Evaluation of the Effective Adolescent Treatment (EAT) Program

PROTOTYPES Outpatient and Day Treatment Center Pomona, California

Final Report

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PROTOTYPES:
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Background

In 2003, PROTOTYPES: Centers for Innovation in Health, Mental Health and Social Services was awarded a grant from the Substance Abuse and Mental Health Services Administration (SAMHSA) Center for Substance Abuse Treatment (CSAT) under its initiative to Adopt/Expand Effective Adolescent Alcohol and Drug Abuse Treatment (short title: Effective Adolescent Treatment).

The Effective Adolescent Treatment (EAT) program was initiated to address the needs of outpatient substance abuse treatment services designed specifically for youth. Conservative estimates showed that only one out of ten adolescents in need of substance abuse treatment services received those services. When treatment services were provided for adolescents, they were generally delivered in outpatient settings. While more adolescent outpatient treatment availability was needed, the quality of outpatient treatment for adolescents was mixed. Many treatment programs used adult models of substance abuse treatment for adolescents, which had proven to be ineffective for youth. To increase the provision and effectiveness of outpatient treatment for adolescents with alcohol and other substance use disorders, CSAT provided funds for the adoption/expansion of Motivational Enhancement Therapy/Cognitive Behavioral Therapy (5 sessions; MET/CBT5) for adolescents in outpatient treatment settings. This treatment intervention was tested in CSAT's Cannabis Youth Treatment program, and was proven to be effective in terms of both individual outcomes and cost.

In addition, the Effective Adolescent Treatment (EAT) program addressed key elements of SAMHSA/CSAT's Changing the Conversation: Improving Substance Abuse Treatment: The National Treatment Plan Initiative (NTP).

- Invest for Results. Assists in closing serious gaps in treatment capacity for youth. Additionally, promotes continuing care and inclusion of significant adults in the youths' lives in the treatment process, thereby maximizing the potential for lasting change.

- No Wrong Door to Treatment. Promotes identification and referral of youth to treatment across health and human services, mental health, primary care, education, and justice systems as well as the substance abuse specialty sector.

- Commit to Quality. Promotes wise use of resources, emphasizing improving the quality of care. This is accomplished through training of staff to perform appropriate assessment and state-of-the-art treatment interventions.

- Build Partnerships. Through linkages in the services to science cycle, partnerships between the research community and the treatment community are developed to maximize ongoing quality improvement and investment for results.

Services were targeted for youth under 22 years of age, who were identified as needing substance abuse treatment such as meeting DSM-IV criteria for substance abuse or dependence. Inclusion in the treatment process of the youth's parents, legal guardians or significant adults in their lives was encouraged.

The PROTOTYPES Adolescent Treatment Program had the following goals:

1. **To reduce substance abuse or dependence, with the goal of abstinence, in a sample of 250 adolescents who are identified as needing substance abuse treatment, through the provision of an adolescent-sensitive MET/CBT5 treatment approach.**

   - Over the course of the CSAT-funded program, a total of **380** youth participated in the PROTOTYPES Adolescent Treatment Program, exceeding the stated target.

   - Based on longitudinal data available from GPRA assessments at 3- and 6-month follow-up, the youth demonstrated significant reductions in substance use behaviors, including reductions in overall illicit drug use, reductions in marijuana use, and reductions in amphetamine use.

   - Data supporting these statements are provided in the results section of this report.

2. **To increase the adolescents' mental health, social adjustment, and self-efficacy skills.**

   - Follow-up data from the CSAT GPRA Client Outcome Measure (GPRA) and the Global Appraisal of Individual Needs (GAIN) both indicate significant improvements in the adolescents' psychosocial functioning.

   - Participants demonstrated significant reductions in stress due to alcohol or other drug use, reductions in the negative impact on important activities due to alcohol or other drug use, decreased emotional problems due to alcohol or other drug use, decreased experience of serious depression (not due to alcohol or drug use), decreased anxiety, decreased hallucinations, decreases in the amount of trouble controlling violent behavior, and decreased overall impact of emotional problems.

   - Data supporting these statements are provided in the results section of this report.

3. **To reduce criminal justice system involvement.**

   - Reported criminal justice system involvement remains low in the client population.

   - Supporting data are summarized in the results section of this report.

4. **To promote family strengthening and community continuing care.**

   4.1 To provide family strengthening services to a minimum of 100 parents/family members each year.
   4.2 To provide continuing care services to a minimum of 100 adolescents who have completed MET/CBT5.

   - At least 100 youth had some level of family involvement with the PROTOTYPES Adolescent Treatment Program. All clients participated in a family orientation prior to beginning the MET/CBT5 intervention. All program completers were encouraged to participate in continuing care.

In the remainder of this report, findings demonstrating the characteristics of the youth served and evidence of the effectiveness of the PROTOTYPES Adolescent Treatment program are presented.

Method

As proposed, an independent evaluation of the PROTOTYPES MET/CBT5 treatment program was conducted by The Measurement Group (TMG). As required by CSAT and to address issues of treatment effectiveness and efficiency, the program collected GPRA and GAIN data for program clients. GPRA and GAIN indicators were collected at intake and at 3-, 6-, and 12-months post-intake. The table below summarizes major outcome evaluation indicators for this project.

Table 1. Summary of outcome evaluation indicators for the PROTOTYPES Adolescent Treatment model.

