

Adolescent Treatment Outcomes Study

Demonstrating the Effectiveness of
Substance Abuse Treatment for Youth

June 2005



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Executive Summary

This document summarizes the results of a collaborative study between the State of Wisconsin Bureau of Mental Health and Substance Abuse Services and six adolescent treatment centers: Arbor Place, Cornerstone Counseling Services, Lawrence Center, Libertas Treatment Center, Options Treatment Programs, and Professional Services Group. The study developed and implemented an outcomes measurement system to evaluate the outcomes of treatment for adolescents with substance use disorders. In general, the findings indicate that available treatments for adolescents are effective, produce meaningful outcomes, and are highly regarded by consumers. The principal findings include:

- The majority of the adolescent consumers (71%) completed services with either moderate or major improvement.
- 71 percent of adolescent consumers were very satisfied with the services they received; 78 percent reported that they felt they got the right kind of help.
- Alcohol and marijuana were the principal substances abused by adolescents. Among consumers with substance *abuse* diagnoses, there was a 38 percentage point increase in the rate of abstinence. There was also a meaningful and statistically significant overall reduction in the average days of substance use. Among consumers with substance *dependency* diagnoses, there was a 39 percentage point increase in the rate of abstinence. There was a meaningful and statistically significant overall reduction in the average days of substance use.
- There was a 21 percent improvement in family problems that were present when the adolescent was admitted for treatment.
- Motivation for recovery was higher during treatment than after treatment, indicating a need for post-discharge “check-ups”.
- From the six month period prior to admission, to the approximate nine month period from admission to post-discharge, the number of citations were reduced by 55 percent. The average number of reported arrests declined by 25 percent.
- The adjusted rate of post-discharge abstinence (39%) achieved by the Wisconsin sample of adolescent consumers and programs compares favorably with published studies (average 35.2%).

Introduction

Drug use among youth today is lower than youth who were teens in the 1970's. Thirty years ago, marijuana use among high school seniors was as high as 37 percent. Drug use went down through the 1980's but it's increasing again. Today, 28 percent of high school seniors use marijuana, but this is double the rate it was 15 years ago. The purity of marijuana is much higher now, leading to a higher risk of addiction (Johnston, L. D., et. al.).

In a 2000 poll of Americans by the Harvard School of Public Health, respondents ranked drug abuse as the top health problem facing teenagers. Drug abuse (82%) was rated above cancer (78%), drunk driving (75%), heart disease (74%), HIV/AIDS (73%), violence (71%), child abuse (69%), smoking (68%), and alcohol abuse (65%) [Blendon, 2000].

Currently, 47 percent of high school-age youth use alcohol, down a few percent in the past 15 years. Twenty-six percent of Wisconsin youth start using alcohol at age 12 or younger, and ten percent of youth start using marijuana at age 12 or younger (Bureau of Mental Health and Substance Abuse Services, 2004).

The prevalence of alcohol and other drug use disorders among high school-age youth in Wisconsin is just over nine percent. Nearly 44,300 Wisconsin youth use substances to such an extent that it is causing them, and others, significant health or social problems. Among Wisconsin youth each year there are 12,000 liquor law violations, 5,500 drug arrests, 650 Operating While Intoxicated (OWI) arrests, and 300 alcohol-related crashes. Fifteen percent of youth report that they have driven a car after having had too much to drink, and more than 40 percent of youth admitted to juvenile correctional institutions have substance use problems (Bureau of Mental Health and Substance Abuse Services, 2005).

In the past ten years, adolescent treatment admissions across the U.S. have increased 65 percent and now make up nearly ten percent of treatment capacity. The number of adolescents reporting marijuana abuse has increased to over 70 percent of adolescent admissions. Alcohol, as primary drug, has decreased to 50 percent of adolescent admissions. Over half of these adolescent consumers are referred from the juvenile justice or child welfare systems (Office of Applied Studies, 2004).

Despite the many problems created by youthful substance abuse; treatment works. Treatment interrupts significant health, safety, legal, psychological, interpersonal, family, and school problems and affords families the opportunity, motivation, and skills to change for the better.

This study grew out of a desire among public policy-makers and adolescent treatment professionals to provide evidence that adolescent treatment works and that treatment is a good investment of public and private health care resources.

