but the benefits in terms of reduced illegal activity, incarceration and substance use substantially outweighed the costs. The positive net benefit for Oxford House is primarily driven by a large difference in illegal activity between OH and usual care participants. Using sensitivity analyses, under more conservative assumptions we still arrived at a net benefit favorable to OH of $17,830 per person.



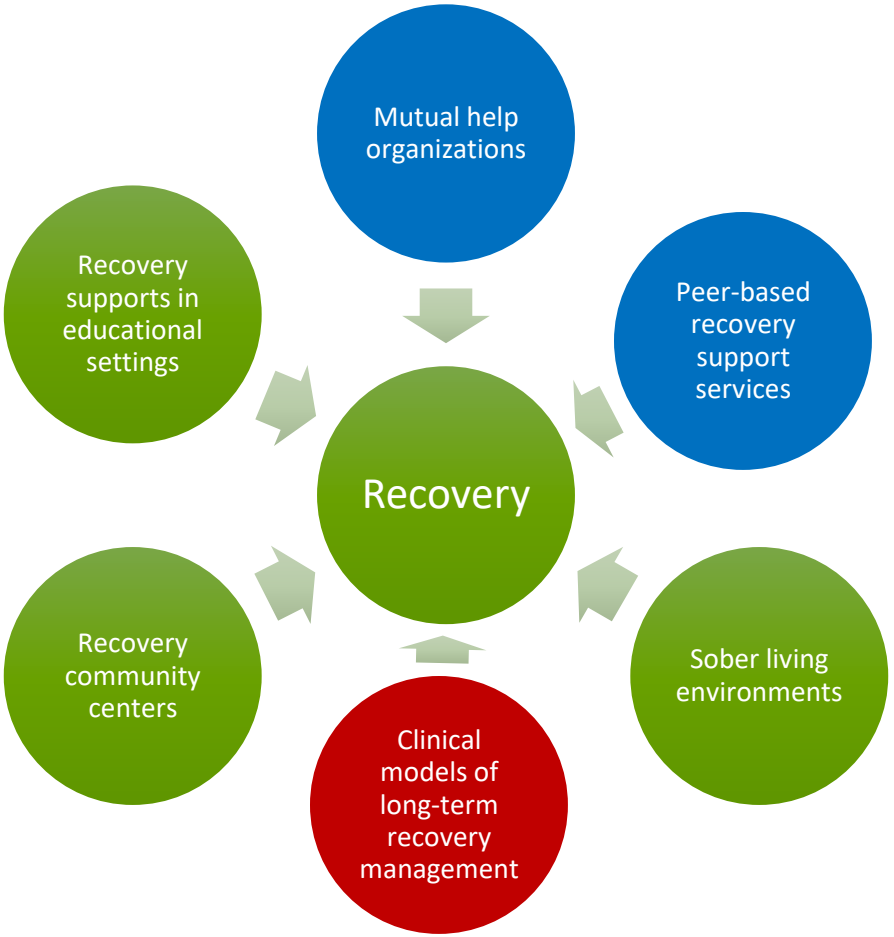
- **Sample**: 129 adults leaving substance use treatment between 2002 and 2005
- **Design**: Cost-benefit analysis using RCT data
- **Intervention**: Oxford House vs. usual continuing care
- **Follow-up**: 2 years
- **Outcome**: Substance use, monthly income, incarceration rates

# Mean per-person societal benefits and costs

# Bottom Line

- The costs associated with Oxford House treatment are returned nearly tenfold in the form of:
  - ↓ Reduced criminal activity
  - ↓ Reduced incarceration
  - ↓ Reduced drug and alcohol use
  - ↑ Increased earnings from employment

# Clinical Models of Long-term Recovery Management



## Recover Management Check-ups (RMC)

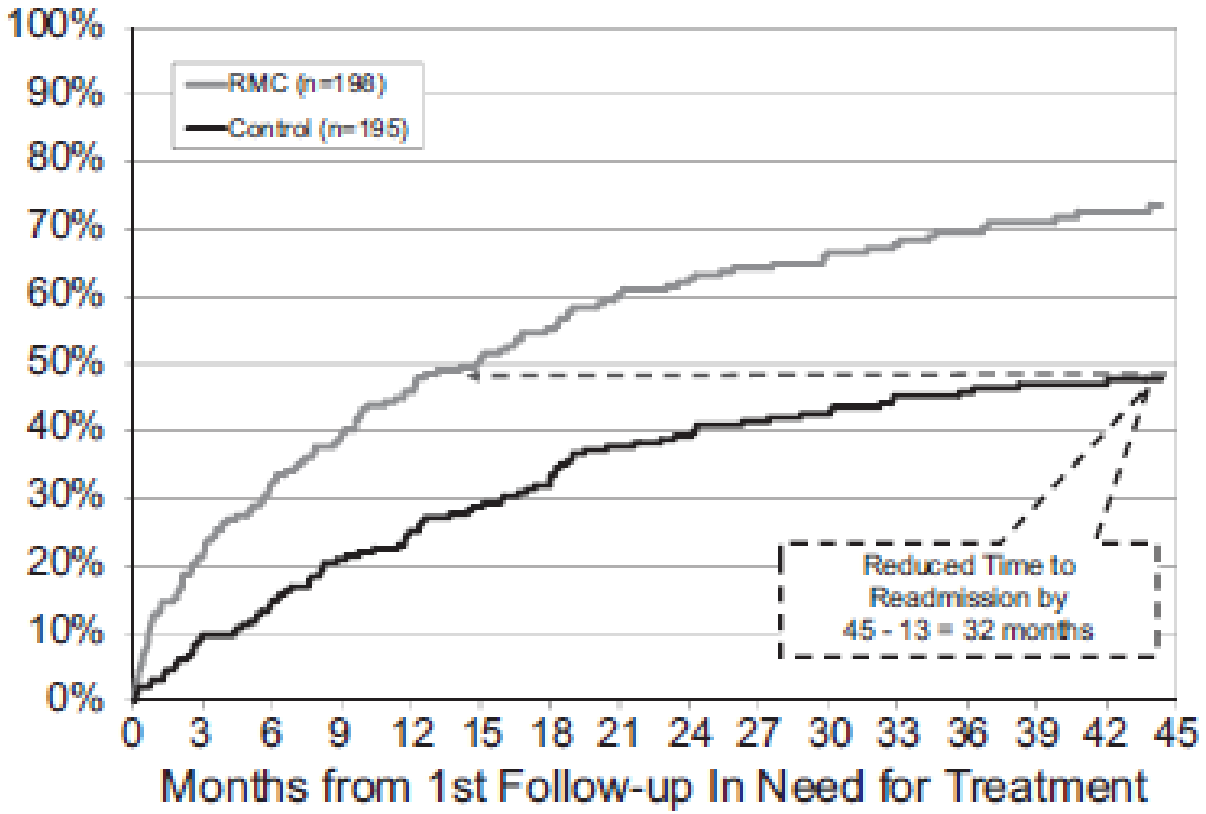
### 4-year outcomes from the Early Re-Intervention experiment using Recovery Management Checkups

