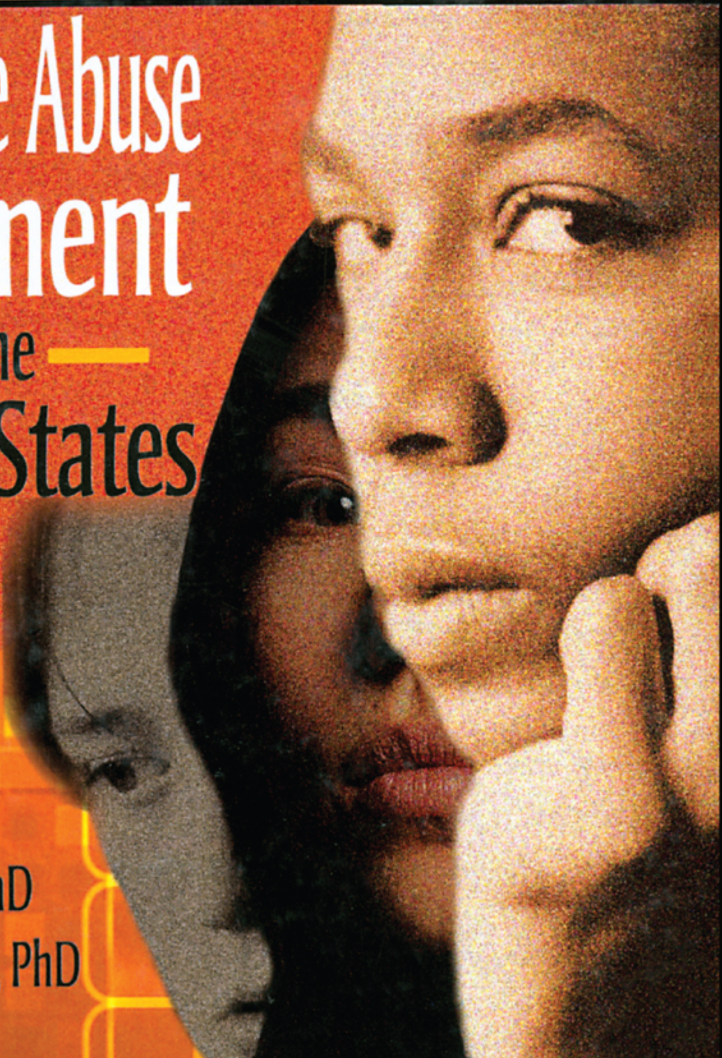
Adolescent

Substance Abuse Treatment in the United States



Sally J. Stevens, PhD
Andrew R. Morral, PhD
Editors

Exemplary Models from a National Evaluation Study

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CONTENTS

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Preface

Substance abuse disorders among adolescents are a serious public health concern. As the number of adolescents presenting for treatment to the nation's public treatment systems continues to increase, the urgency for effective substance abuse treatment models also continues to increase. Few evaluation studies on the effectiveness of adolescent substance abuse treatment have been conducted. Those that have been conducted are limited by the variety of different programs and undefined approaches evaluated, along with problems related to small samples and marginal follow-up rates. Moreover, the field lacks manualized treatment approaches that can be easily disseminated to treatment providers who work with our nation's substance involved youth (see Dennis et al., Chapter 1).

To address the need for evaluating, documenting, and disseminating effective adolescent substance abuse treatment models, the Substance Abuse and Mental Health Service Administration's Center for Substance Abuse Treatment funded the Adolescent Treatment Models program in which ten exemplary adolescent treatment programs in the United States are being evaluated. Adolescents enrolled in these exemplary programs participated in a baseline (intake) assessment and follow-up assessments at some or all of the three, six, nine, and twelve-month postbaseline follow-up points. With follow-up rates averaging over 90 percent for all ten sites, treatment outcomes can be compared not only within each program (i.e., early drop outs compared to treatment completers) but across the ten exemplary treatment programs. Each site also participated in a cost analysis so that treatment outcomes can be compared against the cost of treatment. Perhaps most important to the field is the dissemination of information about the ten exemplary adolescent treatment programs, including a detailed description of the treatment model, age-specific treatment issues pertaining to adolescent substance users, and a description of client characteristics. To this end, program directors for each program have not only agreed to manualize their program approach but have also contributed a chapter to this edited collection describing the treatment model along with treatment issues and client characteristics.

