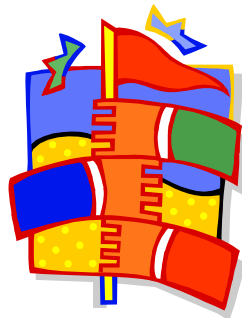


Co-Occurring Mental Health and Substance Abuse Disorders



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A Review of the Literature

COMORBID SUBSTANCE USE AND PSYCHIATRIC DISORDERS AMONG ADULTS

Prevalence

Since the 1980's, increasing recognition has been given to the issue of comorbid psychiatric and substance use disorders (SUDs), otherwise known as dual disorders. Community and clinical studies show that dual disorders are prevalent (e.g., Kessler et al., 1996; Ross, Glaser, & Germanson, 1988; Rounsaville et al., 1991; Regier et al., 1990). In the National Comorbidity Study, a nationally representative population study, about 41-65% of participants with any lifetime substance use disorder also had a lifetime history of at least one mental health disorder (Kessler et al., 1996). The most common individual diagnosis was conduct disorder (29%), followed by major depression (27%), and social phobia (20%). Among those with a lifetime history of any mental disorder, 51% had a co-occurring addictive disorder, with those respondents with conduct disorder or adult antisocial personality having the highest prevalence of lifetime SUDs (82%), followed by those with mania (71%), and PTSD (45%). In the Epidemiologic Catchment Area Study, lifetime prevalence of alcohol use disorder was highest among persons with bipolar disorder (46%) and schizophrenia (34%; Regier et al., 1990).

In 501 patients seeking addictions treatment, 78% had a lifetime psychiatric disorder in addition to substance abuse and 65% had a current psychiatric disorder. The most common lifetime disorders were antisocial personality disorder, phobias, psychosexual dysfunctions, major depression, and dysthymia (Ross et al., 1988). Similarly, in 298 patients seeking treatment for cocaine use disorders, 73.5% met lifetime and 55.7% met current criteria for a psychiatric disorder (Rounsaville et al., 1991). These rates were accounted for by major depression, bipolar spectrum conditions such as hypomania and cyclothymic personality, anxiety disorders, antisocial personality, and history of childhood attention deficit disorder.

Dual Diagnosis and Treatment Course and Outcomes

Clients with dual disorders have a poorer treatment course and outcomes than those with single disorders. They have poorer treatment retention rates, and symptom and functional outcomes (e.g., Drake, Mueser, Clark, & Wallach, 1996; Osher et al., 1994, Project MATCH, 1997; McLellan, Luborsky, Woody, O'Brien, & Druley, 1983; Ouimette, Gima, Moos, & Finney, 1999; Project MATCH, 1997a). For example, in a 6-month follow-up of male substance abuse patients, patients with a high level of psychiatric symptoms did not improve after treatment, whereas patients with a low level of psychiatric symptoms did improve (McLellan et al., 1983). Other work examining dual disorders has found that patients with comorbid affective or anxiety disorders participate less in continuing care and experience poorer outcomes (e.g., Ouimette, Ahrens, Moos, & Finney, 1997; 1998; Ouimette, Finney, & Moos, 1999; Rounsaville, Kosten, Weissman, & Kleber, 1986) whereas patients with personality disorders are harder to retain in treatment (e.g., Kofoed, Kania, Walsh, & Atkinson, 1986)

Research on dually disordered patients has examined addictions treatment characteristics associated with better outcomes. Greater amount of substance abuse treatment, such as more counseling sessions, may be associated with better outcomes (Moggi, Ouimette, Moos, & Finney, 1999). Although some have proposed that cognitive-behavioral treatments are warranted for dual diagnosis patients (e.g., Project MATCH, 1997a,b), results from multi-site studies have not supported this view. For example, in Project MATCH (1997a,b) a large scale randomized clinical trial of substance abuse treatments, patients with less severe psychiatric symptoms were more likely to be abstinent after 12-Step than after cognitive-behavioral treatment. Moreover, antisocial personality disorder clients were briefly drinking less intensely after attending 12-Step than cognitive-behavioral treatment. In an evaluation of Department of Veterans Affairs substance abuse treatment (Ouimette, Finney, & Moos, 1997; Ouimette, Gima et al., 1999), dually diagnosed patients did not vary in their outcomes after 12-Step, CB, and eclectic treatments. In that same evaluation, Moggi and colleagues (1999) found that the programs adhering to a more “dual diagnosis-focused” climate - programs that were supportive, well organized, intensive, and psychiatric medication-focused – produced better outcomes for dual diagnosis patients.

Dual diagnosis patients who attend more outpatient continuing care show better substance use, psychiatric and employment outcomes (e.g., Jerrell & Ridgely, 1995; Swindle, Phibbs, Paradise, Recine, & Moos, 1995). Dual diagnosis patients also benefit from self-help group participation about substance use outcomes (e.g., Ouimette, Humphreys et al., 2001; Ouimette, Moos, & Finney, 1998; Ouimette, Moos, & Finney, 2003).

Although the strategies reviewed above appear helpful, the effects of traditional addictions treatment for dual diagnosis patients appear to be modest. A consensus has emerged in the literature that integrated substance use and mental health disorder treatment programs are needed to best treat these patients (Drake et al., 2001; Minkoff, 2001). In support of this position is findings that integrated care models outperform non-integrated care on patient outcomes (for reviews see Drake, Mercer-McFadden, Mueser, McHugo, & Bond, 1998; Mueser, Noordsy, Drake, & Fox, 2003). The strongest evidence comes from six controlled outcome studies of outpatient integrated treatments, some of which are reviewed below, which resulted in better patient outcomes than standard care (Mueser et al., 2003).

Guidelines for Effective Integrated Dual Diagnosis Treatment

Based on clinical and research experience, a team of experts in co-occurring substance use and psychiatric disorders has identified key elements of effective evidence-based treatment for clients with dual diagnoses (Drake et al., 2001). As briefly mentioned above, effective dual diagnosis treatment integrates mental health and substance abuse interventions.

Specifically, the same clinician or team of clinicians should address clients’ mental health and substance use issues in a coordinated fashion and deliver these interventions in the same setting. In an effective treatment system, the treatment should appear seamless to the patient with a unified philosophy, set of goals and recommendations.

Drake and colleagues (2001) described the critical components of evidence-based dual diagnosis treatment. According to these authors, the presence of these strategies is usually associated with better outcomes while their absence is associated with poorer outcomes. The components are the following: (1) Staged interventions: effective programs have stages that

address the clients' needs such as working on forming a therapeutic alliance or trusting relationship, persuading clients to get involved in treatment, helping motivated clients acquire skills and attain goals, and promoting stable remission/relapse prevention; (2) Assertive outreach: effective programs engage clients and their families through intensive case management, possibly in the clients' homes to help them gain access to needed services and maintain a consistent treatment program over months/years (this is important in reducing treatment dropout and noncompliance); (3) Motivational interventions: effective programs motivate patients to engage in treatment (see also Bellack & DiClemente, 1999); (4) Active treatment/counseling: effective programs use cognitive-behavioral or evidence based treatments; (5) Social support interventions: effective programs improve the social environment of clients, so that it promotes recovery; (6) Long-term perspective: Effective programs have a long-term, community-based perspective; (7) Comprehensiveness: effective programs integrate the dual disorder focus into all aspects of the treatment system rather than having an isolated discrete substance use disorder or mental health intervention; (8) Cultural sensitivity and competence: Effective programs tailor services for their specific client population; however, the preceding components still remain essential parts of the treatment system.

In 1995, the Substance Abuse and Mental Health Services Administration funded the Managed Care Initiative to develop standards of care for the treatment of patients in managed care. A national consensus expert panel was appointed for co-occurring disorders, which issued a consensus report (Managed Care Initiative Panel on Co-Occurring Disorders, 1998). In a brief review of this report, Minkoff (2001) describes several important issues in developing adequate treatment systems for dually diagnosed patients. First, treatment systems need to welcome and be accessible to dually diagnosed patients. Specific views need to be held about comorbidity: both disorders should be seen as primary and as such, each needs to be addressed throughout treatment. These disorders must be seen as chronic, relapsing disorders that require stage-specific treatments. Treatment needs to be delivered by persons or programs with expertise in both disorders, to promote a long-term perspective, to engage patients regardless of their level of motivation, and to outreach to hard-to-reach patients (e.g., the homeless client). Fiscal and administrative groups need to support these goals; systems should identify quality and outcome measures. Lastly, practice guidelines are important to establish.

Summary

Given this accumulating evidence that comorbid substance use and psychiatric disorders are common in community and clinical studies, Minkoff (2001) has argued that dual disorders "...should be expected rather than considered an exception." A variety of mental health disorders are comorbid with substance use disorders, making those with dual disorders a heterogeneous group and possibly indicating the need for treatment protocols to address specific comorbidities. Those with dual disorders have a difficult treatment course.

Interestingly, research on dual diagnosis patients in single-focus programs (e.g., substance use disorder treatment) suggests some treatment strategies, such as greater intensity of care, both in terms of frequency of visits and a longer-term focus, and advocating social support/community interventions that are in-line with expert panel recommendations.

Nonetheless, these programs produce modest outcomes highlighting the need for integrated mental health and substance use disorder systems of care. To this aim, experts in the field have outlined components of effective care – one component includes providing evidence-based integrated treatment during the active treatment/counseling phase. The remainder of this paper reviews the empirical evidence for integrated treatment protocols designed for adults and adolescents with dual disorders. This paper is organized according to type of comorbid psychiatric disorder in adults and adolescents and concludes with future directions for the field.

TREATMENTS FOR SEVERE MENTAL ILLNESS AND SUBSTANCE USE DISORDERS

A significant clinical problem is substance abuse by individuals with psychotic disorders. It is estimated that the lifetime prevalence of substance abuse among individuals with schizophrenia is about 50% with 20-65% having current substance abuse (for a summary see Bennett, Bellack, & Gearon, 2001). In the Epidemiologic Catchment Area Study (Regier et al., 1990), the lifetime prevalence of any SUD was 16.7% in the general population whereas the rate was 56% among individuals with bipolar disorder. Patients with substance abuse and severe mental illness have a poorer and more difficult treatment course than patients with single disorders (for a review see Dixon, 1999). This section outlines several integrated programs that have been developed for patients with substance use disorders and severe mental illness, schizophrenia, and bipolar disorders.

Assertive Community Treatment

Assertive Community Treatment (ACT) is an evidence-based model of care developed for individuals with severe mental illness (Test, 1992). Components of ACT include multidisciplinary teams that provide comprehensive services in the patient's living environment and take continuous responsibility (24 hours a day) for a group of patients. While ACT appears to be effective in treating mental health outcomes, it may be less effective when substance use disorder treatment services are not provided by the ACT team (Drake et al., 1998). More recently, ACT has been revised to include integrated SUD treatment (Stein & Santos, 1998).

Drake and colleagues (1998) conducted a three-year randomized trial of ACT for dual disorders compared to usual case management. Patients in this study were diagnosed with schizophrenia, schizoaffective, or bipolar disorder and had an active substance use disorder. A total of 223 participants entered the study. Participants were mostly male, young, and unemployed. A notably high retention rate was reported across treatments (about 90%).

The integrated intervention included nine essential features of ACT. Services were provided in the community using assertive engagement, along with a high intensity of services. Therapists had small caseloads and provided services on a 24-hour basis. A multidisciplinary treatment team approach was used. In addition, close work was done with the patient's support system and continuity of staffing was emphasized. Four additional criteria related to dual disorders were also implemented: the treatment team provided substance abuse care; they used a stage wise dual disorders model; dual disorders treatment groups were offered; and the team's exclusive focus was on patients with dual disorders.

Assessments were completed at baseline and every 6 months thereafter. Overall, both treatments showed good retention, reduced substance use, and increase in days in stable community residences. Results showed that ACT performed better than standard case management on 2 of 5 substance use outcomes, however groups did not differ on remission rates. In addition, ACT patients fared better on two quality of life measures, overall life satisfaction and financial support adequacy. No group differences emerged on stable community days and psychiatric symptoms. Furthermore, in an evaluation of the cost-effectiveness of the interventions, ACT was not significantly more cost-effective than standard case management (Clark et al., 1998).

The authors proposed that results might not have been as strong as expected due to the conduct of the study in New Hampshire. New Hampshire has a reputation for an excellent community mental health system; so standard case management had many features shared with ACT including low case numbers per therapist and conduct of treatment within small mental health centers with excellent internal communications.

Integrated Motivational Interviewing, Cognitive-Behavior Therapy, and Family Intervention

Barrowclough and colleagues (2001) described a program of integrated treatment for patients with schizophrenia and substance abuse. Routine care was integrated with three interventions: motivational interviewing, individual cognitive-behavior therapy, and family or caregiver intervention. In addition, each patient was assigned a “family support worker,” who provided information, gave advice on benefits, advocated for the patient, provided emotional support and practical help. The intervention was planned for a nine-month period.

Participants entered the study in patient-caregiver dyads and were randomized to the integrated treatment plus routine care (n=18) or routine care alone (n=16). A total of 95% of participants in the integrated care condition completed their program. Assessments were completed at intake and 9- and 12-months following the initiation of treatment. Integrated care patients fared better than routine care patients on measures of global functioning at 9 and 12 months. At 12 months, integrated care participants had fewer positive symptoms of schizophrenia than routine care participants did but no sustained differences emerged between groups on negative symptoms of Schizophrenia or on social functioning. At 12 months, fewer integrated care patients had relapsed than routine care patients (33% versus 67%). Moreover, the mean change from baseline to 12 months in percentage of days abstinent from all drugs was greater for participants in integrated care relative to those in routine care. No differences emerged between groups in level of dependence symptoms or on drug and alcohol use problems.

