



blending initiative  
NIDA • SAMHSA

# Promoting Awareness of Motivational Incentives

(PAMI)



# NIDA/SAMHSA Blending Initiative

According to the Merriam-Webster Dictionary

**Blend** means:

- a. combine into an integrated whole
- b. produce a harmonious effect

<http://www.merriam-webster.com/dictionary/blend>



# NIDA/SAMHSA Blending Initiative

- Developed in 2001 by NIDA and SAMHSA/CSAT, the initiative was designed to **meld science and practice** to improve addiction treatment.
- “Blending Teams,” include staff from CSAT’s ATTCs and NIDA researchers who develop methods **for dissemination of research results for adoption and implementation** into practice.
- Scientific findings are able to reach the frontline service providers treating people with substance use disorders. This is **imperative to the success** of drug abuse treatment programs throughout the country.

# PAMI Blending Team 2007

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# Objectives for this Awareness Training

- Describe how Motivational Incentive programs can enhance treatment outcomes and facilitate patient recovery.
- Understand the results of NIDA's Clinical Trials Network (CTN) study that used low-cost incentives to increase patient motivation for treatment and recovery.
- Identify key behavioral terms, definitions and principles underlying successful Motivational Incentive programs.
- Describe how a Fishbowl Method can be used to reinforce and strengthen desired patient behavior.



**The partners in this  
training endeavor are ...**



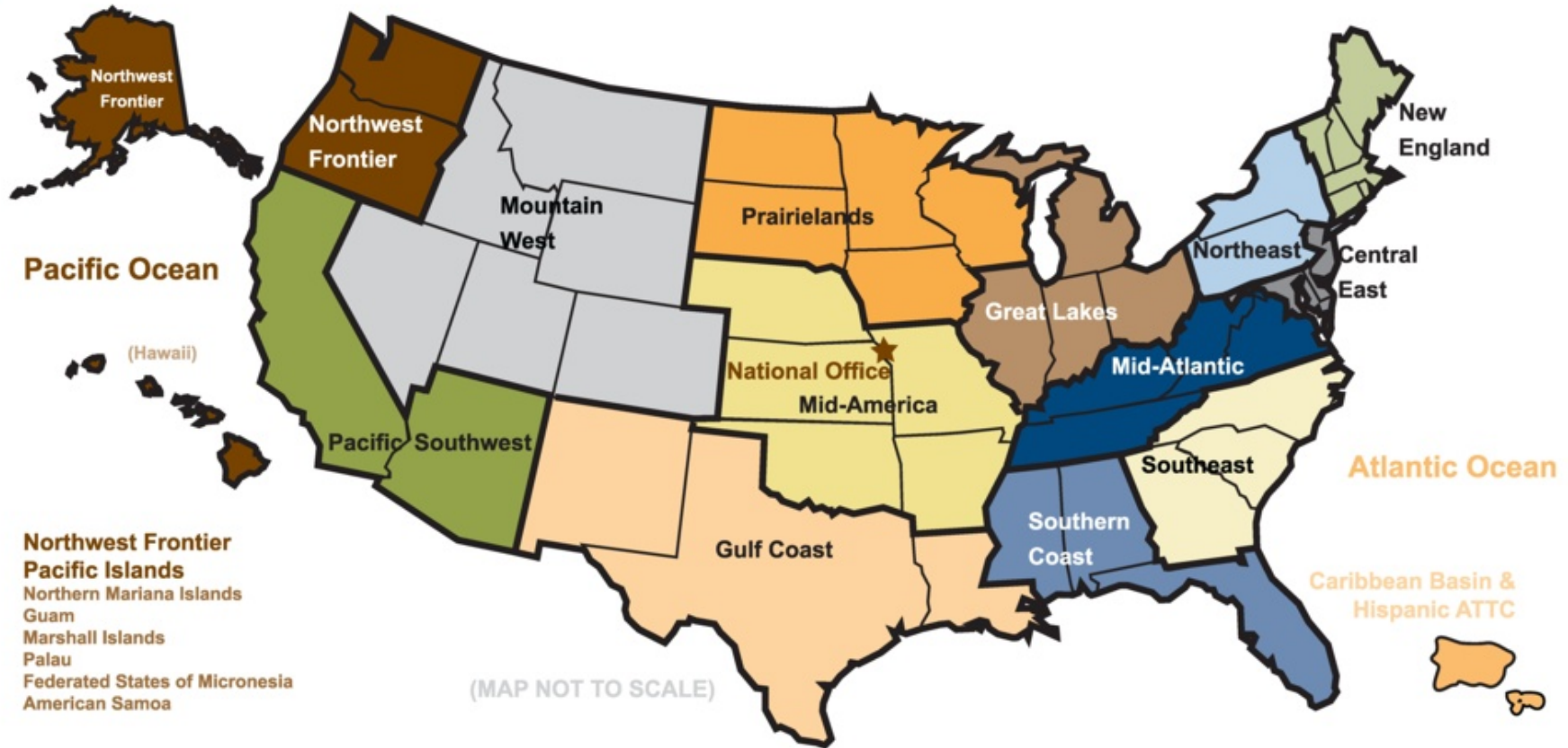
# **An Introduction to SAMHSA/CSAT**

# SAMHSA/CSAT

## CSAT's Mission:

- ▶ To improve the lives of individuals and families affected by alcohol and drug abuse by ensuring access to clinically sound, cost-effective addiction treatment that reduces the health and social costs to our communities and the nation.
- ▶ CSAT's initiatives and programs are based on research findings and the general consensus of experts in the addiction field that, for most individuals, treatment and recovery work best in a community-based, coordinated system of comprehensive services.
- ▶ Because no single treatment approach is effective for all persons, CSAT supports the nation's effort to provide multiple treatment modalities, evaluate treatment effectiveness, and use evaluation results to enhance treatment and recovery approaches.

# The ATTC Network



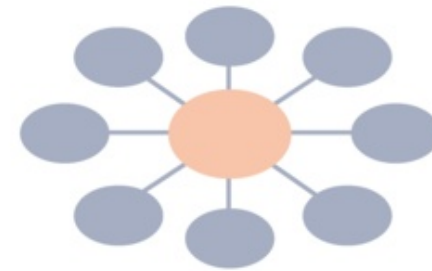


# **An Introduction to NIDA**

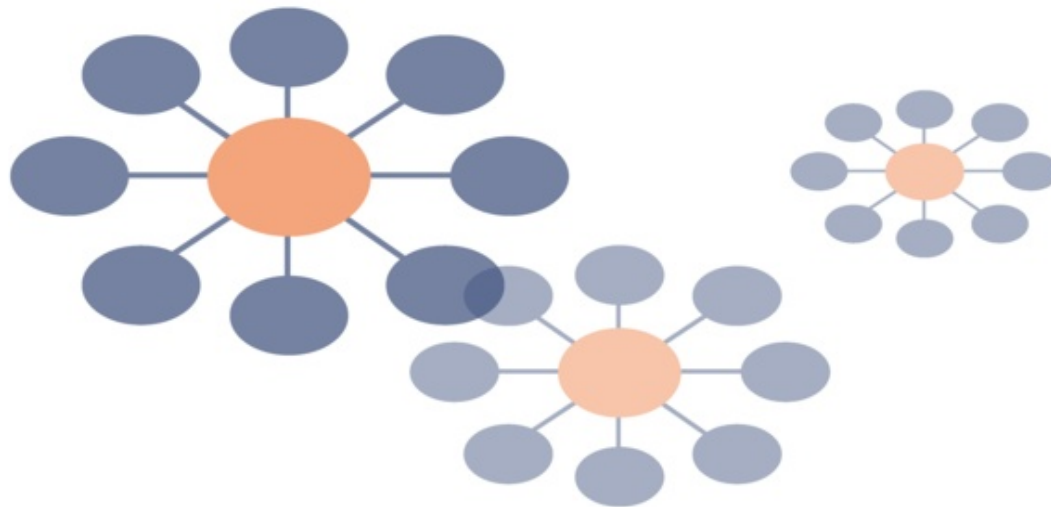
# **Mission:**

## **National Institute on Drug Abuse (NIDA)**

- ▶ **To lead the Nation in bringing the power of science to bear on drug abuse and addiction**
- ▶ **This charge has two critical components**
  - Strategic support and conduct of research across a broad range of disciplines
  - Ensuring the rapid and effective dissemination and use of the results of that research to significantly improve prevention, treatment and policy as it relates to drug use and addiction