- N=446 adults with SUD, mean age = 38, 54% male, 85% African-American
- randomly assigned to
  - quarterly outcome monitoring (OM) only
  - quarterly OM plus RMC
- Recovery Management Checkups
  - Linkage manager who used motivational interviewing to review the participant's substance use, discuss treatment barrier/solutions, schedule an appointment for treatment re-entry, and accompany participant through the intake
  - If participants reported no substance use in the previous quarter, the linkage manager reviewed how abstinence has changed their lives and what methods have worked to maintain abstinence

Source: Dennis & Scott (2012). Drug and Alcohol Dependence, 121, 10-17

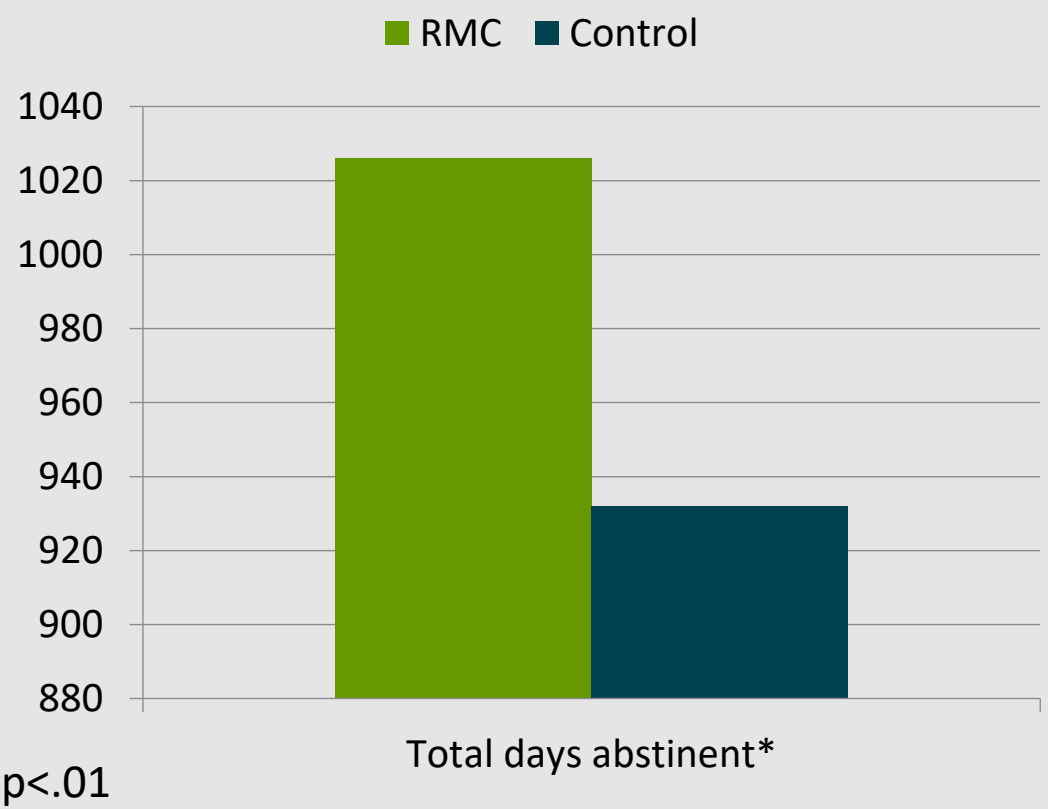
# Results 1
# Return to treatment

- Participants in RMC condition sig. more likely to return to treatment sooner




Source: Dennis & Scott (2012). Drug and Alcohol Dependence, 121, 10-17

# Results 4
# Days abstinent




*p<.01

Of 18 vars tested, the only variables that predicted return to treatment was the intervention

# Cost-effectiveness analysis of Recovery Management Checkups (RMC)

- **Sample**: 446 patients with substance use disorders residing in Illinois
- **Design**: Cost-effectiveness analysis using RCT data
- **Intervention**: Outcome monitoring (OM) plus RMC vs. OM-only
- **Follow-up**: 4 years
- **Outcome**: Cost per participant, number of days of abstinence, number of substance use-related problems

