Improving Outcomes in Methadone Treatment

Cognitive/Behavioral Treatment
Contingency Management

Michael J. McCann, MA
Matrix Institute on Addictions

COMP Symposium
September 11, 2007
Overview of Presentation

- Some general issues in treating opioid dependent patients
- Some behavioral approaches to improve treatment
But first, let’s look at what we do...

- Methadone treatment is often portrayed in a negative light.
- We need to remind ourselves and educate others about our treatment.
- We provide lifesaving, effective treatment
- Numbers don’t lie....
Reduction of Heroin Use by Length of Stay in Methadone Maintenance Treatment

(Ball and Ross, 1991)

N = 617
Methadone treatment efficacy
n=727, Hubbard et al. 1997

89% 28% 42% 22% 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%
% of sample

Heroin use (weekly)
Cocaine use (weekly)

Pretreatment
Posttreatment

Heroin use
Cocaine use
Crime among 491 patients before and during MMT at 6 programs

Adapted from Ball & Ross - The Effectiveness of Methadone Maintenance Treatment, 1991

Opioid Agonist Treatment of Addiction - Payte - 1998
Patient Status Before and After Methadone Maintenance Treatment
(Composite Average of Three Treatment Programs for 2 Years)
(Adapted from McGlothlin and Anglin, 1981)

Time Incarcerated, %

- 31.7% before treatment
- 6.7% after treatment
Relapse to IV drug use after MMT
105 male patients who left treatment

Adapted from Ball & Ross - *The Effectiveness of Methadone Maintenance Treatment*, 1991
Opioid Agonist Treatment of Addiction - Payte - 1998
Mortality Rates in Treatment and 12 Months after Discharge

Zanis and Woody, 1998

- In Treatment (n=397): 1.0%
- Discharged (n=110): 8.2%
Role of Psychosocial Services in Reducing Illicit Opioid Use
(Adapted From McLellan et al., 1993)

[Graph showing the percentage of opiate-positive urine samples over treatment weeks for MMS (Minimum Methadone Services), SMS (Standard Methadone Services), and EMS (Enhanced Methadone Services).]
Methadone treatment is incredibly effective

Be proud of the work you do

Inform, educate, advocate.
Counseling Opioid Dependent Patients: Some General Issues

1. Recovery and pharmacotherapy
2. Patient orientation towards recovery
3. 12-Step meetings
4. Cognitive/Behavioral approaches
Counseling Issues

- Recovery and pharmacotherapy
Recovery and Pharmacotherapy

- Patients (and counselors) may have ambivalence regarding medication
- The recovery community may ostracize patients taking medication
- Counselors need to have accurate information
Recovery and Pharmacotherapy

- Focus on “getting off” medication may convey taking medication is “bad”
- Suggesting recovery requires cessation of medication is wrong
- Support patient’s medication-taking
Recovery and Pharmacotherapy: Facts and Myths

- “Just substituting one drug for another”
- “Patients are still addicted”
- But,
  - Medications are legal
  - Oral vs injected
  - Taken under medical supervision
  - Inexpensive
Recovery and Pharmacotherapy: Facts and Myths

- “Patients are getting high”
- But,
  - Long acting, slow onset
  - Matches level of addiction
Counseling Issues

- Patient orientation towards recovery
Patient orientation towards recovery

- “Denial” in the usual sense is virtually nonexistent in our patients.

- But, often a narrow focus (physical relief is sufficient).

- Focus is often on not using illicit opiates vs. developing new behaviors (“Recovery” is not using heroin).
Other drug, or alcohol use may not be seen as a problem or relevant to treatment

Counseling may be viewed as an unnecessary imposition
Patient orientation towards recovery

- Patient orientation, counselor response
  - Impatience, confrontation, “you’re not ready for treatment”
    - or,
  - Deal with patients at their stage of acceptance and readiness
  - Motivational Interviewing approach

- Patients not ready for treatment?
- Or, are treatments not ready for patients?
Counseling Issues

- 12-Step Meetings
12-Step Meetings

- Medication and the 12-Step program
- Program policy
  - “The AA Member: Medications and Other Drugs”
  - NA: “The ultimate responsibility for making medical decisions rests with each individual”
- Some meetings are more accepting of medications than others
- On-site meetings
Behavioral Treatments: What Works?

