

# Treating Adolescents with Co-Occurring Disorders

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## Overview

Two decades ago, findings began to emerge regarding a population of individuals who were found to have greater difficulty in treatment engagement, higher rates of treatment dropout, disproportionate use of expensive services, and greater symptom experience. These experiences were consistently found in a population of individuals who came to be described as having ‘co-occurring’ disorders’ (CODs). In the early 1990’s epidemiological data began to emerge<sup>1</sup> that revealed how commonly substance use disorders occur with other mental illnesses commonly occurred. Initial investigations conducted in the mid-1990’s evaluated how differential treatment strategies benefited client populations who presented with concurrent mental health and substance use disorders. Historical treatment strategies, which focused singularly on mental health or substance use disorders, were declared as ineffective for persons with co-occurring disorders and a consensus opinion has emerged over the past decade encouraging the ‘integration’ of treatment.<sup>2,3</sup>

Just as it has been recognized that the clinical presentation of co-occurring disorders is much more than a simple juxtaposition,<sup>4</sup> delivering integrated services requires complex clinical and administrative changes. Changes must be carried out simultaneously at the clinical and organizational levels. These changes include philosophical shifts in the mission of organizations, a reorganization of how agencies function within systems, reviews of staffing strategies, and realignment or augmentation of funding principles. Without the simultaneous shift in organizations and systems, efforts at achieving integrated services at a clinical level may be futile.<sup>5</sup>

A body of clinical knowledge has likewise emerged on the presentation of co-occurring disorders in adolescent populations. It is now recognized that adolescents with co-occurring mental health and substance use disorders also experience multiple difficulties including behavioral problems, skills deficits, academic difficulties and family issues. This publication reviews common diagnostic presentations seen in adolescents, reviews the clinical implications of co-occurring disorders in adolescents, and examines treatment models that can be used in the treatment of this population.



## Synopsis of Literature

### EPIDEMIOLOGY OF MENTAL HEALTH AND SUBSTANCE USE DISORDERS IN ADOLESCENCE

Over one in five children has a diagnosable mental health disorder<sup>6</sup>, with some major mental illnesses having an onset as early as 7-11 years of age<sup>7</sup>. The MECA Study (Methodology for Epidemiology of Mental Disorders in Children and Adolescents) estimated that:

- almost 21% of U.S. children ages 9 to 17 had a *diagnosable* mental or addictive disorder associated with at least minimum impairment.
- estimates dropped to 11% when diagnostic criteria required the presence of *significant* functional impairment, translating to a total of 4 million youth who suffer from a major mental illness

that results in significant impairments at home, at school, and with peers.

- when *extreme* functional impairment is the criterion, the estimates dropped to 5%.<sup>8</sup>

Mental health disorders can be found disproportionately in children/adolescents involved with child welfare or the juvenile justice system. Putnam<sup>9</sup> reports that “approximately 30% - 40% of the children in out-of-home care have a serious emotional disorder and as many as 75% - 80% of the population in out-of-home care need mental health services.” Likewise, approximately 70% of youth in the juvenile justice system are thought to meet criteria for one or more mental health disorders.<sup>10</sup> Research has shown that youth with mental health disorders in these systems are more likely to require/receive restrictive or expensive treatment.<sup>11</sup>

Access to the appropriate mental health care is a significant issue. Most of the children and youth with mental health disorders (75-80%) do not receive services. Whether insured or not, over 75% of children who could benefit are considered to have unmet mental health needs.<sup>12</sup>

Youth with substance use disorders are also underserved. Use of alcohol and illicit drugs reached a low in 1992 (at 72.7% and 27.1%, respectively) with a steady increase in illicit substance use observed since that time.<sup>3</sup> In 2004, it was estimated that over 1.4 million youth were in need of substance abuse treatment – and less than 10% of those who could have benefited from it received specialty care.<sup>13</sup>

#### EVOLUTION IN AWARENESS OF ADOLESCENTS WITH CO-OCCURRING DISORDERS

Until the late 1980s, only anecdotal clinical case descriptions detailing the co-occurrence of mental health and substance use disorders in adolescents appeared in the literature. When these did appear, they were largely referencing adult populations and presented in the context of psychodynamic formulations. Two large-scale epidemiological investigations in the early 1990s, (Epidemiological Catchment Area Study,<sup>14</sup> National Comorbidity Survey<sup>1</sup>) found that approximately half of non-treated adolescents sampled met criteria for one or more psychiatric disorders in addition to their substance use disorder; subsequently, attention in clinical programming and evaluation began to shift to the consideration of ‘co-occurring’ disorders in the populations served. These ‘dually diagnosed’ adolescent clients were initially identified due to difficulty they had in being engaged and sustained in treatment. Subsequent evaluations with adolescents in substance abuse treatment have revealed rates of psychiatric comorbidity between 50-90%.<sup>15,16</sup> Similar to adult populations, having a co-occurring disorder is now considered to be the “norm.”<sup>17</sup>

Over the past decade, increased attention has been focused on identifying adolescents with CODs in treatment populations, and on evaluating substance use patterns and outcomes. Findings have revealed that, compared to adolescents with substance use disorders only, those with co-occurring disorders:

- Have an earlier onset of substance use



- Use substances more frequently
- Use substances over a longer period
- Have greater rates of family, school, and legal problems, and
- Early life issues.<sup>18, 19, 20</sup>

Studies that have evaluated the contribution of co-occurring disorders to treatment outcomes for adolescents with a substance use disorder have found higher treatment dropout rates, and poorer long-term success<sup>21, 22</sup> consistent with adult populations.<sup>23, 24</sup> Acknowledging the complexity of this population, Rowe et al.<sup>19</sup> concludes that working with adolescents with co-occurring disorders is a “more challenging clinical phenomenon than either problem alone (p.130).”

Acronyms and categorical labels (having a ‘dual diagnosis’) imply a sort of similarity in the population; however, nothing could be further from the truth. Though some diagnostic symptoms may be commonly seen, each adolescent having both a mental illness and a substance use disorder will have unique symptoms, historical antecedents, and skill sets. Research has revealed that the most common co-occurring diagnoses involve the presence of conduct disorders, mood disorders, and attention-deficit hyperactivity disorders (ADHD)<sup>22, 18</sup> Once a conduct disorder develops, it becomes one of the strongest predictors of progression from experimentation with drugs to the development of a substance use disorder.<sup>68</sup> The Grella et al.<sup>18</sup> investigation of co-occurring disorders conducted on data from the Drug Abuse Treatment Outcome Studies for Adolescents showed evidence that 64% (of a sample of 992 adolescents) had at least one co-occurring mental illness, with 59% meeting criteria for conduct disorder. Fifteen percent (15%) of the sample had depression, and 13% met criteria for ADHD. Importantly, almost all of those with any form of psychiatric co-occurrence had conduct disorder, with only 5.2% not meeting criteria for a conduct disorder diagnosis. In substance abuse treatment settings, adolescents with juvenile onset of bipolar disorders and schizophrenia will also be seen. Although they will not present at the same rates as adolescents with conduct disorder, ADHD, or depression, it is essential that they be evaluated fully and treated for their still-evolving mental illnesses.