Methodology

This report summarizes an outcomes measurement system that can be implemented in adolescent substance abuse treatment facilities statewide for accountability and quality improvement. The following agencies are to be commended for volunteering to participate in the study without any remuneration:

- Arbor Place, Menomonie
- Cornerstone Counseling Services, Greenfield
- Lawrence Center, Waukesha
- Libertas Treatment Center, Green Bay
- Options Treatment Programs, Appleton
- Professional Services Group, Kenosha

Combined, the participating agencies provide a mix of inpatient/residential, day treatment, intensive outpatient, and regular outpatient services.

The first task of the study was to develop a set of adolescent treatment outcomes and measures. Participating agencies identified important consumer outcomes of services. The outcomes were then ranked as follows:

Core Outcomes (agreed to by all participating agencies)
<ol style="list-style-type: none">1. Consumers will become engaged in treatment for a sufficient amount of time and intensity to obtain maximum therapeutic benefit.2. Achieve abstinence or reduced use of mood altering substances.3. Become motivated to change alcohol/drug using attitudes and behaviors.4. Achieve a safe, stable, and recovery-appropriate living situation.5. Achieve positive family interactions and relationships.6. Have no new contact with the juvenile/criminal justice system (or at least reduced contact).7. Consumers will have a positive perception of services received.
Optional Outcomes
<ol style="list-style-type: none">1. Improve mental or psychological health or receive mental health care.2. Meet school attendance and academic requirements.3. Eliminate physical, sexual, or emotional abuse or receive appropriate trauma services.4. Acquire and use effective relapse prevention skills.5. Acquire and use a positive support system.

Questionnaire items, to measure the outcomes, were borrowed from existing public domain outcome instruments, or were created from the outcome statements. The items were administered via personal or telephone interview. Additional client profile (gender, age, ethnicity, diagnosis) and service (type, amount, length) data items were also developed and incorporated into the data collection tool (see *Appendix A*).

The study's consumer participants were recruited among consecutive adolescent admissions to these agencies during an 18-month period between January 2003 to June 2004. Agency staff collected the data from adolescent consumers at admission (baseline), discharge, and four to six months post-discharge. Studies (Hunt, 1970; Catalano, 1988) have shown that abstinence outcomes at about four months post-discharge are similar to outcomes found at 12 months post-discharge. Consumers are also easier to locate four to six months after discharge. Consumers eligible to participate in the study met the following criteria:

- ✓ Have an abuse or dependency diagnosis according to the Diagnostic and Statistical Manual-IV (DSM-IV); clients having a co-occurring mental illness were also included.
- ✓ Attended at least one treatment session or one treatment day.
- ✓ Age of 12-17 (age 18 was ok, if the persons was still in high school when services were received).
- ✓ Were formally discharged from treatment services.

Since the study involved multiple agencies, and sensitive consumer data was sent to the State of Wisconsin Bureau of Mental Health and Substance Abuse Services, consumers were asked to give informed consent to participate in the study. Few consumers declined to participate at admission (baseline). The baseline sample is presented in the following table by first service provided:

Table 1. Sample Size

Service	Sample
Regular Outpatient	50
Primary Inpatient/Residential	48
Day Treatment or Intensive Outpatient	30
Total	128

Unless otherwise stated, the study's discharge and post-discharge information is based upon samples of 110 and 80, respectively. Sixty-two percent of the original 128 consumers completed the four to six month post-discharge follow-up interview questions on the core measures. Rigorous scientific studies require at least an 80 percent follow-up completion rate. Considering the fact that this study was completed without additional funding, the follow-up completion rate is very good. Consumers who did not complete the follow-up interview either could not be located, refused, were still receiving services, or had been incarcerated. The amount of time that passed from admission to post-discharge follow-up was about nine to ten months.

Most agencies entered the study data into a Microsoft Excel spreadsheet and the data, without consumer names, was sent to the Bureau of Mental Health and Substance Abuse Services for analysis using Statistical Package for the Social Sciences (SPSS) software.

Study Limitations

While the project achieved the goal of developing a simple, uniform, inexpensive, and useful adolescent outcomes measurement system, there are some limitations in the analysis that should be considered:

Response Bias. About 62 percent of the original sample completed the four to six month post-discharge follow-up interview. Therefore, the post-discharge data contains some bias since consumers who complete the follow-up interview in studies like this, tend to be more socially stable and have better outcomes than those who do not complete the follow-up interview. Studies have found that clients who are not located have lower rates of abstinence (about 15 percentage points lower) and higher rates of arrest (about 20 percentage points higher).

