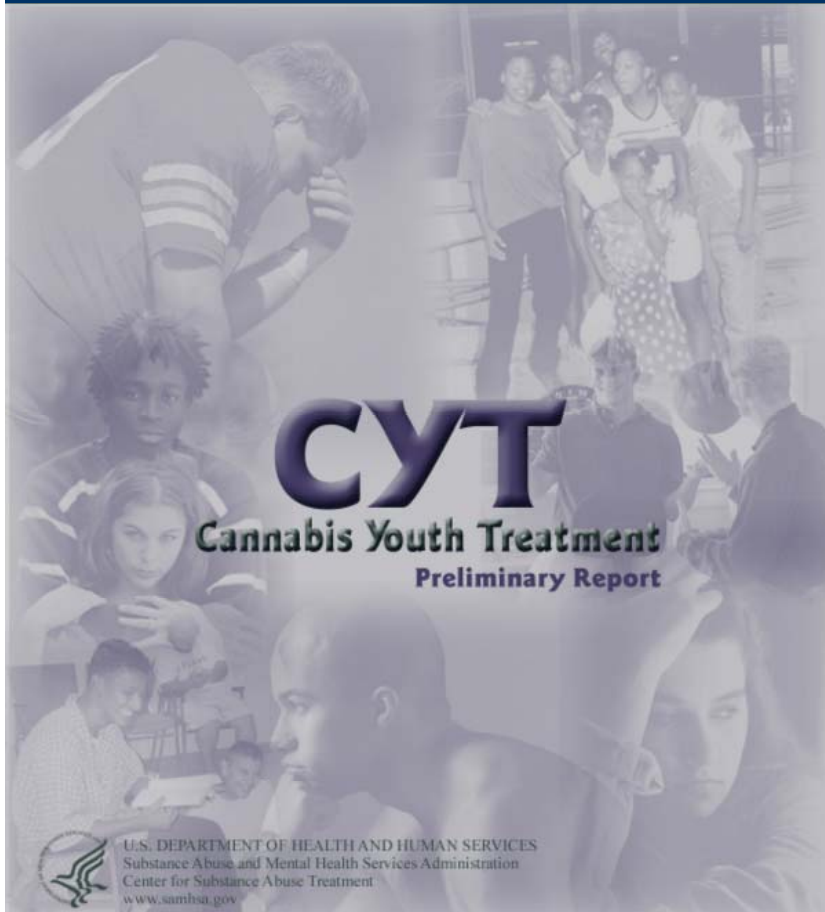


# Main Findings of the Cannabis Youth Treatment (CYT) Randomized Field Experiment

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Charles Webb, Ph.D.,  
Nancy Hamilton, M.P.A.,  
and the CYT steering committee**

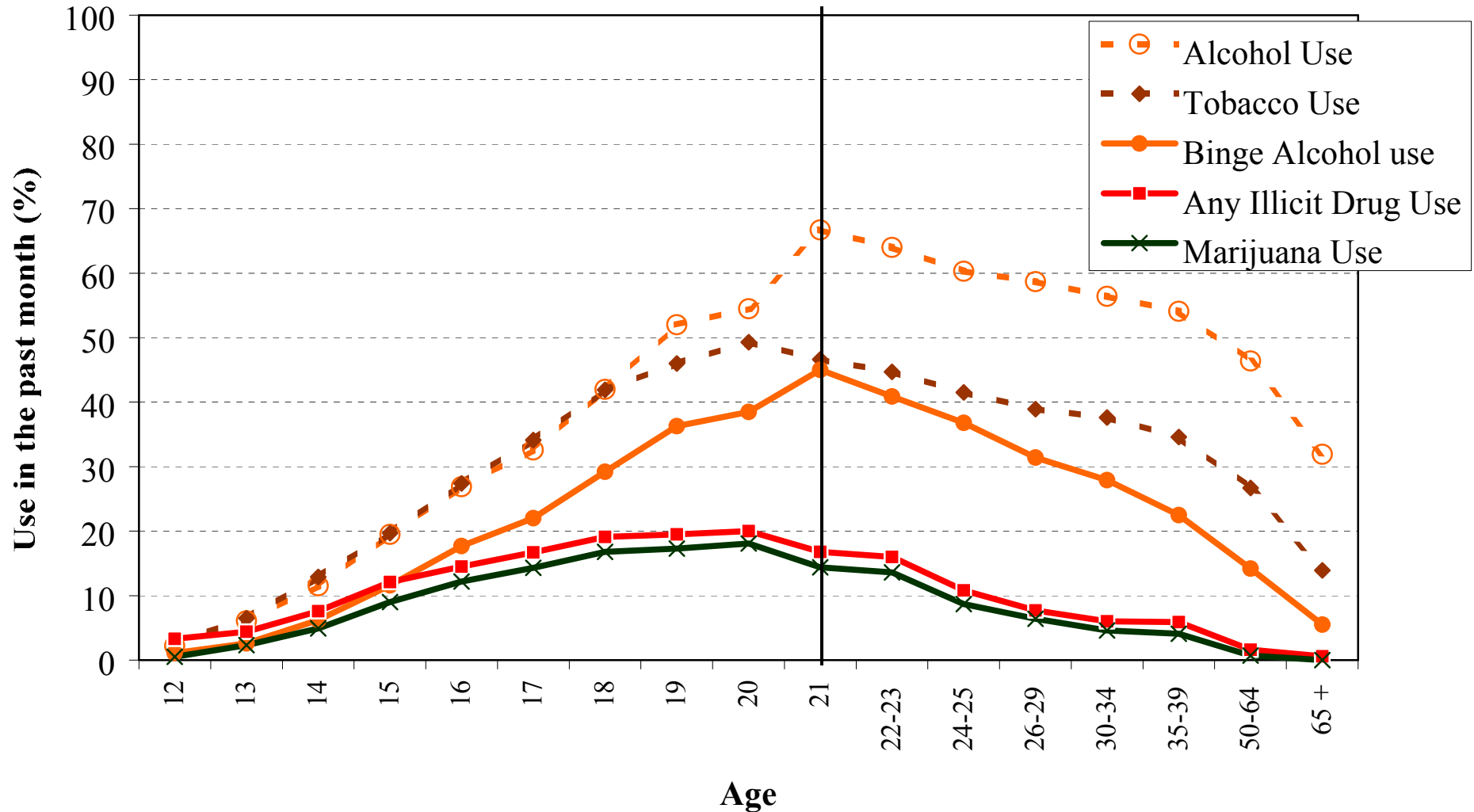
*Presentation in Symposium 64, "State-of-the-Art Adolescent Substance Abuse Prevention and Treatment" at the American Psychiatric Association Annual Conference, Philadelphia, PA, May 18-23, 2002.*



# Acknowledgement

*This presentation is based on the work, input and contributions from several other people including: Nancy Angelovich, Tom Babor, Laura (Bunch) Brantley, Joseph A. Burlison, George Dent, Guy Diamond, James Fraser, Michael French, Rod Funk, Mark Godley, Susan H. Godley, Nancy Hamilton, James Herrell, David Hodgkins, Ronald Kadden, Yifrah Kaminer, Tracy L. Karvinen, Pamela Kelberg, Jodi (Johnson) Leckrone, Howard Liddle, Barbara McDougal, Kerry Anne McGeary, Robert Meyers, Suzie Panichelli-Mindel, Lora Passetti, Nancy Petry, M. Christopher Roebuck, Susan Sampl, Meleny Scudder, Christy Scott, Melissa Siekmann, Jane Smith, Zeena Tawfik, Frank Tims, Janet Titus, Jane Ungemack, Joan Unsicker, Chuck Webb, James West, Bill White, Michelle White, Caroline Hunter Williams, the other CYT staff, and the families who participated in this study. This presentation was supported by funds and data from the Center for Substance Abuse Treatment (CSAT's) Persistent Effects of Treatment Study (PETS, Contract No. 270-97-7011) and the Cannabis Youth Treatment (CYT) Cooperative Agreement (Grant Nos. T111317, T111320, T111321, T111323, and T111324). The opinions are those of the author and steering committee and do not reflect official positions of the government .*

# Change in Past Month Substance Use by Age



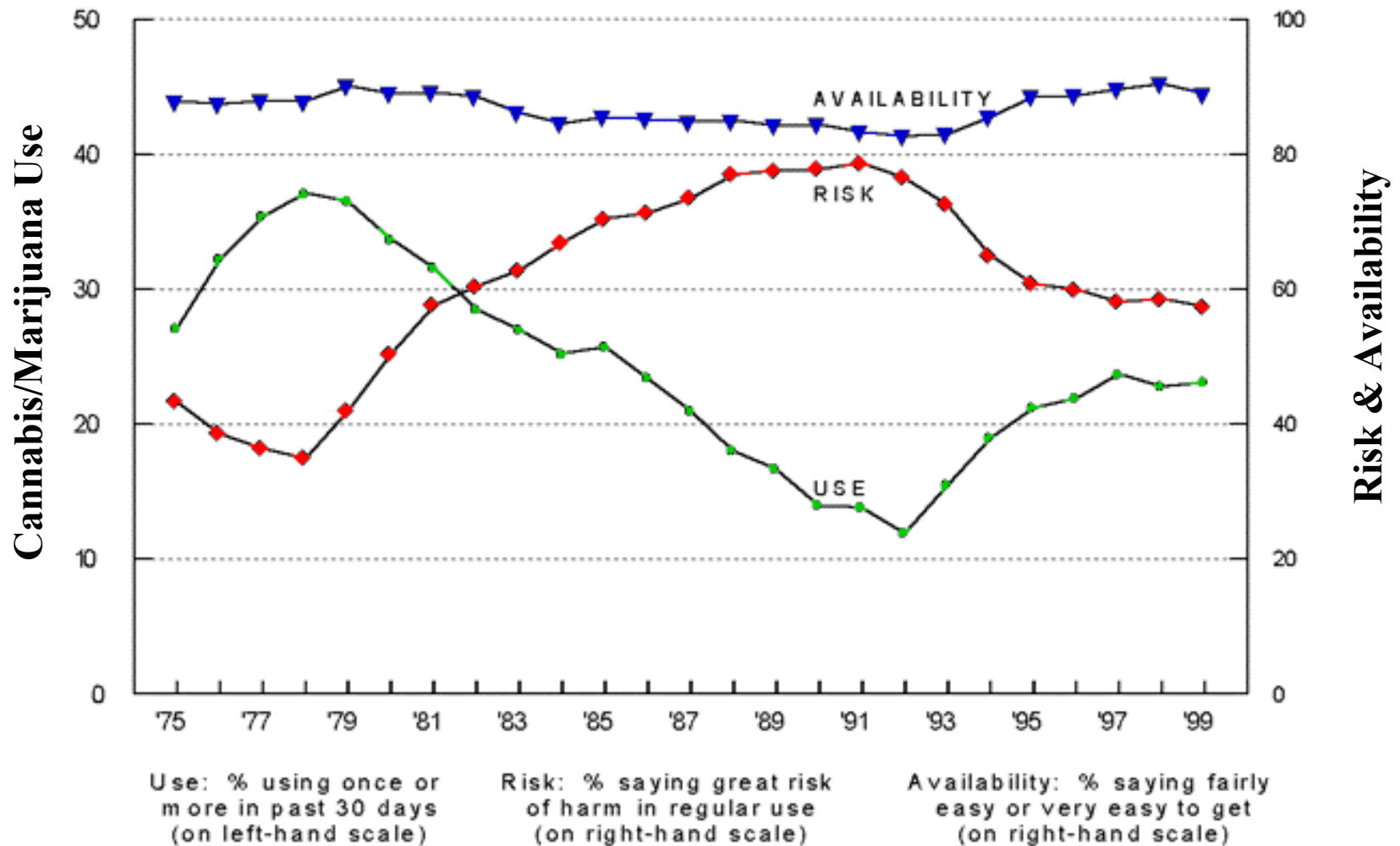
Source: Dennis, M.L., (in press). Treatment Research on Adolescents Drug and Alcohol Abuse: Despite Progress, Many Challenges Remain. Connections and Data from the OAS 1999 National Household Survey on Drug Abuse

