Recovery Models of Care

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Disclosures

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

• Addiction remission can take time and even after full remission; remains susceptible to relapse for many years
• Recovery is physiologically and psychologically stressful
• Similar to addiction syndrome itself, positive consequences of remission reciprocally influence remission
• We can influence the chances of sustained remission & recovery by decreasing stress/boosting stress-coping
• ROSC and RSS are designed to do this; there are existing examples; and many new entities emerging
The clinical course of addiction and achievement of stable recovery can take a long time...

- **Addiction Onset**: 4-5 years
- **Help Seeking**: 8 years
- **Full Sustained Remission (1 year abstinent)**: 5 years
- **Relapse Risk drops below 15%**: 5 years

- **Self-initiated cessation attempts**: 4-5 years
- **4-5 Treatment episodes/mutual-help**: 8 years
- **Continuing care/mutual-help**: 5 years

**Recovery Priming**

**Recovery Mentoring**

**Recovery Monitoring**

50-60% of individuals with addiction will achieve full sustained remission
Why are treatments of addiction & hypertension evaluated differently?

The successful treatment of hypertension is seen as an ongoing process. The successful treatment of addiction is seen as something that begins after treatment stops.
Traditional addiction treatment approach: Burning building analogy

- **Putting out the fire** – good job (detox/stabilization/cessation)

- **Preventing it from re-igniting** (relapse prevention) – less good

- **Architectural planning** (recovery plan) – almost totally neglected

- **Re-building materials** (recovery capital) – largely absent

- **Granting “rebuilding permits”** – (removing legal/structural barriers to recovery capital e.g., criminal records) – rarely considered/poor job
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
Cue Induced

Stress Induced

Substance Induced

RELAPSE

Social

Psych

BioNeuro

Treatment and Recovery Support Services
To help offset long-term relapse risk, a number of indigenous community-based treatment and recovery support services have emerged and grown; these help build "recovery capital" to sustain remission.
Changing the “soil” of communities so that recovery can grow and flourish

- Recovery community centers
- Recovery supports in educational settings
- Mutual help organizations
- Peer-based recovery support services
- Sober living environments
- Clinical models of long-term recovery management
If addiction is a disease of the brain could jobs, recovery housing, and friends, change the brain, upregulate down-regulated receptor systems, and increase the chances of long-term remission?
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 individually housed no difference in DA D2 receptor volume

- After 3m 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 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
Clinically, we are trained to address the psychiatric and medical **pathology**; RSSs address recovery capital....

Example:

**Clinical Pathology:** Two 30 yr old men enter treatment with **clinically identical** levels of severity of opioid and alcohol addiction and psychiatric and medical problems and report the same level of distress and impairment

**Treatment Plan:** Patients are matched based on these clinical profiles to receive the **same** array of interventions to address clinical needs
Clinically, we are trained to address the psychiatric and medical pathology; RSSs address recovery capital....

But....

One man is single, he’s from a neighborhood that has a high crime rate/drug and alcohol-related arrests; he didn’t graduate High School, has a father with active AUD with whom he lives, and is unemployed with a criminal record.

The other is from a low crime neighborhood, is married with two children, a supportive family, has a master degree and is employed as an engineer with a good job and income. His father has 17yrs of sobriety in AA.

Which is more likely to achieve and sustain remission?

Move from a “Treatment Plan” to “Recovery Plan” based on pathology AND available recovery capital
Reciprocal relationship between remission and recovery capital

Adapted from Kelly and Hoeppner (2014)
Long-Term Models: Treatment and Recovery Support Services

- Mutual help organizations
- Peer-based recovery support services
- Sober living environments
- Clinical models of long-term recovery management
- Recovery community centers
- Recovery supports in educational settings
Mutual help Organizations

Mutual help organizations

Recovery supports in educational settings

Recovery community centers

Peer-based recovery support services

Sober living environments

Clinical models of long-term recovery management

Recovery community centers
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
Facilitating involvement in Alcoholics Anonymous during out-patient treatment: a randomized clinical trial

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

Research Institute on Addictions/University at Buffalo, The State University of New York, Buffalo, NY, USA

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

Although TSF is not “AA”, it’s beneficial effect is explained by AA involvement post-treatment.
Empirically-supported MOBCs through which AA confers benefit

- Social network
- Spirituality
- Social Abstinence self-efficacy
- Coping skills
- Negative Affect Abstinence self-efficacy
- Recovery motivation
- Impulsivity
- Craving

AA participation in turn is explained by these factors which are similar to the mechanisms operating in formal treatment...
Also, state of the art instrumental variables analyses, as well as propensity score matching (Ye and Kaskutas, 2013) that help to remove self-selection biases, indicate AA has a causal impact on enhancing abstinence and remission rates.
Linkage to MHO like AA can lead to much higher rates of full sustained remission
(Project MATCH, 1997)

Continuous Abstinence Rates during year following treatment (4-15 Months)