Several issues can get in the way of mental health disorders being recognized in substance abuse settings. First, screeners or intake staff may not have the knowledge base to identify or differentiate symptoms of mental health disorders as being distinct from symptoms resulting from substance use. Secondly, they may not have been given the administrative mandate to evaluate for a full range of mental illnesses even if they have the knowledge base. Intake or biopsychosocial forms may collect important data, but do not necessarily prompt for diagnostic information. Even if a mental health diagnosis is suspected, pathways to psychiatric assessment may be difficult or unclear, and organizational values around ‘abstinence first’ may slow any referral process. These organizational and clinical issues have to be addressed if an agency wishes to increase their accurate identification of adolescents with co-occurring disorders.

## COMMON MENTAL HEALTH DISORDERS THAT CO-OCCUR WITH SUBSTANCE USE DISORDERS

Many mental health disorders, if not most, have their roots in childhood and adolescence. Given the range of mental health disorders that can present in childhood, the population of adolescents with co-occurring disorders is extremely diverse. Described below are some of the most common and most challenging mental health syndromes that co-occur with substance use disorders and are seen in settings treating adolescent populations.

MENTAL HEALTH DISORDERS	SYMPTOMS/BEHAVIORS	ASSOCIATED ISSUES OR CHARACTERISTICS
Conduct Disorder (CD)	Aggression to people or animals; destruction of property; lying and theft; serious rule violations; bullying or intimidation; initiation of fights	Childhood onset (before age 10) may have more aggression, family history of antisocial behavior, early temperamental difficulties. In males, more evidence of direct behaviors; in females, more relational or 'indirect' forms may be observed. Strong association with development of substance use disorders in adolescence <sup>25</sup>
Attention-Deficit/Hyperactivity Disorder (ADHD)	Two core categories: 1. inattention (difficulties in sustaining attention, listening, following instructions, attending to details, forgetfulness, impaired organization, and 2. Hyperactivity/Impulsivity (squirming or fidgeting, running and climbing excessively, difficulty in playing quietly, talking excessively	Impairment must be observed in two or more settings; typically diagnosed in school years; features of motor activity may diminish in late adolescence/early adulthood. Consistently found more often in males. Co-occurring association with CD or Bipolar disorder predicts substance use in adolescence. Focus on immediate over delayed gratification may increase substance use risk <sup>26</sup>
Major Depression (MD)	Sad or irritable mood, changes in sleep, appetite, or body movement; not interested in previous activities; guilt or worthlessness, decreased energy; frequent thoughts of death or suicide; difficulty concentrating	Rates of death by suicide, especially in early adolescence (ages 10-14) have increased in recent years. <sup>27</sup> Lesbian and gay youth thought to be 2-6 times more likely to make a suicide attempt than other youth. <sup>28</sup> Substance use may occur as an attempt to reduce or modify symptom experience or may be associated with peer group influences
Dysthymia	General unhappiness, pessimism, negativity, hypersensitivity to criticism, dissatisfaction, may be hard to please, always remember feeling this way	Majority of children / adolescents with dysthymia (70%) go on to develop MD; appears to interfere more with normal development than does MD <sup>29</sup>
Bipolar Disorder	Cycling of manic and depressive episodes; manic symptoms include irritability and agitation, sleep disturbance, distractibility/ impaired concentration, grandiosity, reckless behavior, suicidal thoughts	Presentation in youth may be characterized by 'very rapid, brief, recurrent episodes lasting hours to a few days; Early onset appears to have greater frequency in males <sup>30</sup> ; Stronger association with co-occurring SA, anxiety and CD than with unipolar depression

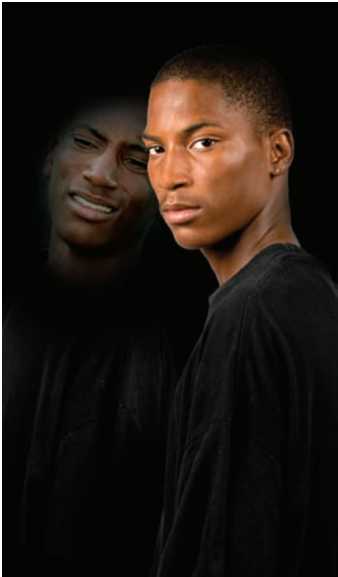
MENTAL HEALTH DISORDERS	SYMPTOMS/BEHAVIORS	ASSOCIATED ISSUES OR CHARACTERISTICS
Schizophrenia (Childhood Onset)	Little range of emotion, few facial expressions; poor eye contact, delays in language, unusual motor behaviors, odd speech, both in content and tone; may hear voices, 'see' things, problems with abstraction; may demonstrate confusion, suspicion, paranoia; unusual fears; may have few friends or be withdrawn from peers	Onset of full disorder before age 6-7; difficulty in school functioning may be an early sign; Substance use may facilitate otherwise impaired peer group interactions <sup>31, 32</sup>

**IMPACT OF CO-OCCURRING DISORDERS ON SUBSTANCE ABUSE TREATMENT OUTCOMES**

Co-occurrence of psychiatric disorders in youth with substance youth disorders thought to influence addiction treatment outcomes. Models relating this co-occurrence, that seek to explain their impact on treatment outcome, have only recently emerged.

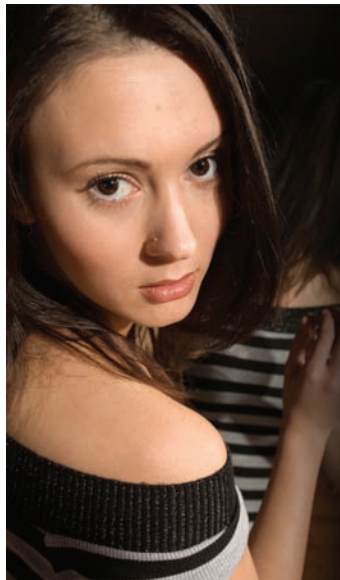
Several models<sup>33, 34, 35</sup> have been proposed to describe the relationship between the co-occurrence of mental health disorders and substance abuse treatment outcomes. In one model, mental illness is viewed as a risk factor for relapse, as youth with these disorders are considered to be at risk for using substances to cope with both symptoms and consequences of their mental health disorders, including school failure, issues related to self-esteem, and difficulties in peer relationships. This model is supported by findings that youth with mental health disorders consistently appear to enter treatment with earlier onset and more severe drug use problems. A second model proposes that the behavioral factors associated with mental health disorders contribute to difficulties in treatment engagement leading to treatment dropout, and resulting in greater rates of post-treatment relapse. A third model suggests that outcomes evaluated in the context of any single mental health disorder, as it influences substance abuse treatment outcomes, are likely influenced by the presence of additional mental health disorders. From these three models, we can see that *pretreatment symptoms and coping styles*, *in- and post-treatment behavioral factors*, and the *interaction of multiple mental health disorders* can influence substance abuse treatment outcomes.

