



UW PACC

Psychiatry and Addictions Case Conference

UW Medicine | Psychiatry and Behavioral Sciences

HISTORY OF BEHAVIORAL TREATMENT

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UW Medicine
UW SCHOOL
OF MEDICINE

 **Integrated Care
Training Program**
UW Psychiatry & Behavioral Sciences



GENERAL DISCLOSURES

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GENERAL DISCLOSURES

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PLANNER DISCLOSURES

The following series planners have no relevant conflicts of interest to disclose:

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SPEAKER DISCLOSURES

- ✓ No conflicts of interest

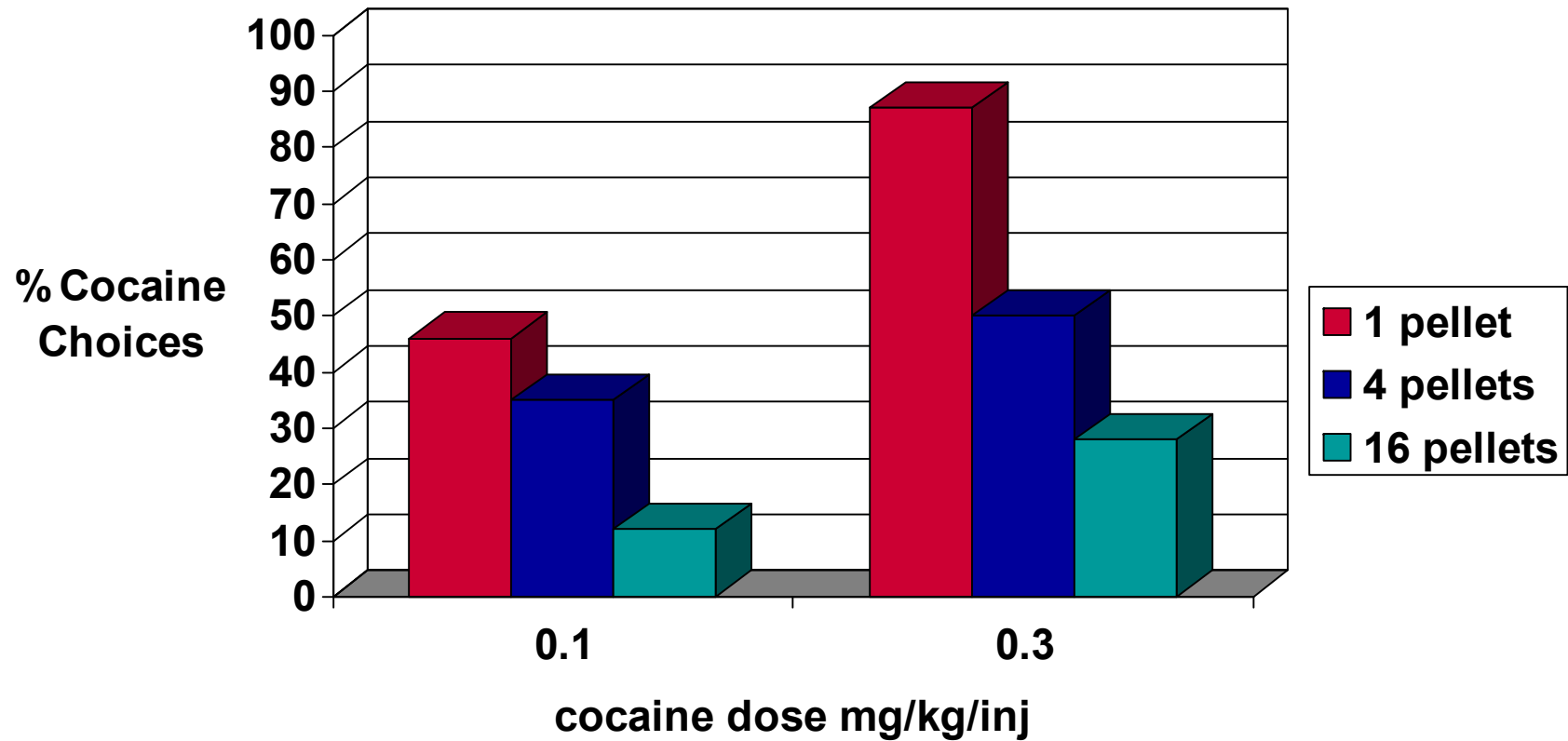
OBJECTIVES

1. Discuss the core elements of a reinforcement account of substance use and treatment
2. Explain how these elements can be applied to enhance treatment outcome

REINFORCEMENT

- Abused drugs tend to function as reinforcers.
- Drug reinforcers typically affect behavior in the same way as nondrug reinforcers.

NADER & WOOLVERTON, 1991



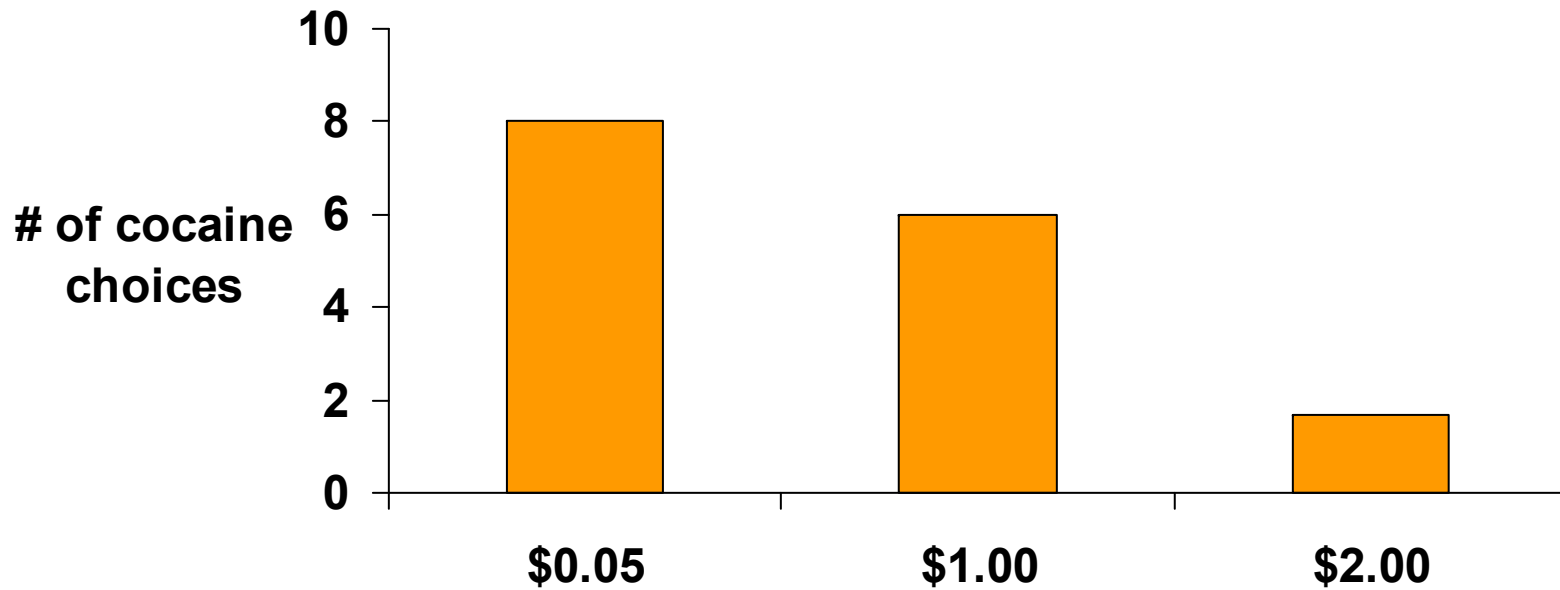
HIGGINS, ET AL., 1996

- 11 healthy volunteers, 10 male, 1 female
- Mean age: 26 years
- All Caucasian
- Mean educational level: 15 years
- All current cocaine users

PROCEDURE

- Conducted as an outpatient study at the GCRC.
- During 9 different conditions, participants chose between 10, 10mg units of cocaine and different amounts of money (\$0.05, \$1.00, \$2.00).

