

Using Motivational Incentives in Behavioral Health Treatment

Welcome to CTN Mid-Atlantic Node/ Central East ATTC Webinar Series

April 24, 2013

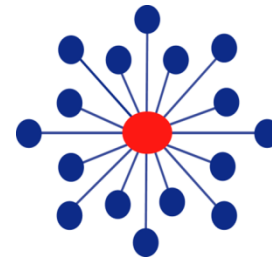
Vouchers and Fishbowls



Central East (HHS Region 3)

ATTC

Addiction Technology Transfer Center Network
Funded by Substance Abuse and Mental Health Services Administration



Clinical Trials
Network

Facilitator:

Christine Higgins, M.A.

Dissemination Specialist, Mid Atlantic Node,
Clinical Trials Network/NIDA

PAMI Trainer

MI-Presto Trainer

Provide consultation to many Community
Treatment Programs on implementation

And our attendees today are a mix of professionals, including...
nurses, case managers, and social workers...
from the fields of mental health, addictions,
criminal justice and medicine.

Let's begin with 2 survey questions:

Question #1:

I attended at least one of the last two webinars. Y/N

Question #2:

I have first-hand experience with implementing incentives where people received tokens or prizes. Y/N

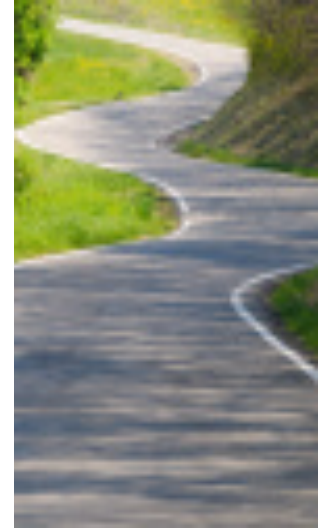


A quick review of Session 1 & 2:



We have discussed the principal of contingency management or motivational incentives (interchangeable terms) in which there is some observable and measurable behavior that is reinforced each time it occurs, and it is often one step in a series of steps that leads to achieving a larger goal.

Last week, we talked about the option of a tic-tac-toe board to break large goals (like achieving a methadone take home) down into smaller steps and reinforcing each step along the way.



We also discussed how these small steps can be reinforced using smaller no-cost or low cost prizes while still acknowledging achievement.

Good Sam's Methadone Clinic

Tic Tac Toe Take Home

Orientation Session 1	Regular Attendance	Orientation Session 2
Fee Approval	First Meeting	Regular Medication
Orientation Session 4	2 nd contact group or ind.	Orientation Session 3

First Tic-Tac-Toe

Prize from the treasure chest.

Second TicTacToe

Inspirational Poster

Fill the board:

Earn your first take home:

Counselor's Signature

Date of Completion

Patient's Name _____



Staying on Track

Probation Tic Tac Toe

Fee payment	2 nd Appt.	Complete Job Skills Class
Network list/ support people	Report to Agent	Long Term goal
Visit Workforce Development	Contacts from job search	Give urinalysis

First Tic-Tac-Toe

Prize from the treasure chest.

Second Tic Tac Toe

Appointment Book

Fill the board:

Certificate of Completion

P.O. Signature

Date of Completion

Probationer's Name _____

Tic Tac Toe Versus Other Methods

- The Tic Tac Toe method was developed by practitioners and is compatible for use with individual treatment plan goals
 - Primary and mental health care; probation requirements, educational or vocational attainment
- Standard reinforcement methods using vouchers or fishbowls have been used for basic treatment goals of attendance and drug abstinence

Session #3

Voucher and Fishbowl Method

- What we will cover today:
- What is a voucher system?
- What is the fishbowl method?
- How well do they work in research studies?
- Why do we choose one method over another?
- How do we pre-determine the cost?

Voucher Reinforcement



- Dr. Steven Higgins invented the voucher reinforcement method in the early 1990's. Research has shown over and over that vouchers are highly effective in reducing drug use and retaining cocaine abusers in treatment programs.
- Amount offered in original research was \$1000 during a 12-week treatment episode

\$1000???



Yippee!!!



**You've got to
be kidding!!!**

Voucher Reinforcement

- Elegantly incorporates behavioral principles to initiate & sustain abstinence
- Demonstrated efficacy in controlled trials

BUT

- Costs were high (\$1000 offered per client)

Cost May Be Worthwhile

The economic cost to U.S. society of drug abuse?

- Nearly 100 billion dollars, according to the National Institute on Drug Abuse.
- Use of drugs like cocaine is associated with serious social and health problems, including crime and the spread of infectious diseases.
- If motivational incentives help people stay in treatment longer, and people have a better chance of long term recovery, it may be worth it.

Innovative Cost Reduction Approaches



- Dr. Ken Silverman and colleagues at Johns Hopkins University formed a non-profit data processing company to employ and treat drug addicts.
- Hopkins Data Services, employed men and women who abused cocaine and gave them regular salaries (instead of vouchers) for their data entry work as long as they stayed off drugs.
- The company's goal was to maintain a self-sustaining business that could employ the former addicts and pay for their drug treatment and monitoring.

Innovative Cost Reduction Approaches



- Psychologist Nancy Petry at the University of Connecticut finds that a lower-cost reward system using prizes also works in retention and treatment of drug abusers and may be attractive to community-based treatment programs that cannot afford using the vouchers.
- The Fishbowl Method: Intermittent Reinforcement Schedule is used in the first multi-site trial of abstinence incentives in community drug settings.

This is our guest today!

CM expert and lead Investigator of the national CTN multi-site study of abstinence incentives

MIEDAR: Motivational Incentives to Enhance Drug Abuse Recovery

MIEDAR STUDY CTN
Protocol 006 & 007
ctndisseminationlibrary.org



**Dr. Maxine Stitzer,
Principal Investigator,
CTN Mid-Atlantic Node**

How do motivational incentives fit into the clinical picture?