Latimer et al.<sup>33</sup> found that a specific relationship existed between the presence of ADHD and relapse to alcohol use in a sample of 220 youth coming out of both residential and nonresidential treatment. Youth in the ADHD group were found to have 2.5 times greater risk to relapse within the first six months following treatment. This relationship was found even when adjustment for pretreatment factors (including severity of use and the presence of a co-occurring conduct disorder) was made. Relapse to other drug use was not found to have the same association as that found with alcohol. In the Latimer et al. analysis, other drug use relapse was found to be more closely associated with the presence of conduct disorder rather than ADHD itself. The relationship with alcohol is thought by the authors to be associated with alcohol's effects on ADHD symptoms as a central nervous system depressant or, alternatively may be related to efforts to 'self-medicate' negative feelings related to disturbances in interpersonal





relationships. Relapse with the use of illicit substances, conversely, is thought to be related to increased exposure to “deviant people and risky places” that occur more directly as a function of their conduct disordered behavior.



Tomlinson, Brown and Abrantes<sup>29</sup> also evaluated the similarities of a sample of 126 adolescents with co-occurring mental health disorders. In their investigation, youth in the co-occurring group were found to have one or more mood disorders, anxiety disorders, conduct/oppositional defiant disorder, and/or ADHD. Youth in both the co-occurring group and the substance use disorder (SUD) only group were found to have “extensive substance involvement” prior to their admission to treatment. The majority of youth in the co-occurring group were found to have both internalizing (mood and anxiety) and externalizing (conduct and oppositional-defiant, ADHD) disorders (77% of the sample had both categories; 13% had externalizing only, and 10% had internalizing disorders only). All groups were found to reduce their substance use substantially, but the co-occurring group was found to have greater rates of return to substance use (87%) as compared to the SUD-only group (74%). The authors conclude that, consistent with findings in the adult literature, mood and anxiety symptoms ‘may not always be prognostic of poorer treatment outcomes’ (pg. 167), but the presence of conduct disorder and the associated characteristics of sensation seeking, behavioral disinhibition, social skill deficits, cognitive processing difficulties, and lower motivation for abstinence, can contribute to the resumption of substance use.

From these studies and others, it seems clear from the literature that unidentified and untreated mental illness will predict difficulties in treatment engagement, early dropout from treatment, and/or failure to make achievable treatment gains. Importantly, the experience of failing in treatment can effect treatment seeking in the future. If youth with co-occurring disorders are involved in treatment as a part of a criminal justice sanction, failure to engage in or be successful in treatment can cascade into incarceration, school disruption, and can trigger additional adverse life events.

These investigations further point out that, even if mental illnesses are identified, treatment programs must be modified from their focus as alcohol or drug use as a ‘primary’ focus of intervention to a more integrated perspective if they hope to engage, retain, and be successful with the majority of clients – i.e., those with co-occurring psychiatric disorders.

## Practice Implications

### ASSESSMENT OF CODs IN ADOLESCENCE

Identification of CODs in adolescents may not be the standard practice at this time, although it is now recognized that co-occurring disorders commonly occur. King et al.<sup>40</sup> report that, although the population of adolescents with CODs had greater functional and behavioral impairment than their peers, only about one-third had psychiatric disorders identified in a sample of 428 clients seeking substance use treatment.

A full review of assessment measures and methods is beyond the scope of

this report, however, valuable reviews on the topic are available. Structured interviews are generally considered to be the ‘gold standard’ for obtaining an accurate diagnostic picture. Multiple tools are available, but they vary on the degree to which they are explicitly linked to diagnostic criteria, and the balance that is placed on the comprehensive assessment of both mental health and substance use disorders. Selection of any measure typically involves considering the validity and reliability of the instrument, the recurring cost of use, the time to administer, and training-level requirements. Structured diagnostic interviews available for use in assessment of youth include the:

- Children’s Interview for Psychiatric Syndromes (ChiPS; Weller, et al.<sup>64</sup>),
- Adolescent Diagnostic Interview ([www.wpspublish.com](http://www.wpspublish.com)),
- Mini-International Neuropsychiatric Interview (M.I.N.I.- Kid; [www.medical-outcomes.com](http://www.medical-outcomes.com)),
- Diagnostic Interview Schedule for Children-Revised (DISC-R; Shaffer et al.<sup>65</sup>), and
- Global Appraisal of Individual Needs (GAIN; [www.chestnut.org/li/gain](http://www.chestnut.org/li/gain)).

A detailed overview of a subset of these measures can be found in the *Adolescent Screening and Assessment Instrument Compendium for Substance Abuse and Mental Health Disorders* (available at [www.scattc.org](http://www.scattc.org)). Grissom and Underwood<sup>63</sup> also review a range of interview and self-report measures for screening and assessment in youth, with special emphasis on those that have been used with juvenile justice populations ([www.ncmhjj.com](http://www.ncmhjj.com)).

#### CHALLENGES IN BUILDING A MODEL OF SERVICE FOR ADOLESCENTS WITH COD

Research involving service models for adolescent populations with CODs has been limited for a variety of reasons:

- Funded projects often focus on more homogeneous (non-COD) populations.
- Poor retention or attendance in treatment has reduced the sample size of adolescent populations.
- Disproportionate dropouts of adolescents with substance abuse and conduct disorder and those with substance abuse and ADHD (attention deficit hyperactivity disorder) has limited the generalizability of findings to those populations; somewhat better retention rates have occurred with those with mood or adjustment disorders co-occurring with substance use.<sup>37</sup>
- Positive gains achieved in the shorter term are less likely to be sustained over time in adolescent populations.<sup>38, 39</sup>

A combination of the dearth of research on comprehensive treatment models for adolescents with COD, and the significant attention placed model development for adult populations, has resulted in the limited availability of well articulated, empirically tested models from which clinicians serving adolescents can draw.



