Rationale and Role of Recovery Community Centers: A Bio-Psycho-Social Perspective

Recovery Webinar Series Enhancing Research Infrastructure for Recovery Community Centers (NIDA R24)

November, 20 2020
Steering Committee Members

Principal Investigators:

John F. Kelly
Bettina B. Hoeppner
Amy A. Mericle
Brandon G. Bergman
Julia Ojeda
Philip Rutherford
Lauren A. Hoffman
Patty McCarthy
Tom Hill
Robert D. Ashford
Sarah E. Wakeman

Funding Number: R24DA051988
Outline

What are Recovery Community Centers?

Why did they emerge and grow?

How might they work?

What do we know about their impact?
Outline

What are Recovery Community Centers?

Why did they emerge and grow?

How might they work?

What do we know about their impact?
Recovery Community Centers are intended to ...

- Provide locatable sources of community-based recovery support beyond the clinical setting

- Help individuals achieve sustained recovery by building and successfully mobilizing personal, social, environmental, and cultural resources.
Recovery Community Centers are NOT...

- Residential centers
- Sober living environments
- Treatment centers
- 12-step clubhouses
- Drop-in (clinical) centers
Principles of RCCs

Source of recovery capital at the community level

• Provide different services than formal treatment
• Offer more formal and tangible linkages to social services, employment, training and educational agencies than do mutual-help organizations

There are many pathways to recovery

• RCCs not allied with any specific recovery philosophy/model
• All and any pathway to recovery should be celebrated
WHAT DO RCCS OFFER?

- Mental Health Support
- Education Assistance
- Peer-Facilitated Support Groups
- Volunteering
- Family Support Services
- NARCAN Training
- Legal Assistance
- Recovery Coaching
- Technology / Internet
- Smoking Cessation
- Housing Assistance
- Employment Assistance
- Recreational Activities
- Health Nutrition Exercise
- Childcare Services
- Basic Needs Assistance
- Volunteering
- Mutual-Help Meetings
- All recovery meetings
- Expressive Arts
- Education Assistance
- Health Nutrition Exercise
- Childcare Services
- Financial Services
- Medication-Assisted Treatment Assistance
- Basic Needs Assistance
- Expressive Arts
- Family Support Services
- Expressive Arts
Outline

What are Recovery Community Centers?

Why did they emerge and grow?

How might they work?

What do we know about their impact?
Alcohol/Drug Impact

- Mortality
- Disability
- Crime
- Economic

How do we solve it?

Top Public Health Problem

Endemic Epidemic
50 years....
1970-2020
Past 50 yrs since declaration of “War on drugs” led to large-scale federal appropriations and a number of paradigm shifts...

Addiction field now experiencing another paradigm shift **beyond acute care** models addressing only clinical addiction pathology and towards holistic models of sustained disease, or “recovery”, management...
Why?
Recognition that the clinical course of SUD and achievement of initial and stable remission can take years. **What can be done to shorten this timeframe?**

- **Addiction Onset**
  - 4-5 years
  - Self-initiated cessation attempts

- **Help Seeking**
  - 8 years
  - 4-5 Treatment episodes/mutual-help

- **Full Sustained Remission (1 year abstinent)**
  - 5 years
  - Continuing care/mutual-help

- **Reinstatement Risk drops below 15%**

**Recovery Priming**

**Recovery Mentoring**

**Recovery Monitoring**
50 years of Progress: Burning building analogy...

- **Putting out the fire** — addressing acute clinical pathology - good job

- **Preventing it from re-igniting** (RP) — strong emphasis, but pragmatic disconnect...

- **Architectural planning** (recovery plan) — neglected

- **Building materials** (recovery capital) — neglected

- **Granting “rebuilding permits”** — (removing barriers - neglected)
Historically, two major ways most societies have addressed endemic alcohol/drug problem...

- Professionally-directed Treatment
- Peer-Led Mutual-help organizations
Now, additional wave of services emerging....to try to meet needs; expand recovery capital...

Professionally-directed Treatment

Peer-Led Mutual-help organizations

Recovery Support Services
In fact, the concept of SUD “treatment” is changing…

The best treatment programs provide a combination of therapies and other services to meet the needs of the individual patient.
...and support services are growing...

- Recovery community centers
- Mutual help organizations
- Peer-based recovery support services
- Recovery supports in educational settings
- Clinical models of long-term recovery management
- Recovery Residences
- Recovery residences
- Clinical models of long-term recovery management
- Peer-based recovery support services
- Mutual help organizations
- Recovery supports in educational settings

Recovery

Recovery community centers

Anchor
Recovery Community
Peer-to-peer support services

LifeRi

NARR
National Alliance for Recovery Residences
Community + Standards + Ethics + Education

ALCOHOLICS ANONYMOUS

Anchor
Recovery Community
Peer-to-peer support services

HOPE
for NEW HAMPSHIRE
RECOVERY

Women for Sobriety

ASSOCIATION
of
RECOVERY
COMMUNITY
ORGANIZATIONS
FACES & VOICES OF RECOVERY

ARHE

Narcotics Anonymous

SMART Recovery®
What are Recovery Community Centers?