This edited collection begins with an overview by Dennis and colleagues, which examines trends in adolescent substance use and treatment approaches along with the need for developing and evaluating adolescent substance abuse treatment programs. Specifics on the Adolescent Treatment Models (ATM) program are detailed including the assessments used in this national evaluation study.

In the second section, three exemplary outpatient treatment programs are described. The first chapter in this section by Stevens and colleagues describes the teen substance abuse treatment program including the program design, treatment issues, and client characteristics. This chapter is followed by the Harrington Godley and colleagues chapter which describes an outpatient and an intensive outpatient treatment model implemented at Chestnut Health Systems. The final chapter in Section II, authored by Battjes and colleagues, describes a group-based outpatient adolescent treatment program.

Section III includes one chapter which focuses on a family-oriented outpatient treatment model. Rowe and colleagues describe the multidimensional family therapy approach (MDFT) used to intervene with younger adolescents.

In the fourth section, three exemplary residential treatment models are examined. The first chapter in this section authored by Fishman, Clemmey, and Adger describes a thirty- to sixty-day residential treatment program which is primarily based on a medical model but incorporates treatment approaches from the therapeutic community model. This chapter is followed by that of Stewart-Sabin and Chaffin which illuminates special treatment issues of American Indian youth and details a bicultural approach that takes into account the treatment needs of substance-involved American Indian adolescents. The final chapter in this section by Stevens and colleagues describes a residential step-down approach to treatment which includes a one-month residential component followed by a two-month intensive aftercare component and a two-month nonintensive aftercare component. Issues of gender differences in drug use and experiences of trauma are also examined.

The fifth section includes three chapters on modified therapeutic community treatment models. Morral and colleagues describe the adolescent therapeutic community model employed by Phoenix House along with baseline client descriptions of both the exemplary program and a comparison treatment group. Next, Perry and colleagues describe a multiphase, step-down approach to treatment embedded within the therapeutic community model. In the final chapter Shane, Cherry, and Gerstal examine Thunder Road's hybrid residential approach which is primarily based upon a therapeutic community approach incorporating elements of the medical model.

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SECTION I: OVERVIEW

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Chapter 1

The Need for Developing and Evaluating Adolescent Treatment Models

Michael L. Dennis
Samia Dawud-Noursi
Randolph D. Muck
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The growing number of adolescents presenting for treatment to the nation's public treatment system pose many challenges. Rather than personally seeking treatment, many of these adolescents are being mandated to attend treatment by the criminal justice system or their parents. Most providers in the system use treatment approaches geared toward adults and their patterns of substance use, and evaluations of these approaches when used with adolescents have produced mixed results. Few formal adolescent treatment models exist that have demonstrated effectiveness and affordability in community-based programs. Furthermore, even fewer exist that have been manualized sufficiently for replication by other programs.

The Center for Substance Abuse Treatment (CSAT) has responded to this gap with a three-prong effort:

The presentation and chapter were supported by funds from the Center for Substance Abuse Treatment (CSAT) of the Substance Abuse and Mental Health Services Administration, Department of Health and Human Services. The opinions stated here are those of the authors and do not reflect official positions of the government or any other agency. The authors would like to thank Rod Funk, Kristin Zempolich, Joan Unsicker, Bill White, and Michelle White for assistance in preparing the manuscript. Contact Information: Michael Dennis, PhD, Senior Research Psychologist, Chestnut Health Systems, Lighthouse Institute, 720 W. Chestnut, Bloomington, IL 61701; Phone: 309-829-1058, x3409; Fax: 309-829-4661; <e-mail: mdennis@chestnut.org>.

1. Collaborating with the National Institute on Alcohol Abuse and Alcoholism (NIAAA) to fund fourteen research studies on adolescent treatment (personal communications from Cherry Lowman on March 28, 2001)
2. Funding a multisite randomized field experiment of five of the most promising approaches to adolescent outpatient treatment based on research and expert opinion (see Dennis, Babor, et al., 2000; Dennis, Titus, et al., 2002)
3. Setting up the Adolescent Treatment Model (ATM) program to fund the manualization and empirical evaluation of existing exemplary adolescent programs (described in this book)

This chapter provides background on the problem, the public treatment system for adolescents in the United States of America (USA), evaluations of existing practice, and CSAT's efforts to identify and develop evidence-based models of effective treatment based on exemplary programs under ATM.

