

# Adolescent Substance Abuse Treatment: Where Do We Go From Here?

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Substance use and abuse among American youth has been on the rise since 1992. This upward trend is primarily due to an increase in marijuana use, particularly in early adolescence (1). Recent reports suggest that the drug epidemic may be leveling off among older adolescents; however, secular trends indicate that the magnitude of the problem will not change dramatically until at least 2010 (2). Regional studies reveal that 7 to 10 percent of adolescents are in need of treatment (3), but only a small number—usually those individuals with severe substance use disorders, comorbid psychiatric disorders, or legal problems—receive treatment. This population is underserved in large part because of limited resources, inadequate age-appropriate programs, and lack of a broad consensus on preferred treatment strategies.

The high rates of premature treatment termination and relapse—both during and after completion of treatment—among adolescents with substance use disorders indicate a pressing need to improve short- and long-term treatment outcomes. Evaluating outpatient treatment is particularly important because the majority of adolescents who seek treatment receive outpatient services. The research on treatment outcomes for adolescents lags far behind that for adults. Reviews of clinical trials conducted over the past 25 years reveal that little is known about the effec-

tiveness of the various treatments for this population (4,5).

The studies of treatment effectiveness found in the literature are characterized by significant methodological limitations, such as small sample size, lack of controlled conditions, different selection criteria, and failure to note compliance and attrition rates. Some studies did not adequately measure the patients' psychosocial and comorbid psychiatric conditions; others failed to fully document the treatment procedures—which makes replication difficult—or provide information on follow-up treatment (3).

Newer treatment strategies that show promise in reducing substance use and related problems among adolescents include family therapies such as multisystemic therapy (6), functional family therapy (7), motivational interviewing (8), community reinforcement (9), the 12-step approach (10), cognitive-behavioral therapy (11,12), and contingency management reinforcement (13). However, even the studies done on these approaches could not clearly identify a superior treatment, an optimal therapeutic dosage, or the length of time required to maximize short- and long-term treatment outcomes.

## What next?

Most clinical investigators agree that substance abuse intervention programs developed for adolescents should embrace empirically validated techniques, even if these techniques are borrowed from the adult substance abuse literature. However, the treatments must take into account the developmental issues and problems characteristic of adolescence, such as peer pressure and the propensity for limit testing. Among the strategies

worth examining are patient-treatment matching, efficacy and effectiveness studies, and aftercare approaches.

## Matching effects

At one time, the recognition of heterogeneity among individuals with substance use disorders led to an increased interest in patient-treatment matching, that is, the identification of variables that predict differential response to various interventions. However, Project MATCH, a large, multicenter study of the treatment of alcoholism that used cognitive-behavioral therapy, motivational enhancement therapy, and 12-step methods, found no evidence that matching is a viable treatment strategy (14). Furthermore, no matching effects specific to adolescents were found in a study that hypothesized improved outcomes for patients matched by psychopathology—for example, internalizing and externalizing disorders—and therapeutic intervention—for example, cognitive-behavioral and interactional therapy (12).

The development of placement criteria for adults and adolescents by the American Society of Addiction Medicine (ASAM) was another effort to establish a matching effect. The purpose of these criteria is to enhance objective matching of disorder severity with type of care. Little research has been done on placement criteria, despite their extensive use in clinical settings. The results of the existing research indicate that the validity of these criteria and their clinical utility are rather limited (15).

Matching a patient who has a substance use disorder with the right type of treatment program is a much-discussed but elusive goal in the real

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world. Patients may not have the option of being referred to or switching to a more appropriate treatment program. Their opportunities may be limited by locale, slot availability, insurance, psychiatric comorbidity, legal status, or other considerations. Rather than focusing on matching a patient with a particular program, it may be more beneficial to match the patient's problems with targeted services within the program that meet his or her needs. This model could be tailored to complement or serve as an alternative to revised and tested ASAM placement criteria.

### *Efficacy and effectiveness*

Efficacy trials—that is, small-scale, single-modality trials—determine the therapeutic factors that contribute to the observed outcomes. Effectiveness trials—that is, real-world clinical trials—have the flexibility to incorporate interventions from a number of different treatment approaches as necessary to meet the patient's needs, and they have greater generalizability (16). Proponents of each method are engaged in an ongoing debate over which one is more appropriate for evaluating the outcomes and relative merits of psychosocial interventions for substance use disorders. The Department of Veterans Affairs (VA) conducted an effectiveness study that examined interventions in existing programs using interventions similar to those employed in Project MATCH. The VA study focused on a diverse population of treatment-seeking adults in a prospective naturalistic design in various treatment settings (17). The overall findings of the VA study parallel those of Project MATCH in many ways (16), indicating that the two approaches—efficacy and efficiency—may actually be complementary and could be applied in a sequential fashion.

More recent evidence points to the increasing promise of combination therapies based on integrative models, including but not limited to modalities such as cognitive and familial interventions, which are reported to have significant short-term differential outcome effects compared with single-modality interventions (7,9).

Untested strategies for treating adolescent substance use disorders, such as contingency management reinforcement, will likely continue to be examined (3). However, given the small pool of resources allocated for treatment outcome studies, efficacy studies that engage in unnecessary and somewhat artificial comparisons between different treatment approaches should be limited unless a practical merit is evident. The transition from efficacy research to combination therapies followed by effectiveness trials is necessary to advance the field of substance abuse treatment. These steps will not only benefit research, they will establish and improve the communication and transfer of technology between the ivory towers of academia and the clinicians in the trenches.

### *Aftercare*

The high rate of relapse among adolescents with substance use disorders is disturbing. Patients in outpatient interventions commonly participate in brief, intensive treatment that does not include aftercare. Effecting change among patients during treatment is relatively easy compared with sustaining gains without aftercare, particularly during the first year after an acute episode of treatment.

Aftercare interventions for adolescents have not been empirically studied; however, studies of adult programs indicate that a combination of intensive outpatient treatment and lower-intensity aftercare can initiate and sustain reductions in substance use. The correlation between participation in aftercare interventions and substance use outcomes has been consistently positive. Greater attendance during the first three months of continuing care has been significantly related to more days of abstinence during that period (18). The results of these studies indicate that interventions for adolescents with substance use disorders should include aftercare. The short-term gains of combination therapies should be used to jump-start aftercare programs that maximize and maintain these gains, particularly during the period when the adolescent is at the highest risk of relapse.

## **Conclusions**

To achieve state-of-the-art interventions for adolescents with substance use disorders, and to do so in a cost-effective manner, we need to continue examining treatment processes and the predictors of treatment and aftercare outcomes. Objective measurements of substance abuse and related problems must be used whenever possible. Resources for repeat efficacy studies should be limited, with more focus placed on innovative selective efficacy methods and more resources redirected to integrative and effectiveness models of treatment. The findings from our investigations should be used to improve the quality of care in treatment programs and to provide a comprehensive set of services that empower adolescents with substance use disorders, their families, and their communities. ♦

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