Self-report Bias. During interviews about sensitive subjects like drug use, some respondents will misrepresent themselves and provide inaccurate information. They do this to put themselves in a good light, thinking the information may harm them socially or legally. Memory recall may also cause inaccuracies. However, the vast majority of self-report information is reliable when clients perceive that no harm will come to them.

Response and self-report bias adjustment factors have been studied by Norman Hoffmann (Hoffmann, 1992). Dr. Hoffmann found that about 15 percent of difficult-to-locate clients had poorer alcohol abstinence outcomes than those that were easier to locate. His research examined self-report bias as well. He compared the client's self-reported data on abstinence with data from collateral sources (spouse, significant other, parent). He found that in about ten percent of the cases, the collateral response did not match the client's response. When these factors are applied to the study's data, actual abstinence rates at follow-up are lower than reported rates of abstinence.

While it is important to point out possible sources of error in the study, the study's results are considered to be meaningful and useful for drawing general conclusions about the effectiveness of adolescent treatment in Wisconsin.

Principal Findings

Consumer Characteristics

The adolescent consumers in the study were typically male, white, and had a mix of dependency and abuse diagnoses (see *Table 2*). Adolescents enter treatment voluntarily, although many are under legal pressure usually resulting from a violation, such as under-age drinking, possession of a controlled substance, or a delinquency petition.

Table 2. Consumer Profile

Characteristic	Percent
Male	74%
Female	26%
Ethnicity:	
White	90%
Hispanic	4%
Black	3%
American Indian	2%
Asian	1%
Average Age	15.7
Diagnosis:	
Abuse	48%
Dependency	47%
Co-occurring Mental Illness	5%
Legal Status:	
Voluntary	50%
Legal Pressure	49%
Involuntary	1%

Services Received

Consumers entering Wisconsin's treatment system are evaluated and recommended to receive the level of care from which they would most benefit. Most consumers in the study (39%) received regular outpatient treatment, which is defined as fewer than six hours of counseling each week and lasting about five months. On average, these consumers received a total of 14 regular outpatient treatment hours of service from admission to discharge. Thirty-seven percent of consumers received 24-hour primary inpatient/residential treatment consisting, on average, of about 11 days of treatment with continuing outpatient care. Twenty-four percent of consumers received intensive outpatient or day treatment consisting of at least 12 hours of counseling each week and lasting about two months with continuing outpatient care.

Discharge Status

The majority of the adolescent consumers (71%) completed services with either moderate or major improvement (see *Table 3*). Improvement is generally based upon progress on the treatment plan and indicates that these consumers were discharged having learned about their illness, having had time to change some unhealthy behaviors and relationships and practice some healthy ones, and having been equipped with the basic skills, motivation, and resources needed to effectively prevent a return to abuse or dependency.

Table 3. Reason for Discharge

Discharge Reason	Regular Outpatient	Inpatient/ Residential	Intensive Outpatient or Day Treatment	Total
Completed - Major Improvement	30%	17%	43%	28%
Completed – Moderate Improvement	22%	77%	23%	43%
Completed – Minimal Change	4%	0%	0%	2%
Referred	10%	0%	17%	8%
Withdrew	22%	2%	7%	11%
Behavioral	8%	4%	7%	6%
Incarcerated	4%	0%	3%	2%

Consumer Perceptions of Services

How consumers perceive the services they are receiving is an important indicator of service quality. About four to six months after discharge, repeated attempts were made to contact each adolescent to ask him or her about their experience with services and other life areas. Among the 80 consumers who completed the follow-up interview, at least 71 percent were very satisfied with the services received. Ninety-two percent of consumers indicated that the services helped them, and of that 92 percent, over half were very certain of the service's positive impact on their lives (see *Table 4*).

Table 4. Consumer Perception of Services

Consumer Satisfaction	Percent
Liked the Help Received:	
Yes, definitely	71%
Somewhat	25%
No	4%
Got the Right Kind of Help:	
Yes, definitely	78%
Somewhat	18%
No	4%
Services Helped with Life:	
Yes, definitely	56%
Somewhat	36%
No	8%

Safe, Stable, and Recovery-appropriate Living Situation

At admission to services, 88 percent of the youth consumers lived at home; five percent lived in temporary group quarters; three percent were staying with relatives; two percent were in an institution; and two percent were homeless. At discharge, 92 percent lived at home, and none of the youth lived in an institution or on the street. Among the 80 youth who completed the four to six month post-discharge follow-up interview, 92 percent were living at home and three percent were living in an institution.

