

NEDS ANALYTIC SUMMARY

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Highlights

Adolescents and young adults in NTIES significantly reduced their substance use following outpatient and long-term residential treatment.

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study



NEDS Analytic Summary Series

The Center for Substance Abuse Treatment (CSAT) works to improve the lives of those affected by alcohol and other substance abuse, and, through treatment, to reduce the ill effects of substance abuse on individuals, families, communities, and society at large. Thus, one important CSAT mission is to expand the knowledge about effective substance abuse treatment and recovery services. In support of these efforts, CSAT established the National Evaluation Data Services (NEDS) contract to provide a wide array of secondary data analysis products to the substance abuse treatment field.

Specifically, the NEDS project is focused upon providing CSAT with an analytic capability to use existing data to address policy- and practice-relevant topics as well as future research and evaluation activities. NEDS has developed several product lines designed to provide analytic findings to substance abuse treatment policy makers, service providers, services researchers and evaluators in a format that is most useful to the end user.

The Analytic Summary is one of the NEDS product lines. The purpose of the Analytic Summary is to provide a brief summary of each analysis performed under NEDS written in non-technical language. Readers who find the Analytic Summary results of interest can contact the authors for more detailed information. Through this process, the NEDS Analytic Summaries provide information to the substance abuse treatment field and promote linkages among different areas in the field.

This Analytic Summary

This Analytic Summary is based on analyses done by Dean R. Gerstein and Robert A. Johnson at the National Opinion Research Center (NORC). NORC prepared the summary under Contract No. 270-97-7016 for the Center for Substance Abuse Treatment. Information for obtaining additional copies is provided on the last page of this summary.

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Adolescents and Young Adults in the National Treatment Improvement Evaluation Study

Understanding treatment issues specific to adolescents and young adults is vital to improving treatment outcomes for these important populations. This analytic summary provides highlights of findings on adolescents (ages 13-17) and young adults (ages 18-20) who participated in the National Treatment Improvement Evaluation Study (NTIES). The analysis compares the demographic and pre-treatment characteristics of adolescents and young adults to those of older adults in treatment in NTIES. It also provides some estimates of the effectiveness of various modalities of substance abuse treatment in reducing drug and alcohol use among adolescents and young adults.

NTIES was funded by CSAT to evaluate the effectiveness of the comprehensive treatment model and to assess the impact of CSAT funding on demonstration projects. Data were collected from 1993 to 1995.

The goals of this analysis are:

- To describe and compare the demographic, pre-treatment substance use, and treatment characteristics of adolescents, young adults, and other adults in treatment based on the NTIES sample
- To provide some estimates of the effectiveness of various types of substance abuse treatment in reducing substance use among adolescents and young adults.

The following analysis describes the respondents and outcomes of the NTIES project.

The Research Sample

Adolescents (ages at admission: 13-17 years) were a small part of the NTIES population. They comprised barely 5 percent (N=236) of the 4,411 participants and were treated in 15 of the service delivery units. This analysis compares NTIES sample adolescents with young adults (N=246, ages 18-20 years) and all older adults (N=3,929, ages 21-70 years). These are compared in Exhibit 1 with respect to:

- Demographic characteristics (sex, race/ethnicity)
- Other pre-treatment substance use characteristics (primary substance(s) treated for, number of prior treatment episodes, reason for entering treatment)
- Treatment service characteristics (length of stay, completion of treatment, and modality of treatment).

Demographic Characteristics. NTIES adolescents and young adults in treatment were more likely than older adults to be male (79% and 86% versus 67%) and Hispanic (33% and 33% versus 13%). Adolescents and young adults were more evenly divided among the three major ethnic groups than older adults, the majority of whom (59%) were non-Hispanic black.

Substance Use Patterns. NTIES adolescents in treatment were:

- Much more likely than older adults to report marijuana or a combination of marijuana and alcohol as their primary reason for entering treatment (56% of adolescents, 45% of young adults, 21% of older adults)
- More likely than adults to have no prior treatment episodes (67%, 50%, 37%)
- The least likely age group to have been pressed toward treatment by the criminal justice system (50%, 61%, 75%).

Treatment Services. Nineteen out of twenty adolescents were enrolled either in non-methadone outpatient (58%) or in one of three long-term residential facilities (37%).¹ Adolescents were much less likely than young adults and older adults to be enrolled in methadone, correctional, and short-term residential facilities. In addition:

- Adolescents tended to stay in treatment somewhat longer than older adults; about 60 percent of adolescents stayed for longer than the median length-of-stay for their type of treatment, compared with 53 percent of young adults and 47 percent of older adults.²

¹ Long-term residential facilities are those with typical treatment plans of 2 months or longer. Short-term residential facilities are those with typical treatment plans of less than 2 months.