Family Intervention for Dual Disorders

Family Intervention for Dual Disorders (FIDD; Mueser & Fox, 2002) adapts both single and multiple-family group formats for patients with severe mental illness and substance use disorders and their families. Single-family intervention is the primary venue of intervention, which is designed to teach family information and skills to manage the relative’s dual disorder. The course of this time-limited treatment can last 9 months to 2 years and can be home-based. Importantly, the clinician providing FIDD should be part of the patient’s treatment team. Multiple family group is seen as an adjunct treatment and usually time-

unlimited. The latter is based on the Treatment Strategies for Schizophrenia Study (Mueser et al., 2001).

Pilot data from six families suggests that FIDD can help improve client outcomes. All clients in the study improved on substance use outcomes over the course of one year. FIDD is currently being evaluated with a larger sample of patients and their families.

Behavioral Treatment for Substance Abuse in Schizophrenia

Several problems associated with symptoms of schizophrenia may make recovery difficult (Bellack & DiClemente, 1999). For example, negative symptoms such as anhedonia may inhibit patients' ability to experience pleasure and positive reinforcement when not using substances. Based on these and other observations, Bellack and colleagues developed a new treatment approach that addresses these patients' unique deficits in motivation, cognitive ability, and social skills (Bellack & Gearon, 1998; Bennett, Bellack, & Gearon, 2001).

Behavioral Treatment for Substance Abuse in Schizophrenia (BTSAS; Bellack & DiClemente, 1999; Bellack & Gearon, 1998; Bennett et al., 2001) is an adaptation of Social Skills Training (SST; Bellack, Mueser, Gingerich, & Agresta, 1997), an evidence-based behavioral treatment for schizophrenia. BTSAS has five components: (1) monthly motivational interviews to address treatment goals; (2) urine drug screen contingency wherein patients receive small amounts of money for abstinence; (3) social skills training to teach patients to refuse drug offers; (4) psychoeducation on substance use and schizophrenia; and (5) problem solving and relapse prevention. BTSAS is a six-month, twice weekly group therapy that utilizes two therapists to provide a more intensive therapy experience. The treatment does not require abstinence or a commitment to abstinence for enrollment; it employs a harm reduction approach. However, patients are encouraged to select abstinence as a goal. Other important aspects of the therapy include its non-confrontational and non-critical tone; empathy and positive reinforcement are emphasized.

In a pilot study of BTSAS among community and VA patients, participants met twice weekly for six months, with a once-a-month session for motivational interviewing (Bennett et al., 2001). A total of 42 patients with schizophrenia and substance use disorders consented to participate. A total of 28 of the 42 (67%) attended BTSAS; fourteen of the 28 remaining patients (50%) dropped out after attending 3 sessions. Of the final 14 patients, five were classified as "good progress" patients using the criteria of having clean urine drug screens on 70% or more of their tests. The remaining nine were classified as "poor progress" based on 45% or more of their tests being positive over the course of treatment. Good progress patients showed less drug use post-treatment relative to poor progress patients.

An interesting finding was that those who dropped out were similar in level of readiness to change as those within the good progress group. The authors report that participants who dropped out reported other barriers to treatment including hospitalization, jail, and scheduling conflicts. These barriers suggest the need for better integration of care into the larger system. To address these issues, a new study of BTSAS is attempting to improve communication between the BTSAS staff and the recruitment site clinic staff and better

integrate BTSAS into the existing services. Current ongoing research is evaluating BTSAS through a randomized controlled trial.

Integrated Group Therapy

Given that bipolar disorder is associated with highest risk of coexisting substance use disorder in some community studies (e.g., Regier et al., 1990) and this comorbidity complicates the course of either alone (Keller et al., 1986), a treatment addressing this dual diagnosis appears warranted. Accordingly, Weiss, Najavits, & Greenfield (1999) developed an integrated group therapy (IGT) for bipolar and SUDs. IGT focuses on and integrates themes relevant to both disorders in addressing and managing patients' risk for relapse. Weiss et al. (2000) assigned participants in sequential blocks to either IGT (n = 21) or assessment only (non-IGT; n = 24). Treatment lasted for 12 to 20 weeks, with symptoms being assessed at baseline and monthly thereafter during treatment, and at a 3-month follow-up.

Seventy-seven percent of participants completed the scheduled assessments. Treatment retention for IGT was also high; participants attended, on average, about 72% of the groups. A comparison of the two groups showed that IGT participants had better alcohol and drug outcomes, greater percentage of days abstinent, and were more likely to have three or more months of abstinence than the non-IGT group. Moreover, IGT participants improved more on symptoms of mania but not symptoms of depression than non-IGT participants. No differences emerged on medication compliance or psychiatric hospitalization during the study period. Lastly, the extended version of the treatment (20 weeks) had a greater impact on abstinence rates than the shorter version of IGT (12 weeks).

TREATMENT FOR POSTTRAUMATIC STRESS AND SUBSTANCE USE DISORDERS

PTSD is common in the general population: about 9% of women and men meet criteria for lifetime PTSD (Kessler, Sonnega, Bromet, Hughes, & Nelson, 1995). Among treatment seeking samples, approximately 20-33% of patients with substance use disorders meet criteria for current PTSD (e.g., Brown, Recupero, & Stout, 1995; Najavits, Gastfriend, et al., 1998). PTSD is common among veterans: In Fiscal Year 1998, clinician derived diagnoses indicated that about 25% of SUD patients seen in either substance abuse or psychiatric units had current PTSD (Piette, Baisden & Moos, 1999).

In a nationally representative community-based sample of Vietnam combat veterans, 22% of the men with current combat-related PTSD also met criteria for a current substance use disorder (Kulka et al., 1990). Among combat veterans seeking PTSD treatment, 84% had at least one comorbid SUD (Keane & Wolfe, 1990). SUDs and PTSD thus frequently co-occur in community and clinical samples and across treatment venues.

Of significance is the negative prognostic implication of SUD-PTSD comorbidity: PTSD renders substance abuse patients more vulnerable to poorer treatment outcomes (e.g., Brown, Stout, & Mueller, 1999; Ouimette, Ahrens, Moos, & Finney, 1997; 1998; Ouimette et al., 1999). Substance abuse is also viewed as having negative implications for patients seeking PTSD treatment; patients continuing to use substances have less successful PTSD outcomes than those who abstain (Perconte & Griger, 1991).

The following describes four integrated treatment programs developed for PTSD and SUD comorbidity. Seeking Safety, a coping skills therapy, is the most researched now. Two other programs, Cocaine Dependence PTSD Therapy and Assisted Recovery from Trauma and Substances, may be distinguished from Seeking Safety by the inclusion of a cognitive-behavioral prolonged exposure component. Lastly, Transcend was developed specifically for Vietnam Veterans with chronic PTSD and substance use disorders.

Seeking Safety

Seeking Safety is a present-focused coping skills therapy to help people attain safety from both PTSD and substance abuse (Najavits, 2002, 2003). The key principles of Seeking Safety include safety as the larger goal of treatment, working on PTSD and substance abuse at the same time, a focus on ideals to counteract the loss of ideals from the experience of having PTSD and a substance use disorder, and addressing cognitive, behavioral, interpersonal, and case management areas for client's functioning. In addition, the therapy focuses on clinician processes, such as helping clinicians work with countertransference issues. Each session of Seeking Safety has an identified "topic" (e.g., asking for help, self-nurturing) that addresses themes relevant to both PTSD and substance abuse and that includes the development of coping skills related to the issue.

In the first pilot study of 35 women with SUD-PTSD in a 24-session version of Seeking Safety, from intake to a 3-month follow-up, significant reductions were found in substance use and trauma-related symptoms (Najavits, Weiss, Shaw, & Muenz, 1998). Patients also improved on substance use, depression, suicide risk and thoughts, dysfunctional attitudes about substance use, problem-solving, and social adjustment. However, there was no improvement in PTSD symptoms, and patients reported an increase in somatic symptoms from intake to follow-up.

Patients in the program rated the following treatment aspects as more helpful: the focus on abstinence and on coping skills, the therapist, and treatment overall. They gave lower helpfulness ratings to the short length of the program and to aspects of the group membership (i.e., option to call other group members outside of sessions, the assignment of a group partner, and the support of other group members). The retention rate for the treatment was 63% (defined as those who attended at least 25% of the sessions).

More recently, Seeking Safety was delivered to 18 women in a minimum-security correctional setting (Zlotnick, Najavits, & Rosenhow, in press). The treatment was used as a voluntary adjunct usual services, was offered in a 24-session group format over 3 months. Assessments were completed pre-post-treatment (during incarceration), and 6 and 12 weeks post-release. Attendance rate was high – participants attended an average of 83% of all sessions. Only two of 18 dropped out after starting therapy. At post-treatment, nine of the 17 women (53%), at 6-weeks, 7 of 16 women (44%), and at 3-months, 7 of 15 women (46%) no longer met criteria for a PTSD diagnosis. Significant decreases were noted in PTSD symptoms, drug use, and legal problems from pre-treatment to 6-weeks' post-release and from post-treatment to 3-months post-release. Recidivism rate (i.e., return to prison) was

33% and use of illegal substances was 35% at the 3-month interval suggesting that a longer-term model may be more effective with this population (i.e., a continuum of care approach).

Several other studies of Seeking Safety are being completed in various populations, including males, low urban women, adolescent girls, outpatient males, and veterans.

Concurrent Treatment of PTSD and Cocaine Dependence

Concurrent Treatment of PTSD and Cocaine Dependence (CTPCD; Back, Dansky, Carroll, Foa, & Brady, 2001; Brady, Dansky, Back, Foa, & Carroll, 2001) combines cognitive-behavioral exposure treatment for PTSD with coping skills training for substance use disorders. CTPCD is a twice-weekly, 16-session individual outpatient therapy for comorbid PTSD and cocaine dependence, although it is believed that it could be useful for patients with PTSD and any type of SUD. Initial therapy goals are to establish the skills necessary to obtain sobriety and to inoculate patients against the risk of relapse when completing exposure therapy. First, core SUD coping skills are taught along with an overview and rationale for exposure therapy, followed by prolonged exposure.

Brady et al. (2001) conducted an open-trial of CTPCD using 39 outpatients. Thirty-eight percent completed the study (defined as those completing 10 or more sessions); using the Najavits et al. (1998) completion standard of 25% or more sessions, the completion rate rose to 69%. Completers showed a reduction in PTSD symptoms as well as alcohol and drug use, depression and employment outcomes pre- to post-treatment and pre-treatment to a 6-month follow-up. Timing of the dropouts did not appear to implicate the exposure portion of the treatment as the reason. Ongoing research is evaluating CTPCD in various contexts, including a community mental health center and using a group format (Coffey, Schumacher, Brimo, & Brady, in press).

Assisted Recovery from Trauma and Substances (ARTS)

Assisted Recovery from Trauma and Substances (ARTS; formerly called Substance Dependence PTSD Therapy - SDPT), was developed for patients with varied SUDs and traumas (Triffleman, 2000, 2002; Triffleman, Carroll, & Kellogg, 1999). This 20-week twice-weekly individual therapy adapts and integrates three therapies: Cognitive-Behavioral Coping Skills Treatment (Carroll, Donovan, Hester, & Kadden, 1993), Stress Inoculation Therapy (Meichenbaum & Cameron, 1983), and in vivo systematic desensitization (Meichenbaum, 1994). In phase I, stabilization from recent substance use with the goal of abstinence and alliance building are emphasized. Patients are taught abstinence-oriented trauma-informed coping skills (i.e., examinations of cognitions and dysphoria associated with cravings; generation of alternative cognitions, and management of emotional and physical states). Phase II focuses on decreasing PTSD symptoms through education, stress inoculation (e.g., learning coping skills to deal with current reminders of the trauma), and in vivo prolonged exposure, with the purpose of desensitizing patients to trauma-related stimuli that they have avoided.

ARTS has been evaluated in one small randomized controlled trial. A total of 19 participants were randomized to ARTS or a 12-Step therapy. Patients improved in both treatments on

PTSD symptoms, substance use, and psychiatric severity but not on biological measures of substance use. Research is ongoing that will further evaluate the effectiveness of ARTS.

Transcend

Transcend is a 12-week partial hospitalization program developed for Vietnam combat veterans with chronic SUD-PTSD comorbidity that focuses on decreasing PTSD symptoms and promoting an addiction-free lifestyle (Donovan, Padin-Rivera, & Kowaliw, 2001). The program is based on concepts from constructivist, dynamic, cognitive-behavioral, and 12-step paradigms/theories. The treatment approach integrates behavioral skills training and trauma processing with an emphasis on meaning and self-acceptance/forgiveness, relapse prevention training, and peer social support. The program includes six weeks of skill development and six weeks of trauma processing. Participants receive ten hours of group therapy per week.

