Understanding & Treating Adolescent Substance Abuse
Adolescent substance abuse is a complex public health problem that affects multiple aspects of our society. Surveys indicate that despite a recent leveling off of overall substance use by adolescents, in some cases the rates of adolescent daily use are substantially higher than those documented a decade ago (National Drug Intelligence Center, December 2001). Although only a small portion of adolescent substance use escalates to abuse or dependence, even youths who are not dependent may require intervention and/or treatment. Many cases are further complicated by delinquent or criminal behavior and/or mental health problems. An estimated two-thirds of the 1.2 million youths charged with delinquency offenses each year are substance abusers, and an estimated three-quarters of these juveniles have reported mental health problems during screening (Drug Strategies, 2003). Among adolescents in the general population, estimates of co-occurring psychiatric disorders and substance abuse problems range from 22 to 82 percent (Physician Leadership on National Drug Policy, September 2002). In addition, the younger a person is at the onset of substance use, the more likely he or she is to develop a substance use disorder and to continue that disorder through adulthood. More than 90 percent of adults with current substance use disorders started using before age 18, and half began using before age 15 (Dennis, May 2002).

Although research on the effectiveness of adolescent drug abuse treatment is a relatively new field, it is clear that treatment benefits this population. Nevertheless, only one in 10 adolescents suffering from substance use disorders currently receives treatment, and, of those who do receive treatment, only 25 percent receive enough (CSAT, NIDA). For some, the only way to find treatment is through the juvenile justice system, which in recent years has become the single largest source of youth referrals to treatment (Drug Strategies, 2003). Almost half of all adolescents currently in treatment have been mandated to programs by the juvenile justice system. In addition to the lack of treatment availability is the issue of which methods most adequately address adolescent substance use.
problems. To be effective, treatment must be broad-based and diverse, addressing the multi-faceted needs and problems of each adolescent.

The purpose of this article is three-fold:

1. to update practitioners on the latest prevalence data on adolescent substance abuse;
2. to describe the key program elements that research and practice suggest are critically important in providing effective adolescent treatment; and
3. to review recent findings about the usefulness of different types of treatment for adolescent substance abusers and their families.

...the younger a person is at the onset of substance use, the more likely he or she is to develop a substance use disorder and to continue that disorder through adulthood.
Adolescent substance use most commonly begins at the age of 12 or 13 years, when children advance from elementary school to junior high. The general progression is from use of legal substances (e.g., tobacco, alcohol) to use of illegal drugs, with marijuana as the typical initial illicit substance (Physician Leadership on National Drug Policy, September 2002). Age is a key determinant in the observed patterns of use. From ages 12 to 20, the rates of past month use more than double for alcohol (20 percent to 75 percent), tobacco (18 percent to 40 percent), and marijuana (8 percent to 27 percent) (Dennis, May 2002), with these upward trends reversing as individuals leave young adulthood.

Adolescent substance use in the United States declined steadily throughout the 1980s after peaking in 1979, and in the early 1990s began to increase again. During this latter period, as rates of frequent use of alcohol, marijuana, and other drugs escalated, the number of adolescents entering the treatment system increased by more than 50 percent (CSAT, NIDA). Since 1997, overall adolescent substance use has been relatively stable and may be starting to decline, particularly among the youngest users. Stable or declining use rates do not carry over to all drugs, however. Adolescent use of club drugs such as MDMA (often referred to as “ecstasy”), some narcotics (including heroin, oxycodone, and hydrocodone), barbiturates, and tranquilizers has increased, while use of cocaine and methamphetamine among adolescents has declined (National Drug Intelligence Center, December 2001).