OF COCAINE CHOICES



INCENTIVES IN HEALTH CARE

- Mammography screening
- Child immunization

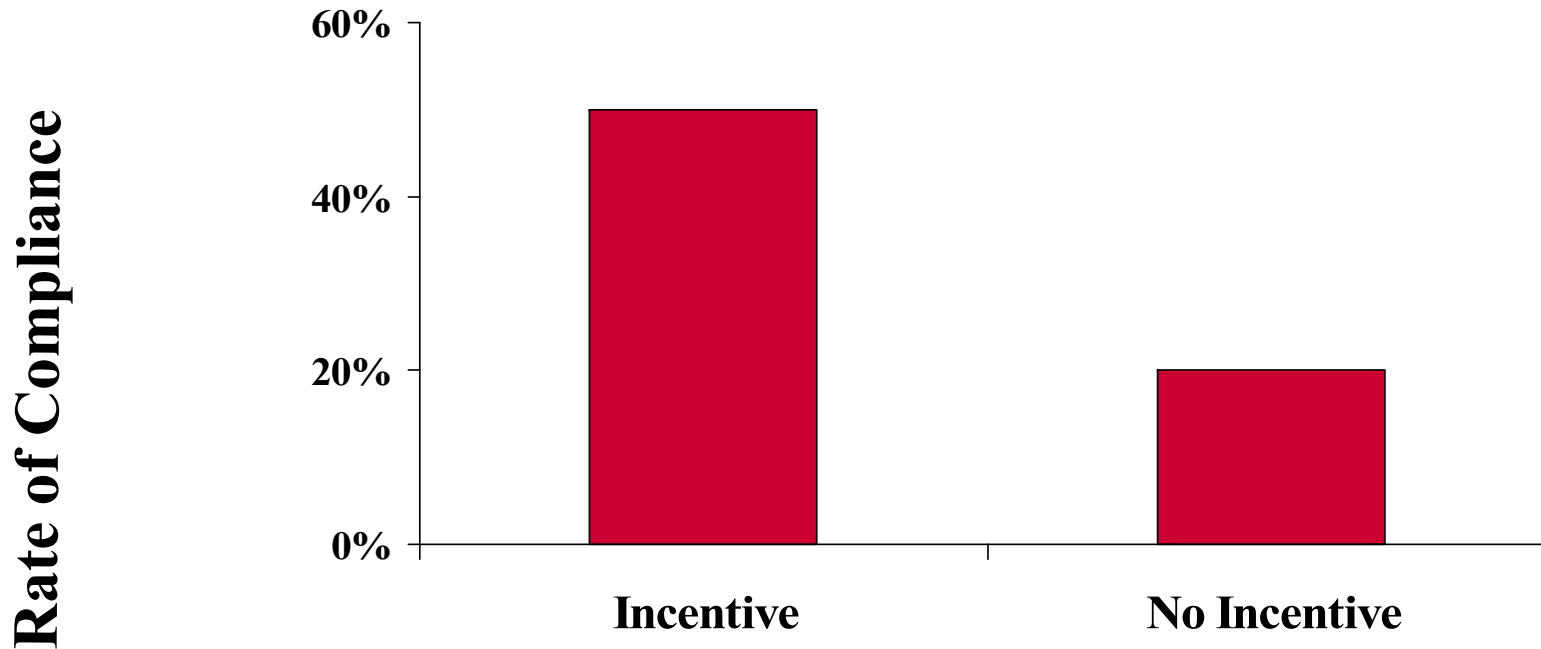
BREAST CANCER MAMMOGRAPHY SCREENING

Recommendation for Women Ages 50 and older:

ANNUAL MAMMOGRAM

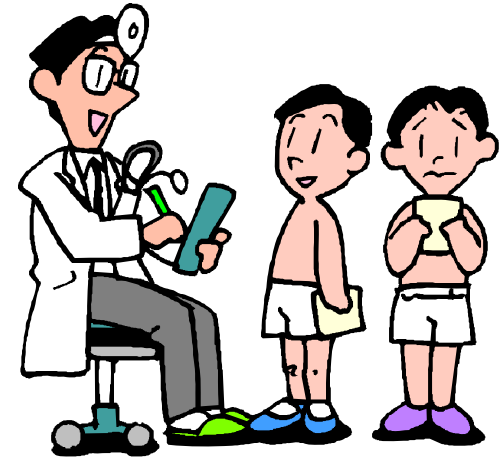
With physician advice alone, few women receive an annual mammogram (Stoner et al., 1998)

MAMMOGRAM COMPLIANCE



Rates of mammogram screening were 2.5 times higher for the incentive as compared to the control women. (Stoner et al., 1998)

CHILDHOOD IMMUNIZATIONS



In 1989-91, immunization rates were as low as 23% for two-year olds in the Chicago area.

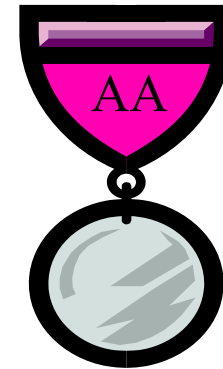
IMMUNIZATION RATES



Rates increased when WIC food vouchers were given to those who had their children immunized.

(Hoekstra et al., 1998)

INCENTIVES IN SUBSTANCE ABUSE TREATMENT



INCENTIVES IN DRUG ABUSE TREATMENT

Positive

- take-homes in methadone
- award ceremonies
- certificates; key chains
- status/recognition

Negative

- time restriction
- extra therapy
- probation
- dismissal

BASIC BEHAVIORAL PRINCIPLES

1. Frequently monitor target behavior
2. Provide incentive when target behavior occurs
3. Remove incentive when target behavior does not occur



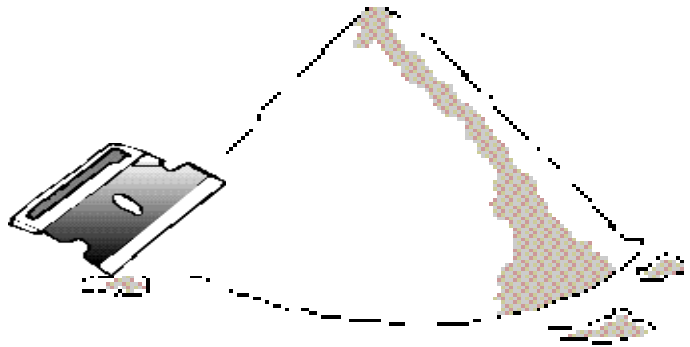
Research has shown that incentives can:

- Increase treatment retention
- Decrease drug use



DESCRIPTIONS OF THREE STUDIES

1. Cocaine abusers in drug-free treatment
2. Cocaine abusers in methadone treatment
3. Need for escalating voucher values