# What is the **CTN**?



# NIDA's Clinical Trials Network

- ▶ Established in 1999
- ▶ NIDA's largest initiative to blend research and clinical practice by bringing promising therapies to community treatment providers
- ▶ Network of 13 University-based Regional Research and Training Centers (RRTCs) involving more than 250 Community Treatment Programs (CTPs) in 23 states, Washington D.C., and Puerto Rico

# CTN Node



# Motivational Incentives



- ▶ Enhance treatment and facilitate recovery
- ▶ Target specific behaviors included in a patient's treatment plan
- ▶ Celebrate an individual's success in changing targeted behavior

# Motivational Incentives

- ▶ Used as an adjunct to other therapeutic clinical methods
- ▶ Can be used to motivate patients through stages of change to achieve an identified goal
- ▶ Are reinforcements to celebrate the changed behavior



# Course Content

## ▶ Why Use Motivational Incentives?

- ▶ Definitions
- ▶ History & Research
- ▶ Founding Principles
- ▶ Low Cost Incentives
- ▶ Perspectives



► WHY MOTIVATIONAL INCENTIVES?

## Motivational Incentive Programs

A Motivational Incentive program provides tangible **reinforcers** such as vouchers, goods, or privileges to patients for reaching concrete targeted behaviors.



► WHY MOTIVATIONAL INCENTIVES?

## Your Experience with Motivational Incentives

- Does your organization currently provide something tangible to patients to celebrate a behavior change?
- If your organization provides tangible items, do those items “reward” patients for major accomplishments?
- Do only the more motivated patients receive rewards?



▶ WHY MOTIVATIONAL INCENTIVES?

## Director Considerations

- Increase patient motivation
- Facilitate therapeutic progress and goal attainment
- Testimony suggests improved attitude and morale among clinicians and administrators



JOHN HAMILTON, LADC

► WHY MOTIVATIONAL INCENTIVES?

## Policy Maker Considerations

- Evidence-based adjunct to counseling (not a substitute for clinical practice/counseling)
- In one major study conducted by the NIDA CTN, patients receiving incentives attended more counseling sessions and had longer periods of abstinence than those patients not receiving incentives (improved patient outcomes)\*
- In 2008, the Department of Health and Human Services Office of the Inspector General issued an opinion per the request of a specific treatment center and determined that federal dollars could be used to support its Motivational Incentive program\*\*

\*Kellogg et al., 2005; Petry et al., 2005

\*\*OIG Advisory Opinion No. 08-14

▶ WHY MOTIVATIONAL INCENTIVES?

## Clinical Staff Considerations

*"We came to see that we need to reward people where rewards are few and far between. We use rewards as a clinical tool—not as bribery—but for recognition. The really profound rewards come later."*

Kellogg et al., 2005



# Course Content

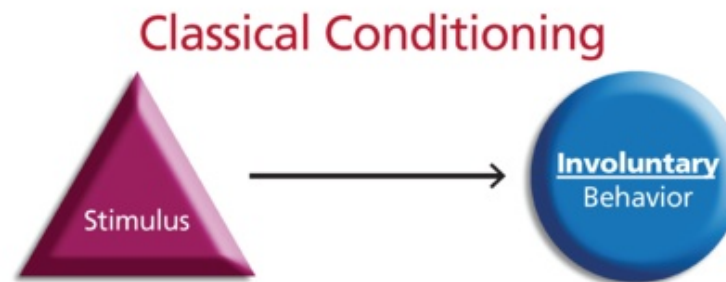
- ▶ Why Use Motivational Incentives?
- ▶ **Definitions**
- ▶ History & Research
- ▶ Founding Principles
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► DEFINITIONS

# Classical Conditioning

- Classical Conditioning refers to the association between a stimulus and an involuntary or automatic behavior (response)



- Patients are often automatically triggered to crave alcohol or drugs by stimuli in their environment

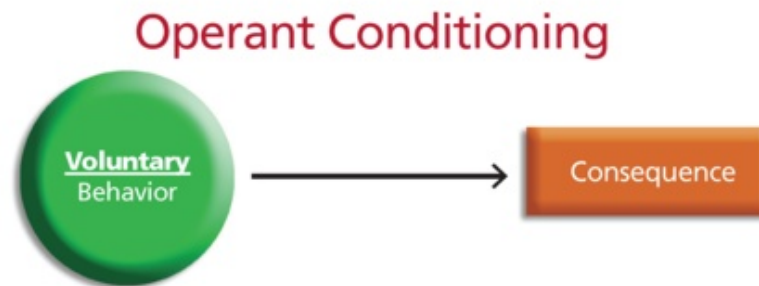


Motivational Incentives are not based on Classical Conditioning but rather on Operant Conditioning principles.

▶ DEFINITIONS

# Operant Conditioning

- Operant Conditioning refers to an association between a voluntary behavior and consequence



- The nature of the consequence will impact whether the behavior occurs again

**Motivational Incentives** are positive reinforcers (consequences) used to **increase** a desired behavior.

▶ DEFINITIONS

# Incentives (Contingencies)

Two types used to shape and change behavior in the early stages of change:

## Reinforcement

Used to increase a specific behavior

## Punishment

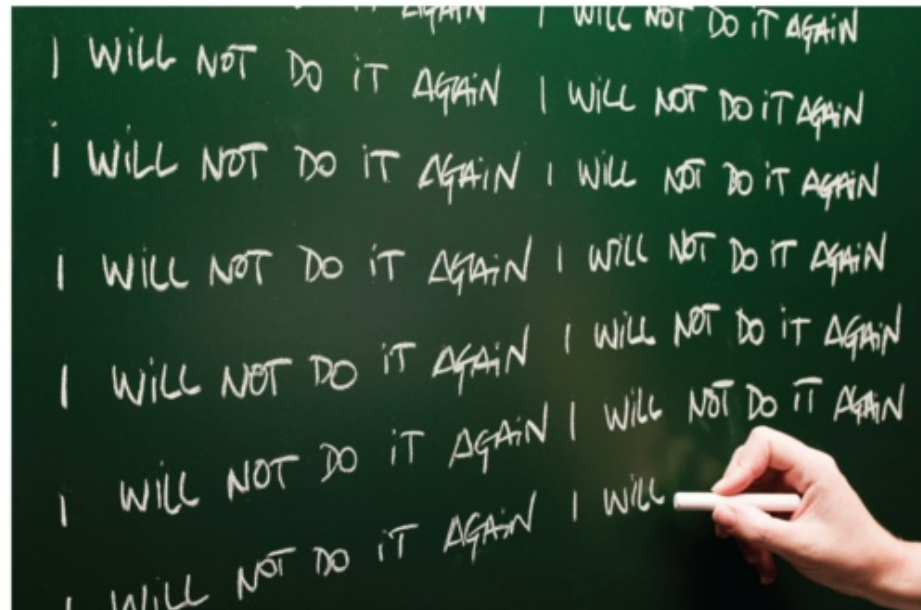
Used to decrease a specific behavior

► DEFINITIONS

# Punishment

- Used to decrease a specific behavior
- Punishment involves the presentation of some kind of aversive stimuli when the undesired behavior occurs