ADOLESCENT SUBSTANCE USE AND PROBLEMS

After declining from the early 1980s until 1992, illicit drug use among adolescents has begun to increase (Monitoring the Future [MTF], 1999). Between 1991 and 1999, past-year illicit drug use rose from 29 to 42 percent among twelfth graders and from 11 to 21 percent among eighth graders. Although the rate of increase has leveled off in the past three years, the current rates are almost 1.5 to 2 times the 1992 low. More than twice as much past-month marijuana use exists as all other drugs combined among adolescents in eighth grade (10 percent versus 5 percent) and twelfth grade (23 percent versus 10 percent); marijuana is also more likely to be used daily than even alcohol by both eighth graders (1.4 percent versus 1.0 percent) and twelfth graders (6.0 versus 3.4 percent). Moreover, among twelfth graders the perceived risk of using marijuana, which is inversely related to use, is as low as it has been since 1982. Unfortunately, these perceptions do not match the facts.

A common progression of adolescent substance users includes some experimentation followed by opportunistic (e.g., parties with friends) use of tobacco and alcohol (often to intoxication), followed by regular (weekly or more) use of marijuana (with continued use of tobacco and alcohol and increasing experimentation with other substances) (Golub and Johnson, 1994; Johnson and Gerstein, 1998; Kandel and Yamaguchi, 1985, 1993; Kandel, Yamaguchi, and Chen, 1992; Newcomb and Bentler, 1986, 1990). Compared to nonusers, adolescents in this latter group were three to forty-seven times more likely to have a host of other problems including symptoms of dependence, emergency room admissions, dropping out of school, behavioral problems, fighting, nondrug related legal problems, any legal problems, and being arrested. Unfortunately, fewer than 10 percent of adolescents with past-year symptoms of dependence have ever received treatment (Dennis and McGeary, 1999). While alcohol use continues to be a problem with this generation of adolescents, for the first time another illicit drug, marijuana, has become the leading substance mentioned in adolescent emergency room admissions and autopsy reports (Office of Applied Studies [OAS], 1995a). Part of the reason for this is that from 1980 to 1997 marijuana became significantly more potent, with the amount of delta-9-tetrahydrocannabinol (Δ^9-THC) found in marijuana seizures rising over threefold, from less than 1.5 to 4.5 percent (El Sholy et al., 2000). Marijuana use alone and/or in combination with alcohol and other drugs is believed to be one of the major contributing factors to violent deaths and accidents among adolescents. It has been reported as being involved in as many as 30 percent of adolescent motor vehicle crashes, 20 percent of adolescent homicides, 13 percent of adolescent suicides, and 10 percent of other unintentional injuries among adolescents (Centers for Disease Control [CDC], 1997; McKeown, Jackson, and Valois, 1997; OAS, 1995a).

Some people think that adolescent substance use is almost a rite of passage and that adolescents will outgrow it: unfortunately the evidence is mixed. From age twelve to twenty the rates of past-month substance use more than double for alcohol (20 to 75 percent), tobacco (18 to 40 percent), and marijuana (8 to 27 percent); by age thirty, alcohol drops off by about 2 percent, tobacco by 5 percent, and marijuana drops off by 15 percent (Anthony and Arria, 1999). (Note that while they follow the same pattern, no other substance peaks over 5 percent.) While some adolescents do stop on their own, most who start using marijuana regularly at an early age have been found repeatedly to continue or increase their use and related problems (e.g., abuse or dependence, dropping out of school, getting in fights, being arrested) (Hofler et al., 1999; Jessor and Jessor, 1975; Perkonigg et al., 1999).