# Marijuana

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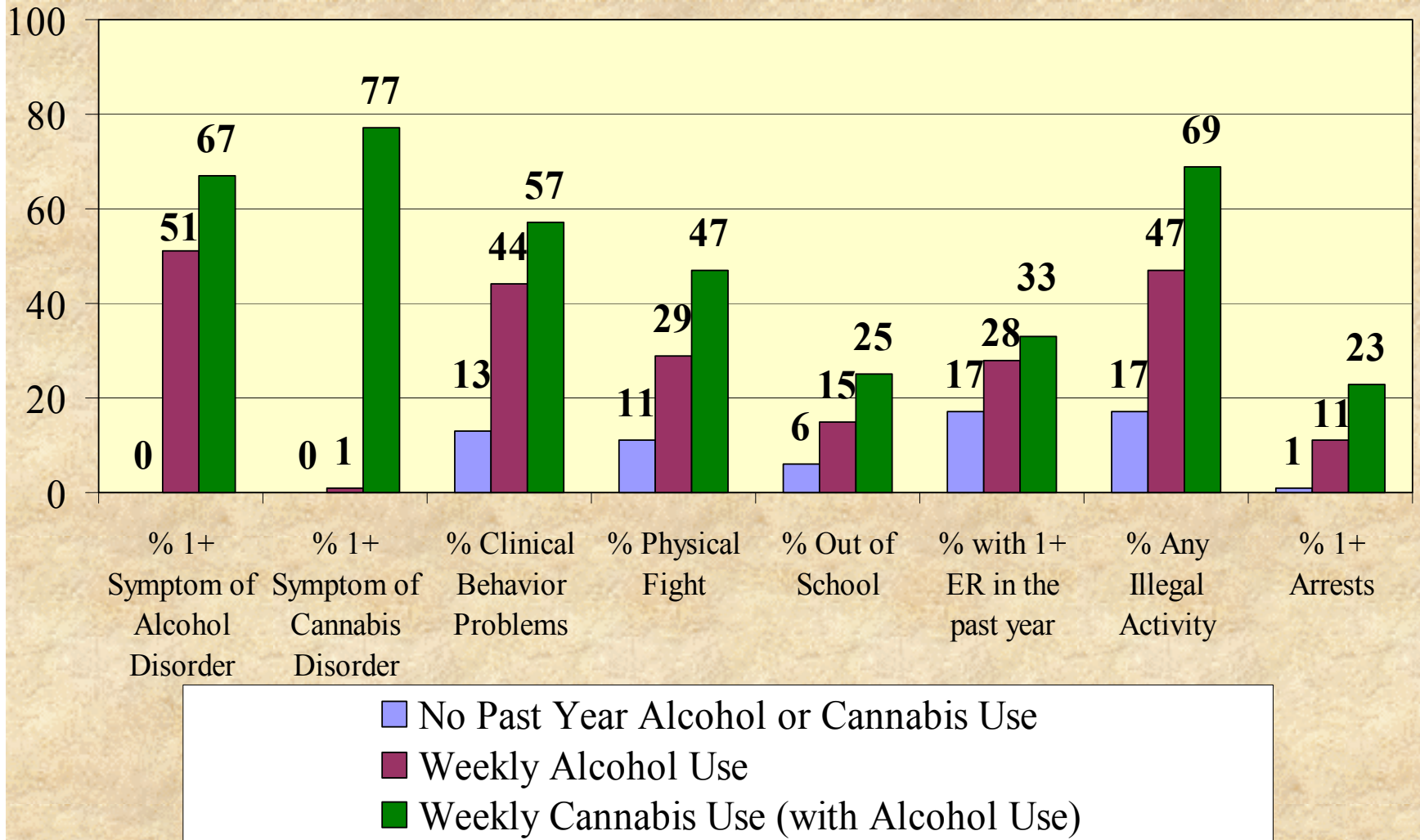
- Use is starting at younger ages
- Is at an historically high level among adolescents
- Potency increased 3-fold from 1980 to 1997
- Is three times more likely to lead to dependence among adolescents than adults
- Is associated with many health, mental and behavioral problems
- Is the leading substance mentioned in adolescent emergency room admissions and autopsies

# Importance of Perceived Risk



Source: Office of Applied Studies (2000) 1998 NHSDA

# Consequences of Substance Use



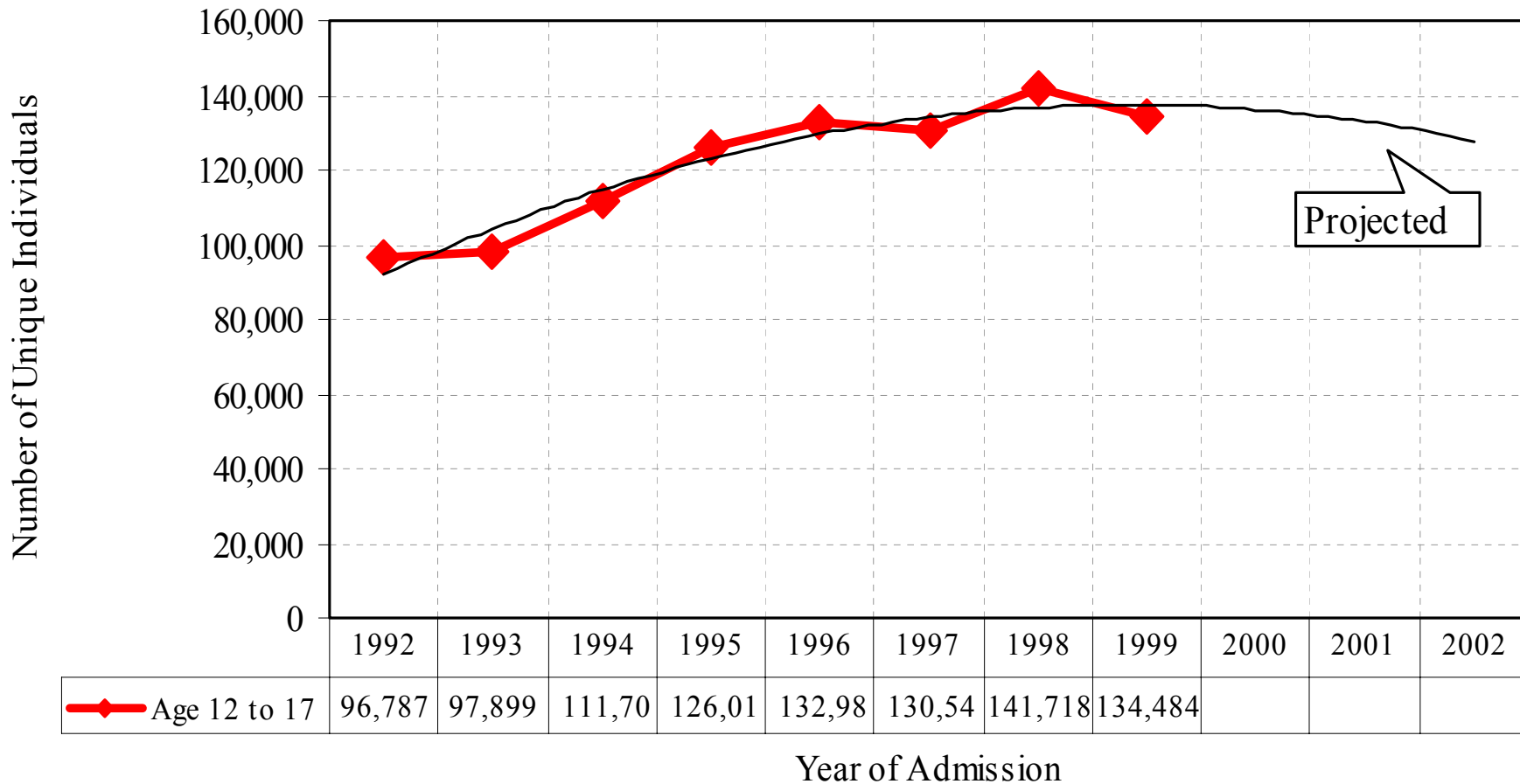
Source: Dennis, M.L., Godley, S.H., & Titus, J.C. (1999, Fall).

# Treatment

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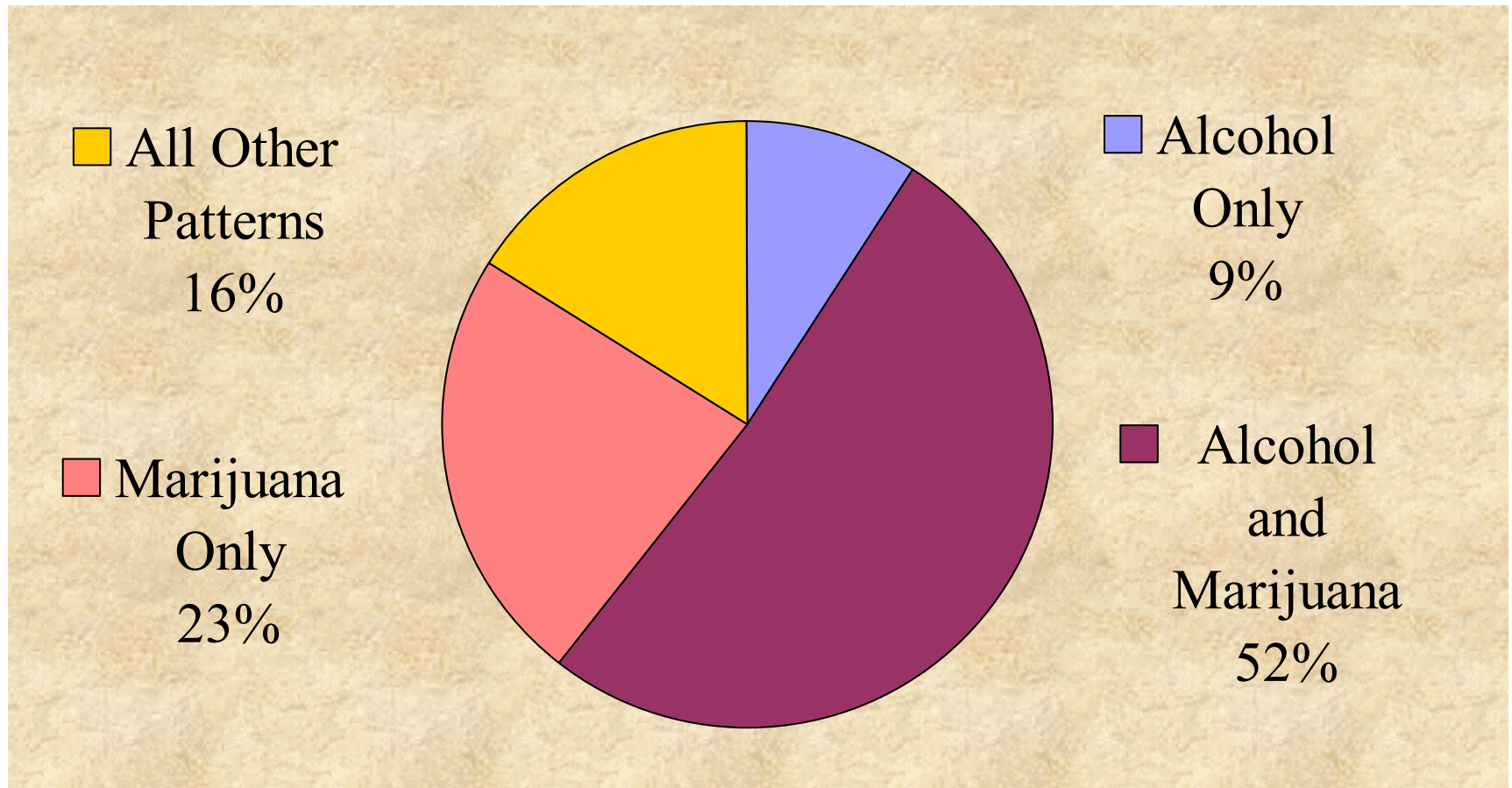
- Marijuana related admissions to adolescent substance abuse treatment increased by 115% from 1992 to 1998
- Over 80% of adolescents entering treatment in 1998 had a marijuana problem
- Over 80% are entering outpatient treatment
- Evaluations of existing outpatient treatment have produced mixed results
- Early studies were plagued by methodological flaws
- We are currently in a Renaissance of adolescent treatment research