Demonstrable Outcome	Proposed Data Collection Measures	Description, Purpose, and When Collected
Reduction of substance abuse and related consequences	GPRA and GAIN indicators of substance abuse history taken at intake and 3-, 6-, and 12-months follow-up (GAIN Substance Problem Index and its substances: Substance Issues Index, Substance Abuse Index, Substance Dependence Index, and Substance Use Disorder Index)	• Identify levels at baseline and follow-ups (3, 6, and 12 months post-intake) of recent (past month) substance abuse • Identify levels at baseline and follow-ups (3, 6, and 12 months post-intake) of adverse consequences of substance abuse
Reduction of problem behaviors	GPRA and GAIN behavior complexity indicators (GAIN Behavior Complexity Index and its subscales: In-Attention Index, Hyperactivity-Impulsivity Index, Conduct Disorder Index, and ADHD Index)	• Identify levels at baseline and follow-ups (3, 6, and 12 months post-intake) problem behaviors
Improved psychosocial functioning	GAIN mental health measures (GAIN Internal Mental Distress Index and its subscales: Somatic Symptom Index, Depressive Symptom Index, Homicidal Suicidal Thought Index, Anxiety Symptom Index, Traumatic Stress Index, and General Mental Distress Index)	• Identify at baseline and follow-ups (3, 6, and 12 months post-intake) levels of psychosocial functioning
Reduction of criminal justice system involvement	GPRA and GAIN indicators of legal system involvement (GAIN Crime/Violence Index and its subscales: General Conflict Tactic Index, Property Crime Index, Interpersonal Crime Index, Drug Crime Index, and General Crime Index)	• Identify at baseline and follow-ups (3, 6, and 12 months post-intake) extent to which client has current criminal justice system involvement
Satisfaction with services	Treatment Satisfaction Inventory (TxSI; Dennis, Titus, White, Unsicker, & Hodgkins, 2002)	• Identify satisfaction with services; collected between 2nd and 5th session in the MET/CBT5 intervention, as required by CSAT.

The Global Appraisal of Individual Needs (GAIN; Chestnut Health Systems, 2002-2006) was used to measure client functioning in eight areas: background and treatment arrangements, substance use, physical health, risk behaviors, mental health (including trauma), environment, legal, and vocational. The GAIN was used to assess client progress in each of these areas, at intake and at 3-, 6- and 12-month follow-up, as required by CSAT. Program staff participated in GAIN training provided by Chestnut Health Systems and were certified to administer and provide local training on the GAIN.

Throughout the grant period, PROTOTYPES and the evaluation team at The Measurement Group participated in grantee meetings, conference calls, and other technical assistance on the use of the required evaluation tools and procedures (including GAIN, GPRA, and ABS software). Staff from PROTOTYPES and The Measurement Group also participated regularly in conference calls required for the CSAT EAT grantees and on the CSAT EAT listserv.

Results

Data presented in the remainder of the report were collected between October 1, 2003, and February 28, 2007. Data summarized here are based on the following sample sizes unless otherwise noted:

- CSAT GPRA Client Outcome Measure: *n* = 380 program participants

What follows is a description of the clients served by the project, a summary of clients' substance abuse and HIV risk factors (data from the CSAT GPRA Client Outcome Measures for Discretionary Programs), and additional information about client psychosocial functioning from the Global Appraisal of Individual Needs (GAIN). Unless otherwise indicated, all data presented in this section was collected at or near program intake and reflect behaviors prior to entering substance abuse treatment.

Client Characteristics

Data from 380 program participants were available for analysis.[1] The participant sample included 273 (71.8%) males and 107 (28.2%) females. The average age at intake was 15.98 years (s.d. = 1.36 years). Ages ranged from 13 to 20 years. Clients were predominantly Hispanic (45.5%) and White (31.8%). Table 1 summarizes the racial/ethnic background of program clients.

Table 1
Client Racial/Ethnic Background

Race/Ethnicity	Percent	*n*
African American/Black	7.1%	27
Latino/Hispanic	45.5%	173
Asian	3.4%	13
American Indian/Native American	3.9%	15
Native Hawaiian/Pacific Islander	1.6%	6
Alaskan Native	0.3%	1
White	31.8%	121
Multi-racial	1.8%	7
Other/Unknown	4.5%	17

GPRA Indicators at Intake

As a requirement of the grant award, the project collected data from the CSAT GPRA Client Outcome Measures for Discretionary Programs. Baseline GPRA data are available for 380 youth enrolled in the PROTOTYPES outpatient treatment program during the project period; these data were collected as part of the program intake assessment.

[1] Data through February 28, 2007.

Drug and alcohol use. Of the 380 adolescents, 40.8% reported illegal drug use in the 30 days prior to intake, with an average of 8.49 days of use in the past 30 days (s.d. = 9.53 days) for those who reported any use. The following table summarizes past 30 day drug use as measured by the GPRA indicators. No participants reported injection drug use in the past 30 days.

