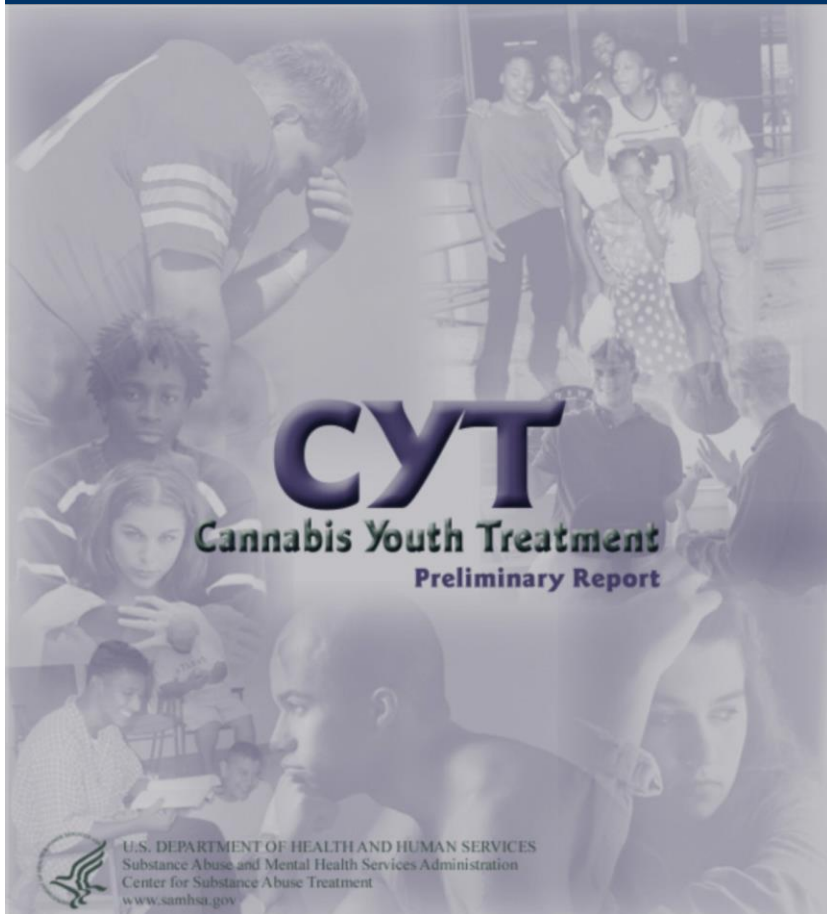


Cannabis Youth Treatment Experiment: 12 and 30 Month Main Findings

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CYT Steering Committee)**
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Meeting, June 13, 2003, Bal Harbour,
Florida. Available from author at
www.chestnut.org/li/posters,
mdennis@chestnut.org or 309-827-6026.*

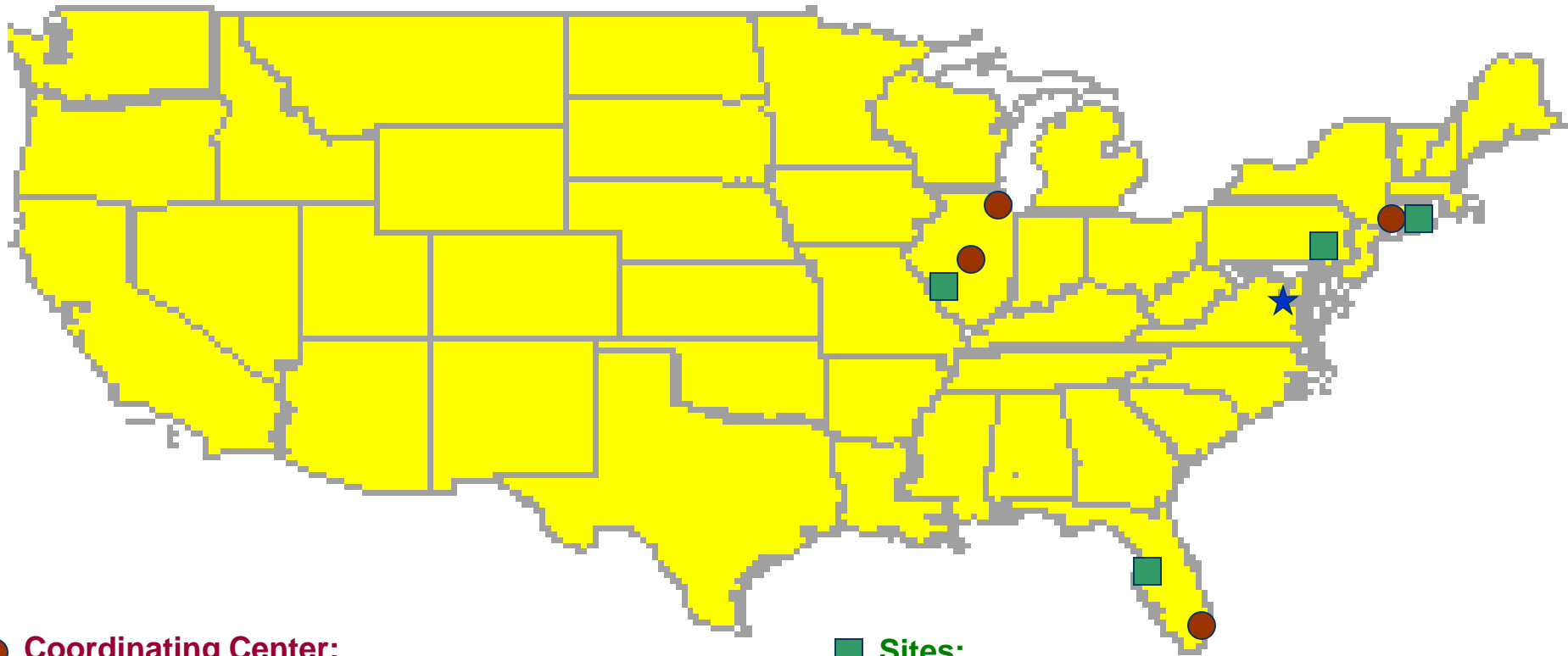


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CYT

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

Marijuana

- 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

Treatment

- 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
- Over 75% receive less than 90 days of treatment (median of 6 weeks)
- Evaluations of existing adolescent outpatient treatment suggest that less than 90 days of outpatient treatment is rarely effective for reducing marijuana use.

Purpose of CYT

- 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 1.5 to 3 month adolescent outpatient treatment programs in medical centers or community based settings.
- To field test 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



- **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 for 12 months
- **Long Term Follow-up:** under a supplement from PETSA follow-up was extended to 30 months (42 for a subsample)

Two Experiments or Study Arms

Experiment 1 Incremental Arm

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)

Experiment 2 Alternative Arm

Randomly Assigns to:

MET/CBT5

Motivational Enhancement Therapy/
Cognitive Behavioral Therapy (5 weeks)

ACRA

Adolescent Community
Reinforcement Approach(12 weeks)

MDFT

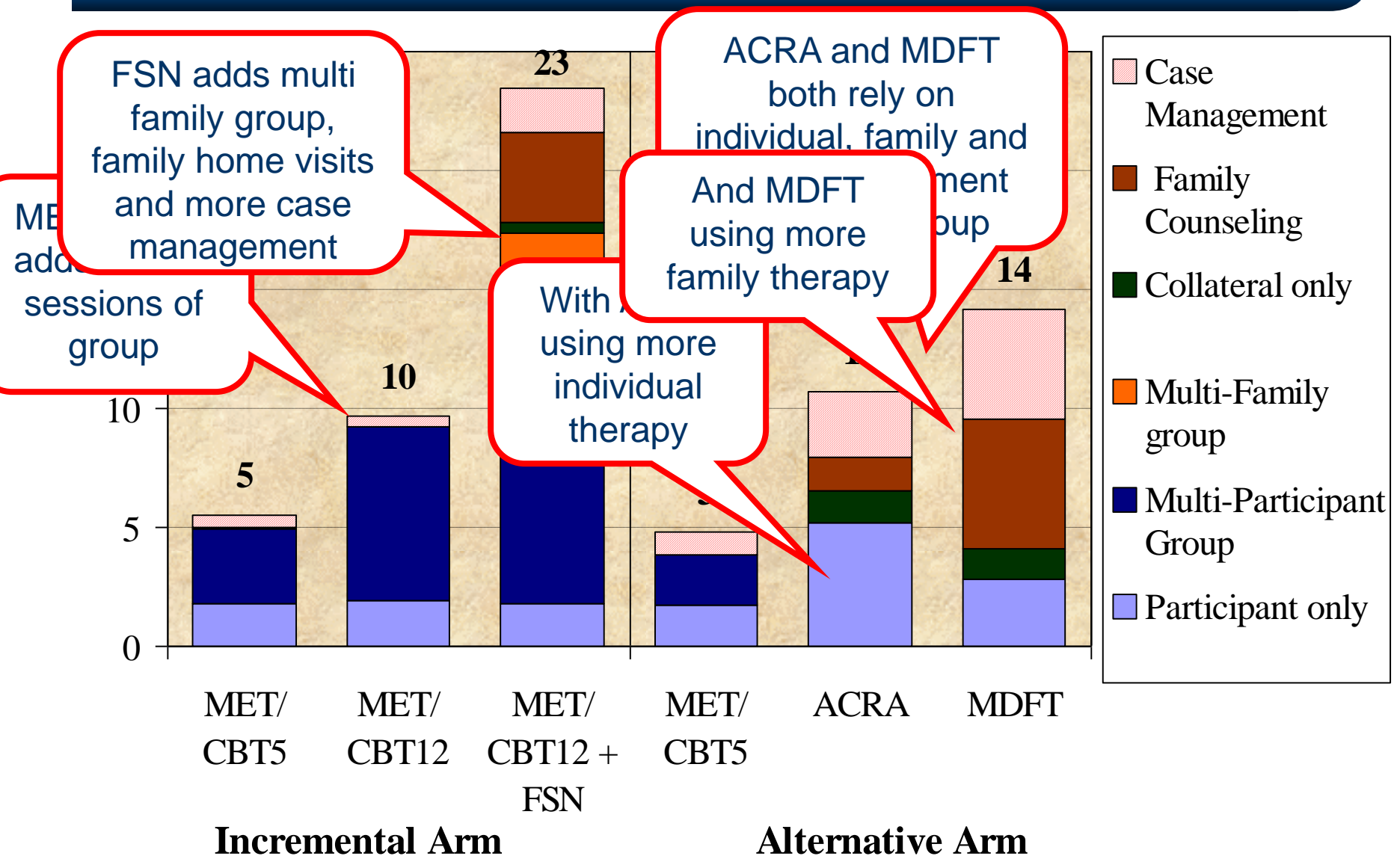
Multidimensional Family Therapy
(12 weeks)