TREATMENT OF COCAINE DEPENDENCE IN A DRUG-FREE CLINIC

HIGGINS ET AL., 1994

Incentive Treatment

Community

Reinforcement

Approach Therapy

Urine testing 2x/week

Vouchers

Control Treatment

Community

Reinforcement

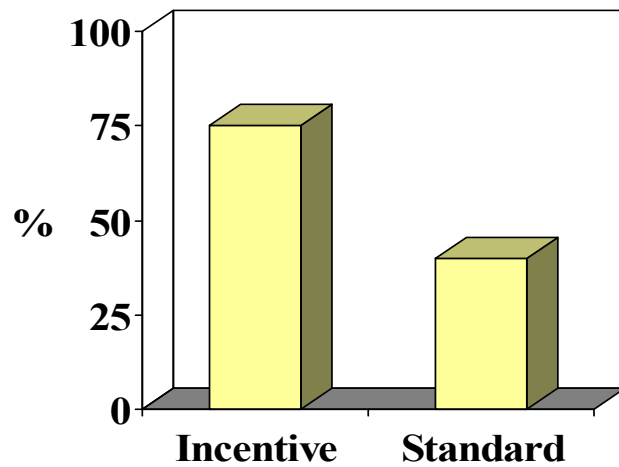
Approach Therapy

Urine testing 2x/week

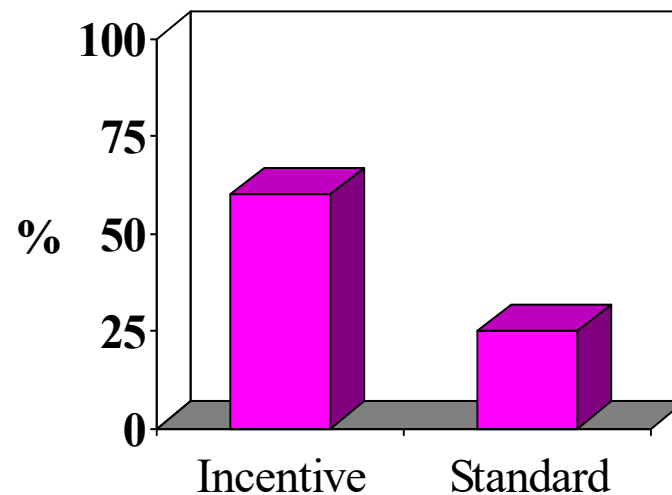
No vouchers

TREATMENT OF COCAINE DEPENDENCE

Retained Through Study



>8 Weeks of Cocaine Abstinence



Higgins et al., 1994

TREATMENT OF COCAINE ABUSE IN METHADONE PATIENTS

SILVERMAN ET AL., 1996

Contingent Incentives

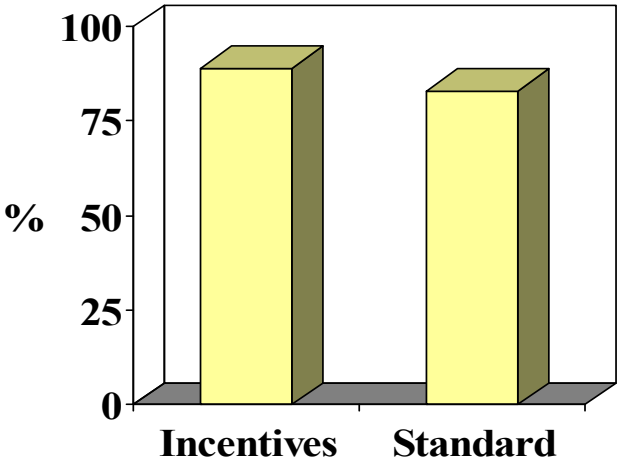
3x weekly urine testing
received vouchers only if
urine samples were
cocaine negative

Non-Contingent Incentives

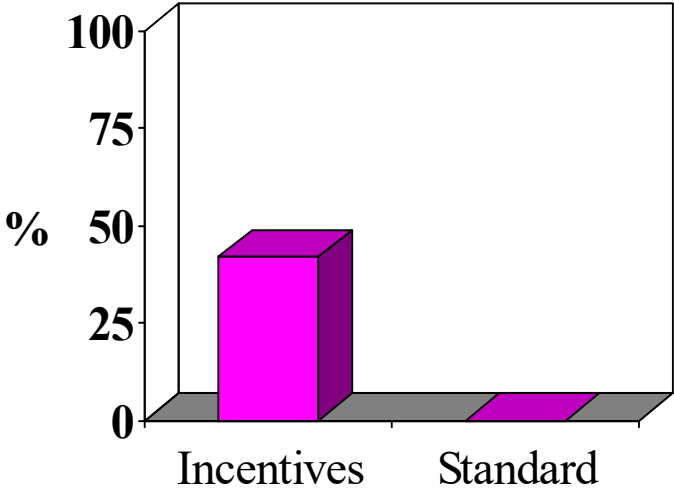
3x weekly urine testing
received vouchers
regardless of urine test
results

TREATMENT OF COCAINE USE IN METHADONE PATIENTS

Retained Through
Study



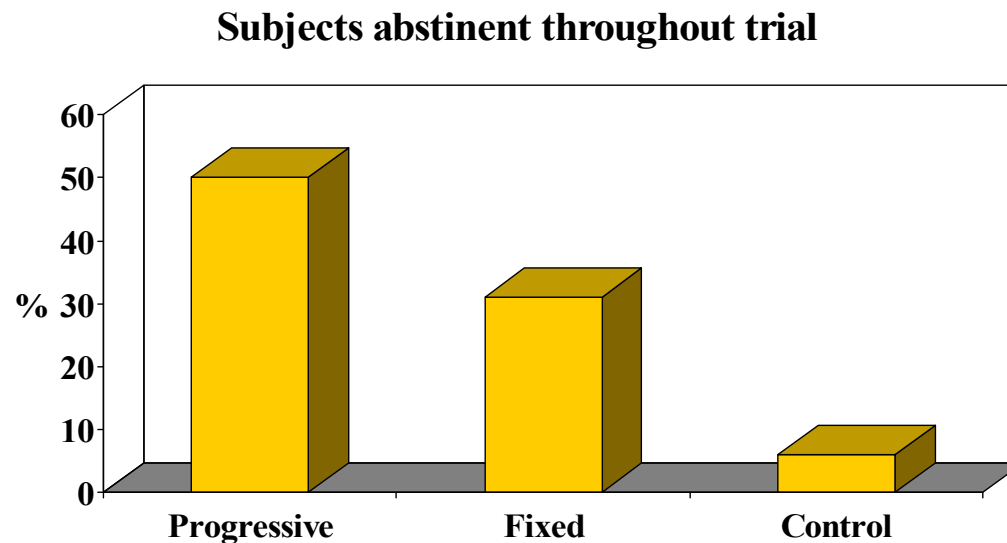
>8 Weeks of Cocaine
Abstinence



ESCALATING SYSTEM



The escalating system engenders continuous abstinence.



**IF THIS PROCEDURE WORKS SO WELL,
WHY ISN'T IT USED EVERYWHERE?**





CHALLENGES OF INCENTIVES

- Cost



- Feasibility and Acceptability

- Is it effective in non-research based settings?
- Is it effective in group treatment settings?