Table 2
Alcohol and Other Drug Use Reported in the Past 30 Days at Intake

		Days of Use[a]				
Drug and Alcohol Use in Past 30 Days	**% Use**	**Mean**	**s.d.**	**Min**	**Max**	***n***
Any Alcohol	34.7%	3.22	3.74	1	30	132
Alcohol to Intoxication (5+ drinks)	14.5%	3.62	4.56	1	30	55
Alcohol to Intoxication (4 or less drinks)	13.9%	2.25	1.97	1	11	53
Any Illegal Drugs	40.8%	8.49	9.53	1	30	155
Cocaine/Crack	1.6%	3.83	4.26	1	12	6
Marijuana/Hashish	37.1%	8.21	9.24	1	30	141
Heroin or Other Opiates	0.3%	4.00	n/a	4	4	1
Non Prescription Methadone	No use	n/a	n/a	n/a	n/a	n/a
PCP or Other Hallucinogens	2.4%	5.22	7.09	1	20	9
Methamphetamines/Amphetamines/Uppers	6.8%	6.69	8.11	1	30	26
Benzodiazepines/Barbiturates/Tranquilizers/ Downers	0.5%	2.50	2.12	1	4	2
Inhalants	0.3%	1.00	n/a	1	1	1
Other Illegal Drugs	1.1%	2.75	3.50	1	8	4
Any Alcohol or Illegal Drugs	54.2%	7.12	8.67	1	30	206
Injected Drugs	No use	n/a	n/a	n/a	n/a	n/a

[a] Descriptive statistics based on non-zero responses.

Family and Living Conditions. The GPRA asks about living conditions in the past 30 days prior to intake. Of the 380 adolescents with baseline GPRA data:

- 97.9% reported being housed in the 30 days prior to intake (including their own or someone else's home, halfway house, or residential treatment). Of the 372 youth being housed, 85.8% lived in own apartment room or house.

- Less than 1% each reported living in a shelter (0.3%), on the street (0.3%), or in an institution such as a hospital, nursing home, or jail/prison (0.5%) in the 30 days prior to intake

The GPRA measure also includes several questions assessing the impact of substance abuse in the past 30 days prior to intake. Of the 380 adolescents with baseline GPRA data:

- 23.4% reported some degree of stress due to alcohol or other drug use in the past 30 days.

- 16.9% reported that alcohol or other drug use caused them to reduce or give up important activities in the past 30 days.

- 12.4% reported that alcohol or other drug use caused emotional problems in the past 30 days.

Education, Employment, and Income. The GPRA measure includes indicators of employment and educational status. Of the 380 adolescents with baseline GPRA data:

- 86.1% were enrolled in school or a job training program (75.5% full-time, 10.8% part-time).
- 17.3% were employed. Of the 66 adolescents who indicated they were employed, 10.6% were working full-time and 89.4% were working part-time.
- 46.6% reported some type of income in the past 30 days. 22.9% reported income from wages, 13.1% reported income from family and/or friends, 1.6% reported income from illegal sources, and 14.7% reported income from other sources in the past 30 days.

Crime and Criminal Justice Status. The GPRA includes indicators of criminal justice system involvement. Of the 380 adolescents with baseline GPRA data:

- 12.9% had committed a crime in the past 30 days.
- 3.9% had been arrested at least once in the past 30 days.
- 1.3% had been arrested for drug-related offenses at least once in the past 30 days.
- 1.3% had spent at least one night in jail/prison in the past 30 days.
- 2.4% were awaiting charges, trial, or sentencing.
- 4.5% were on parole or probation.

Mental and Physical Health Problems and Treatment. The GPRA includes indicators of self-rated health, as well as utilization of various types of treatment in the past 30 days. The table below summarizes responses to how the client would rate his or her health "right now."

Table 3
Self-Rated Overall Health at Intake

Health Rating	Percent	*n*
Excellent	17.4%	66
Very Good	30.0%	114
Good	37.6%	143
Fair	12.9%	49
Poor	1.3%	5
Don't Know/Missing	0.8%	3

- **85.0% of the youth rated their overall health as at least "Good" or better.**
- Less than 1% each reported past 30 day use of inpatient treatment for a physical complaint (0.8%), inpatient treatment for a mental health problem (0.5%), and inpatient treatment for substance abuse (0.6%),
- 9.7% reported receiving outpatient treatment for a physical complaint in the past 30 days. Of those utilizing outpatient medical treatment, clients received such services an average of 1.24 times (s.d. = 0.76) in the past 30 days.

- 3.9% reported receiving outpatient treatment for mental health in the past 30 days. Of those utilizing outpatient mental health services, clients received those services an average of 3.07 times (s.d. = 2.02) in the past 30 days.

- 2.4% reported receiving outpatient treatment for substance abuse in the past 30 days. Of those who received outpatient substance abuse treatment, clients used these services an average of 4.33 times (s.d. = 6.02) in the past 30 days.

- 3.2% reported emergency treatment for physical complaint in the past 30 days. Of those receiving such treatment, clients utilized those emergency room services an average of 1.09 times (s.d. = 0.30) in the past 30 days.

- No participants reported use of emergency treatment for a mental health problem in the past 30 days. Less than 1% (0.3%) reported use of emergency room treatment for substance abuse in the past 30 days.

In terms of recent experience with symptoms of mental health issues, the following data were indicated in baseline GPRA data.

- 17.9% of the participants reported experiencing symptoms of serious depression in the 30 days prior to intake.

- 21.0% of the youth reported experiencing symptoms of serious anxiety or tension in the 30 days prior to intake.

- 4.0% of the youth reported experiencing hallucinations in the 30 days prior to intake.

- 28.7% of the participants reported having trouble understanding, concentrating, and remembering in the 30 days prior to intake.

- 2.6% of the youth were prescribed medication for psychological and/or emotional problems in the 30 days prior to intake.

Overall, the majority of youth claimed they were not bothered by psychological or emotional problems in the 30 days prior to program intake. The following table summarizes the responses to this question.