Contrast of the Treatment Structures

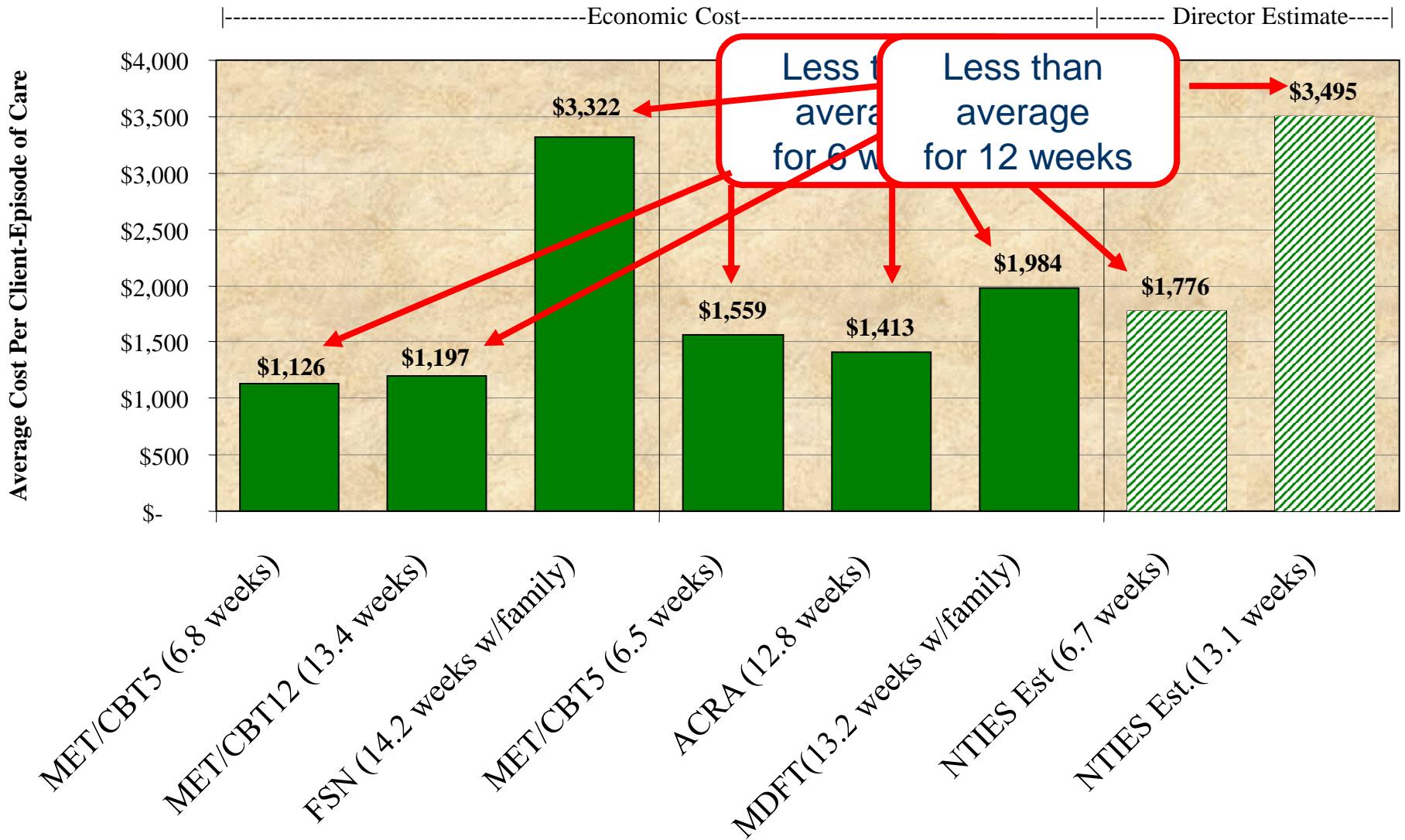
Type of Service	MET/ CBT5	MET/ CBT12	FSN	ACRA	MDFT
Individual Adolescent Sessions	2	2	2	10	6
CBT Group Sessions	3	10	10		
Individual Parent Sessions				2	3
Family Sessions/Home Visits			4	2	6
Parent Education Sessions			6		
Total Formal Sessions	5	12	22	14	15
Case management/ Other Contacts			As needed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

Source: *Diamond et al, 2002*

Actual Treatment Received by Condition



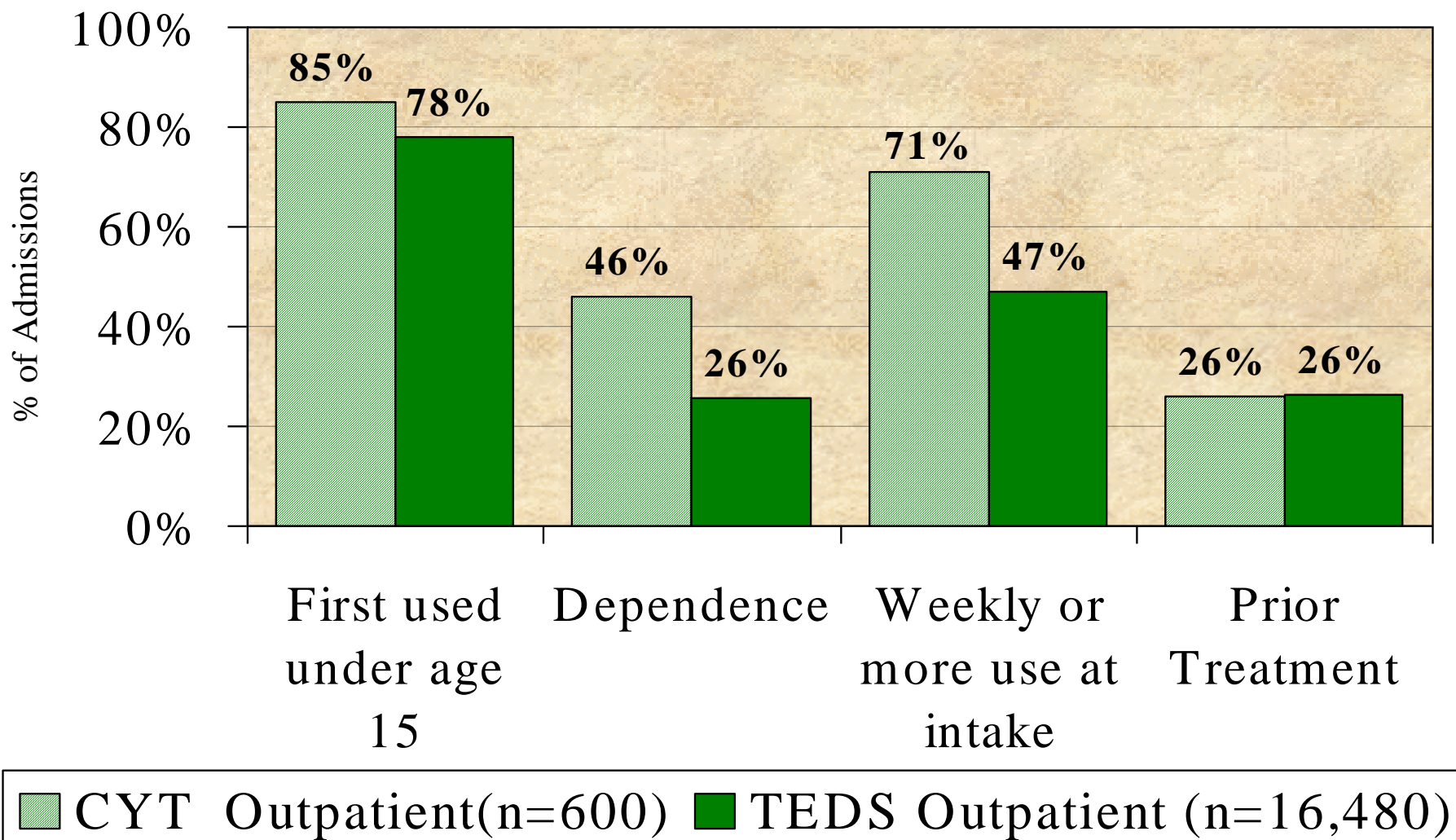
Average Episode Cost (\$US) of Treatment



