Contingency Management (Motivational Incentives) In Recovery Housing

David M. Ledgerwood, PhD

Department of Psychiatry and Behavioral Neurosciences

Wayne State University

WAYNE STATE
School of Medicine

Objectives

- Provide an overview of contingency management (CM) treatments for substance use disorder
- Review recent studies examining community implementation of CM
- Discuss application of CM to rural recovery house settings

Barriers to SUD care in Rural settings

Barriers to SUD care in Rural settings

- Transportation (increased distance, no public transit)
- Lack of funding (fewer treatment options, heavier caseloads, lack of tech resources, limited continuing ed.)
- Lack of coordinated care (lack of detox and mental health facilities, housing challenges, medical/dental)
- Bureaucratic challenges (paperwork, waitlists)

THE AMERICAN JOURNAL OF DRUG AND ALCOHOL ABUSE
2020, VOL. 46, NO. 3, 273–288
https://doi.org/10.1080/00952990.2019.1694536

Taylor & Francis
Taylor & Francis Group

REVIEW

A systematic review of rural-specific barriers to medication treatment for opioid use disorder in the United States

Jamey J. Lister[a,b], Addie Weaver[c], Jennifer D. Ellis[d], Joseph A. Himle[c,e], and David M. Ledgerwood[b]

[a]School of Social Work, Rutgers University, New Brunswick, NJ, USA; [b]School of Medicine, Department of Psychiatry and Behavioral Neurosciences, Wayne State University, Detroit, MI, USA; [c]School of Social Work, University of Michigan, Ann Arbor, MI, USA; [d]Department of Psychology, Wayne State University, Detroit, MI, USA; [e]Department of Psychiatry, University of Michigan, Ann Arbor, MI, USA

ABSTRACT

Background: Opioid-related deaths have risen dramatically in rural communities. Prior studies highlight few medication treatment providers for opioid use disorder in rural communities, though literature has yet to examine rural-specific treatment barriers.

Objectives: We conducted a systematic review to highlight the state of knowledge around rural

ARTICLE HISTORY
Received 14 July 2019
Revised 22 October 2019
Accepted 14 November 2019

Table 5. Barrier domains focused on consumers and providers.

	% (*n*)	Most common barrier type	Other barriers
Consumer-Focused Barrier Domains (N = 15 articles)			
Availability	66.7 (10)	• Rural areas consistently more likely (than urban) to lack available medication treatment clinics and waivered practitioners	• Rural areas less likely to have concurrent psychosocial services for consumers in medication treatment
Accessibility	26.7 (4)	• Rural consumers more likely than urban to have travel hardships (further distance, longer travel, cross-state commute)	• Rural providers perceived their rural consumers would view medication treatment as a cost burden
Acceptability	20.0 (3)	• Rural consumers offered medication treatment less than urban, perhaps due to concerns treatment wouldn't work well for rural consumers	• Rural providers perceived their rural consumers would view medication treatment for OUD as unsatisfactory
Provider-Focused Barrier Domains (N = 7 articles)			
Availability	71.4 (5)	• Rural providers cited limited capacity and infrastructure, e.g., lack of staff, specialty backup, and office space	• Lack of coordination, i.e., non-family medicine rural clinics less likely to provide BMT
Accessibility	28.6 (2)	• A lack of time for rural providers to deliver medication treatment	• No other findings
Acceptability	71.4 (5)	• Negative provider attitudes: a lack of belief in medication treatment, too complex, view people with SUDs as mistrustful and unmotivated	• Regulatory concerns if providing treatment, e.g., audit issues or inability to meet DEA regulations

Tabulation frequencies presented are calculated relative to the 15 consumer-focused articles and 7 provider-focused articles in this review.