Youths were asked at admission whether their living situation caused trouble for their recovery. On a scale from one to four where one is “not at all” and four is “a lot”, the average score was about 1.4. This indicates, on the whole, their living situations were not a barrier to recovery. There were no meaningful differences at discharge or four to six months post-discharge. Youths were also asked if they were happy with their living situation. The vast majority of youths were happy with their living situation, and, from admission to post-discharge, there was a ten percent improvement in their happiness level.

Positive Family Interactions and Relationships

At admission, consumers were asked if they had serious conflicts or quarrels with family members using a scale from one to four where one is “not at all” and four is “on many occasions”. The average score was 2.3 indicating one or two serious conflicts each month. At post-discharge follow-up, there was a 13 percent improvement in this area.

Youths were also asked if they were troubled about family problems. On a scale from one to four where one is “not at all” and four is “a lot”, the average score at admission was 1.9, indicating a slight problem. At post-discharge, there was a 21 percent improvement.

Motivation to Change Unhealthy Attitudes and Behaviors

Motivation is a major ingredient for change. As an indicator of motivation, youths were asked how important recovery was for them using a scale from one to four where one is “not at all important” and four is “very important”. At admission, the average score was 3.3. At discharge, the score was 3.6 and at post-discharge follow-up, the score was 3.1. This up and down change in motivation is indicative of the positive impact that services have on motivation while the consumer is still engaged in services. This may point to the need for “check-up” contacts with youth after discharge to maintain the gains made during treatment.

Abstinence or Reduced Use of Substances

The primary drug of abuse among consumers at admission to treatment was alcohol (50%) followed by marijuana (33%). However, 71 percent of the adolescents reported using marijuana. Strong, opiate-based pain killers were used by 19 percent of consumers. Eight percent used stimulants, six percent used hallucinogens, and five percent used cocaine.

The following two tables compare admission, discharge, and four to six months post-discharge levels on abstinence, and average days of substance use in the past 30 days. Among consumers with substance abuse diagnoses, there was a 38 percentage point increase in the rate of abstinence. There was also a meaningful and statistically significant overall reduction in the average days of substance use ($p \leq .004$).

Table 5. Substance Use Among Consumers with Substance Abuse Diagnoses (n=21)

Substance Use Outcome	Admission	Discharge	Post-discharge
Percent Not Using	14.3%	52.4%	52.4%
Avg. Days of Use	11.0	5.9	5.3

Among consumers with substance dependency diagnoses, there was a 39 percentage point increase in the rate of abstinence (see Table 6). There was a meaningful and statistically significant overall reduction in the average days of substance use ($p \leq .001$).

Table 6. Substance Use Among Consumers with Substance Dependency Diagnoses (n=33)

Substance Use Outcome	Admission	Discharge	Post-discharge
Percent Not Using	12.1%	21.2%	51.5%
Avg. Days of Use	14.6	9.4	4.7

While these findings are very positive, the actual abstinence rates may be lower, at about 39 percent, due to response and self-report bias issues discussed previously. These adjusted rates of post-discharge abstinence achieved among the Wisconsin sample of consumers and programs compare favorably with published studies (average 35.2%) discussed later.

No New Contact with the Juvenile/Criminal Justice System (or at least reduced contact)

At admission, the majority of consumers (64%) were under the supervision of the juvenile/criminal justice system. Some five months later at discharge, 50 percent were under juvenile/criminal justice supervision. Some nine to ten months after admission, 43 percent were under juvenile/criminal justice supervision.

Adolescent were asked about how many citations or tickets they received in the six months prior to admission, since admission, and since discharge. On the average, each consumer had 1.8 citations at admission. By discharge, the average was 0.4 citations, and from discharge to post-discharge follow-up, the average number of citations was 0.4. From the six month period prior to admission, to the approximately nine month period from admission to post-discharge, the number of citations were reduced 55 percent.

The average number of arrests reported by consumers in the six month period prior to admission was 1.2. During the approximately nine month period between admission and post-discharge follow-up, the average number of reported arrests had decreased 25 percent to 0.9.