VARIABLE MAGNITUDE OF REINFORCEMENT PROCEDURE

INTERMITTENT INCENTIVE STUDY

Subjects: alcohol-dependent outpatients

Standard treatment:

Intensive outpatient day program

5 hrs/day, 5 days/week, weeks 1-4

Aftercare

1-3 groups/week, weeks 4-8

Treatment consisted of group sessions: 12 step, relapse prevention, voc rehab, AIDS, coping skills training.

CONTROL GROUP

Received standard group treatment and
Breath Alcohol (BAC) monitoring
(daily during intensive, weekly during aftercare).

Additional 15 min of
education on
alcohol abuse weekly

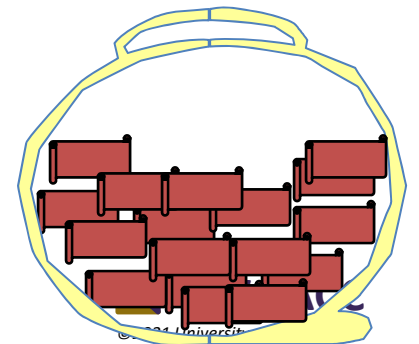


INCENTIVES GROUP

Standard group treatment and BAC monitoring

Incentives for alcohol abstinence:

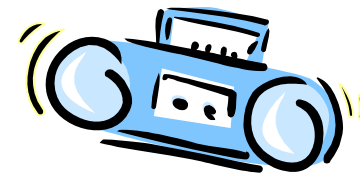
- One draw for each negative BAC.
- Five bonus draws for a week of consecutive abstinence.



HALF THE CARDS ARE WINNING



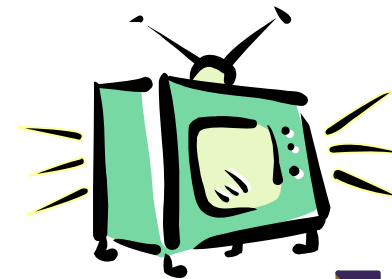
1/2 chance of winning a small \$1 prize



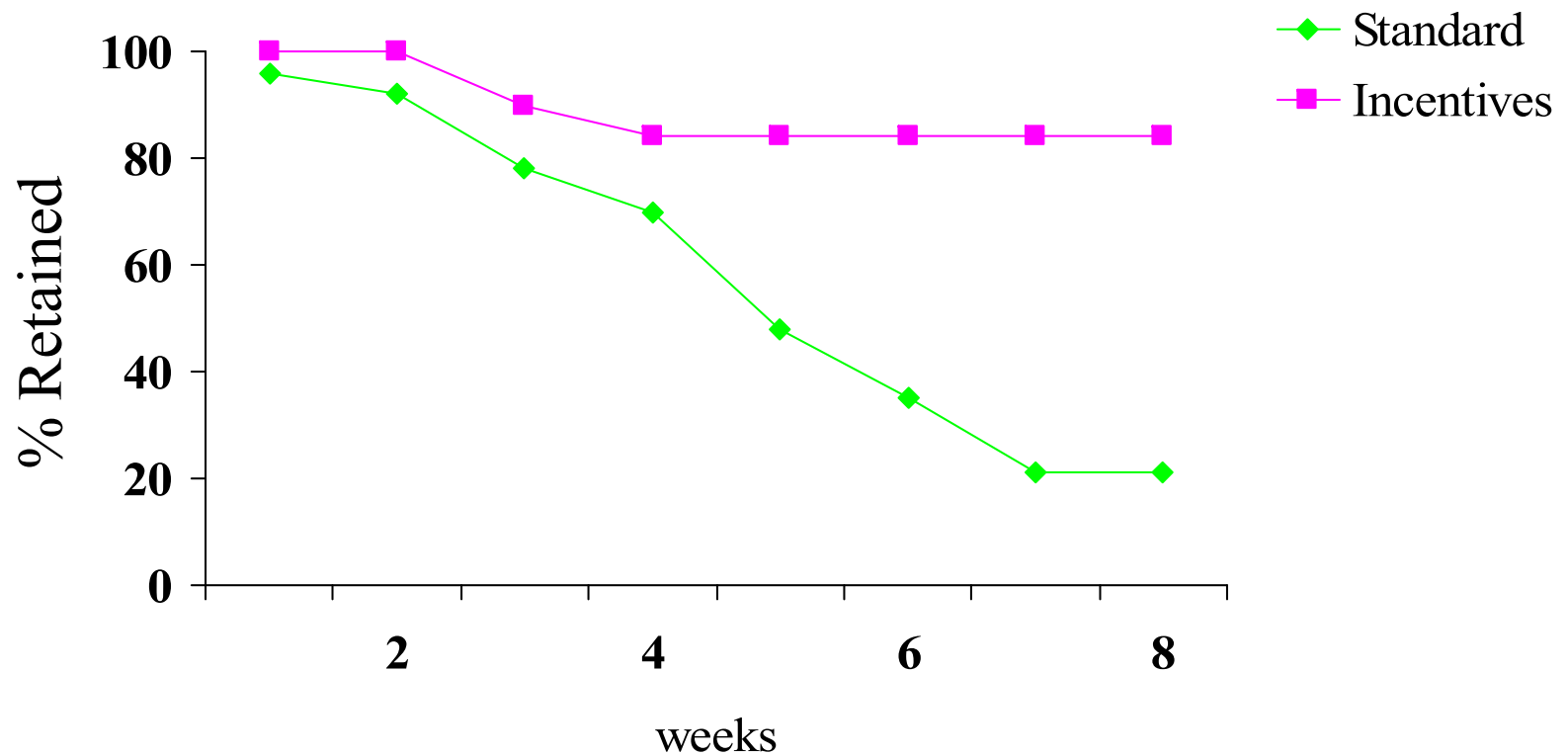
1/16 chance of winning a medium \$20 prize