## EARLY INTERVENTIONS FOR SUBSTANCE ABUSE AND MENTAL HEALTH DISORDERS

Researchers supported by the National Institute of Mental Health have found that half of all lifetime cases of mental illness begin by age 14, and that an untreated mental disorder can lead to a more severe, more difficult to treat illness, and even to the development of co-occurring mental illnesses. Data from the National Co-Morbidity Study<sup>7</sup> indicate that the onset of a mental disorder may precede the substance abuse disorder. According to this survey:



- Almost 90% of those with a lifetime co-occurring disorder had at least one mental disorder prior to the onset of a substance abuse disorder.
- Generally, the mental disorder occurred in early adolescence (median age 11), followed by the substance abuse disorder 5 to 10 years later (median age 21).
- The time between the onset of a mental disorder and a subsequent substance abuse disorder represents an important “*window of opportunity*” in which a co-occurring disorder may be prevented.

Prevention programming for children who have risk factors for the development of substance use disorders and mental health disorders should be considered as a part of any treatment continuum. The benefit of early intervention may not only forestall or limit the likelihood that mental health disorders will be expressed, but also help to derail the development of substance use disorders. Successful prevention efforts may limit the need for more costly integrated treatment after addictions and serious mental health disorders have developed.<sup>40</sup>

Early intervention strategies, which can be school or community based, should include a focus on:

- Pre-School students: aggressive behavior, poor social skills, academic difficulties
- Elementary School: self-control, emotional awareness, social problem solving, academics (particularly reading)
- Middle/High School: oppositional/defiant behavior, study habits, peer relationships, appropriate assertiveness, drug refusal skills, anti-drug attitudes.<sup>41</sup>

## STRATEGIES FOR THE DEVELOPMENT OF A TREATMENT MODEL

Once significant symptoms of substance abuse or dependence and concurrent mental health disorders emerge, treating adolescents with co-occurring disorders becomes a more complex task. A clinical consensus has emerged, consistent with recommendations offered in the adult literature that *integrated*, multimethod treatments offer the best opportunity for positive treatment outcomes. Treatment methods typically will include not only a focus on the individual’s psychological processes through group or individual interventions, but will involve case management, vocational/educational components, and an evaluation of housing stability.<sup>42, 43</sup> Interventions typically emphasize the social and familial environment in which the problems are expressed. Commonly applied cognitive-behavioral interventions focus on thoughts, attitudes and

beliefs, social-behavioral elements include contingency management and reinforcement by important others in their environment to offer positive consequences for the desired behavior changes.

### GUIDING PRINCIPLES

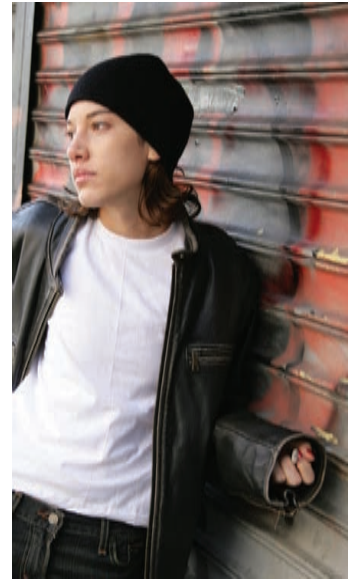
Guiding principles have been identified that are focused on the treatment needs of adolescents with co-occurring disorders.<sup>44, 45, 46, 37</sup> Treatment principles encourage an initial focus on:

- Building a strong relationship and motivating clients to attend treatment;
- Creating a treatment plan that centers on client-generated goals;
- Applying empirically supported treatments, focused on interventions specific to the client's diagnostic presentation;
- Using culturally and developmentally sensitive content;
- Focusing on client strengths, with an emphasis on impulse control, communication, problem solving, and regulation of affect;
- Designing goals and objectives focus on change that is sustainable over the long term;
- Monitoring motivation, substance use and medication compliance, if utilized;
- Increasing intensity if the intended response is not achieved;
- Using relapse prevention strategies;
- Fostering peer group influences; and
- Conducting psychoeducation for parents.

In both adults and adolescents, engagement of the family in any intervention is strongly recommended. Mueser and Fox<sup>42</sup> encourage engaging families of persons with CODs as they offer the possibility of increasing the person's self-efficacy, can encourage treatment compliance, and sometimes are the only support persons available. Family members' involvement can improve overall coping and, through family psychoeducational efforts, can reduce unintentional enabling of the client's substance use. Engaging families as a part of any treatment endeavor can influence a wide range of treatment outcome variables, including treatment engagement and adherence, psychiatric symptom stability, and reduced substance use.<sup>47</sup>

### 'INTEGRATING' MODELS WITH AN EVIDENCE BASE

Veerman & van Yperen<sup>66</sup> state that "there is a growing consensus that interventions carried out in youth care practice should be evidence-based". As result, service providers throughout the country are confronting more language in contracts requiring the application of evidence-based practices in treatment, and clinicians are under pressure to identify treatment models that can be tailored to the populations that they serve. Most of the interventions developed for adolescents in the past twenty years have focused on either their



primary mental illnesses or their substance use disorders, but not both. Given that research evidence now demonstrates the presence of a co-occurring disorder as usual, rather than unusual, a move toward more comprehensive, integrated services is underway.

A series of empirically evaluated interventions have been identified that have been tested on a subsample of adolescents with CODs, or have been positively evaluated in young adult populations with severe and persistent mental illness and/or substance use disorders where family members were successfully able to be engaged as treatment participants. Randomized controlled trials (RCTs), considered the strongest test of efficacy, have taken place with the following interventions:

- Multisystemic Therapy<sup>48</sup>
- Family Behavior Therapy<sup>49</sup>
- Individual Cognitive Problem Solving<sup>50</sup>
- Cognitive Behavior Therapy<sup>51, 52</sup>
- Family Psychoeducation<sup>53</sup>
- Behavioral Couples Therapy/Behavioral Family Counseling,<sup>54</sup> and the
- Community Reinforcement Approach.<sup>55</sup>

Each of these interventions is very briefly described below, with information on their impact on domains measured in adolescents with co-occurring disorders.

#### MULTISYSTEMIC THERAPY (MST)

Multisystemic Therapy focuses on the social and familial aspects of behavior. Treatment is thought to be best addressed by engaging multiple systems, including the family, peers, teachers, and neighbors.<sup>48</sup> Veerman & van Yperen<sup>66</sup> cite this community based intervention as one for which considerable evidence exists. The treatment model focuses on:

- Low caseloads (5-6 families)
- Intensive treatment
- 24/7 availability of counselors
- Services delivered at home, school, neighborhood centers
- Time-limited structure (4-6 months)

Bender et al.<sup>37</sup> found the greatest effect of this intervention to be on externalizing behaviors as the findings were sustained at six-month follow up. Lesser effects (small effect sizes) were found on outcome measures of substance abuse.