Optional Consumer Outcomes

The remaining consumer outcomes were collected by just one (n=31) or two (n=59) agencies with the following principal findings:

- Reported mental health symptoms declined 19 percentage points from admission to post-discharge (35.5 percent to 16.7 percent);
- Youth enrolled in good standing at school increased 28 percentage points from admission to post-discharge (44.1 percent to 71.9 percent);
- The frequency of support group attendance increased 15 percent; and
- Relapse prevention skills increased 25 percent.

Summary of Published Studies on Adolescent Treatment

The following studies are considered methodologically rigorous, that is, most used experimental designs, had large samples, and, on the average, obtained post-discharge follow-up interview completion rates of at least 80 percent. All of the studies were on adolescent populations with post-admission follow-up lengths of 12 months or less.

- At 12 months after residential treatment, Jainchill and colleagues found an increase in abstinence of 9.5 percent. The abstinence rate at admission was 18.3 percent compared to an abstinence rate of 27.8 percent twelve months after discharge (Jainchill, et.al. 2000).
- Henggeler and colleagues, in a study of multisystemic therapy, found a 37 percent reduction in substance use scores from admission to six months after treatment (Henggeler, et.al. 2002).
- The abstinence rate among treatment completers in a Minnesota study was 23.4 percent at 12 months after admission. The rate among non-completers was 2.6 percent (Winters, et.al. 2000).
- A study of adolescent marijuana abuse treatment in four U.S. cities found a 36 percentage point reduction in marijuana use from admission to twelve months post-discharge (80 percent to 44 percent); juvenile/criminal justice involvement decreased 23 percent (76 percent to 53 percent); and school attendance increased 11 percent (63 percent to 74 percent) [Hser, et.al. 2001].
- In a study of individual and family behavior therapy, youth demonstrated significant decreases in the average number of days using substances. From admission to six months post treatment, the mean days of use decreased from 13.9 days to 8.5 days (Azrin, et.al. 2001).

- In another study of family therapy, days of substance use declined from 17 days at admission, to 11.4 days at four months after admission. At seven months after admission, days of use continued to decline to 10.9 days (Waldron, et.al. 2001).
- In the cannabis youth treatment study, Michael Dennis and colleagues at Chestnut Health Systems (Bloomington, IL) found abstinence rates increase from 7.4 percent at admission to 39.5 percent 12 months after admission to long-term residential treatment; for short-term residential treatment, abstinence rates increased from 5.5 percent to 26.1 percent; and for outpatient treatment, they increased from 15.1 percent to 32.1 percent (Dennis, et.al. under review).
- Cornwall and colleagues found that 40 percent of adolescents completing day treatment remained abstinent for a full year after discharge (Cornwall, et.al. 1998).
- The national treatment improvement evaluation study, which evaluated a number of adolescent treatment modalities, found significant reductions in substance use in outpatient treatment (an 18 percent decline) and residential treatment (a 22 percent decline) [Gerstein, et.al. 1999].
- In a Canadian study, at three months after outpatient treatment, 29 percent of participants had 30 days of uninterrupted abstinence and 40 percent had decreased their use substantially (Harvey-Janzen, 1995).
- Washington State's Division of Alcohol and Substance Abuse found abstinent rates six months after treatment to be about 40 percent; arrests declined from 62 percent of adolescents at admission to 36 percent of adolescents after treatment; school problems declined from 84 percent of adolescents to 43 percent; 92 percent of youth clients reported they were satisfied with the services they received.
- Hawaii's Alcohol and Drug Abuse Division evaluated adolescent treatment across the state finding that at six months post-discharge, 50 percent were abstinent, 81 percent had no re-arrests, and 93 percent had a stable living situation.
- In a study of the outcomes of a unique youth drug abuse program called Straight, Inc., 70 percent of youth reported that services helped them; 77 percent of the parents reported that services helped their son or daughter (Friedman, et.al. 1989).

Conclusions and Recommendations

This study and review of the literature demonstrates that adolescent treatment works in Wisconsin and across the United States. This study has shown, along with other studies, decreases in adolescent substance use and associated problems following treatment. Studies comparing those who complete treatment, to those who drop out, show positive outcomes for completers and negative outcomes for non-completers. Treatment interrupts significant health, safety, legal, psychological, interpersonal, family, and school problems among youth, and affords families the opportunity to recover.

