Best Practices in Children's Mental Health

A Series of Reports Summarizing the Empirical Research and other Pertinent Literature on Selected Topics

Report # 14

Co-Occurring Disorders of Substance Abuse and SED in Children and Adolescents

A Review of the National Literature

April, 2005

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EXECUTIVE SUMMARY

While there is increasing attention to the co-occurrence of psychiatric and substance abuse disorders, current knowledge about the specific needs and evidence about treatment for children and adolescent populations is very limited. The Report to Congress by the Substance Abuse and Mental Health Services Administration (SAMSHA, 2002) and an independent search of the national literature reveals that there is significant lack of empirical data about the prevalence and treatment of co-occurring disorders for children or adolescents.

Prevalence estimates indicate that young people with serious emotional disorders (SED) are at heightened risk for substance abuse disorders. Among youth who receive mental health services almost 43% of recipients were diagnosed with a co-occurring disorder. In samples from SAMSHA treatment studies, 62% of the male and 83% of female adolescents who received substance abuse treatment also had an emotional or behavioral disorder.

The ***co-occurring mental disorders most commonly noted*** were Conduct Disorder, Attention Deficit and Hyperactivity Disorder, Major Depressive Disorder, Generalized Anxiety Disorder, and Post Traumatic Stress Disorder. Youth with bipolar disorder also appear at heightened risk to exacerbate their difficulties through use of substances.

Risk factors that may predispose children to develop mental or substance abuse disorders include pre- or postnatal complications, such as Fetal Alcohol Syndrome (FAS), growing up in a family who experiences extreme poverty, constant conflicts, or being exposed to traumatic events, especially interpersonal violence. There is growing evidence that psychiatric disorders precede the onset of substance abuse problems by 5 to 10 years, creating a *"window of opportunity"* to prevent the onset or the exacerbating of co-occurring disorders.

Effective Treatment

To date, there is only a *poor level of empirical evidence* about which treatments work for children or youth with co-occurring disorders. A search of national literature yielded only one small, still unpublished, randomized controlled trial study that precisely targets the co-occurrence of a serious psychiatric disorder, in this case PTSD, and substance abuse in adolescents (girls) (Najavits, Gallop & Weiss, under review). Two published studies about family-based systemic treatments (Multisystemic Therapy and Multidimensional Family Therapy) (Henggeler, Clingempeel, Brondino, & Pickrel, 2002; Liddle, Dakof, Parker, Diamond, Barrett & Tejeda, 2001) included youth who may be diagnosable with co-occurring disorders, and showed some effectiveness. However, treatment or samples were not expressly selected to target the co-occurrence of disorders. Other articles describe models which seem effective in addressing *either* psychiatric disorders *or* substance abuse. However, there is no direct evidence as to how these latter programs could or should be adapted across populations or how they could target both areas of difficulty simultaneously.

SAMSHA cautiously identified several practices, including case management, family therapy, Therapeutic Communities, Comprehensive Community Mental Health Services for Children and Families, and Circles of Care, as "appearing to be promising." However, many of the models were either not specifically designed to address co-occurring disorders, lack published empirical studies of their effectiveness, or do not necessarily produce convincing long-term effects.

A central ***barrier to effective treatment*** is the *fragmentation* of substance abuse and mental health services in which treatments occur either sequentially or parallel but are rarely coordinated. Young clients and their families are particularly affected by this fragmentation because they often must negotiate additional systems that fail to share knowledge, language,

or labels. Two family-run organizations jointly conducted a focus group study to explore the treatment *experiences of youth with co-occurring disorders and their families.* Findings indicated that youth and families face services that are fragmented, isolated and rigid. As a result, families and youth feel blamed and ashamed, and rarely get the kind of help they need at the time they need it. SAMSHA's Report to Congress further identifies that *too few staff are trained to provide integrated services* and *different frameworks* for treatments make clinicians uneasy about providing competent services for both disorders. *Medication* research is needed in order to determine the effectiveness and cross-effects of psychotropic medications. *Knowledge and research* specific to the prevalence, course, or treatment of co-occurring disorders in young people is extremely *limited,* and *screening and assessment tools are not standardized*.