#### FAMILY BEHAVIOR THERAPY (FBT)

Family Behavior Therapy focuses on substance abuse and behavior problems using behavioral techniques.<sup>49</sup> The intervention targets multiple domains that



influence behaviors including the family, cognitions, verbal behaviors, and social interactions. Treatment elements include:

- Efforts at treatment engagement (calling before and after the first session, using food and drinks to engage);
- Comprehensive assessment that is reviewed and analyzed with clients;
- Engaging siblings and peers in treatment; and
- Offering a choice among other behavioral interventions including contracting, stimulus control and communication skills.<sup>49</sup>

In the Bender et al.<sup>37</sup> analysis, FBT was found to achieve significant results on externalizing, internalizing and substance abuse measures, with outcomes sustained at the six month follow up.

### INDIVIDUAL COGNITIVE PROBLEM SOLVING (ICPS)

ICPS is focused on developing self control and improving problem solving. Problem solving steps (outlined by Azrin et al.<sup>50</sup>) include:

- Identifying the problem;
- Identifying choices for a response;
- Considering consequences; and
- Choosing the best option.

The intervention tested employed 8-15 outpatient session over a six-month period. Analysis of the impact on outcomes revealed that ICPS, similar to the findings for FBT, demonstrated that significant results were found on measures of externalizing, internalizing, and substance abuse outcome measures over a six-month follow up period.<sup>37</sup>

### COGNITIVE BEHAVIOR THERAPY (CBT)

CBT is focused on the premise that behavior is adaptive and an interaction exists between thoughts, feelings and behaviors. Treatment focuses on learning new behaviors and using behavior modification techniques.<sup>51</sup> This model focuses on the antecedents that trigger symptoms, thoughts that then arise, and feelings and behaviors that become associated to these thoughts. Clients are taught to monitor their maladaptive and irrational thoughts and are trained to replace them with thoughts that will produce more adaptive, healthy behaviors. CBT was found to produce significant results on internalizing measures of outcome, as well as substance abuse.<sup>37</sup>

### ECOLOGICALLY BASED FAMILY THERAPY (EBFT)

EBFT was derived from the Homebuilders family preservation model and focuses on the opportunity for change that occurs in moments of crisis. A counselor combines a range of cognitive, behavioral, and environmental interventions. A treatment manual for implementing this intervention is available.<sup>56</sup>

EBFT is delivered in phases with parents and youth attending separate individual counseling sessions in the beginning. An initial focus is on



treatment engagement and motivation. A second phase focuses on family-based interventions, with improving communication and decreasing substance use as the treatment targets. Finally, the larger support network is the target of attention. Bender et al.<sup>37</sup> found that moderate positive effects were found on measures of externalizing, internalizing, and substance abuse outcomes.

### FAMILY PSYCHOEDUCATION

Family Psychoeducation programs were developed to improve treatment coordination, assist with medication management, reduce familial conflicts, and improve problem solving.<sup>53, 57</sup> Delivered in both single and multifamily formats, a consistent goal is to improve symptoms and psychosocial functioning in the individual and to reduce expressed emotion. Effort is made to engage the family within the first week of contact, to teach them about their family member's mental illness, discuss issues in relapse, and provide ongoing problem solving support, over multiple years, if required. After the initial didactic period, patient and family may attend sessions together.

Family psychoeducation has been widely investigated with consistent findings of improved recovery, family well-being, and symptom experience. McFarlane, Dixon, Lukens, and Lucksted<sup>57</sup> consider this form of intervention as a treatment of choice for schizophrenia, bipolar and depressive disorders. A treatment manual is available from W.R. MacFarlane. SAMHSA has also introduced a family psychoeducation toolkit, a draft of which is available online ([www.samhsa.gov](http://www.samhsa.gov)).

### BEHAVIORAL FAMILY COUNSELING

Behavioral Family Counseling (BFC) emphasizes the role of the family in improving substance abuse outcomes.<sup>47</sup> Typically delivered in an outpatient format lasting 15-20 sessions, it involves engaging family members in behavioral contracting around remaining abstinent, attending 12-step meetings, and taking medication where indicated. Sessions emphasize improving positive communication and shared activities inconsistent with substance use. Attention is given to factors that predict relapse, and training is given to facilitate coping with associated stresses. Consistently positive findings have emerged for this approach over a 30 year period, with impacts being seen on treatment adherence, medication compliance, numbers of days abstinent, and reduced family problems and legal issues.<sup>47</sup>

### COMMUNITY REINFORCEMENT APPROACH

The Community Reinforcement Approach (CRA) is a multimethod intervention that includes Behavioral Family/Couples Counseling when family members are available to participate. The overarching goal of this method is to reorganize the individual's environment so that becoming abstinent from substance use is more rewarding than continued drug use. Internal and external triggers to substance use are identified and behavioral skills training is focused on their interruption. Job support and alternative social activities inconsistent with substance use are developed. Smith et al.<sup>67</sup> found that persons receiving CRA instead of standard care had reduced substance use, and improved employment and housing outcomes. The CRAFT (community reinforcement and family training) model<sup>58, 59</sup> trains family members to discuss the negative consequences of substance use in neutral terms, instructs them on how to develop and schedule



non-drinking/use activities, and encourage involvement in treatment. The CRAFT model was developed for families trying to engage their family member in treatment. The CRAFT model has been proven effective in at least one randomized clinical trial<sup>58</sup> in engaging patients in treatment.

### ISSUES IN IMPLEMENTATION

With the increased availability of evidence-based models of care, providers will likely be focused on issues of the implementation and sustainability of these practices for the foreseeable future. Most organizations, however, have had little experience with creating the infrastructure for large scale practice change.

Blase and Fixsen<sup>60</sup> suggest a model that articulates the elements necessary for successful program adoption and fidelity. The model encompasses the need not only to select programs and staff to train in the new orientation to treatment, but also requires that there is ongoing supervision with feedback. Coaching and consultation has to be delivered by supervisors who are clear about the programmatic benefits of the new approach. Evaluation of the staff and program should take place to determine whether desired results have been achieved. At the organizational level, management information systems, funding mechanisms, and staffing patterns may have to be modified for the program to be successful. Without making these careful and deliberate decisions around implementation strategies, decision about the adoption of new practice content will likely be met with limited to no success. Visit <http://nirn.fmhi.usf.edu> for a further discussion of implementation issues.