Implementation of Evaluation

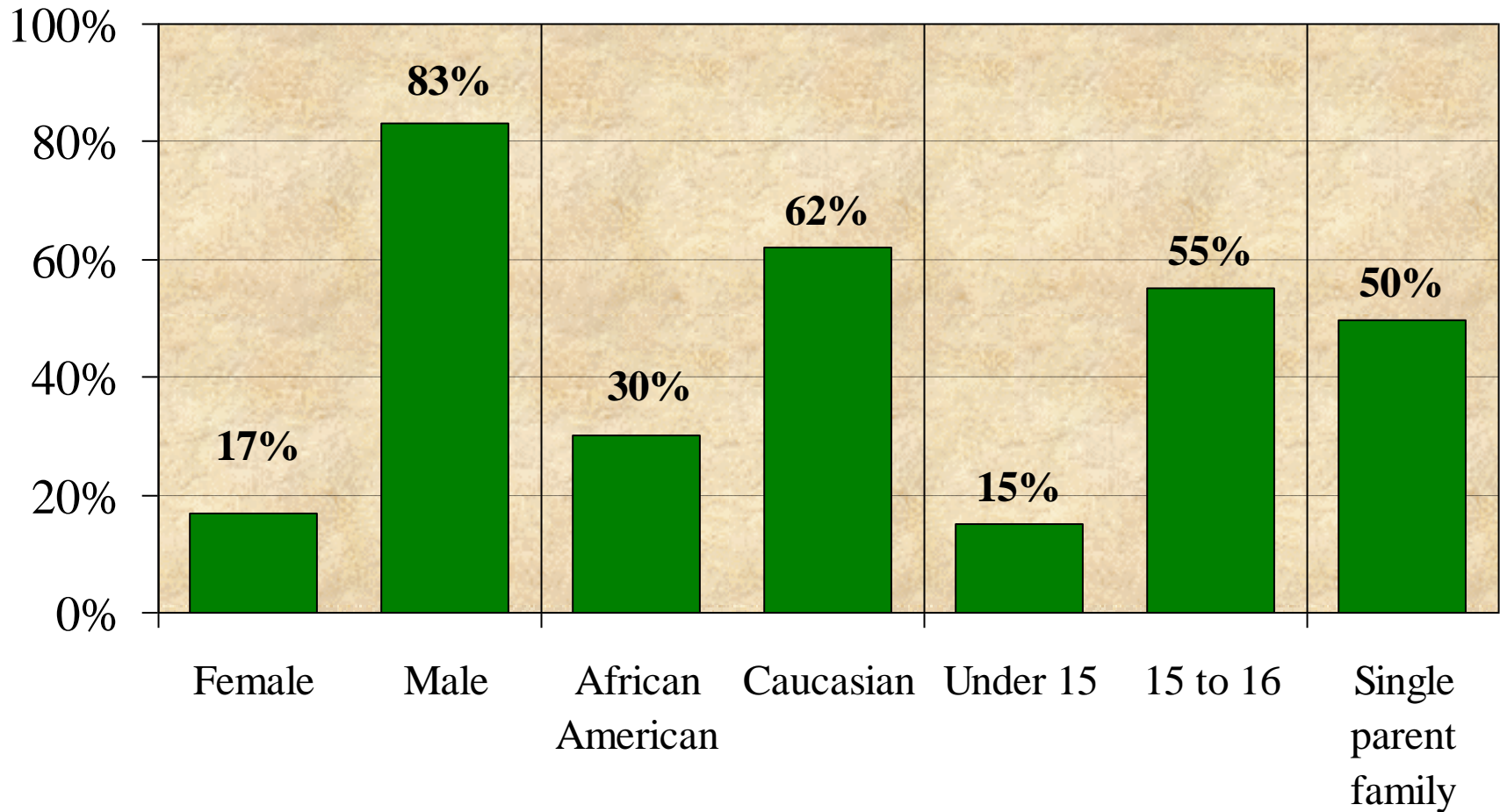
- Over 85% of eligible families agreed to participate
- Quarterly follow-up of 94 to 98% of the adolescents from 3- to 12-months (88% all five interviews)
- Long term follow-up completed on 90% at 30-months and 91% (of 116 subsample) at 42-months
- Collateral interviews were obtained at intake, 3- and 6-months on over 92-100% of the adolescents interviewed
- Urine test data were obtained at intake, 3, 6, 30 and 42 months 90-100% of the adolescents who were not incarcerated or interviewed by phone (85% or more of all adolescents).
- Self report marijuana use largely in agreement with urine test at 30 months (13.8% false negative, kappa=.63)
- 5 Treatment manuals drafted, field tested, revised, send out for field review, and finalized (10-30,000 copies of each already printed and distributed)
- Descriptive, outcome and economic analyses completed

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



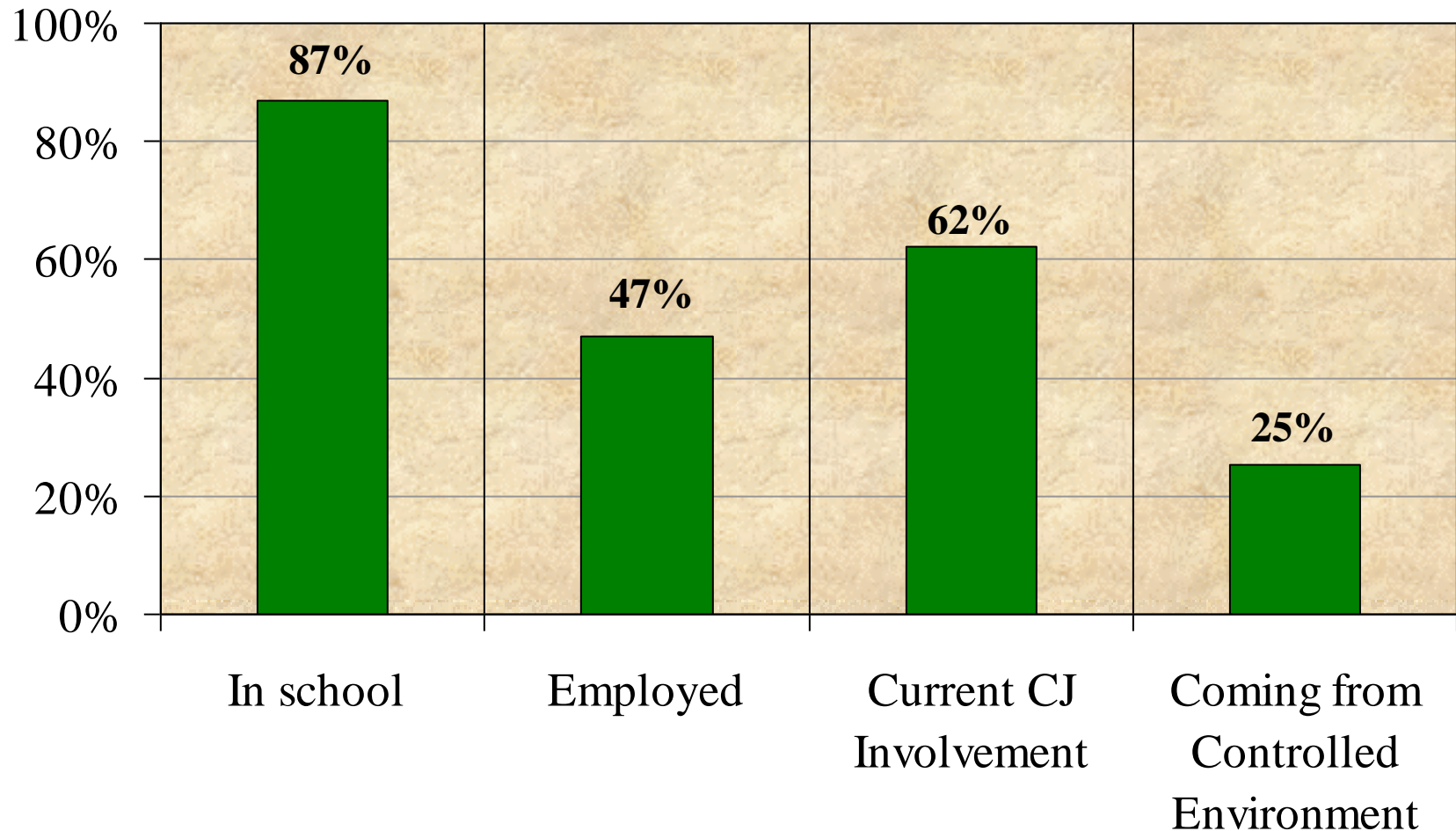
* Adolescents with marijuana problems admitted to outpatient treatment