Table 4
Bothered by Psychological/Emotional Problems

	Percent	***n***
Extremely	1.8%	7
Considerably	5.3%	20
Moderately	8.4%	32
Slightly	17.6%	67
Not at all	66.9%	254

Sexual Risk Behaviors. Participants were also asked about recent sexual risk behaviors as part of the baseline assessment. Of the 380 adolescents with baseline GPRA data:

Table 5
Sexual Risk Behaviors in the Past 30 Days at Intake

	Number Reported				
In the past 30 days how many:	**Mean**	**s.d.**	**Min**	**Max**	***n***
Sexual contacts	1.28	3.55	0	25	363
Times you have had unprotected sexual contact	0.60	2.90	0	27	372
Times you have had unprotected sexual contact with someone who has living with HIV/AIDS	none	n/a	n/a	n/a	379
Times you have had unprotected sexual contact with injection drug user	0.01	0.10	0	2	379
Times you have had unprotected sexual contact with someone high on some substance	0.08	0.76	0	10	378

- At the initial GPRA assessment, 26.1% of the youth reported engaging in sexual activity in the past 30 days.

- 10.0% of the youth reported any unprotected sexual contact in the past 30 days.

- None of the youth reported having had unprotected sex in the past 30 days with someone who was living with HIV/AIDS.

- Less than 1% (0.3%) reported having had unprotected sex in the past 30 days with a partner who was an IV drug user.

- 1.8% reported having had unprotected sex in the past 30 days with someone who was high on some substance.

Social Connectedness. Participants were asked five questions regarding their social connectedness. As these questions were only available in the most recent version of the CSAT GPRA Client Outcomes Measures for Discretionary Programs, which was implemented mid-way through this project, the sample size for these items is *n* = 119.

- 87.4% of the youth interacted with family and/or friends who were supportive of their recovery in the 30 days prior to intake.

- Less than 1% each attended voluntary self-help groups for recovery (0.8%) or religious/faith-based affiliated recovery self-help programs in the 30 days prior to intake.

- 3.4% of the youth had attended meetings of other organizations that support recovery.

- When in trouble, 15.1% of participants said they would turn to nobody; 52.1% would turn to a family member, 26.9% would turn to friends, and 5.9% would turn to someone else.

Selected GAIN Indicators at Intake

A detailed psychosocial assessment conducted at intake using the Global Appraisal of Individual Needs (GAIN) is available for a subset of 202 participants.[2] This subsample was 71% male and 29% female. In terms of ethnic-racial composition, 44% were Hispanic, 23% were Caucasian/White, 6% African American, 3% Asian, and 2% other groups. 22% were multiracial.

[2] GAIN data available from Chestnut Health Systems processed and cleaned through November 30, 2006.

A total of 17% of this subsample was less than 15 years old, 72% were 15-17 years old, and 11% were 18 years of age or older.

Family/Living Situation. Some of the youth reported one or more risk factors related to their family/living situation. 40% lived in a single-family household; 23% reported weekly alcohol use in the home; 8% reported weekly drug use in the home; and 21% reported having ever been homeless or runaway.

A large percentage of the PROTOTYPES treatment population is economically disadvantaged. Data from the GAIN-I indicate that 10% are considered Very Poor (0-49% of the poverty index), 50% are described as Poor (50-99% of the poverty index), 20% are described as Working Class (100-299% of the poverty index). Ten percent each are described as Middle Class (300-999% of the poverty index) and Upper Middle Class (1000% or more of the poverty index).

Regular Peer Use. Some of the youth reported one or more risk factors related peer use of alcohol and/or other drugs.

- 44% reported they spent time in the past year with one or more people at work or school who got drunk weekly;

- 47% reported they spent time in the past year with one or more people socially who got drunk weekly;

- 56% reported they spent time in the past 90 days with one or more people at work or school who used drugs; and

- 56% reported they spent time in the past 90 days with one or more people socially who used drugs.

Weekly Substance Use. Data on alcohol and other drug use collected using the GAIN was similar to that obtained with the CSAT GPRA measure.

- 52% reported weekly use of any substance in the past 90 days. 13% reported weekly alcohol use, 31% reported weekly tobacco use, 27% reported weekly marijuana use, 1% reported weekly use of heroin or other opioids and 4% reported weekly use of other drugs in the past 90 days.

Problem Perception. Responses to the GAIN indicated that at the initial assessment, the majority of participants did not perceive their use of alcohol and other drugs as a problem.

- 16% said they currently feel they have any problems related to alcohol or drug use, 44% perceived the need for any treatment, 67% said they were ready to remain abstinent; and 36% indicated they were ready to quit.

Substance Use Disorders. In terms of specific diagnoses, GAIN data showed approximately two-thirds of the program participants to have any past year substance use diagnosis.

- 66% had data indicating any past year substance use diagnosis, 40% had evidence of lifetime substance dependence, 33% had a past year diagnosis of substance dependence,

28% had evidence of lifetime substance abuse, and 33% had evidence of past year substance abuse.

Comorbidities. A considerable number of program participants had co-occurring mental health issues along with substance use/abuse/dependence. It is important to note that these data come from the GAIN-I assessment and do not necessarily reflect DSM diagnoses made by a licensed mental health professional.

- 44% scored on the GAIN-I at levels indicating at least one internal or external disorder, with 16% external only, 6% internal only, and 22% having both an internal and external disorder.

- 29% scored on the GAIN-I at levels indicating some type of internalizing disorder in the past year, including 25% with data suggestive of major depressive disorder, 9% generalized anxiety disorder; 12% suicidal thoughts or action, and 14% traumatic distress disorder.