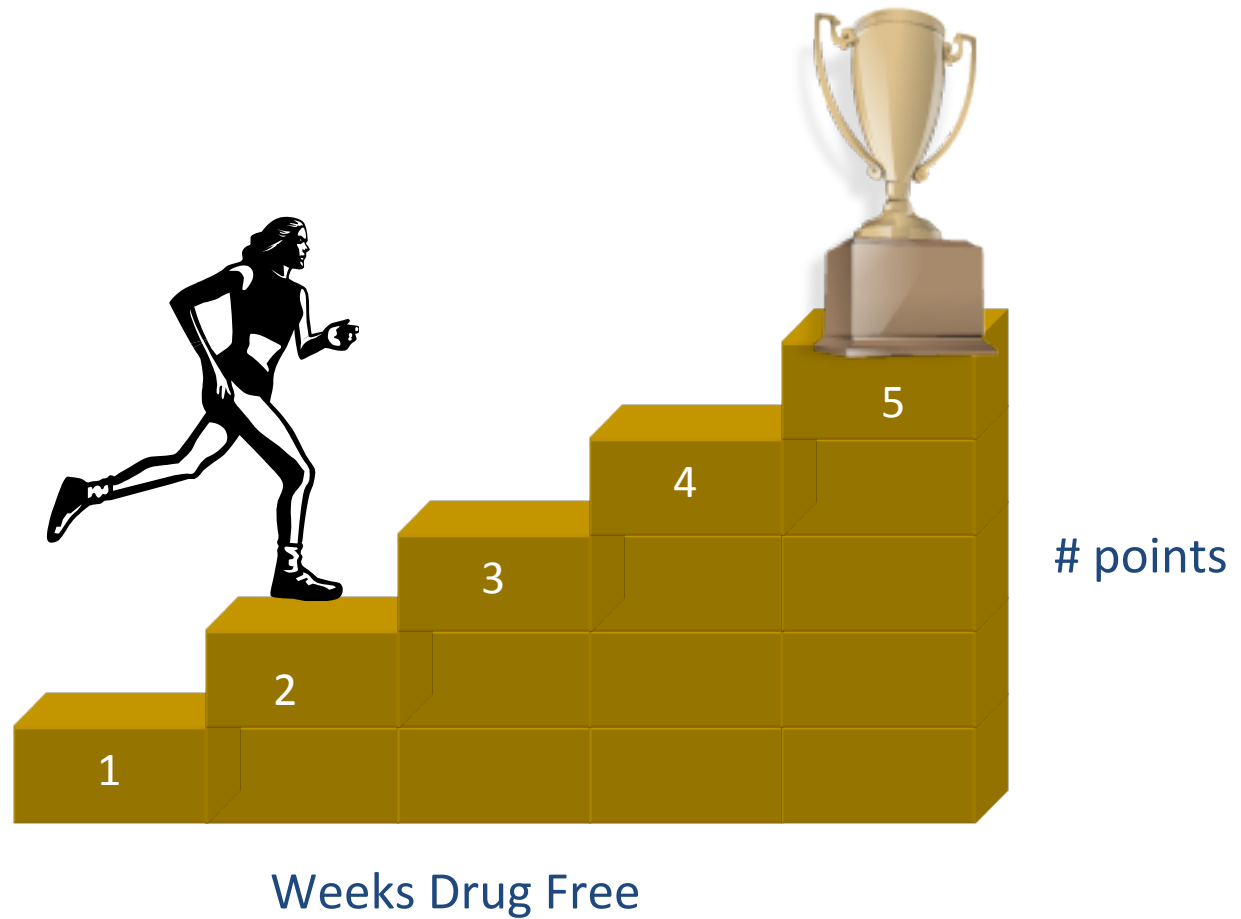
- Add-on to counseling as usual
 - Special intervention to enhance motivation for sustained abstinence
 - Focuses on the positive to recognize and celebrate success
 - Allows counselors to work on life-style changes that can sustain abstinence beyond incentives

Voucher Reinforcement

making abstinence a more attractive option
using a point system

- Intensive counseling plus abstinence incentives
- Points earned for cocaine negative urine results
 - Escalating schedule with reset penalty
 - Trade in points for goods
 - \$1000 available in first 3 months

Points Escalate with Stimulant-Free Test Results



Bonus Points Can Be Awarded for Opiate and Marijuana Abstinence



Voucher Trade-in

- Clients could trade in points at any time and request any retail items they might want
 - Some spent frequently;
 - Some saved up for larger items
- Staff would go shopping to fill client requests

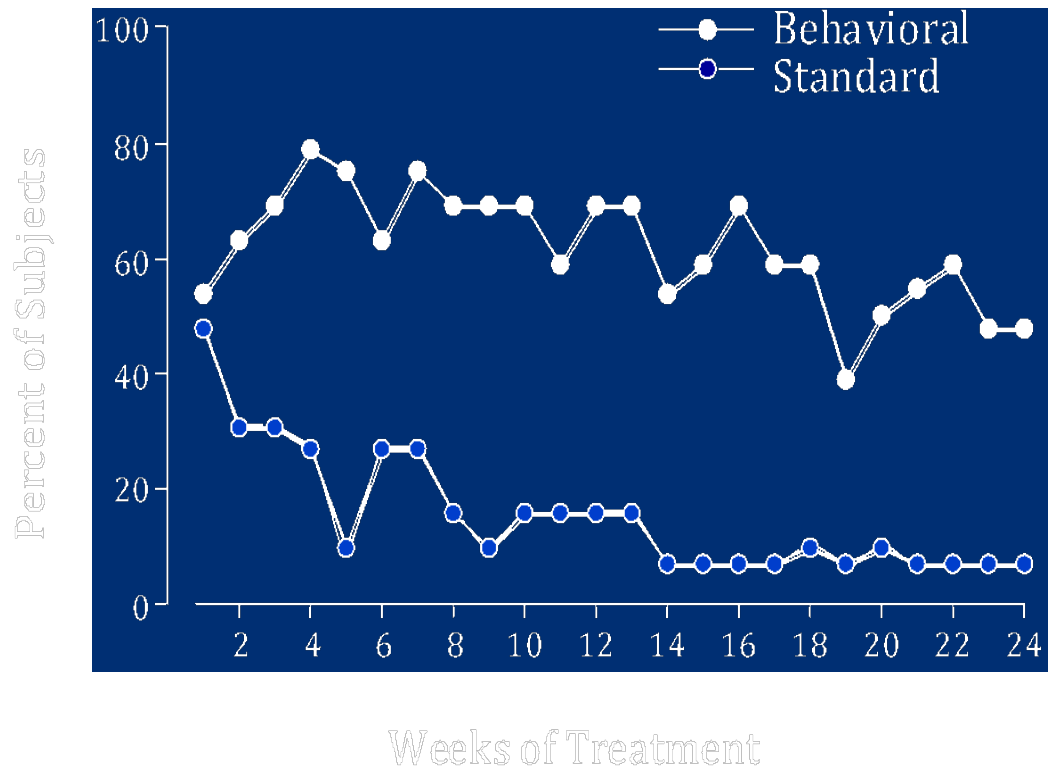
Why \$1000?