**This course does not address punishment.**



► DEFINITIONS

# Reinforcements

Reinforcement is used to **increase** the occurrence of a **desired** behavior

- **Positive reinforcement** involves presentation of a pleasant stimuli after a desired behavior occurs
- **Negative reinforcement** involves the removal of an aversive stimuli after a desired behavior has occurred

**GOAL =  
INCREASE  
BEHAVIOR**



► DEFINITIONS

# Positive Reinforcement

**Positive reinforcement** involves presentation of a pleasant stimuli after a desired behavior occurs.

**EXAMPLE:**

*You go to work every day, perform expected duties and receive a paycheck at regular intervals.*



► DEFINITIONS

# Negative Reinforcement

**Negative reinforcement** involves the removal of an aversive stimuli after a desired behavior has occurred.

**EXAMPLE:**

*A parent repeatedly reprimands the adolescent for not cleaning his bedroom. When the adolescent cleans the room, the reprimands cease.*



► DEFINITIONS

**Motivational  
Incentives**  
**=**  
**Contingency  
Management**



► DEFINITIONS

# Rewards

- Mark an accomplishment or milestone worthy of celebration
- Acknowledge the achievement of larger goals or accomplishments
- Typically rely on patient's *internal* motivation for success

**EXAMPLE:**

*In a treatment setting, a patient receives recognition for maintaining abstinence for one month.*



► DEFINITIONS

# Reinforcement/Reinforcers

- Reinforcement strategies increase the occurrence of a specific, desired behavior by breaking a larger goal down into smaller “Baby Steps” and reinforcing each of the steps as it occurs.
- Reinforcers are given at a high frequency for small, manageable instances of behavior change with the intent to make the reinforcers easy to earn.



## **EXAMPLE:**

*In a treatment setting a patient receives an incentive for attending each group session. This strategy serves as a baby step to encourage a patient to attain a larger goal of completing a course of treatment.*

► DEFINITIONS

# Motivational Incentives and Motivational Interviewing

- Both address ambivalence

Cost & Benefit  
of Status Quo



INCENTIVES  
Cost & Benefit  
of Change

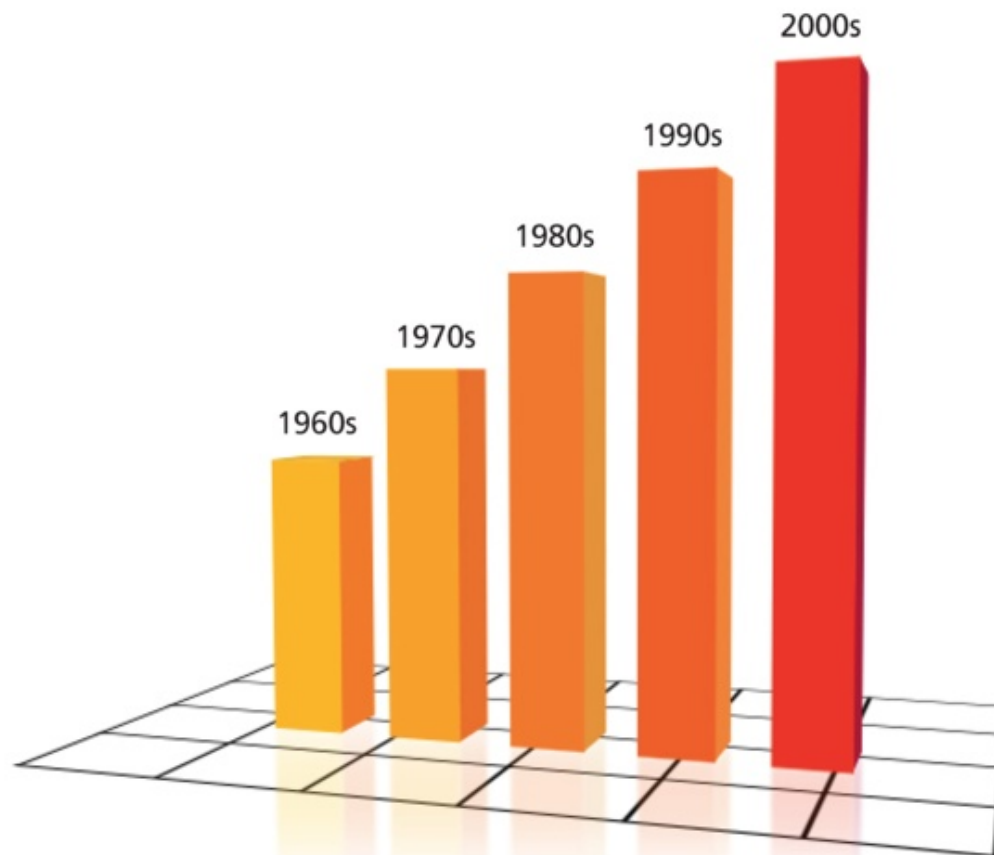
# Course Content

- ▶ Why Use Motivational Incentives?
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▶ HISTORY & RESEARCH

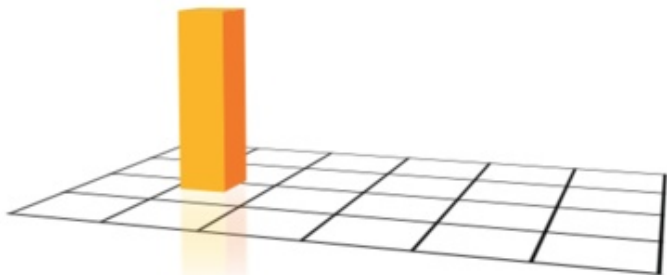
# Decades of Evidence



## ▶ HISTORY & RESEARCH

# 1960s

- Following B.F. Skinner, clinicians and researchers applied Operant Conditioning principles using *token economies* to treat persons with major mental health disorders (e.g., schizophrenia)
- Operant Conditioning principles were then used with patients in treatment for substance use disorders
- Drug use is maintained, in part, by the positively reinforcing effects of the drug itself
- Need to change the reinforcement structure to reinforce abstinence and other behaviors that compete with drug use



Kazdin & Bootzin, 1972; Skinner, 1953

## ▶ HISTORY & RESEARCH

# 1970s

- Drs. Cohen, Liebson, and Bigelow studied reinforcement principles with patients being treated for alcohol use disorders
- Dr. Maxine Stitzer studied using reinforcers with patients being treated with methadone for opioid dependence
  - Reinforcers were earned for treatment attendance or drug-free urine samples
  - The use of reinforcers improved retention, attendance, and abstinence

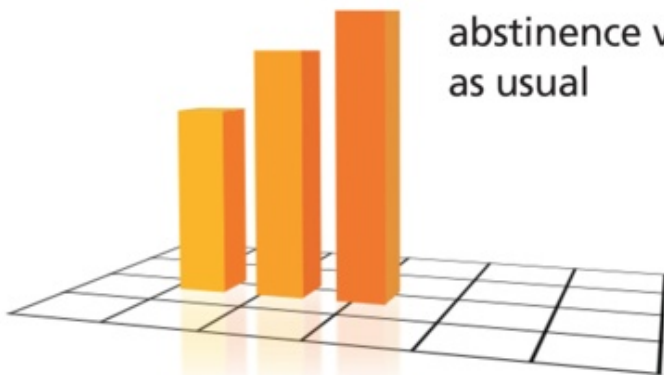


Bigelow & Silverman, 1999; Cohen, Liebson, Faillace, & Allen, 1971; Stitzer, Iguchi, Kidorf, & Bigelow, 1993