According to the 2001 National Household Survey on Drug Abuse (NHSDA), the rate of youth cigarette use in 2001 was slightly below the rate for 2000, continuing the downward trend observed between 1999 and 2000 (SAMHSA, 2002). Rates were 14.9 percent in 1999, 13.4 percent in 2000, and 13.0 percent in 2001. About 10.1 million people ages 12 to 20 years reported current use of alcohol in 2001. Of this number, nearly 6.8 million or 19.0 percent were binge drinkers, and 2.1 million or 6.0 percent were heavy drinkers. Among youth ages 12 to 17, 10.8 percent were current drug users, compared with 9.7 percent in 2000. The survey
also found a strong relationship between substance abuse and mental problems. In 2001, an estimated 4.3 million youths ages 12 to 17 (or 18.4 percent of this population) received treatment or counseling for emotional or behavioral problems in the 12 months prior to the survey, significantly higher than the 14.6 percent estimate for 2000 (SAMHSA, 2002). Conditions reported as being most common include depression, suicide ideation, conduct disorder, attention deficit/hyperactivity disorder, PTSD, anxiety, schizophrenia, and other psychosis (Zeitlin, 1999).

Results of the Monitoring the Future (MTF) Study are consistent with those of the NHSDA (National Drug Intelligence Center, December 2001). According to recent MTF data, over one-fifth of twelfth grade students report smoking tobacco cigarettes on a daily basis. Over one-fifth of eighth grade students also report current alcohol use. This percentage increases to 39 percent of tenth grade students and nearly 50 percent of twelfth grade students. Past-year use of any illicit drug among eighth, tenth, and twelfth graders was at its lowest point in 1991-1992, rising in subsequent years to reach a peak in 1996 for eighth graders (23.6 percent) and in 1997 for tenth (38.5 percent) and twelfth graders (42.4 percent). Since 1997, past-year use among all three grades has remained relatively stable with slight downward trends. Highlights of the latest data show that over one-half (54 percent) of adolescents have tried an illicit substance by the time they have finished high school. Ecstasy (or MDMA) was the primary drug showing an increase in use among students across all grade levels in 2001.

Youth and law enforcement surveys further indicate the continuing strong presence of drugs in schools across the country. Responses from the 1999 Youth Risk Behavior Survey (YRBS) show that 30.2 percent of high school students were offered, sold, or given an illegal drug on school property during the 12 months preceding the survey. Of all surveyed students, 21.1 percent reported that they had used marijuana in their lifetime, and 11.4 percent reported current use. These rates are part of a marked increase, both in Pennsylvania
and across the nation, in marijuana use since the early 1990s (PAYS, April 2002). In the past five years, current club drug use among seniors has increased to a high of 4.0 percent—or one in 25 seniors. According to the Pennsylvania Youth Survey 2001, alcohol is still the most frequently used substance across Pennsylvania’s sixth, eighth, tenth, and twelfth graders (National Drug Intelligence Center, December 2001). Smoking rates among all surveyed students have declined since the mid-1990s, with just 15.4 percent reporting current use.

1 This survey is a project of the Substance Abuse and Mental Health Services Administration (SAMHSA). Initiated in 1971, the NHSDA has become the primary source of information on the use of illicit drugs, alcohol, and tobacco by the civilian non-institutionalized population in the United States. The NHSDA interviews approximately 70,000 people age 12 years or older in every state over a 12-month period. In addition to extensive questions about the use of substances, the 2001 version of the survey included questions on mental health status and treatment.

2 The Monitoring the Future Study, an ongoing study of the behaviors, attitudes, and values of adolescents and young adults in America, reports trends in substance use and abuse.

3 The YRBS is conducted every two years on a nationally representative sample of ninth through twelfth graders in public and private schools. It measures six priority health-risk behaviors including alcohol and other drug use.

4 From 1989 to 1997, Pennsylvania conducted biannual surveys of school students to assess their attitudes and behaviors involving alcohol, tobacco, and other drugs. These Generation at Risk surveys were administered to approximately 60,000 students in sixth, seventh, ninth, and twelfth grade every other year. PAYS 2001 builds on the traditional Generation at Risk survey by offering additional information on risk and protective factors associated with delinquency and substance abuse. These factors are measured through the nationally recognized Communities That Care Youth Survey (CTCYS) which was blended into the past survey format.