Addiction

RESEARCH REPORT

doi:10.1111/add.123

## Cost-effectiveness analysis of Recovery Management Checkups (RMC) for adults with chronic substance use disorders: evidence from a 4-year randomized trial

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Department of Public Health Sciences, Miller School of Medicine, University of Miami, Miami, FL, USA,[1] Department of Sociology, University of Miami, Coral Gab FL, USA,[2] New York University, School of Medicine, New York, NY, USA,[3] Chestnut Health Systems, Normal, IL, USA[4] and Chestnut Health Systems, Chicago USA[5]

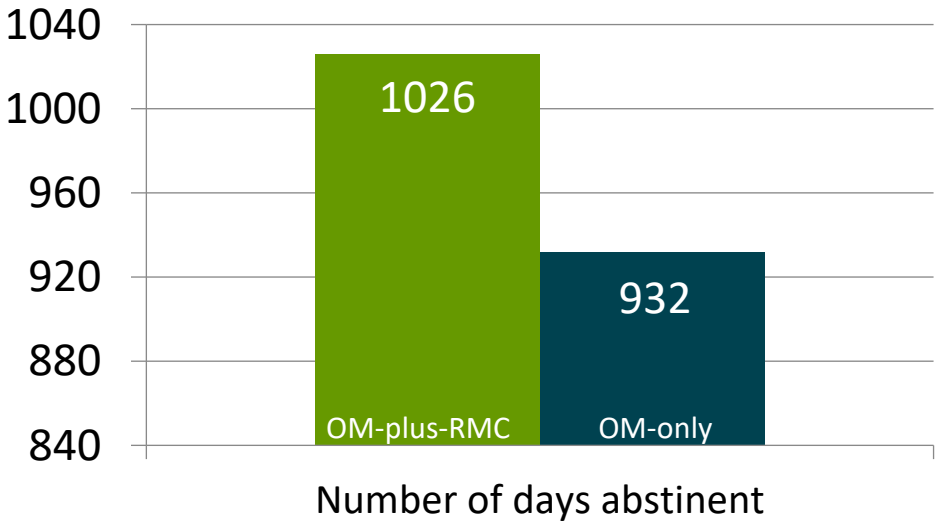
**ABSTRACT**

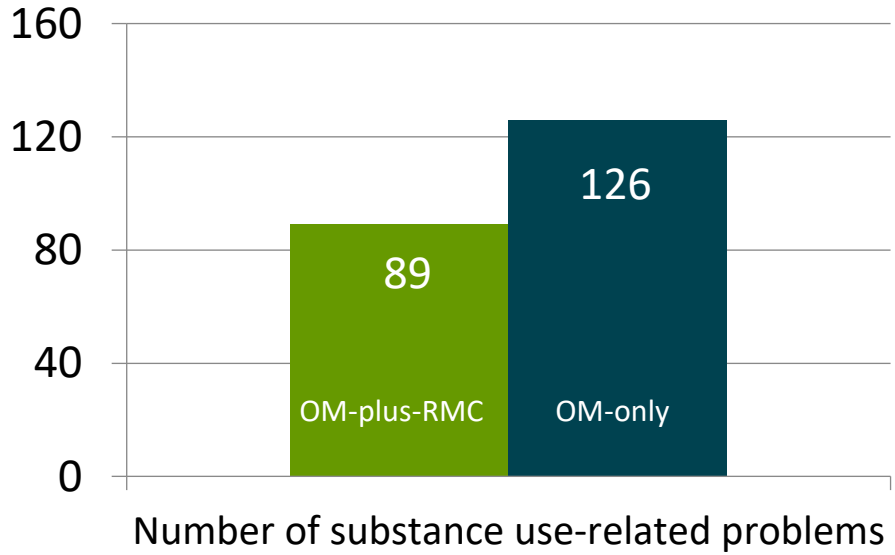
**Aims** This study performs the first cost-effectiveness analysis (CEA) of Recovery Management Checkups (RMC) f adults with chronic substance use disorders. **Design** Cost-effectiveness analysis of a randomized clinical trial of RM Participants were assigned randomly to a control condition of outcome monitoring (OM-only) or the experimen condition OM-plus-RMC, with quarterly follow-up for 4 years. **Setting** Participants were recruited from the larg central intake unit for substance abuse treatment in Chicago, Illinois, USA. **Participants** A total of 446 participar who were 38 years old on average, 54% male, and predominantly African American (85%). **Measurements** Data the quarterly cost per participant come from a previous study of OM and RMC intervention costs. Effectiveness measured as the number of days of abstinence and number of substance use-related problems. **Findings** Over t 4-year trial, OM-plus-RMC cost on average $2184 more than OM-only ($P < 0.01$). Participants in OM-plus-RM averaged 1026 days abstinent and had 89 substance use-related problems. OM-only averaged 932 days abstinent a reported 126 substance use-related problems. Mean differences for both effectiveness measures were statistica significant ($P < 0.01$). The incremental cost-effectiveness ratio for OM-plus-RMC was $23.38 per day abstinent a $59.51 per reduced substance-related problem. When additional costs to society were factored into the analys OM-plus-RMC was less costly and more effective than OM-only. **Conclusions** Recovery Management Checkups a a cost-effective and potentially cost-saving strategy for promoting abstinence and reducing substance use-relat problems among chronic substance users.

**Keywords** Chronic substance use disorder, cost-effectiveness analysis, economic evaluation, Recovery Manag ment Checkups.