## ▶ HISTORY & RESEARCH

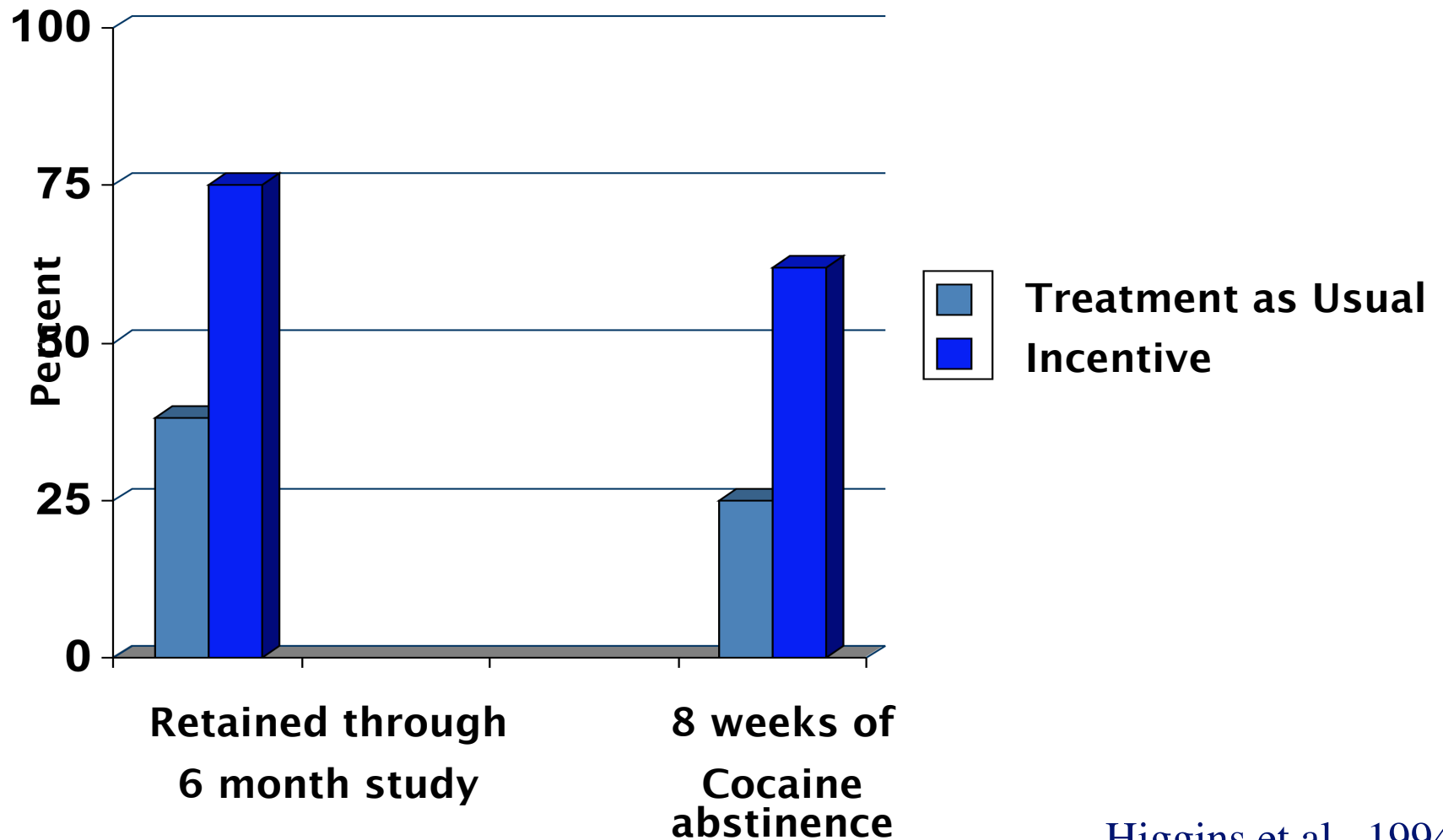
# 1980s

- Dr. Stephen Higgins began studying reinforcement principles with patients being treated for cocaine dependence
- Patients earned vouchers for drug-free urine screens
  - For example, in one study, 75% of the patients who received incentives plus treatment as usual were retained in the 6-month study vs. only 40% of those who received only treatment as usual
  - And, 55% of patients who received incentives plus treatment as usual achieved at least 10 weeks of continuous cocaine abstinence vs. 15% of those who received only treatment as usual



Higgins et al., 1994

# Treatment of Cocaine Dependence



Higgins et al., 1994

## ▶ HISTORY & RESEARCH

# 1990s

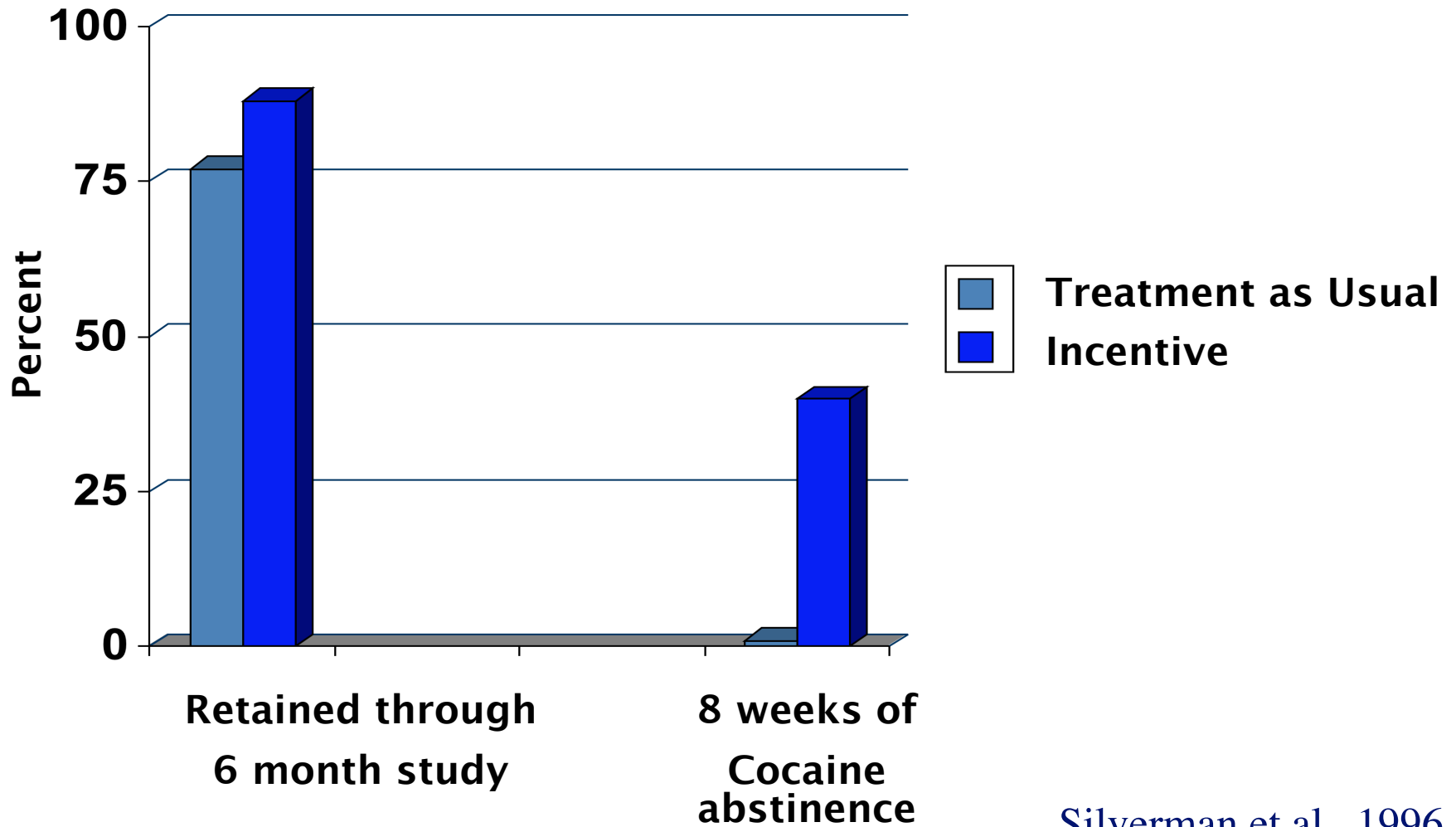
- Dr. Ken Silverman conducted further research with patients in inner city treatment settings and looked at duration of incentive programs and incentive magnitude
- Among patients dependent on opioids who were stable on methadone but continued to use cocaine, adding voucher incentives to treatment as usual increased abstinence from cocaine