Recommendations

Based on the review of the empirical literature, publications about clinical experiences and the Report to Congress, the following recommendations are indicated:

For Prevention

- Early identification of mental disorders, and available, accessible and appropriate services that include alcohol and drug screening and testing could prevent the development of subsequent substance abuse.

For Treatment

- Co-occurring disorders in children and adolescents vary in severity, and require ***ongoing assessments,*** including random urine tests throughout treatment and careful psychopharmacological treatments to decrease abuse of substance for self-medication, as well as ***adjustments of treatment along a continuum of care***.
- Treatment must be ***developmentally*** appropriate which includes the recognition that ***confrontation may not be an appropriate method*** for adolescent populations. Because 12-Step AA/NA models were not designed to be developmentally appropriate for adolescents and do not appear as effective with this population, some authors recommend use of such groups only when the model and group appears to be a good match for the young client.
- ***Comprehensive approaches*** best ***integrate domains*** such as health, educational, legal, and recreational services using a ***variety of approaches*** including group, family and individual treatment modalities. *Cognitive treatment* such as identifying negative self-talk and distorted thoughts as well as *behavioral techniques* such as gradual exposure/ desensitization to traumatic memories are recommended for youth with substance abuse and PTSD. *Skill training*, such as stress management/ relaxation skills, problem-solving, drug refusal and safety skills and social skills, and *psychoeducation* should be included as well.
- Since a good ***therapeutic alliance*** is considered a crucial element, the ***active involvement of youth and family in the design of their program*** is recommended along with clear structure as well as flexibility to individualize treatment methods and goals.

For policy, SAMSHA recommends promoting a "Comprehensive Continuous Integrated System of Care" which includes:

- Providers in all settings including primary care, mental health and substance abuse should ***consider co-occurring illness an expectation*** rather than an exception.
- ***No wrong door.*** Any door should be the right door to receive treatment for co-occurring disorders, understanding both disorders as "primary".
- ***Promoting awareness of different sites of care and the need for collaboration.***
- Treatment plans should be ***client-centered and individualized*** and families must be involved in treatment; recognition that there is ***no single correct intervention***.

- Prevention and treatment services must be ***culturally competent***, and appropriate for the diversity of age, sexual orientation and gender.
- ***Training*** is needed to allow for collaboration and integration of mental health and substance abuse treatment.
- ***Research*** is needed to arrive at better prevalence and etiological data, to develop ***standardized screening and assessment tools,*** and to implement and evaluate the effectiveness of treatment models.

Co-Occurring Disorders of Substance Abuse and Serious Emotional Disorders in Children and Adolescents

Review of the National Literature

The co-occurrence of substance abuse disorders and psychiatric disorders has received increasing national attention since the U.S. Congress required the Substance Abuse and Mental Health Services Administration (SAMSHA) to provide a summary about the problem and the status of services. SAMSHA's subsequent Report to Congress (2002) constitutes one of the most current and comprehensive reviews on the topic. The report provides estimates about the number of persons in the U.S. who experience co-occurring disorders, describes the ways in which children and adults receive services for their co-occurring disorders, how block grants are used to provide services for this population, and the status of current initiatives to improve services. Based on some empirical data the report makes recommendations regarding best practices, and changes needed to better serve this population. (The full Report to Congress is available online under www.alt.samsha.gov/reports/congress2002/index.html)

The following national literature review makes significant use of the information provided in the Report to Congress (SAMSHA, 2002) but focuses on the sections pertinent to understanding co-occurring disorders for children and adolescents. Key empirical studies about treatment for children and adolescents mentioned in the Report to Congress were obtained for closer analysis. In addition, an independent search of national literature data bases (including PubMed, PsycInfo and Social Work Abstracts) and internet sites was conducted to identify best practices in the field. While the recent attention to the issue is encouraging, overall knowledge about the needs and evidence about treatment of co-occurring psychiatric and substance abuse disorders, especially in children and adolescents, is still very limited.