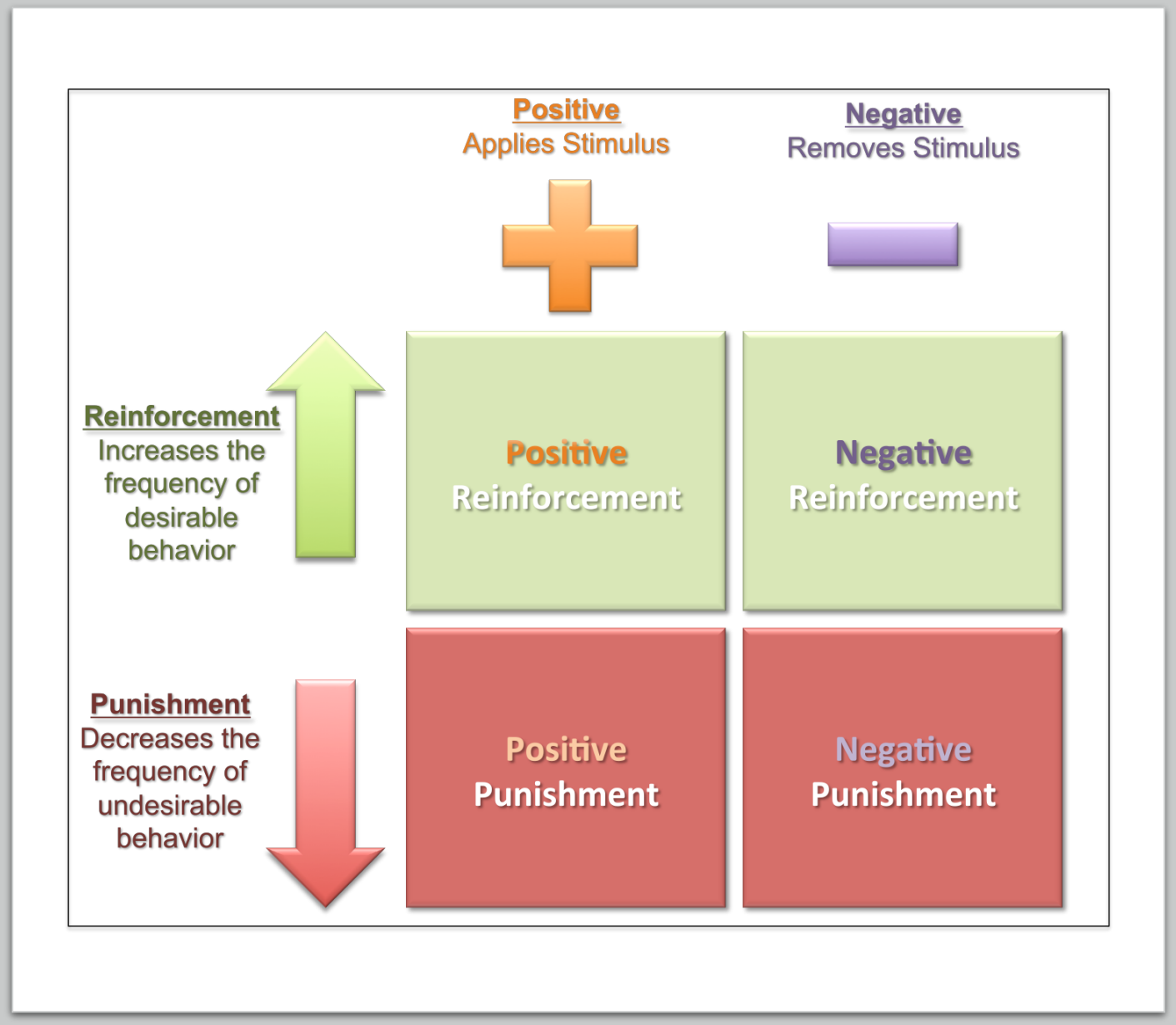
Importance of Recovery Houses

- For people newly in recovery
- Provides individuals time and support to learn how to sustain long-term recovery
- Services are often provided in rural areas where there are few additional resources

WAYNE STATE
School of Medicine

Operant Conditioning

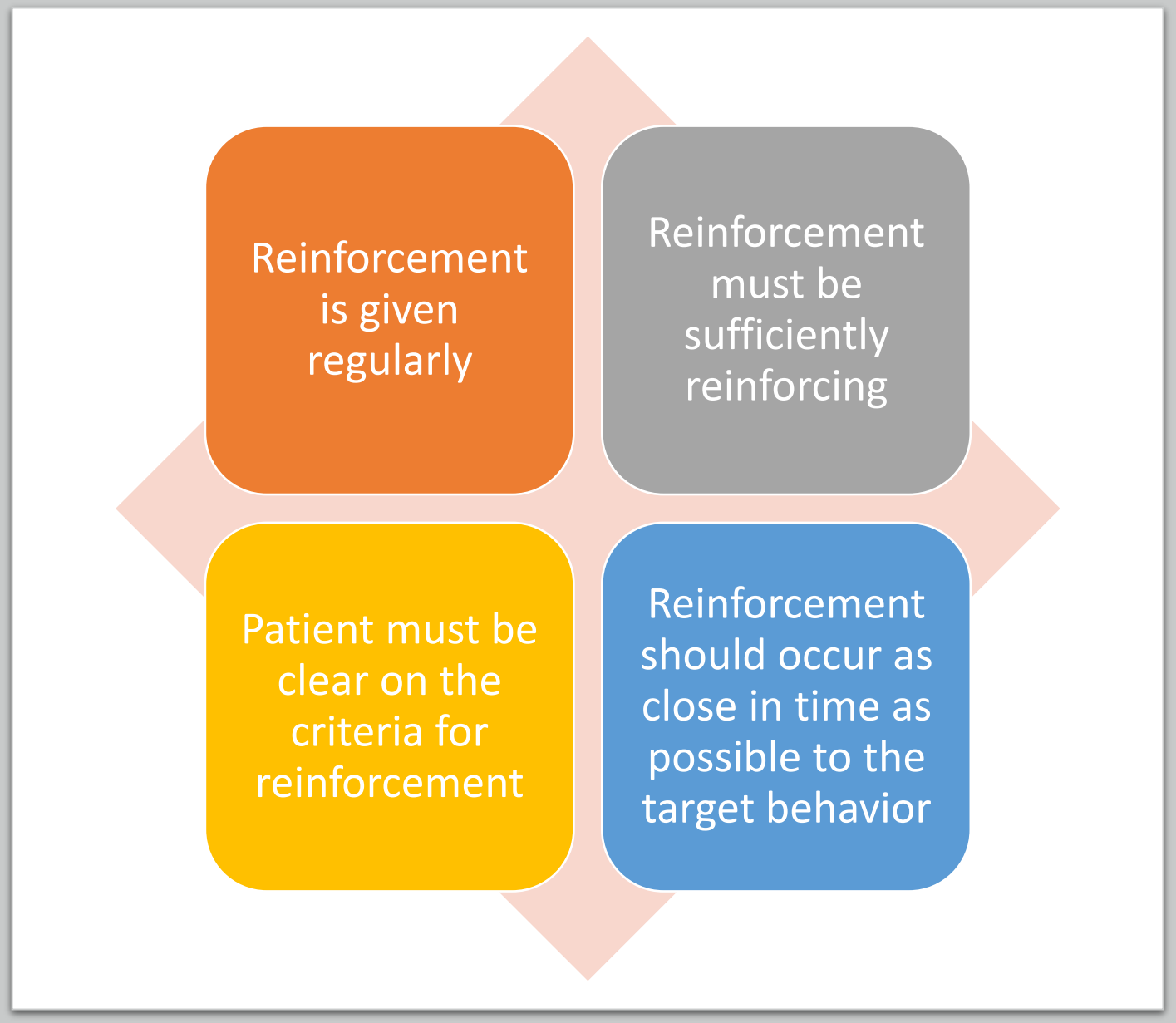
- CM based on operant conditioning/learning
- Positive (reinforcers) and negative (punishers) contingencies have been explored
- Substance use, abuse and dependence is dependent on the reinforcing nature of the substance
- Treatment approaches designed to reduce use can also use operant learning principles to counteract the reinforcing qualities of substances