- A one-year-long, voucher-based incentive program helped patients maintain high levels of abstinence from cocaine and opioids
- Silverman also began studying the effects of differing incentive values

Silverman et al., 1996;  
Silverman, Chutuape, Bigelow, & Stitzer, 1999

## Treatment of Cocaine Use In Methadone Patients

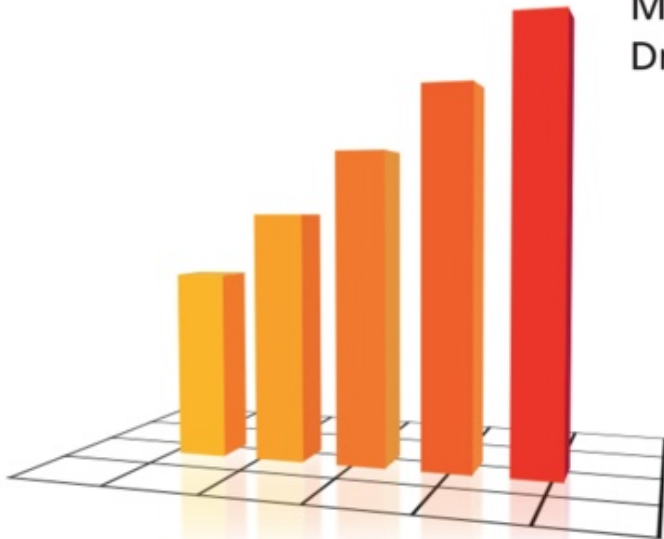


Silverman et al., 1996

## ▶ HISTORY & RESEARCH

# 2000s

- Dr. Nancy Petry designed the Fishbowl Method of delivering incentives
- Petry demonstrated the Fishbowl Method could significantly reduce the cost of incentive programs without losing effectiveness
- Based on Petry's work, NIDA's CTN began a large-scale study called MIEDAR (Motivational Incentives to Enhance Drug Abuse Recovery)



Petry, 2000; Petry & Martin, 2002

► HISTORY & RESEARCH

# Motivational Incentives for Enhanced Drug Abuse Recovery



► HISTORY & RESEARCH

# Incentives Improve Retention of Patients Who Use Stimulants

## MIEDAR Study

- 400 patients enrolled in NIDA's CTN Study
- Patients who reported cocaine, methamphetamine or amphetamine use were enrolled in one of two treatment conditions
  - Treatment as usual plus abstinence-based incentives
  - Treatment as usual (no incentives)
- Patients receiving incentives and treatment as usual attended more counseling sessions and had longer periods of abstinence than patients in the treatment as usual condition



Petry et al., 2005

► HISTORY & RESEARCH

# Incentives Improve Outcomes in Patients With Methamphetamine Use Disorders

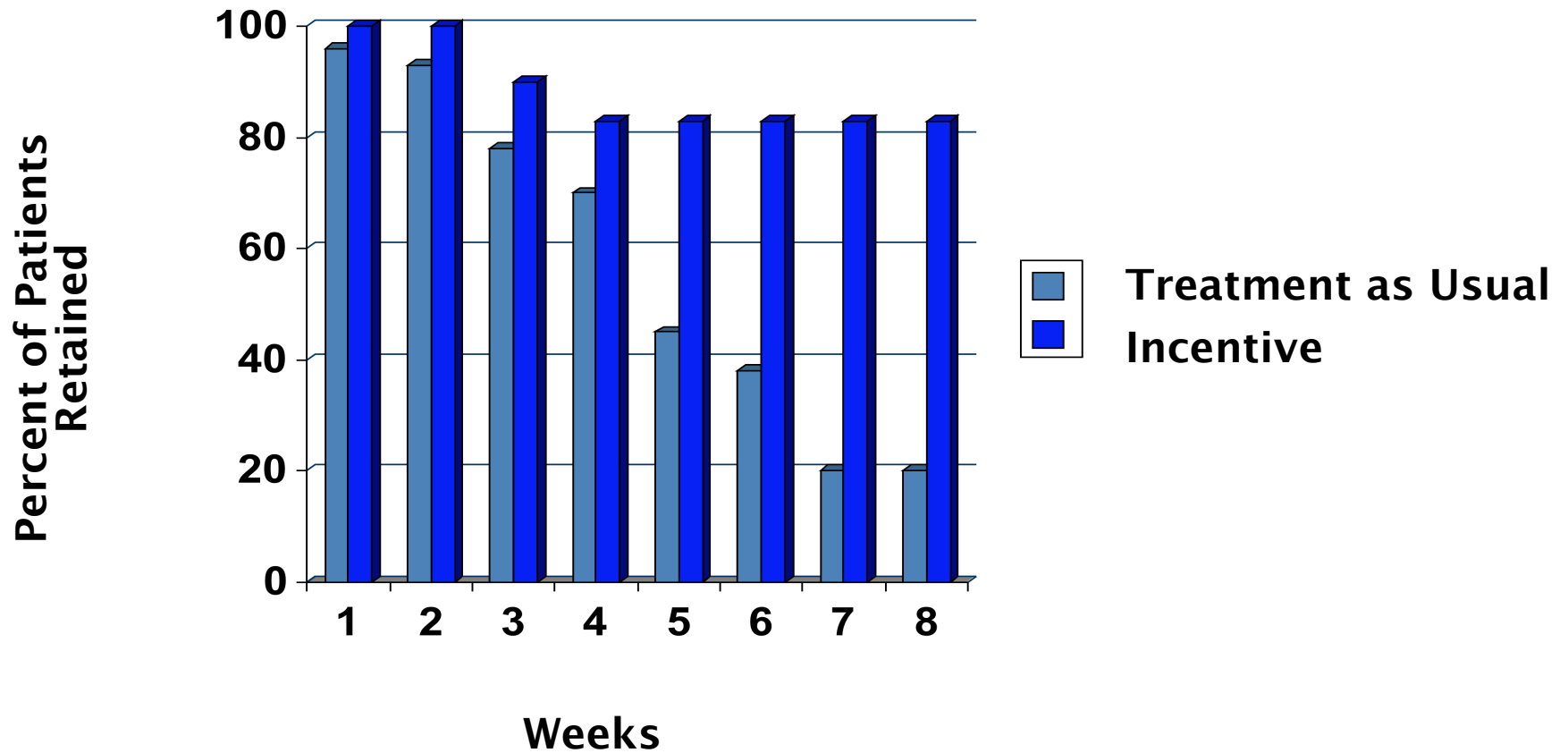
MIEDAR Study

- Patients receiving incentives plus treatment as usual submitted more stimulant- and alcohol-negative samples than patients who only received treatment as usual