Definitions

SAMHSA defines "co-occurring disorders" as instances in which "an individual has at least one mental disorder as well as an alcohol or drug use disorder" (2002, p. 2). The term co-occurring disorder is given preference over "dual diagnoses" because dual diagnoses wrongly implies the presence of only two disorders, and because the term is frequently used to denote the specific combination of mental illness and developmental disability. In contrast, "co-occurring disorders" can refer to any combination of two or more substance abuse and mental disorders identified in the Diagnostic and Statistical Manual of Mental Disorders -IV (DSM-IV) (APA, 1998). In the following, "co-occurring disorders" will refer to the presence of substance abuse and serious psychiatric disorders.

Prevalence

There is a significant lack of empirical data about the prevalence of co-occurring disorders for adults as well as for children or adolescents (SAMSHA, 2002). For the adult population, SAMSHA currently estimates that 7 to 10 million people are affected by co-occurring disorders. These estimates are inferred from survey studies such as the Epidemiologic Catchment Area (ECA) survey which surveyed persons living in institutional

settings, and the National Comorbidity Survey (NCS)[1] (Kessler et al., 1994 as cited in SAMSHA, 2002) which consisted of a representative national study of people ages 15 through 54 who did not live in institutional settings (SAMSHA, 2002).

Data from Community Mental Health Services (CMHS) about youth who receive mental health services indicate a high prevalence of almost 43% of recipients being diagnosed with a co-occurring disorder (SAMSHA, 2002). In samples from SAMSHA treatment studies (CSAT 1997-2002), 62% of the male and 83% of female adolescents who received substance abuse treatment also had an emotional or behavioral disorder (SAMSHA, 2002). The co-occurring mental disorders most commonly noted were Conduct Disorder, Attention Deficit and Hyperactivity Disorder, Major Depressive Disorder, Generalized Anxiety Disorder, and Post Traumatic Stress Disorder (SAMSHA, 2002).

Preliminary findings from a study on children and adolescents in Tennessee show that 27% of youth entering into publicly funded treatment met criteria for co-occurring disorders, and a total of 12% of all youth participating in TennCare (Tennessee's Medicaid program) could benefit from being screened for co-occurring disorders (Heflinger & Flowers, 2001-2002; Heflinger, 2000).

Service Use

Data already gathered for the replication of the NCS study (NCS-R) indicate that of those individuals (15 years and older) who have both substance dependence and serious mental illnesses, only 19 percent receive treatment for both disorders and 29 percent do not receive treatment for either problem. Most often treatment is received for the mental disorder alone (49 percent) (SAMSHA, 2002).

As SAMSHA points out, all too often, service use by children and adolescents is guided by public or private funding rather than young people's needs. As a result, youth with co-occurring disorders may be hospitalized because health insurances pay for inpatient treatment, even though there is little evidence to show greater efficacy of inpatient treatment compared to outpatient or community based services (SAMSHA, 2002).

A study by Jaycox, Morral, and Juvonen (2003, #4) analyzed admission and 3-month follow-up reports of mental health, medical problems, and service use within a large cohort *(N*= 1,088) of 12-19 year olds (mean = 15.8 years) who had been admitted to one of seven inpatient or outpatient substance abuse treatment programs across the United States between 1998 and 2001. The sample was 77% male, 52% white, 19% Hispanic, 18% African American, and 11% mixed or other ethnicities. For the 3-month follow-up assessment, 95% of the baseline sample could be interviewed. The main measure was the Global Appraisal of Individual Needs (GAIN) which includes substance use, mental health and other psychosocial domains.

Results indicated high levels of mental health problems at both time points, but few youth received mental health treatment. At admission half (50%) of the sample reported symptoms consistent with a DSM-IV diagnosis of attention deficit/ hyperactivity disorder and two thirds (66%) met criteria for conduct disorder. Although 67% of youths reported severe

[1] According to SAMSHA (2003), a replication survey NCS-R is under way and will provide more recent prevalence data on adolescents and adults

mental health problems at treatment entry, only 15% of the sample reported recent receipt of mental health services (19% of those with severe problems). Thus 54% of the sample reported severe problems but no mental health services in the prior 3 months. Use of mental health services was skewed: 3.1% reported only one treatment contact in the prior 90 days, an additional 5.3% reported two to six contacts, and the remaining 6.6% had seven or more contacts. Visiting an emergency room for mental health problems and spending a night or more in an inpatient setting were both reported by 2.4%, whereas 13.9% reported outpatient service use.