Donovan et al. (2001) evaluated Transcend in a sample of 46 male veterans with SUD-PTSD. A total of 10% did not complete the full treatment program. Assessments were completed at intake, 6-months and 1-year following treatment. All three assessment were completed on 76% of the sample, with 91% completing at least one assessment. Results showed that PTSD symptoms significantly decreasing at both 6- and 12-months following treatment relative to pretreatment with one exception: PTSD arousal symptoms did not change from pretreatment to the 12 month follow-up. In comparison to pre-treatment, alcohol consumption, drinking to intoxication, and polysubstance drug abuse were significantly lower at the 6- and 12-month follow-ups.

TREATMENT FOR SOCIAL PHOBIA AND SUBSTANCE USE DISORDERS

According to the National Comorbidity Study, lifetime prevalence of alcohol dependence among persons with social phobias is 24% (Kessler et al., 1996). Among persons seeking treatment, prevalence estimates vary from 2-54% (Lepine & Pelissolo, 1998). Randall, Thomas, & Thevos (2001) concluded that the prevalence rate of this comorbidity is at least 20%.

Randall et al. (2000) noted that individuals with social phobia indicate that they may use alcohol to medicate anxiety symptoms; however, no prospective studies have investigated treatment outcomes for socially phobic alcoholics. Another concern is that if treatment does not address social anxiety, these individuals may be at high risk for relapse. Finally, substance use disorder treatment is often in group format, which may prove difficult for the socially anxious patient.

With these issues in mind, Randall et al. (2001) combined two separate manual guided treatments, one for social phobia and one for alcoholism, to examine their effectiveness in treatment social phobia-alcohol use disorder comorbidity. Participants were recruited from outpatient alcohol use disorder treatment programs, newspaper ads, and referrals. Participants had to report that they used alcohol to cope with anxiety to be included in the study. The dual focus treatment was a 12-session individual treatment based on CBT therapy manual used in Project Match (Project MATCH, 1997) and a manual guided CBT treatment developed by Holmstrom and Thevos (cited in Randall et al., 2001).

Forty-four participants were randomized to receive alcohol use disorder treatment only and 49 to receive the dual focus treatment. Only 55% were termed “completers” (i.e., attending 10 of 12 sessions) with participants in the two groups not differing on attendance. The average number of sessions attended was eight. Participants were assessed at the end of treatment and a 3-month follow-up. Results were somewhat disappointing: although participants improved on drinking outcome measures at the end of treatment, the dual focus group fared worse than the alcohol treatment only group on percent days abstinent, percent heavy drinking days, and total number of drinks consumed at the 3 month follow-up. Both groups improved post-treatment and at the follow-up on social anxiety. One interesting finding was that reduction of social anxiety was not associated with improvement in drinking. The authors proposed that the patients in the dual focus group might have used alcohol to cope with their homework assignments, which involved confronted feared situations. One possible limitation to the effectiveness of this program was that the two treatments were offered as simultaneous treatments as opposed to being more fully integrated into one protocol.

TREATMENT FOR PERSONALITY AND SUBSTANCE USE DISORDERS

Axis II personality and substance use disorders are often co-morbid (Trull, Sher, Minks-Brown, Durbin, & Burr, 2000). Estimates of 44%-60% of substance use disorder patients meet criteria for at least one Axis II personality disorder (Verheul et al., 1995; Verheul, van der Brink, & Hartgers, 1998). Moreover, Axis II comorbidity is associated with poorer outcomes among patients with substance use disorders (e.g., Verheul et al., 1998). Two protocols have been developed to address personality and substance use disorders: Dual Focus Schema Therapy (Ball, 1998), which addresses any of the ten DSM-IV personality disorders; and Dialectical Behavior Therapy for Substance Abusers (DBT-S; Linehan & Dimeff, 1997), which is specific to borderline personality disorder.

Dual Focus Schema therapy

As noted by Ball (1998), one key issue for developing a treatment for comorbid personality and substance use disorders is how to address all ten DSM disorders with one treatment protocol. Ball and Young (1998) developed an integrated treatment, Dual Focus Schema Therapy that targets core early maladaptive schemas and coping styles observed across the ten personality disorders. Thus, this therapy addresses personality disorders by specifying a core set of topics, for which the specific content and delivery are determined by an assessment and conceptualization of client’s maladaptive schemas and coping. These maladaptive schemas are seen as the most potent triggers of drug use, which helps the client avoid or to compensate for the activation of an early schema.

Dual Focus Schema Therapy is integrated with a set of common core techniques such as functional analysis, self-monitoring, and coping skills training. Two assumptions of the therapy are: (1) targeted intervention into most problematic areas will affect a broader range of behaviors; and (2) a strong working alliance is essential to change. The treatment consists of 24-sessions and has two stages: (1) early relapse prevention plus identification/education about early maladaptive schemas/coping styles and their associations with SUD and present

lifestyle; and (2) schema change therapy and coping skills work. This therapy is currently being evaluated with federal grant funding.

Dialectical Behavior Therapy for Substance Abusers with Borderline Personality Disorder

Dialectic Behavioral Therapy (1993), a treatment for borderline personality disorder with shown effectiveness, has been adapted for borderline substance abusing clients (Dialectical Behavior Therapy for Substance Abusers with Borderline Personality Disorder – DBT-S; Linehan & Dimeff, 1997; Linehan et al., 1999; Linehan et al., 2002). The modified version includes the standard components of DBT with the addition of several strategies specific to substance abuse. Therapists emphasize a dialectic approach to abstinence, which includes an “unrelenting insistence” on abstinence coupled with acceptance and non-judgmental problem solving/relapse prevention when drug use does occur, with a quick return to an unrelenting insistence on abstinence. In addition, an intervention that focused on replacing “pills with skills” included a 4-month “transitional maintenance” replacement medication protocol to facilitate the use of adaptive coping skills, followed by 4 months of drug tapering to promote skills strengthening, and 4 months of no drug replacement to promote skills generalization. In a recognition of the need for therapy to engage/motivate patients, Linehan et al. (1999; 2002) developed these strategies to improve “attachment” of the client to the therapy and therapist, as well as to help reach out and bring back “lost” patients.

In a study that randomized twelve women to a one-year trial of DBT-S and sixteen women to treatment as usual (TAU - referral to psychotherapy and addictions services in the community), participants completed assessments at intake, 4, 8, 12, and 16-months following intake (Linehan et al., 1999). DBT-S was associated with reduced substance related behaviors (greater percentage days abstinent and clean urine drug screens) and improved global and social functioning over the 16 months following treatment relative to TAU. Both interventions were associated with reductions in parasuicidal episodes and state/trait anger; however, groups did not differ on these outcomes.

Participants in DBT-S had 43 hours of therapy where as TAU only had 23 hours. DBT-S retained more clients; the dropout rate for DBT-S, defined as missing four consecutive weeks of individual or four consecutive weeks of group for any reason, was 36% for DBT-S whereas it was 73% for TAU (defined as never going to therapy or dropping out after a first session). Among those in DBT-S, greater adherence to the treatment protocol was associated with a higher proportion of clean drug screens.

In a second randomized trial of DBT-S, eleven heroin dependent women were assigned to DBT and twelve to a comparison treatment, Comprehensive Validation Therapy with 12-Step (CVT+12S; Linehan et al., 2002). All participants were provided treatment for one-year plus an opiate agonist medication.

CVT+12S was designed to control for the provision of support/validation and other components of treatment not specific to DBT. It included DBT acceptance based strategies and case management when needed. Therapists were nondirective. In addition to psychotherapy, clients attended a 120-minute women’s Narcotics Anonymous group and

were encouraged to attend NA meetings as much as possible, with weekly meetings with a sponsor.

CVT+12S had a greater retention rate (100%) versus DBT-S (73%). However, the authors note that the three dropouts from the study came from one therapist, who was the only male therapist. There was no group difference in mean number of individual therapy sessions (mean = 33) attended, but the DBT group attended more skills groups as compared to CVT+12S group's attendance at self-help meetings.

Results indicated that both groups declined in opiate use as indicated by drug screens, until 8 months, when DBT group maintained the decline in use and the CVT group showed a course of increasing drug use during the last 4 months of treatment. Interestingly, when self-reports were compared with urine drug screens, the CVT group was less accurate in reporting drug use than the DBT group. The authors suggested that the greater accuracy of self-reported drug use by the DBT participants might reflect the use of self-monitoring tools (e.g., daily diary) in therapy. Both groups improved on self-reported substance use, depression, and global adjustment over time; no group differences emerged.

The authors concluded that the high retention rates across treatments might reflect the relational focus in the therapies (validation component) as well as the policies and procedures implemented in the clinic to retain these clients. For example, the clinic has a coordinator who sends cards to clients for holidays/events, the absence of lines for medications, the flexibility of therapists in scheduling and being tolerant of missed sessions, and the absence of threats to terminate clients for drug use or other maladaptive behaviors. In addition, if a client misses more than three sessions, the treatment team goes on "high alert" to help individual therapist re-engage the client.

Personality Risk Factors for Comorbid SUD And Mental Health Disorder

Given the research on high comorbidity between personality disorders and substance abuse, Conrod and colleagues have developed a novel approach to addressing personality risk factors for substance abuse (Conrod, Pihl, Stewart, & Dongier, 2000; Conrod, Stewart et al., 2000; Conrod & Stewart in press). Although this is not an integrated treatment program for dual disorders, it is worth mentioning as it has shown effectiveness among women with substance use disorders.

Conrod and colleagues identify four personality types – sensation seeking, anxiety sensitivity, introversion-hopelessness, and impulsivity – that place a person at risk for using specific drug types and developing specific forms of psychopathology. In a community sample of women with substance use disorders, the typology was partially validated. As predicted, *sensation seeking* was associated alcohol dependence, *anxiety sensitivity* with lifetime anxiolytic dependence, somatization and anxiety disorders (i.e., simple phobia and GAD), *hopelessness* associated with opioid dependence, anxiety disorders (i.e., social phobia and panic), and depression, and *impulsivity* was associated with cocaine and alcohol dependence and antisocial personality disorder (Conrod, Pihl et al., 2000).

Conrod, Stewart and colleagues (2000) developed brief 90-minute motivational coping skills interventions to match these specific personality-motivational risk factors for substance abuse. These manuals included psychoeducation about the target personality risk factor and risky substance abuse/maladaptive coping. In a randomized trial, women with substance use disorders were randomly assigned to the matched intervention (n=94), a motivational control intervention involving a motivational film and a supportive discussion with a therapist (n=52) and a motivational-mismatched intervention targeting a different personality profile (n=97).

Clients participated in an initial 3-5 hour assessment and the 90-minute intervention. During the intervention, feedback was given on how their scores on the personality, psychopathology, and drug-related scales deviated relative to norms for similarly aged women without substance use disorders. The facilitator and client discussed reasons for using substances as well as the long-term consequences of substance abuse. Cognitive restructuring exercises and coping self-statements were taught. Participants were given a manual to take home and encouraged to practice the exercises at home.

The various forms of motivational interventions reduced alcohol and prescription drug use and related problems over a 6-month period. Results indicated that those in the matched intervention reduced the frequency and severity of problematic alcohol and drug use more than the control intervention. Although the matched intervention was somewhat more effective than the mismatched intervention on alcohol and drug outcomes, this difference was not significant. In summary, these findings suggest that providing motivational interventions matched to a client's personality may significantly improve their treatment outcomes. Given the importance placed on motivation in dual diagnosis treatment guidelines, this approach could possibly be used as a component of dual diagnosis treatment.

COMORBID SUBSTANCE USE AND PSYCHIATRIC DISORDERS AMONG YOUTH

Prevalence of dual disorders among youth

Prevalence studies of youth in the community estimate rates of comorbid substance use and psychiatric disorders at about 60%-76% (e.g., Lewinsohn, Hops, Roberts, Seeley, & Andrews, 1993; Kandel, Johnson, Bird, Weissman, & Goodman, 1999). In a detailed review of this literature, Armstrong and Costello (2002) found that conduct disorder and oppositional defiant disorder had the greatest association with SUDs (about 40-60% youth had a comorbid SUD and a disruptive behavior disorder), followed by the depressive disorders (about 11-32% of youth had comorbid SUD and depression). While the evidence for a significant relationship between SUDs and comorbid anxiety disorders was weaker, PTSD was significantly associated with SUDs. Specifically, in one report, 11% of young adults with lifetime SUDs also had PTSD (Giaconia et al., 2000). Consistent with the latter finding, Kilpatrick and colleagues (2000) found among a national sample of 4,023 adolescents, 16% of adolescents with SUDs also had current PTSD.

In clinical samples, 75% of adolescent SUD patients are estimated to have a comorbid disorder (Crowley et al., 1998; Greenbaum et al., 1996). In the Drug Abuse Treatment Outcome Studies for Adolescents (DATOS-A; Hser et al., 2001), a multisite naturalistic evaluation of adolescent drug treatment programs, a total of 992 adolescents received an

intake diagnostic assessment using the Diagnostic Schedule for Children-Revised (Shaffer et al., 1993). Sixty-three percent of participants had a DSM-III-R comorbid disorder (Grella, Hser, Vandana, & Rounds-Bryant, 2001). Specific disorders included conduct disorder (59%), depressive disorder (15%), ADHD (12%), panic disorder (2%), and overanxious disorder (1%). Many had more than one comorbid disorder; most of those with depression and ADHD also had conduct disorder.