Basic Principles of CM

- Based on behavioral principles in which:
  - Particular behaviors of interest are monitored frequently
  - A tangible reward or reinforcement is given when the target behavior occurs
  - The reinforcement is not provided when the target behavior does not occur

How does CM work?



How does CM work?

- Reinforcement should escalate for consecutive occurrences of the behavior
- Reinforcement should be stopped and possibly reset to the lowest level when the behavior is not observed
- Different types of CM include Money, Voucher and Prize. Some studies have also used clinic privileges, take home doses
- Items we don’t use anymore include lottery tickets and cigarettes

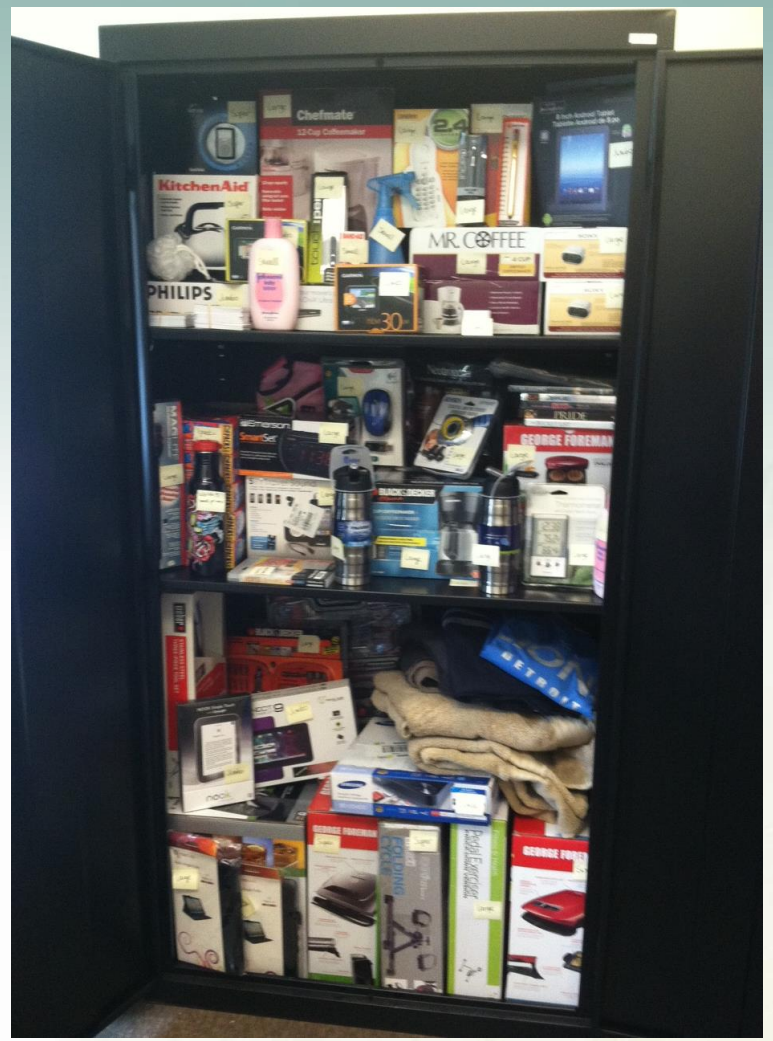
Uses of CM in Treatment of SUDs

- In research on SUDs, several target behaviors have been studied
  - drug free biochemical test results (e.g., UDS, carbon monoxide, cotinine)
  - attending treatment sessions
  - engaging in treatment-related activities
  - adherence to medication
- Several behavioral consequences have been explored, including money, vouchers, prizes, take-home privileges and others

Prize reinforcement

- Patient receives a chance to win prizes for completing target behavior
- Often start at 1 draw and escalate to a maximum of 10 with each subsequent consecutive successful behavior completion
- Reset after failure to complete target, but return to previous levels after 3 consecutive completions
- Prize amounts are typically small ($1, 43%), large ($20, 7%) or Jumbo ($100, 0.2%)