At 3 months follow up, the rate of recent mental health problems remained high, with 64% reporting that problems were severe. Self-reports of mental health service utilization suggested that 24% of the sample received such services in 3 months after program entry. Among those with severe problems, 33% reported receiving services in the past 3 months. Thus 43% of the sample reported severe problems but no mental health services in the 3 months after admission. Again, service use was minimal: 5.7% reported only one treatment contact in the prior 90 days, an additional 9.3% reported two to six contacts, and the remaining 7.5% reported more than seven contacts.

Logistic regression predicting mental health treatment found that females in residential settings with more current and baseline distress were more likely to receive services. Ethnicity, baseline behavioral problems, and whether or not currently in substance abuse treatment did not predict service use.

Onset and Risk Factors

Based on the NCS survey, SAMHSA (2002) suggests that for those with co-occurring disorders mental health disorders typically precede substance use disorders. In the NCS sample, mental disorders typically manifested themselves around age 11 while the substance abuse disorder developed 5 to 10 years later. Substance use increases most dramatically between the ages of 11 and 15 years (Greenblatt, 2000, as cited in SAMSHA, 2002). Based on these data, SAMSHA (2002) identifies a five to ten-year *"window of opportunity"* during which providers could prevent the onset of substance abuse disorders for youth with psychiatric difficulties.

While the likelihood of children and adolescents with mental disorders to develop substance abuse disorders may vary with diagnosis, children and youth with serious emotional disorders (SED) are at heightened risk for substance abuse disorders. Compared to a representative national sample of 8th and 10th graders, youth with SED showed higher use rates of all substances (except for inhalants, amphetamines and tranquilizers), including alcohol, marijuana and cocaine (SAMSHA, 2002).

Adolescents with externalizing behaviors such as Conduct Disorder and ADHD are most at risk to abuse substances, and adolescents experiencing internalizing disorders such as anxiety or depression are also at higher risk (SAMSHA, 2002). Depressed youth were four times as likely, and those with anxiety disorders twice as likely to develop substance abuse problems compared to youth without mental disorders (Costello, et al., 2000, as cited in SAMSHA, 2002). In any case, adolescents with and without severe psychiatric problems are vulnerable to exacerbate their existing difficulties through use of substances (SAMSHA, 2002).

A recent study evaluated the relative risk of co-occurring substance abuse in adolescents with and without bipolar disorder (Wilens, Biederman, Kwon, Ditterline, Forkner, Moore, Swezey, Snyder, Henin, Wozniak, & Faraone, 2004, #5). Fifty-seven predominantly male youth with BP Disorder (mean age 13 years) and 46 control group participants without any mood disorder (but other psychiatric disorders), participated in structured psychiatric interviews and multiple measures of substance use. Thirty-two percent of youth with bipolar disorder versus only 7% without the diagnosis were at risk for Substance Use Disorder (SUD) ($p = .004$). These findings strongly indicate that Bipolar disorder is a significant risk factor for developing a substance abuse problem, even independent of the presence of conduct disorder, for which the study controlled. Adolescent-onset BPD after age 13 was also associated with a significantly higher risk of SUD compared with child-onset BPD. In addition, the rates of other comorbid conditions (including ADHD, Conduct Disorder, Oppositional Defiant Disorder, Major Depression, psychosis, multiple anxiety disorder, and smoking) were also significantly greater in the BPD group.

Other risk factors that may predispose children to develop mental or substance abuse disorders include pre- or postnatal complications, such as Fetal Alcohol Syndrome (FAS), growing up in extreme poverty, constant conflicts, or being exposed to traumatic events, especially interpersonal violence (Kilpatrick, Ruggiero, Acierno, Saunders, Resnick & Best, 2003; SAMSHA, 2002). Some studies suggest that Posttraumatic Stress Disorder (PTSD) is associated with substance abuse in young people, who may attempt to self-medicate symptoms (Kilpatrick, et al. 2003; Najavits, Gallop & Weiss, under review, #1).