² Overall median length of stay in the NTIES sample equals 2 months. Median length of stay equals 7 months in methadone programs, 3 months in nonmethadone outpatient facilities, 1 month in short-term residential facilities, 2 months in long-term residential facilities, and 2 months in correctional facilities.

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study (cont.)

Exhibit 1
Description of NTIES Sample by Age¹

	All Cases	Adolescents Age 13-17	Young Adults Age 18-20	Older Adults Age 21-70
Number of Cases	4,411	236	246	3,929
Sex				
Male	69%	79%	86%	67%
Female	31%	21%	14%	33%
Race/ethnicity				
White non-Hispanic	26%	36%	37%	25%
Black non-Hispanic	55%	26%	25%	59%
Hispanic	15%	33%	33%	13%
Primary substance(s)				
Alcohol only	16%	10%	16%	17%
Marijuana (only or + alcohol)	8%	46%	29%	4%
Heroin, crack, or cocaine	65%	14%	40%	70%
Prior treatment episodes				
None	39%	67%	50%	37%
One	24%	17%	22%	25%
Two or more	37%	16%	28%	39%
Reason for entering treatment				
Criminal Justice pressure	72%	50%	61%	75%
Type of treatment				
Methadone	10%	0%	1%	11%
Non-methadone outpatient	36%	59%	32%	34%
Short-term residential	20%	3%	12%	21%
Long-term residential	19%	37%	17%	18%
Correctional	16%	2%	38%	16%
Duration of treatment				
Above the median	48%	60%	53%	47%
Completion of treatment				
Still in treatment	6%	7%	6%	6%
Completed treatment	39%	30%	25%	40%
Treatment not completed	55%	63%	69%	54%

¹ Since the percentages in this table have been rounded, they may not sum to exactly 100 percent.

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study (cont.)

- Nevertheless, adolescents and young adults tended less than older adults to have completed the objectives of their treatment plans by the time of the final interview (30% of adolescents and 25% of young adults versus 40% of older adults).

The Effectiveness of Treatment

Exhibit 2 shows pre-/post-treatment comparisons on five measures of substance use for adolescents and young adults in outpatient and long-term residential facilities, where most adolescents were treated. The

five measures are percentages of clients who on five or more occasions during the past year used marijuana, cocaine powder (the two most common substances in this age range), the specified primary substance (the substance reported as the primary reason for entering treatment, including alcohol, any illicit substance, and the percentage who were drunk at least once during the past 30 days).

Primary Substance Use. The percentage of respondents continuing to use their primary substance, including alcohol, during the past year declined significantly

Exhibit 2
Use of Drugs Pre- and Post-Treatment by Age and Treatment Type¹

Age at Entry Modality (Base n)	Measure ²	Prevalence		Percent Change
		Pre-tx	Post-tx	
Age 13-17 Nonmethadone Outpatient (n = 138)	Primary substance ≥ 5 times in past year	88%	72%	-18%*
	Marijuana ≥ 5 times in past year	77%	69%	-10%
	Cocaine ≥ 5 times in past year	13%	13%	- 0%
	Any illicit substance ≥ 5 times in past year	79%	71%	-10%
	Drunk in past 30	32%	37%	17%
Age 13-17 Long-term Residential (n = 88)	Primary substance ≥ 5 times in past year	100%	78%	-22%*
	Marijuana ≥ 5 times in past year	97%	72%	-26%*
	Cocaine ≥ 5 times in past year	52%	30%	-43%*
	Any illicit substance ≥ 5 times in past year	99%	77%	-22%*
	Drunk in past 30 days	52%	45%	-15%*
Age 18-20 Nonmethadone Outpatient (n = 79)	Primary substance ≥ 5 times in past year	81%	65%	-23%
	Marijuana ≥ 5 times in past year	72%	47%	-35%
	Cocaine ≥ 5 times in past year	25%	10%	-59%
	Any illicit substance ≥ 5 times in past year	76%	52%	-31%
	Drunk in past 30 days	28%	37%	34%
Age 18-20 Long-term Residential (n = 42)	Primary substance ≥ 5 times in past year	97%	53%	-45%*
	Marijuana ≥ 5 times in past year	86%	50%	-42%*
	Cocaine 5 times in past year	57%	17%	-70%*
	Any illicit substance ≥ 5 times in past year	98%	52%	-47%*
	Drunk in past 30 days	60%	23%	-62%*

* Statistically significant pre-/post-treatment change based on two-tail paired t-test, $\alpha > .05$.