# Trend in Adolescent Substance Abuse Treatment Admissions: 1992 to 1999



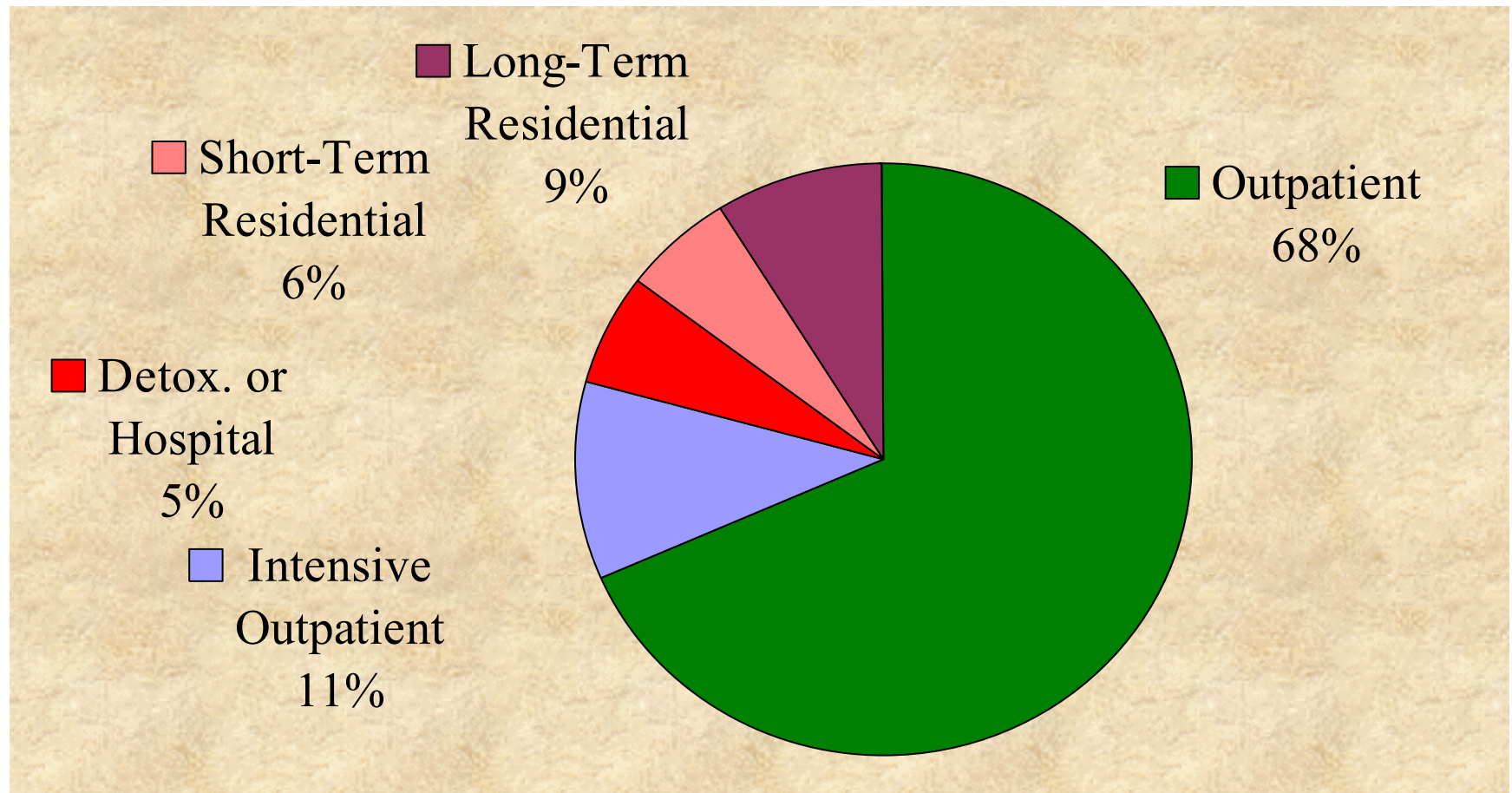
Source: Office of Applied Studies Treatment Episode Data Set (TEDS),  
<http://www.samhsa.gov/oas/teds/99TEDS/99Teds.pdf>

# Patterns of Substance Use Problems



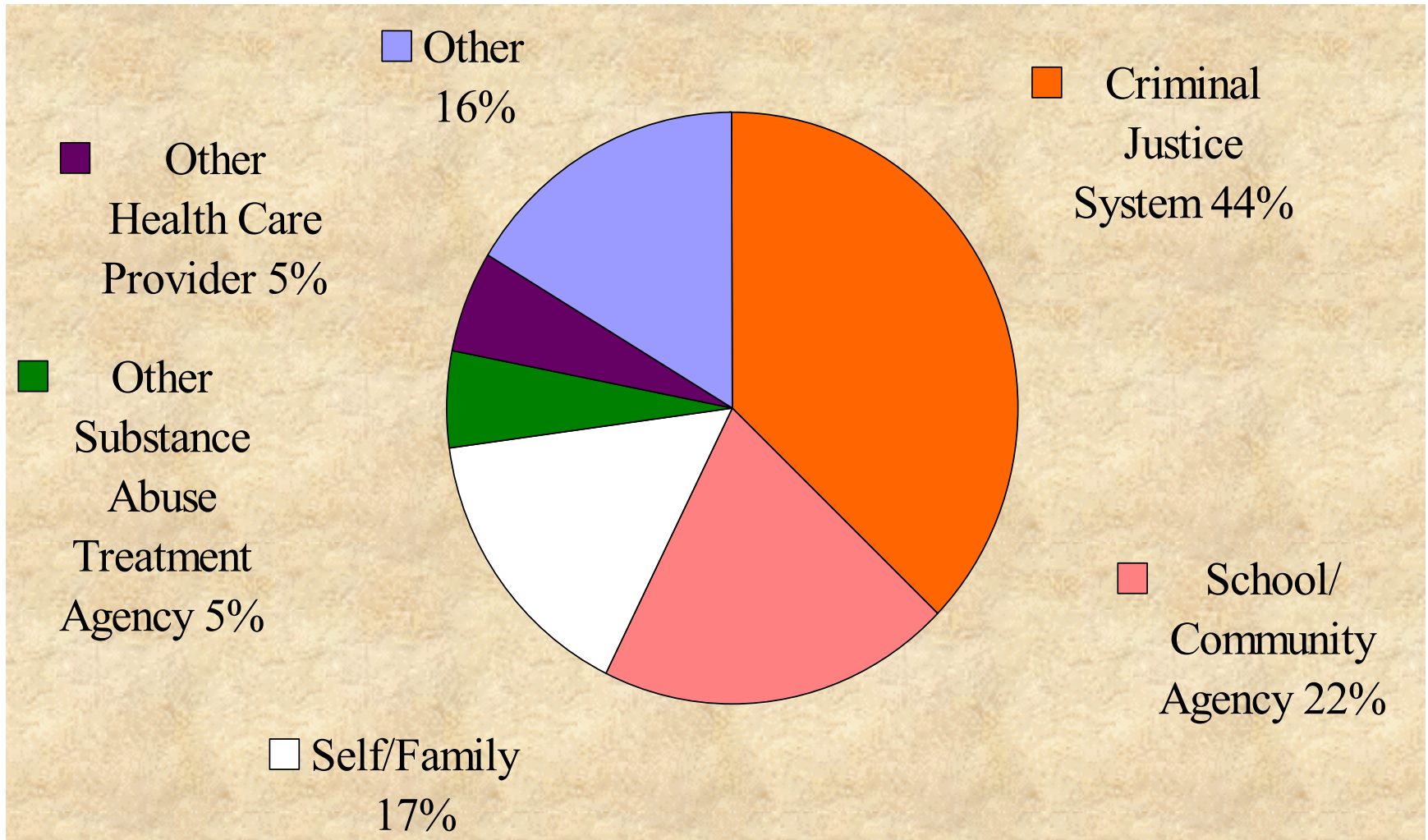
Source: Dennis et al., in press and OAS (2000) 1998 Treatment Episode Data Set (TEDS)

# Level of Care at Admission



Source: Dennis et al, in press and OAS (2000) 1998 Treatment Episode Data Set (TEDS)

# Sources of Adolescent Referrals



Source: Dennis et al., in press and OAS (2000) 1998 Treatment Episode Data Set (TEDS)

# Purpose of CYT

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- To learn more about the characteristics and needs of adolescent marijuana users presenting for outpatient treatment.
- To adapt evidence-based, manual-guided therapies for use in 1 to 3 month adolescent outpatient treatment programs in medical centers or community based settings.
- To evaluate the relative effectiveness, cost and cost-effectiveness of five interventions targeted at marijuana use and associated problems in adolescents.
- To provide validated models of these interventions to the treatment field in order to address the pressing demands for expanded and more effective services.

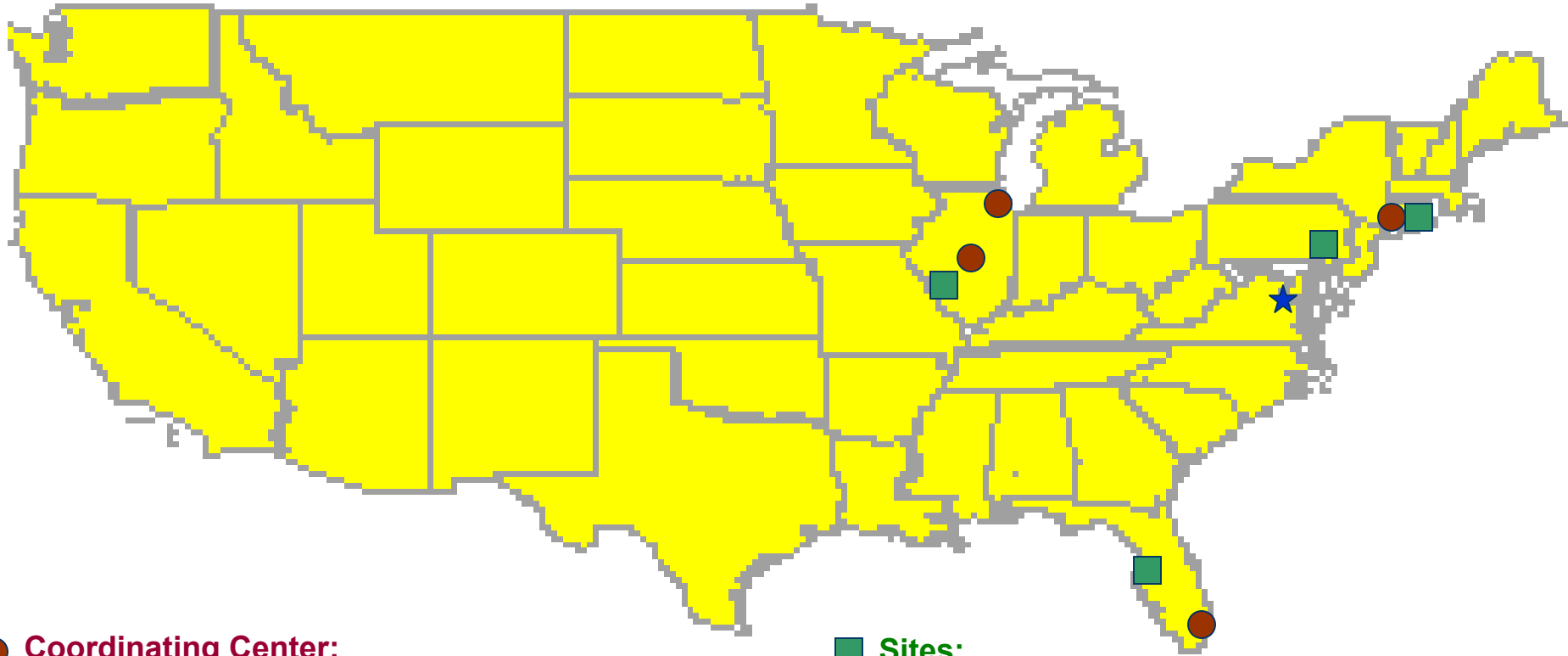
# Design

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- **Target Population:** Adolescents with marijuana disorders who are appropriate for 1 to 3 months of outpatient treatment.
- **Inclusion Criteria:** 12 to 18 year olds with symptoms of cannabis abuse or dependence, past 90 day use, and meeting criteria for outpatient treatment
- **Data Sources:** self report, collateral reports, on-site and laboratory urine testing, therapist alliance and discharge reports, staff service logs, and cost analysis.
- **Random Assignment:** to one of three treatments within site in two research arms and quarterly follow-up interview