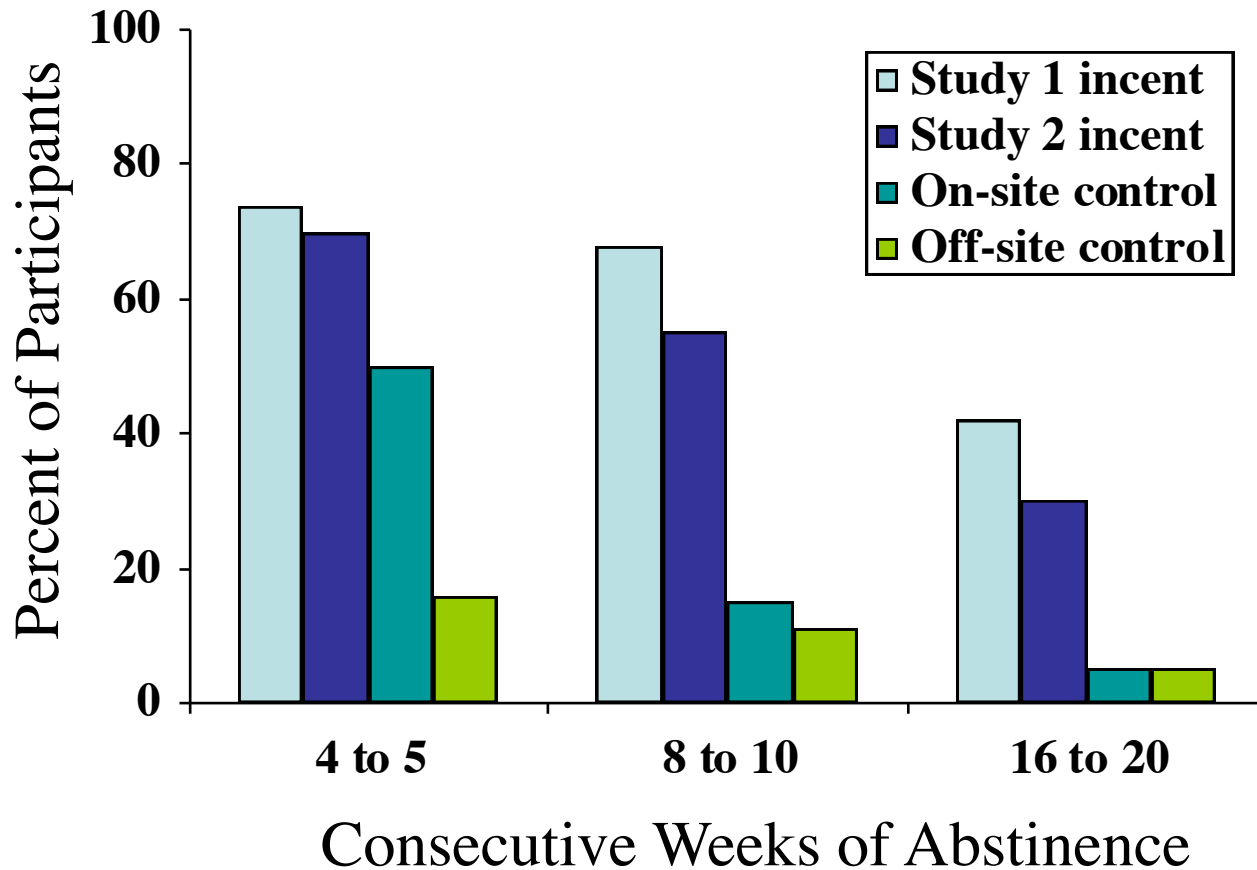
Voucher Incentives for Outpatient Drug-free Treatment of Cocaine Abusers

Higgins et al. Am. J. Psychiatry, 1993

Cocaine negative urines



Higgins Studies With On-site VS Off-site Control Groups



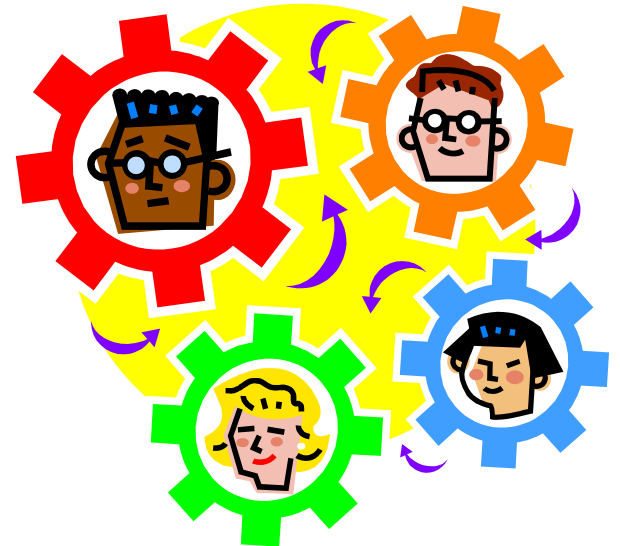
CTN MIEDAR Study

Participants = 800 stimulant users
(cocaine or methamphetamine)

Two parallel studies conducted:

6 methadone and

8 drug-free programs



Random Assignment

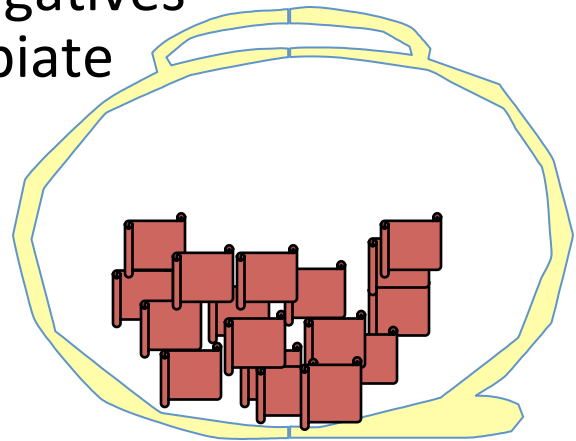
- Usual care
- Usual care enhanced with abstinence incentives
- 3-month evaluation