- 37% scored on the GAIN-I at levels indicating some type of externalizing disorder in the past year, including 31% with data suggestive of conduct disorder and 25% with data suggestive of attention deficit-hyperactivity disorder.

Other Substance Abuse Severity Indicators. GAIN data also indicated that approximately one client in three had experienced withdrawal symptoms at some time in their life, with 25% reporting past week withdrawal symptoms (2% acute symptoms in the past week).

Prior Substance Abuse Treatment. According to data from the GAIN-I, most of the program participants had not been in substance abuse treatment previously.

- 89% had no prior substance abuse treatment;

- 12% had any substance abuse treatment, with 8% having one prior treatment episode and 4% reporting two or more treatment episodes.

Additional HIV Risk Indicators. GAIN-I data provide additional indicators of HIV risk, including victimization and other HIV risks.

- Close to half of the youth (46%) had a history of victimization or current worries about victimization. 44% had a lifetime history of victimization as measured by the GAIN, with 29% indicating high levels of victimization.

- 18% of the youth report having had unprotected sex and/or multiple sexual partners within the past 90 days.

Violence and Crime. According to GAIN-I data, half of the youth have a history of violence of illegal activity.

- 46% indicated they were involved in a physical assault of another person in the past year.

- 26% reported having been arrested for property crimes, such as vandalism, forgery, bad checks, shoplifting, theft, robbery, or auto theft.

- 20% reported having been arrested for interpersonal crimes, such as assault, aggravated assault with a weapon, rape, murder, or arson.

- 14% reported having been arrested for drug related crimes, such as driving under the influence, manufacture or distribution, or gang involvement.

Outcome Data

Clients enrolled in the PROTOTYPES Adolescent Treatment program were tracked for follow-up at 3, 6, and 12 months post-intake. Of the 380 adolescents with CSAT GPRA data at Wave 1 (baseline), 252 had baseline, 3-month, and 6 month interviews and 129 had all four waves of data (baseline, 3-month, 6-month, and 12-month interview). In the analyses that follow, change is primarily evaluated over three waves of data – from baseline (intake), to 3-month follow-up, to 6-month follow-up to retain a sample sufficiently close to that available in the baseline data.

GPRA Indicators: Longitudinal Change

Alcohol and other drug use. Significant reductions in alcohol and other drug use were demonstrated.

The following table summarizes changes in past 30 day alcohol and other drug use as measured by CSAT GPRA indicators from intake to 3- and 6-month follow-up (*n* = 252).[3]

- Over three waves, the reductions in past 30 day use of any alcohol, alcohol to intoxication (4 or fewer drinks), and any illegal drug or alcohol use were statistically significant.

- In terms of specific drugs, use of marijuana/hashish, methamphetamines, and PCP/hallucinogens demonstrated significant reductions across three waves of data.

- Other types of drug assessed – including cocaine/crack, heroin or other opiates, non-prescription methadone, benzodiazepines, and inhalants – as well as injection drug use – had very low base rates in this population. Although change did not reach statistical significance, rates at follow-up were non-existent or close to zero.

[3] Significant reductions were also obtained in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; *n* = 129) on the following indicators: past 30 day use of any alcohol, marijuana, methamphetamines, any illegal drugs and any illegal drugs and alcohol.

Table 6
Change in Recent Alcohol and Other Drug Use

	Percentage of Respondents			
Past 30 Day Drug and Alcohol Use (*n* = 252)	**Wave 1 Baseline**	**Wave 2 3-Month Follow-Up**	**Wave 3 6-Month Follow-Up**	**Significant Change?**
Any Alcohol	34.5%	22.6%	17.5%	yes ($p < .05$)
Alcohol to Intoxication (5+ more drinks)	13.5%	11.9%	10.7%	no
Alcohol to Intoxication (4 or fewer drinks)	12.7%	8.7%	6.3%	yes ($p < .05$)
Cocaine/Crack	1.6%	no use	0.4%	no
Marijuana/Hashish	36.5%	18.3%	11.1%	yes ($p < .05$)
Heroin or Other Opiates	0.4%	no use	no use	no
Non Prescription Methadone	no use	no use	no use	n/a
PCP or Other Hallucinogens	2.8%	no use	no use	yes ($p < .05$)
Methamphetamines/Amphetamines/Uppers	7.5%	2.0%	1.2%	yes ($p < .05$)
Benzodiazepines/Barbiturates/Tranquilizers/ Downers	0.4%	no use	no use	no
Inhalants	0.4%	no use	no use	no
Any Illegal Drug	40.1%	19.8%	11.5%	yes ($p < .05$)
Any Illegal Drug or Alcohol	54.4%	30.2%	22.6%	yes ($p < .05$)
Injection Drug Use	no use	no use	no use	n/a

Note.: Friedman tests were used to test whether alcohol and drug use percentages changed over the three time points. Table entries with too few cases to perform significance testing (5 individuals or fewer) are noted.

- **Program participants demonstrated significant reductions in alcohol and other drug use.**

The following table summarizes average levels of reported negative impact due to substance abuse over three waves of data ($n = 252$).[4] Ratings reflect a 4-point Likert scale response, with higher ratings indicating greater negative impact.