# Costs and Effectiveness Estimates

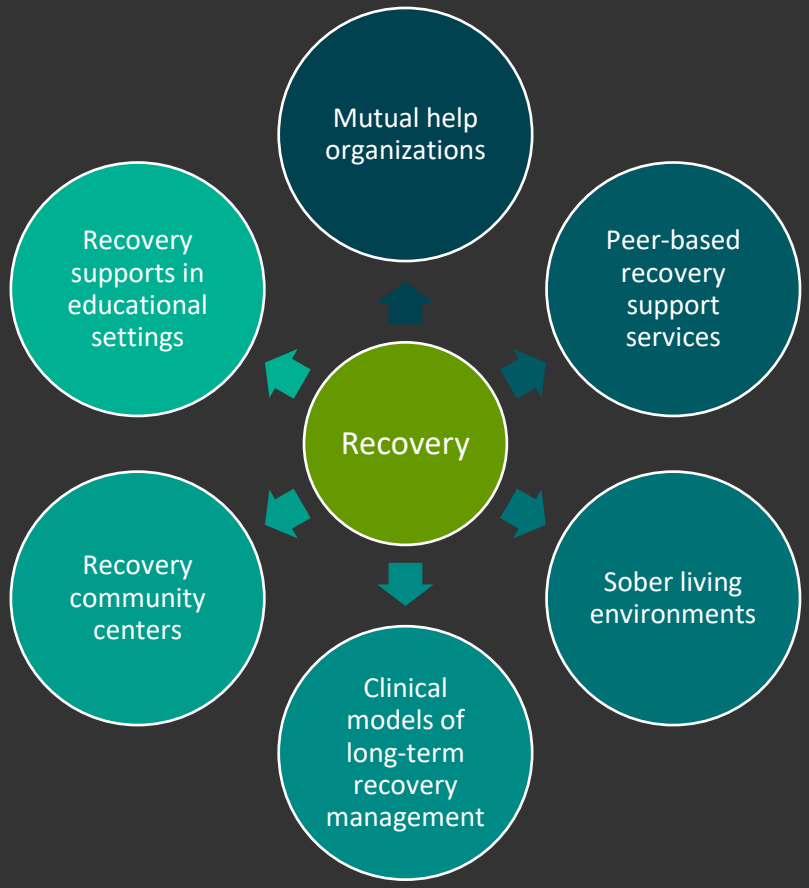
- Cost on average (per participant) to deliver:
  - OM-plus-RMC: $4,889
  - OM-only: $2,705




- Incremental effectiveness of OM-plus-RMC:
  - 94 additional days abstinent
  - 37 fewer substance use-related problems

# Recovery Community Centers



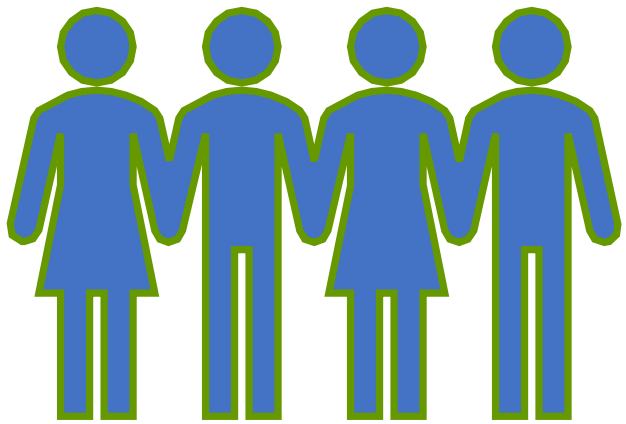

**Anchor**
**Recovery Community Center**
*Peer-to-peer support services*

HOPE for NEW HAMPSHIRE RECOVERY

CONNECTICUT COMMUNITY CCAR FOR ADDICTION RECOVERY

# Recovery Community Centers are…

Locatable sources of community-based recovery support beyond the clinical setting, helping members achieve sustained recovery by building and successfully mobilizing personal, social, environmental, and cultural resources.



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# New kid on the block: An investigation of the physical, operational, personnel, and service characteristics of recovery community centers in the United States

John F. Kelly[a,*], Nilofar Fallah-Sohy[a], Corrie Vilsaint[a], Lauren A. Hoffman[a], Leonard A. Jason[b], Robert L. Stout[c], Julie V. Cristello[a], Bettina B. Hoeppner[a]

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ABSTRACT

*Background:* Professional treatment and non-professional mutual-help organizations (MHOs) play important roles in mitigating addiction relapse risk. More recently, a third tier of recovery support services has emerged that are neither treatment nor MHO that encompass an all-inclusive flexible approach combining professionals and volunteers. The most prominent of these is Recovery Community Centers (RCCs). RCC's goal is to provide an attractive central recovery hub facilitating the accrual of recovery capital by providing a variety of services (e.g., recovery coaching; medication assisted treatment [MAT] support, employment/educational linkages). Despite their growth, little is known formally about their structure and function. Greater knowledge would inform the field about their potential clinical and public health utility.

*Method:* On-site visits (2015–2016) to RCCs across the northeastern U.S. ($K$ = 32) with semi-structured interviews conducted with RCC directors and online surveys with staff assessing RCCs': physicality and locality; operations and budgets; leadership and staffing; membership; and services.