1/250 chance of winning a jumbo \$100 prize

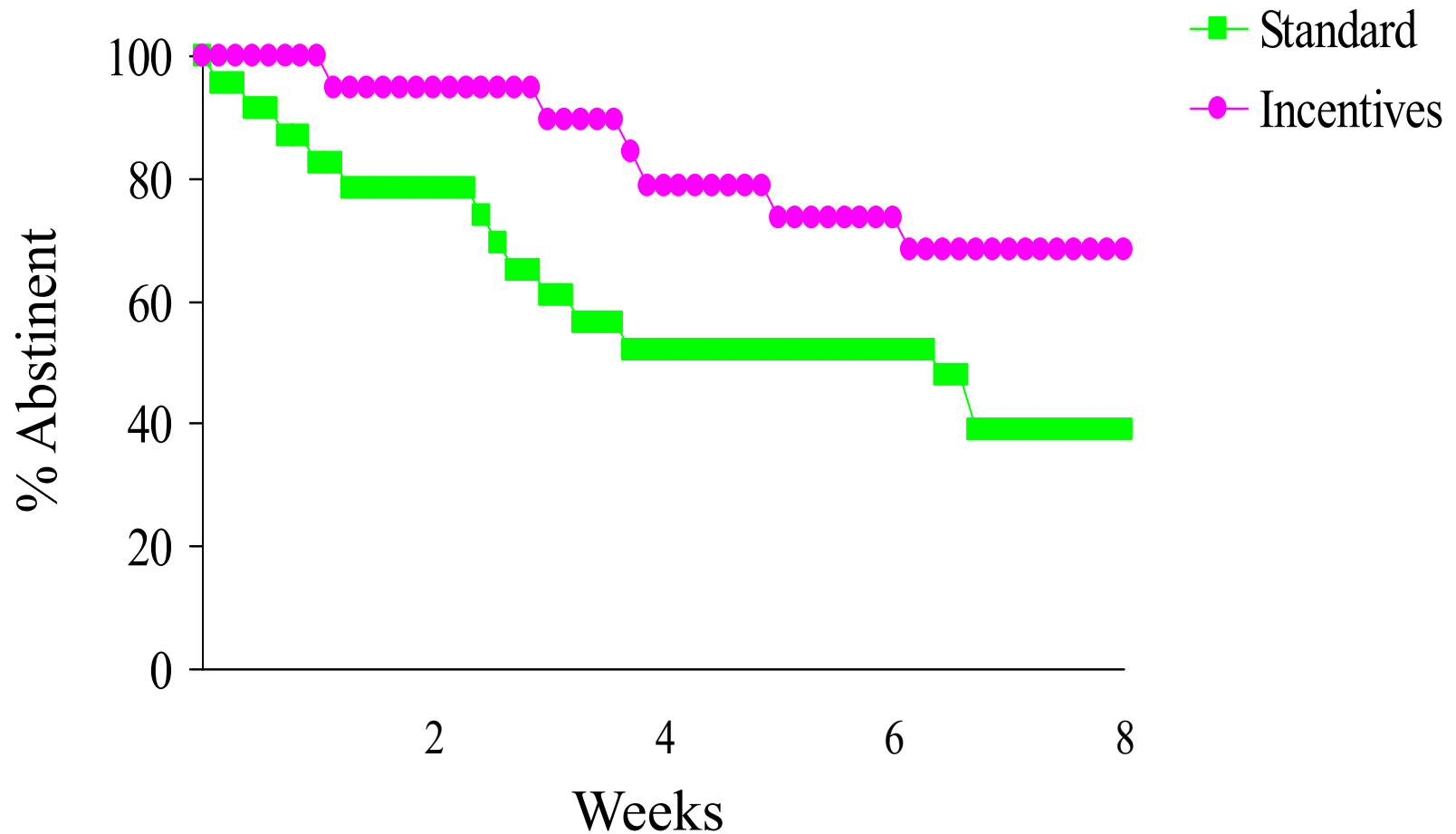


RETENTION



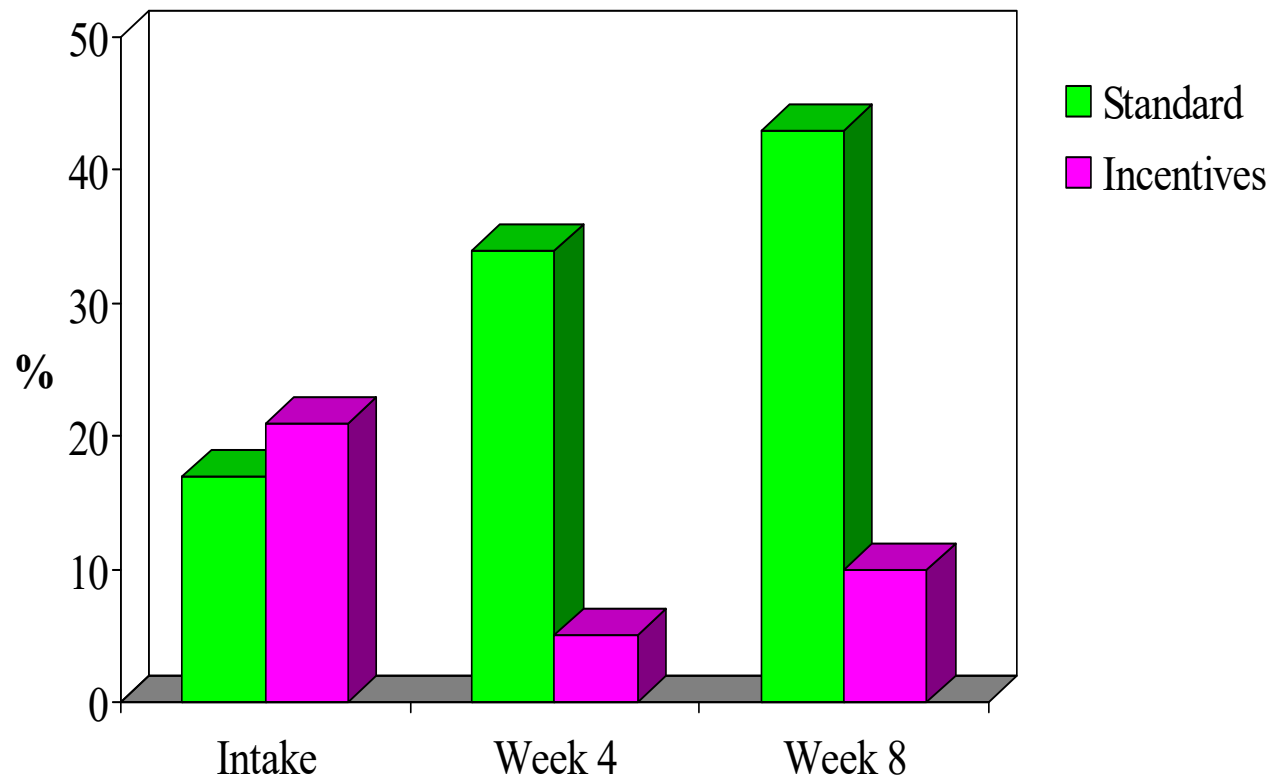
Petry et al., 2000

TIME UNTIL FIRST DRINKING EPISODE



Petry et al., 2000

PERCENT POSITIVE FOR ANY ILLICIT DRUG



CTN 006

METHAMPHETAMINE SUBANALYSIS

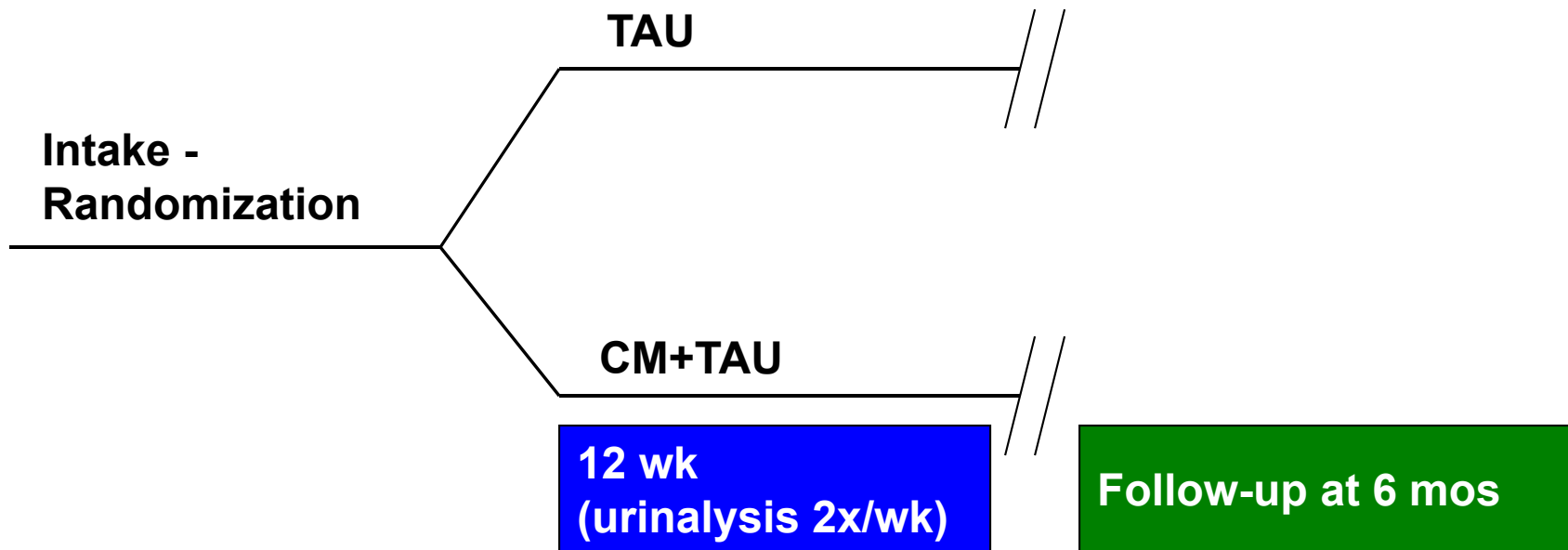
PARTICIPANTS

- Sub analysis of CTN 006 data set focusing on the 28% (n = 113) of participants with a methamphetamine use disorder
- Enrollment occurred between April 30, 2001 and February 28, 2003

RANDOMIZATION

- 62 participants randomized to receive treatment as usual (TAU)
- 51 participants randomized to receive TAU plus contingency management (CM) (TAU + CM)
- Participants did not differ on any demographic variables