These trends are likely to worsen because the age of onset has been decreasing over the past thirty years (Dennis and McGeary, 1999; Dennis, Babor, et al., 2002). Using data from the National Household Survey on Drug Abuse, the first set of columns of Table 1.1 shows the population estimate and prevalence of adult lifetime users of tobacco, alcohol, marijuana, and other drugs. The next set of columns shows the percent of lifetime users who report one or more symptoms of past-year dependence by age and overall. The last column shows the odds ratio of having problems for those who start using a given substance under the age of fifteen versus those who start over the age of eighteen. For tobacco and alcohol, 32 to 36 percent report one or more problems, with those starting before the age of fifteen being significantly more likely than those starting over the age of eighteen to have current (past-year) problems (odds ratios of 1.49 and 2.74 respectively). For marijuana and other drugs, 49 percent reported one or more problems, with those starting earlier reporting being more likely to have current problems (odds ra-

TABLE 1.1. Percentage of Lifetime Users with 1+ Symptoms of Dependence or Substance-Induced Disorders by Age of First Use

	1998 Lifetime Users[a]		% With 1+ Problems[b]				
			Age of First Use[c]				
Substance	**Population**	**%**	**<15**	**15-17**	**18+**	**Total**	**Odds Ratio[d]**
Tobacco	151,442,082	69	39	37	30	36	1.49 *
Alcohol	176,188,916	81	45	34	23	32	2.74 *
Marijuana	71,704,012	33	63	51	41	49	2.45 *
Other drugs	38,997,916	18	71	62	48	56	2.65 *

Source: 1998 NHSDA (OAS, 2000) Public Use Tapes.

*$p < .05$

[a]Based on an estimated total household population size of 218,444,761

[b]Percent with 1+ past-year problems at the time of the interview (mean current age of 41 overall, 43 for alcohol and tobacco users, 36 for marijuana users and 35 for other drug users)

[c]Age at the time of first use of a given substance, which is grouped separately for each row and an average of 20 years earlier

[d]Calculated as [(% under 15)/(1-% under 15)]/[(% 18+)/(1-% 18+)]

tios of 2.45 and 2.65 respectively). While many adolescents who try or use substances do not have problems, a 50 percent or more risk of having continued problems for an average of eleven to twelve years is an unacceptable loss for our nation's public health system. It is also important to note that of all adults reporting one or more symptoms of tobacco, alcohol, or marijuana dependence, 90 percent started using under the age of eighteen (50 percent under the age of fifteen).

The onset and impact of adolescent substance use is also intertwined with a wide range of comorbid (i.e., both cause and consequence) psychological and behavioral conditions including conduct disorder, attention deficient/hyperactivity disorder (ADHD), depression, anxiety, a variety of stress disorders, oppositional defiant disorder (ODD), and reactive attachment disorder (Crowley and Riggs, 1995; Dennis, Scott, et al., 2000; Dennis, Godley, and Titus, 1999; Kaminer, 1994, 1995; Risberg, Stevens, and Graybill, 1995; Robins and McEvoy, 1990). Generally, these studies have found that over 75 percent of the adolescents entering treatment have one or more of these other conditions, with over 50 percent having three or more. In one of the most extensive comparisons across ages and levels of care, the Drug Outcome Monitoring Study (DOMS) (Dennis, Godley, and Titus; 1999; Dennis, Scott, et al., 2000; Godley, Godley, and Dennis, 2001) showed that relative to adults, adolescents were more likely to have externalizing problems such as conduct disorder or ADHD, engage in violent/aggressive behaviors, and are less likely to report internalizing or mood disorders such as depression, anxiety, or stress disorders. Moreover, the rate of these problems was substantially higher among adolescents in inpatient versus outpatient levels of care. While the rate of these problems generally increases with age in the community, in these clinical samples the severity of substance use and comorbid problems were actually higher among females and younger clients: the authors attributed this to a threshold effect in which the problems had to be worse for the system or the families to refer these subgroups to treatment.

THE PUBLIC TREATMENT SYSTEM FOR ADOLESCENTS IN THE UNITED STATES

Public treatment programs in the United States are required to collect a core set of information for their state, which is then submitted to the federal government as part of the national Treatment Episode Data Set (TEDS). Using reports from the Office of Applied Studies (OAS, 1999; 2000) and public data tapes made available through the University of Michigan (see www.icpsr.umich.edu/SAMHDA), we can assess how the public treatment system for adolescents in the United States has changed from 1992 to 1998 and what it looks like as of 1998 (the most recent data publically available).