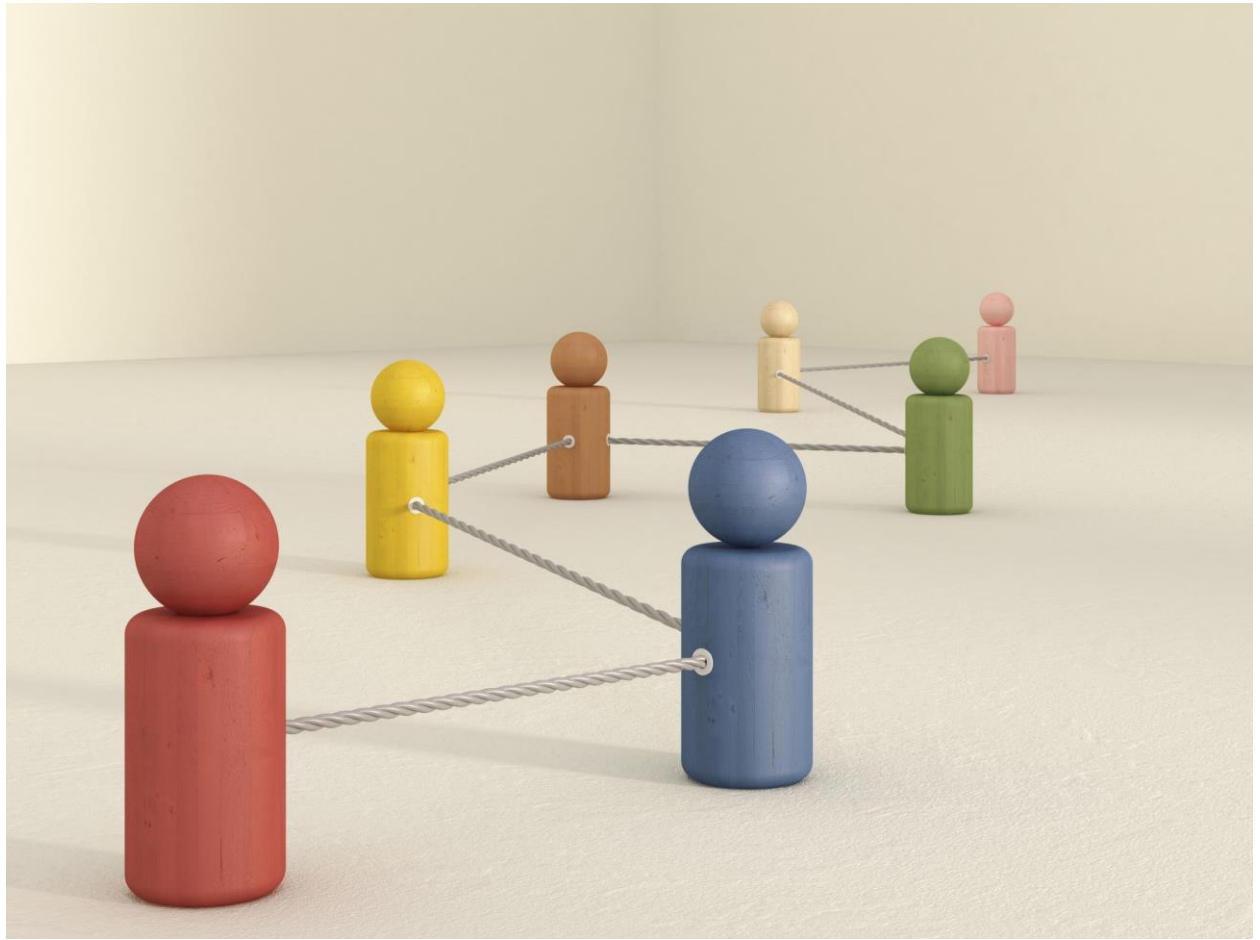
Equipment for Prize CM…



Prize Cabinet

WARRIOR STRONG

Implementation of CM to Community-Based Treatment



Transfer of evidence based treatments

Institute of Medicine's (IOM; 1998) report on bridging the gap between research and practice, moving evidence-based interventions into clinical settings has become a national priority

The gap between research and practice is still large, especially in substance use treatment

Substance abuse treatment clinics are among the poorest in adopting empirically validated treatments

Transfer of CM

Many CM studies are well designed clinical trials

Several meta-analyses have demonstrated the efficacy of CM across studies

Large scale studies by the Clinical Trials Network have demonstrated the feasibility of transferring CM to community settings

Yet, community clinicians have rarely received training in CM, and more often than not have never heard of CM

Training Therapists to Administer Contingency Management

Petry, Alessi & Ledgerwood, 2012, Journal of Consulting and Clinical Psychology

WAYNE STATE
School of Medicine

Study Aims

Train	Train community-based therapists on the background and administration of CM.
Provide	Provide individual supervision on administration of CM.
Conduct	Conduct a randomized trial of the efficacy of CM for cocaine abstinence when applied by the therapists.

Study Phases

Phase I.

Didactic Workshop Training.

- 2 days of instruction on CM
- Role-play and adherence exercises
- Had to pass tests to go to the next level

Phase II.

Individual Supervision with Pilot Patients.

- Weekly supervision meetings
- Graphic feedback on several domains
- Had to get adequate fidelity ratings to proceed

Phase III.

Random Assignment of Patients to Certified Therapists.