STUDY TIMELINE

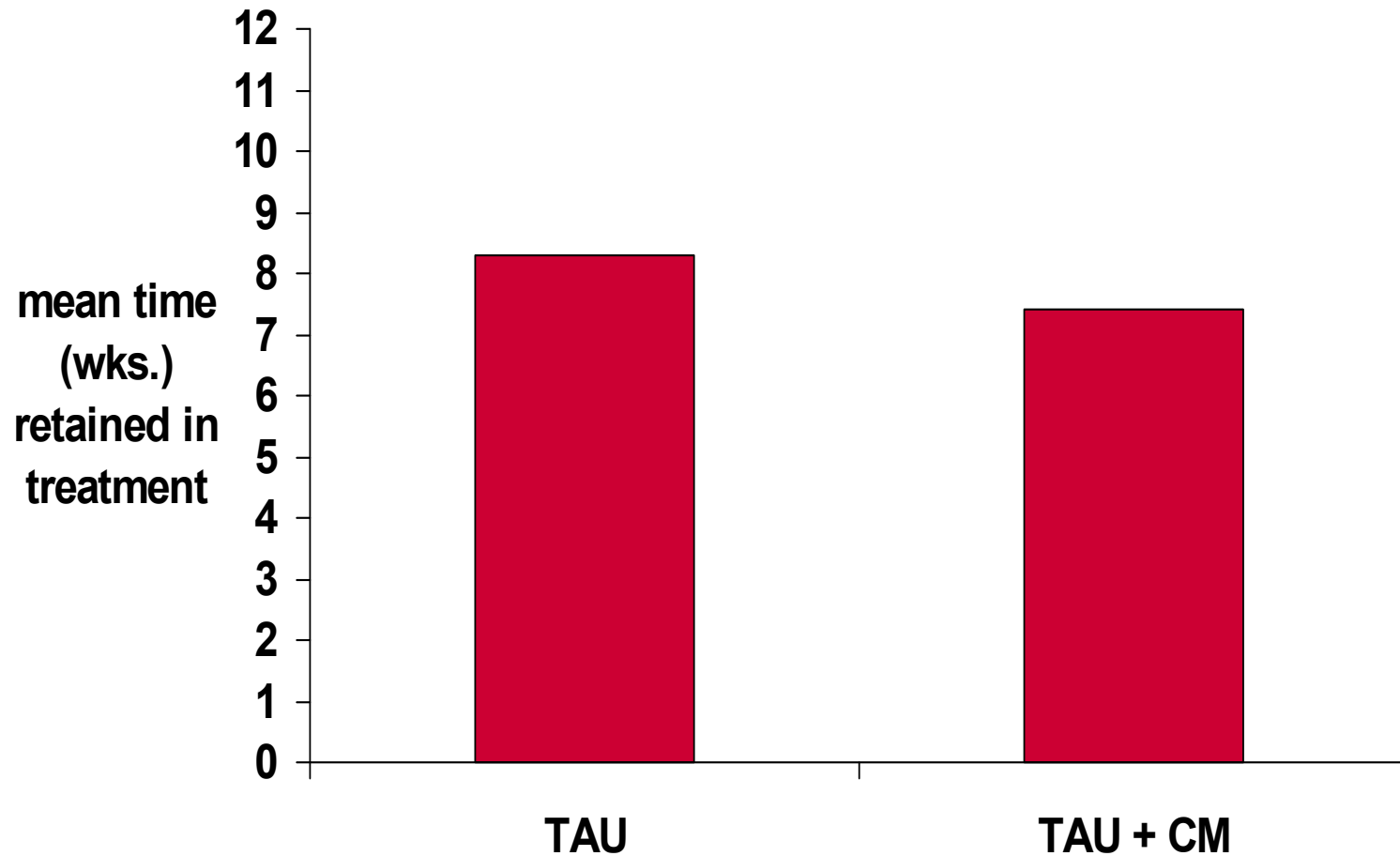


CONTINGENCY MANAGEMENT: FISH-BOWL/PRIZE/VARIABLE MAGNITUDE OF REINFORCEMENT PROCEDURE

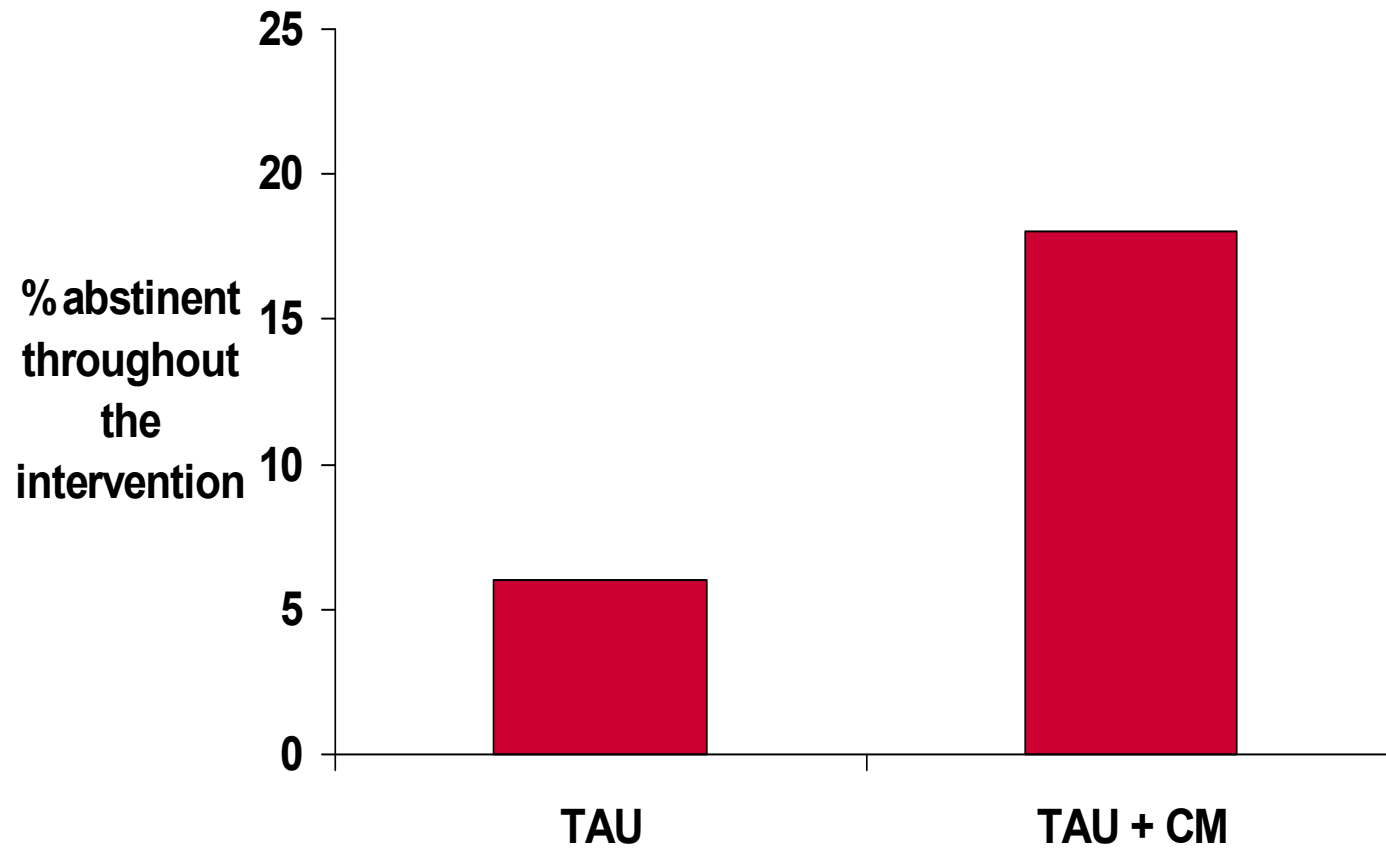
- Developed by Petry as a way to contain the cost of CM-based interventions
- Participants earn draws from a container containing 500 chips. Some of these chips can be exchanged for prizes
- 50% (250) are labeled “Good Job” - No monetary value