Demographic Characteristics



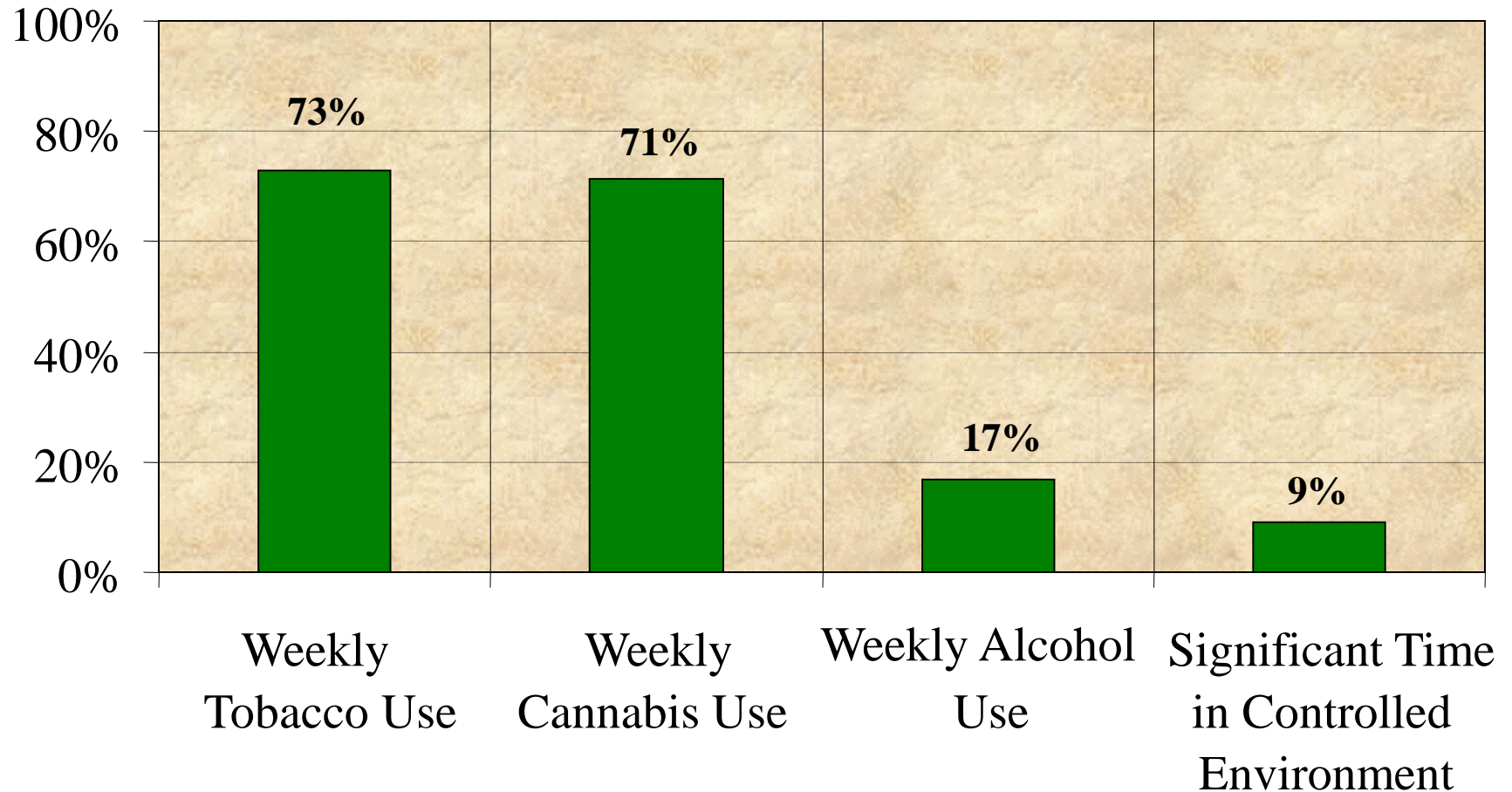
Source: Tims et al, 2002

Institutional Involvement



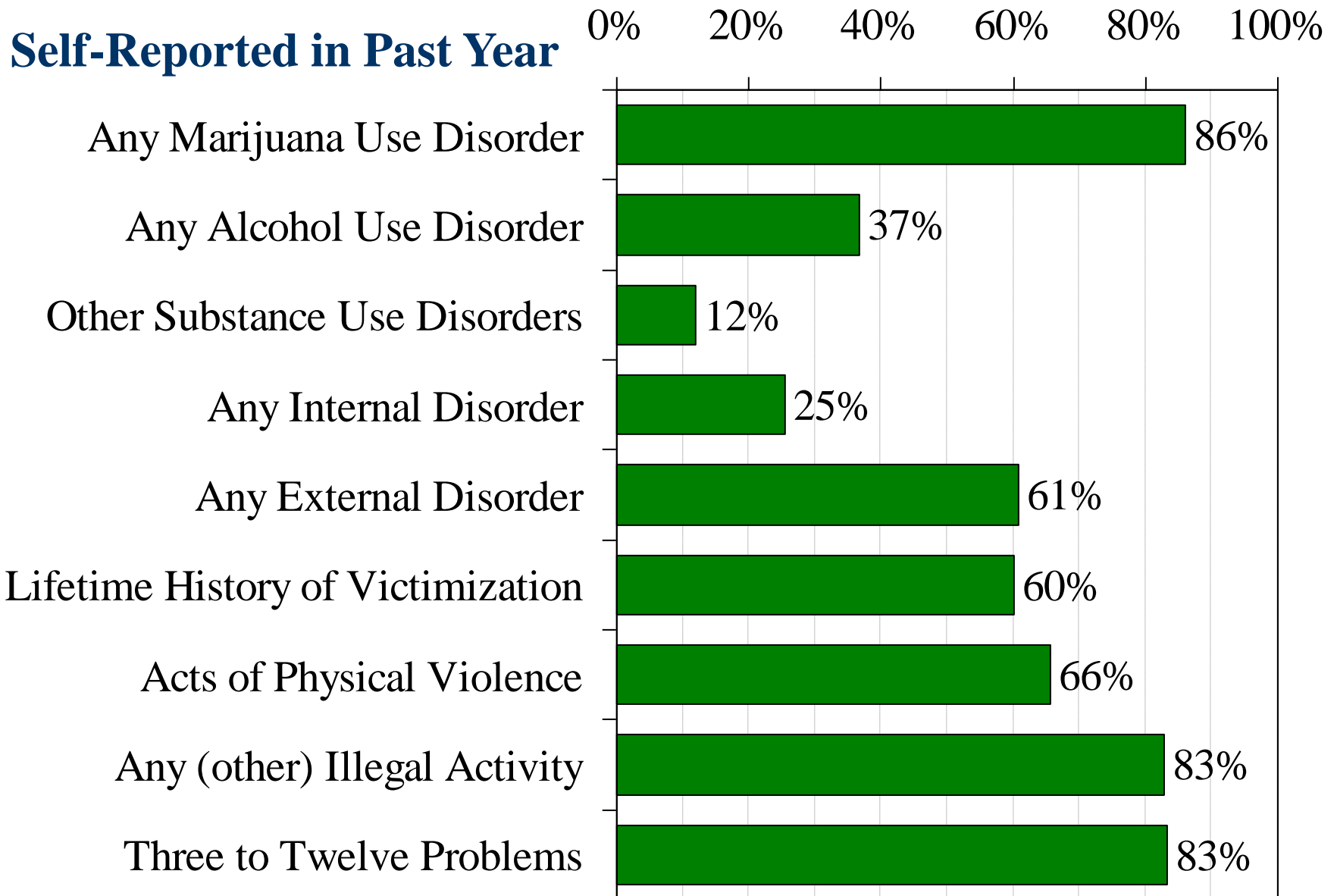
Source: *Tims et al, 2002*

Patterns of Substance Use



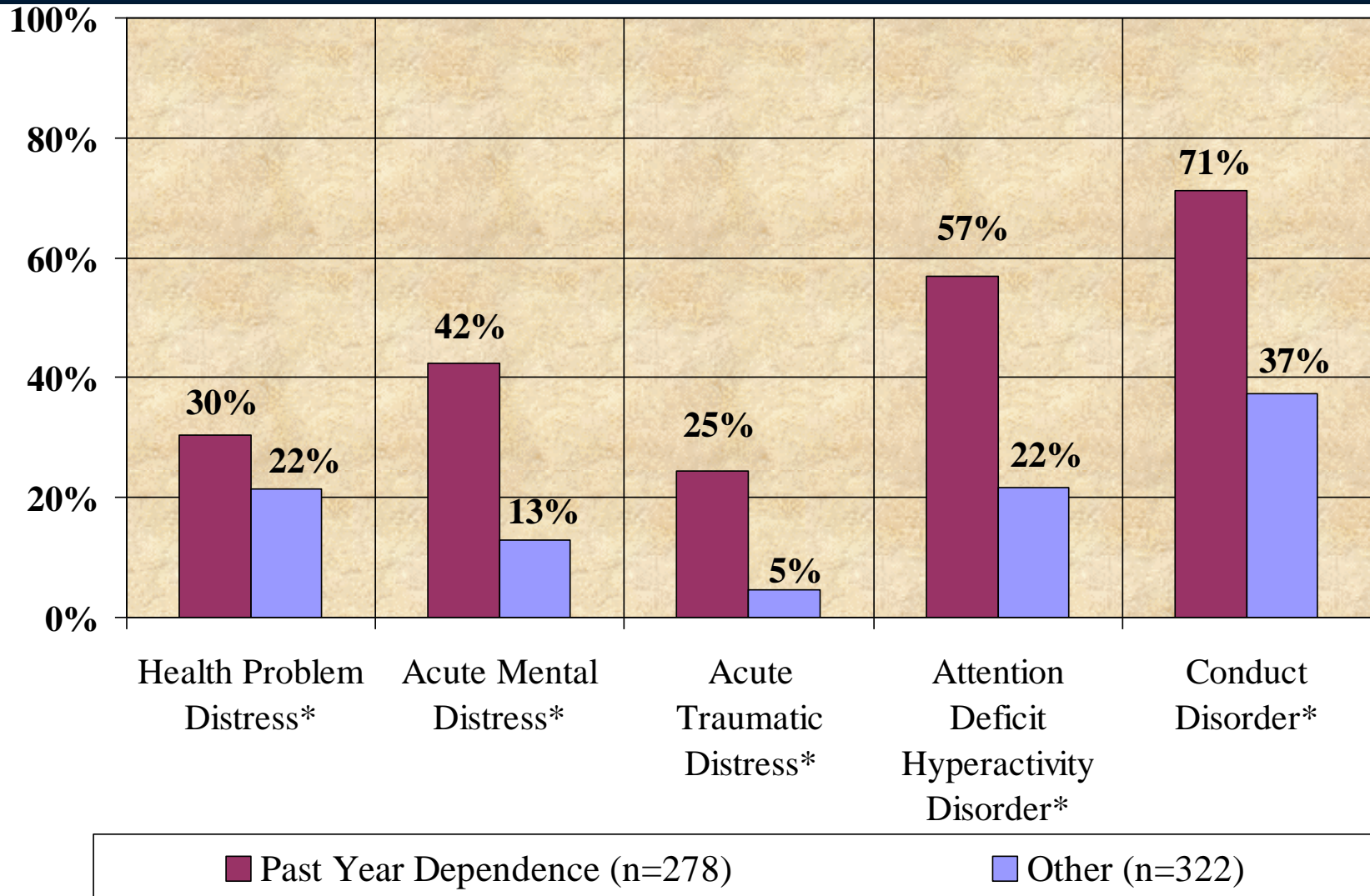
Source: Tims et al, 2002

Multiple Problems are the NORM



Source: Dennis et al, under review

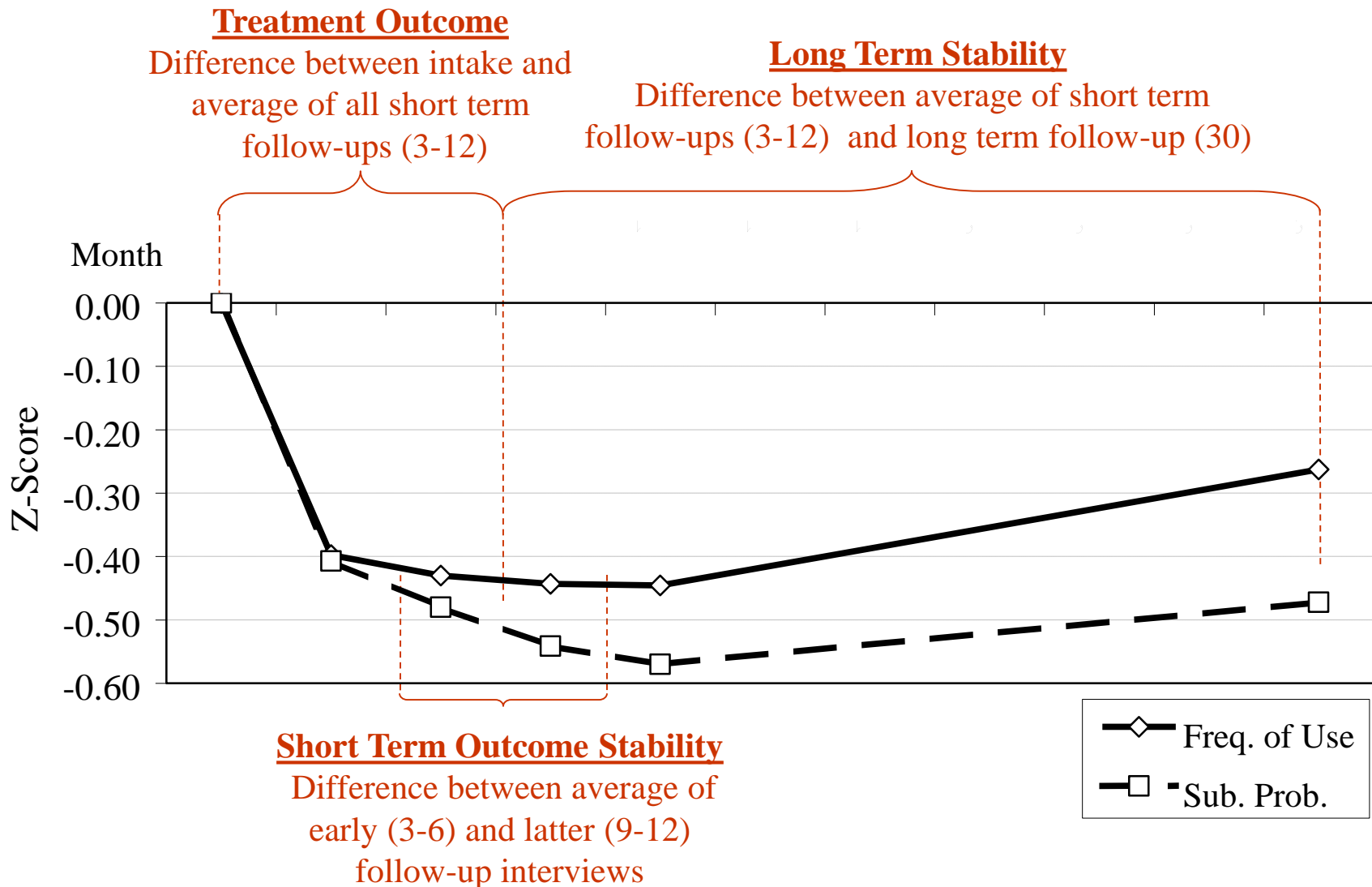
Co-occurring Problems are Higher for those Self-Reporting Past Year Dependence