Adolescent treatment agencies are encouraged to implement:

- ✓ Evidence-based approaches, such as cognitive behavior therapy, multisystemic therapy, behavioral therapy, multidimensional family therapy, Alcoholics Anonymous (AA) 12-step facilitation therapy, and the community reinforcement approach.
- ✓ Post-treatment monitoring/continuing care to maintain consumer's motivation for recovery, including phone call check-ups.

References

Alcohol and Drug Abuse Division (1996) Report of the Effectiveness of Adolescent Substance Abuse Treatment, Hawaii State Department of Health, Honolulu.

Azrin, N. H., Donohue, B., Teichner, G. A., Crum, T., Howell, J., & DeCato, L. A. (2001). A Controlled Evaluation and Description of Individual Cognitive Problem Solving and Family-behavior Therapies in Dually-diagnosed Conduct-disordered and Substance-dependent Youth. Journal of Child & Adolescent Substance Abuse, 11, 1-43.

Bergman, P.E., Smith, M.B., & Hoffman, N.G. (1995). Adolescent Treatment: Implications for Assessment, Practices Guidelines, and Outcome Management. Substance Abuse, 42(2), 453-472.

Blendon, R. (2000) Report on Public Attitudes Toward Illegal Drug Use and Drug Treatment, Harvard School of Public Health.

Bureau of Mental Health and Substance Abuse Services (2003) Emerging Effective Treatments for Adolescent Substance Dependency, State of Wisconsin Department of Health and Family Services.

Bureau of Mental Health and Substance Abuse Services (2005) Substance Abuse Treatment Needs Capacity and Costs, Wisconsin Department of Health and Family Services.

Bureau of Mental Health and Substance Abuse Services (2004) Statewide Alcohol and Drug Abuse Indicator Trends. Wisconsin Department of Health and Family Services.

Catalano, R., et.al. (1988), Relapse in the Addictions, School of Social Work, University of Washington, Seattle (synthesis of 285 studies).

Catalano, R. (1991) Evaluation of the Effectiveness of Adolescent Drug Abuse Treatment, Assessment of Risks for Relapse and Promising Approaches for Relapse Prevention. The International Journal of the Addictions 25, 1085-1140.

Cornwall, A., & Blood, L. (1998). Inpatient Versus Day Treatment for Substance Abusing Adolescents. Journal of Nervous and Mental Disease, 186, 580-582.

Dennis, M. L., Scott, C. K., Godley, M. D., & Funk, R. (2000, June). Predicting Outcomes in Adult and Adolescent Treatment with Case Mix vs. Level of Care: Findings from the Drug

Outcome Monitoring Study. Panel presentation at the College for Problems on Drug Dependence, San Juan, PR.

Dennis, M. L., Godley, S. H., Diamond, G., Tims, F. M., Babor, T., Donaldson, J., Liddle, H., Titus, J. C., Kaminer, Y., Webb, C. & Hamilton, N. (under review). Main Findings of the Cannabis Youth Treatment (CYT) Randomized Field Experiment.

Division of Alcohol and Substance Abuse (2004) Clients Speak Out, Washington State Department of Social and Health Services, Olympia.

Friedman, A. and Schwartz, R. (1989) Outcome of a Unique Youth Drug Abuse Program: A Follow-Up Study of Clients of Straight, Inc. Journal of Substance Abuse Treatment, Vol. 6.

Gerstein, D. R., & Johnson, R. A.. (1999). Adolescents and Young Adults in the National Treatment Improvement Evaluation Study. Rockville, MD: Center for Substance Abuse Treatment, Department of Health and Human Services.

Harvey-Jansen, Z. (1995). Adolescent treatment: Excellence Through Evaluation. Alberta, Canada: Alberta Alcohol and Drug Abuse Commission.

Henggeler, S. W., Clingempeel, W. G., Brondino, M. J., & Pickrel, S. G. (2002). Four-year Follow-up of Multisystemic Therapy with Substance-abusing and Substance-dependent Juvenile Offenders. Journal of the American Academy of Child & Adolescent Psychiatry, 41, 868-874.

Hoffmann, N. et.al. (1992), "Treatment Outcomes for Abstinence-Based Programs," Psychiatric Annals #22:8.

Hser, Y., Grella, C. E., Hubbard, R. L., Hsieh, S., Fletcher, B. W., Brown, B. S., & Anglin, M. D. (2001). An Evaluation of Drug Treatments for Adolescents in 4 US Cities. Archives of General Psychiatry, 58, 689-695.