TEDS includes nineteen core questions related to demographic characteristics such as gender, race, age, education, and marital status; the primary, secondary, and tertiary substances for which adolescents are being treated, their typical route of administration, frequency of use, and age at first use; the source of referral to treatment; and type of treatment being provided. An additional supplemental data set provided by about 60 percent of the states includes more detailed information on referrals, other client problems, and diagnosis. TEDS is based on treatment admissions, not unique individuals. It is voluntary for clients and has some missing data. It is also voluntary for programs in some states, and some programs either do not report or report too late to be included. TEDS does not include data from exclusively private facilities, those operated by other federal agencies (e.g., the Veterans Administration, Bureau of Prisons, Indian Health Service), treatment provided by individual therapists, or the treatment of codependents. OAS (1999, 2000) estimates that TEDS covers 83 percent of the targeted public treatment system admissions and 67 percent of all admissions (including other federal and private providers). For this chapter we have subset the public use data tapes to the TEDS admissions related to people under the age of eighteen. The public use data are a random sample of the entire data set, so the population estimates here have been weighted to make them equal to the published adolescent treatment population estimates for the whole data set.

Table 1.2 shows the characteristics of adolescent admissions in 1992 and 1998 in terms of population estimate and proportion, as well as the percentage change in each from 1992 to 1998. During this six-year period, the number of admissions grew by 53 percent (from 96,787 to 147,899) and the primary substance for the admission shifted from alcohol to marijuana (though both increased in terms of being primary, secondary, and tertiary problems). Although the system was still dominated by outpatient treatment, substantial growth

TABLE 1.2. Change in Characteristics of Adolescents Entering Substance Abuse Treatment[a]

	Admissions			Relative Proportion[b]		
	1992	**1998**	**Change**	**1992**	**1998**	**Change**
Total (Weighted)	96,787	147,899	53%	100%	100%	0%
Gender						
Female	32,277	44,361	37%	33%	30%	–10%
Male	64,297	103,480	61%	66%	70%	5%
Race						
African American (non-Hispanic)	14,570	22,333	53%	15%	15%	0%
Caucasian (non-Hispanic)	61,716	92,782	50%	64%	63%	–2%
Hispanic	10,095	16,587	64%	10%	11%	8%
Other (non-Hispanic)	3,894	7,062	81%	4%	5%	19%
Age						
14 years old or less	24,714	37,316	51%	26%	25%	–1%
15 to 17 years old	72,073	110,583	53%	74%	75%	0%
Education						
0 to 8 years	38,315	58,156	52%	40%	39%	–1%
9 to 11 years	52,386	80,534	54%	54%	54%	1%
12+ years or GED	2,107	3,537	68%	2%	2%	10%
Other						
Employed full-time[c]	1,313	6,301	380%	2%	5%	197%
Employed part-time[c]	5,273	8,320	58%	6%	6%	–2%
Student[c]	41,681	60,011	44%	91%	76%	–16%
Pregnant at admission[d]	389	308	–21%	1%	1%	–42%
Psychological problems[c,e]	7,625	28,025	268%	15%	30%	104%
Homeless or runaway[c]	8,573	2,982	–65%	13%	2%	–82%
Source of Referral						
Criminal justice system	35,321	61,278	73%	36%	41%	14%
School/community agency	26,862	32,060	19%	28%	22%	–22%
Self/family	17,425	25,837	48%	18%	17%	–3%
Other substance abuse provider	7,334	9,221	26%	8%	6%	–18%
Other health care provider	5,322	9,069	70%	5%	6%	12%
Other	4,524	10,434	131%	5%	7%	40%
Prior Treatment						
None	60,485	86,588	43%	71%	71%	0%
1 episode	15,638	22,514	44%	18%	19%	0%
2 episodes	5,088	7,218	42%	6%	6%	–1%
3+ episodes	3,546	5,347	51%	4%	4%	5%