Table 7
Changes in Reported Impact of Alcohol and Other Drug Use

	Mean Rating			
Negative Impact of Past 30 Day Alcohol and Drug Use	**Wave 1 Baseline**	**Wave 2 3-Month Follow-Up**	**Wave 3 6-Month Follow-Up**	**Significant Change?**
Stress due to alcohol or other drug use in the past 30 days	1.38	1.21	1.13	yes ($p < .05$)
Reduction of important activities due to alcohol or other drug use in the past 30 days	1.32	1.11	1.11	yes ($p < .05$)
Emotional problems due to alcohol or other drug use in the past 30 days	1.24	1.11	1.07	yes ($p < .05$)

Note. *ns* ranged from 109 to 114. 1 = Not At All; 2 = Somewhat; 3 = Considerably; 4 = Extremely.

[4] Significant improvements were also obtained in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; $n = 129$) in terms of reducing important activities due to alcohol or other drug use.

- **The negative impact of alcohol or other drug use was significantly reduced among program participants.**

Out of the 252 participants with three waves of GPRA data, the following percentages describing education, employment, and income were reported.[5]

Table 8
Changes in Education and Employment

Past 30 Day Education and Employment (*n* = 252)	Percentage of Respondents			Significant Change?
	Wave 1 Baseline	Wave 2 3-Month Follow-Up	Wave 3 6-Month Follow-Up	
Enrolled in school/job training program	87.3%	84.5%	83.3%	no
Employed	18.3%	24.6%	26.2%	yes ($p < .05$)

Note. Friedman tests were used to test whether alcohol and drug use percentages changed over the three time points. Table entries with too few cases to perform significance testing (5 individuals or fewer) are noted.

- **Overall, participants were more likely to be employed over time.**

Crime and Criminal Justice Status. The GPRA includes indicators of criminal justice system involvement. The following table summarizes these indicators across three waves of data. Similar results were obtained when examining a smaller subsample (*n* = 129) with all four waves of data.

Table 9
Changes in Crime and Criminal Justice Status

Criminal Activity and Criminal Justice Involvement in the Past 30 Days (*n* = 252)	Percentage of Respondents			Significant Change?
	Wave 1 Baseline	Wave 2 3-Month Follow-Up	Wave 3 6-Month Follow-Up	
Arrested at least once in the past 30 days	2.4%	1.2%	0.4%	no
Arrested for drug-related offenses at least once in the past 30 days	1.2%	0.4%	0.4%	no
Spent at least one night in jail/prison in the past 30 days	0.8%	1.6%	0.8%	no

Note. Friedman tests were used to test whether alcohol and drug use percentages changed over the three time points. Table entries with too few cases to perform significance testing (5 individuals or fewer) are noted.

- **Youth in the program reported very little recent criminal justice system involvement. Changes over time did not reach statistical significance.**

Mental and Physical Health Problems and Treatment. The GPRA also tracks reported recent utilization of mental health and physical health treatment services.

For one of the health indices, adolescents were asked to rate their current overall health using a five-point scale ranging from “poor” (1) to “excellent” (5). **Of the 252 adolescents who had three waves of GPRA data, the mean overall health assessments significantly improved**

[5] Significant reductions were also obtained in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; *n* = 129) in that the percentage of youth who were employed significantly increased.

over the three waves clustering around "good" health (mean for Wave 1 = 3.45; mean for Wave 2 = 3.67; mean for Wave 3 = 3.85). Comparable increases were obtained in a smaller subsample (*n* = 129) with all four waves of data.

There were three areas of treatment services considered: inpatient, outpatient, and emergency room visits in the past 30 days. The following percentages were observed regarding treatment received for the 252 adolescents across three waves.[6]

Table 10
Changes in Past 30 Day Treatment Utilization

	Percentage of Respondents			
Treatment in the Past 30 Days (*n* = 252)	**Wave 1 Baseline**	**Wave 2 3-Month Follow-Up**	**Wave 3 6-Month Follow-Up**	**Significant Change?**
Inpatient Treatment For:				
Physical Complaints	0.8%	0.4%	none	no
Mental or Emotional Difficulties	0.4%	none	0.4%	no
Alcohol or Substance Abuse	0.4%	none	0.4%	no
Outpatient Treatment For:				
Physical Complaints	9.1%	8.3%	6.0%	no
Mental or Emotional Difficulties	4.0%	0.4%	1.6%	yes ($p < .05$)
Alcohol or Substance Abuse	2.8%	15.9%	2.8%	yes ($p < .05$)
ER Treatment For:				
Physical Complaints	2.0%	1.2%	0.8%	no
Mental or Emotional Difficulties	none	0.4%	none	no
Alcohol or Substance Abuse	none	0.4%	none	no

Note: Friedman tests were used to test whether percentages of treatment (inpatient, outpatient, emergency room) for different types of conditions changed over the three time points; McNemar tests were used to detect change over two time points. Dashed lines denote observed frequencies that were too small for significance testing (5 individuals or fewer).

- **Reported utilization of outpatient treatment for mental or emotional difficulties decreased significantly over time.**

- **Reported utilization of outpatient treatment for alcohol or substance abuse changed significantly over time, increasing from baseline to the 3-month follow-up.** The reduction at 6-month follow-up is a likely reflection of the duration of the MET/CBT5 program, which typically would be finished at the time of the 6-month follow-up.

The following table shows the significant shifts that were observed over three waves of data in past 30 day reports of emotional and/or psychological problems.[7]

[6] A significant reduction was also obtained in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; *n* = 129) in terms of past 30 day use of outpatient substance abuse treatment.

[7] Significant reductions in reported symptom levels were also obtained in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; *n* = 129), including reductions in reported levels of self-reported serious depression, anxiety, having trouble understanding, concentrating, and remembering, and having trouble controlling violent behavior.