*Results: Physicality and locality*: RCCs were mostly in urban/suburban locations (90%) with very good to excellent Walk Scores reflecting easy accessibility. Ratings of environmental quality indicated neighborhood/grounds/buildings were moderate-good attractiveness and quality. *Operations:* RCCs had been operating for an average of 8.5 years ($SD$ = 6.2; range 1–33 years) with budgets (mostly state-funded) ranging from $17,000–$760,000/year, serving anywhere from a dozen to more than two thousand visitors/month. *Leadership and staffing:* Center directors were mostly female (55%) with primary drug histories of alcohol (62%), cocaine (19%), or opioids (19%). Most, but not all, directors (90%) and staff (84%) were in recovery. *Membership:* A large proportion of RCC visitors were male (61%), White (72%), unemployed (50%), criminal-justice system-involved (43%) and reported opioids (35%) or alcohol (33%) as their primary substance. Roughly half were in their first year of recovery (49%), but about 20% had five or more years. *Services:* RCCs reported a range of services including social/recreational (100%), mutual-help (91%), recovery coaching (77%), and employment (83%) and education (63%) assistance. Medication-assisted treatment (MAT) support (43%) and overdose reversal training (57%) were less frequently offered, despite being rated as highly important by staff.

*Conclusions:* RCCs are easily accessible, attractive, mostly state-funded, recovery support hubs providing an array of services to individuals in various recovery stages. They appear to play a valued role in facilitating the accrual of social, employment, housing, and other recovery capital. Research is needed to understand the relative lack of opioid-specific support and to determine their broader impact in initiating and sustaining remission and cost-effectiveness.

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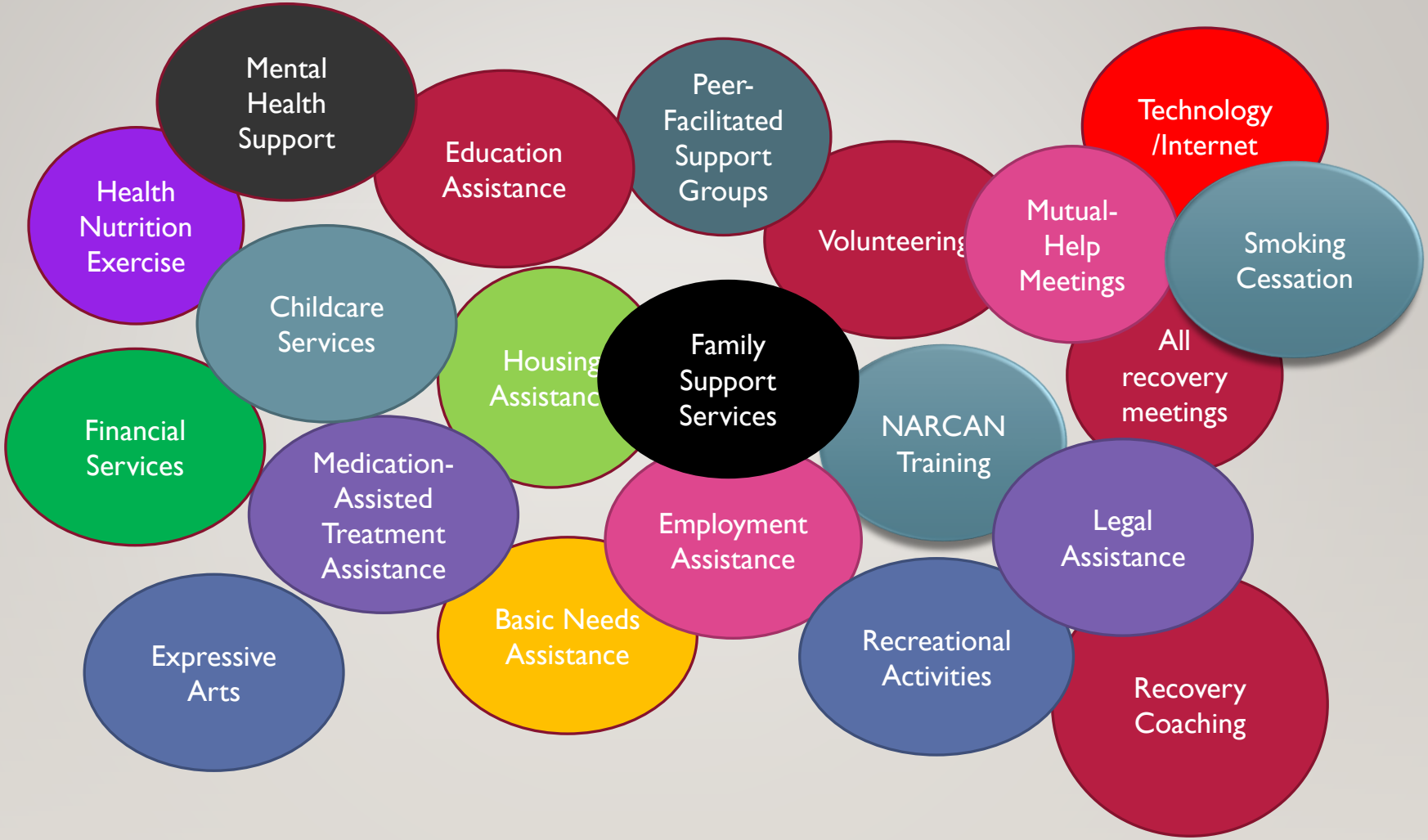
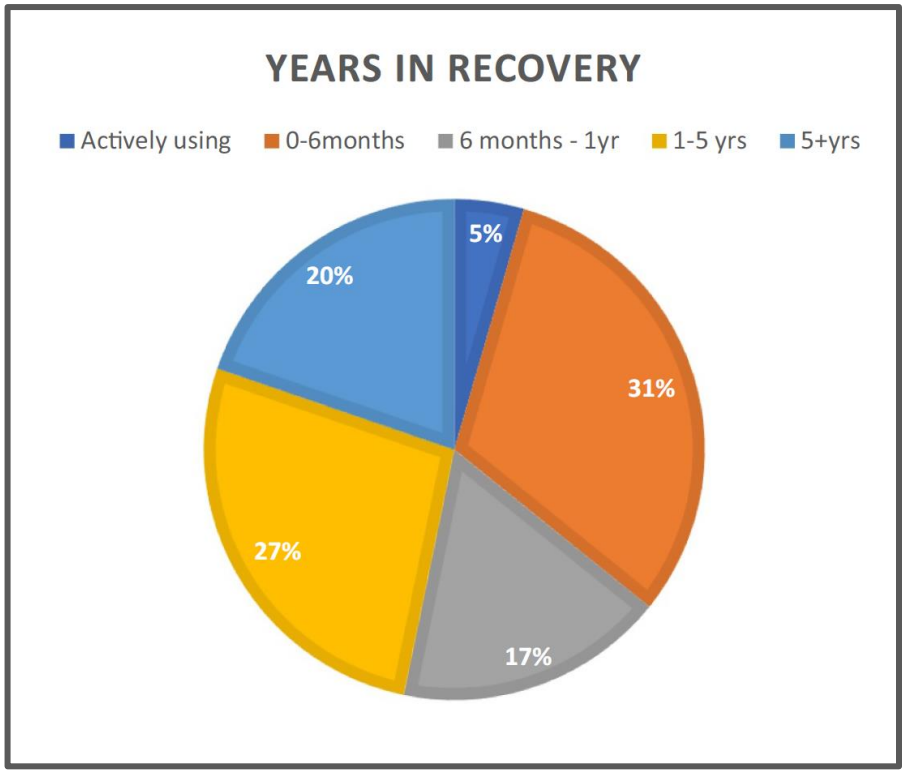
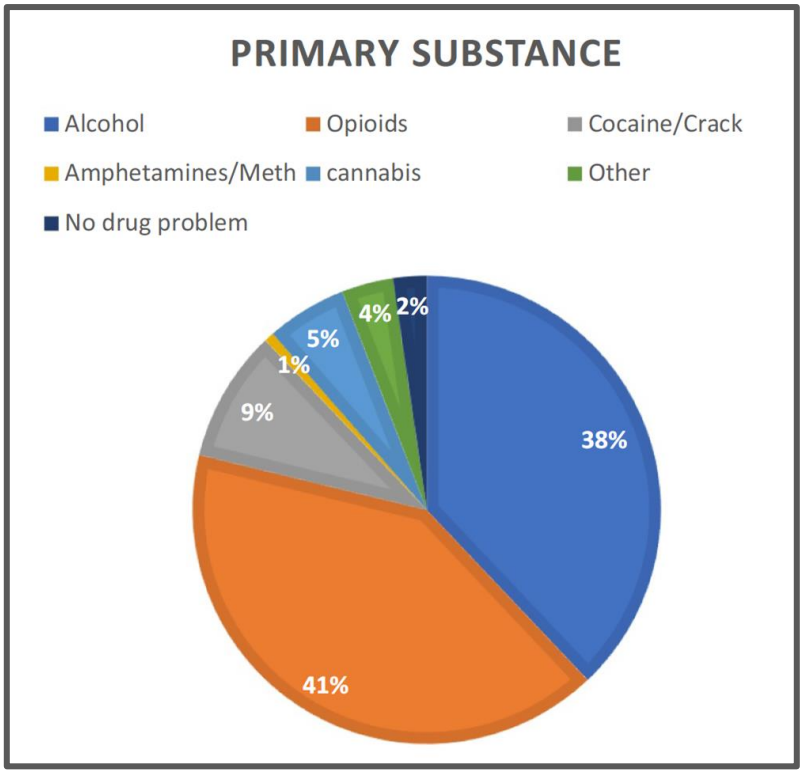
# WHAT DO RCCS OFFER?