- Motivational Interviewing - (Engagement)
- Contingency Management - (Engagement, retention, treatment)
- CBT/Matrix Model - (Treatment)
What works: 
The Matrix Model
Treatment Components of the Matrix Model

- Individual Sessions
- Early Recovery Groups
- Relapse Prevention Groups
- Family Education Group
- 12-Step Meetings
- Social Support Groups
- Urine Testing
## Matrix Program Schedule (Sample)

<table>
<thead>
<tr>
<th>Monday</th>
<th>Wednesday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Weeks 1-4</strong></td>
<td><strong>Weeks 1-12</strong> Family/Education</td>
<td><strong>Weeks 1-4</strong> Early Recovery Skills</td>
</tr>
<tr>
<td>Early Recovery Skills</td>
<td>Weeks 13-16 Social Support</td>
<td>Weeks 1-16 Relapse Prevention</td>
</tr>
<tr>
<td>Weeks 1-16 Relapse Prevention</td>
<td></td>
<td>Urine and breath alcohol tests once per week, weeks 1-16</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ten Individual/Conjoint sessions during 1st 16 weeks</td>
</tr>
</tbody>
</table>
Matrix Model in Medication-assisted Treatment

- Can use group topics independent of program structure
- Provide weekly Early Recovery Groups for the first 30 days of treatment
- Provide ongoing Relapse Prevention groups
Matrix Model Groups

- Focus on the present
- Focus on behavior vs. feelings
- Structured, topics, information, analysis of behavior
- Drug cessation skills and relapse prevention
- Lifestyle change in addition to not using
Matrix Model Groups

- Therapist frequently pursues less motivated clients
- Non-confrontational; must be safe
- Goal is abstinence; relapse is tolerated
Matrix Model Key Component

Information

The Brain Premise
Information: Conditioning

Pavlov’s Dog
Information: Conditioning

Pavlov’s Dog
Triggers and Cravings

DRUG
Conditioning Process During Addiction

Social Phase

Strength of Conditioned Connection

Mild

**Triggers**
- Parties
- Special Occasions

**Responses**
- Pleasant Thoughts about AOD
- No Physiological Response
- Infrequent Use
Development of Craving Response

Addiction Phase

Thinking of Using

Mild Physiological Response
- ↑ Heart Rate
- ↑ Breathing Rate
- ↑ Energy
- ↑ Adrenaline Effects

Entering Using Site

Powerful Physiological Response
- ↑ Heart Rate
- ↑ Breathing Rate
- ↑ Energy
- ↑ Adrenaline Effects

Use of AODs

AOD Effects
- Heart
- Blood Pressure
- Energy
Conditioning and the Brain: Message to Patients

- Will power, good intentions are not enough
- Behavior needs to change
- Deal with cravings: avoid triggers
- Deal with cravings: thought-stopping
- Scheduling
Early Recovery Skills Group

What happens in group:

- Introduction of new members
- Orientation to ERS groups
- Review of topic
- Each member discusses topic via handout
Early Recovery Skills Group Topics

- Cravings and Scheduling
- Triggers, paraphernalia
- Thought-stopping
Relapse Prevention Group

What happens in group:

- Introduction of new members
- Review topic 30-45 minutes and discuss
- Discuss problems, progress, and plans for 30-45 minutes
- Focus on the recent past and immediate future
Relapse Prevention Groups

- Relapse Prevention
  - Patients need to develop new behaviors
  - Learn to monitor signs of vulnerability to relapse
  - Recovery is more than not using heroin or other illicit opioids.
  - Recovery is more than not using drugs and alcohol
Relapse Prevention Topics

- Relapse Prevention
  - Overview of the concept; things don’t “just happen”

- Using Behavior
  - Old behaviors need to change
  - Re-emergence signals relapse risk (it’s a duck)

- Relapse Justification
  - “Stinking thinking”
  - Recognize and stop
Relapse Prevention Topics

- **Dangerous Emotions**
  - Loneliness, anger, deprivation

- **Be Smart, not Strong**
  - Avoid the dangerous people and places
  - Don’t rely on will power

- **Avoiding Relapse Drift**
  - Identify “mooring lines”
  - Monitor drift
Relapse Prevention Topics

- Total Abstinence
  - Other drug/alcohol use impedes recovery growth
  - Development of new dependencies is possible

- Taking Care of Business
  - Addiction is full-time
  - Normal responsibilities often neglected

- Taking Care of Yourself
  - Health, grooming
  - New self-image
Relapse Analysis

- Session to be done when relapse occurs after a period of sobriety
- Functional analysis
- Continued drug use is better addressed with Early Recovery topics
- Relapse should be framed as a learning experience
A Good Counseling Session

- Patients ultimately may need to understand why they became addicted
- More important early on:
  - Understanding the addiction disorder
  - Making changes in day-to-day life
- A good session: the patients leaves knowing more about addiction and recovery
Elements of Treatment: Information, Persuasion, and Medication