Source: Tims et al., 2002

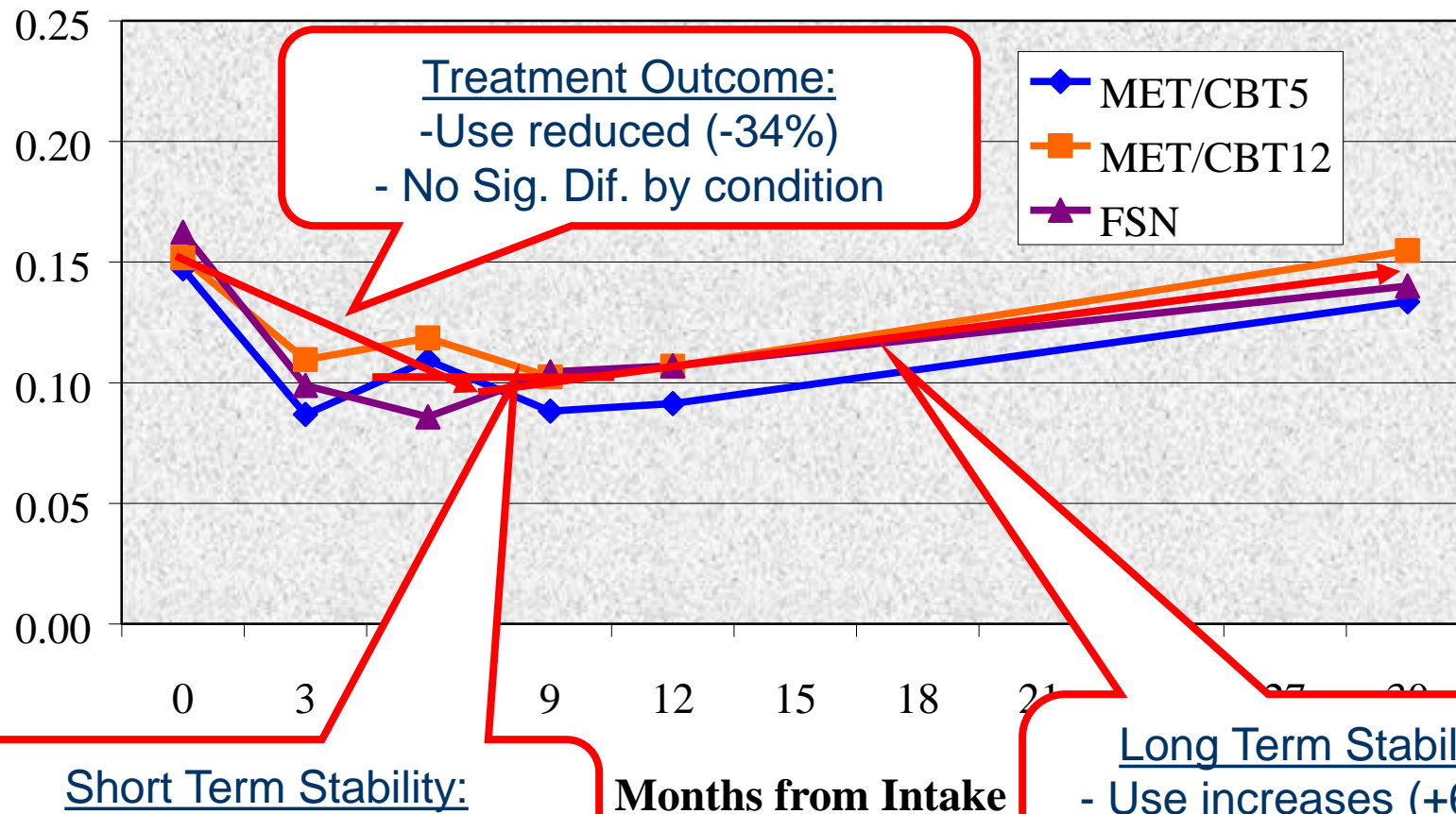
* p<.05

Evaluating the Effects of Treatment



Source: Dennis et al, under review, forthcoming

Change in Substance Frequency Scale in CYT Experiment 1: Incremental Arm

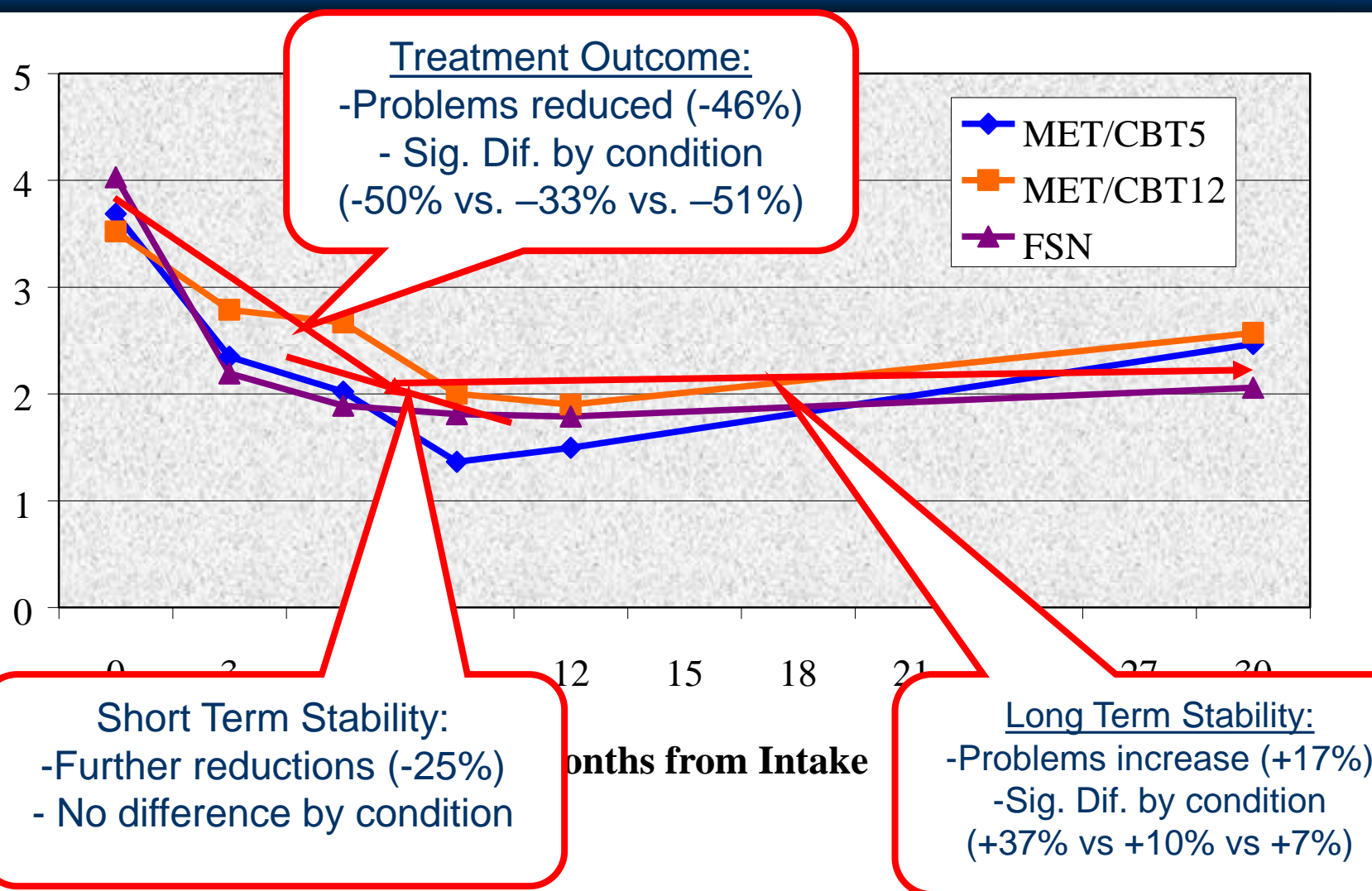


Treatment Outcome:
- Use reduced (-34%)
- No Sig. Dif. by condition

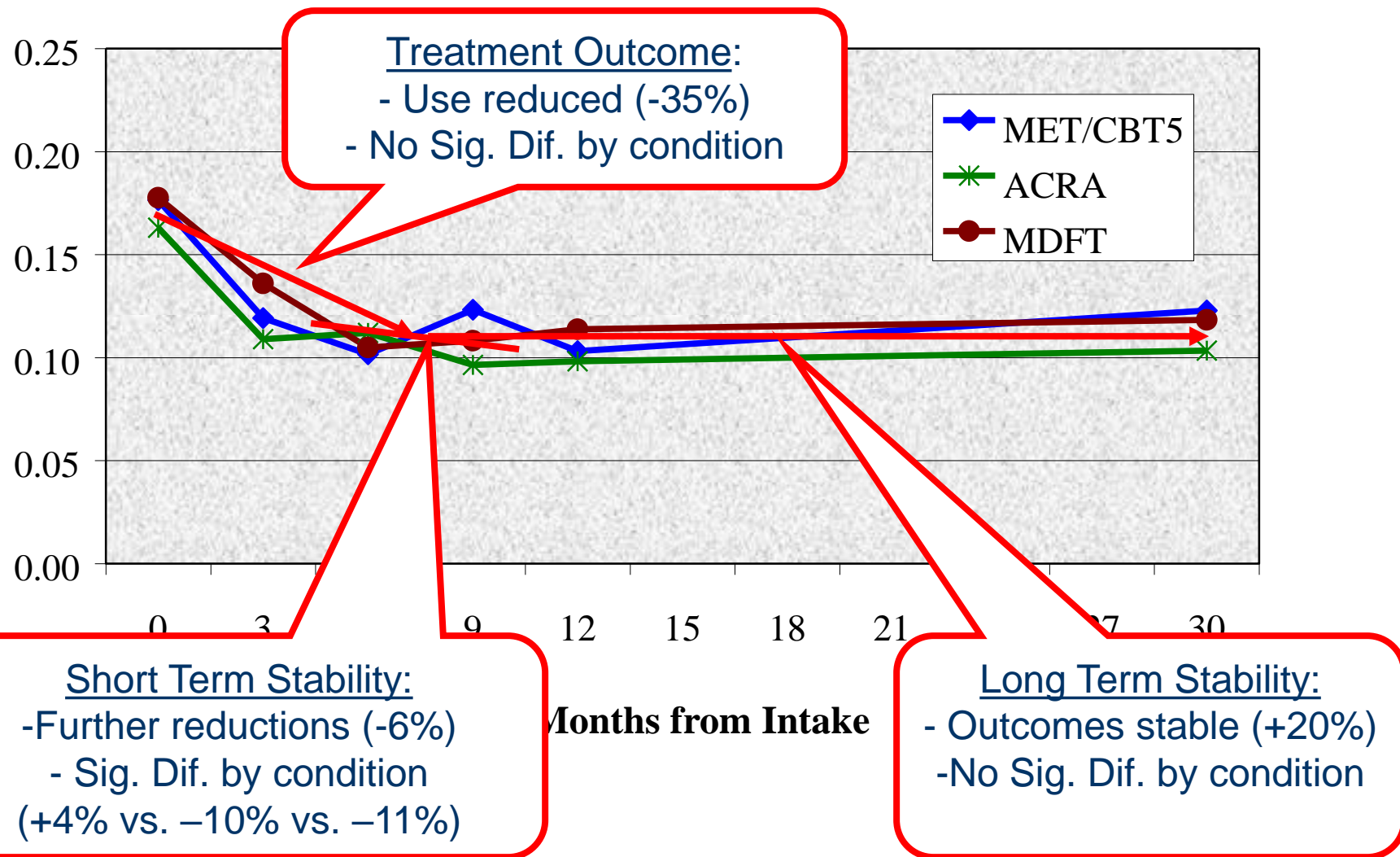