In the DATOS-A, compared to those without comorbid psychiatric disorders, those youth with comorbid disorders were younger, more likely to be Caucasian and had committed more illegal acts in the previous year (although there was no difference in arrest rates). Compared to those without psychiatric disorders, those with comorbid disorder started using alcohol and marijuana earlier, had higher rates of weekly use of marijuana, had more heavy use of alcohol, and had higher rates of dependence on alcohol, marijuana, and cocaine. Comorbid youth were more likely to use nicotine and more likely to have had prior drug treatment; their parents had more drug problems. In addition, comorbid youth had more family problems and higher rates of sexual/physical abuse history. Lastly, they had lower levels of commitment to school (Grella et al., 2001).

Comorbidity and treatment outcomes

Although treating substance use disorders in youth can be a challenging task, accumulating research suggests that SUD treatment is effective. For example, the Drug Abuse Treatment Outcome Studies for Adolescents (DATOS-A, Hser et al., 2001) evaluated 23 stable community-based adolescent drug treatment programs in four US cities. A total of 1,167 adolescents completed an intake and a 1-year follow-up assessment. At the 1-year follow-up, significant improvement was found on drug use, psychological adjustment (i.e., suicidal thoughts, hostility and self-esteem), school performance (i.e., attendance and grades) and criminal activity. Similar to findings in the adult SUD treatment literature, longer time in treatment predicted lower drug use (i.e., no marijuana use and no drug or alcohol use) and lower arrest rates at follow-up.

Few studies have evaluated the effect of a comorbid psychiatric disorder on SUD treatment outcome for adolescents. In the DATOS-A, Grella and colleagues examined the association between DISC-R assessed comorbid psychiatric disorder and one-year outcomes. After controlling for demographics, type of program attended (i.e., residential, inpatient, or outpatient), treatment retention, and baseline functioning, having a comorbid diagnosis was associated with higher likelihood of weekly marijuana use, use of hallucinogens, engaging in illegal acts, and having been arrested during follow-up. Interestingly, having a comorbid disorder was associated with a greater likelihood of being enrolled in school during the follow-up. Comorbidity was not associated with using marijuana, heavy alcohol use, using cocaine, using stimulants, and suicidal thoughts. In analyses examining type of disorder, the results remained the same with one exception: having a depressive disorder was associated with suicidal thoughts during the follow-up. Limitations to this study include high attrition, reliance on self-report only, and high overlap among conduct disorder and other disorders limiting conclusions about effects of specific types of disorders.

Using data from a randomized trial evaluating Multisystemic Therapy (described below), Randall and colleagues examined 16-month outcomes for 18 adolescents with substance use disorders. Using the Diagnostic Interview Schedule for Children, 27% of participants were diagnosed with an externalizing disorder only, 26% with an internalizing disorder; 15% had both types of disorders; and 31% had neither. After controlling for baseline functioning, having an externalizing disorder predicted increased general delinquency and illicit drug use. Interestingly, having an internalizing disorder buffered the effect of an externalizing disorder on outcomes. In other words, youth who had both an externalizing and internalizing disorder engaged in less criminal activity and in lower illicit drug use than those with an externalizing disorder only. Moreover, having an externalizing disorder predicted more out-of-home placement days and greater family cohesion. Having an internalizing disorder predicted poorer school functioning. Number of comorbid disorders did not predict functioning, so findings appear to be accounted for by type of disorder and not number of diagnoses per se (Randall, Henggeler, Pickrel, & Brondido, 1999). The authors suggest that the externalizing/internalizing distinction may have important clinical implications; externalizing disorders may be part of a larger picture of problem behavior, which includes substance abuse. In contrast, they propose that having a SUD and a comorbid internalizing disorder may reflect a self-medication process.

Given the importance of treatment retention for outcomes, it is important to examine the effect of a comorbid psychiatric disorder on treatment completion. In two studies of clinical samples, having a disruptive behavior disorder (i.e. ADHD, conduct disorder) was associated with treatment noncompletion (Kaminer, 1992; Wise et al., 2001). Thus, externalizing disorders may be indicators for negative treatment outcomes.

Summary

In both community and clinical samples, dual disorders are common among youth with SUDs. The most common comorbid disorder appears to be the disruptive behavior disorders. Those with dual disorders appear to have a more severe clinical picture.

Having a comorbid disorder attenuates the effectiveness of SUD treatment. The variety of comorbid disorders found among adolescents in treatment may indicate a need for treatment programming that addresses the specific comorbidity. Despite the prevalence and effect of dual disorders on SUD treatment, very little is known about effective treatment. Only two programs that integrate mental health and substance use disorder treatment have been developed for adolescents with dual disorders and tested in the empirical literature. The following reviews these two programs and provides suggestions for future research in the area.

CONDUCT DISORDER, SERIOUS EMOTIONAL DISTURBANCE AND SUBSTANCE USE DISORDERS: MULTISYSTEMIC THERAPY

One promising intervention program for youth with dual disorders is Multisystemic therapy (MST; Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998). The US Surgeon General cited MST as an evidence based treatment for adolescent substance abuse (US Surgeon General, 1999). This intervention is a family/community-based model that was originally designed to treat serious antisocial behavior in juvenile offenders. It is based on

social-ecological and family systems theories of behavior with the assumption that community and family systems are inter-related. Thus, MST aims to address the multi-determined nature of antisocial behavior, which includes individual-, family-, and community-level targets as well as their inter-connections. By changing the youth's greater social context (i.e., family, peer, school, support system), it seeks to promote prosocial behavior and reduce antisocial behavior. One primary goal is to teach the caregivers how to handle problematic behaviors with the child; the caregiver is seen as key in successful long-term outcomes.

MST is a pragmatic intervention. After conducting a functional analysis of the target behavior, problem-focused treatments with empirical evidence are applied to change the target behavior. To eliminate barriers to treatment, MST is delivered at the family's home and the treatment team assumes responsibility for engaging the family and attaining clinical outcomes. Services are available 24 hours a day/7 days a week. Therapists work in teams and have low caseloads. In addition, MST has a strong quality assurance component, including clinical support with manualized assessments and interventions, clearly articulated treatment principles, having MST expert consultation, and extensive organizational consultation. Experts give local MST supervisors consultation. An Internet based tracking system monitors adherence.

Research evaluations of MST have been positive. Seven randomized controlled trials and one quasi-experimental trial have been completed and published (see Henggeler et al., 2002 for a review). These studies included several populations: inner-city delinquents, violent chronic juvenile offenders, juvenile offenders with substance use disorder, youths with psychiatric emergencies, maltreating families; and juvenile sex offenders. Across these studies, MST has demonstrated success in treating serious antisocial behaviors. In comparison to control groups (e.g., usual services, juvenile justice system services, individual office therapy), MST has improved family relations and functioning, increased school attendance, decreased youth's mental health symptoms/problems (e.g., conduct problems, anxious-withdrawn behaviors, immaturity, psychiatric symptoms) and substance use, and decreased long-term rates of re-arrest. Moreover, in comparison to control conditions, MST has higher treatment completion rates, decreased long-term rates of out-of-home placements, high consumer satisfaction, and cost-savings. Although MST has not been labeled as a treatment for "dual disorders," it has been used within adolescent populations with multiple needs, including those with substance use disorders and psychiatric problems.

The following reviews in depth two completed studies on MST, the first with substance abusing juvenile delinquents and the second with youth with psychiatric emergencies. Two new applications of MST are then discussed that have direct relevance for the treatment of adolescents with dual disorders.

MST as a treatment for juvenile delinquents with substance use disorders.

Adapting MST for delinquents with SUDs is logical given that it addresses many factors related to adolescent substance use and abuse (Pickrel & Henggeler, 1996). In a five-year randomized controlled trial, Henggeler and colleagues compared MST to treatment as usual in the community (Henggeler et al., 2002; Henggeler, Pickrel, Brondino, & Crouch, 1996). A

total of 118 delinquents who met DSM-III-R criteria for substance abuse (56%) or dependence (44%) (primarily alcohol (87%) and marijuana (68%)) and their families participated in the research. The majority of participants were male (79%) and half were African-American (50%). The participants had an average of 2.9 prior arrests. In addition, families in this study were economically disadvantaged; for example, 25% of participant's parents were unemployed. Important to this review was that 72% met criteria for at least one additional DSM-III-R psychiatric diagnosis based on the Diagnostic Interview Schedule for Children (Shaffer, 1992). Comorbid disorders included conduct disorder (35%), social phobia (19%), simple phobia (16%), oppositional defiant disorder (12%), overanxious disorder (10%), agoraphobia (10%), major depression (9%), and attention deficit disorder (4%). Thus, this was a multiple needs sample, including many adolescents with dual SUD and psychiatric disorders. MST outcomes were assessed post-treatment and at 6 and 12 month follow-ups. Assessments were obtained via multi-methods (i.e., child, parent, biological, archival records)

In an initial evaluation of treatment retention and drop out for the active phase of treatment (i.e., pre- to post-treatment, approximately 4-5 months), a total of 98% of the families were retained in MST for the full course of treatment (Henggeler, Pickrel et al., 1996); 78% of families who were referred for community care received no services during the same time period. This retention rate is particularly impressive given the high rates of treatment dropout seen among youth in SUD treatment. Moreover, given the association between treatment retention and better outcomes among adolescents in SUD treatment (e.g., DATOS-A), this ability to retain youth is important. Henggeler and colleagues attribute this finding to the emphasis in MST on delivery of all services in the natural environment, the responsibility for treatment engagement/outcome being placed on and the availability of the treatment team, and the expectation that families be full collaborators in treatment.

Despite effects on treatment retention, MST effects on outcomes at post-treatment and a 6-month follow-up were modest. As reported by Henggeler, Pickrel, and Brondino (1999), at post-treatment, participants in the MST condition self-reported reductions in alcohol/marijuana use and other drug use relative to those in the usual care condition. However when baseline differences in hard and soft drug use were controlled, treatment effects were not significant. Moderator analyses indicated that these effects appear to be limited to females and younger participants (i.e., under 16 years of age). No significant reductions in self-reported or biological measures of substance use were observed at the 6-month follow-up. A significant reduction in self-reported criminal activity was observed at post-treatment and the 6-month follow-up; however, MST did not differ from usual care. Arrest data gathered from computerized records showed a relative decrease in arrests over time at the 6-month follow-up. Lastly, when out-of-home placements were examined, adolescents in the MST condition had fewer days in out-of-home placements (50% fewer) compared to those in the usual services condition.

Given the relatively modest findings, Henggeler et al. (1999) examined treatment fidelity as a possible explanation. Using their MST Adherence Measure, adherence to MST treatment protocol based on caregiver, therapist, and adolescent reports was low compared to adherence ratings in other MST studies. High adherence was associated with lower rates of

self-reported criminal activity; low adherence was associated with more out-of-home placement days. Findings for drug use were variable dependent on the source of the adherence ratings. For example, high adherence as reported by adolescents was associated with reduced self-reported drug use whereas high adherence as reported by caregivers was associated with increased adolescent alcohol and marijuana use. The authors concluded that MST was not effectively transported from the developers to the supervisors and the therapists in the present study. In addition, it was proposed that MST might need enhancements to address the needs of juvenile delinquents with diagnosed substance use disorders. As a result, several procedures have been implemented in other studies to improve adherence, and as discussed more below, an evidence-based SUD treatment has been integrated with MST and is currently being tested in a randomized controlled trial.

In a paper focusing on school outcomes at posttreatment and the 6-month follow-up, Brown and colleagues found that participants in the MST condition showed a sustained increase in school attendance ascertained by a multi-method strategy using child and parent reports and archival records (Brown, Henggeler, Schoenwald, Brondino, & Pickrel, 1999). Usual care participants showed a decrease in school attendance at posttreatment with a relative increase at 6 months. Thus, groups did not differ on school attendance at the 6-month follow-up. The possibility exists that if MST was ongoing, school attendance may have continued to improve over time.

Schoenwald and colleagues examined the costs of MST during the one-year period from study initiation to the 6-month assessment (Schoenwald, Ward, Henggeler, Pickrel, & Patel, 1996). Incremental costs of MST (i.e., cost of MST relative to usual care) were nearly offset by savings incurred as a result in reductions in days of out of home placement during the year. Specifically, a 50% increase in costs associated with MST implementation was associated 46% fewer days incarcerated and 64% fewer days in mental health residential facilities, relative to youth in usual care.

At a four-year follow-up of this same group of adolescents (Henggeler, Clingempeel, Brondino, & Pickrel, 2002), 80 (68% of the original sample) completed the 4-year assessment. Completers did not differ from noncompleters on treatment assignment, demographics, nor baseline drug use variables, comorbid psychopathology, or criminal activity variables. Findings indicated that relative to usual care, MST participation was associated with reductions in aggressive criminal behavior (by archival reports and self-reports) and increased abstinence from marijuana (by biological reports but not by self-reports). No group differences emerged for reducing cocaine use and for decreasing psychiatric symptoms. Thus, results were strongest for reductions in antisocial behavior, particularly aggressive behavior. Similar to the earlier assessments, results for reducing substance use were modest and inconsistent.