### DEVELOPING A TREATMENT PLAN

The group of adolescents described as having co-occurring disorders is as variable as any two clients seen in clinical practice. As such, treatment planning for individuals considered to be under this rubric has to be highly individualized. Regardless of the model selected, treatment planning is an essential component of service delivery. For adolescents with CODs, Riggs<sup>62</sup> proposes the following paradigm:

- Step 1. Integrate all assessment info, including patient's goals, into a problem list.
- Step 2. Engage the adolescent in treatment, initially through collaborating on goals.
- Step 3. Determine medication need, requiring at least weekly therapy appointments, emphasizing motivational techniques, cognitive-behavioral interventions in early treatment.
- Step 4. If substance use or symptoms of psychiatric illness do not significantly improve in a 2 month period: 1) reassess diagnosis; 2) consider changing medication; and/or 3) increase the intensity or frequency of treatment.
- Step 5. Convey from the beginning, an understanding of the need for long term monitoring of psychiatric disorder, and continued attention to factors related to substance use relapse.





## SYSTEM ISSUES

The challenges inherent in modifying treatment systems to address co-occurring disorders in an integrated fashion are significant and well recognized. Policy makers, funders, and practitioners must tackle a number of barriers – policy, funding, programmatic, clinical, client - that can complicate the provision of an effective range of services for both adults and adolescents with CODs. Some of the essential components needed for reorganization of treatment systems to achieve integration at the clinical and organizational level involve: adopting evidence-based practices with fidelity to the original models; determining who can be best served through an integrated treatment model within a given organization; and, identifying interventions that can be individually tailored to specific diagnostic presentations. Each task requires thoughtful consideration, collaboration of numerous systems and, importantly, sustained leadership.

In order to achieve the desired practice of *integrated care*, clinical practices must include:<sup>61</sup>

- A focus on the person's natural environment, shifting away from rigidly-delivered clinically-based care.
- A broad perspective in which life habits are modified, rather than limited focus on substance abuse alone.
- Movement toward shared decision making in selection and delivery of treatment.
- Establishing a strong therapeutic relationship to engage and retain clients.
- Recognition that treatment involves a long-term process, extending months to years.

Agencies need to be deliberate in moving forward to implement these organizational and practice changes to better serve adolescents with co-occurring disorders. Key factors are to:

- Assign high level leadership, preferably someone with good interpersonal and communication skills, and a positive attitude to carry any plan forward.
- Engage staff from all areas of the organization to assist in the development of the treatment strategy.
- Determine the necessary elements that must be added to the programs to give equal consideration to both mental health and substance use disorders in assessment and treatment efforts.
- Determine which evidence-based practices offer the best match for the diagnostic populations served, given the levels of treatment offered.
- Evaluate personnel patterns to determine if additional staff (licensed mental health counselors, ARNPs, contract psychiatrists, psychologists) may be required to achieve a balance in knowledge base and service skills.
- Determine intra-agency structures or policies that may be barriers to delivering or evaluating integrated care, such as record keeping,



how and what kind of data are entered, language representing a more narrow treatment philosophy.

- Discuss with licensing and accreditation bodies what impacts these practice changes will have on licensing status and data collection requirements.
- Think through an implementation plan, allowing for training and supervision time on an ongoing basis. Consider how dissemination of the model might occur throughout the agency over a multi-year period.
- Review referral relationships, both with parties that refer to you – to update them on your expanded or revised service model, and with providers of acute care (both mental health and substance abuse) to discuss collaboration and continuity of care.

In substance abuse treatment settings, significant modifications to service delivery may have to be made to serve a full range of adolescents with co-occurring disorders. Importantly, staffing patterns and training efforts have to be focused on developing expertise on the treatment of major mental health disorders. Recognizing that these clients are at greater risk for drop out if their mental health disorders are not addressed, programs have to prioritize that an equivalent emphasis is placed on both categories of disorder in all treatment efforts. Knowing that adolescents may lack the maturity to understand the significant problems that can arise from unaddressed mental health problems service settings have to develop the capacity to format their services around a long-term perspective and develop effective means to sustain these clients in treatment as they transition to programs serving adults.

Fortunately, a significant pool of resources and treatment model development has occurred to address CODs in adolescents over the past decade. Programs wishing to serve this population effectively must utilize these new treatment technologies and have the leadership and dedication to design and implement models that have demonstrated effectiveness.



## References

1. Kessler, R., McGonagle, K., Zhao, S., Nelson, C., Hughes, M., Eshelman, S., Wittchen, H., & Kendler, K. (1994). Lifetime and 12-month prevalence of DSM-III-R psychiatric disorders in the United States: Results from the National Comorbidity Study. *Archives of General Psychiatry*, *51*, 8-19.
2. Drake, R., Mercer-McFadden, C., Mueser, K., McHugo, G., & Bond, G. (1998). Review of integrated mental health and substance abuse treatment for patients with dual disorders. *Schizophrenia Bulletin*, *24*, 589-608.
3. SAMHSA, Substance Abuse and Mental Health Services Administration (2003). *Strategies for developing treatment programs for people with co-occurring substance abuse and mental disorders*. Washington, D.C.: US Department of Health and Human Services. ([www.samhsa.gov](http://www.samhsa.gov)).
4. Brousselle, A., Lamothe, L., Mercier, C., & Perreault, M. (2007). Beyond the limitations of best practices: How logic analysis helped reinterpret dual diagnosis guidelines. *Evaluation and Program Planning*, *30*, 94-104.
5. Drake, R., Essock, S., Shaner, A., Carey, K., Minkoff, K., Kola, L., et al. (2001). Implementing dual diagnosis services for clients with severe mental illness. *Psychiatric Services*, *52*, 469-476.
6. New Freedom Commission on Mental Health (2003). *Achieving the Promise: Transforming mental health care in America: Final report*. DHHS Publication No. SMA-03-3832. ([www.mentalhealthcommission.gov/reports/reports.htm](http://www.mentalhealthcommission.gov/reports/reports.htm))
7. Kessler, R., Beglund, P., Demler, O., Jin, R., & Walters, E. (2005). Lifetime prevalence and the age-of-onset distribution of DSM-IV disorders in the National Comorbidity Survey Replication. *Archives of General Psychiatry*, *62*, 593-602.
8. Shaffer, D., Fisher, P., Dulcan, M. K., Davies, M., Piacentini, J., Schwab-Stone, M. E., Lahey, B. B., Bourdon, K., Jensen, P. S., Bird, H. R., Canino, G., & Regier, D. A. (1996). The NIMH Diagnostic Interview Schedule for Children Version 2.3 (DISC-2.3): Description, acceptability, prevalence rates, and performance in the MECA Study. Methods for the Epidemiology of Child and Adolescent Mental Disorders Study. *Journal of the American Academy of Child and Adolescent Psychiatry*, *35*, 865-877.
9. Skowrya, K & Cocozza, J. (2006). *Blueprint for change: A comprehensive model for the identification and treatment of youth with mental health needs in contact with the juvenile justice system*. Delmanr, NY: The National Center for Mental Health and Juvenile Justice (NCMHJJ) and Policy Research Associates, Inc. ([www.ncmhjj.com/blueprint/pdfs/blueprint.pdf](http://www.ncmhjj.com/blueprint/pdfs/blueprint.pdf)).
10. Putnam, C. (2000). *Integration of behavioral health care with child protection services: Weaving together practices for improved outcomes*. Lansing, MI: Health Management Associates.
11. Almgren, G. & Marcenko, M. (2001). Emergency room use among foster care sample: The influence of placement history, chronic illness, psychiatric diagnosis, and care factors. *Brief Treatment and Crisis Intervention*, *1*, 55-64.
12. Kataoka, S., Zhang, L, & Wells, K. (2002). Unmet need for mental health care among U.S. children: Variation by ethnicity and insurance status. *American Journal of Psychiatry*, *159*, 1548-1555.
13. SAMHSA Office of Applied Studies (OAS) (2005). *Results from the 2004 National Survey on Drug Use and Health: National Findings*. ([www.drugabusestatistics.samhsa.gov/nsduh.htm#NSDUHinfo](http://www.drugabusestatistics.samhsa.gov/nsduh.htm#NSDUHinfo))