# RESULTS

## ‘New Kid On The Block’



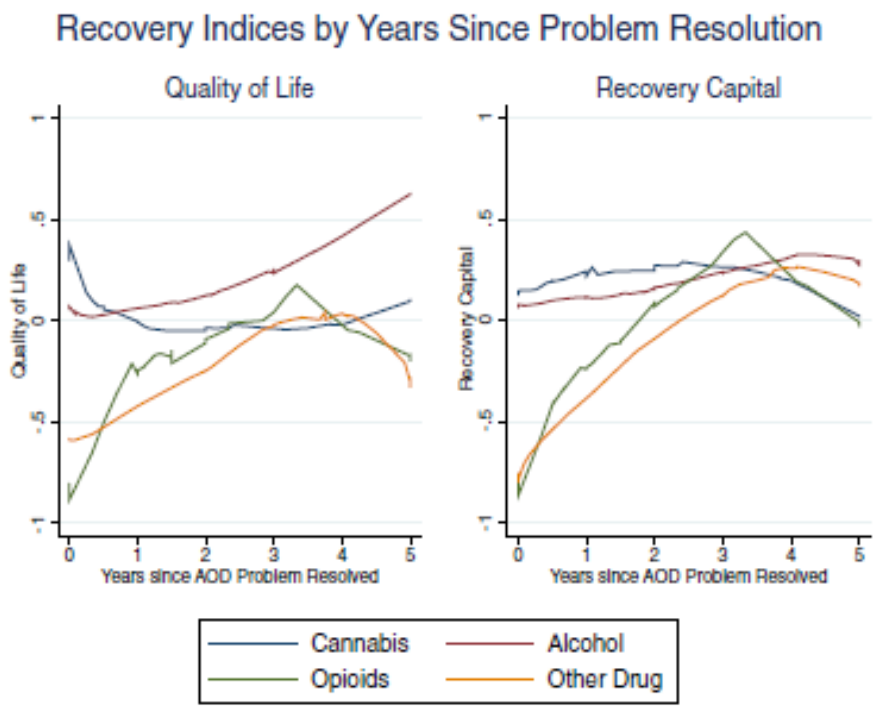



**Fig. 5.** Locally Weighted Scatterplot Smoothing (LOWESS) analysis of recovery indices by years since problem resolution stratified by primary substance.