# CYT

## Cannabis Youth Treatment Randomized Field Experiment

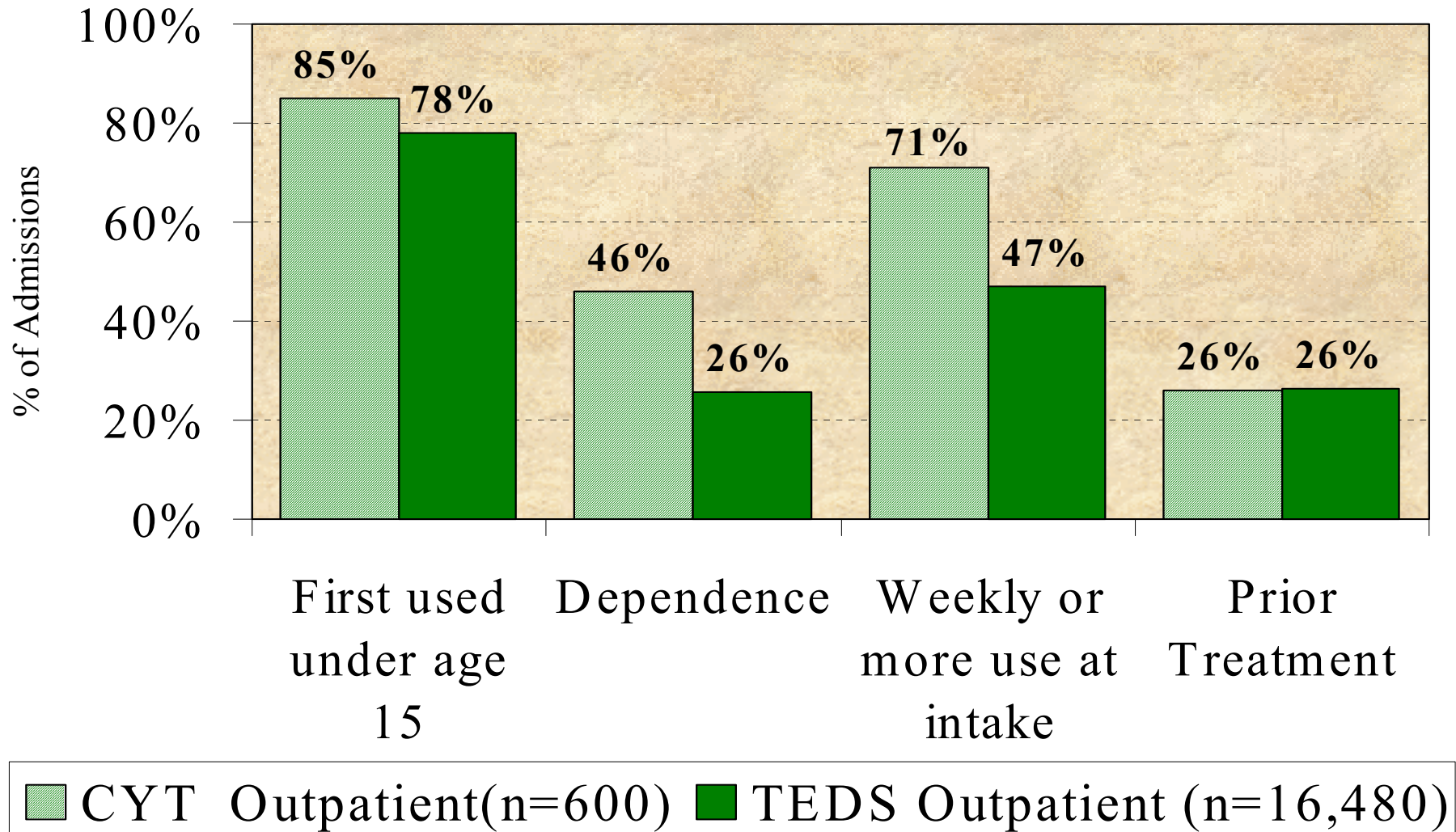


● **Coordinating Center:**  
Chestnut Health Systems, Bloomington, IL,  
and Chicago, IL  
University of Miami, Miami, FL  
University of Conn. Health Center, Farmington, CT

■ **Sites:**  
Univ. of Conn. Health Center, Farmington, CT  
Operation PAR, St. Petersburg, FL  
Chestnut Health Systems, Madison County, IL  
Children's Hosp. of Philadelphia, Phil., PA

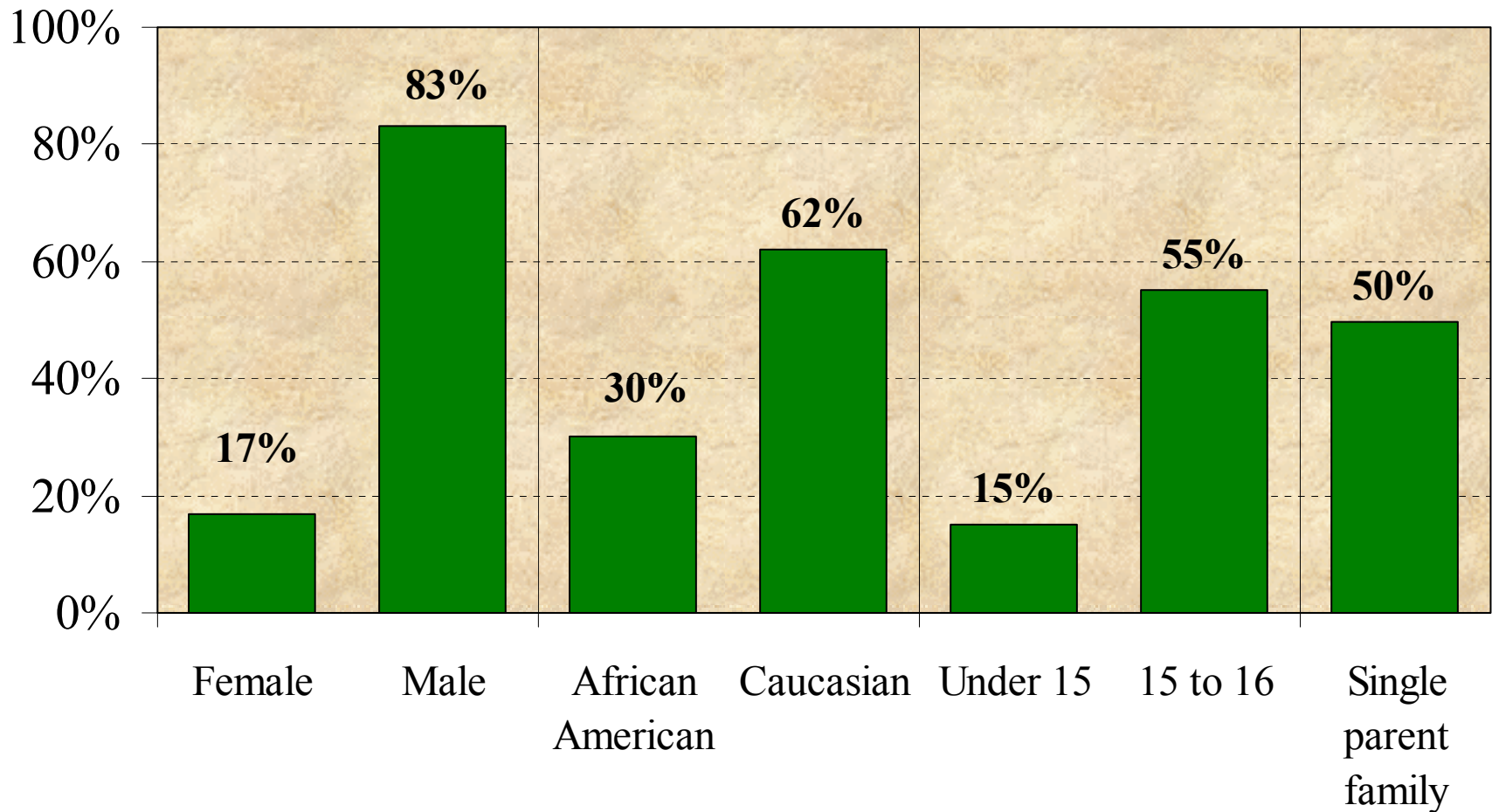
★ **Sponsored by:** Center for Substance Abuse Treatment (CSAT), Substance Abuse and Mental Health Services Administration (SAMHSA), U.S. Department of Health and Human Services