MST as a treatment for youth with serious emotional disturbance

The other line of work with MST relevant to this review addresses serious emotional disturbance among adolescents (see Henggeler, Schoenwald, Rowland, & Cunningham, 2002). MST has been adapted to address the needs of youth in psychiatric crisis (i.e., suicidal or homicidal ideation, and psychotic) to provide a community-based alternative to

hospitalization. Some of the modifications include the following: the MST treatment team is expanded to include child and adolescent psychiatric residents and crisis caseworkers (available 24 hours a day/7 days a week). MST supervision is provided daily by a child and adolescent psychiatrist early in treatment, with a reduction later in the course of treatment to 3 times a week. Therapist caseloads are reduced from the usual five families to three families to accommodate for the increase in the intensity of treatment. The clinical protocol includes the development of a comprehensive plan to address safety issues and the integration of pharmacological interventions. Out-of-home placements are planned carefully to insure the safety of the participants and the attainment of treatment goals.

In an NIMH-funded study of MST adapted for youth with serious emotional disturbance, 156 youths who were referred for emergency psychiatric hospitalization participated in a randomized controlled trial of MST versus psychiatric hospitalization (Henggeler, Rowland et al., 1999; Henggeler, Rowland et al., 2003; Schoenwald, Ward et al., 2000). Participants were, on average, 13 years of age (range 10-17 years), mostly male (65%) and African-American (64%; 34% White; 1% each Asian-American and Hispanic), and 72% of families receiving some form of welfare with 75% receiving Medicaid. The presenting problem for potential psychiatric hospitalization included suicidal ideation, plan, or attempt (32%), homicidal ideation, plan, or attempt (15%) and psychosis (11%). Ninety-six percent met DISC DSM-III-R criteria for one or more diagnoses (based on caregiver and youth reports, average of 2 to 3 diagnoses per participant). Based on caregiver reports, the most common diagnoses were oppositional defiant disorder, followed by conduct disorder and major depression. By youth reports, the most common diagnoses were oppositional defiant and conduct disorder, followed by major depression. The majority of participants had previous psychiatric treatment (87%). Moreover, 38% had a history of psychiatric hospitalization and 38% had juvenile justice involvement prior to study entry.

Participants completed five yoked assessments: one within 24 hours of acceptance into the project, one shortly after the participants in the psychiatric hospitalization condition were released from the hospital, one at completion of MST (average 4 months post-recruitment), and 6 months and 12 months post-treatment.

Two papers have presented findings from the 4-month assessment on a sub sample of participants (N=116; Henggeler, Rowland et al., 1999; Schoenwald et al., 2000). Results at the 4-month assessment suggested that MST had a greater effect on externalizing symptoms than hospitalization. However, youths in the hospital condition had better self-esteem at the 4-month assessment than those in the MST therapy. In addition, MST had a greater effect on improving family cohesion and reducing days out of school than hospital care. Both caregivers and youth in the MST condition reported greater treatment satisfaction than the hospital care condition. No differences emerged between treatments on reducing internalizing problems and emotional distress. Lastly, youth in the MST condition had fewer days in out of home placement than those in hospital care. The authors propose that these findings may reflect the focus of each treatment; in particular that MST focuses on the social environment whereas traditional mental health treatment focuses on the individual (Henggeler et al., 1999).

Henggeler and colleagues recently reported on the 156 families who completed the study (Henggeler et al., 2003). Using mixed-effects growth curve modeling, MST was initially more effective than hospitalization on reduction of psychiatric symptoms, out-of-home placements, increasing school attendance, in increasing family structure (e.g., rules and monitoring). However, most of these treatment effects attenuated by the one-year assessment. Based on these results, the developers have further modified MST to better treat adolescents with serious emotional disturbance as reported below.

MST integrated with the Community Reinforcement Approach and MST-based continuum of care model

Due to modest results in the randomized controlled trials of MST among youth with substance use disorders and among those with serious emotional disturbance, Henggeler and colleagues have developed two new models of care for these populations. The first adaptation is for youth with comorbid substance use disorders; this model integrates MST with an evidence-based intervention, the Community Reinforcement Approach (CRA; Budney & Higgins, 1998). According to Randall and colleagues (2001), CRA was chosen because of strong empirical support and its fit with the MST model. CRA includes tracking substance use through urine screens with rewards given for screens indicating no substance use, functional analyses to identify substance use triggers, self-management plans to address triggers of substance use, and use of drug avoidance skills (Randall, Henggler, Cunningham, Rowland, & Swenson, 2001). Thus by integrating the two models, both the broader social context and specific substance use issues are addressed in treatment. To evaluate the effectiveness of this integrated approach, a randomized trial funded by NIDA and NIAAA is being conducted within juvenile drug courts (see Randall, Halliday-Boykins, Cunningham, & Henggler, 2001). The study examines whether outcomes from drug court are enhanced with the addition of MST and if a condition that includes MST-CRA has a greater influence on positive outcomes relative to MST alone.

MST has also been modified to better address the needs of youth with serious mental illness: MST-based continuum of care is an integrated mental health and substance abuse service system. This adaptation is similar to what is recommended for adults with severe and persistent mental illness (see above description, Drake et al., 1999). In this model, MST service delivery systems include home-based services, intensive outpatient, crisis intervention, family resource specialists/parent partners, therapeutic foster care, respite services, access to residential and hospital beds and integration of evidence-based psychopharmacological treatment. Care is given on an ongoing basis (in contrast, MST is usually offered as a 3-5 month time limited treatment) and the integration of MST into the multiple service delivery systems allows the MST treatment team to have a greater influence over treatment decisions when the youth is placed outside the home. Moreover, a key feature is that the same team (e.g., therapist, psychiatrist, supervisor) treats the adolescent regardless of his/her placement on the continuum of care. This model is currently being evaluated in a randomized trial in Philadelphia about clinical outcomes and cost-effectiveness relative to usual care.

In summary, both of these new models hold promise for the treatment of comorbid substance use and psychiatric disorders. Although not labeled as treatment for “dual disorders”, both

address substance use disorders and serious emotional difficulties. The integrated approach fits with what is recommended in the adult literature and makes logical sense given the potential functional relations among multiple and complex symptoms in youth with co-occurring disorders.

POSTTRAUMATIC STRESS AND SUBSTANCE USE DISORDERS: SEEKING SAFETY FOR ADOLESCENT GIRLS

Armstrong & Costello's (2001) comprehensive review of community studies suggested that PTSD was significantly associated with SUDs among youth. In a recent review specific to the dual disorder of SUD-PTSD, Giaconia noted that surprisingly few studies examine this particular dual diagnosis despite contemporary adolescents' risk for SUDs and PTSD (Giaconia, Reinherz, Paradis, & Stashwick, 2003). Among clinical and community samples of adolescents with SUDs, rates of PTSD ranged from 11-47% (Giaconia et al., 2003). Given that rates of trauma are high among adolescents with SUDs (50-75%; Giaconia et al., 2003) and among dually diagnosed adolescents (e.g., 52%; Grella et al., 2001), a focus on the integrated treatment of this particular diagnosis may be prudent. In line with this, Najavits has adapted her adult-focused integrated treatment for SUD and PTSD - Seeking Safety - for adolescent girls with this dual diagnosis. A focus on girls may be warranted by data suggesting that females are somewhat more at risk for this dual diagnosis than men (Giaconia et al., 2003; Najavits, Weiss, & Shaw, 1997; Stewart, Ouimette, & Brown, 2002). A description of the adaptation and some preliminary outcome data follows.

As described above, Seeking Safety is a coping skills oriented therapy for current SUD and PTSD. To address the developmental needs of adolescent girls, Najavits, Gallop, & Weiss (2003) describe several modifications to the protocol: (1) material was conveyed verbally if the client did not want to read written handouts; (2) to evoke emotional material, use of more appropriate techniques such as "displacement" were used; (3) the trauma was discussed if desired by the client; (4) two sessions were allotted to address topics outside the manual; and (5) parental updates on treatment progress were provided, if the client agreed. In addition, parents were invited to attend one session that focused on, "Getting Others to Support Your Recovery."

Eighteen outpatient adolescent girls were randomized to Seeking Safety plus treatment as usual whereas 15 were randomized to treatment as usual alone (Najavits et al., 2003). On average, participants were 16 years of age and Caucasian (79%). The majority were diagnosed with cannabis (79%) or alcohol (67%) use disorders. When asked about if their symptoms, the majority of adolescent girls (75%) believed that their PTSD and SUD symptoms were related. Participants were excluded if they had a history of bipolar I or psychotic disorder, were mandated to treatment, or had characteristics that could interfere with treatment completion (e.g., homelessness). Participants were assessed at intake, post-treatment, and at a 3-month follow-up. Participants completed an average of 12 of the 25 offered sessions over a three-month period; nine of the 12 sessions were Seeking Safety focused.

Post-treatment findings found that clients in Seeking Safety reported reduced substance use, PTSD and trauma-related symptoms, SUD and PTSD-related cognitions, improved

functioning, and less psychopathology than clients in treatment as usual. However, some of the post-treatment gains were not maintained at the 3-month follow-up. Participants reported moderate satisfaction with Seeking Safety as a treatment. Despite several limitations including a small sample size, pre-existing group differences, and multiple statistical tests without correction, this study suggests that Seeking Safety may be transportable to an adolescent population. The dissipation of treatment gains over time suggests that a longer-term approach may be needed with this population.

PERSONALITY RISK FACTORS AND SUBSTANCE USE DISORDERS: BRIEF MOTIVATIONAL INTERVENTIONS FOR AT-RISK ADOLESCENTS

Although not designed as an intervention for dual disorders, Conrod and colleagues brief coping skills-motivational interventions for personality-motivational risk types for substance abuse warrant mention here. As reviewed above, preliminary data suggested that these brief interventions were effective in reducing alcohol and drug use among women with diagnosed substance use disorders. In a study of adolescents, these personality risk factors (i.e., sensation seeking, anxiety sensitivity and hopelessness) were associated with specific risky drinking motives (e.g., anxiety sensitivity with coping/conformity motives (Conrod & Stewart, in press). Thus, Conrod and colleagues adapted their adult based manuals to be more developmentally appropriate for at-risk teenage drinkers (Conrod & Stewart, in press). These interventions were conceptualized as early interventions to decrease heavy drinking and to prevent the development of mental health and substance use disorders.

In an initial study, these interventions were given to adolescents in a group over two sessions with within and between sessions assigned homework. Twenty-six teens who indicated drinking and personality risks that participated in these interventions. Twenty-five percent reported that they were no longer drinking 4-months after the intervention compared to 8% of 21 teens who were in an assessment-only group (Conrod & Stewart, in press).

In a second wave of data collection, a two-site randomized trial was conducted. Participants were randomized to matched personality-risk motivational intervention or to a no treatment control group. Results indicated that the matched intervention was more effective at reducing drinking quantity and problems than no treatment. Although preliminary, these results are promising and these interventions may provide a good strategy for reducing risk for alcohol abuse in at risk youth as well as comorbid psychopathology (e.g., anxiety sensitivity is associated with anxiety disorders). Relevant to this review, these brief motivational interventions could possibly be used as part of a larger treatment program for adolescents with dual disorders.

CONCLUSION AND FUTURE DIRECTIONS

This review focused on the evidence base for integrated dual diagnosis treatments for adults and adolescents. While guidelines have been set forth (Drake et al., 2001), the evidence base for the efficacy and effectiveness of specific intervention approaches is variable by intervention and in general, relatively small, especially for adolescents. At most, the interventions reviewed here could be classified as “promising” practices.

In reviewing the treatment protocols designed for adults with severe mental illness and substance use disorders, it was found that a comprehensive longer-term approach, addressing

motivational, individual, and family issues, maintained clients in treatment and produced better outcomes than comparison conditions (e.g., Barrowclough et al., 2001). An important finding was that programs could be inadvertently excluding motivated patients by not integrating themselves into existing systems and/or addressing client barriers to treatment (e.g., managing difficult treatment schedules; Bennett et al., 2001). In one randomized trial reviewed that showed treatment effects for an integrated protocol, negative symptoms and social functioning did not improve. Future work should consider ways to bolster treatment results in these areas.

For the anxiety disorders, two main issues were poor retention and a lack of treatment effects in key areas (or maintenance of effects). These issues may reflect a key facet of anxiety disorders - avoidance behaviors - not being adequately addressed by the interventions (Conrod & Stewart, in press). Lack of improvement may also be due to need for longer-term approach. Future work in this area needs to address these concerns.

Results for interventions designed for personality disorders and substance abuse were promising and point to the need for a strong therapeutic alliance, motivation, and appropriate “staging” of interventions. While results from controlled trials of DBT are very promising for patients with comorbid borderline and substance use disorders, there is no published information on the effectiveness of integrated treatments for personality disorders other than borderline that are comorbid with substance use disorders. Thus, a general call for more treatment development and testing of these interventions is warranted.

Among adolescents, the paucity of research in this area is notable. The program of research on MST is one of the most comprehensive reviewed and holds much promise as a best practice for adolescents with mental health and substance use disorders. The MST findings of lack of maintenance of effects over time, in conjunction with similar findings from the Seeking Safety protocol, clearly suggest that briefer interventions may not be adequate for youth with dual disorders. As with the personality disorders, there is a need for general treatment development for youth with comorbid mental health and substance use disorders.

Much progress has been made in designing programs for dual disorders in adults and preliminary work with adolescents appears promising. However, most of these programs need to be evaluated for their efficacy and cost-effectiveness relative to standard care and other programs. Initial work suggests that these programs may need improvement on addressing non-symptom outcomes such as quality of life issues (e.g., vocational problems) and should consider longer-term approaches. Given the popularity of self-help approaches in the United States, the role of social influences in substance use, and concerns about health care costs, an investigation of whether self-help can provide a helpful adjunct to integrated treatment would be useful, particularly for adult populations.