¹ Since the pre- and post-treatment percentages in this table have been rounded, the percent change in the last column may not exactly equal $100 \times (\text{post-treatment } \% - \text{pre-treatment } \%) / \text{pre-treatment } \%$.

² Designation of "primary substance" is based on the substance(s) reported as "reasons the participant entered treatment"—alcohol (10% among 13-17 years old; 15% among 18-20), marijuana with or without alcohol (46%; 29%), heroin (0.4%; 3%), heroin and other substances (4%; 11%), cocaine powder with or without other substances (6%; 17%), crack cocaine with or without other substances (3%; 9%), and all other substances and combinations, including hallucinogens and inhalants (28%; 16%).

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study (cont.)

in both young age groups for both types of treatment. The percent reductions in primary substance use were:

- 18 percent decrease for adolescents in outpatient facilities
- 22 percent decrease for adolescents in long-term residential facilities
- 23 percent decrease for young adults in outpatient facilities
- 45 percent decrease for young adults in long-term residential facilities.

Any Illicit Substance Use. The percentage continuing to use any substances also declined in each group. Reductions range from a 10 percent decrease among adolescents in outpatient facilities, to a 47 percent drop among young adults in long-term residential settings. Similarly, the percentages using marijuana and cocaine declined significantly in every comparison group except adolescents in outpatient SDUs. For example, the percentage using marijuana in the past year declined by 26 percent among those aged 13-17 in long-term residential facilities, by 35 percent among those aged 18-20 in outpatient facilities, and by 42 percent among those aged 18-20 in long-term residential facilities, but this percentage declined by only 10 percent among those aged 13-17 in outpatient facilities.

An especially interesting finding is that the percentage drunk in the past 30 days increased, although not to a statistically significant degree, for each age group in outpatient treatment. In contrast, the percentage decreased significantly for both groups who were treated in long-term residential facilities. Given the importance of heavy alcohol use in the development of problem substance use during adolescence and young adulthood, this finding merits particular attention, especially since these differences were reported during the follow-up period. Additional analyses are needed to determine whether these differences are attributable to the different treatment settings or may reflect other characteristics.

Residential and Outpatient Services. For more than half the measures of substance use in both age groups, the net reductions in substance use across treatment in long-term residential facilities were larger than the reductions observed in outpatient services, by statistically significant margins. These findings suggest that residential treatment may have been more effective for young clients than outpatient treatment. However, the analyses reported here go no further than a suggestion for additional study, because the samples were small and may have differed in other respects at admission to treatment and in the extent of treatment compliance or completion, and these elements may account for the pattern of observed differences.

Adolescents Versus Younger Adults. A second observation was that those aged 18-20 generally reported greater pre-/post-treatment reductions in substance use than the adolescents aged 13-17. For example, among adolescents in long-term residential facilities, the relative changes in drug use were only about half as large (except for the much steeper differential in the last measure, percent drunk in the past 30 days) than among the young adults (see Exhibit 2 and Exhibit 3).

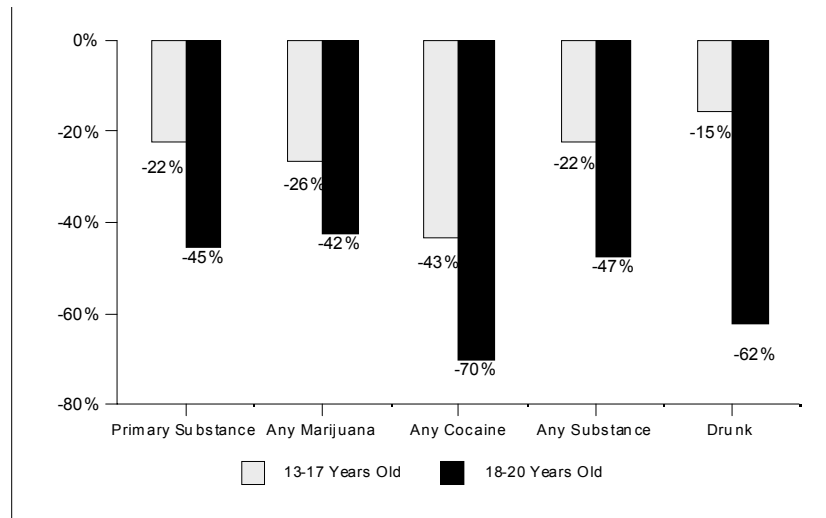
This appearance of a diminished response to treatment among adolescents versus young adults in NTIES must be tempered, because the samples being compared are modest in size and non-probability in character. Also, in the life cycles of contemporary Americans, most substance use tends to increase most rapidly during adolescence and less rapidly during early adulthood.³