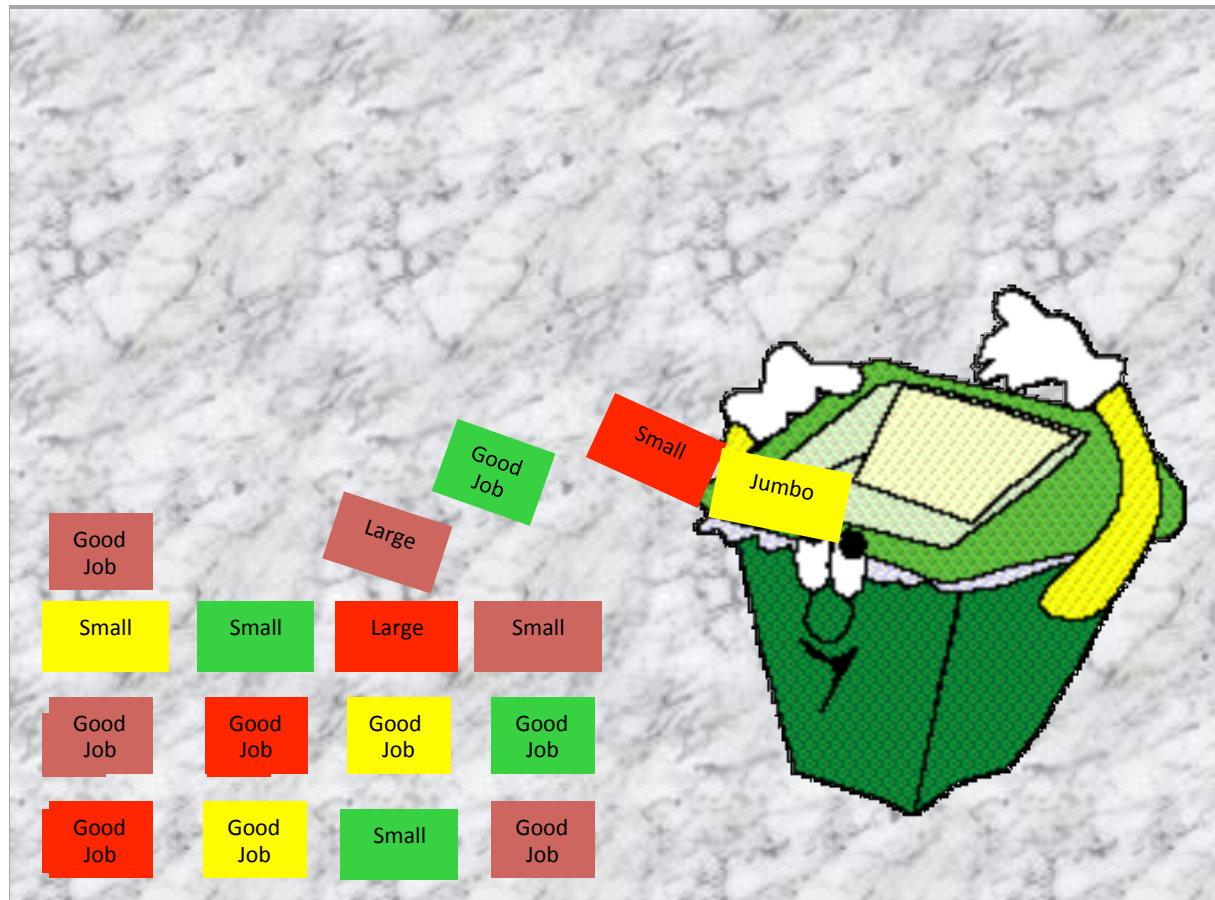
Fishbowl Method

Incentive = draws from a bowl

- Draws earned for each stimulant-negative urine with negative BAC
- Draws escalate with consecutive negatives
- Bonus draws given for also being opiate and marijuana negative



Intermittent Reinforcement Schedule: Draws from the Abstinence Bowl



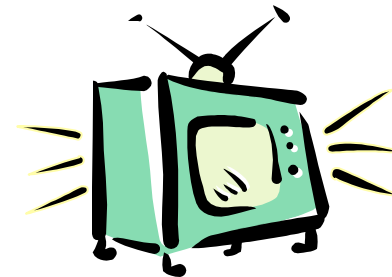


Half the chips were winners

Win frequency inversely related to cost



- largest chance (42%) of winning a small \$1 prize
- moderate chance (8%) of winning a large \$20 prize
- small chance of winning a jumbo \$100 prize



Sample Collection Twice Weekly Over 12 Weeks

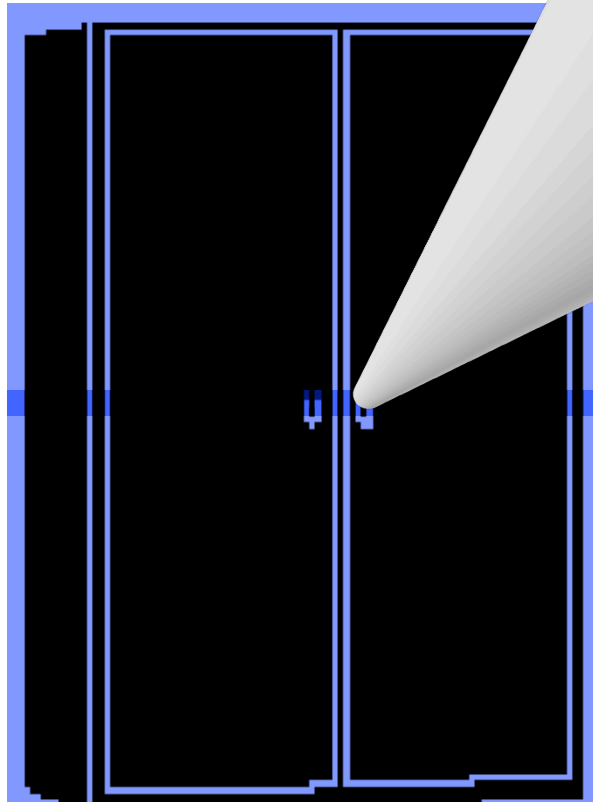


Total Earnings

- \$400 in prizes could be earned on average
 - If participant tested negative for all targeted drugs over 12 consecutive weeks