Short Term Stability:
- Outcomes stable (-1%)
- No Sig. Dif. by condition

Long Term Stability:
- Use increases (+64%)
- No Sig. Dif. by condition

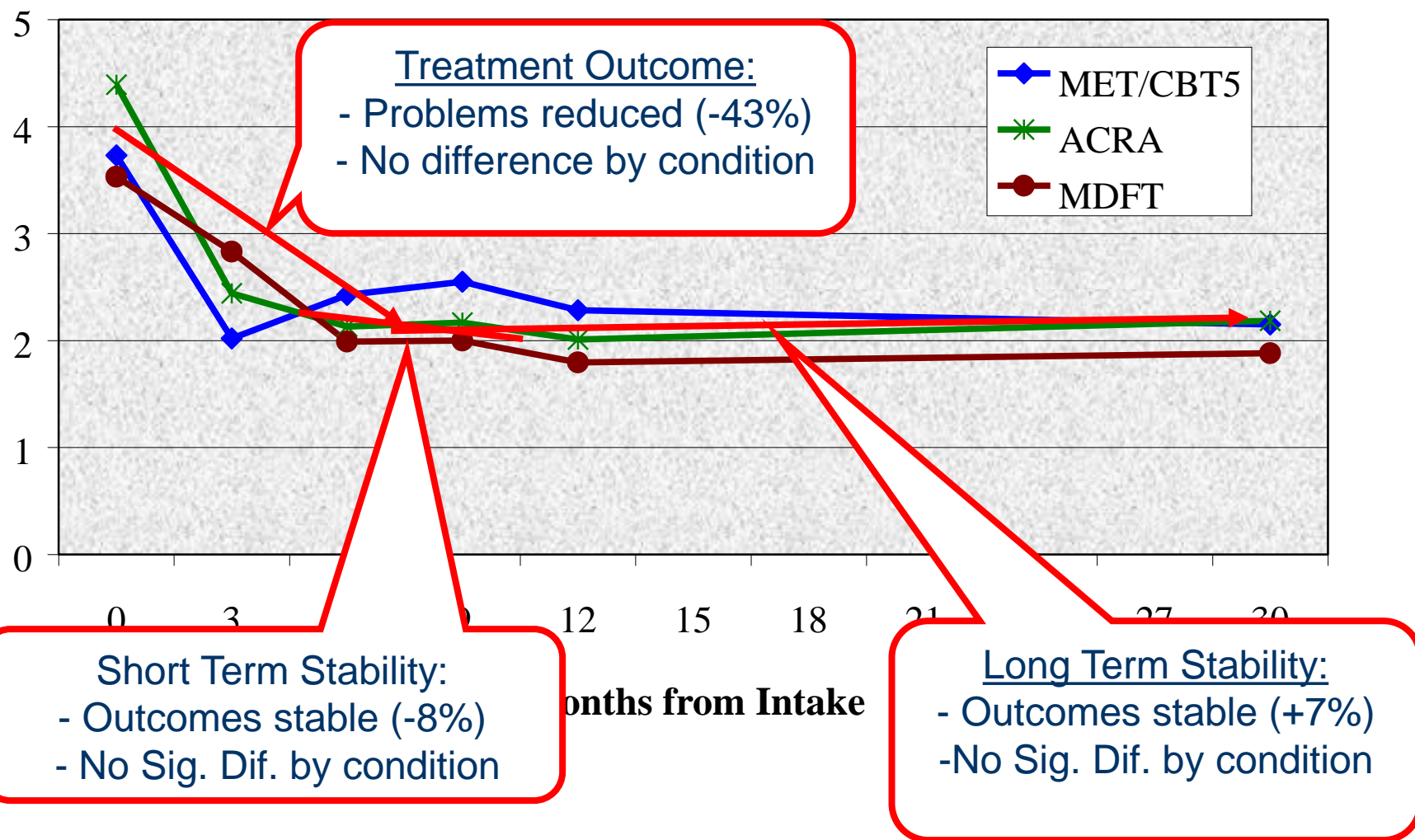
Change in Number of Substance Problems in CYT Experiment 1: Incremental Arm



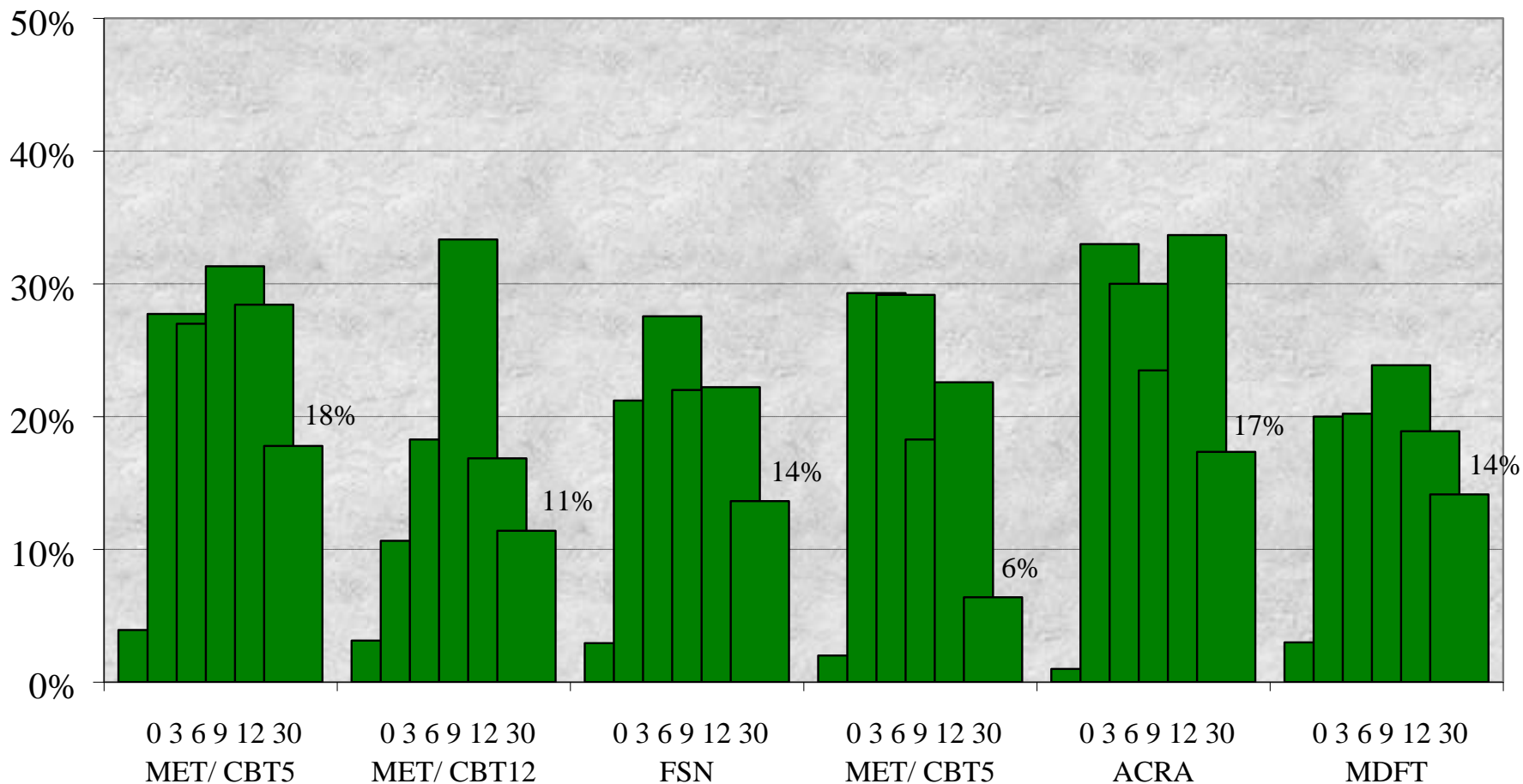
Change in Substance Frequency Scale in CYT Experiment 2: Alternative Arm