- 41.8% (209) are labeled “Small” - \$1 -5.00
- 8% (40) are labeled “Large” - \$20.00
- 0.02% (1) are labeled “Jumbo” - \$80-100.00

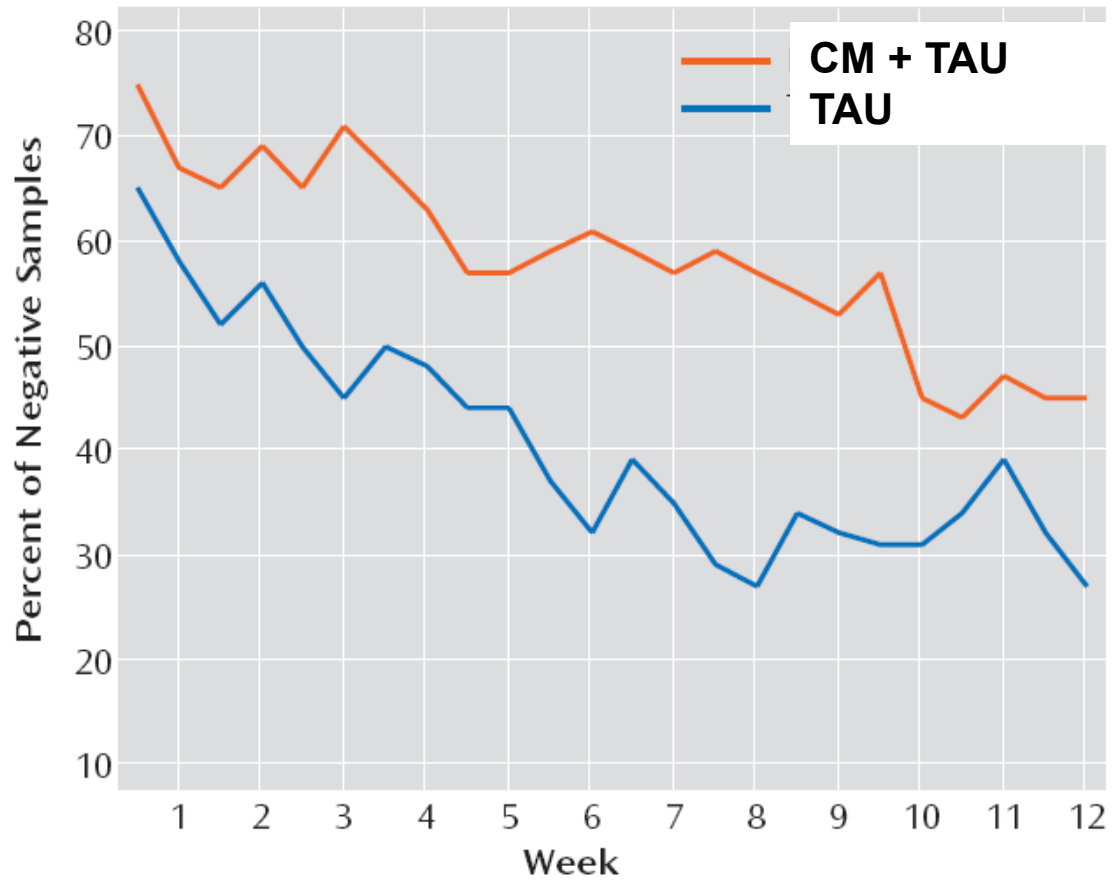
RESULTS

RETENTION (WEEKS)



CONTINUOUSLY ABSTINENT

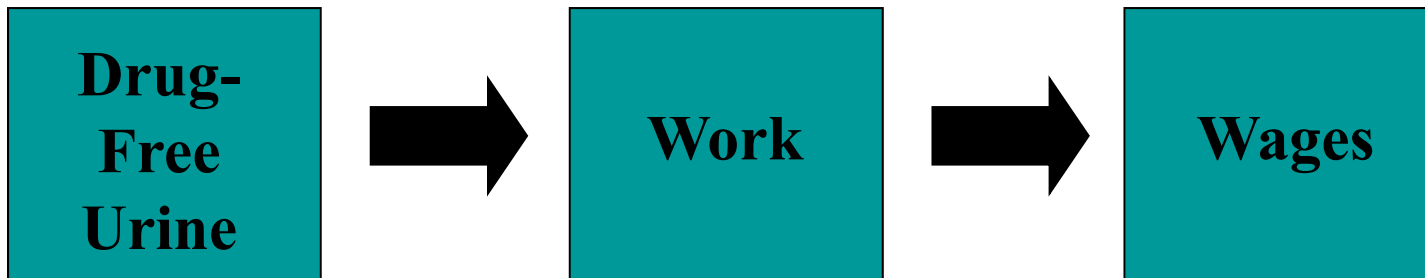




PRACTICAL PROBLEM

- How can high magnitude and long duration abstinence reinforcement interventions be financed?
- Silverman and Colleagues