- Assigned to CM or to Standard treatment with extra monitoring/attention

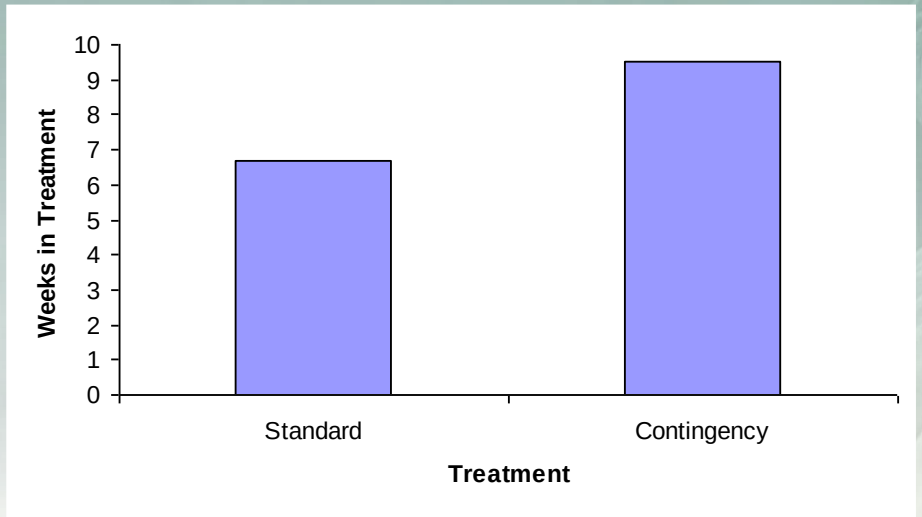
Clinicians and Patients

Trained 23 clinicians – 16 went on to the randomized trial

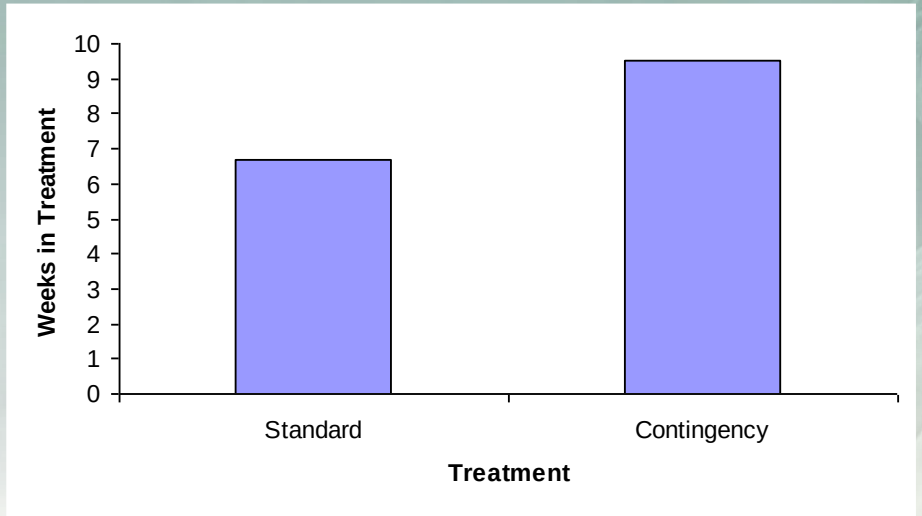
130 participants were randomized

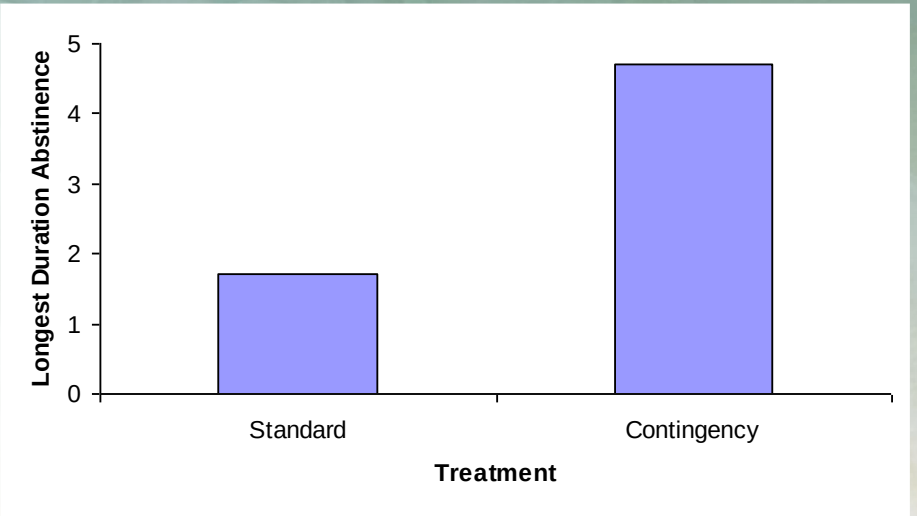
59 Standard care	71 Contingency management