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- Schoenwald, S.K., Ward, D.M., Henggeler, S.W., & Rowland, M.D. (2000). MST vs. hospitalization for crisis stabilization of youth: Placement outcomes 4 months post-referral. *Mental Health Services Research*, 2, 3-12.
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- U.S. Surgeon General's Report on Mental Health (1999). Sections on multisystemic therapy outcomes.
- Verheul, R., van den Brink, W, & Hartgers, C. (1998). Personality disorders predict relapse in alcoholic patients. *Addictive Behaviors*, 23, 869-82 Weiss, R.D., Griffin, M.L., Greenfield, S.F., Najavits, L.M., Wyner, D., Soto, J.A., & Hennen, J.A. (2000). Group therapy for patients with bipolar disorder and substance dependence: Results of a pilot study. *Journal of Clinical Psychiatry*, 61, 361-367.
- Weiss, R.D., Najavits, L.M., Greenfield, S.F. (1999). A Relapse Prevention Group For Patients With Bipolar And Substance Use Disorders. *Journal of Substance Abuse Treatment*, 16, 47-54.
- Wise, B.K., Cuffe, S. P., & Fischer, T. (2001). Dual diagnosis and successful participation of adolescents in substance abuse treatment. *Journal of Substance Abuse Treatment*, 21, 161-165.

Zlotnick, C., Najavits, L.M. & Rohsenow, D.J. (in press). A Cognitive-Behavioral Treatment for Incarcerated Women with Substance Use Disorder and Posttraumatic Stress Disorder: Findings from a Pilot Study. *Journal of Substance Abuse Treatment*.

Resource Guide

Integrated Treatment for Dual Disorders

Description:

1. **Primary purpose:** This program is a comprehensive set of approaches including assessment, individual, group, and family that can be tailored to the specific needs of individual programs
2. **Target population:** Adults with severe mental illness, most commonly those with psychotic disorders, but may include anxiety disorders such as posttraumatic stress disorder and personality disorders such as borderline personality disorder

Evaluating this practice:

The manual cited below includes measures to evaluate adherence to dual diagnosis treatment principles (Dual Disorder Treatment Fidelity Scale) and multiple assessment instruments/forms that can be used in treatment planning.

Evidence supporting practice:

1. **Peer reviewed research** – see other considerations
Mueser, K.T., Noordsy, D.L., Drake, R.E., & Fox, L. (2003). *Integrated treatment for dual disorders: A guide to effective practice*. New York: Guilford.
2. **Practice implementation:** see other considerations
3. **Other considerations:** This program/book summarizes available knowledge on various treatment programs (e.g., individual, family) that have been researched separately and recommends that programs include each component in a complete dual diagnosis intervention program. Information (evidence and implementation requirements) on available individual interventions that are included as potential components of an overall program is detailed in this section.

Contact information:

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Kim.t.mueser@dartmouth.edu

Relevant websites:

Family Intervention for Dual Disorders - FIDD

Description:

1. **Primary purpose:** Designed to teach client's family the information and skills needed to manage the client's dual disorders. Includes both single family (behavioral family therapy) and family group formats. Goals also include decreasing the client's substance use as well as maintaining family involvement and providing social support for families.
2. **Target population:** Adult patients with severe mental illness and substance abuse

Evaluating this practice:

Alcohol use scale, Drug use scale, Substance abuse of treatment scales, see: Mueser, K.T., Drake, R.E., Clark, R.F., McHugo, G.J., Mercer-McFadden, C., & Ackerson, T. (1995). *Toolkit For Evaluating Substance Abuse In Persons With Severe Mental Illness*. Cambridge, Ma: Evaluation Center At HSRI.

Evidence supporting practice:

- Mueser, K.T., & Fox, L. (2002). A family intervention program for dual disorders. *Community Mental Health Journal*, 38, 253-270.
- Mueser, K.T., Sengupta, A., Schooler, N.R., Bellack, A.S., Xie, H., Glick, I.D., & Keith, S.J. (2001). Family treatment and medication dosage reduction in schizophrenia: Effects on patient social functioning, family attitudes, and burden. *Journal of Consulting & Clinical Psychology*, 69, 3-12.
- Schooler, N.R., Keith, S.J., Severe, J.B., Matthews, S.M., Bellack, A.S., Glick, I.D., Hargreaves, W.A., Kane, J.M., Ninan, P.T., Frances, A., Jacobs, M., Lieberman, J.A., Mance, R., Simpson, G.M., & Woerner, M.G. (1997). Relapse and rehospitalization during maintenance treatment of schizophrenia: The effects of dose reduction and family treatment. *Archives of General Psychiatry*, 54, 453-463.

Manuals

- Mueser, K.T., & Glynn, S.M. (1999). *Behavioral family therapy for psychiatric disorders* (2nd ed.). Oakland, Ca.: New Harbinger.
- Mueser, K.T., Noordsy, D.L., Drake, R.E., & Fox, L. (2003). *Integrated treatment for dual disorders: A guide to effective practice*. New York: Guilford.

Practice implementation:

1. **Staffing requirements** – For multiple family groups –optimal to have two leaders - one with a background in addictions treatment and other with a background in mental health treatment
2. **Training requirements** – typical training is a 1-2 day workshop followed by weekly supervision
3. **Cost of program**
4. **Use of natural funding** - The FIDD program has been implemented at two mental health centers using state funds.

Other considerations:

A randomized controlled trial is underway in Boston, Massachusetts and Los Angeles, California

Contact information:

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Relevant websites:

Behavioral Treatment for Substance Abuse in Schizophrenia (BTSAAS)

Description:

1. **Primary purpose:** Five treatment components focus on motivational interviewing, urinalysis contingency, drug refusal skills, education and coping skills, and problem solving/relapse prevention

2. **Target population:** Adult patients with schizophrenia and substance abuse

Evaluating this practice:

- Addiction Severity Index (McLellan et al., 1990)
- Substance Use Event Scale In Schizophrenia (Bennett, contact information below)
- Quality Of Life Interview (Lehman, 1988)
- Social Functioning Scale (Birchwood et al., 1990)
- Positive And Negative Symptom Scale (Kay et al., 1987)

Evidence supporting practice:

- Bennett, M.E., Bellack, A.S. & Gearon, J.S. (2001). Treating substance abuse in schizophrenia: An initial report. *Journal of substance abuse treatment*, 20, 163-175.
- Bellack, A.S., & DiClemente, C.C. (1999). Treating substance abuse among patients with schizophrenia. *Psychiatric Services*, 50, 75-80.
- Bellack, A.S., & Gearon, J.S. (1998). Substance abuse treatment for people with schizophrenia. *Addictive Behaviors*, 23, 749-766.

Manual

Behavioral Treatment for Substance Abuse and Schizophrenia (contact Dr. Bennett, see below)

Practice implementation:

1. **Staffing requirements** – A range of individuals have been successfully trained in using BTSAS, including social workers, and master’s level and doctoral level psychologists.
2. **Training requirements** – Consultation on implementation is available.
3. **Cost of program** – Complete cost data are not available. Materials that are needed for the program include urine drug tests and related materials (gloves, cups), teacher materials (each member of the group gets a binder with handouts), payments for attendance (\$2 plus a bus token and a McDonald’s coupon), and payments for the urinalysis contingency (\$1.50-3.50 per clean urine per patient).
4. **Use of natural funding**

Other considerations:

Currently in year four of a 5-year NIDA funded study.

Contact information:

Melanie Bennett, Ph.D. and Alan S. Bellack, Ph.D., ABPP
Dept of Psychiatry
University of Maryland School of Medicine
737 W. Lombard St., Suite 551
Baltimore, Maryland 21201
phone: 410-706-0722
fax: 410-706-0934
email: mbennett@psych.umaryland.edu

Relevant websites:

Integrated Group Therapy (IGT) for Bipolar and Substance Use Disorders

Description:

1. **Primary purpose:** IGT is a relapse prevention therapy; major goals include educating patients about their two illnesses, and helping patients: (1) gain acceptance of their illnesses, (2) offer and receive mutual social support to recover, (3) desire and attain a goal of abstinence, and (4) helping patients comply with medication and other treatments for bipolar disorder.
2. **Target population:** Adult patients with bipolar and substance use disorders.

Evaluating this practice:

- Addiction Severity Index (McLellan, Kushner et al. 1992)
- Timeline Follow-Back Assessment (Sobell & Sobell, 1992)
- Urine Toxicology Screens
- Breath Alcohol Assessments
- Young Mania Rating Scale (Young et al., 1978)
- Hamilton Rating Scale For Depression (Hamilton, 1960)
- Medication Compliance Interview (Weiss et al., 1998; Jamison et al., 1979)
- Treatment Services Review (McLellan, Alterman et al., 1992)

Evidence supporting practice:

Weiss, R.D., Najavits, L.M., & Greenfield, S.F. (1999). A relapse prevention group for patients with bipolar and substance use disorders. *Journal of substance abuse treatment, 16*, 47-54.

Weiss, R.D., Griffin, M.L., Greenfield, S.F., Najavits, L.M., Wyner, D., Soto, J.A., & Hennen, J.A. (2000). Group therapy for patients with bipolar disorder and substance dependence: results of a pilot study. *Journal of clinical psychiatry*, 61, 361-367.

Manual:

Integrated Group Therapy (contact: Dr. Weiss, see below for information).

Practice implementation:

Characteristics of therapists who have conducted the groups included: (1) having master's or doctoral training that included education in psychopathology; and (2) having at least one year of experience conducting therapy in a general psychiatric setting, in a substance abuse treatment clinic and as a group therapist.

Other considerations:

Program currently being evaluated with NIDA funding

Contact information:

Roger D. Weiss, MD
Professor of Psychiatry, Harvard Medical School
Clinical Director, Alcohol and Drug Abuse Program
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Fax: 617-855-2699
rdwss@aol.com
weissr@mcleanpo.Mclean.org

Relevant websites:

<http://www.adatp.org/>

Motivational Interviewing, Cognitive Behavior Therapy, and Family Intervention

Description:

1. **Primary purpose:** This program integrates routine care with three intervention approaches: motivational interviewing, individual cognitive-behavior therapy, and family or caregiver intervention.

2. **Target population:** Adult patients with schizophrenia/schizoaffective and substance use disorders (and their caregivers)

Evaluating this practice:

- Global assessment of functioning scale (DSM-IV)
- Positive and negative symptom scale (Kay et al., 1987)
- Social functioning scale (Birchwood et al., 1990)
- Drugs attitude inventory (Hogan et al., 1983)
- Timeline follow-back (Sobell & Sobell, 1992)
- Addiction severity index (McLellan et al., 1980)
- Leeds dependence questionnaire (Rastrick et al., 1994)
- Alcohol and drug use scales (Drake et al., 1996)

Evidence supporting practice:

Barrowclough, C. (2000). Cognitive behavioral interventions for clients with severe mental illness who have a substance misuse problem. *Psychiatric Rehabilitation Skills, 42*, 216-233.

Barrowclough, C., Haddock, G., Tarrier, N., Lewis, S.W., Moring, J., O'Brien, R., Schofield, N., & McGovern, J. (2001). Randomized controlled trial of motivational interviewing, cognitive behavior therapy, and family intervention for patients with comorbid schizophrenia and substance use disorders. *American Journal of Psychiatry, 158*, 1706-1713.

Barrowclough, C. & Tarrier, N. (1992). *Families of schizophrenic patients: A cognitive-behavioral intervention*. London: Chapman & Hall.

Haddock, G., Tarrier, N., Spaulding, W., Yusupoff, L., Kinney, C., & McCarthy, E. (1998). Individual cognitive-behavior therapy in the treatment of hallucinations and delusions: A review. *Clinical Psychology Review, 18*, 821-838.

Practice implementation:

1. **Staffing requirements:** In Barrowclough et al., (2001), each patient was assigned a “family support worker” in addition to their assigned therapist. The support worker provided information, gave advice on benefits, advocated for the patient, provided emotional support and practical help. Therapists in the controlled trial were psychologists and a nurse therapist who had experience in cognitive-behavioral therapy with psychotic patients
2. **Training requirements:** Motivational interviewing, cognitive behavior therapy
3. **Cost of program**
4. **Use of natural funding**

Other considerations:

Contact information:

Christine Barrowclough, Ph.D.
Academic Unit of Clinical Psychology
Mental Health Unit
Tameside General Hospital
Fountain Street
Ashton-under-Lyne
Lancashire, OL6 9RW, UK
Christine.barrowclough@man.ac.uk

Relevant websites:

*Assertive Community Treatment for
Patients with Co-occurring Severe
Mental Illness and Substance Use
Disorder*

Description:

1. **Primary purpose:** This program uses multidisciplinary teams that directly provide comprehensive services in the patient's natural environment and are available 24 hours per day for a group of patients
2. **Target population:** Adults with severe mental illness, including schizophrenia, schizoaffective, and bipolar disorder and an active substance use disorder

Evaluating this practice:

- Time-line follow-back (Sobell et al., 1980). For more information see <http://cps.nova.edu/~gsc/>
- Addiction severity index (McLellan, Luborsky, O'Brien, & Woody, 1980)
- Quality of life interview (Lehman, 1988)
- Expanded brief psychiatric rating scale (Lukoff, Nuechterlein, & Ventura, 1986)
- Service utilization interview (Clark, 1994)
- Toxicology screens

Evidence supporting practice:

Clark, R.E., Teague, G.B., Ricketts, S.K., Bush, P.W., Xie, H., McGuire, T.G., Drake, R.E., McHugo, G.J., Keller, A.M., & Zubkoff, M. (1998). Cost-effectiveness of assertive community treatment versus standard case management for persons with co-occurring severe mental illness and substance use disorders. *Health Services Research, 33*, 1285-1308.