Key Program Elements for Providing Effective Adolescent Treatment

Treatment of adolescent substance abuse differs significantly from treatment of substance abuse among adults. While no single treatment is appropriate for all individuals, the more effective treatments tend to address the multiple needs and circumstances of adolescents, not simply their problems with drug use. Moreover, recent research suggests that certain program elements are related to successful outcomes. These elements and their components are summarized below.
Screening, Assessment, and Treatment Matching

Screening is the first step in finding the appropriate kind of help for an adolescent with substance abuse and other problems. Treatment experts recommend that programs use standard screening instruments that are developmentally appropriate, valid, and reliable. Some examples include: Substance Abuse Subtle Screening Inventory (SASSI), Problem Oriented Screening Instrument for Teenagers (POSIT), Personal Experience Screening Questionnaire (PESQ), the Personal Experience Inventory (PEI), Drug Abuse Screening Test for Adolescents (DAST-A), and Adolescent Drug Involvement Scale (ADIS), among others (Physician Leadership on National Drug Policy, September 2002). In addition, a short six-question screening test, known as CRAFFT, is a useful tool for determining if adolescents need further help.

After the initial screening has been completed, an in-depth assessment of both the adolescent and the family may be needed to assist the practitioner in developing and implementing appropriate treatment. Three critical dimensions should be reviewed: (1.) the adolescent’s degree of dependency; (2.) the mental state of the adolescent; and (3.) the mental state and drug history of the adolescent’s parents. The physical health of the adolescent should also be taken into consideration (Ross, 1994). Currently available assessment instruments with established reliability and validity include: the Comprehensive Addiction Severity Index for Adolescents (CASI-A), the Global Assessment of Individual Needs (GAIN), Addiction Severity Index (ASI), Adolescent Problem Severity Index (APSI), and Adolescent Drug Abuse Diagnosis (ADAD). Assessments should be reviewed periodically and revised as needed in order to provide continued guidance based on the adolescent’s progress.

Dual diagnosis of both substance abuse and mental health problems is one of the most important challenges in treating adolescents. However, accurate assessment is often difficult, leading to the possibility of ‘missing’ the comorbid disorder either because of the profusion and confusion of symptoms or because symptoms for one are more evident (Zeitler, 1999). Although written questionnaires are most frequently used, formal diagnoses require the use of well-stan-
Providing Integrated, Comprehensive Services

Flexibility, availability, and actively matching the adolescent’s needs to services are central to an integrated, comprehensive approach. An effective treatment plan, developed collaboratively by the counselor with the adolescent and his or her family, should address the totality of the adolescent’s problems, rather than concentrating solely on curtailing substance abuse. Programs should offer a wide range of services, such as psychiatric care, sexual health, family counseling, home visits, parental education, recreational activities, and remedial or regular education classes, or connect adolescents and their families to these services in the community. In addition, programs should maintain close linkages with the adolescent’s family, school, and as necessary, the juvenile justice system. This may require additional wrap-around services including transportation, case management, and care coordination. Integrated treatment for youths with both conduct disorders and substance abuse problems has been shown to increase engagement and retention in treatment, which is a key factor in treatment success (Drug Strategies, 2003).
Engaging parents and/or the responsible caregiver in an adolescent’s treatment program increases the likelihood that the adolescent will stay in treatment and that treatment gains will be sustained after the program has ended. Family involvement may range from telephone conversations with counselors to participation in group meetings. Some programs have therapists observe adolescent-family interaction, pinpoint problems, and help improve relationships. Families should be asked to examine their own use of alcohol and other drugs, and to address their substance abuse problems through treatment if necessary. Teaching the family the skills required to manage and to parent more effectively, as well as how to access relevant community services such as the mental health system, can help strengthen the overall treatment approach.
Adolescence is a period of rapid developmental change involving overlapping biological, behavioral, and cognitive transitions. Therefore, effective adolescent programs cannot simply be adult programs modified for kids. They must specifically address a number of different contexts that shape the adolescent’s environment, such as school, recreation, peers, welfare, medical care, juvenile court or probation, and include activities and outcomes that are meaningful and relevant to adolescent concerns. Program materials should use concrete rather than abstract examples that are meaningful (e.g., reward systems; provision of services in appropriate sites, such as homes or probation offices; activities that deal with sexuality, pregnancy, and parenting). The key is to find ways to make treatment relevant to the everyday concerns of the adolescent so that he or she will be motivated to make the necessary effort to change fundamental behavior patterns. A recent study of adolescents in Twelve Step programs found that those who participate in meetings which include others in their own age group report better outcomes, probably because these youth-oriented groups share similar problems and do not focus on less relevant issues, such as employment concerns and marital relations.
Gender and cultural competence are essential in developing a successful therapeutic alliance between the adolescent and the practitioner. Recent research points to significant differences between male and female adolescent drug users. Since adolescent boys involved in substance abuse are more likely to have conduct disorders, treatment for this population should include learning how to change these aggressive, disruptive, and/or violent behaviors. Girls with substance abuse problems frequently have severe family problems as well, with the majority in treatment programs reporting sexual or physical abuse, often by family members or older friends. Abuse, abandonment, and depression are key issues girls must address in treatment. Co-ed programs can provide effective care to girls if they offer female counselors for individual sessions and program material developed for girls and young women. In addition, programs must insure that girls are physically safe and free from sexual and psychological harassment.