TABLE 1.2 *(continued)*

	Admissions			Relative Proportion[b]		
	1992	1998	Change	1992	1998	Change
Primary Substance Problem						
Marijuana/hashish	21,806	79,572	265%	23%	54%	139%
Alcohol	54,361	35,338	–35%	56%	24%	–57%
Stimulants	1,203	4,125	243%	1%	3%	124%
Hallucinogens	1,661	827	–50%	2%	1%	–67%
Cocaine/crack	3,436	3,237	–6%	4%	2%	–38%
Inhalants	1,460	555	–62%	2%	0%	–75%
Heroin/opiates	736	1,801	145%	1%	1%	60%
Other[f]	474	1,871	294%	0%	1%	158%
None identified by adolescent	11,649	20,573	77%	12%	14%	16%
Pattern of Primary Substance Use						
Weekly use at intake[c]	36,323	63,869	76%	46%	52%	14%
First used under age 15[c]	63,806	100,099	57%	78%	78%	0%
Dependence[c]	7,813	19,343	148%	30%	37%	24%
Primary, Secondary, or Tertiary Substance Problem						
Marijuana/hashish	51,081	109,875	115%	53%	74%	41%
Alcohol	74,809	89,846	20%	77%	61%	–21%
Stimulants	4,876	12,005	146%	5%	8%	61%
Hallucinogens	9,621	9,040	–6%	10%	6%	–39%
Cocaine/crack	9,023	12,191	35%	9%	8%	–12%
Inhalants	4,078	2,406	–41%	4%	2%	–61%
Heroin/opiates	1,501	3,521	135%	2%	2%	53%
Other[f]	3,947	10,019	154%	4%	7%	66%
By Setting						
Outpatient (OP)	70,371	101,604	44%	73%	69%	–6%
Intensive outpatient (IOP)	6,524	16,550	154%	7%	11%	66%
Detoxification or hospital (D/H)[g]	4,164	8,481	104%	4%	6%	33%
Short-term residential(STR)	5,984	8,415	41%	6%	6%	–8%
Long-term residential (LTR)	9,743	12,849	32%	10%	9%	–14%

Source: Office of Applied Studies 1992 and 1998 TEDS public use data set (OAS 1999, 2000).

[a]Based on unweighted sample *n* of 23,662 in 1992 (weight = 4.090) and 35,960 in 1998 (weight=4.113); Change is the change calculated as [(1998-1992)/1992]

[b]May not equal 100% due to rounding and/or missing data

[c]Calculated based on the subset of states and clients reporting

[d]Percent of females

[e]Self-identified psychological problems, note that this appears to grossly underestimate comorbid problems

[f]Including tranquilizers, sedatives, over-the-counter medications, and other identified substances

[g]Included detox hospital inpatient, detox free-standing, detox ambulatory, and hospital-based inpatient

occurred in the number of admissions to intensive outpatient (154 percent) and hospital-based programs (104 percent). As shown in the columns to the right, the treatment system is dominated by white males, aged fifteen to seventeen, who are in (or have dropped out of) high school. They are most likely to use marijuana and alcohol weekly (or more often), have started using before the age of fifteen, and never have been in treatment before. Although only about 8 percent are being treated for stimulant use, this represents a 61 percent increase over the rate in 1992.

While policymakers and researchers have often attempted to compare outpatient and inpatient treatment, these programs have historically served different subgroups of adolescents (CSAT, 1999; Gerstein and Johnson, 1999; Hubbard et al., 1985; Powers et al., 1999; Sells and Simpson, 1979; Simpson, Savage, and Sells, 1978). These differences grew in the 1990s with the increasing use of more explicit patient placement criteria, such as those recommended by the American Society of Addiction Medicine (ASAM, 1996) which have been mandated in several states. Table 1.3 focuses on the characteristics of the treatment system in 1998. Males, African Americans, and adolescents involved in the criminal justice system are more likely to go to intensive outpatient and long-term residential programs. Females, Caucasians, and those referred by other substance abuse treatment or health care providers are more likely to go into detox, hospital, or short-term residential programs. Those in outpatient and intensive outpatient are likely to be younger and entering treatment for the first time. Those entering one of the residential levels of care are more likely to have been in treatment before, use weekly (or more often), and meet criteria for dependence. While the dominant pattern of substance use across levels of care is marijuana and alcohol, adolescents in the residential levels of care are more likely to have problems with marijuana, and (at much lower prevalence rates) cocaine, stimulants, hallucinogens, or other drugs.

THE HISTORY AND EVALUATION OF ADOLESCENT TREATMENT PRACTICE

From 1915 to 1985, only a handful of evaluations of adolescent substance abuse treatment studies existed and many of these took