14. Robins, R., & Regier, D. (1991). *Psychiatric disorders in America: The epidemiologic catchment area study*. New York: Free Press.
15. Reebye, P., Moretti, M., & Lessard, J. (1995). Conduct disorder and substance use disorders: Comorbidity in a clinical sample of preadolescents and adolescents. *Canadian Journal of Psychiatry, 40*, 313-319.
16. Rounds-Bryant, J., Kristiansen, P., & Hubbard, R. (1999). Drug abuse treatment outcome study of adolescents: A comparison of client characteristics and pretreatment behaviors in three treatment modalities. *American Journal of Drug and Alcohol Abuse, 25*, 573-591.
17. Roberts, A., Corcoran, K. (2005). Adolescents growing up in stressful environments, dual diagnosis, and sources of success. *Brief Treatment and Crisis Intervention, 5*, 1-8.
18. Grella, C., Hser, Y., Joshi, V., & Rounds-Bryant, J. (2001). Drug treatment outcomes for adolescents with comorbid mental and substance use disorders. *The Journal of Nervous and Mental Disease, 189*(6), 384-392.
19. Rowe, C., Liddle, E., Greenbaum., P., & Henderson, C. (2004). Impact of psychiatric comorbidity on treatment of adolescent drug abusers. *Journal of Substance Abuse Treatment, 26*, 129-140.
20. Libby, A., Orton, H., Stover, S., & Riggs, P. (2005). What came first, major depression or substance use disorder? Clinical characteristics and substance use comparing teens in a treatment cohort. *Addictive Behaviors, 30*, 1649-1662.
21. Wise, B., Cuffe, S., & Fischer, D. (2001). Dual Diagnosis and successful participation of adolescents in substance abuse treatment. *Journal of Substance Abuse Treatment, 21*, 161-165.
22. Crowley, T., Mikulich, S., MacDonald, M., Young, S., & Zerbe, G. (1998). Substance-dependent, conduct disordered adolescent males; Severity of diagnosis predicts two year outcome. *Drug and Alcohol Dependence, 49*, 225 – 237.
23. McLellan, A., Luborsky, L, O'Brien, C., Barr, H., & Evans, F. (1986). Alcohol and drug abuse treatment in three different populations: Is there improvement and is it predictable? *American Journal of Drug and Alcohol Abuse, 12*, 101-120.
24. Rounsaville, B., Dolinsky, Z., Babor, T., & Meyer, R. (1987). Psychopathology as a predictor of treatment outcomes in alcoholics. *Archives of General Psychiatry, 44*, 505-513.
25. McMahon, R., Wells, K., & Kotler, J. (2006). Conduct problems. In E. Mash & R. Barkley (Eds.), *Treatment of childhood disorders* (pp. 137-270). New York: Guilford Press.
26. Smith, B., Barkley, R., & Shapiro, C. (2006). Attention-Deficit/Hyperactivity Disorder. In E. Mash & R. Barkley (Eds.), *Treatment of childhood disorders* (pp.65-132 ). New York: Guilford Press.
27. Hamilton, B.E., et al. (2007). Annual summary of vital statistics: 2005. *Pediatrics, 119*, 345-60.
28. United States Public Health Service (1999). *Surgeon General's call to action to prevent suicide*. Washington, D.C.
29. Office of the Surgeon General (1999). *Mental Health: A Report of the Surgeon General (1999)*. Chapter 3: Children and Mental Health (available online at: [www.surgeongeneral.gov/library/mentalhealth/chapter3](http://www.surgeongeneral.gov/library/mentalhealth/chapter3))

30. AACAP (2007). Practice parameter for the assessment and treatment of children and adolescents with bipolar disorder. *Journal of the Academy of Child and Adolescent Psychiatry*, 46, 107-125.
31. Rapoport, J. (1997). What is known about childhood schizophrenia. *Harvard Mental Health Letter* (December, 1997). Available online at <http://schizophrenia.nami.org/youth/skzphrn.htm>
32. American Psychiatric Association (2000). *Diagnostic and statistical manual of mental health disorders, Fourth edition revised*. Washington, DC.
33. Latimer, W., Ernst, J., Hennessey, J., Stinchfield, R., & Winters, K. (2004). Relapse among adolescent drug abusers following treatment: The role of probable ADHD status. *Journal of Child & Adolescent Substance Abuse*, 13, 1-16.
34. Tomlinson, K., Brown, S., & Abrantes, A. (2004). Psychiatric comorbidity and substance use treatment outcomes of adolescents. *Psychology of Addictive Behaviors*, 18, 160-169.
35. Shane, P., Jasiukaitis, P., & Green, R. (2003). Treatment outcomes among adolescents with substance use problems: the relationship between comorbidities and post-treatment substance involvement. *Evaluation and Program Planning*, 26, 393-402.
36. Dennis, M. (1999). *Global Appraisal of Individual Needs (GAIN) manual: Administration, scoring, and interpretation*. Bloomington, IL: Lighthouse Publications.
37. Bender, K., Springer, D., & Kim, J. (2006). Treatment effectiveness with dually diagnosed adolescents: A systemic review. *Brief Treatment and Crisis Intervention*, 6, 177-205.
38. Dakof, G. A, Tejada, M, & Liddle, H. A. (2001). Predictors of engagement in adolescent drug abuse treatment. *Journal of the American Academy of Child and Adolescent Psychiatry* 40, 274-281.
39. Shane, P., Jasiukaitis, P., & Green, R. (2003). Treatment outcomes among adolescents with substance use problems: The relationship between comorbidities and post-treatment substance involvement. *Evaluation and Program Planning*, 26, 393-402
40. King, R., Gaines, L, Lambert, E., Summerfelt, W., & Bickman, L. (2000). The co-occurrence of psychiatric substance use diagnoses in adolescents in different service systems: Frequency, recognition, cost, and outcomes. *Journal of Behavioral Health Services and Research*, 27, 417-430.
41. NIDA (2003). *Preventing drug use among children and adolescents: A research based guide for parents, educators, and community leaders*. NIH publication No. 04-4212(A). Washington, DC.
42. Mueser, K., Torrey, W., Lynde, D., Singer, P., & Drake, R. (2003). Implementing evidence-based practices for people with severe mental illnesses. *Behavior Modification*, 27(3), 387-411.
43. Moore, B. (2005). Empirically supported family and peer interventions for dual disorders. *Research on Social Work Practice*, 15(4), 231-245.
44. Riggs, P., & Davies, R. (2002). A clinical approach to integrating treatment for adolescent depression and substance abuse. *Journal of the American Academy of Child and Adolescent Psychiatry*, 41, 1253-1255.
45. Crome, I. (2004). Comorbidity in young people: Perspectives and challenges. *Acta Neuropsychiatrica*, 16, 47-53.