Treatment effectiveness among adolescents may be masked by the general trend toward rapidly increasing substance use during this age span. For example, Exhibit 2 suggests that outpatient programs were not reducing cocaine use among adolescents, because the percentage using cocaine in the past year was about 13 percent both before and after treatment. Yet, in the absence of treatment, the percent using cocaine might have increased, rather than remaining stationary, because of the population-wide tendency of substance use to increase with age during adolescence. Whether this population-wide process can be read into the

³ See, for example, Robert A. Johnson et al., *Trends in the Incidence of Drug Use in the United States*, Department of Health and Human Services, Substance Abuse and Mental Health Services Administration Publication No. (SMA) 96-3076, 1996.

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study (cont.)

Exhibit 3
Percent Change in Use of Substances for Adolescents and Young Adults in Long-term Residential Facilities (See Exhibit 2)



subgroup who sought treatment in NTIES service delivery units requires further exploration.

The relatively small number of adolescents and units treating them in NTIES requires us to sound a cautionary note on generalizing too freely from the data reported here. We believe that the NTIES clients sampled from CSAT service delivery units are fundamentally representative of the public sector treatment population. Results from NTIES are therefore generalizable to this segment of the treatment population. However, this sample may not be fully representative of all treatment services and clients in the United States. Therefore, formal statistical inferences to the wider treatment population should not be drawn due to the non-probability nature of the sample. Other possible sources of bias in the results include nonresponse and measurement errors. However, response rates are appreciably higher than in other comparable evaluations and well above the typical threshold of concern in longitudinal studies; we have been able to perform some key tests of validity and reliability that reduce concern on these dimensions.

Conclusions

Adolescents and young adults significantly reduced their substance use as the result of treatment. Both outpatient and long-term residential programs appeared effective in reducing adolescents' use of their primary substance(s)—the substance or substances for

which they sought treatment. Long-term residential facilities served adolescents who used different substances at higher rates, and these facilities yielded proportionately greater reductions in substance use than outpatient units. Although the effectiveness of treatment appears to be somewhat less among adolescents than among 18 to 20 year olds, this conclusion must be tempered because of the modest number of cases in the comparison, the tendency in the general adolescent population for substance use to increase rapidly during adolescence, and possible differences in the types of individuals who enter treatment during adolescence versus early adulthood.

The demographic profiles and pre-treatment characteristics of adolescents and young adults in the National Treatment Improvement Evaluation Study were notably different from those of older adults in NTIES. In particular, the adolescents (ages 13-17 years) were more likely than older adults (ages 21-70) to be:

- Male (79% versus 67%)
- Hispanic or non-Hispanic white (74% versus 41%)
- In treatment for the first time (67% versus 37%)
- Not in treatment for crack, cocaine, or heroin (86% versus 30%)

Adolescents and Young Adults in the National Treatment Improvement Evaluation Study (cont.)

- Not under criminal justice pressure (50% versus 25%).

Adolescents tended to stay in treatment longer but complete treatment less often than older individuals, and were concentrated in two of the five types of service delivery units studied: non-methadone outpatient and long-term residential.

For more information, please contact the National Evaluation Data Services analysis team at (703) 385-3200, or visit the NEDS Web site.

**Find more on the web
<http://neds.calib.com>**

The authors of this Analytic Summary are Dean R. Gerstein and Robert A. Johnson of the National Opinion Research Center (NORC).

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National Treatment Improvement Evaluation Study (NTIES)

This analysis was performed on data derived from the National Treatment Improvement Evaluation Study (NTIES). The NTIES was a national treatment services evaluation of the effectiveness of substance abuse treatment services delivered in comprehensive treatment demonstration programs supported by the Center for Substance Abuse Treatment (CSAT).

The NTIES project collected longitudinal data between FY 1992 and FY 1995 on a purposive sample of clients in treatment programs receiving demonstration grant funding from CSAT. Data were derived from client interviews conducted at three points in time: at treatment intake, at treatment exit, and 12 months after treatment exit.

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