TABLE 1.3. Characteristics of Adolescent Admissions in 1998 by Level of Care

	Level of Care[a]					
	OP	**IOP**	**D/H**	**STR**	**LTR**	**Total**
Total 1998 Admissions[b]	**101,604**	**16,550**	**8,481**	**8,415**	**12,849**	**147,899**
[Row %]	**(69%)**	**(11%)**	**(6%)**	**(6%)**	**(9%)**	**(100%)**
Gender						
Female	30%	28%	33%	32%	26%	30%
Male	70%	72%	66%	68%	74%	70%
Race						
African American (non-Hispanic)	15%	16%	11%	13%	20%	15%
Caucasian (non-Hispanic)	64%	57%	68%	68%	56%	63%
Hispanic	11%	12%	12%	7%	16%	11%
Other (non-Hispanic)	5%	4%	5%	7%	5%	5%
Age						
14 years old or less	28%	19%	17%	17%	18%	25%
15 to 17 years old	72%	81%	83%	83%	82%	75%
Education						
0 to 8 years	41%	36%	31%	37%	42%	39%
9 to 11 years	53%	58%	59%	57%	53%	54%
12+ years or GED	2%	2%	8%	2%	2%	3%
Other						
Employed full time[c]	4%	6%	4%	1%	12%	5%
Employed part time[c]	7%	5%	7%	2%	1%	6%
Student[c]	72%	89%	83%	81%	89%	76%
Pregnant at admission[d]	1%	1%	0%	0%	1%	1%
Psychological problems[c,e]	32%	17%	30%	30%	23%	30%
Homeless or runaway[c]	3%	1%	2%	4%	3%	2%
Source of Referral						
Criminal justice system	41%	47%	36%	31%	47%	41%
School/community agency	25%	19%	14%	15%	8%	22%
Self/family	18%	15%	20%	15%	15%	17%
Other substance abuse provider	4%	8%	7%	24%	12%	6%
Other health care provider	6%	6%	8%	9%	6%	6%
Other/unknown	6%	6%	15%	5%	12%	7%
Prior Treatment[c]						
None	77%	62%	59%	51%	49%	71%
1 episode	15%	25%	20%	32%	28%	18%

	Level of Care[a]					
	OP	**IOP**	**D/H**	**STR**	**LTR**	**Total**
Total 1998 Admissions[b]	**101,604**	**16,550**	**8,481**	**8,415**	**12,849**	**147,899**
[Row %]	**(69%)**	**(11%)**	**(6%)**	**(6%)**	**(9%)**	**(100%)**
2 episodes	4%	8%	9%	10%	12%	6%
3+ episodes	3%	5%	12%	7%	10%	5%
Primary Substance Problem						
Marijuana/hashish	50%	69%	55%	59%	63%	54%
Alcohol	25%	20%	25%	27%	15%	24%
Stimulants	2%	4%	5%	5%	5%	3%
Hallucinogens	0%	1%	1%	1%	1%	1%
Cocaine/crack	1%	2%	4%	4%	6%	2%
Inhalants	0%	0%	0%	0%	1%	0%
Heroin/opiates	1%	1%	5%	3%	2%	1%
Other[f]	2%	0%	1%	0%	1%	1%
None identified by adolescent	6%	1%	1%	1%	5%	5%
Pattern of Primary Substance Use						
Weekly use at intake[c]	39%	57%	66%	76%	63%	48%
First used under age 15[c]	73%	78%	71%	82%	76%	75%
Dependence[c]	26%	61%	80%	67%	82%	37%
Primary, Secondary, or Tertiary Substance Problem						
Marijuana/hashish	69%	88%	77%	91%	85%	74%
Alcohol	59%	68%	63%	73%	58%	61%
Stimulants	6%	11%	11%	15%	11%	8%
Hallucinogens	5%	8%	9%	11%	11%	6%
Cocaine/crack	5%	10%	15%	15%	20%	8%
Inhalants	1%	2%	2%	3%	3%	2%
Heroin/opiates	1%	2%	7%	6%	5%	2%
Other[f]	7%	5%	6%	4%	9%	7%

Source: Office of Applied Studies 1998 TEDS public use data set (OAS, 2000).
[a]Levels of care are outpatient (OP), intensive outpatient (IOP), detoxification or hospital (D/H), short-term residential (STR), and long-term residential (LTR); D/H includes detox hospital inpatient, detox free-standing, detox ambulatory, and hospital-based inpatient.
[b]Weighted based on total reported number of TEDS admissions under age 18 divided by the sample (n = 35,960) put in the public domain (constant = 4.113).
[c]Calculated based on the subset of states or clients reporting
[d]Percent of females
[e]Self-identified psychological problems; note that this appears to grossly underestimate comorbid problems
[f]Including tranquilizers, sedatives, over-the-counter medications, and other identified substances