On-site Prizes

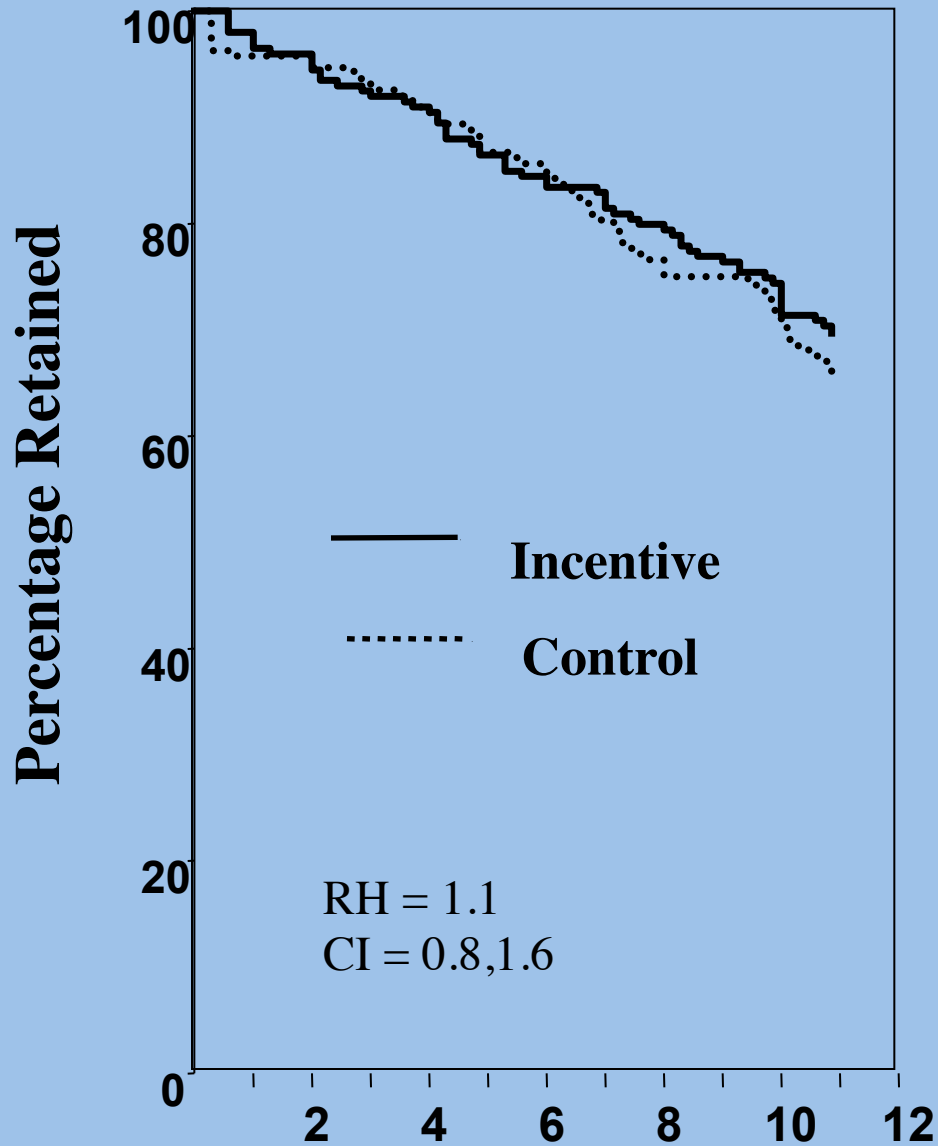


MIEDAR: Who participated and how
did it turn out?