# Adolescent Cannabis Users in CYT were as or More Severe Than Those in TEDS\*

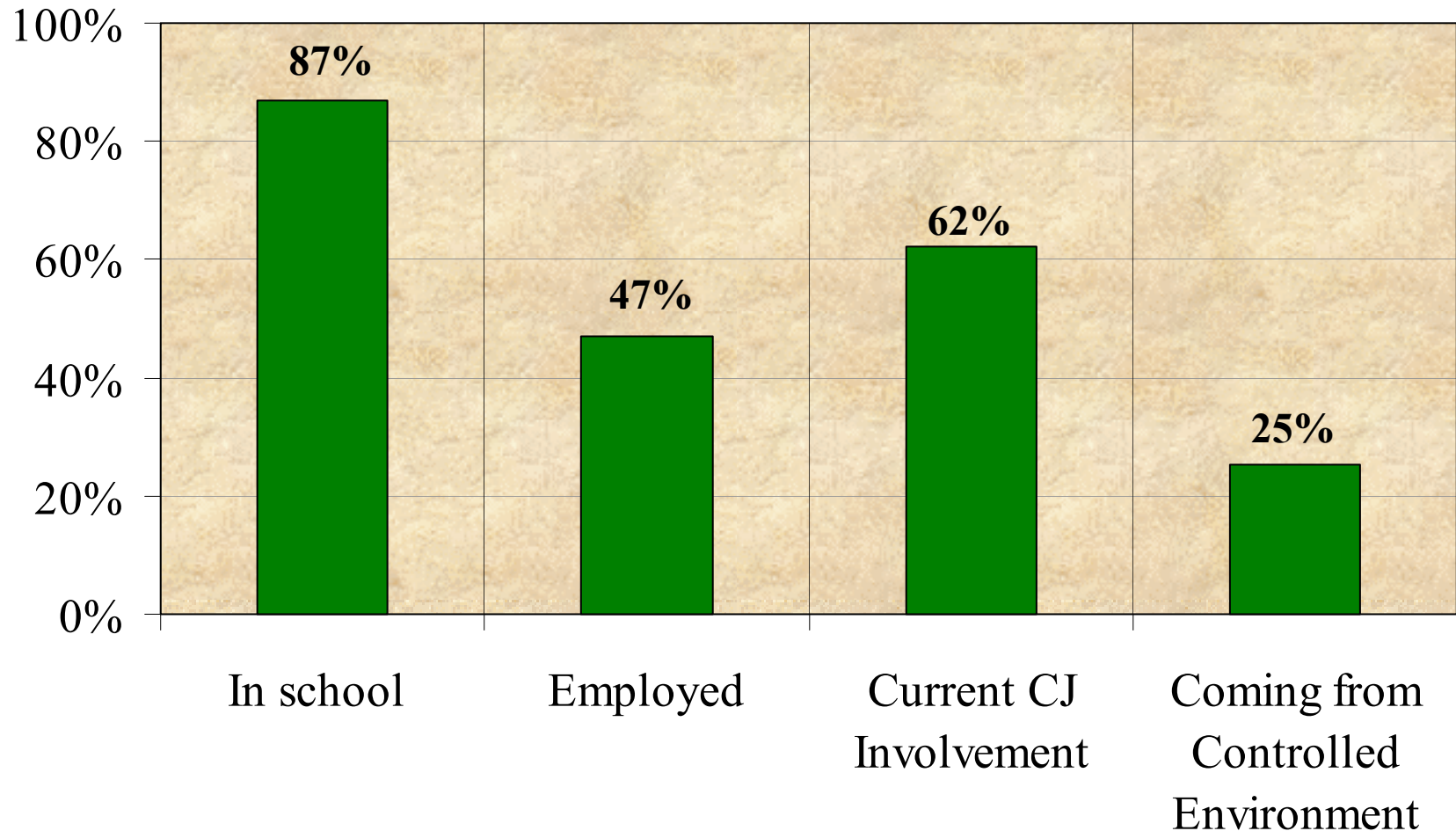


\* Adolescents with marijuana problems admitted to outpatient treatment

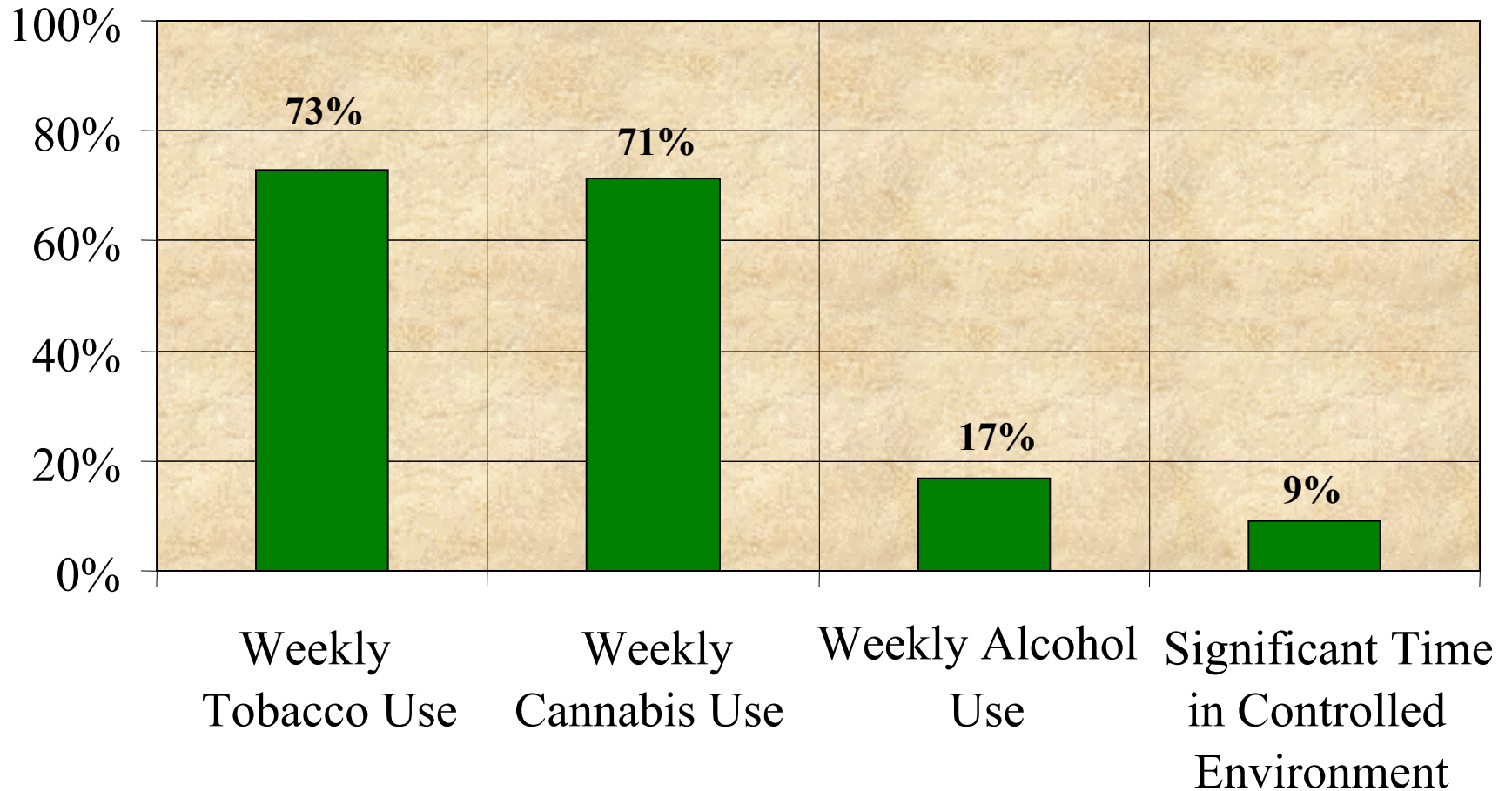
# Demographic Characteristics



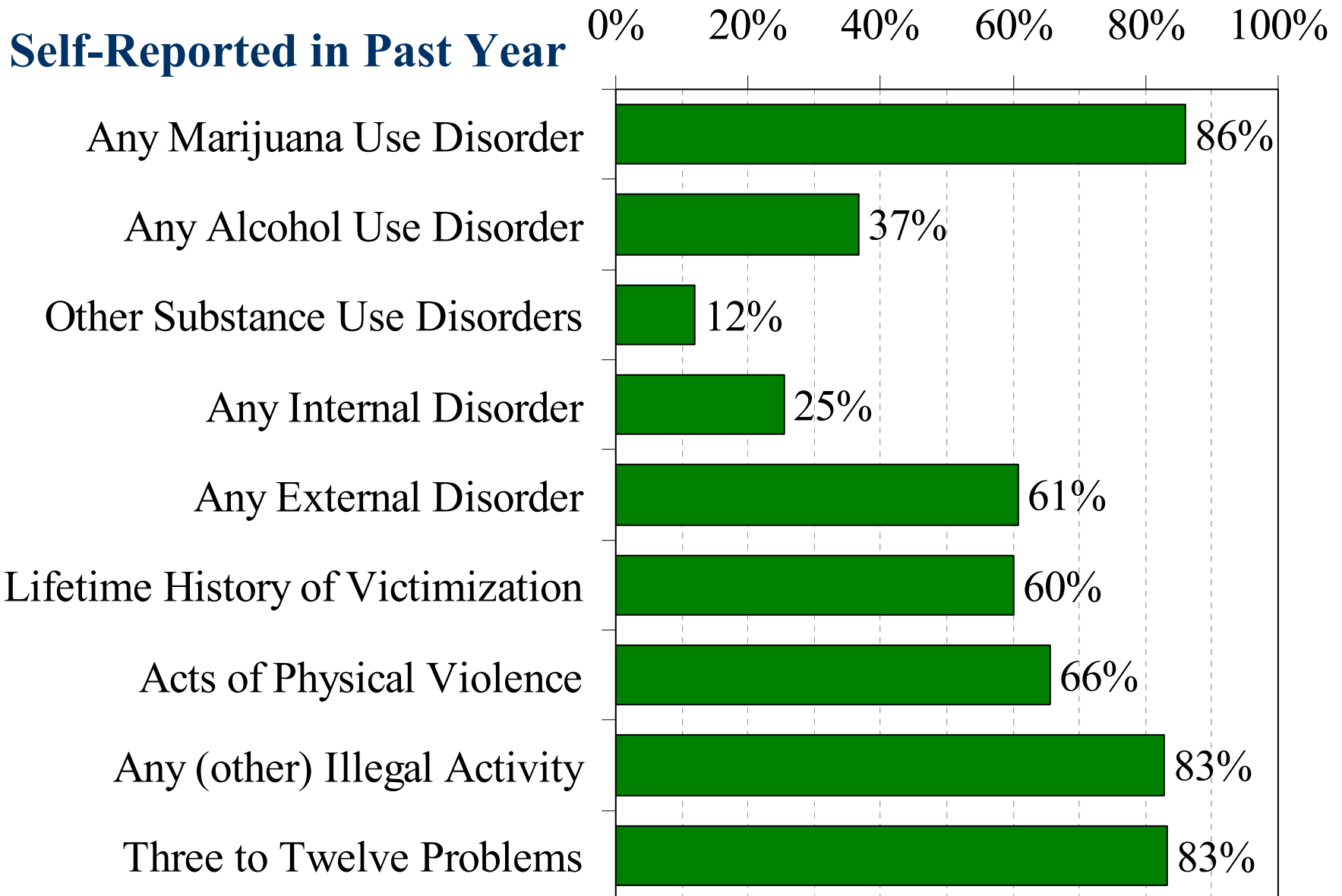
# Institutional Involvement



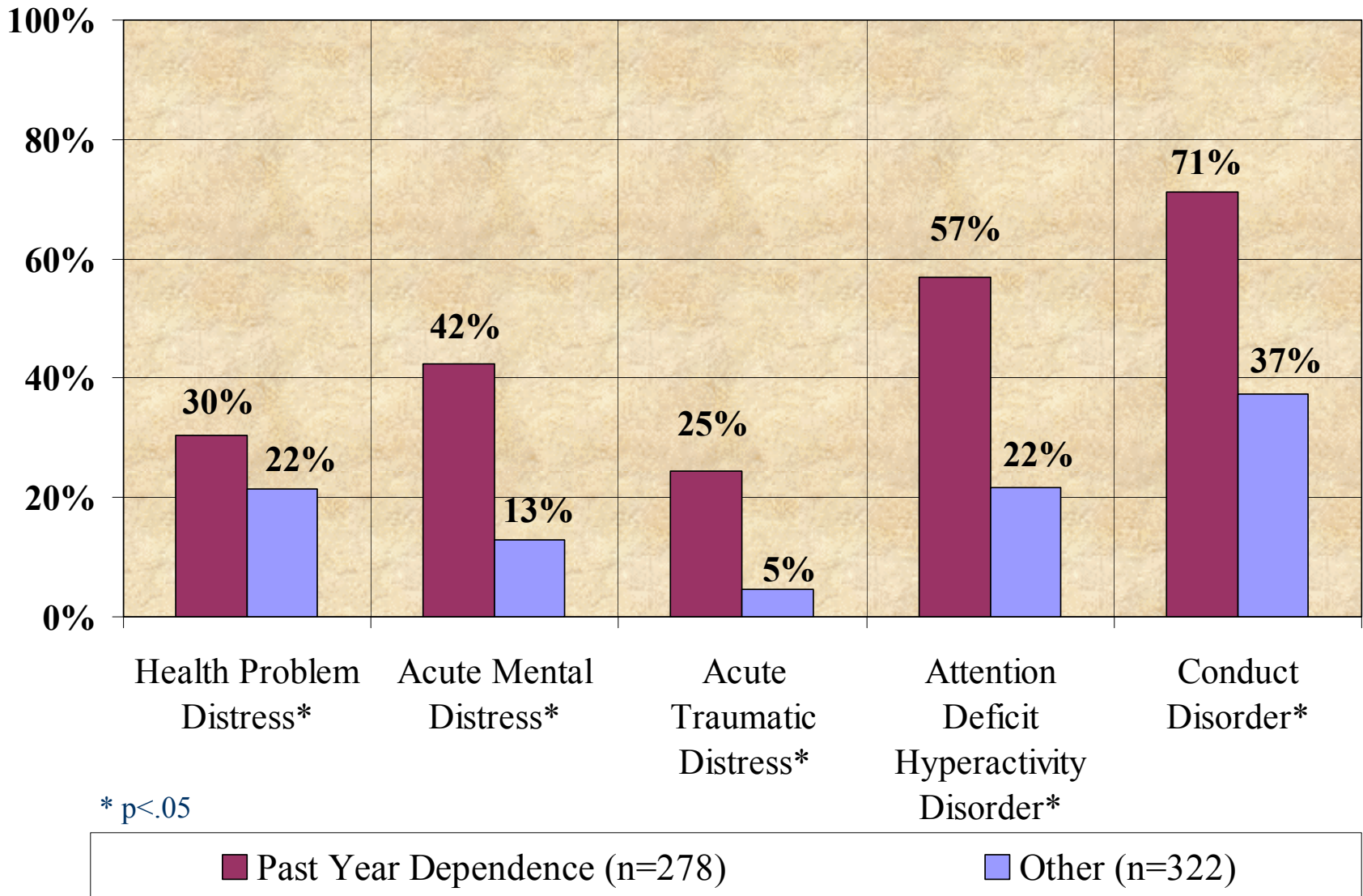
# Patterns of Substance Use



# Multiple Problems are the NORM



# Co-occurring Problems are Higher for those Self-Reporting Past Year Dependence



# Two Study Arms

## **Incremental Arm**

Does Increasing Dosage Matter?

*Randomly Assigns to:*

### **MET/CBT5**

Motivational Enhancement Therapy/  
Cognitive Behavioral Therapy (5 weeks)

### **MET/CBT12**

Motivational Enhancement Therapy/  
Cognitive Behavioral Therapy (12 weeks)

### **FSN**

Family Support Network  
Plus MET/CBT12 (12 weeks)

## **Alternative Arm**

Does Varying the Approach Matter?

*Randomly Assigns to:*

### **MET/CBT5**

Motivational Enhancement Therapy/  
Cognitive Behavioral Therapy (5 weeks)

### **ACRA**

Adolescent Community  
Reinforcement Approach(12 weeks)

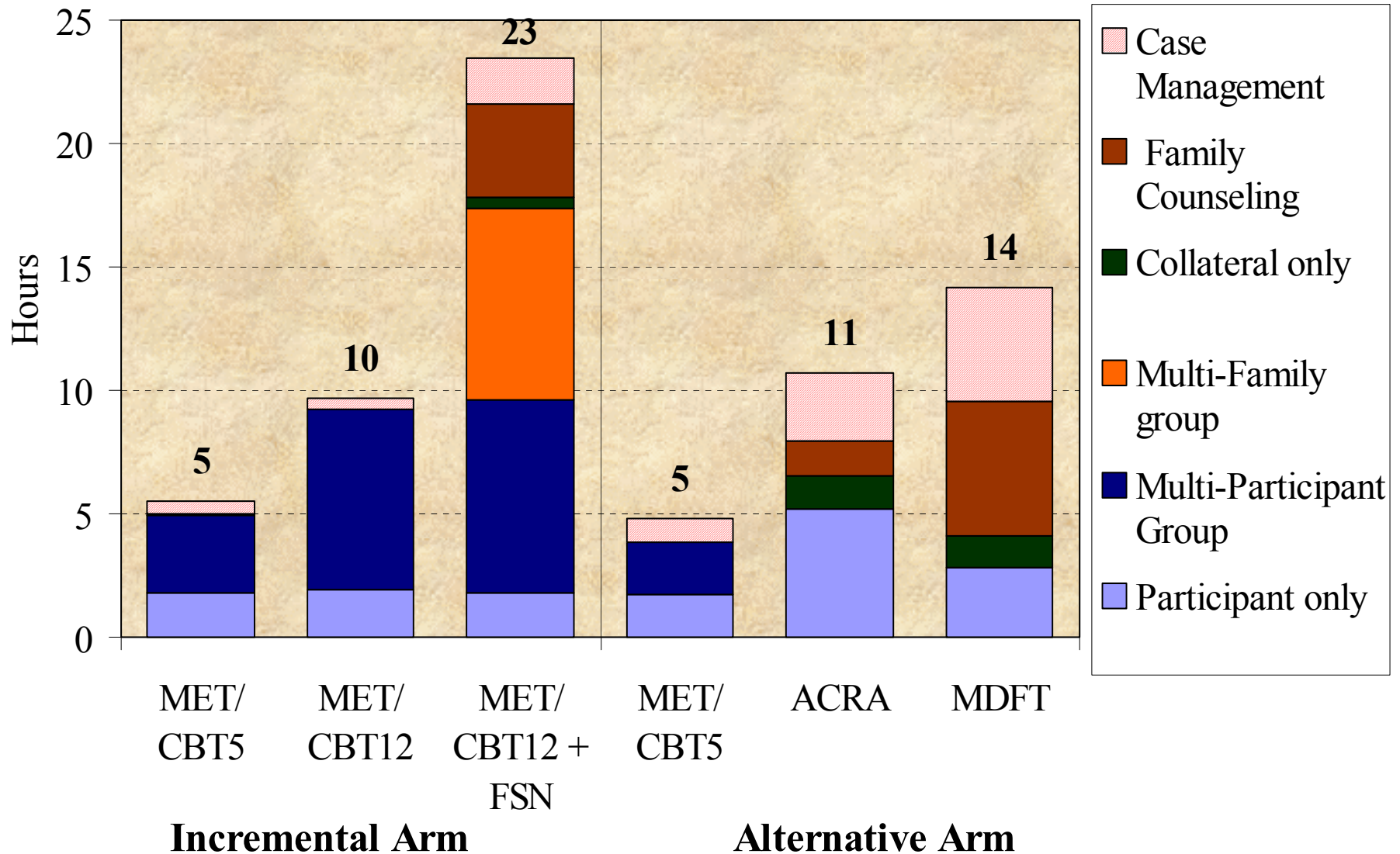
### **MDFT**

Multidimensional Family Therapy  
(12 weeks)