Table 11
Emotional/Psychological Problems Reported in the Past 30 Days

Emotional/Psychological Problems in the Past 30 Days (*n* = 252)	Mean Response			Significant Change?
	Wave 1 Baseline	Wave 2 3-Month Follow-Up	Wave 3 6-Month Follow-Up	
Days Experienced Depression	1.52	0.61	0.69	yes ($p < .05$)
Days Experienced Serious Anxiety or Tension	1.76	0.50	0.43	yes ($p < .05$)
Days Experienced Hallucinations	0.43	0.07	0.01	no
Days Experienced Trouble Understanding, Concentrating, and Remembering	3.56	1.76	1.15	yes ($p < .05$)
Days Experienced Trouble Controlling Violent Behavior	1.37	0.34	0.16	yes ($p < .05$)
Days Attempted Suicide	0.01	none	none	no
Days Prescribed Medication for Psychological/Emotional Problems	0.39	0.26	0.19	no
How much have you been bothered by Psychological/Emotional Problems	2.82	2.47	2.06	yes ($p < .05$)

Note. This table reports means for all variables. For the question "How much have you been bothered by Psychological/Emotional Problems" 1 = Not At All; 2 = Slightly; 3 = Moderately; 4 = Considerably; 5 = Extremely.

- **Significant reductions were demonstrated in the number of days that clients experienced depression, serious anxiety or tension, trouble understanding, concentrating, or remembering, and trouble controlling violent behavior.**

- **The extent to which youth were bothered by psychological and/or emotional problems also decreased significantly over time.**

Changes in Sexual Risk Behavior. Adolescents were also asked about their sexual behaviors over time.

Table 12
Changes in Sexual Risk Behaviors

Sexual Behavior (*n* = 252)	% Reporting Behavior			Significant Change?
	Wave 1 Baseline	Wave 2 3-Month Follow-Up	Wave 3 6-Month Follow-Up	
In the past 30 days:				
Engaged in sex	24.6%	15.9%	14.3%	yes ($p < .05$)
Engaged in unprotected sexual contacts	10.3%	6.0%	4.4%	yes ($p < .05$)
Engaged in f unprotected sexual contacts with someone who is/was HIV positive or had AIDS	none	none	none	n/a
Engaged in unprotected sexual contacts with someone who is/was an IV/injection drug user	0.4%	none	none	no
Engaged in unprotected sexual contacts with someone who is/was high on some substance	2.4%	1.6%	0.8%	no

Note. Friedman tests were used to test whether alcohol and drug use percentages changed over the three time points. Table entries with too few cases to perform significance testing (5 individuals or fewer) are noted.

- **There was a significant decrease in reported sexual activity and the number of reported unprotected sexual contacts in the past 30 days.**

Changes in Social Connectedness. Adolescents were also asked about their social connectedness at baseline and each follow-up data collection point. This set of questions was added to the version of the GPRA implemented in January 2006. The sample size for this set is $n = 72$.[8]

Table 13
Changes in Social Connectedness

	% Reporting Behavior			
Social Connectedness (*n* = 72)	**Wave 1 Baseline**	**Wave 2 3-Month Follow-Up**	**Wave 3 6-Month Follow-Up**	**Significant Change?**
In the past 30 days:				
Attended self-help groups for recovery	1.4%	none	none	no
Attended religious/faith-based affiliated recovery self-help programs	none	none	none	no
Attended meetings of organization supporting recovery other than organizations described here	2.8%	4.2%	1.4%	no
Interacted with family/friends supportive of recovery	86.1%	77.8%	72.2%	no
Turned to someone when in trouble	25.0%	29.8%	31.3%	yes ($p < .05$)

Note. Friedman tests were used to test whether alcohol and drug use percentages changed over the three time points. Table entries with too few cases to perform significance testing (5 individuals or fewer) are noted.

- **Over time, a greater percentage of adolescents said they have at least one source of support in times of trouble.**

Selected Global Appraisal of Individual Needs (GAIN) Indicators: Longitudinal Change

Of the 202 youth with GAIN data at Wave 1 (baseline), 95 also had baseline and 6-month follow-up data from the GAIN-M90 follow-up instrument. In terms of measures of psychosocial functioning from the more detailed GAIN assessment, the following table highlights significant improvements of various measures of change in substance use severity and psychosocial functioning at six months post-intake.

[8] A significant increase in the percentage of youth who said they had someone they could turn to in times of trouble was also found in a smaller sample with all four waves of data (intake, 3-month, 6-month and 12-month follow-ups; $n = 27$).