Why did they emerge and grow?

How might they work?

What do we know about their impact?
Levels of Mechanisms...

- Social
- Psychological
- Biological
- Cellular
- Atomic
- Sub-atomic
- Quantum
- Vibrating strings of energy
- Engelburt Humperdink
Circuits Involved in Drug Use and Addiction

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

Moderate Drinker  Alcoholic

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
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 ability to experience normal levels of reward via...

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

Cue Induced

Stress Induced

Substance Induced

Social

Psych

Bio-Neuro

Treatment and Recovery Support Services

Kelly, JF Yeterian, JD In: McCrady and Epstein Addictions: A comprehensive Guidebook, Oxford University Press (2013)
RCCs Goal

RCCs → Remission + Enhanced QOL
RCCs Mechanisms

RCCs → Recovery Capital → Bio Psycho Social Change → Remission + Enhanced QOL
If addiction is a disease of the brain could jobs, recovery housing, and peers, change the brain, help buffer stress, upregulate down-regulated receptor systems, and increase the chances of long-term remission?
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 ability to experience normal levels of reward via...

• Down-regulated dopamine D2 receptor volume increasing risk of protracted dysphoria/anhedonia and relapse risk
RCCs at their heart provide "community"... they are social enterprises that engage people with others with similar lived experience of addiction and recovery...

This can help mitigate feelings of shame/guilt and increase universality/sense of belonging and instill hope that can mitigate stress...
“... and your arm felt nice wrapped around my shoulder, and I felt like I belonged, and I felt like I could be someone...”
WHAT DO RCCS OFFER?

- Housing Assistance
- Basic Needs Assistance
- NARCAN Training
- Employment Assistance
- Recovery Coaching
- Volunteering
- Peer-Facilitated Support Groups
- Mutual-Help Meetings
- Technology/Internet
- All recovery meetings
- Smoking Cessation
- Family Support Services
- Education Assistance
- Health/Exercise
- Mental Health Support
- Childcare Services
- Financial Services
- Medication-Assisted Treatment
- Expressive Arts
- Legal Assistance
- Recreational Activities
- Smoking Cessation
- Smoking Cessation
- Legal Assistance
- Recovery Coaching
- Technology/Internet
- Education Assistance
- Employment Assistance
- NARCAN Training
- Basic Needs Assistance
- Family Support Services
- Mental Health Support
- Childcare Services
- Expressive Arts
- Financial Services
- Medication-Assisted Treatment
- Education Assistance
- Employment Assistance
- NARCAN Training
- Basic Needs Assistance
- Family Support Services
- Mental Health Support
- Childcare Services
- Expressive Arts
- Financial Services
- Medication-Assisted Treatment
Social Buffering

- Stress-buffering effects of social relationships—one of the major findings of past century
- Mechanisms of this poorly understood
...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
SAMPLE
• n = 357 male and female rats, of which 222 were given drugs and 135 were social partners

DESIGN
• Operant model of choice between drugs and social interaction
• Rats trained to use two different levers (drug and social) to self-administer rewards
• Researchers examined lever usage across several conditions, such as:
  • Social delay: Induced by progressively increasing delay between pressing social lever and opening door.
  • Punishment: Induced by shocking rats when social lever was pressed.
RESULTS

- When given a choice between drugs and social interaction, rats almost always choose social interaction.
- This effect is independent of addiction severity, sex, drug class, drug dose, and housing conditions (e.g., housed alone or with other rats).

Rats choose social interaction over drugs.
As delay time of social reward increases, likelihood of rat choosing drugs increases.

- Established addiction severity measures do not predict which rats will choose drugs given a social delay.

As strength of shock punishment for choosing social interaction increases, likelihood of rat choosing drugs increases.

Thus, inaccessibility to peers or experience of social exclusion, discrimination, and ostracization may similarly increase risk of relapse in humans...
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 ability 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 increases as social status increases.

D2/D3 receptor binding increases as social support increases.
Monkeys, like humans, love to be with each Other, and also like cocaine…
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.