Although research is still limited, many experts believe that a lack of understanding of cultural differences may affect the ability to treat minority youth effectively. Some programs have adapted the process of engaging Hispanic teens in treatment to the ethnic culture of individual families. Retention rates are significantly higher than in programs that do not reflect this cultural competence.
Research shows that adolescents who complete treatment reduce their substance abuse and delinquent activity substantially as well as show marked improvement in school, work, and social relations. However, most teens who begin treatment do not complete the process. According to one nationwide study, three in four adolescents in outpatient programs and two in five in residential treatment failed to complete 90 days of treatment. These high dropout rates point to the central importance of designing programs that engage and retain adolescents in treatment. Because most teens do not seek treatment on their own, and may not think they have a problem, the practitioner can overcome potential resistance by focusing on areas of the adolescent’s life that are not going well and showing how treatment can help make life better in a number of ways. Through this process, the adolescent takes ownership of the treatment plan rather than resisting it as externally imposed by others.
Gains that adolescents make in treatment can quickly disappear if they do not have ongoing support at home and in the community. Continuing care services include relapse prevention training, follow up plans and referrals to community resources as well as periodic check-ups one month, three months, and one year after completing treatment. Check-ups should include: monitoring the availability and appropriateness of the recovery environment and support; reviewing how old lapses were handled and developing new approaches; proactively encouraging early re-intervention if necessary.

Recovery management is particularly vital to the treatment of adolescents with substance abuse disorders, as only one-third of adolescents are problem-free 12 months following initial treatment, and high relapse rates are typical. Successful recovery involves the maintenance of new skills and lifestyle patterns that promote positive, independent patterns of behavior. Specific steps, such as calling a hotline, a friend, or a Twelve Step sponsor, can be helpful in limiting further substance abuse after relapse. The integration of these behaviors into regular day-to-day activities is the essence of effective relapse prevention (Winters, 1999).
The strength of the relationship between the adolescent and practitioner greatly influences the extent to which the program will be able to motivate change. Positive, caring staff attitudes are particularly important in connecting adolescent clients to the treatment process. Other important staff attributes include character strengths, confidentiality, timing and tact, ability to listen, objectivity and discernment, and patience and perseverance. In addition, professional staff should understand adolescent development, recognize mental health problems, and be able to work effectively with families. Related skills include basic counseling, cognitive-behavioral therapy, and chemical dependency counseling, such as a working knowledge of the steps and principles of Alcoholics Anonymous.

A low staff-to-client ratio also encourages closer therapeutic relationships. In outpatient programs, experts suggest that one counselor treat no more than 20 to 25 adolescents; in intensive outpatient, one counselor should have no more than 10 to 15 clients; and in residential programs, one counselor should be responsible for no more than four to eight adolescents.

Regular clinical supervision by more experienced staff is also important in providing guidance and ongoing training for less experienced counselors, and ensuring that staff-client interactions are optimally productive. In order to provide quality treatment, clinical supervision and team meetings should take place at least once or twice a week for outpatient programs, and three to five times a week for residential, inpatient programs.
Very few programs can point to results from rigorous evaluations, but every program should be able to provide accurate data on a client’s progress both while in treatment and at periodic intervals in the year following treatment. Asking clients to sign release forms will allow the program to obtain outcome data in the future. Common outcomes measures include: reduction in substance use, abstinence for the previous month, time in recovery, reduction in substance-related problems, reduced family problems, reduced arguments and fighting, vocationally engaged in school or work, no past month arrests, detention, or jail time. Some programs have also developed their own quality assurance and measurement systems, such as monthly and quarterly reports on clinical process indicators (e.g., pre-entry, access to care, admissions, assessment and care planning, continuing care, and ongoing recovery). Quality assurance committees should meet regularly to review the data and suggest changes in the clinical process to improve problem areas.