Roll et al., 2006

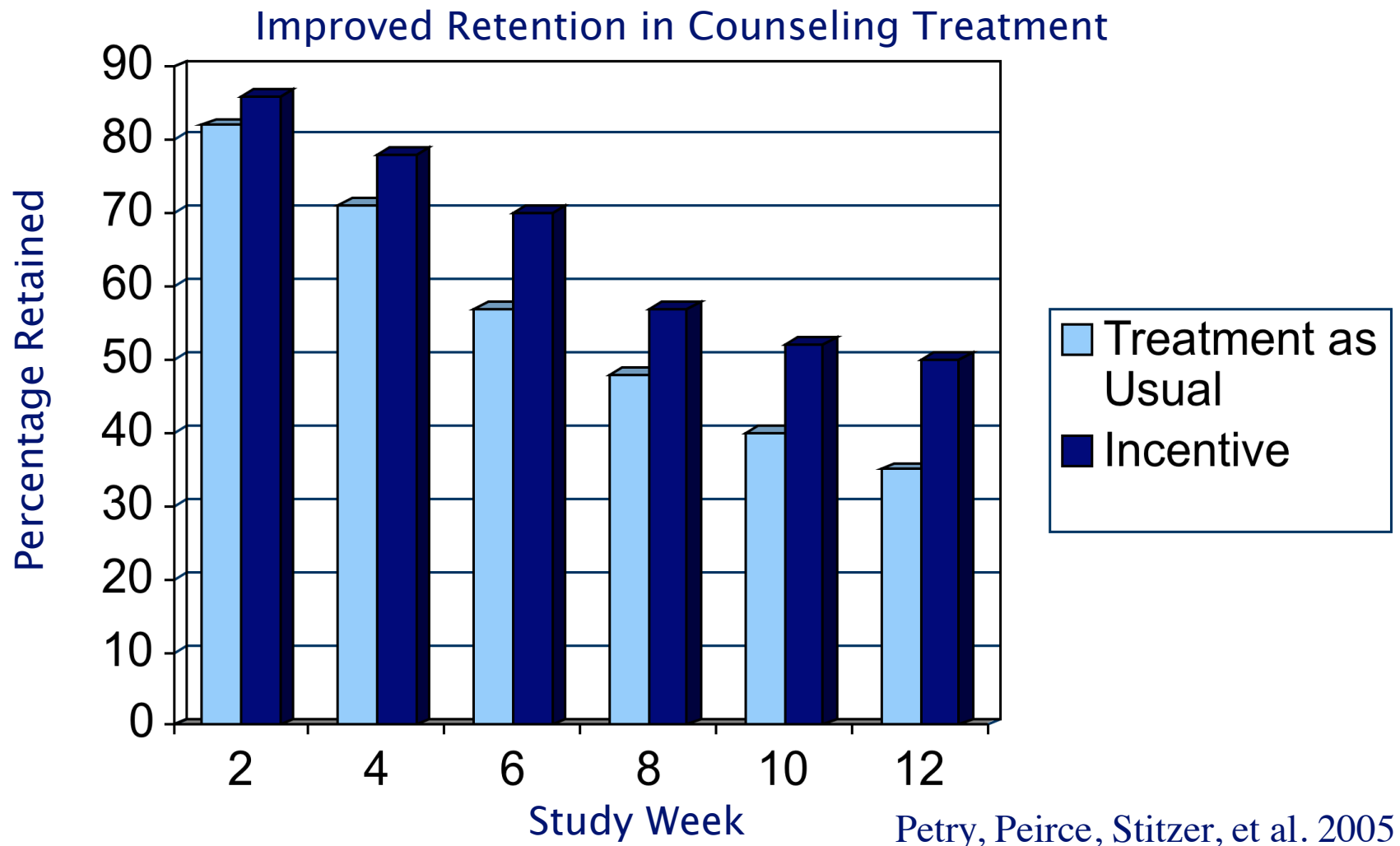
# Retention



# Percent Positive for Any Illicit Drug



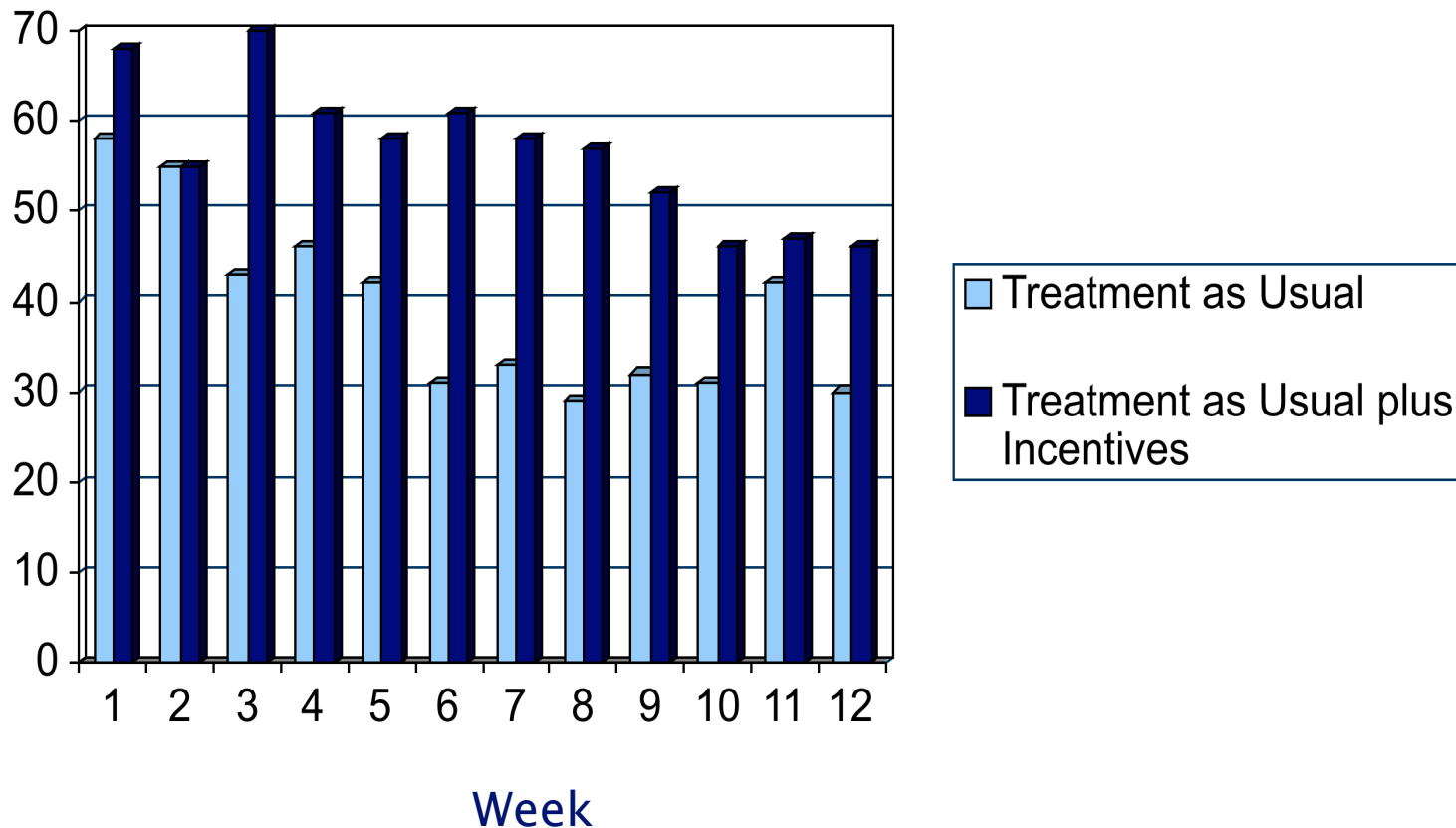
# Motivational Incentives for Enhanced Drug Abuse Recovery