Continuous Abstinence Rates past 90 days - 3 Years

TSF treatment can lead to much higher rates of full sustained remission

**Continuous Abstinence Rates during year following treatment (4-15 Months)**

- **TSF**: 24%
- **CBT**: 14%
- **MET**: 16%

**Continuous Abstinence Rates past 90 days - 3 Years**

- **TSF**: 35%
- **CBT**: 25%
- **MET**: 30%
HEALTH CARE COST OFFSET
CBT VS 12-STEP RESIDENTIAL TREATMENT

Compared to CBT-treated patients, 12-step treated patients more likely to be abstinent, at a $8,000 lower cost per pt over 2 yrs ($10M total savings)

Also, higher remission rates, means decreased disease and deaths, increased quality of life for sufferers and their families.
Peer–based Recovery Support Services

- Recovery supports in educational settings
- Recovery community centers
- Clinical models of long-term recovery management
- Sober living environments
- Mutual help organizations
- Peer–based recovery support services

Recovery community centers
Recovery supports in educational settings
Clinical models of long-term recovery management
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Peer–based recovery support services
Formal Peer Support: Recovery Coaching

- Interacting with peers with lived experience of addiction and recovery who support recovery reduces relapse risk. Facilitates...
  - Acquisition of coping skills
  - Increases in self-efficacy
  - Maintenance of motivation
  - Role modeling/contact
  - Linkage/emotional support (Sisson and Malams, 1981)
Sober Living Environments
Peer Run/Self-Governing

- Recovery organizations
- Peer-based recovery support services
- Sober living environments
- Recovery community centers
- Clinical models of long-term recovery management
- Recovery supports in educational settings
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

**Communal Housing Settings Enhance Substance Abuse Recovery**

Oxford Houses are democratic, mutual help-oriented recovery homes for individuals with substance abuse histories. There are more than 1,200 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)*
Sober Living Environments are effective...
Oxford House vs. Usual Care

Sober living had –
- half as many individuals using substances across 2 yr follow up as usual care
- 50% more likely to be employed
- 1/3 re-incarceration rate
...and, cost-effective
Mean per-person societal benefits and costs

Net benefit for Oxford House per participant: $29,022.00

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Clinical Models of Long-term Recovery Management

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Recover Management Check-ups

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 two conditions:
    - quarterly assessment only
    - quarterly assessment plus RMC
- Recovery Management Checkups
  - Linkage manager who used MI to review 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 previous quarter, 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

www.mghcme.org
Results 1
Return to treatment
• Participants in RMC condition sig. more likely to return to treatment sooner

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

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

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

Keywords Chronic substance use disorder, cost-effectiveness analysis, economic evaluation, Recovery Management Checkups.

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Recovery Community Centers

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- Recovery supports in educational settings
- Mutual help organizations
- Peer-based recovery support services
- Sober living environments
- Clinical models of long-term recovery management

Anchor Recovery Community Center
Peer-to-peer support services
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.
There are currently more than 80 centers operating nationally.
RCCs in New York and New England

There are 35 centers currently operating throughout New England and New York.
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 are not allied with any specific recovery philosophy or model
Services offered

- All Recovery Meetings
- Telephone Recovery Support
- Recovery Coaching
- Family Support Groups
- Recovery Trainings
- Access to resources
RCC members are referred to the centers from a variety of sources. Other referral sources include word of mouth (e.g., friends and family).
Members’ Primary Substance Problems

Director estimates cite heroin and other opioids (45%) and alcohol (32%) as the most prevalent primary substances used by center members.
Recovery Supports In Educational Settings
Recovery High Schools....

• .... are secondary schools designed specifically for students in recovery from SUD.
• Each school operates differently depending on available community resources and state standards, but each recovery high school shares the following goals:
  
  – To educate all students in recovery from SUD and/or co-occurring disorders
  
  – To meet state requirements for awarding a secondary school diploma
  
  – To support students in working a strong program of recovery
Recovery High School Participation Effects compared to Non-recovery High school

- **Methods:** Quasi-experiment comparing outcomes for treated adolescents who attended RHSs for at least 28 days

- **N=194** (134 in RHSs, 60 in non-RHSs) enrolled in Minnesota, Wisconsin, or Texas schools (M age = 16; 86% White; 49% female).

- **Results:** Adolescents attending RHSs 4x more likely than non-RHS students to report complete abstinence from ALC, MJ, other drugs at 6-m follow-up (OR = 4.36, p = .026), sig. lower levels of marijuana use (d = −0.51, p = .034) and less school absence (d = −0.56, p = .028).
Collegiate Recovery Programs

- There are almost 50 CRPs recognized by Association of Recovery in Higher Education (ARHE)
- Data in two model programs suggests relapse rates are very low at approximately 4% to 13% in any given semester

Laudet et al., 2014
Summary
Recovery Models of Care

• RSSs open up new pathways to recovery and can enhance and extend the effects of professionally-delivered care by….

  – Helping change social networks towards those that model and support recovery in the communities in which people live

  – Helping build resilience, buffer stress, and increase recovery coping, confidence and motivation over the long-term

  – Help individuals build further “recovery capital” by providing supports in high risk educational environments like colleges/high schools, providing linkages to employment opportunities, and health/social services

  – Providing ongoing recovery-specific support at little cost reducing burden on professional health services while enhancing remission rates, thereby reducing health care costs.