Treatment Outcome Data

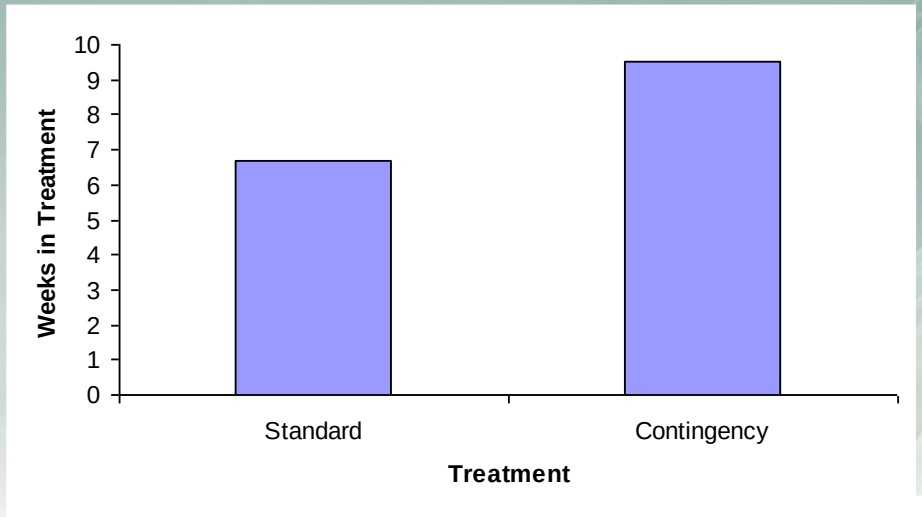


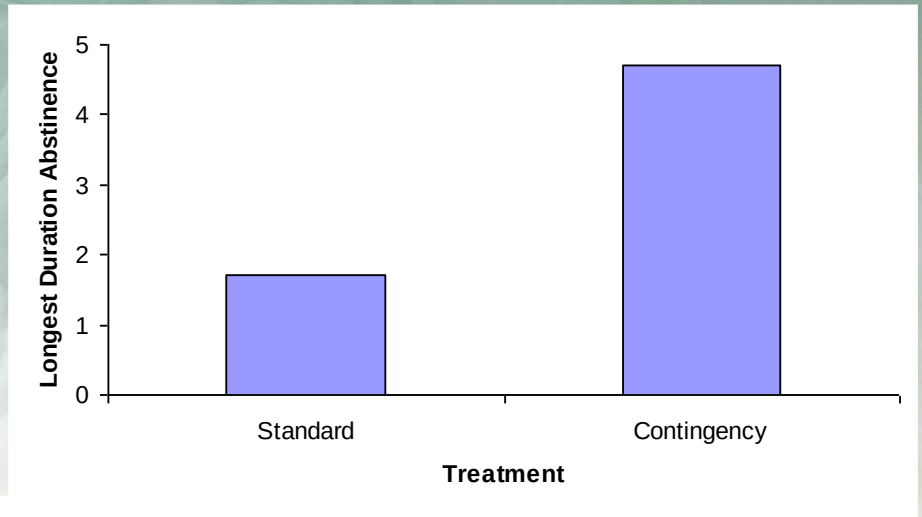
Treatment Outcome Data

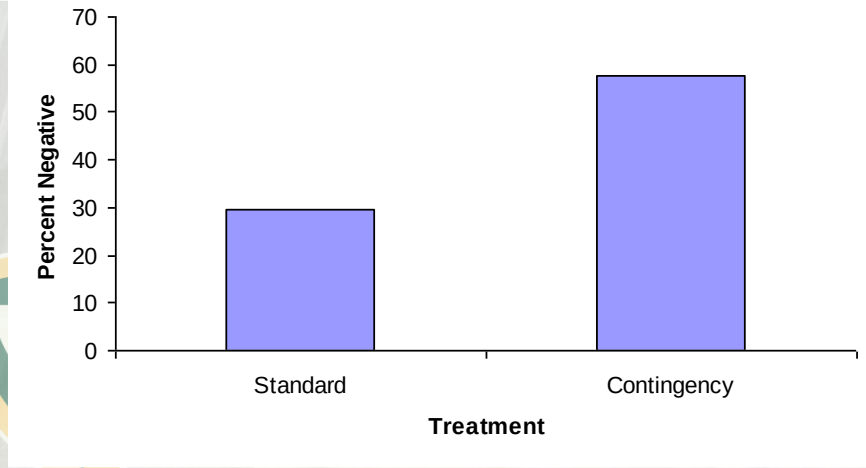




Treatment Outcome Data







Treatment Outcome Data

- CM participants earned 72.6 ± 76.8 draws during the 12-week study
- Mean (*SD*) overall reinforcement cost of $160 (186) per patient.
- No significant differences at 9-month follow-up
- Therapists maintained “very good” to “excellent” fidelity to the CM during the random trial phase