# Contrast of the Treatment Structures

<b>Type of Service</b>	<b>MET/ CBT5</b>	<b>MET/ CBT12</b>	<b>FSN</b>	<b>ACRA</b>	<b>MDFT</b>
Individual Adolescent Sessions	2	2	2	10	6
CBT Group Sessions	3	10	10		
Individual Parent Sessions				2	3
Family Sessions/Home Visits			4	2	6
Parent Education Sessions			6		
<b>Total Formal Sessions</b>	<b>5</b>	<b>12</b>	<b>22</b>	<b>14</b>	<b>15</b>
Case management/ Other Contacts			As needed	As needed	As needed
<b>Total Expected Contacts</b>	<b>5</b>	<b>12</b>	<b>22+</b>	<b>14+</b>	<b>15+</b>
<b>Total Expected Hours</b>	<b>5</b>	<b>12</b>	<b>22+</b>	<b>14+</b>	<b>15+</b>
<b>Total Expected Weeks</b>	<b>6-7</b>	<b>12-13</b>	<b>12-13</b>	<b>12-13</b>	<b>12-13</b>

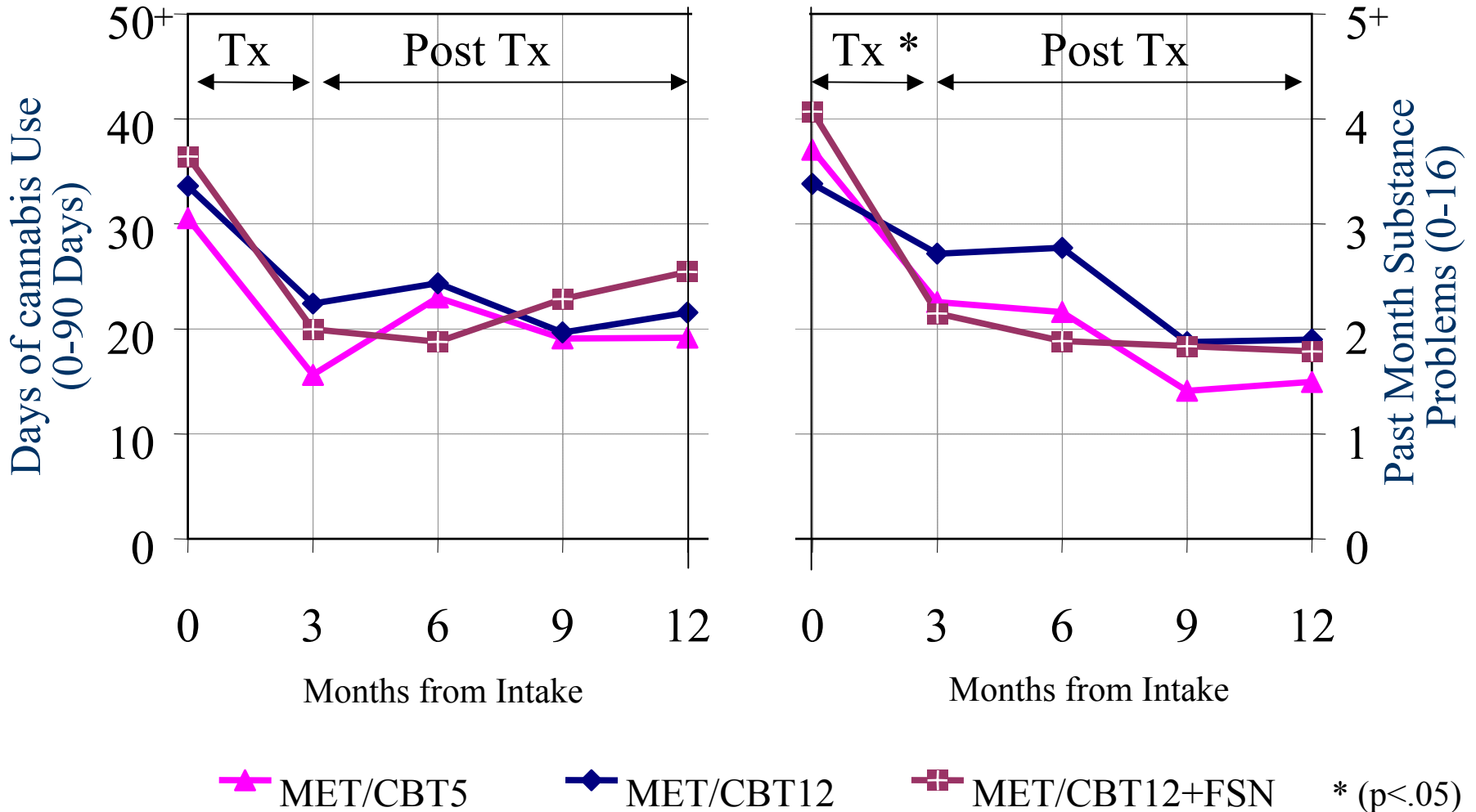
# Actual Treatment Received by Condition



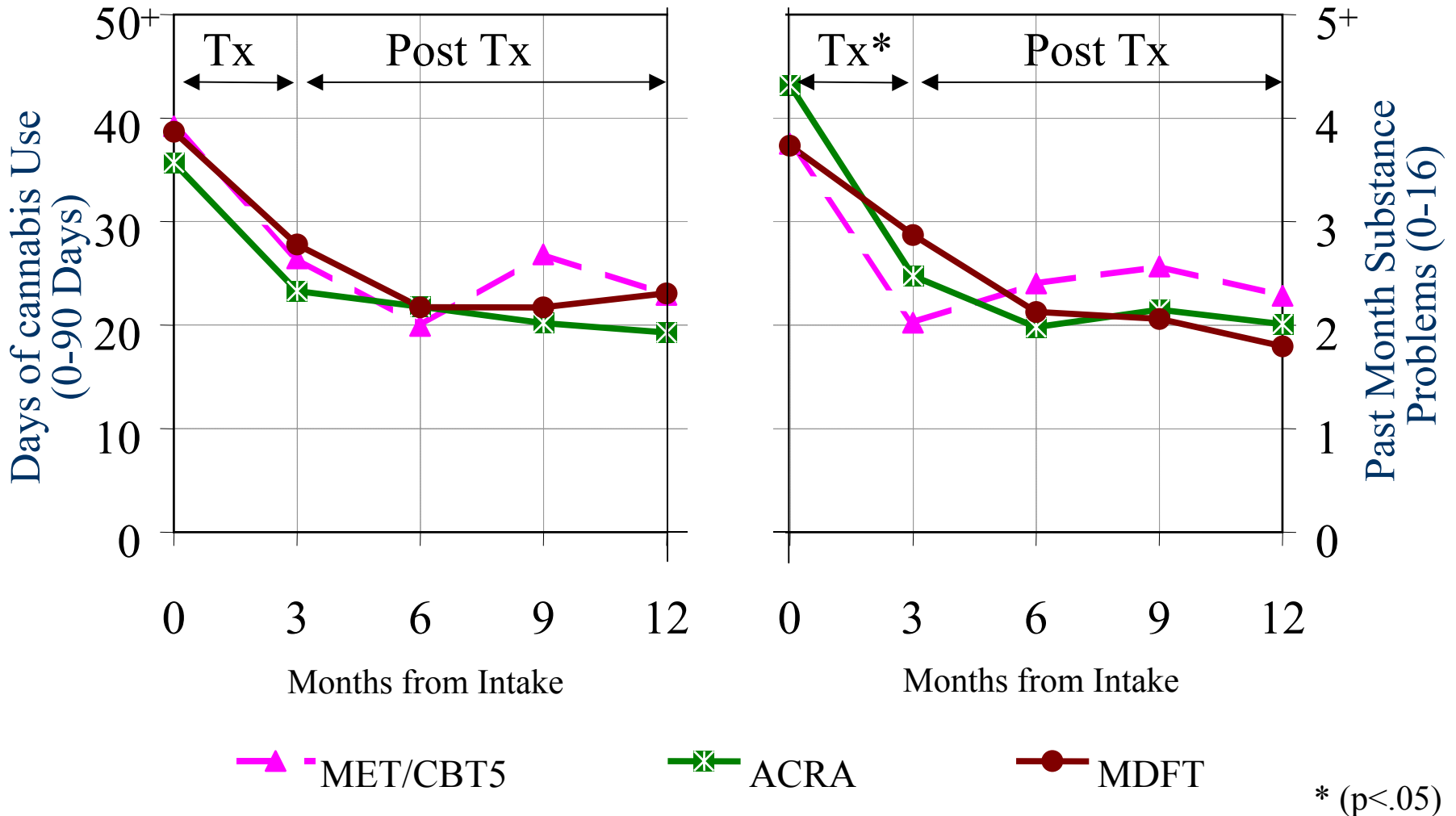
# Implementation of Evaluation

- Over 85% of eligible families agreed to participate
- Quarterly follow-up of 94 to 98% of the adolescents from 3- to 12-months (88% all five interviews)
- Collateral interviews and urine test data were obtained at intake, 3- and 6-months on over 85% (90% of the adolescents who were not incarcerated or interviewed by phone)
- Over 90% completion in a 30-month and 42-month follow-up currently underway (% of those due)
- Design, validation, characteristics, matching, clinical contrast, treatment manuals, therapist reactions and cost paper already in press
- Clinical supervision, main findings and benefit-cost paper under review

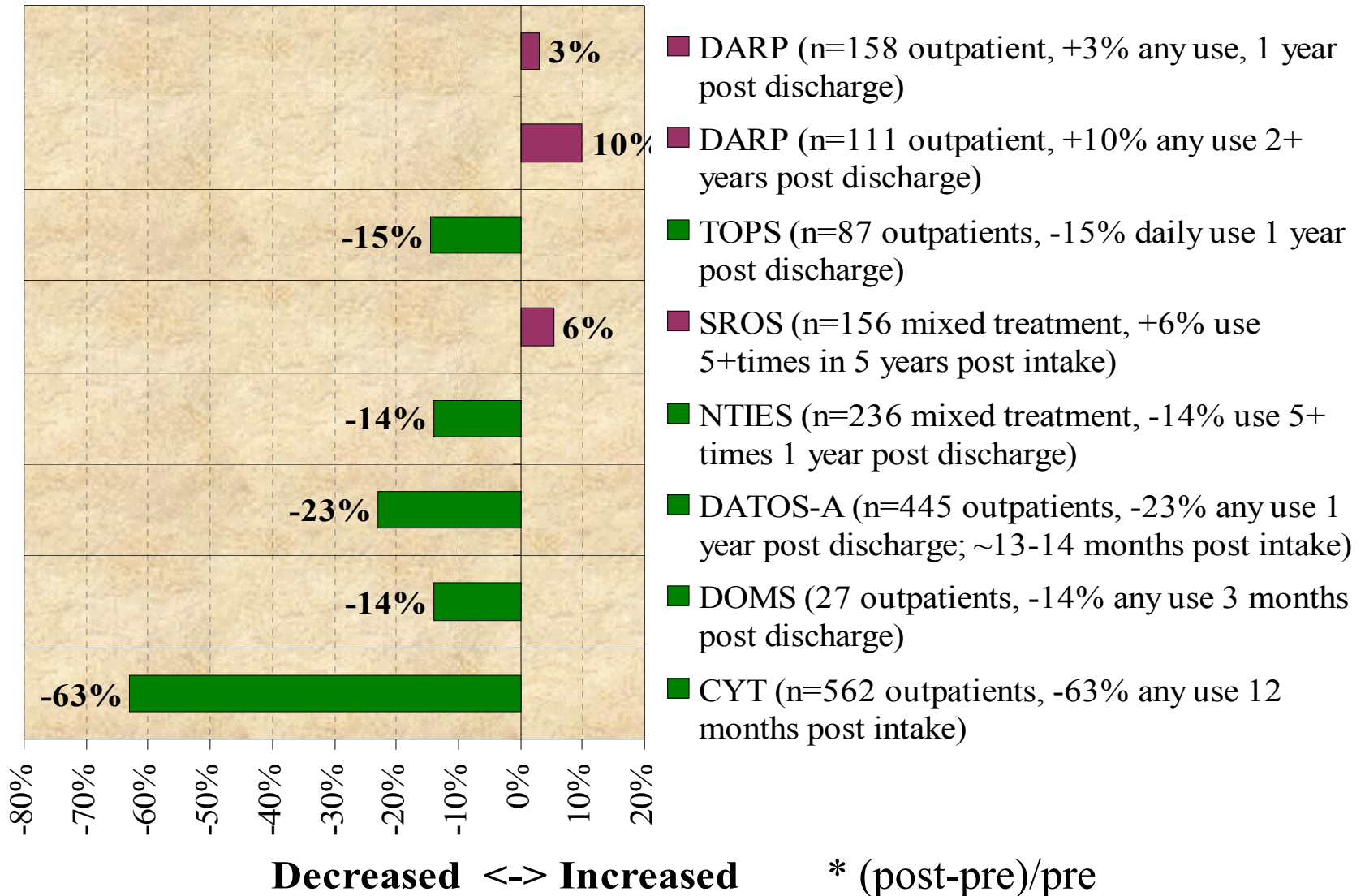
# Incremental Arm Outcomes: Does Dosage Matter?