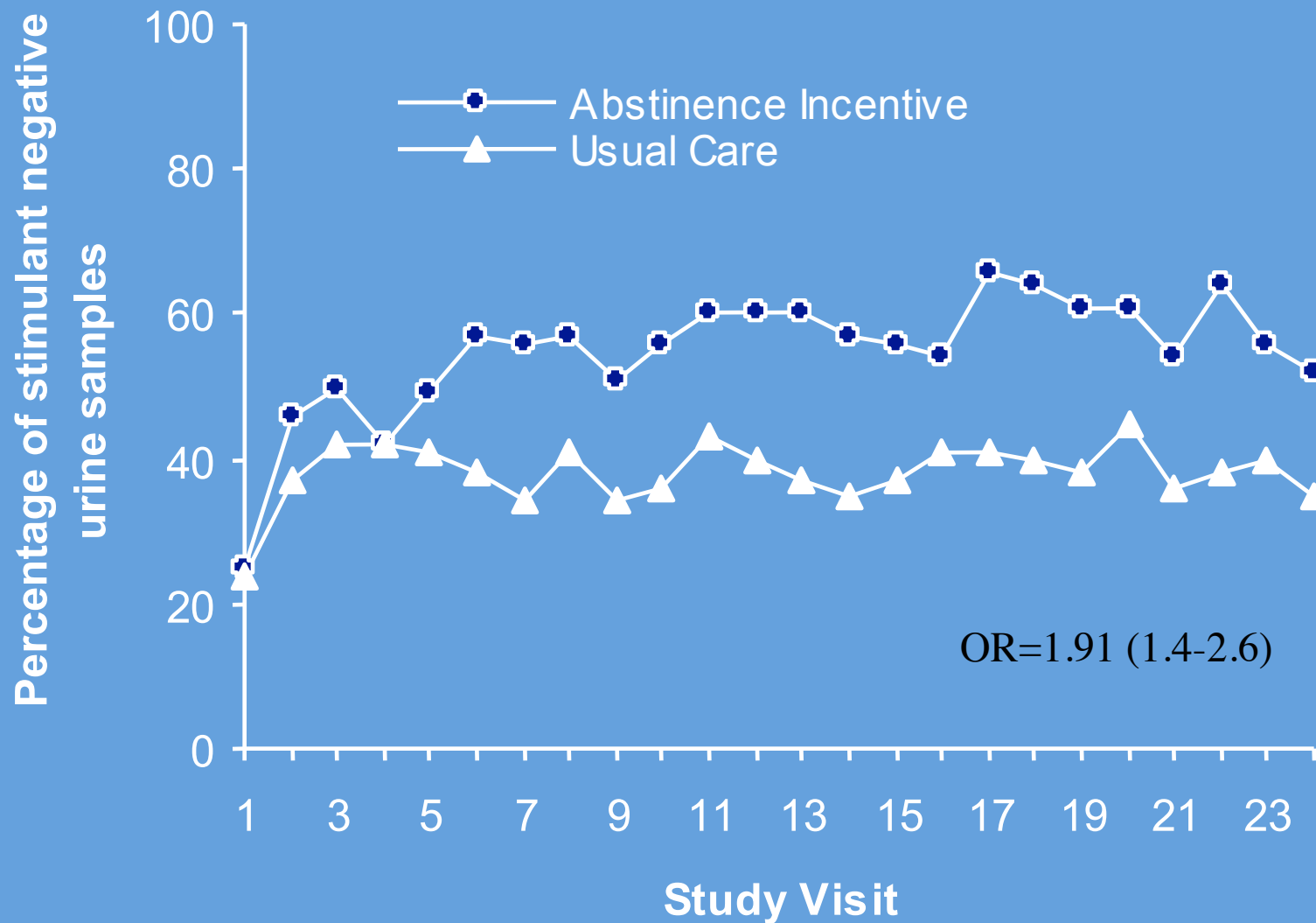
Retention and Drug Use
Outcomes

METHADONE PROGRAM STUDY RESULTS

Study Retention in Methadone Treatment



Percent Stimulant Negative Urines



Individual Subject Performance

21% Incentive

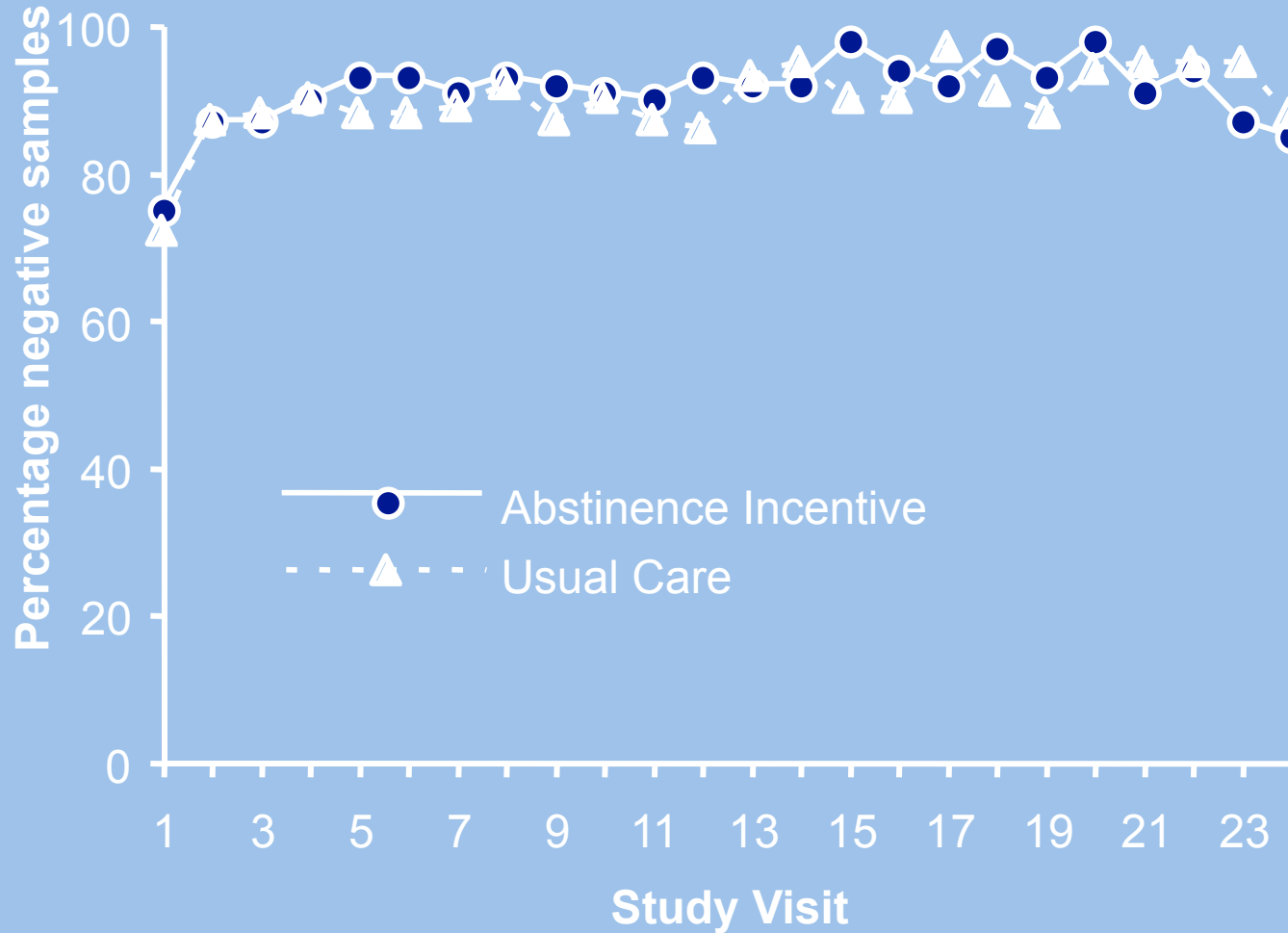
vs

8% control

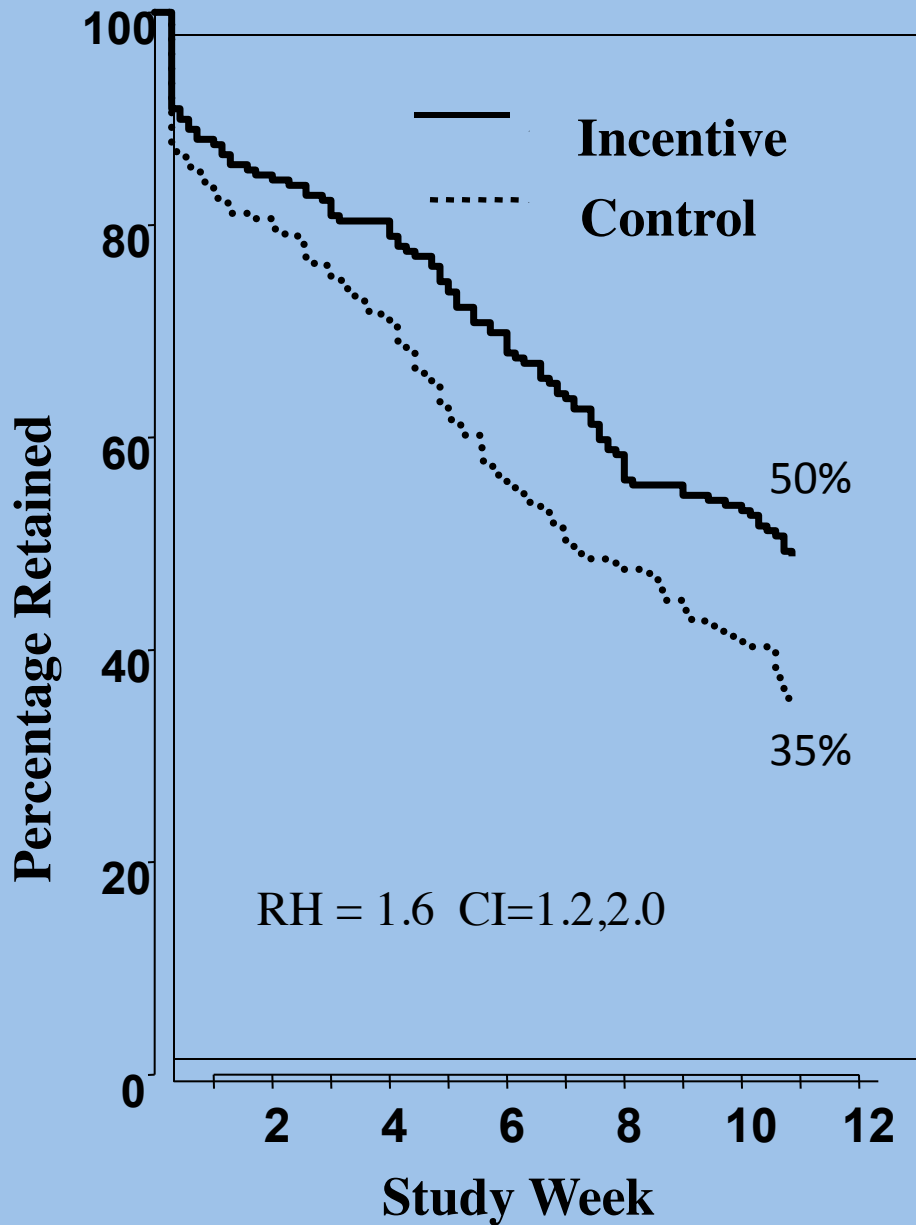
had prolonged abstinence outcome
(19-24 Stimulant Negative Urines)