Drake, R.E., McHugo, G.J., Clark, R.E., Teague, G.B., Xie, H., Miles, K., & Ackerson, T.H. (1998). Assertive community treatment for patients with co-occurring severe mental illness and substance use disorder: a clinical trial. *American Journal of Orthopsychiatry, 68*, 201-215.

Manuals/training materials:

Mueser, K.T., Noordsy, D.L., Drake, R.E., & Fox, L. (2003). *Integrated treatment for dual disorders: a guide to effective practice*. New York: Guilford.

Stein, L.I., & Santos, A.B. (1998). *Assertive community treatment of persons with severe mental illness*. New York: W.W. Norton.

Practice implementation:

1. **Staffing requirements**
2. **Training requirements**
3. **Cost of program**
4. **Use of natural funding**

Other considerations:

Contact information:

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105 Pleasant St.
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Relevant websites:

<http://www.dartmouth.edu/dms/psychrc>

Concurrent Treatment of PTSD and Cocaine Dependence

Description:

1. **Primary purpose:** Combines cognitive-behavioral exposure treatment for PTSD with coping skills training for substance use disorders. CTPCD is a 16-session individual outpatient therapy. Developed for cocaine dependence, but could serve as a treatment for PTSD comorbid with any alcohol or drug dependence.
2. **Target population:** Adults with PTSD and substance use disorders.

Evaluating this practice:

- Clinician administered PTSD scale (Blake et al., 1995)
- Addiction severity index (McLellan et al.1990)
- Impact of events scale (Horowitz et al., 1979)
- Mississippi scale for PTSD (Keane et al., 1987)
- Urine and drug screens

Evidence supporting practice:

- Brady, K. T., Dansky, B. S., Back, S., Foa, E. B., & Carroll, K. (2001). Exposure therapy in the treatment of PTSD among cocaine-dependent individuals: preliminary findings. *Journal of Substance Abuse Treatment, 21*, 47-54.
- Coffey, S. F., Dansky, B. S., & Brady, K. T. (2002). Exposure-based, trauma-focused therapy for substance abusers with PTSD. In: P. Ouimette and P. Brown, (Eds.). *Trauma and substance abuse: Causes, consequences, and treatment of comorbid disorders*. American Psychological Association, Washington DC.
- Coffey, S.F., Schumacher, J., & Brimo, M.L. (in press). Exposure therapy for substance abusers with PTSD: translating research into practice. *Behavior Modification*.

Manuals:

- Carroll, K. (1998). *A cognitive-behavioral approach: Treating cocaine addiction*. NIDA Therapy Manual for Drug Addiction Monograph Series (vol. 1). Washington DC: DHHS Pub No 98-4308. (Available at the NIDA website (<http://165.112.78.61/TXManuals/CBT/CBT1.html>)).
- Foa, E. & Rothbaum, B. (1997). *Treating the trauma of rape: Cognitive-behavioral therapy for PTSD*. New York: Guilford.
- Kadden, R., Carroll, K., Donovan, D., Cooney, N., Monti, P., Abram, D., Litt, M., & Hester, R. (1994). *Cognitive-Behavioral Coping Skills Therapy manual: A clinical research guide for therapists treating individuals with alcohol abuse and dependence*. NIAAA Project MATCH Monograph Series (vol. 3). Washington DC: DHHS Pub No 94-3724. (Available from the NIAAA website for a nominal fee (<http://www.niaaa.nih.gov/publications/match.htm>)).

Practice implementation:

1. **Staffing requirements** –Recommended treatment team includes the patient’s individual therapist, group therapy leaders, case managers, and psychiatrist.
2. **Training requirements** – Working knowledge of learning theories on which exposure therapy and coping skills therapy are based; training in prolonged exposure treatment for PTSD, coping skills therapy for substance use disorders
3. **Cost of program** – training, audiotapes
4. **Natural funding** – CTPCD has been adapted to a group therapy format for use in a community mental health center for substance abusing women with trauma histories (see Coffey et al., in press).

Other considerations:

Contact information:

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Department of Psychiatry
University at Buffalo
State University of New York
Buffalo General Hospital
80 Goodrich St.
Buffalo, NY 14203.
scoffey@acsu.buffalo.edu.

Relevant websites:

*Assisted Recovery from Trauma and
Substances (ARTS)*

Description:

1. **Primary purpose:** ARTS (formerly Substance Dependence PTSD Therapy) is a two-phase twice weekly individual 20 week cognitive-behavioral therapy. Phase one focuses on abstinence with psychoeducation about ptsd. Phase two focuses on PTSD symptom treatment and includes prolonged exposure treatment.
2. **Target populations:** Adults with PTSD and substance dependence

Evaluating this practice:

- Clinician administered PTSD scale (Blake et al., 1995)
- Addiction Severity Index (McLellan et al., 1992)
- Urine toxicology

Evidence supporting practice:

Triffleman, E. (2002) Issues in Implementing Posttraumatic Stress Disorder Treatment Outcome Research in Community-based Treatment Programs. In J. L. Sorensen, R. A. Rawson, J. Guydish, & J. E. Zweben (Eds.), *Research to practice, practice to research: Promoting scientific-clinical interchange in drug abuse treatment*. Washington, DC: American Psychological Association. (pg 227-248).

Triffleman, E., Carroll, K., & Kellogg, S. (1999). Substance Dependence-Posttraumatic Stress Disorder Treatment: An integrated cognitive-behavioral approach. *Journal of Substance Abuse Treatment, 17*, 3-14. Training manual available from Dr. Triffleman

Practice implementation:

1. **Staffing requirements** –Dr. Triffleman recommends that experienced mental health or substance abuse clinicians deliver ARTS. Other recommendations include having after-hours on-call evaluation services and referral to psychiatric consultation available; clinicians should have access to supervision to review client progress and transference/countertransference issues; clinicians should know where to refer their patients/clients for other levels of care as needed, such as detoxification services, opiate agonist/antagonist medical maintenance, partial hospitalization and inpatient/rehab services. Clinicians should know how and where to refer for evaluations for medical problems (including OB-GYN) and treatment of HIV and hepatitis B and C. Knowledge of other kinds of social services is useful, such as housing, child care services, shelters, soup kitchens, etc., as appropriate to the socioeconomics of the clientele.
2. **Training requirements** – contact Dr. Triffleman.
3. **Cost of program** – Training manual can be sent for the cost of photocopying and postage, contact Dr. Triffleman.
4. **Use of natural funding**

Other considerations:

Contact information:

Elisa Triffleman, MD
elisa.triffleman@yale.edu

Relevant websites:

Seeking Safety

Description:

1. **Primary purpose:** Seeking Safety is a present-focused therapy to help people attain safety from both PTSD and substance abuse and may be conducted in individual and group formats. The key principles of Seeking Safety include: Safety as the larger goal, working on PTSD and substance abuse at the same time, a focus on ideals to counteract the loss of ideals from the experience of having PTSD and a substance use disorder, and addressing cognitive, behavioral, interpersonal, and case management areas for client's functioning. In addition, there is a focus on clinician processes such as helping clinicians work with countertransference issues.
2. **Target population:** Adults and adolescents with PTSD and substance use disorders

Evaluating this practice:

- Safety Feedback Questionnaire (Najavits, 2002)
- Trauma Symptom Checklist 40 (Elliot & Briere, 1990)
- Brief Symptom Inventory (Derogatis et al., 1974)
- Addiction Severity Index (McLellan et al., 1992)
- Beliefs about Substance Use (Beck et al., 1993)
- Website – www.seekingsafety.org has downloadable assessment instruments

Evidence supporting practice:

- Holdcraft, L.C. & Comtois, K.A. (in press). Description of and preliminary data from a women's dual diagnosis community mental health program. *Canadian Journal of Community Mental Health*.
- Najavits L.M. (2003). Seeking Safety: A new psychotherapy for posttraumatic stress disorder and substance use disorder. In P. Ouimette & P. Brown, (Eds.). *Trauma and Substance Abuse: Causes, Consequences, and Treatment of Comorbid Disorders*. Washington, DC: American Psychological Association.
- Najavits, L.M., Weiss, R.D., & Shaw, S.R. (1998) "Seeking Safety": Outcome of a new cognitive-behavioral psychotherapy for women with posttraumatic stress disorder and substance dependence. *Journal of Traumatic Stress, 11*, 437-456.
- Zlotnick, C., Najavits, L.M. & Rohsenow, D.J. (in press). A cognitive-behavioral treatment for incarcerated women with substance use disorder and posttraumatic stress disorder: Findings from a pilot study. *Journal of Substance Abuse Treatment*.

Manual:

- Najavits, L.M. (2002). *Seeking Safety: A Treatment Manual for PTSD and Substance Abuse*. New York: Guilford.

Practice implementation:

1. **Staffing requirements** – Seeking safety has been implemented by counselors (e.g., B.A. level, case managers), social workers, as well as masters and doctoral level psychologists.

The seeking safety website has a paper that discusses Dr. Najavits' strategy on how to select therapists to conduct seeking safety – see Najavits, L.M. (2002). *Suggested protocol for selecting and training clinicians in Seeking Safety*, unpublished manuscript, McLean Hospital, Belmont MA.

2. **Training requirements** – DR. Najavits conducts trainings that can be individualized to specific needs of clinics. There is also a list of upcoming trainings on the website. The seeking safety website has three papers that discuss the training of clinicians on seeking safety:
 - Njavits, L.M. (2000) Training clinicians to conduct the Seeking Safety treatment for PTSD and substance abuse. *Alcoholism Treatment Quarterly*, 18, 83-98.
 - Njavits, L.M. (2002). *Implementing Seeking Safety therapy for PTSD and substance abuse: Clinical guidelines*. Behavioral Health Recovery Management Project (www.bhrm.org)
 - Njavits, L.M. (2002). *Suggested protocol for selecting and training clinicians in Seeking Safety*, Unpublished manuscript, McLean Hospital, Belmont MA.
3. **Cost of program-** Cost of training may be obtained by contacting Dr. Najavits. The manual is \$35 with discounts for multiple copies.
4. **Use of natural funding** – Seeking Safety has been implemented in a variety of agencies funded at the local and state level.

Other considerations:

Several studies of seeking safety are underway, see website for more details.

Contact information:

Lisa M. Najavits, PhD
McLean Hospital
115 Mill St.
Belmont, MA 02478
info@seekingsafety.org
617-855-2305

Relevant websites:

<http://www.seekingsafety.org/>

Transcend

Description:

1. **Primary purpose:** Twelve-week partial hospitalization program for Vietnam combat veterans. Program includes six weeks of skill development and six weeks of trauma processing. The program is based on concepts from constructivist, dynamic, cognitive-behavioral, and 12-step paradigms/theories.
2. **Target population:** Vietnam veterans with chronic combat-related PTSD and substance use disorders

Evaluating this practice:

- Clinician Administered PTSD Scale (Blake et al., 1995)
- Addiction Severity Index (McLellan et al., 1992)
- Urine toxicology

Evidence supporting practice:

Donovan, B., Padin-Rivera, E., & Kowaliw, S. (2001). Transcend: Initial outcomes from a posttraumatic stress disorder/substance abuse treatment program. *Journal of Traumatic Stress, 14*, 757-772.

Manuals/other supporting materials:

Donovan, B., Padin-Rivera, E., & McCormick, R. (1997). *Transcend Manual: Therapist Guidelines For The Treatment Of Combat-Related PTSD*. (3rd Ed.) Brecksville, OH: Louis Stokes Cleveland Department of Veterans Affairs Medical Center, Brecksville Division.

Padin-Rivera, E., Donovan, B., & McCormick, R. (1997). *Transcend Manual: A PTSD Workbook*. (3rd Ed.) Brecksville, OH: Louis Stokes Cleveland Department of Veterans Affairs Medical Center, Brecksville Division. There is a brochure available from Dr. Donovan

Practice implementation:

1. **Staffing requirements** – Two staff – a psychologist and a social worker have implemented the program – with medication consultation by a psychiatrist within the VA healthcare system. Clients also participate in occupational therapy.
2. **Training requirements**
3. **Cost of program**
4. **Use of natural funding**

Other considerations:

Participants must complete a primary substance abuse program within six months of starting Transcend.

Contact information:

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116A (B)
10,000 Brecksville Road
Brecksville, Ohio, 44141
Beverly.Donovan@med.va.gov

Relevant websites:

Dual Focus Schema Therapy

Description:

1. **Primary purpose:** Individual 24 week cognitive-behavioral therapy that integrates relapse prevention with targeted intervention for early maladaptive schemas
2. **Target populations:** Adults with co-occurring personality and substance use disorders

Evaluating this practice:

Treatment outcomes being evaluated in an ongoing study – substance abuse, treatment retention, psychiatric symptoms, working alliance, AIDS risk, methadone clinic outcomes, affective experiences, interpersonal problems, cognitive schemas, and coping styles.