Change in Number of Substance Problems in CYT Experiment 2: Alternative Arm

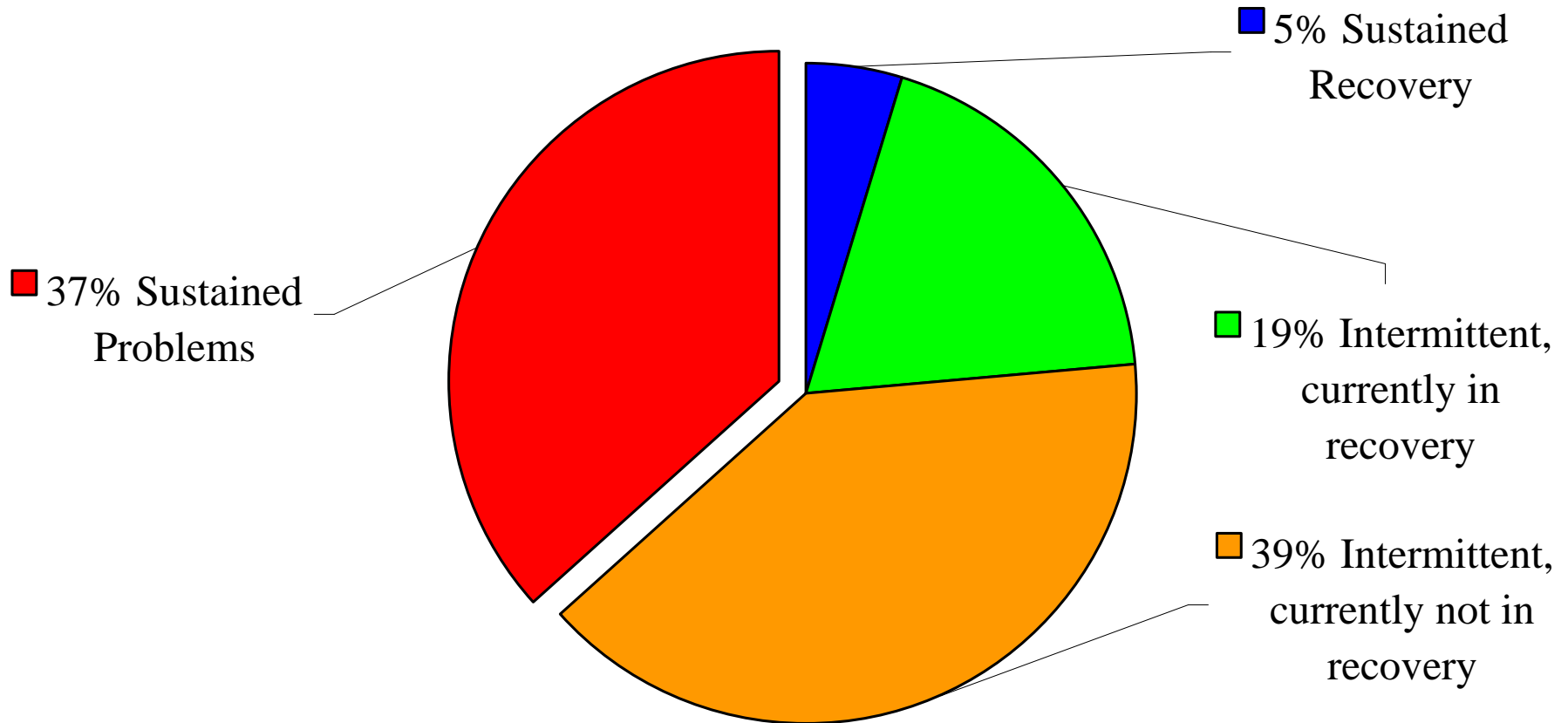


Percent in Past Month Recovery (no use or problems while living in the community)

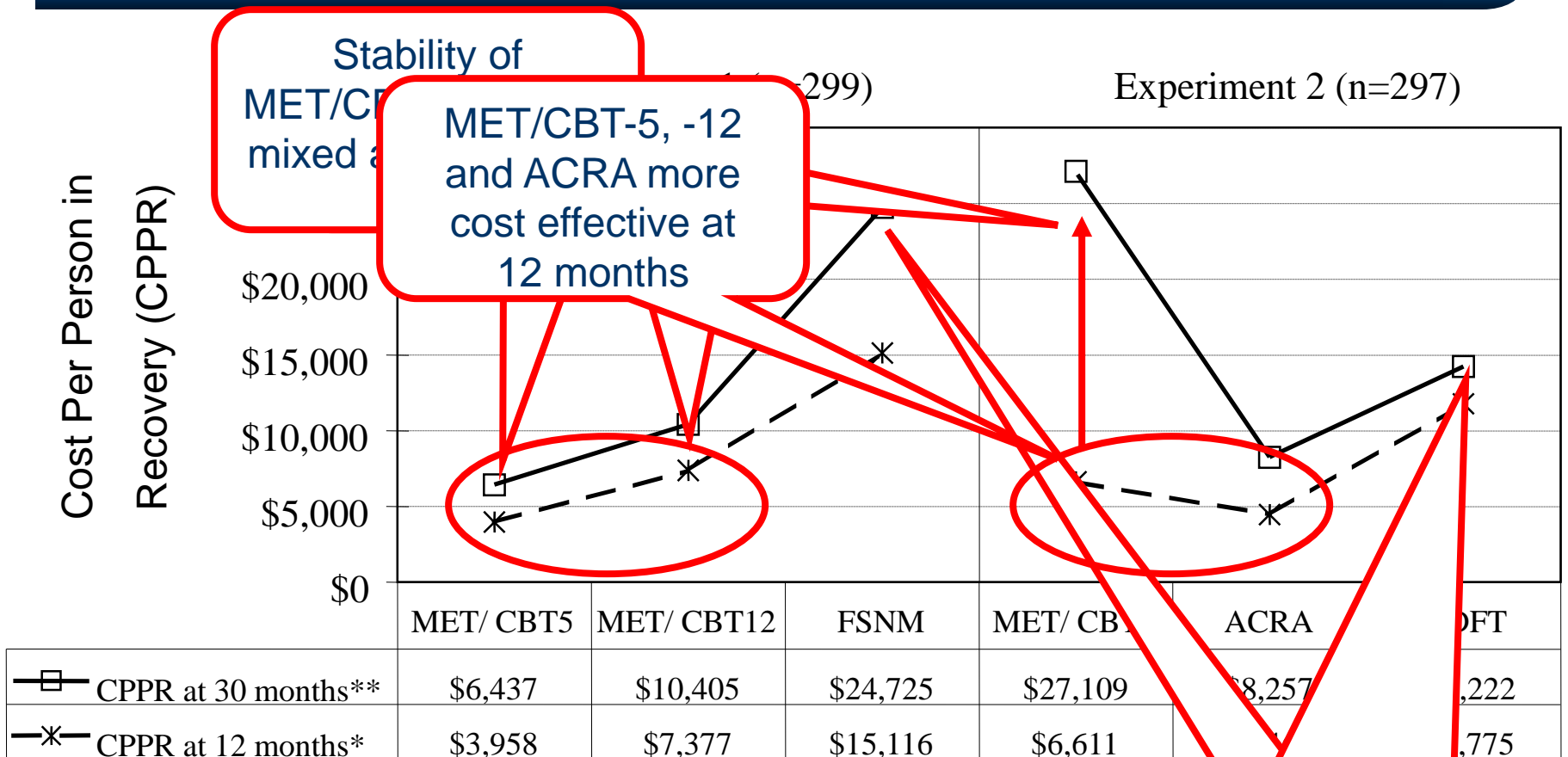


Source: *Dennis et al, forthcoming*

Cumulative Recovery Pattern at 30 months: (The Majority Vacillate in and out of Recovery)