Outpatient Psychosocial Clinics: Contrasting Outcomes

Percent of Submitted Samples Testing Stimulant and Alcohol Negative



Incentives Improve Retention in Counseling Treatment

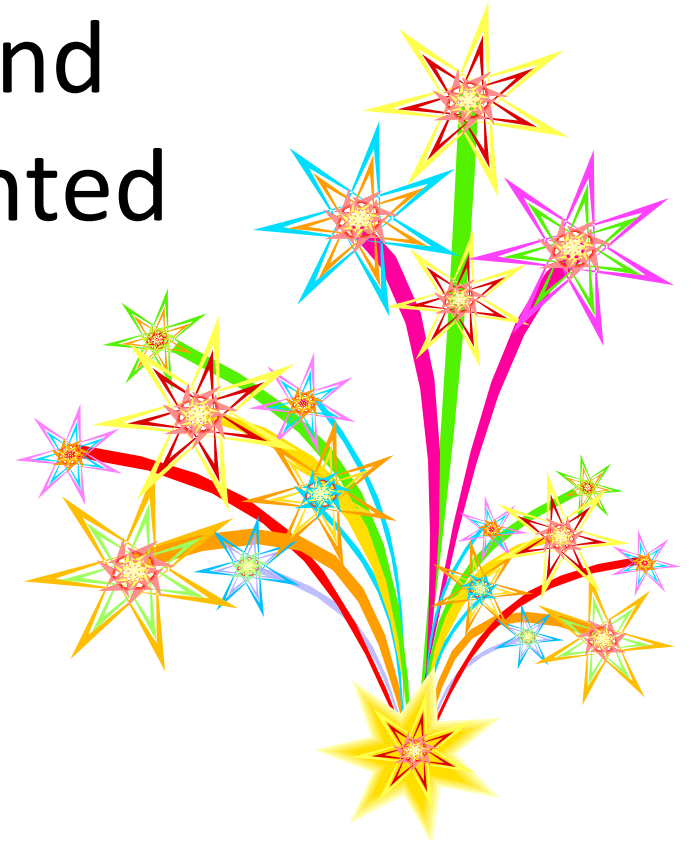


Psychosocial Site Differences: Raising Performance

- Abstinence incentives worked best in clinics with lower retention
 - Control mean = 3.6 - 6.8 weeks
- Clinics where clients were usually retained for 8 weeks didn't show improved retention with incentives

RESEARCH CONCLUSIONS

Incentives can improve client outcomes on retention and drug use when implemented in community treatment programs



How much was paid out in MIEDAR?

- Psychosocial counseling study: \$203
- Methadone study: \$120
- Why was more \$\$\$ paid out in the psychosocial counseling study?
 - 1) More subjects in study
 - 2) More counseling received
 - 3) More motivated patients
 - 4) Less stimulant drug use overall

Amount of Money Needed Depends On Target Behavior

- Attendance
 - Effective studies have offered \$250 or less over 12 weeks
- Drug abstinence
 - Effective studies have offered \$250 or more
- Why?
 - More difficult behavior change requires higher reinforcement values

Amount of Money Needed Depends on Problem Severity

- Recent Petry study divided clients at intake into those testing pos vs neg for stimulant
- For negative clients, goal is relapse prevention
 - \$250 was fine and less may have worked too
- For positive clients, goal is stopping use
 - \$560 was effective but \$250 was not

Harder the behavior change, more
that is needed to motivate change

Same Incentives For All vs Individualized Approach

This is one of the first dilemmas faced in adopting an incentive approach to supplement usual care treatment

- We recommend same for all while getting your feet wet in use of this technique
 - Easier to learn and implement
 - May be perceived as more “fair” by clients

Nitty Gritty of How To Do It

Designing A Voucher Program for Abstinence Incentives

- Decide on maximum earnings per patient
 - \$400-\$600 may be needed for active drug users
 - Less will do for relapse prevention or other targets
- Decide on frequency and duration of reinforcement occasions
 - e.g. twice weekly for 12 weeks
- Design escalating schedule of points
 - Can have a “top-out” value e.g. 10 points per neg UA
- Assign money value to numeric points to achieve desired maximum earnings

UA	Points
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	10
12	10
13	10
14	10
15	10
16	10
17	10
18	10
19	10
20	10
21	10
22	10
23	10
24	10

Total Points = 195

@ \$1 each max cost = \$195

@ \$2 each max cost = \$390

@ \$5 each max cost = \$975

Note that payout is usually about 50% of max cost

Exercise

Devise a voucher point schedule for your clinic

Pick a target behavior:

1 = Attendance

2 = Abstinence

Exercise Examples

Twice Weekly OP
(4 week program)

OP Sessions	Points
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
Total Pts	36

Once Weekly UA
(6 week program)

UA Week	Points
1	5
2	10
3	15
4	20
5	20
6	20
Total Pts	90

Why did we assign more
numeric points to the
urinalysis program than to the
attendance program?

Cost Calculations

4-week Attendance Program:

36 points

What is the total cost for:

\$1 prizes

\$2 prizes

\$5 prizes

6-week Neg UA Program

90 points

What is the total cost for:

\$1 prizes

\$2 prizes

\$5 prizes

Cost Calculations

4-week Attendance Program:

36 points

What is the total cost for:

\$1 prizes = \$ 36

\$2 prizes = \$ 72

\$5 prizes = \$180

6-week Neg UA Program:

90 points

What is the total cost for:

\$1 prizes = \$ 90

\$2 prizes = \$180

\$5 prizes = \$450

Which dollar amount would you pick?