ALCOHOLISM: CLINICAL AND EXPERIMENTAL RESEARCH

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# 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. Hoeppner

**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 ± 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 ± 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.

PROFESSIONAL TREATMENT SERVICES often play a vital role in addressing substance use disorders in the United States and around the world. Such clinical services can provide life-saving medically managed detoxification and stabilization as well as deliver medications and psychosocial interventions that can alleviate cravings and help prevent relapse. Extending the framework and benefits of these professional treatment efforts, peer-led mutual-help organizations (MHOs), such as Alcoholics Anonymous (AA), Narcotics Anonymous (NA), SMART Recovery, and many others are commonly used to provide additional long-term free recovery support over time in the communities in which people live (Bøg et al., 2017; Kelly, 2017; Kelly et al., 2017a). Adding to these resources in recent years has been a new dimension of recovery support services that are neither professional treatment nor MHOs. These new services (e.g., recovery community centers [RCCs], recovery residences, recovery coaching, recovery high schools, and collegiate recovery programs; Kelly et al., in press; White et al., 2012, 2012) combine voluntary, peer-led initiatives, with professional activities, and are intended to provide flexible community-based options to address the psychosocial barriers to sustained remission (White et al., 2012, 2012).

RCCs are one of the most common of these new additions

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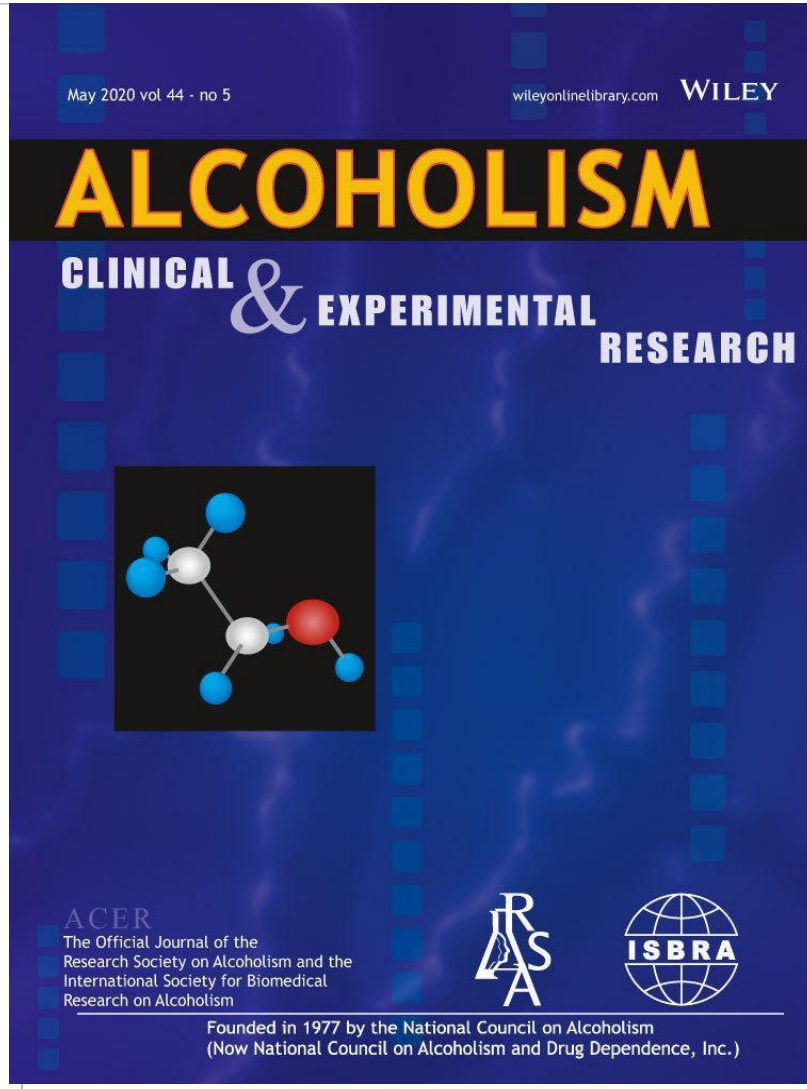