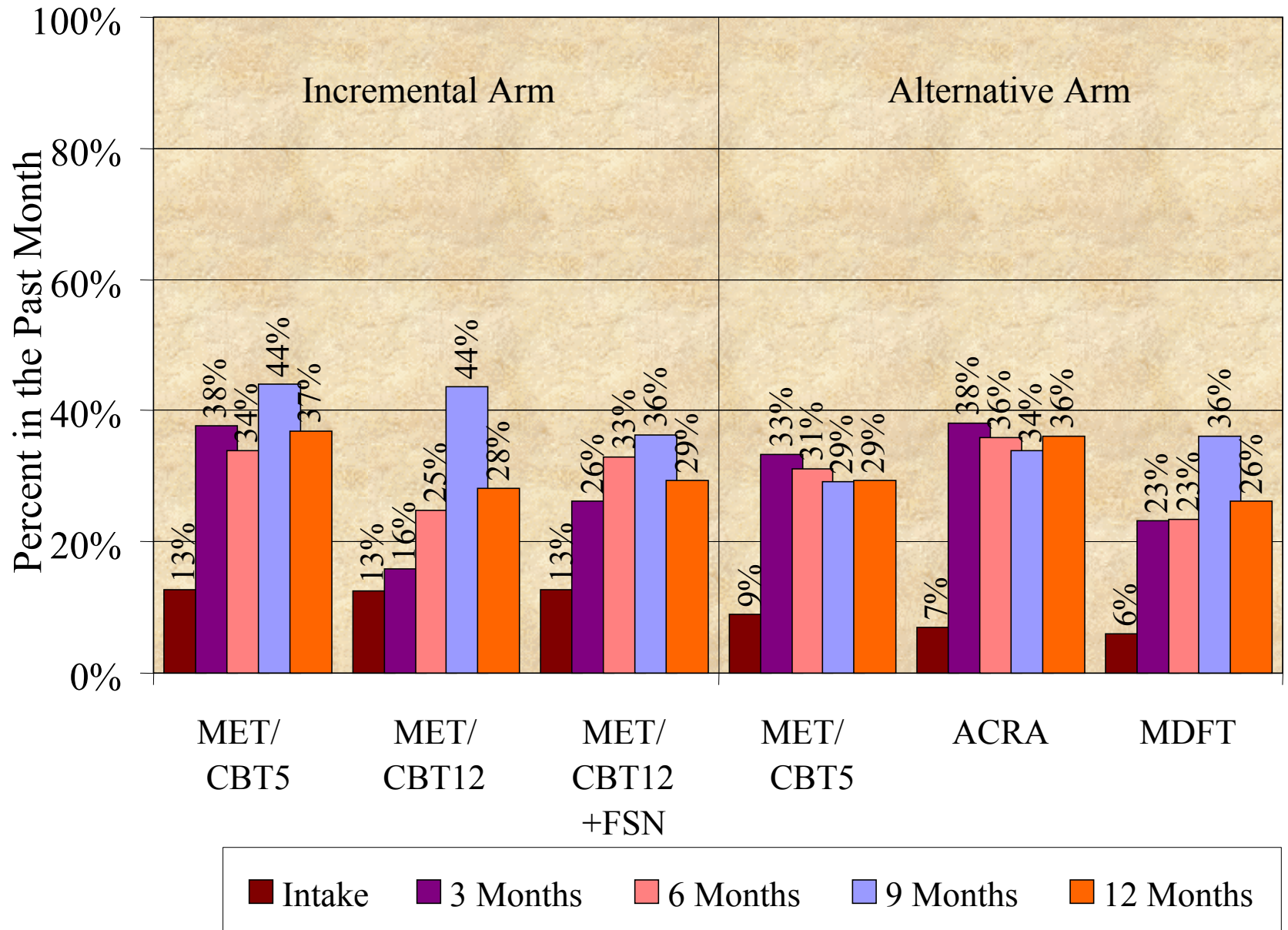
# Alternative Arm Outcomes: Does Treatment Type Matter?



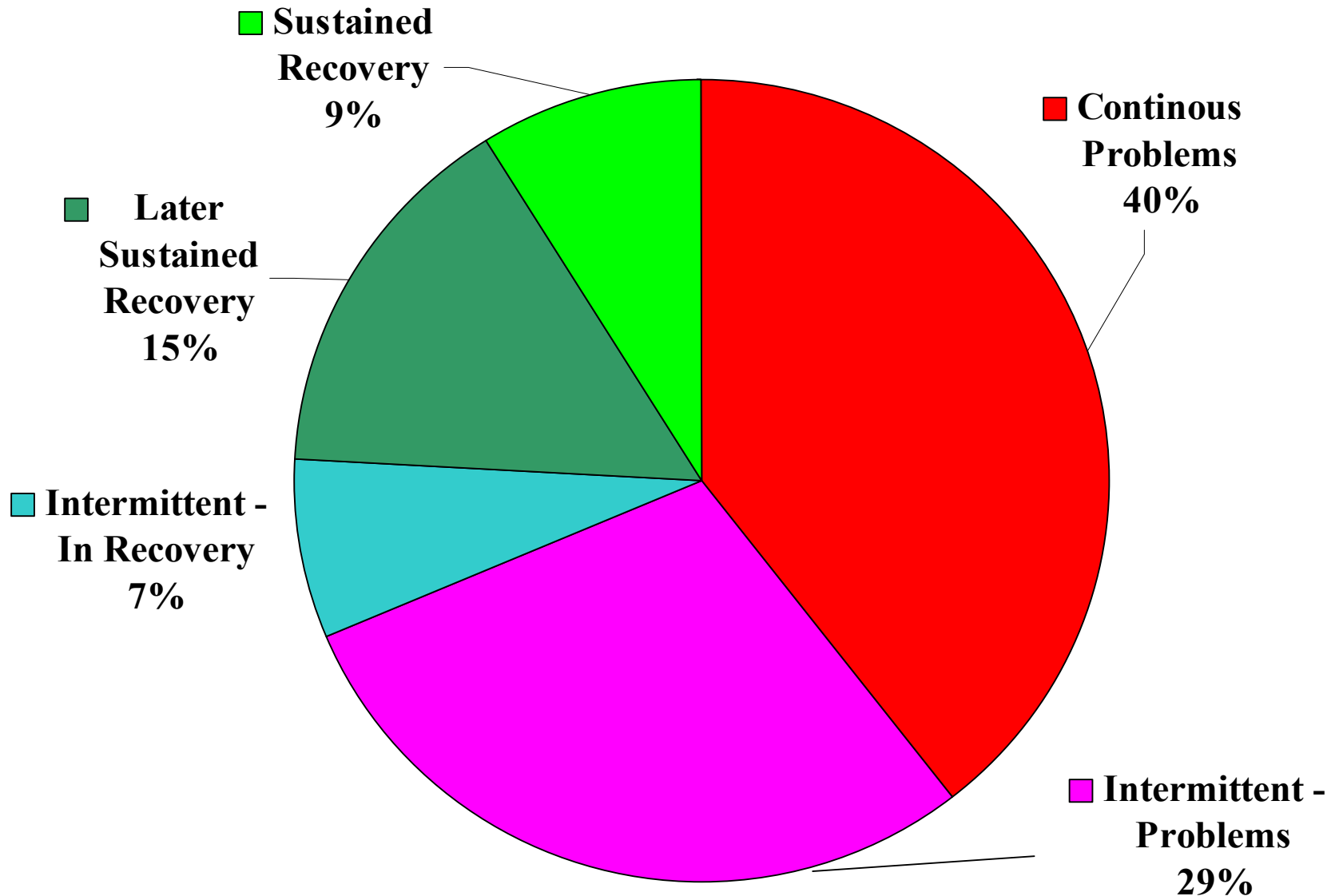
# While There is Still Room for Improvement, Effectiveness\* Does Appear to be Improving