Hubbard, R. L., Cavanaugh, E. R., Craddock, S. G., & Rachal, J. V. (1985). Characteristics, Behaviors and Outcomes for Youth in the TOPS. In A. S. Friedman & G. M. Beschner (Eds.), *Treatment Services for Adolescent Substance Abusers* (pp. 49-65). Rockville, MD: National Institute on Drug Abuse.

Hunt, W., et.al. (1970), Relapse Rates in Addiction Programs, Loyola University, Chicago (synthesis of 84 studies).

Jainchill, N., Hawke, J., DeLeon, G., & Yagelka, J. (2000). Adolescents in Therapeutic Communities: One-year Posttreatment Outcomes. Journal of Psychoactive Drugs, 32, 81-94.

Johnston, L. D., et. al. various reports and publications since 1975 under the *Monitoring the Future* project at the University of Michigan, Ann Arbor and the National Institute on Drug Abuse.

Office of Applied Studies (2004) The DASIS Report: Adolescent Treatment Admissions. Substance Abuse and Mental Health Services Administration.

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Titus, J. (1999) What Research Tells us About the Treatment of Adolescent Substance Use Disorders. Chestnut Health Systems, Bloomington, IL.

Waldron, H. B., Slesnick, N., Brody, J. L., Turner, C. W., & Peterson, T. R. (2001). Treatment Outcomes for Adolescent Substance Abuse at 4- and 7-month Assessments. Journal of Consulting and Clinical Psychology, 69, 802-813.

White, M. (2004) Emerging Models of Effective Adolescent Substance Abuse Treatment. Counselor, April 2004

Winters, K. C., Stinchfield, R. D., Opland, E., Weller, C., & Latimer, W. W. (2000). The Effectiveness of the Minnesota Model Approach in the Treatment of Adolescent Drug Abusers. Addiction, 95, 601-612

APPENDIX A

Data Collection Tool

ADOLESCENT OUTCOMES PROFILE FOR SUBSTANCE ABUSE TREATMENT PROGRAMS

Outcome	Staff _____ First Service Admission Date ____/____/____	Staff _____ Last Service Discharge Date ____/____/____	Staff _____ 4 to 6 Months Post Discharge Date ____/____/____
Positive Perception of Services Received			<p>Did you like the help you were getting?</p> <p>[1] Yes, definitely [2] Somewhat [3] No [9] Unknown</p> <p>Did you get the right kind of help?</p> <p>[1] Yes, definitely [2] Somewhat [3] No [9] Unknown</p> <p>Have the services helped you with your life?</p> <p>[1] Yes, definitely [2] Somewhat [3] No [9] Unknown</p> <p>How could we improve our services for you personally? (use bottom of form)</p>
Safe, Stable, Recovery-Appropriate Home	<p>Lived past 6 months:</p> <p>1 Own home or apartment 2 With parent(s) 3 With relative(s) 4 Friend(s) home 5 Foster or Group home, halfway house 6 Institution 7 Shelter 8 On the street, no fixed address 9 Unknown</p> <p>[1] One of the above [2] Two of the above [3] Three or more [9] Unknown</p> <p>Current place _____ (code from above 1-9)</p> <p>Place causes trouble or difficulties in recovery:</p> <p>[1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (a lot) [9] Unknown</p> <p>Happy with living situation:</p> <p>[1] Very happy [2] Somewhat happy [3] Somewhat unhappy [4] Very unhappy [9] Unknown</p>	<p>Lived since admission:</p> <p>1 Own home or apartment 2 With parent(s) 3 With relative(s) 4 Friend(s) home 5 Foster or Group home, halfway house 6 Institution 7 Shelter 8 On the street, no fixed address 9 Unknown</p> <p>[1] One of the above [2] Two of the above [3] Three or more [9] Unknown</p> <p>Current place _____ (code from above 1-9)</p> <p>Place causes trouble or difficulties in recovery:</p> <p>[1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (a lot) [9] Unknown</p> <p>Happy with living situation:</p> <p>[1] Very happy [2] Somewhat happy [3] Somewhat unhappy [4] Very unhappy [9] Unknown</p>	<p>Lived since discharge:</p> <p>1 Own home or apartment 2 With parent(s) 3 With relative(s) 4 Friend(s) home 5 Foster or Group home, halfway house 6 Institution 7 Shelter 8 On the street, no fixed address 9 Unknown</p> <p>[1] One of the above [2] Two of the above [3] Three or more [9] Unknown</p> <p>Current place _____ (code from above 1-9)</p> <p>Place causes trouble or difficulties in recovery:</p> <p>[1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (a lot) [9] Unknown</p> <p>Happy with living situation:</p> <p>[1] Very happy [2] Somewhat happy [3] Somewhat unhappy [4] Very unhappy [9] Unknown</p>