Research Findings On the Usefulness of Adolescent Substance Abuse Treatment

Until quite recently, very few formal studies have focused on the effectiveness of adolescent substance abuse treatment. Moreover, pervasive difference across studies regarding the types of data gathered and the ways in which findings are reported have seriously impeded attempts to compare studies and weakened the types of conclusions that can be drawn about treatment efficacy in general (Sobell et al, 1987). Small sample sizes, lack of control groups, poor follow-up rates, failure to include treatment dropouts in the results, lack of randomized assignment, and different assessment techniques have presented the major difficulties (Dennis et al, November 1998). A recent comprehensive review of adolescent research published by the American Psychological Association identified 53 adolescent treatment studies in the past three decades, of which only 21
were methodologically sound enough to justify analyzing their results (Drug Strategies, 2003).

Nonetheless, results from a number of studies evaluating formal substance abuse treatment programs during the past decade are encouraging: most adolescents who participate in treatment designed specifically for their age group report significant reductions in substance use and related problems in the year following treatment. There is also strong evidence that treatment completion is closely linked to positive outcomes. It remains unclear whether this has more to do with treatment or with the client’s own motivation, but the consistently strong relationship between completion and good outcomes makes retention rate a valuable indicator of program effectiveness (NIDA).

Although very few studies have focused on the treatment needs and outcomes of adolescents with co-occurring disorders, existing evidence indicates that treatment improves a variety of outcomes (Physician Leadership on National Drug Policy, September 2002). At the same time, several studies have indicated the adverse impact of comorbidity on compliance with treatment (Myers et al, 1995) and medication use (Owen et al, 1996). Others have linked comorbidity with a greater probability of dropping out of treatment (Kaminer et al, 1992) and difficulty in coping (Mezzich et al, 1995). Numerous sources cite the effectiveness of integrated treatment services that combine mental health and substance abuse interventions and are tailored for the complex needs of patients with comorbid disorders (Drake et al, 2001). Integrated treatment for youths with both conduct disorders and substance abuse problems has been shown to increase engagement and retention in treatment (Drug Strategies, 2003). Nonetheless, research indicates that total abstinence from alcohol and other drugs is rare and mental health problems decrease but do not disappear (Ibid).

In the case of juvenile offenders, additional, albeit limited, evidence suggests that treating substance abuse is effective, particularly when the treatment approach includes a 12-month continuum of care (Rutherford and Banta-Green, 1998). Unfortunately,
there is currently no requirement for screening for substance abuse or mental disorders in the juvenile justice system. Moreover, the availability of substance abuse treatment as well as mental health services for adolescents in juvenile justice programs is uneven nationally (Drug Strategies, 2003). Here again, a comprehensive, integrated treatment approach that links the juvenile justice system with both substance abuse and mental health systems appears to be essential.

Clearly further research involving adolescent substance abusers with mental health and/or criminal behavior problems will be necessary to develop clinically effective and cost-effective treatment strategies.

Although the efficacy evidence is still accumulating on various treatment programs for adolescents with substance abuse problems, and it is premature to declare one modality consistently superior in outcomes (Liddle), we highlight below the findings of several studies that provide early support for three particular strategies. These and other similar findings are presented in Treating Teens: A Guide to Adolescent Drug Programs (Drug Strategies, 2003). In each case, detailed treatment manuals allow replication of the programs to other sites.

1. Chestnut Health Systems, Illinois State University. Chestnut provides residential day treatment, intensive outpatient, outpatient, early intervention, and aftercare services for adolescents ages 12 to 18, using a combination of modalities including Rogerian therapy, which emphasizes unconditional positive regard for clients, motivational enhancement therapy, cognitive behavioral therapy, reality therapy, and the Twelve Step model.