EMPLOYMENT-BASED ABSTINENCE REINFORCEMENT

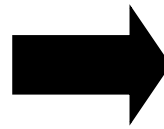


PHASES OF THERAPEUTIC WORKPLACE TREATMENT

PHASE 1: Training and Abstinence Initiation

- **JOB: Job Skills Training**
- **PAY: Vouchers**

- **DURATION:
Limited**

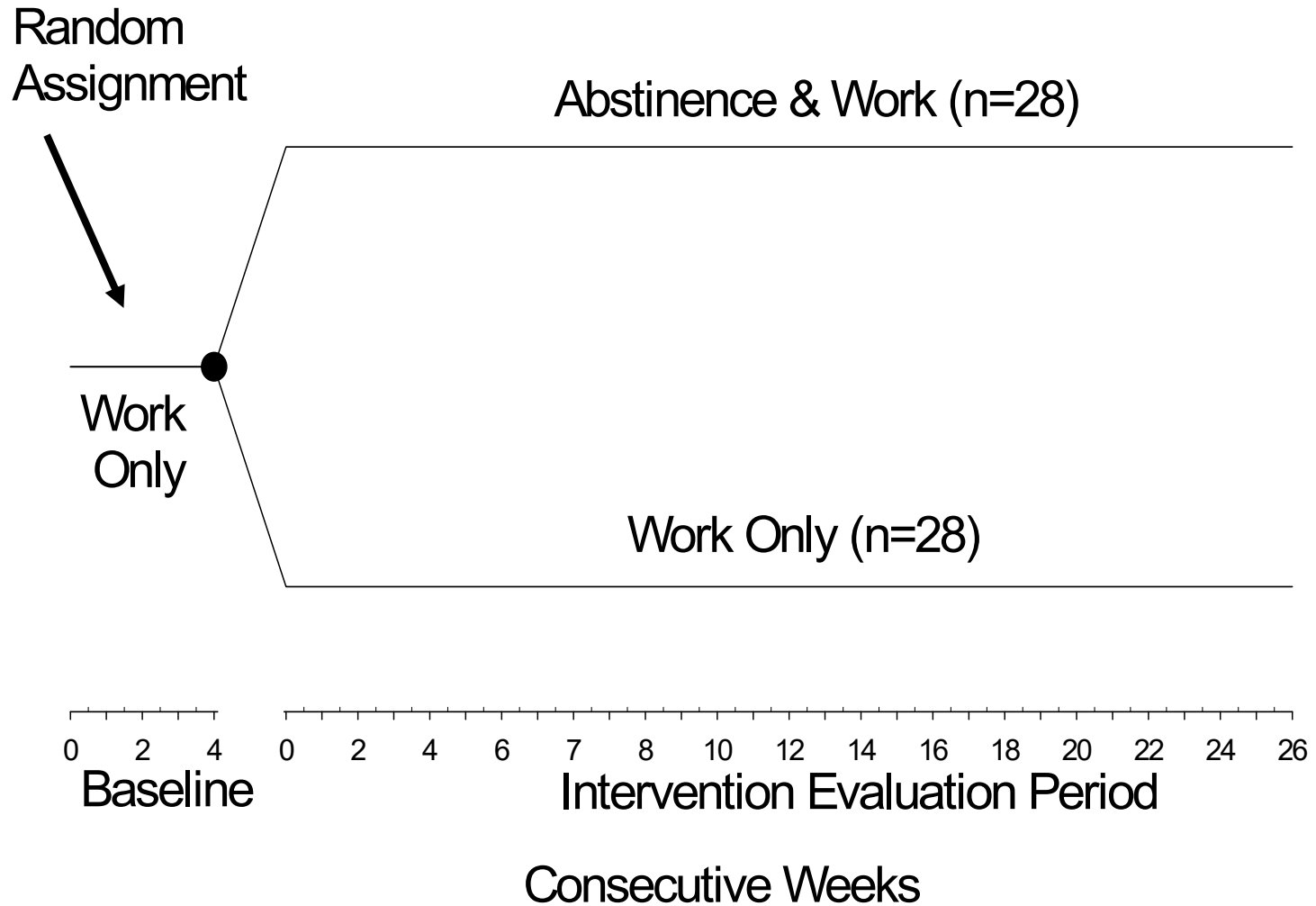


PHASE 2: Therapeutic Workplace Business

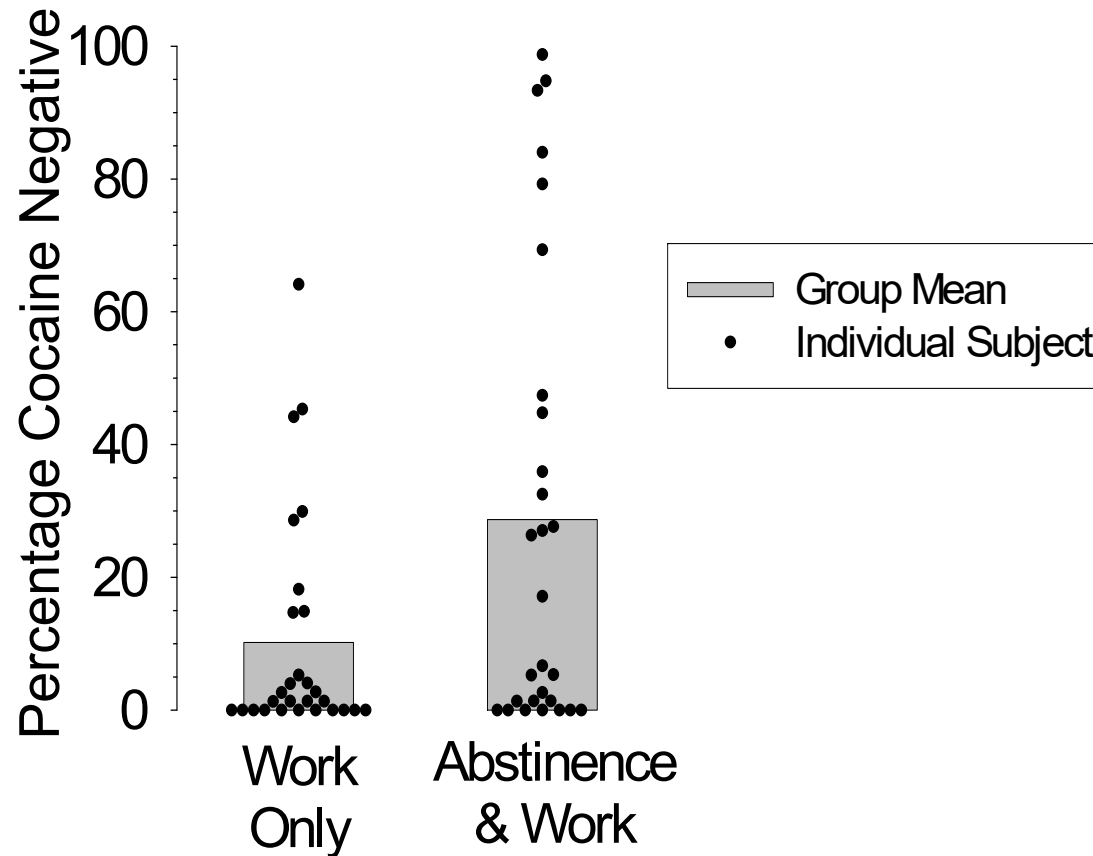
- **JOB: Real Work**
- **PAY: Paycheck**

- **DURATION:
Unlimited**

EXPERIMENTAL DESIGN



COCAINE ABSTINENCE: 26-WEEK INTERVENTION PERIOD



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