# Motivational Incentives for Enhanced Drug Abuse Recovery

Incentives Improve Outcomes in Methamphetamine Users

Percentage of drug-free urine samples

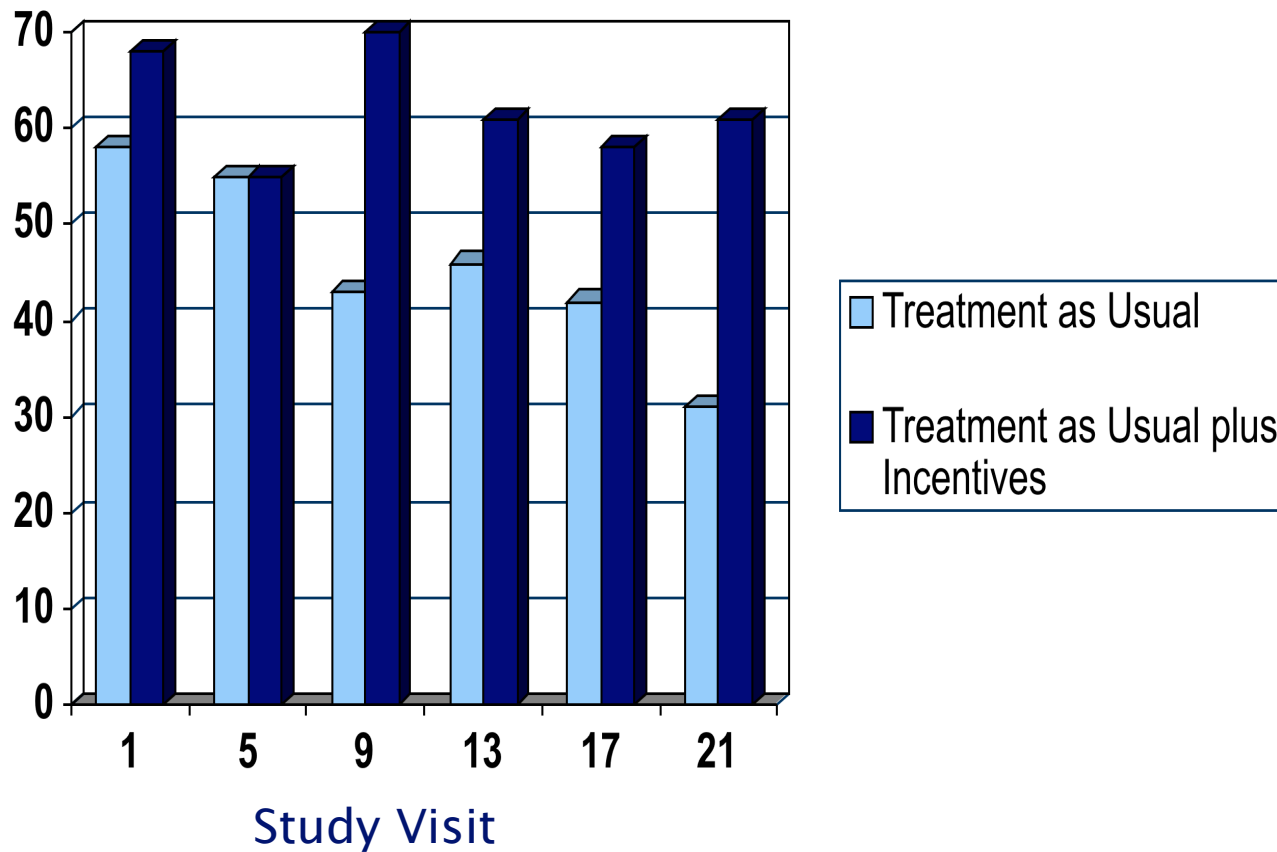


Roll, et al. 2006

# Motivational Incentives for Enhanced Drug Abuse Recovery

Percentage of stimulant drug-free samples

Incentives Reduce Stimulant Use in Methadone Maintenance Treatment



Peirce, et al. 2006

► HISTORY & RESEARCH

# Lower-Cost Incentives Improve Stimulant Abstinence for Patients in Methadone Maintenance Treatment

## MIEDAR Study

- Patients in methadone maintenance treatment reduced their alcohol and stimulant use when given lower-cost incentives
- Patients receiving incentives submitted more stimulant- and alcohol-negative samples than patients who only received treatment as usual
- Patients in the incentive group received an average of \$120 in incentives/per participant over 12 weeks



Peirce et al., 2006

# Course Content

- ▶ Why Use Motivational Incentives?
- ▶ Definitions
- ▶ History & Research
- ▶ **Founding Principles**
- ▶ Low Cost Incentives
- ▶ Perspectives



▶ FOUNDING PRINCIPLES

## The 3 Essential Elements



- 1 Target behaviors must be readily detected
- 2 Tangible reinforcers are provided whenever the targeted behavior is demonstrated

- 3 When the target behavior does not occur, the reinforcers are withheld



► FOUNDING PRINCIPLES

# Founding Principles

1. Identify Target Behavior
2. Choice of Target Population
3. Choice of Reinforcer
4. Incentive Magnitude
5. Frequency of Incentive Distribution
6. Timing of Incentive
7. Duration of Intervention



► FOUNDING PRINCIPLES

# 1. Identify Target Behavior

A target behavior should be:

- Problematic and in need of change
- Observable
- Measurable
- Relatively easy for the patient to accomplish (at least initially)

What behavior will you target with incentives?

MAXINE STITZER, PH.D.



# Target Behavior

- Specific, concrete behavior is optimal
  - Contract is made to change specific target behavior
  - Immediate feedback is optimal
- Examples
  - Drug free urine screens
  - Group attendance
  - Treatment plan goals
  - Following up on medical care

► FOUNDING PRINCIPLES

## 2. Choice of Target Population

### EXAMPLES:

- Patients not responding to treatment
- Newly enrolled patients
- Users of a specific substance (e.g., patients enrolled in a methadone program and continuing to use cocaine)
- Vulnerable population (e.g., pregnant women)

Who will you target  
with reinforcement-based  
interventions?

MAXINE STITZER, PH.D.



# Target Population

- Rewards for all is ideal, but impractical
- Which sub-group of clients may benefit?
  - Not responding to treatment (missing group)
  - Users of a specific substance other than may focus of program
  - New clients that need a little push to get going
  - Vulnerable populations, such as pregnant women or clients with co-occurring psychiatric diagnoses

▶ FOUNDING PRINCIPLES

## 3. Choice of Reinforcer

- May be different from what *you* want or like to do—and it is not what *you* think is good for the patient
- Critical to view from patients' perspectives, or you will compromise effectiveness

It must be something the patient wants or likes to do.