46. Flanzer, J. (2005). The status of health services research on adjudicated drug-abusing juveniles: Selected findings and remaining questions. *Substance Use & Misuse, 40*, 887-911.
47. Fals-Stewart, W., & O'Farrell, T. (2003). Behavioral family counseling and naltrexone for male opioid-dependent patients. *Journal of Consulting and Clinical Psychology, 71*, 432-442.
48. Henggeler, S., Rowland, M., Randall, J., Ward, D., Pickerel, S., Cunningham, P., Miller, S., Edwards, J., Zealberg, J. Hand, L., & Santos, A. (1999). Home-based multisystemic therapy as a alternative to the hospitalization of youth sin psychiatric crisis: Clinical outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 1331 – 1339.
49. Donohue, B., & Azrin, N. (2001). Family behavior therapy. In E. F. Wagner & H. B. Waldron (Eds.). *Innovations in adolescent substance abuse interventions* (pp 205-227). New York: Pergamon.
50. Azrin, N., Donohue, B., Teichner, G., Crum, T., Howell, J., & DeCato, L. (2001). A controlled evaluation and description of individual-cognitive problem solving and family-behavioral therapies in dually-diagnosed conduct-disordered and substance-dependent youth. *Journal of Child & Adolescent Substance Abuse, 11*, 1-43.
51. Kaminer, Y., Burlison, J., & Goldberger, R. (2002). Cognitive-behavioral coping skills and psychoeducation therapies for adolescent substance abuse. *The Journal of Nervous and Mental Disease, 190*, 737 –745.
52. Reinecke, M., Dattilio, F., Freeman, A. (Eds.). (2003). *Cognitive therapy with children and adolescents: A casebook for clinical practice (2nd Edition)*. New York: The Guilford Press.
53. Dixon, L., McFarlan, W., Lefley, H., Lucksted, A.,Cohen, M., Falloon, I., et al. (2001). Evidenced-base practices for services to families of people with psychiatric disabilities. *Psychiatric Services, 52*, 903-910.
54. Rotunda, R., & O'Farrell, T. (1997). Marital and family therapy of alcohol use disorders: bridging the gap between research and practice. *Professional Psychology, 28*, 246-252.
55. Smith, J., Meyers, R., & Miller, W. (2001). The community reinforcement approach to the treatment of substance-use disorders. *American Journal on Addiction, 10*, 51-59.
56. Slesnick, N. (2003). Treatment manual: Ecologically-based family therapy for substance abusing runaway youth. Unpublished Manuscript.
57. McFarlane, W., Dixon, L., Lukens, E., & Lucksted, A. (2003). Family psychoeducation and schizophrenia: A review of the literature. *Journal of Marital and Family Therapy, 29*, 223-245.
58. Meyers, R., Miller, W., Smith, J. & Tonigan, J. (2002). A randomized trial of two methods for engaging treatment-refusing drug users through concerned significant others. *Journal of Consulting and Clinical Psychology, 70*, 1182-1185.
59. Sisson, R., & Azrin, N. (1986). Family-member involvement to initiate and promote treatment of problem drinkers. *Journal of Behavior Therapy and Experimental Psychiatry, 17*, 15-21.
60. Blase, K. & Fixsen, D. (2004). *Infrastructure for implementing and sustaining evidence-based programs with fidelity*. National Implementation Research Network, Louis de la Parte Florida Mental Health Institute, University of South Florida. (<http://nirn.fmhi.usf.edu>)

61. Mueser, K., Noordsy, D., Drake, R., & Fox, L. (2003). *Integrated treatment for dual disorders: A guide to effective practice*. New York, NY: Guilford Press.
62. Riggs, P.(2003). Treating adolescents for substance abuse and comorbid psychiatric disorders. *Science and Practice Perspective, August 2003*, 18-28.
63. Grissom, T., & Underwood, L. (2003). *Screening and assessing mental health and substance use disorders among youth in the juvenile justice system*. National Center for Mental Health and Juvenile Justice: Research and Program Brief. (www.ncmhjj.com)
64. Weller, E., Well, R., Fristad, M., Rooner, M., & Schecter, J. (2000). Children's Interview for Psychiatric Syndromes. *Journal of the American Academy of Child and Adolescent Psychiatry, 39(1)*, 76-84.
65. Shaffer, D. Schwab-Stone, M., Fisher, P., Cohen, P., Piacentini, J., Davies, M., Edelbrock, C.,& Regier, D. (1993). The Diagnostic Interview Schedule for Children –Revised version (DISC-R). I.: Preparation, field testing, interrater reliability, and acceptability. *Journal of the American Academy of Child and Adolescent Psychiatry, 32*, 643-650.
66. Veerman, J. & van Yperen, T. (2007, in press). Degrees of freedom and degrees of certainty: A developmental model for the establishment of evidence-based youth care. *Evaluation and Program Planning*.
67. Smith, J., Meyers, R., & Delaney, H. (1998). The community reinforcement approach with homeless alcohol dependent individuals. *Journal of Consulting and Clinical Psychology, 66*, 541-548.
68. Whitmore, E. A., & Riggs, P. D. (2006). Developmentally informed diagnostic and treatment considerations in comorbid conditions. In Howard A. Liddle and Cynthia L. Rowe (Eds.), *Adolescent substance abuse: Research and clinical advances* (pp. 267). Cambridge, UK: Cambridge University Press.

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