Attendance Program

UA Program

(Remember, you usually end up paying out about half of what is offered)

Designing A Fishbowl Program

- Find an opaque bowl and make tickets or chips
- Decide on number of chips (500 has been standard but can be less)
- Decide on frequency and duration of draw occasions
 - e.g. twice weekly for 12 weeks
- Design escalating schedule of draws
 - Can have a “top-out” value e.g. 10 draws per neg UA
- Decide on approx maximum earnings per patient
 - \$400-\$600 may be needed for active drug users
 - Less will do for relapse prevention or other targets

UA	Points
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	10
12	10
13	10
14	10
15	10
16	10
17	10
18	10
19	10
20	10
21	10
22	10
23	10
24	10

Total draws = 195

Designing A Fishbowl Program

- Calculate total number of possible draws
- Decide on prize categories and prize values
 - e.g. small = \$1, medium = \$10, large = \$30
- Decide on percentage of chips for each prize value based on cost per draw calculation

Cost Per Draw Calculation

Total draws = 195

Half the chips (250) = “Good Job”

Half (250) result in prizes

Cost per draw = Probability of win X cost of prize

# chips	prob	prize cost	Per draw cost	# draws	total cost
200/500 =	.40	X \$1	= .40 per draw	X 195	= \$78
30/500 =	.06	X \$10	= .60 per draw	X 195	= \$117
20/500 =	.04	X \$30	= 1.20 per draw	X 195	= \$234

Total cost = \$429



Nancy Petry's Calculations for 1000 slips Fishbowl

Table 10.7 Formula for Adjusting Prize Bowls to Alter Costs
Note: Type in the gray sections. A sample is provided.

Slips	Type	Max value	Avg value	Probability	Cost per draw
595	Good Job	0	0	.0595	\$0.00
320	Small	\$1	\$0.80	0.32	\$0.26
60	Medium	\$5	\$4.00	0.06	\$0.24
24	Large	\$20	\$18	0.024	\$0.43
1	Jumbo	\$100	\$80	0.001	\$0.08
Total					Total
1000				1.00	\$1.01

Designing a fishbowl takes thought..

Cost depends on value of prizes, percentage of winning chips and number of draws. You can use a standard fishbowl draw of 500 (as we saw today), **and**, this software can help you keep track of inventory and target behaviors. It even has a virtual fishbowl!



Choosing Between Vouchers and Fishbowls

- Cost is not the issue: Both can be adjusted to achieve desired total available payout
 - Vouchers: monetary value and total possible number of points
 - Fishbowl: cost of prizes offered; probability of winning each prize; total possible number of draws
- Efficacy is not the issue:
 - Research shows that both are effective with equivalent effects at similar costs

Why Choose One Over the Other?

- Which would clients like best?
 - Fishbowl allows participation
 - Vouchers offer more certain payoffs
- Which makes it easier for staff to manage?
 - Tracking; fishbowl has MIIS
 - Shopping could be done in bulk for either
 - Fishbowl requires maintenance and cheat control

Which method do you prefer and
why?

Choice 1: Voucher

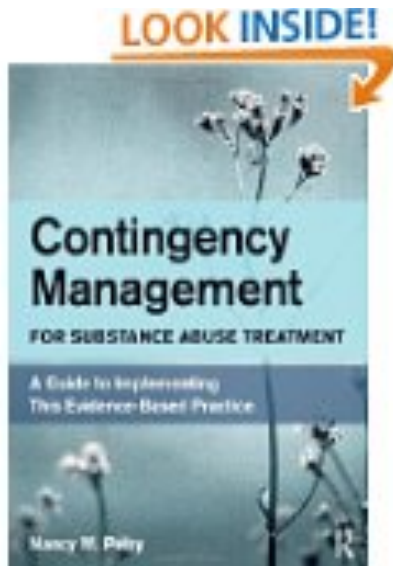
Choice 2: Fishbowl

Dissemination/Adoption

- Clearly recognized as one evidence-based practice advocated by program funders and licensers
- 1/4 - 1/3 of clinics are currently using incentives- mostly to reinforce attendance (*Roman et al., 2010*)
- Information on what it is and how to do it increasingly available
 - PAMI materials at www.nattc.org
 - PAMI and MI:PRESTO at www.bettertxoutcomes.org (on-line course)

For more how-to information:

Contingency Management for Substance Abuse Treatment: A Guide to Implementing This Evidence-Based Practice by Nancy Petry



With charts,
worksheets and
tables!



Motivational Incentives Suite

1. Promoting Awareness of Motivational Incentives (PAMI)
2. Motivational Incentives: Positive Reinforcers to Enhance Successful Treatment Outcomes(MI:PRESTO)

For additional copies, contact:

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Silver Spring, MD 20910

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www.motivationalincentives.org

- Experts
- Resources
- Bibliography
- Downloads
- Bright Ideas
- Power Points
- and more

The screenshot shows a web browser window displaying the homepage of the Mid Atlantic Node National Drug Abuse Treatment Clinical Trials Network. The page features a purple and white color scheme. At the top left is the organization's logo, a stylized sunburst. To its right is the text "Mid Atlantic Node National Drug Abuse Treatment Clinical Trials Network" and the tagline "Using Motivational Incentives With Success". A search bar is located in the top right corner. Below the header is a navigation menu with categories like "About Us...", "Practical Resources...", "Tools For Success...", "News and Updates...", "Research Resources...", and "Get In Touch...". The main content area is divided into several sections: a blue box with text about a creative counselor's idea for a picnic, a photo of a basket of items, a section titled "What motivates us?" with sub-sections "Praise, Gold Stars, Financial Compensation", and a quote at the bottom right.

Mid Atlantic Node
National Drug Abuse Treatment
Clinical Trials Network
Using **Motivational Incentives** With Success

Search the Network GO

Motivational Incentives

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CREATIVE counselors went to the local Dollar Store to make this cooler full of items for a summer picnic. It was used to motivate patients to attend an orientation group. They received a small prize and also a raffle ticket to enter to win this prize.

What motivates us?
Praise, Gold Stars, Financial Compensation

Psychologists and other social scientists have been studying behavior management for over 100 years experimenting with both positive reinforcement (an extra food pellet) and negative consequences (a shock to the system). The use of incentives to promote positive behavior change is called "Contingency Management". More recently, the term [Motivational Incentives](#) has been preferred because it emphasizes what clinicians are trying to do: promote desirable or positive behaviors (this term is preferentially used throughout this website).

These behavior-shaping strategies have been developed by many behavioral scientists and health care professionals over the last 60 years. **Motivational Incentives** have been used to encourage kids to get their teeth cleaned, for moms to vaccinate their babies, and for diabetics to check their insulin.

In substance use disorder treatment, there can be negative consequences for behavior (we have lots of examples of these: more restricted privileges at the clinic, legal troubles, and sometimes even discharge from treatment) and there can be positive reinforcement for behavior (more privileges at the clinic, certificates, and graduation ceremonies).

"A journey of a thousand miles begins with a single step." When we talk about incentives, we are not talking about praising those winners who finish the race. We are talking

Looking Into the Future

Peace, Prosperity and...
Prizes in every clinic!