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<p>Positive Family Interactions or Relationships</p>	<p>Past 30 days, serious conflicts or quarrels with immediate family members: [1] Not at all [2] Rarely (one brief occasion) [3] On a few occasions (2-3) [4] On many occasions (1 or more times a week; withdrawn; ran away) [9] Unknown</p> <p>Troubled about family problems: [1] Not at all [2] Slightly (a little bit; some) [3] Moderately (in between; medium) [4] Extremely (a big problem; a lot) [9] Unknown</p>	<p>Past 30 days, serious conflicts or quarrels with immediate family members: [1] Not at all [2] Rarely (one brief occasion) [3] On a few occasions (2-3) [4] On many occasions (1 or more times a week; withdrawn; ran away) [9] Unknown</p> <p>Troubled about family problems: [1] Not at all [2] Slightly (a little bit; some) [3] Moderately (in between; medium) [4] Extremely (a big problem; a lot) [9] Unknown</p>	<p>Past 30 days, serious conflicts or quarrels with immediate family members: [1] Not at all [2] Rarely (one brief occasion) [3] On a few occasions (2-3) [4] On many occasions (1 or more times a week; withdrawn; ran away) [9] Unknown</p> <p>Troubled about family problems: [1] Not at all [2] Slightly (a little bit; some) [3] Moderately (in between; medium) [4] Extremely (a big problem; a lot) [9] Unknown</p>
<p>Motivated to Recover</p>	<p>Importance of recovery: [1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (very) [5] Has cut down or quit using [9] Unknown</p>	<p>Importance of recovery: [1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (very) [5] Has cut down or quit using [9] Unknown</p>	<p>Importance of recovery: [1] Not at all [2] Slightly (some) [3] Moderately (in between) [4] Extremely (very) [5] has cut down or quit using [9] Unknown</p>
<p>Abstinent or Reduced Use of Substances</p>	<p>Substance(s) Used (past 30 days; check up to 3 boxes): [1] alcohol [2] pain killers [3] sleeping pills [4] tranquilizers [5] stimulants [6] marijuana [7] cocaine [8] heroin [9] hallucinogens [10] inhalants [11] _____ other</p> <p>_____ # days drinking or using drugs in past 30 days (or prior to controlled setting) 99 unkn</p>	<p>Substance(s) Used (past 30 days; check up to 3 boxes): [1] alcohol [2] pain killers [3] sleeping pills [4] tranquilizers [5] stimulants [6] marijuana [7] cocaine [8] heroin [9] hallucinogens [10] inhalants [11] _____ other</p> <p>_____ # days drinking or using drugs in past 30 days (99 unkn)</p>	<p>Substance(s) Used (past 30 days; check up to 3 boxes): [1] alcohol [2] pain killers [3] sleeping pills [4] tranquilizers [5] stimulants [6] marijuana [7] cocaine [8] heroin [9] hallucinogens [10] inhalants [11] _____ other</p> <p>_____ # days drinking or using drugs in past 30 days (99 unkn)</p>
<p>No New or Reduced Contact with the Juvenile or Criminal Justice System</p>	<p>Under supervision? [1] Yes [2] No [9] Unknown</p> <p>Within past 6 months: # citations or tickets _____</p> <p># arrests for delinquent acts, crimes, or violations _____ (99 unkn)</p>	<p>Under supervision? [1] Yes [2] No [9] Unknown</p> <p>Since admission: # citations or tickets _____</p> <p># arrests for delinquent acts, crimes, or violations _____ (99 unkn)</p>	<p>Under supervision? [1] Yes [2] No [9] Unknown</p> <p>Since discharge: # citations or tickets _____</p> <p># arrests for delinquent acts, crimes, or violations _____ (99 unkn)</p>

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NOTES (ways services could be improved; respondent cooperativeness; honesty; reason information not gathered; etc.):