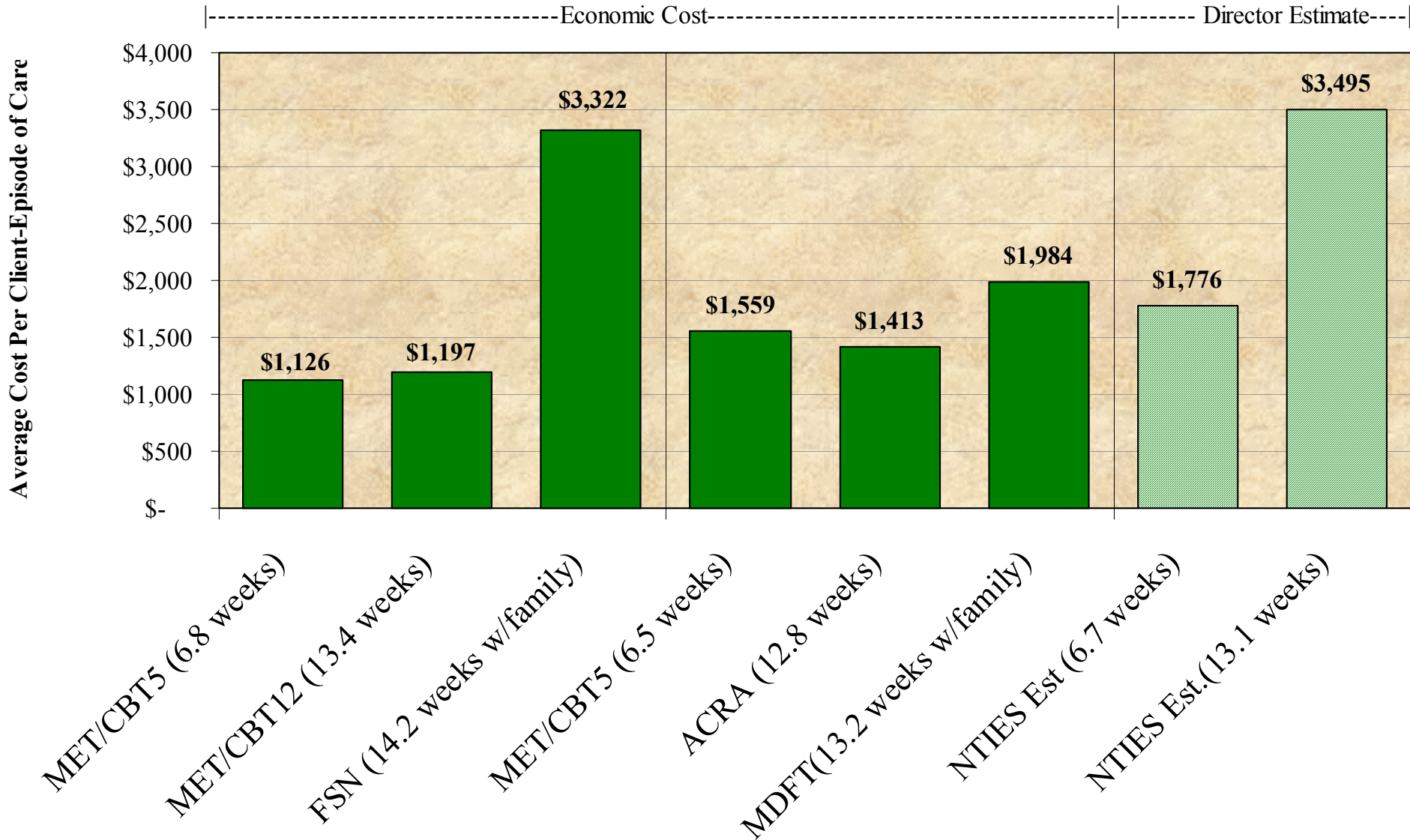
# Recovery by Intervention and Arm



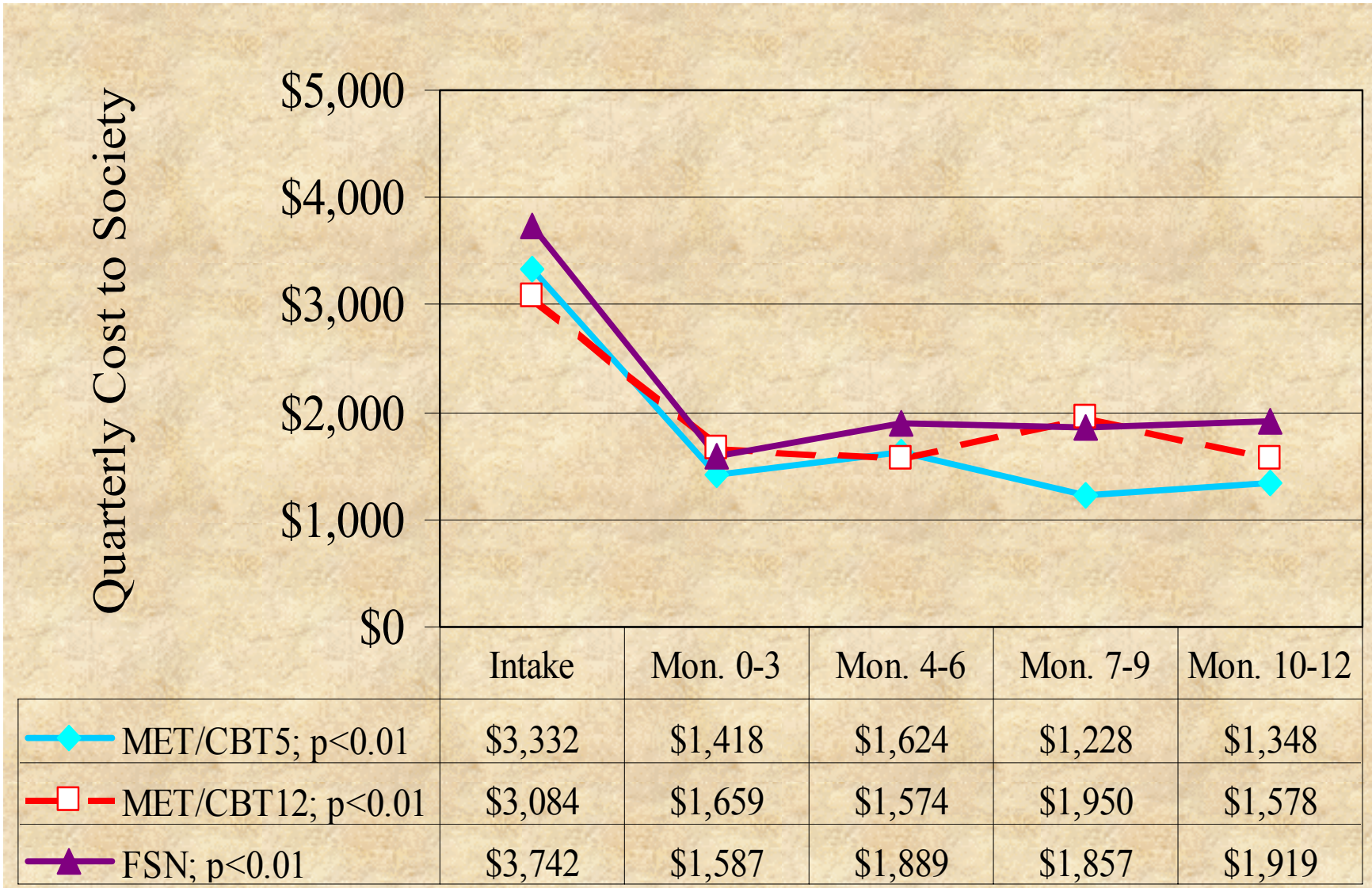
# Cumulative Recovery Pattern From Discharge to Month 12



# Average Episode Cost (\$US) of Treatment

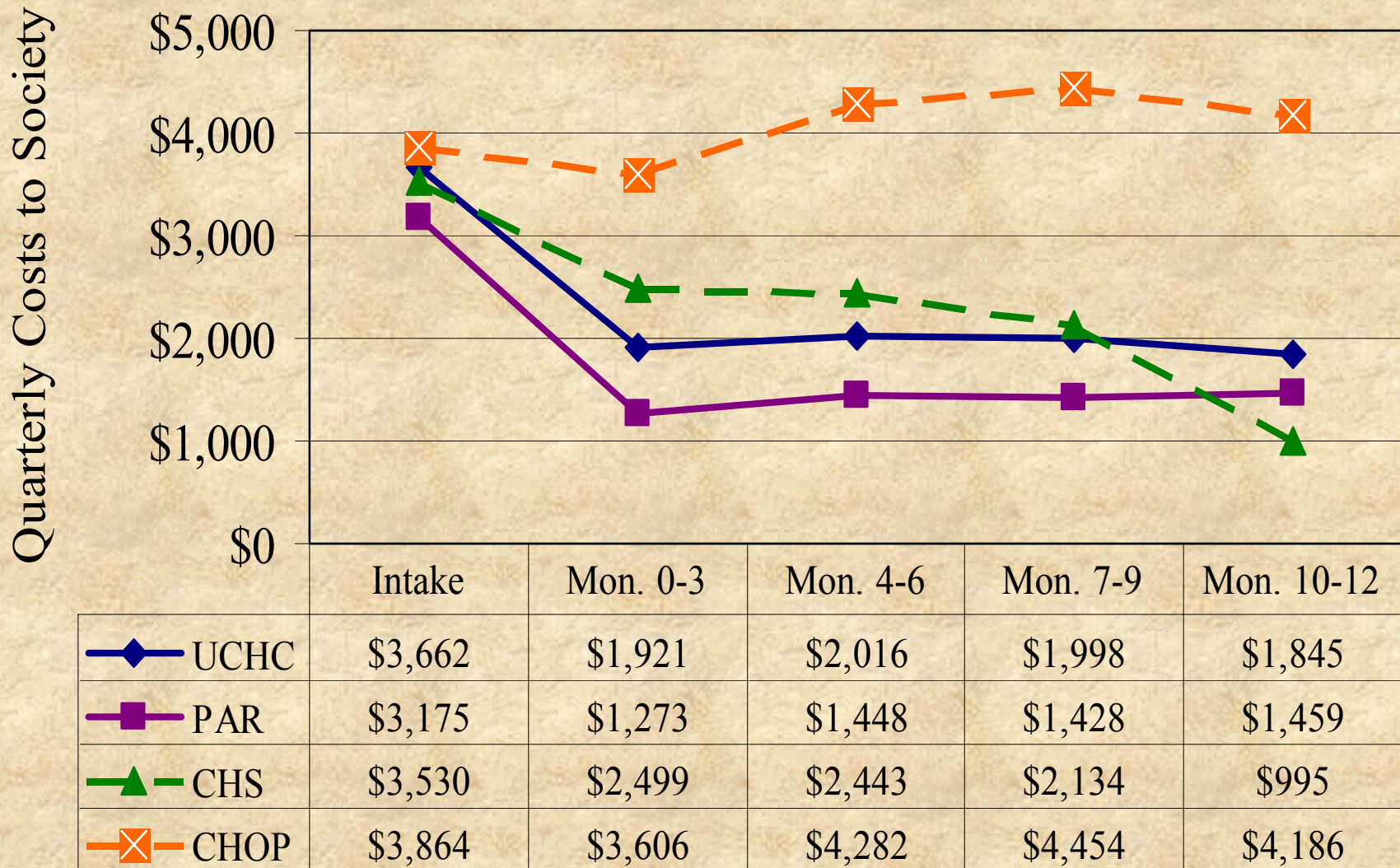


# Average Cost of Drug Abuse Consequences over Time by Condition: CYT Incremental Arm



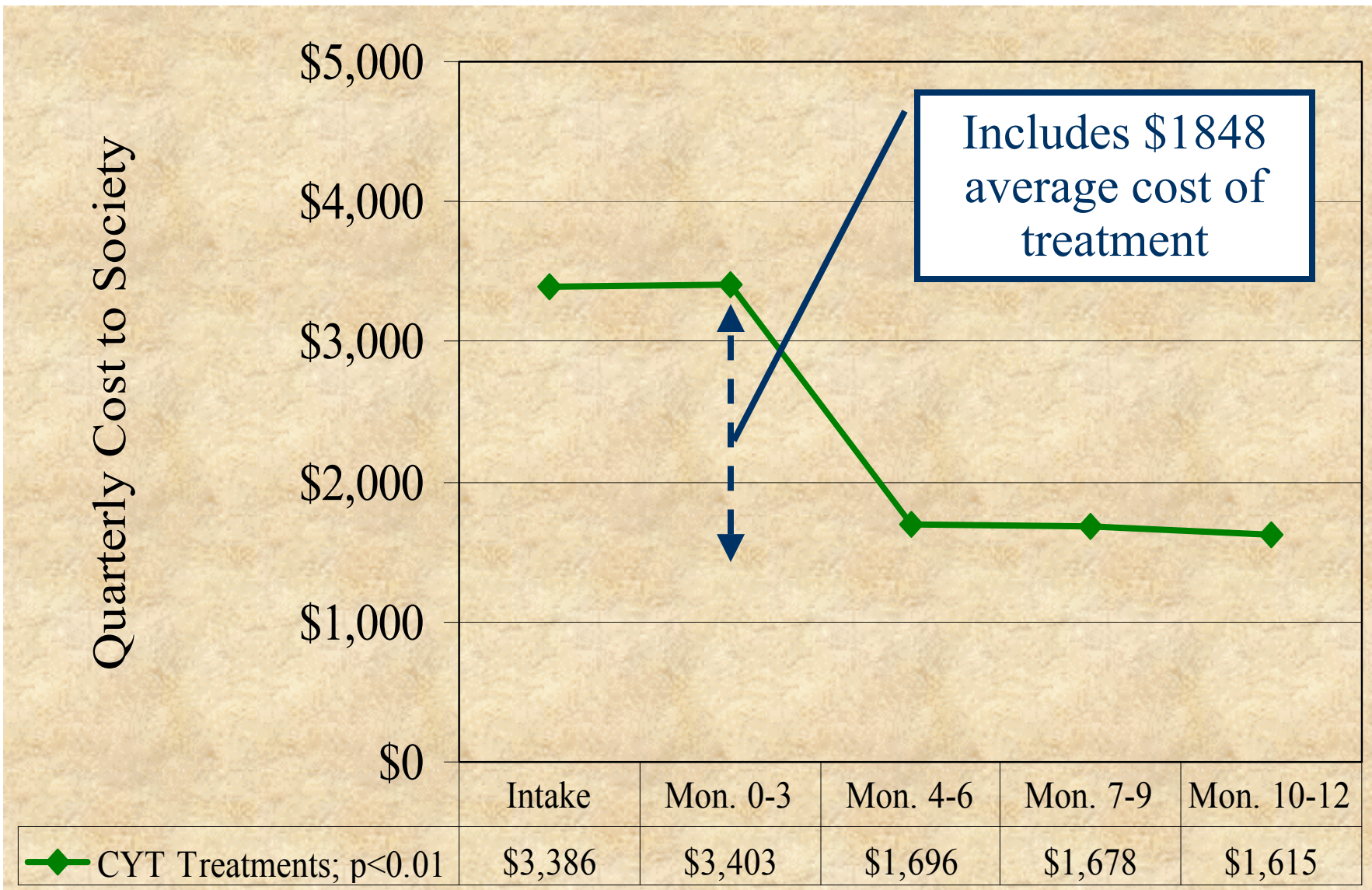
Source: Cannabis Youth Treatment (CYT) study

# Average Cost of Drug Abuse Consequences over Time by CYT Site



Source: Cannabis Youth Treatment (CYT) study

# Treatment is Cost Beneficial



Source: Cannabis Youth Treatment (CYT) study

# Reprise

- Co-occurring problems were the norm and varied with substance use severity.
- Neither dosage or type of treatment produced clear advantages.
- While more effective than many earlier outpatient treatments, over 2/3rds of the CYT adolescents were still having problems 12 months latter.
- The interventions were successful and affordable in a wide range of settings.
- The initial costs of treatment were quickly offset by reductions in other costs to society.
- Most of the change in problems and costs to society occurred during the active treatment phase and was sustained out to 12 months.

# Implications



- Adapting manual guided therapies for adolescents improves the effectiveness of treatment.
- The CYT interventions provide replicable models to help the field maintain quality while expanding treatment capacity.
- While a good start, the CYT interventions were not an adequate dose of treatment for the majority of adolescents.
- More work needs to be done on providing a continuum of care and on going recovery management.

# Contact Information



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**Manuals and Additional Information are Available at:**

CYT: [www.chestnut.org/li/cyt/findings](http://www.chestnut.org/li/cyt/findings)

NCADI: [www.health.org/govpubs/bkd384/](http://www.health.org/govpubs/bkd384/)

PETSA: [www.samhsa.gov/centers/csat/csat.html](http://www.samhsa.gov/centers/csat/csat.html)

(then select PETS from program resources)