CM for Attendance

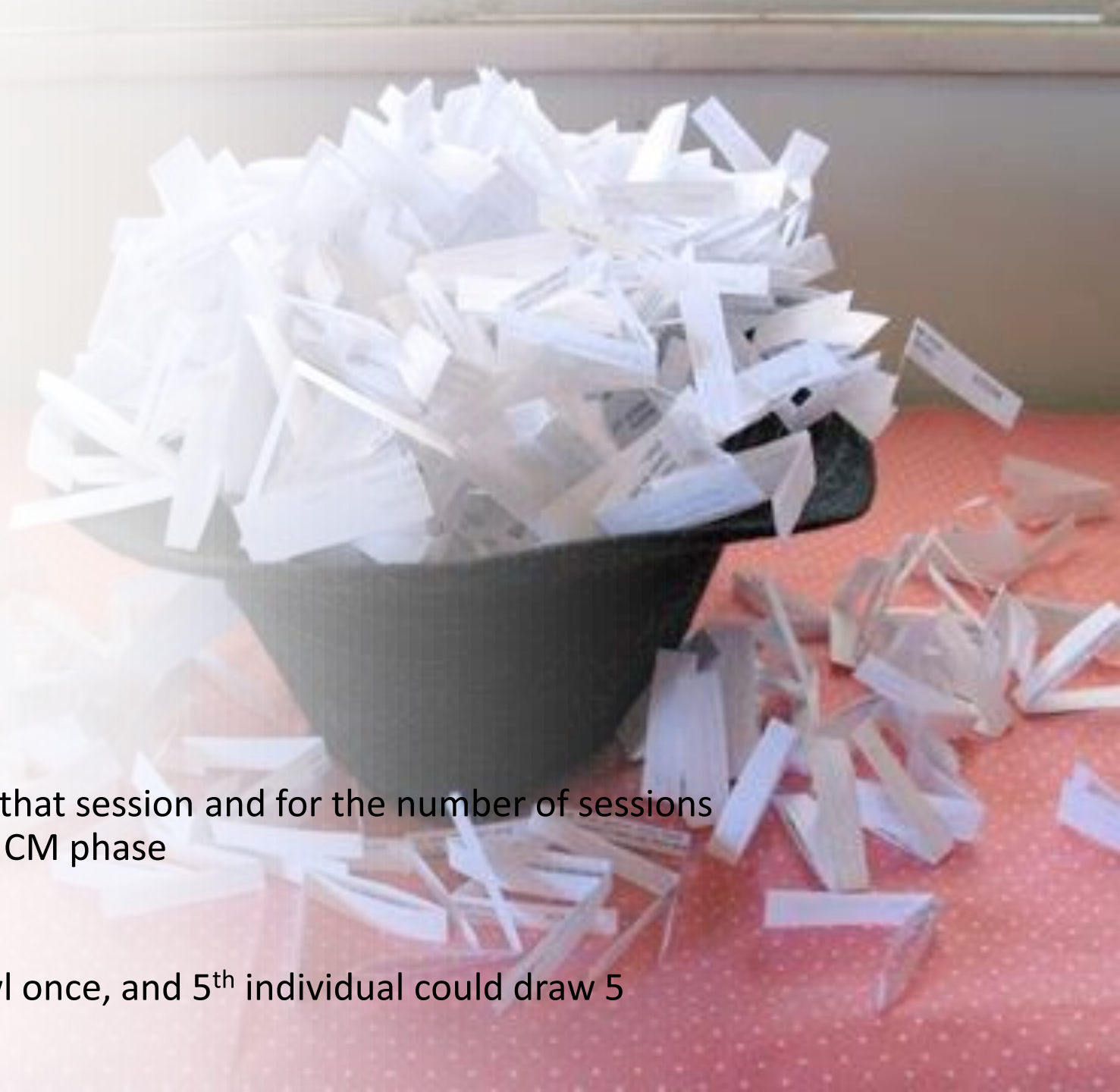
Purpose - investigate the effectiveness of CM applied by clinicians in community-based clinics

75 outpatients in group treatment at four community-based substance abuse treatment clinics

8-week baseline followed by random order 16 weeks of standard care with CM followed by 16 weeks of standard care without CM or vice versa