Cost Per Person in Recovery at 12 and 30 Months After Intake by CYT Condition

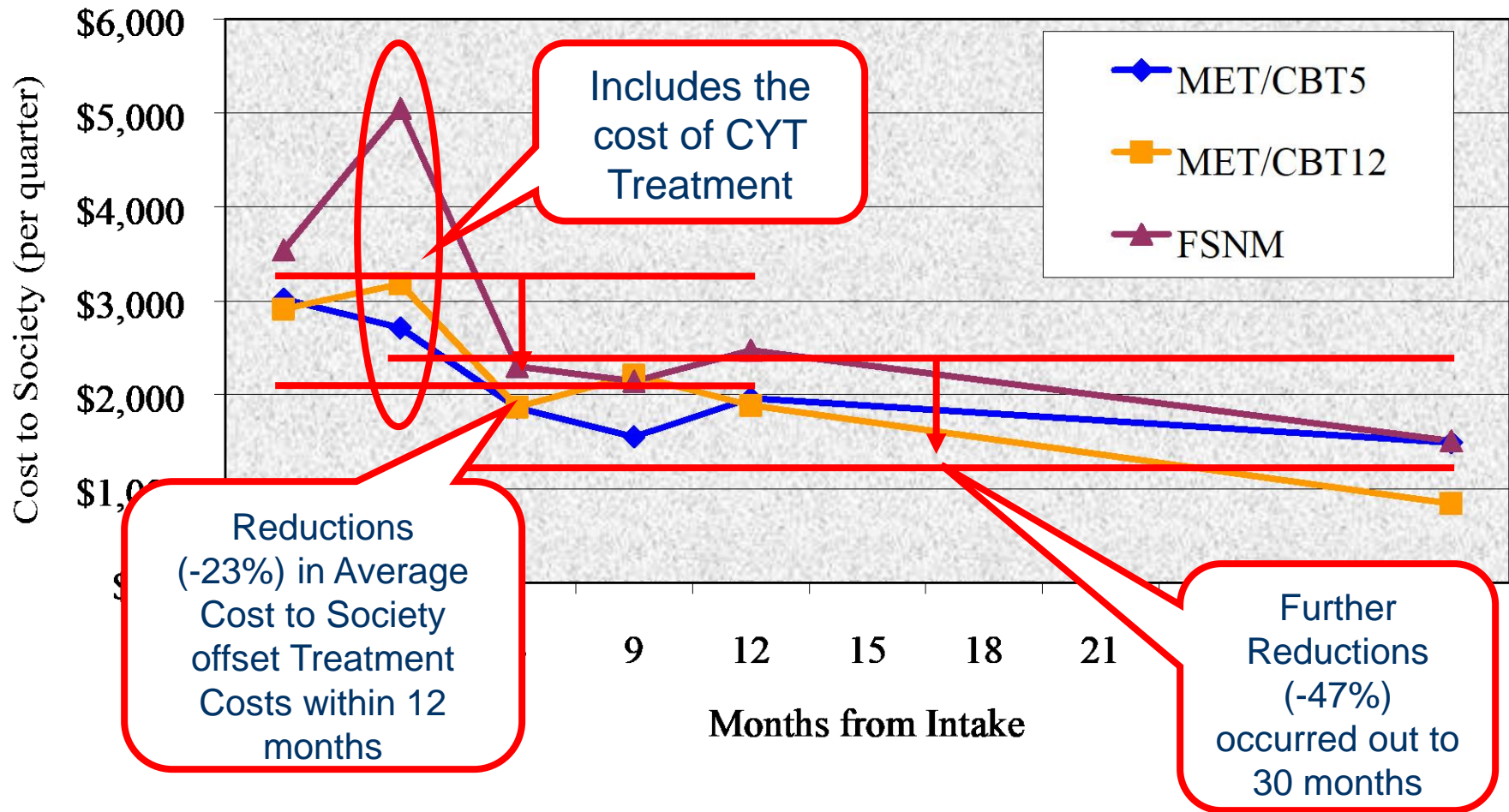


* $P < .0001$, Cohen's $f = 1.42$ and 1.77 at 12 months

** $P < .0001$, Cohen's $f = 0.76$ and 0.94 at 30 months

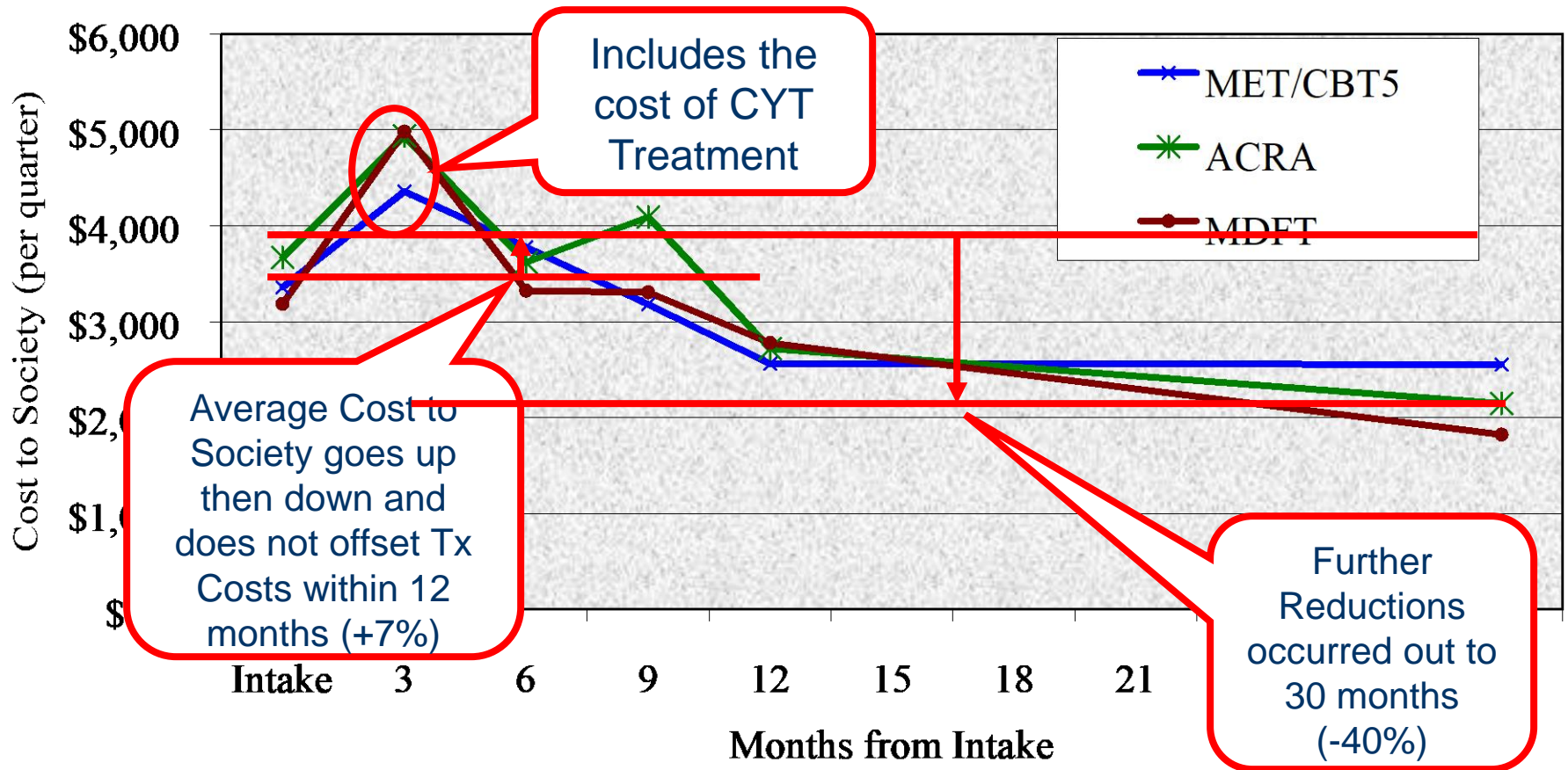
Integrated family therapy (MDFT) was more cost effective than adding it on top of treatment (FSN) at 30 months

Reduction in Average Cost to Society in CYT Experiment 1: Incremental Arm

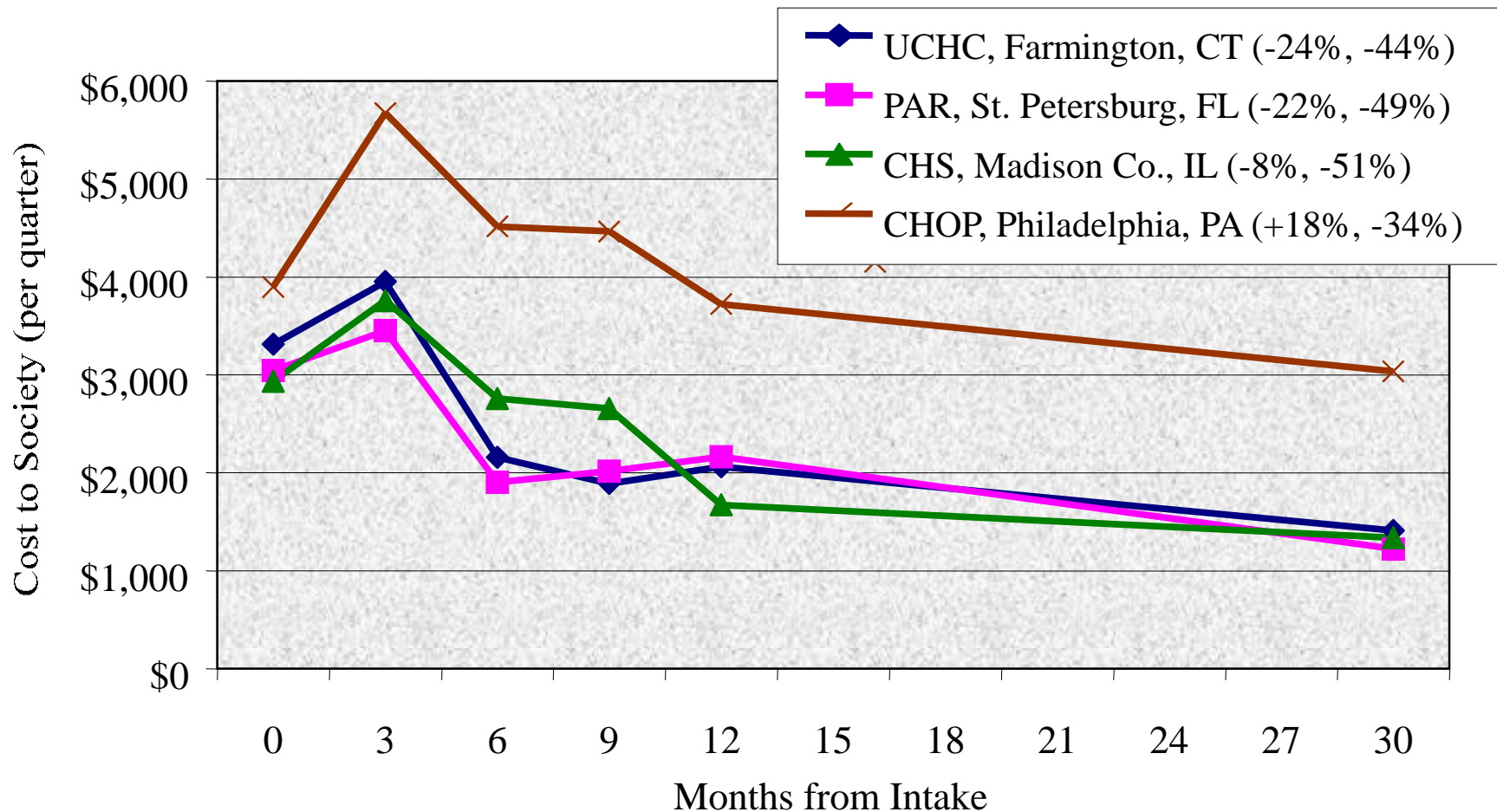


Source: French et al, in press; forthcoming

Reduction in Average Cost to Society in CYT Experiment 2: Alternative Arm



Average Cost to Society Varied More by Site than Condition



Source: French et al, in press; forthcoming

Reprise of Clinical Outcomes

- Co-occurring problems were the norm and varied with substance use severity.
- Most of the treatment effects came during active phase of treatment and were sustained or improved during the 12 months of initial follow-up; though longer term follow-up suggests that some ground was lost.
- While there were some effects of treatment type, these were not easily explained by dosage or level of family therapy and produced only minor improvements.
- While more effective than many earlier outpatient treatments, 2/3rds of the CYT adolescents were still having problems 12 months latter, 4/5ths were still having problems 30 months latter.

Reprise of Economic Outcomes

- There were considerable differences in the cost of providing each of the interventions.
- MET/CBT-5, -12 and ACRA were the most cost effective at 12 months, though the stability of the MET/Findings were mixed at 30 months.
- Reductions in Average Quarterly Cost to Society offset the cost of treatment within 12 months in experiment 1 and with 30 months in experiment 2.
- At 12 months the MET/CBT5 intervention clearly had the highest rate of return, though it was less likely to have “additional” benefits at 30 months
- Results of clinical outcomes, cost-effectiveness, and benefit cost were different – suggesting the importance of multiple perspectives

Impact and Next Steps

- Papers published on design, validation, characteristics, matching, clinical contrast, treatment manuals, therapist reactions, 6 month outcomes, cost, benefit cost
- Papers with main findings at 12 months under review and 30 month findings being submitted this summer.
- Interventions being replicated as part of over two dozen studies currently or about to go into the field
- Over 10-30,000 copies of each of 5 manuals distributed to policy makers, providers, individual clinicians and training programs

Implications

- The CYT interventions provide replicable models of brief (1.5 to 3 month) treatments that can be used to help the field maintain quality while expanding capacity.
- While a good start, the CYT interventions were still not an adequate dose of treatment for the majority of adolescents.
- The majority of adolescents continued to vacillate in and out of recovery after discharge from CYT.
- More work needs to be done on providing a continuum of care, longer term engagement 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 or

www.chestnut.org/li/bookstore

NCADI: www.health.org/govpubs

PETSA: www.samhsa.gov/centers/csat/csat.html

(then select PETS from program resources)