Human Implications: facilitating greater access to and availability of recovery capital in a rich social environment may instill hope, empower people, help them have more control over their environment, increase social contact and social mobility through the environment, and thereby induce neurochemical changes that reduces relapse risk.
Outline

- What are Recovery Community Centers?
- Why did they emerge and grow?
- How might they work?
- What do we know about their impact?
Questions

• Who uses RCCs?
• Do/how do participants benefit?
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*, Nilofar Falah-Sohy†, Corrie Vilsaint‡, Lauren A. Hoffman*, Leonard A. Jason*, Robert L. Stout*, Julie V. Cristallo, Bettina B. Hoeppner*

*Recovery Research Institute, Massachusetts General Hospital and Harvard Medical School, Harvard Medical School, 131 Merrimac Street, Boston, MA 02114, United States of America
‡Deaconess Science Institute, Providence, RI, United States of America

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). RCCs’ 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. (N = 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 Web/phone 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 = 9.2, range 1-33 years) with budgets (mostly mini-foundations) ranging from $17,000-$790,000/year, serving anywhere from a dozen to more than two thousand visitors/month. Leadership and staffing: Center directors were mostly female (50%) 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 clients were male (64%), White (72%), unemployed (50%), criminal justice system-involved (45%) and reported opiate (23%) or alcohol (23%) as their primary estimate. 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/12 step (75%), recovery coaching (77%), and employment (82%) and education (62%) assistance. Medication-assisted treatment (MAT) support (43%) and overdose reversal training (57%) were less frequently offered, despite being rated as highly important by staff.

Conclusion: RCCs are easily accessible, attractive, mostly mini-funded, recovery support hubs providing an array of services to individuals in various recovery stages. They appear to play a vital 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 maintaining remissions and cost-effectiveness.
RESULTS

YEARS IN RECOVERY

- Actively using: 20%
- 0-6 months: 31%
- 6 months - 1 yr: 5%
- 1-5 yrs: 17%
- 5+yrs: 27%

PRIMARY SUBSTANCE

- Alcohol: 38%
- Opioids: 41%
- Amphetamines/Meth: 4%
- Cannabis: 2%
- Cocaine/Crack: 1%
- Other: 5%
- No drug problem: 9%

Kelly JF et al. New Kid on the Block: An Investigation of the Physical, Operational, Personnel and Service Characteristics of Recovery Community Centers in The United States
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 Groene, and Brandon G. Bergman

Background: Alcoholic and other drug (AUD) 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, it 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 trajectories and points of vulnerability and growth.

Methods: National, probability-based, cross-sectional sample of U.S. adults who screened positive to the questions, “Did you used to have a problem with alcohol or drugs, but no longer do?” (Response = 13.4% from 39,000; final weighted sample n = 2,004). Linear, quadratic, and cubed polynomial trend 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: (a) the first 10 years and (b) the first 25 years, after terminating all AUD problems and mental health disorders (e.g., major, primary substance) of effects. Finally, linear mixed models (mixed-effects) were used to explore remaining trends.

Results: In general, in the 40-year horizon there were initially steep increases in indices of well-being (and some modest declines) during the first 6 years, followed by shallower increases. In the 25-year horizon, significant gains in self-esteem and happiness were observed initially during the first year followed by increases. Moderation analysis examining primary substance use (that is, in addition to alcohol and cannabis), those with greater or lower doses (e.g., stimulants had substantially lower recovery capital in the early years) as well as social interactions (suggested) to increase recovery compared to White people, and women consistently reported lower levels of well-being over time than men.

Conclusions: Recovery from AUD problems is associated with dynamic but substantial improvements in indices of well-being with the exception of the first year when self-esteem and happiness initially decrease. After improving, linearly recovery, women, and those with lower substance use groups, and those suffering from opioid and other interrelated problems appear to face ongoing challenges that require a focus on general well-being.

Keywords: Recovery, Resilience, Alcohol Use Disorder, Quality of Life, National, Epidemiology.
Fig. 5. Locally Weighted Scatterplot Smoothing (LOWESS) analysis of recovery indices by years since problem resolution stratified by primary substance.
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 Fahlah-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 RCCs' 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 (48.5%), and limited income (<$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 (Bog 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 to recovery support infrastructure and are growing rapidly in number. This study was conducted to examine the characteristics of RCC participants, the services they use, and the derived benefits, as well as to assess the relationship between these benefits and recovery outcomes.
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.
Past 50yrs seen great progress in novel interventions and greater recognition of need for ongoing care and provision of recovery support services

Address clinical pathology and build recovery capital

RCCs are utilized by individuals mostly with few resources and higher addiction pathology and comorbidities, mostly with opioid and alcohol histories

RCCs are new kids on the block – appear to provide, perhaps uniquely, access to recovery capital, not provided by either treatment or mutual-help

Preliminary results appear promising, but more systematic research is needed (e.g., purpose of the NIDA R24) to understand more about the clinical and public health utility and societal health and other cost-offset potential of RCCs….
Discussion: Questions for you...

• What’s missing?
• What comes to mind when thinking about RCCs and their potential role in supporting recovery?
• What do clinicians/agencies/criminal justice need to know about RCCs?
• What are next critical research steps?
• Benefits for those with opioid use disorder (maintained on medication) vs alcohol use disorders/other disorders?
• What role should Engelbert Humperdink play in RCC research (if any)?
Enhancing Recovery Through Science

recoveryanswers.org

Recovery Research Institute

Sign up for the free monthly Recovery Bulletin

@recoveryanswers