Table 14
Summary Scores on Selected GAIN Change Measures

	Wave 1 Baseline		Wave 2 6-Month Follow-Up		*n*	Significant
Measure	**Mean**	**S.D.**	**Mean**	**S.D.**		**Change?**
Emotional Problem Scale	0.14	0.18	0.05	0.10	94	yes ($p < .05$)
Self-Efficacy Scale	4.23	1.17	4.31	1.41	35	no
Problem Orientation Scale	0.37	1.09	0.60	1.50	35	no
Environmental Risk Scale	33.54	8.25	29.00	7.06	91	yes ($p < .05$)
Living Risk Index	9.74	3.03	9.10	2.47	88	no
Vocational Risk Index	11.72	3.71	10.28	2.95	74	yes ($p < .05$)
Social Risk Index	12.33	3.71	10.40	3.49	80	yes ($p < .05$)
Substance Frequency Scale	0.09	0.11	0.04	0.08	95	yes ($p < .05$)
Current Withdrawal Scale	0.98	2.61	0.18	1.38	93	yes ($p < .05$)
Substance Abuse Treatment Index	0.00	0.02	0.00	0.02	93	no
Treatment Resistance Index	0.62	0.85	0.38	0.74	34	no
Treatment Motivation Index	1.63	1.26	0.88	0.87	32	yes ($p < .05$)
Substance Problem Scale Past Month	1.41	2.14	0.51	1.41	94	yes ($p < .05$)
Substance Issues Scale Past Month	0.78	1.09	0.27	0.71	93	yes ($p < .05$)
Substance Abuse Index Past Month	0.30	0.64	0.12	0.41	94	yes ($p < .05$)
Substance Dependence Scale Past Month	0.33	0.75	0.13	0.53	94	yes ($p < .05$)
Substance Use Disorder Scale Past Month	0.64	1.29	0.24	0.85	94	yes ($p < .05$)
Health Problem Scale	0.05	0.11	0.03	0.08	94	no
Needle Frequency Scale	none	n/a	none	n/a	93	n/a
Sex Protection Ratio	0.88	0.29	0.97	0.16	77	yes ($p < .05$)
Mental Health Treatment Index	0.02	0.11	0.01	0.09	92	no
General Satisfaction Index	4.94	1.37	5.63	0.83	32	yes ($p < .05$)
Employment Activity Scale	0.20	0.33	0.23	0.35	91	no
Training Activity Scale	0.66	0.27	0.72	0.25	90	no

- **Significant reductions were observed on measures of substance use frequency and symptoms of withdrawal.**

- **Scores on measures of substance use problems, issues, dependence, and disorders occurring in the past month decreased significantly over time.**

- **Significant reductions were obtained on measures of emotional problems,** indicating improved levels of functioning and reduced psychological distress.

- **Scores on measures of safer sex practices increased significantly over time**, indicating reduction of reported unprotected sexual contacts.

- **Significant reductions were obtained on measures of environmental risk,** including subscales measuring vocational risk and social risk. Youth reduced risk associated with substance use in settings related to work and their personal/peer social networks.

- **Participants indicated significant improvements in general satisfaction,** including significantly greater satisfaction with where the client lives, his or her family and personal relationships, his or her school and work situations, and his or her ability to cope with or get help for problems.

Treatment Satisfaction Indicators

Between the second and fifth MET/CBT5 session, clients were asked to complete a measure of treatment satisfaction, the Treatment Satisfaction Index (Dennis, Titus, White, Unsicker, & Hodgkins, 2002). The data available from 275 participants show high levels of satisfaction with the PROTOTYPES Adolescent Treatment program.

Treatment satisfaction ratings are consistently high; percentages shown below indicate participants who agreed or strongly agreed with statements in the Treatment Satisfaction Index.

- 98.2% of those surveyed were satisfied that the PROTOTYPES Adolescent Treatment staff did a good job.
- 97.8% were satisfied that the staff respected the clients.
- 97.5% were satisfied that the program staff members were fair with clients and that staff explained the rules of the program.
- 95.6% were satisfied that the staff explained the purpose of the treatment.
- 94.5% were satisfied that the staff had time to see them and that staff gave them enough help.
- 94.2% were satisfied that the staff asked clients for their opinions about their problems and how to solve them.
- 92.0% were satisfied that the staff agreed with the client about problems.
- 91.6% were satisfied that the staff and client agreed about how to address the client's substance abuse.
- 90.2% were satisfied that the staff helped them do something about the client's substance use.
- 85.1% were satisfied that the staff was sensitive to their cultural background.
- 83.6% were satisfied that the staff and client agreed about how to deal with the client's other problems.
- 79.6% were satisfied that the staff helped them do something about the client's other problems.

Conclusions

During the project period (October 1, 2003 through February 28, 2007), the PROTOTYPES Adolescent Treatment project enrolled a total of 380 adolescents and young adults in an enhanced outpatient substance abuse treatment program for built on the MET/CBT5 evidence-based intervention model.

Baseline data indicate that the PROTOTYPES Adolescent Treatment program reached its intended target population of adolescents and young adults with substance use/abuse and/or mental health issues. The treatment population was economically disadvantaged and culturally diverse.

PROTOTYPES effectively implemented the MET/CBT5 evidence-based practice. The program also provided an array of related substance abuse treatment and other wraparound services. PROTOTYPES was successful in engaging and retaining adolescents and young adults in treatment.

Evaluation data provide a great deal of support of the PROTOTYPES Adolescent Treatment program's effectiveness.

- Participants demonstrated significant reductions in substance use, including specific reductions in the use of alcohol, marijuana, methamphetamines and hallucinogens.
- Participants reported significant reductions in unprotected sex and other HIV risk behaviors.
- Significant improvements in psychosocial functioning were demonstrated. Youth specifically reported improvements in mental health symptoms as well as the extent to which they were bothered by mental health problems.
- Participants demonstrated significant increases in social connectedness, specifically with respect to having someone to turn to in times of need.
- Overall health ratings improved significantly over time.
- Significant increases in youth employment were demonstrated over a six-month period.
- Participants reported high levels of satisfaction with the services they received from the PROTOTYPES Adolescent Treatment program.

In sum, the PROTOTYPES Adolescent Treatment program was successful in engaging its target population of youth in age-appropriate and evidence-based treatment services. The program documented outcomes consistent with its aims of addressing the needs of youth at risk.

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