Evidence supporting practice:

Ball, S.A. (1998) Manualized treatment for substance abusers with personality disorders: Dual focus schema therapy. *Addictive Behaviors*, 23, 883-891.

Training manual:

Ball, S.A. & Young, J.E. (1998). *Dual focus schema therapy: A treatment manual for personality disorder and addiction*.

Practice implementation:

1. **Staffing requirements**
2. **Training requirements**
3. **Cost of program**

4. **Use of natural funding**

Other considerations:

Currently being evaluated through a NIDA grant

Contact information:

Samuel A. Ball
Clinical Research Unit
1 Long Wharf Drive
New Haven, CT 06511

Relevant websites:

*Dialectic Behavior Therapy (DBT)
for substance abusers with borderline
personality disorder*

Description:

1. **Primary purpose:** DBT is a cognitive-behavioral therapy for borderline personality disorder adapted to substance abusing clients. DBT synthesizes directive, problem-oriented therapy with supportive therapy (e.g., empathy, acceptance, validation).
2. **Target population:** Adults with borderline personality and substance use disorders

Evaluating this practice:

- Timeline follow-back (Sobell & Sobell, 1986)
- Urine toxicology
- Treatment history interview (Linehan & Heard, 1987)
- Parasuicidal history interview (Linehan et al., 1989, 1990)
- Social history interview (Linehan & Heard, 1994)
- State-trait anger inventory (Spielberger et al., 1988)
- Brief symptom inventory (Derogatis & Melisaratos, 1983)
- Link to instruments developed by Dr. Linehan and colleagues - <http://www.brtc.psych.washington.edu/framepublications.htm>

Evidence supporting practice:

- Linehan, M.M., Dimeff, L.A., Reynolds, S.K., Comtois, K.A., Welch, S.S., Heagerty, P., & Kivlahan, D.R. (2002). Dialectical behavior therapy versus comprehensive validation therapy plus 12-step for the treatment of opioid dependent women meeting criteria for borderline personality disorder. *Drug & Alcohol Dependence*, 67, 13-26.
- Linehan, M.M., Schmidt, H. 3rd, Dimeff, L.A., Craft, J.C., Kanter, J., & Comtois, K.A. (1999). Dialectical behavior therapy for patients with borderline personality disorder and drug-dependence. *American Journal on Addictions*, 8, 279-92.

Training manual:

- Linehan, M.M. (1993). *Cognitive-behavior therapy of borderline personality disorder*. New York: Guilford.
- Linehan, M.M. (1993). *Skills training manual for treating borderline personality disorder*. New York: Guilford.
- Linehan, M.M. & Dimeff, L.A. (1997). *Dialectical behavior therapy for substance abuse treatment manual*. Seattle, WA.: University of Washington.

Practice implementation:

1. **Staffing requirements** – In Linehan et al. (1999), weekly individual psychotherapy (1 hour) and group skills training sessions (2 hours plus 15 minute wind-down) were provided. In addition, skills coaching phone calls were provided when needed. Therapists met weekly as a team.
2. **Training requirements** – Information on training is available at the website –two day workshops to ten day trainings are available for treatment teams.
3. **Cost of program**
4. **Use of natural funding**

Other considerations:

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Relevant websites:

<http://www.brtc.psych.washington.edu/>

Seeking Safety for Adolescent Girls

Description:

1. **Primary purpose:** Seeking Safety is a present-focused therapy to help people attain safety from both PTSD and substance abuse. In an adaptation for adolescent girls, individual therapy was used. The key principles of Seeking Safety include: Safety as the larger goal, working on PTSD and substance abuse at the same time, a focus on ideals to counteract the loss of ideals from the experience of having PTSD and a substance use disorder, and addressing cognitive, behavioral, interpersonal, and a focus on clinician processes such as helping clinicians work with countertransference issues. Parents are invited to attend one session.
2. **Target population:** Adolescent girls with PTSD and substance use disorders

Evaluating this practice:

- Clinician Administered PTSD scale – Child and Adolescent version (Nader et al., 1998)
- Personal Experiences Inventory (Winters et al., 1989)
- Trauma Symptom Checklist for Children (Briere, 1996)
- Beliefs about Substance Use (Beck et al., 1993)
- Reasons for Using scale (Jaffe et al., 1989)
- Adolescent Psychopathology Scale (Reynolds, 1998)
- Website – www.seekingsafety.org has downloadable assessment instruments

Evidence supporting practice:

- Holdcraft, L.C. & Comtois, K.A. (in press). Description of and preliminary data from a women's dual diagnosis community mental health program. *Canadian Journal of Community Mental Health*.
- Najavits L.M. (2003). Seeking Safety: A new psychotherapy for posttraumatic stress disorder and substance use disorder. In P. Ouimette & P. Brown, (Eds.). *Trauma and Substance Abuse: Causes, Consequences, and Treatment of Comorbid Disorders*. Washington, DC: American Psychological Association.
- Najavits, L.M., Gallop, R.J., Weiss, R.D. (under review). *Seeking Safety therapy for adolescent girls with PTSD and substance abuse: A randomized controlled trial*.
- Najavits, L.M., Weiss, R.D., & Shaw, S.R. (1998) "Seeking Safety": Outcome of a new cognitive-behavioral psychotherapy for women with posttraumatic stress disorder and substance dependence. *Journal of Traumatic Stress, 11*, 437-456.
- Zlotnick, C., Najavits, L.M. & Rohsenow, D.J. (in press). A cognitive-behavioral treatment for incarcerated women with substance use disorder and posttraumatic stress disorder: Findings from a pilot study. *Journal of Substance Abuse Treatment*.

Manual:

- Najavits, L.M. (2002). *Seeking Safety: A Treatment Manual for PTSD and Substance Abuse*. New York: Guilford.

Practice implementation:

1. **Staffing requirements** – In the version of Seeking Safety delivered to adolescents (see Najavits et al., under review), individual therapy was used and therapists were female psychologists.
2. **Training requirements** – DR. Najavits conducts trainings that can be individualized to specific needs of clinics. There is also a list of upcoming trainings on the website. The seeking safety website has three papers that discuss the training of clinicians on seeking safety:
 - Njavits, L.M. (2000) Training clinicians to conduct the Seeking Safety treatment for PTSD and substance abuse. *Alcoholism Treatment Quarterly*, 18, 83-98.
 - Njavits, L.M. (2002). *Implementing Seeking Safety therapy for PTSD and substance abuse: Clinical guidelines*. Behavioral Health Recovery Management Project (www.bhrm.org)
 - Njavits, L.M. (2002). *Suggested protocol for selecting and training clinicians in Seeking Safety*, Unpublished manuscript, McLean Hospital, Belmont MA.
3. **Cost of program-** Cost of training may be obtained by contacting Dr. Najavits. The manual is \$35 with discounts for multiple copies.
4. **Use of natural funding**

Other considerations:

A NIDA funded study is underway that examines seeking safety among adolescent girls.

Contact information:

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Relevant websites:

<http://www.seekingsafety.org/>

Multi-systemic Therapy with Community Reinforcement Plus Vouchers Approach

Description:

1. **Primary purpose:** Multi-systemic therapy focuses on individual, family, peer, school, and social network variables that are linked to serious antisocial behavior in juvenile delinquents, as well as the inter-connections among these variables. Interventions include strategic family therapy, structural family therapy, behavioral parent training, and cognitive behavioral therapy. Psychopharmacological treatment is integrated with psychosocial treatment. Recently, MST has been adapted for youth with serious emotional disturbance. MST has also been integrated with an evidence-based treatment for substance use disorders - community reinforcement and vouchers approaches (CRA).
2. **Target populations:** MST targets juvenile offenders with serious antisocial behaviors, who are at high risk of out-of-home placement, and their families. MST also targets adolescents with serious emotional disturbance. MST-CRA targets those adolescents with antisocial behaviors and substance use disorders.

Evaluating this practice:

1. **Outcome measures used to evaluate practice:**
 - Criminal Behavior:
 - ✓ Self-Report Delinquency Scale (Elliot et al., 1983)
 - ✓ Seriousness Index (Hanson et al., 1984)
 - Substance use/psychiatric symptoms:
 - ✓ Personal Experiences Inventory (Winters & Henly, 1989)
 - ✓ Brief Symptom Inventory (Derogatis, 1993)
 - ✓ Child Behavior Checklist (Achenbach, 1991)
 - ✓ Young Adult Self-Report (Achenbach, 1991)
 - ✓ Youth Risk Behavior Survey (Kolbe et al., 1993)
 - ✓ Addiction Severity Index (McLellan et al., 1980)
 - Family Relations:
 - ✓ Family Adaptability and Cohesion Evaluation Scales-III (Olson et al., 1985)
 - ✓ Issues Checklist (Robin et al., 1977)
 - Peer Relations:
 - ✓ Peer Conformity Inventory (Berndt, 1979)
 - ✓ Revised Problem Behavior Checklist (Quay & Peterson, 1987)
 - School Functioning:
 - ✓ Child Behavior Checklist – School functioning subscale (Achenbach, 1991)
 - Out-of-Home Placement:
 - ✓ The Monthly Service Utilization Survey (Henggeler et al., 1992)

Evidence supporting practice:**1. Peer reviewed research:**

- Henggeler, S. W., Borduin, C. M., Melton, G. B., Mann, B. J., Smith, L., & Hall, J. A., Cone, L., & Fucci, B. R. (1991). Effects of multisystemic therapy on drug use and abuse in serious juvenile offenders: A progress report from two outcome studies. *Family Dynamics of Addiction Quarterly, 1*, 40-51.
- 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.
- Henggeler, S. W., Pickrel, S. G., Brondino, M. J., & Crouch, J. L. (1996). Eliminating (almost) treatment dropout of substance abusing or dependent delinquents through home-based multisystemic therapy. *American Journal of Psychiatry, 153*, 427-428.
- Henggeler, S.W., Rowland, M.D., Halliday-Boykins, C., Sheidow, A.J., Ward, D.M., Randall, J., Pickrel, S.G., Cunningham, P.B., & Edwards, J. (2003). One-year follow-up of multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis. *Journal of the American Academy of Child & Adolescent Psychiatry, 42*, 543-551.
- Henggeler, S.W., Pickrel, S.G., & Brondino, M.J. (1999). Multisystemic treatment of substance abusing and dependent delinquents: Outcomes, treatment fidelity, and transportability. *Mental Health Services Research, 1*, 171-184.
- Randall, J., Halliday-Boykins, C.A., Cunningham, P.B., Henggeler, S.W. (In press). Integrating evidence-based substance abuse treatment into juvenile drug courts: Implications for outcomes. *National Drug Court Institute Review*
- Randall, J., Henggeler, S.W., Cunningham, P.B., Rowland, M.D., & Swenson, C.C. (2001). Adapting multisystemic therapy to treat adolescent substance abuse more effectively. *Cognitive and Behavioral Practice, 8*, 359 - 366.

2. Other supporting documents**Manual/training materials**

- Henggeler, S.W., Schoenwald, S.K., Borduin, C.M., Rowland, M.D., & Cunningham, P.B. (1998). *Multisystemic Treatment of Antisocial Behavior in Children and Adolescents*. New York: Guilford
- Henggeler, S.W., Schoenwald, S.K., Rowland, M.D., & Cunningham, P.B. (2002). *Serious Emotional Disturbance in Children and Adolescents: Multisystemic Treatment*. New York: Guilford

MST videos, organizational and supervisory manuals, training materials, slides, and posters are available on the MST website (note: some materials are only available to MST licensed agencies).

Practice implementation:

1. **Staffing requirements** – Master’s-level therapists who receive weekly supervision from doctoral level mental health professionals conduct MST. Therapist selection is based on the person’s motivation, flexibility, common sense, and "street smarts." Each MST treatment team consists of three to four therapists, with each therapist carrying a caseload of four to six families. Therapist teams consult regularly with each other and with an MST expert. It is “strongly” recommended that MST therapists be full-time employees assigned only to the MST program. In addition, MST therapists must be accessible at times that are convenient to their clients and in times of crisis. Other issues that need to be considered are the use of flex-time/comp-time, policies regarding the use of personal vehicles, and the use of pagers and cellular phones. The MST program must have a 24-hour a day, 7 day a week on-call system. Knowledgeable clinicians must provide coverage for MST clinicians who are on vacation. Detailed description of staffing and implementation issues is included on the website.
2. **Training requirements:** MST Services and the Medical University of South Carolina licenses programs to conduct MST therapy. MST program development services provide a pre-training organizational assessment, an initial 5-day training, weekly MST clinical consultation, quarterly booster training, and quality control through the monitoring of treatment fidelity/adherence. Detailed description of each stage of training can be found on the MST website.
3. **Cost of program:** MST services are provided in community settings (e.g., homes, schools), thus less facility space is needed. Costs include those of the therapists, supervisors and training; therapists require transportation and cell phones.
4. **Use of natural funding:** The MST-CRA program has been implemented with state funding.

Other considerations:

The research group is currently in the 4th year of a NIDA and NIAAA funded randomized MST trial, in which one component is examining integrated MST and CRA.

Contact information:

For information about program development, treatment model dissemination, and training contact:

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Relevant websites:

<http://www.musc.edu/fsrc/index.htm>

<http://www.mstinstitute.org/>

<http://www.mstservices.com/>