- Information
  - Matrix Model
  - CBT
  - 12-Step

- Persuasion
  - Motivational Interviewing
  - Confrontation
  - Contingency Management
What works:
Contingency Management
Contingency Management (CM)

- CM: application of reinforcement contingencies to urine results or behaviors (attendance in treatment; completion of agreed upon activities).
Engagement and Retention

- Strategies for engaging and retaining
  - Warmth and empathy
  - Flexibility
  - A safe environment
  - Motivational interviewing approach
  - Contingency management
Contingency Management: Overview

1. Research findings
2. Application of CM in the Matrix Institute clinics
Contingency Management
Steve Higgins, Ph.D., 1993

- Community Reinforcement Approach (CRA)
  - Marital Therapy
  - Vocational Assistance
  - Skills Training
  - New social and recreational activities
  - Antabuse
  - Vouchers ($977)

- Standard Treatment
Contingency Management: Higgins et al., 1993

75% 40% 55%

Completed Treatment 8 weeks continuous abstinence

Legend:
- CRA
- CRA & CM
Contingency Management:
Higgins et al., 1994

- How much of CRA effect is CM?
- 24-week treatment
- 3 times per week urines

- Conditions
  - CRA only
  - CRA plus vouchers
Contingency Management:
Higgins et al., 1994

Retained for 8 weeks

- Standard: 22%
- Standard & CM: 84%
Contingency Management

- It works, but...
- It is too expensive.
- It is too complex.
CM in Practice: Lower Cost
Petry et al, 2000

- 42 alcohol dependent patients
  - Standard treatment (12-Step, life skills, coping skills, RP, AIDS education, social-recreational);
  - 4-week intensive
- Standard treatment plus CM
- Target behaviors: breath alcohol test; 3 treatment goal activities
CM in Practice: Lower Cost
Petry et al, 2000

- **Drawing procedure**
  - 250 slips (25%, “Sorry, try again”)
  - 169 worth $1
  - 17 worth $20
  - 1 worth $100

- Average cost per patient was $240 compared to $600 in the Higgins studies
CM in Practice: Lower Cost
Petry et al, 2000

% Negative urines in treatment

% Abstinent at Week 8
CM in Practice: Still Lower Cost
Petry et al, 2004

- Standard treatment
- CM $80 max ($36 actually earned, $3/week)
- CM $240 max ($68 actually earned, $5.67/week)

- Cocaine-users
CM in Practice: Still Lower Cost
Petry et al, 2004

- Drawing procedure—250 slips
- 50% “Good job” both groups
- 109 worth $0.33 or $1.00
- 15 worth $5 or $20
- 1 worth $100 both groups
CM in Practice: Still Lower Cost
Petry et al, 2004

- Results

- $80 group was not as effective as $240

- $80 did result in improvement

- Only patients who gave positive urines at start were affected by the intervention
61% were Cocaine-negative at intake
Other CM Examples

- Raffles to lower expense
- Donuts, cookies, pizza
- Start of group goodies
- Preferred parking
- Chips
- Certificates or plaques for accomplishments
- Donations from local restaurants and stores
CM in Practice: Low Cost & Simple

- Matrix Institute OTP
- $5 per month for perfect group attendance
- $5 per month for perfect medication attendance
- Easy to track at the expense of less potency
- Less expensive than CM in research
Perfect medication attendance

n=49

P<.05
Perfect group attendance
n=49

<table>
<thead>
<tr>
<th>% perfect</th>
<th>Pre-CM</th>
<th>Post-CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>58%</td>
<td></td>
<td>71%</td>
</tr>
</tbody>
</table>

P<.01
Perfect group attendance in patients missing pre-CM, n=20
Groups attended in patients missing pre-CM, n=20

<table>
<thead>
<tr>
<th>% groups</th>
<th>Pre-CM</th>
<th>Post-CM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>100%</td>
<td></td>
<td>88%</td>
</tr>
</tbody>
</table>

P < .005
CM in Practice in an OTP

- **Cost per patient per month**
  - Group attendance: $3.50/patient
  - Medication attendance: $2.50/patient
CM in an OTP: Conclusions

- A simple, low cost CM intervention can improve patient attendance in groups and medication visits.
CM in an OTP: Modifications

- After a while data showed diminished effect
- Perfection too difficult?
- Miss one and the month is lost
CM in an OTP: Modifications

- More immediate effect; shaping: McDonald’s coupons, once per week at group, first 30 days of treatment

- Quarterly bonuses:
  - 80% attendance = certificate and $5
  - 100% attendance = certificate and $10

- Attendance displayed in group
Conclusions

- CM can be effectively used in clinical settings
- Low cost reinforcers can be effective
- Simple schedules can be effective