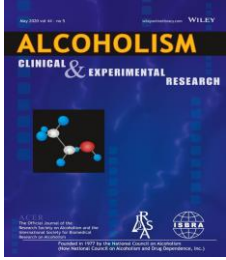
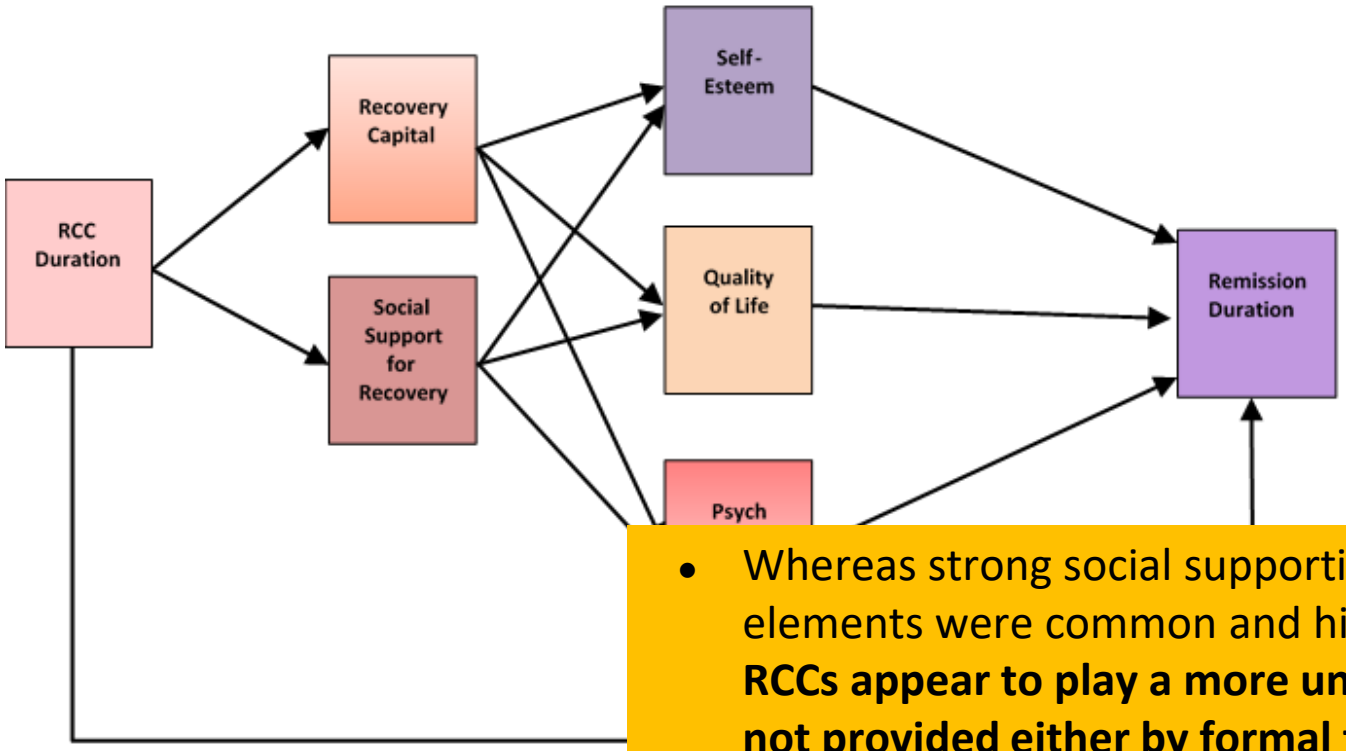



Figure X. Model Testing Relationships among RCC Participation, Recovery Duration, and Theorized Mediators




- 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.

# Outline

- Where have we come from? Where are we now? Where are we going? 50 years of Addiction Science, Practice, and Policy:
- What is “recovery” and why is everyone talking about it?
- Theory of addiction recovery: a biopsychosocial perspective
- Services for Attaining and sustaining addiction remission and recovery
- State of the Science and future directions

# Quantity and Quality of Evidence for Recovery Support Services (2018)

| Service | Quantity | Quality | Support for RS |
|---|---|---|---|
| 1. Mutual help organizations | Large | Strong | Strong |
| 2. Clinical models of long term recovery management | Large | Strong | Moderate-Strong |
| 3. Peer-based recovery support services | Small-medium | Moderate | Moderate |
| 4. Recovery Community Centers | Small | Weak-Moderate | Weak-Moderate |
| 5. Recovery Residences | Medium | Moderate-Strong | Moderate-Strong |
| 6. Education-Based Recovery Supports | Small | Weak-Moderate | Weak-Moderate |

# Summary: Key Points

- Past 50 years since declaration of “War on Drugs” a lot learned on etiology, epidemiology, typology, prevention and acute care treatment models for addiction
- New recognition of a need for a science on how individuals achieve and sustain full remission and long-term stable “recovery”
- Recovery often used to describe both a personal growth process as well as an outcome
- Recovery often used to imply not just surviving but thriving in spite of having suffered addiction –often because of it, invoking notion of resilience
- Recovery concept given rise to new national and international social movements, and an increasingly serious science on understanding recovery and factors that facilitate and drive it
- Recovery theories of stable remission and long-term relapse are lacking; but existing conceptual models can be drawn upon to provide reasonable testable hypotheses
- Both addiction and recovery can be viewed comprised of two major factors: degree of clinical pathology and availability of internal and external resources (“recovery capital”; aks “social determinants of health/recovery”)
- An array of community-based recovery services and treatment-recovery service systems have emerged and are growing across the U.S. that have varying levels of supportive evidence
- A new research agenda is emerging to more comprehensively address the needs of individuals and their families who suffer from serious alcohol/drug problems

# Sponsoring Organizations



# Recovery Research Institute

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# Opioid Response Network

- The SAMHSA-funded *Opioid Response Network (ORN)* assists states, organizations and individuals by providing the resources and technical assistance they need locally to address the opioid crisis and stimulant use.
- ✧ Technical assistance is available to support the evidence-based prevention, treatment and recovery of opioid use disorders and stimulant use disorders.

Funding for this initiative was made possible (in part) by grant no. 1H79TI083343 from SAMHSA. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

# Working With Communities

- The *Opioid Response Network (ORN)* provides local, experienced consultants in prevention, treatment and recovery to communities and organizations to help address this opioid crisis and stimulant use.

✧ *ORN* accepts requests for education and training.

✧ Each state/territory has a designated team, led by a regional Technology Transfer Specialist (TTS), who is an expert in implementing evidence-based practices.

# Contact the Opioid Response Network

- To ask questions or submit a request for technical assistance:
  - Visit www.OpioidResponseNetwork.org
  - Email orn@aaap.org
  - Call 401-270-5900