Therapists received 3-hr training session on CM and research consent procedures

Name in the Hat Technique

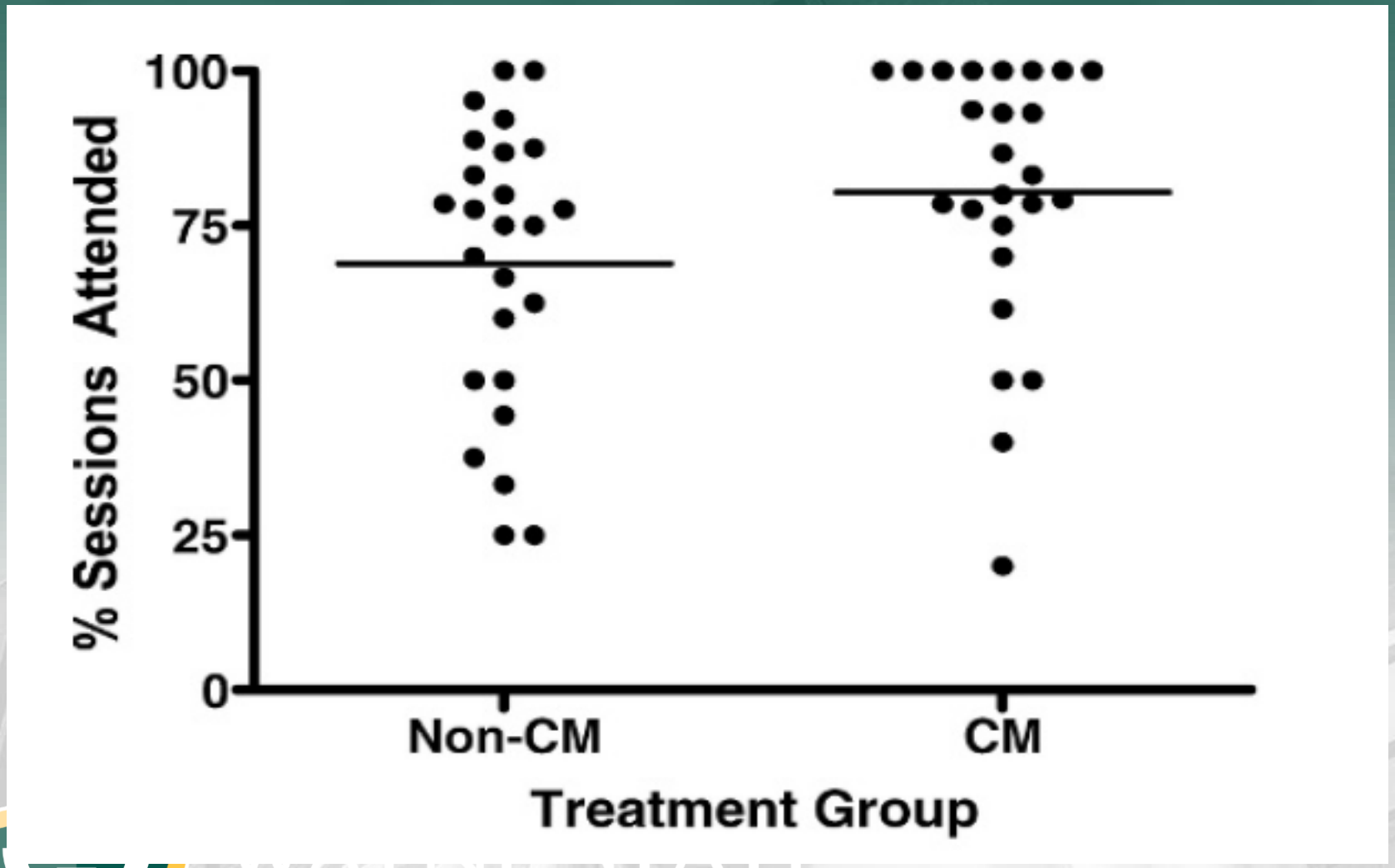


Participant could put their name in a hat for that session and for the number of sessions in a row attended since the beginning of the CM phase

5 names were drawn from the hat

First 4 individuals could draw from prize bowl once, and 5th individual could draw 5 times

Percentage of sessions attended for patients exposed to either non-CM or CM treatment phases across treatment site.



Ledgerwood et al., 2008, Journal of Applied Behavior Analysis

Results

Increased treatment attendance relative to non-CM

Average prize amount per patient ranged from $56 to $122 across treatment sites

Average cost to run a 16-week CM program (prizes only) was $1,017 and ranged from $739 to $1,131

Our Rural Recovery House Study

Study Aims

AIM 1 – Train Recovery House staff members to implement CM

AIM 2 – Assess the effectiveness of CM for increasing retention in recovery house living, and in engagement in recovery-oriented activities

Participants

- N = 120 Recovery House Residents
- N = 20+ Recovery House Staff Members

Recovery House Residents

- Will receive either usual care in the recovery house or usual care plus contingency management (CM) designed to encourage engagement in recovery-oriented activities
- Complete assessments at baseline, post-intervention and 6-months
- Will meet weekly with a recovery house staff member

Recovery House Residents

- Those receiving CM will meet weekly with a staff member to come up with 3 recovery-related activities to complete in the following week
- Participants will receive the chance to win monetary prizes for completing each activity
- Prize money added to a debit card, and determined using a virtual prize wheel

Recovery House Residents

- Prize amounts – “good job” which will occur on about 50% of prize wheel spins and has a $0 value; “small prize” which will occur on 40% of spins and will have a $1 value; “large prize” which will occur on 10% of spins and have a $5 value
- Given the stipulations of CMS/ HRSA, participants can earn a maximum of $75 in incentives

Recovery House Staff

Recovery house staff members will undergo a 1-day training to learn to administer CM

Include didactic and role-plays, as well as quizzes

We will ask staff to record their CM sessions for supervision purposes

Conclusions

- CM effectiveness in treating individuals with substance use disorder
- A growing literature on implementation
- Needs of rural recovery houses may be a good fit with CM
- Our new project will demonstrate this

Research Support

- WSU Psychiatry
  - Jamey Lister
  - Jennifer Ellis
  - Mark Greenwald
  - Leslie Lundahl
  - Cynthia Arfken
  - Mannat Bedi
  - Danishi Bedi
  - Klevis Karavidha
- The Fletcher Group
  - Dave Johnson
  - Milena Stott
- Yale University
  - Jennifer Edelman
  - Steven Bernstein
- UCONN
  - Nancy Petry
  - Sheila Alessi
  - Dana Konopka
  - Sean Sierra
  - Ellen Ciesielski
  - Tressa Hanson
  - Lindsey Kelley
  - Betsy Parker
- MUSC/Baylor
  - Phillippe Cunningham
  - Stacy Ryan
  - Sharon Foster
- Chestnut Health
  - Mark Godley
- Grant Funding
  - The Fletcher Group/HRSA
  - R01DA034537-01A1 (Ledgerwood)
  - R01MD011322-01A1 (Ledgerwood/ Cunningham)
  - R01 DA16855(Petry)
  - R21 021839-01A1(Ledgerwood)
  - U01HL097889 (Naar-King, Jen)
  - Helene Lycaki/Joe Young Sr. funds