MAXINE STITZER, PH.D.



► FOUNDING PRINCIPLES

## 3. Choice of Reinforcer *continued*

### Three major types of incentive programs

- **Access to clinic privileges**  
Example: Take-home dose of methadone
- **On-site prize distribution**  
Example: A prize cabinet contains many small prizes, some large prizes and a few jumbo prizes
- **Vouchers or other token economy systems**  
Example: Points or vouchers are accumulated in an account and redeemed for retail goods or services



# Examples of Rewards

- Movie passes
- Transportation vouchers
- Gift cards for department stores
- Tools, clothes, appointment books
- Money, payment of bills
- Recreational activities

▶ FOUNDING PRINCIPLES

## 4. Incentive Magnitude

- Will determine the degree to which the intervention is effective
- Should be able to compete with reinforcement derived from the behavior targeted for change
- Increases as the desired behavior is repeated

The Fishbowl Method gives patients the opportunity to win prizes of varying magnitude.



NANCY PETRY, PH.D.

# How much reward?

- Higher immediate rewards are most effective
  - What do you hope to accomplish?
  - What level of success is desired?
- Petry et al. (2004) studied a 3-month incentive program
  - \$240 vs. \$80 vs. \$0
  - \$80 and \$0 had equal results
- Differential reward for unpleasant tasks (such as dance therapy vs. blood test)

# Individual Differences Matter

- Level of past and present drug use
- History of achieving successful abstinence
- Antisocial personality disorder
- Nature of social networks
- Personal attitudes and history with rewards and punishments

► FOUNDING PRINCIPLES

## 5. Frequency of Incentive Distribution

- Can the targeted behavior be reinforced frequently?
- What method will be used to distribute incentives?
- How often will the incentive be distributed?



▶ FOUNDING PRINCIPLES

## 6. Timing of Incentive

- Immediacy is important
- Poor timing can undermine the most well-planned intervention

I earn a point for each recovery meeting I attend weekly.



# Timing Is Everything

- Reinforcement must follow target behavior as soon as possible
- Many substance abuse treatment clients show delayed discounting
  - Typical: Take \$400 now versus \$1000 after 5 yrs.
  - Drug tx client: \$400 now vs. \$1000 after 1 yr

► FOUNDING PRINCIPLES

## 7. Duration of Intervention

How long?

Until the patient...

- Internalizes the recovery process
- Develops naturally-occurring reinforcers that support recovery



# How Long?

- Individual differences matter
  - Some clients may require a longer incentive program
  - Other clients may respond to a “phase model” with increasing levels of performance required for a reward (i.e., clean urines for a month, and perfect group attendance)
  - Methadone maintenance analogy: longer term incentive program may be needed

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- ▶ **Low Cost Incentives**
- ▶ Perspectives



► **LOW COST INCENTIVES**

# Managing the Cost

- **MIEDAR** studies focused on managing the cost and efficacy of incentives
- **Fishbowl Method** – patients select a slip of paper (or ticket) from a Fishbowl
- Behavior is reinforced immediately
- Patient draws from the Fishbowl immediately after a drug-free urine screen
- Patient exchanges prize slip for a selected prize from the cabinet

NANCY PETRY, PH.D.



Fishbowl  
Method 

The logo for the Fishbowl Method, featuring a stylized blue fishbowl with a white fish inside, positioned to the right of the text.

▶ LOW COST INCENTIVES

# Fishbowl Ticket Ratios

To manage cost, ticket ratios are as follows:



TICKET	COST	CHANCE
Good Job	\$0	50.0%
Small	\$1	41.8%
Large	\$20	8.0%
Jumbo	\$80-\$100	0.2%

▶ LOW COST INCENTIVES

# Fishbowl Method

Patients select an increasing number of draws each time they display a targeted behavior.

- Get one draw for the first drug-free urine sample, two draws for the second drug-free urine sample, and so on
- Lose the opportunity to draw a prize with a positive urine screen, but are encouraged and supported
- When patients test drug-free again, they start with one draw



▶ LOW COST INCENTIVES

# Challenges



- Cost of incentives
- On-site testing
- Counselor resistance

► **LOW COST INCENTIVES**

# Challenges

**Motivational Incentives are a clinical practice with therapeutic guidelines\*:**

- Never take the form of cash (instead would be given as gift cards to stores, gas stations, etc.);
- Low in value (not to exceed \$200/month or last for more than 3 months);
- Introduced as clinically indicated and as part of an established treatment plan;
- Not advertised and are not offered to all participants.



Is it fair?

\*OIG Opinion on Motivational Incentives, 2008

▶ LOW COST INCENTIVES

# Challenges

**Does it lead to increased gambling among patients in treatment?**

*Patients given “chances” to win prizes from the Fishbowl somewhat like that of a lottery*

- The Fishbowl is unlike a lottery in that patients do not stand to lose anything of value when they draw; this chance of losing is what makes Motivational Incentives different from a lottery
- Use clinical judgment to determine patients’ appropriateness for Motivational Incentive programs particularly for those with a co-occurring gambling disorder



Petry et al., 2006

► LOW COST INCENTIVES

# Challenges

Isn't this just rewarding patients for what they should be doing anyway?

That's a common concern. But sometimes the problem is that patients are not doing the things that are good for them and need a motivational boost!



▶ LOW COST INCENTIVES

# Challenges

How do I set up a Prize Cabinet to deliver prizes (incentives)?

For tools and ideas, visit the Motivational Incentive Web-Portal @ [www.attcnetwork.org](http://www.attcnetwork.org) or [www.bettertxoutcomes.org](http://www.bettertxoutcomes.org).

► LOW COST INCENTIVES

# Challenges

Can Motivational Incentives be used with adolescents or patients with co-occurring disorders?

Several studies suggest "yes!" Check out the resource bibliography on the Motivational Incentive Web-Portal.



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- ▶ **Perspectives**



▶ PERSPECTIVES

## What do patients say?

*I felt that I was going down the drain with drug use, that I was going to die soon. This got me connected, got me involved in groups and back into things. Now I'm clean and sober.*



Kellogg et al., 2005

► PERSPECTIVES

## What do treatment providers say?

*We came to see that we need to reward people where rewards are few and far between.*

*We use rewards as a clinical tool—not as bribery—but for recognition.*

*The really profound rewards will come later.*



Kellogg et al., 2005

► PERSPECTIVES

## What do administrators say?

*The staff have heard patients say that they had come to realize that there are rewards just in being with each other in group. There are so many traumatized and sexually abused patients who are only told negative things. So, when they heard something good—that helps to build their self-esteem and ego.*



Kellogg et al., 2005

► PERSPECTIVES

## What do you say?



- What are your thoughts about Motivational Incentives?
- What are your concerns?
- What are some things you would need to do to consider implementing Motivational Incentives?



# Resources

National Institute on Drug Abuse (NIDA)

- <http://www.nida.nih.gov/blending>

NIDA's CTN Dissemination Library

- <http://ctndisseminationlibrary.org>

Motivational Incentive Web-Portal

- [www.ATTCnetwork.org](http://www.ATTCnetwork.org)
- [www.bettertxoutcomes.org](http://www.bettertxoutcomes.org)



# On-Demand, Self-Paced Course

To learn more about implementing Motivational Incentives , go to [www.attconlinecourses.org](http://www.attconlinecourses.org) and take the course titled...

***Motivational Incentives:  
Positive Reinforcers  
to Enhance Successful  
Treatment Outcomes  
(MI-PRESTO)***