• Approximately 12 months after intake to Chestnut’s residential treatment programs, adolescents reduced their substance use by 54 percent and their substance-related problems by 60 percent. Nearly one year after intake, 60 percent had abstained from alcohol and other drugs for the past 30 days. These results compare favorably to a national study of residential treatment. Chestnut also did well or better than the national average in terms of other 12 month outcomes,
including reduced family problems, no fighting, vocationally engaged in school or work and no past month arrests, detention, or jail time.

- Approximately 12 months after intake to Chestnut’s outpatient program, 74 percent of adolescents were abstinent for the previous month and in recovery compared to 71 percent of the national sample. Both the national and Chestnut samples experienced a 38 percent reduction in substance-related problems. Chestnut exceeded the national average on several 12-month outcomes, including reduced arguments and fighting, and achieved a greater reduction in participants arrested in the past month.

2. The Center for Treatment Research on Adolescent Drug Abuse, University of Miami, School of Medicine. Using Multidimensional Family Therapy (MDFT), an outpatient family-based program to treat adolescents with drug abuse and behavioral problems, this center works intensely and simultaneously with the individual adolescent, the family apart from the adolescent, the family and adolescent together, and social systems that affect both, such as schools, courts, peer groups, and the community. Similar programs have been implemented in 16 other sites across the country.

- The program has extensive research data from four randomized clinical trials and several therapy process studies that demonstrate the effectiveness of the program. Positive outcomes in MDFT are observed in symptom reduction and in the promotion of protective factors such as school performance and family functioning.

- In one randomized study, MDFT was compared to two alternative treatments—adolescent group therapy (AGT) and multi-family educational intervention (MEI) (Liddle, 2001). Outcomes measures were taken at six and 12 months post-treatment with abstinence confirmed through urinalysis. At one year post-treatment, 45 percent of youths receiving MDFT reported clinically significant reductions in drug use, compared to 32 percent and 26 percent of adolescents in the other two groups. Grade point averages of the MDFT population also improved significantly.
Another study compared MDFT to individual cognitive-behavioral therapy (CBT) for adolescent drug use. Although both approaches produced a significant decrease in drug use and other problems during treatment, only MDFT adolescents continued to improve in the year following treatment.

Medical University of South Carolina in Charleston. Using Multisystemic Therapy (MST) to target adolescents at highest risk for incarceration or foster care, this program provides an intensive four-month home-based intervention, addressing the specific problems of individual families in the context of home, school, and community. Parents set the agenda; therapists assist them in identifying and reaching their goals. The therapists carry low caseloads and are available around the clock in order to maximize interaction with the family. Parents are taught skills that will preserve the intervention after the therapist withdraws. MST Services has trained staff and has licensed agencies in 27 states and seven countries. These agencies annually treat more than 7,000 youths and their families.

Several randomized clinical trials indicate that MST reduces recidivism, improves family relations, and decreases behavior problems.

In a 1998 study, 118 juvenile offenders meeting DSM III-R criteria for substance abuse were randomly assigned to MST or to the usual community services, which included weekly group meetings based on the Twelve Step model as well as mental health services, school-based intervention, and family preservation. The study found that MST reduced self-reported alcohol and drug use. At six months follow up, total days of out-of-home placement for MST graduates were 50 percent less than for those who had received traditional treatment services. At four year follow up, MST youths had committed significantly fewer violent offenses and were less drug involved.
Conclusion

The continuing problem of adolescent substance abuse and its far-reaching public health consequences underscore the need for further efforts to understand and improve treatment for this population. With the number of studies evaluating formal substance abuse treatment programs for adolescents more than doubling since 1997, significant advances have been made in our understanding of the program elements necessary for successful interventions. Nevertheless, as current surveys reveal, many adolescents with substance abuse problems still fail to receive appropriate, enough, or even any treatment. Clearly, an important future challenge is how to translate empirically supported treatment strategies into everyday clinical settings. It is hoped that the information presented in this brief, along with the related references, will assist practitioners as they begin to adapt and test these strategies among their own patient populations.

References


Academy for Health Services Research and Health Policy. (year, Month). Research review: The research renaissance in adolescent substance abuse treatment. Washington, DC: Liddle, H. A.