Beginning substance use at an earlier age, or trying out more substances enhances the risk for subsequent substance abuse problems. In-utero exposure to substances can lead to serious neurological damage and long-term effects on emotional and behavioral development. But also post-natal exposure of small children to the toxic chemicals used, for instance, in the production of methamphetamines can lead to brain damage. Finally, inhalants which can be found in legal products like spray paint or correction fluid are easily obtained and hard to detect making them an easy entry drug. SAMSHA data indicate that 19% of adolescents admitted to treatment for inhalant abuse reported starting their use of inhalants before age twelve (SAMSHA, 2002).

Effective Treatment

To date, there is only a poor level of empirical evidence about which treatments work for children or youth with co-occurring disorders. A search of national literature conducted for this review found only one, still unpublished, randomized controlled trial study that precisely targets the co-occurrence of a serious psychiatric disorders, in this case PTSD, and substance abuse in youth (Najavits, Gallop & Weiss, under review, #1,see below). Two published studies (Henggeler, Clingempeel, Brondino, & Pickrel, 2002, #2; Liddle, Dakof, Parker, Diamond, Barrett & Tejeda, 2001, #3) included youth who may be diagnosable with co-occurring disorders, but the treatment or sample selection was not expressly designed for co-occurrence of disorders. Other articles describe models which seem effective in addressing *either* psychiatric disorders *or* substance abuse (Cohen, Mannarino, Zhitova & Capone, 2003).

However, there is no direct evidence as to how these latter programs could or should be adapted across populations or how they could target both areas of difficulty simultaneously (SAMSHA, 2002).

Experimental Treatment Studies

The Seeking Safety Program

Najavits, Gallop and Weiss (under review, #1) completed a study with 33 adolescent girls experiencing co-occurring post-traumatic stress disorder (PTSD) and substance abuse or dependence. Subjects were randomly assigned to the experimental "Seeking Safety" program or treatment as usual conditions. Participants in both groups were predominantly Caucasian and on average 16 years old. Drugs of choice were cannabis (78.8%) and alcohol (66.7%), and the prominent trauma experienced was sexual abuse (87.9%). The "Seeking Safety" model was originally developed for adults with co-occurring diagnoses and had been tested in largely uncontrolled, non-experimental studies. Suggesting that adolescent girls will reduce their use of substances when they connect their traumatic event to their usage, the program focuses on safe coping skills relevant to both disorders and discussion of trauma. The existing program manual for adults was modified for use with adolescents by allowing materials to be conveyed verbally if adolescents did not want to read handouts, allowing participants to speak about own feelings in a displaced manner ("if it happened to a friend"), allowing participants to choose whether or not they wanted to disclose details of their trauma, and updating parents with the teens assent.

While treatment as usual was described as any treatment that participants sought out (e.g. AA, other individual or group therapies, medication, etc.), the Seeking Safety treatment consisted of 25 individual 50-minutes sessions over a three-month period. Parents were permitted to attend one session, and two session topics could be chosen by the participant. All experimental participants were also permitted to attend additional treatments such as Alcoholics Anonymous, or Narcotics Anonymous, medication appointments as well as other types of individual and or group therapies. The authors evaluated outcomes at three different points in time (at intake, end of treatment and three months after the end of treatment). Outcome measures evaluated substance abuse, PTSD including cognition and psychosocial domains, psychopathology, and client satisfaction with services. Other measures tracked attendance of experimental and other concurrent treatments, and adherence to the model. While adherence to the model was relatively strong, attendance of participants was lower than expected averaging only 12 (of 25) sessions. Concurrent treatments utilized in both groups included (in order of highest to lowest intensity of use): medication, psychotherapy, hospitalization, and self-help groups.

Results indicate that compared to the control group Seeking Safety participants had significantly lower drug use, some reduction of trauma-related symptoms, improved cognition scores, improved psychopathology ratings, and moderate client satisfaction. Effect sizes were calculated to be in the moderate to high range.

While this study is the first randomized controlled trial of a program setting out to address co-occurring disorders for young people, it is also limited in a variety of ways. The small sample size, low attendance rate, and low retention of participants for follow-up data collection severely limit the study. The program was originally designed for adult women, and

somewhat modified for adolescent girls. Therefore no conclusions can be drawn about the effectiveness or appropriateness of the program for other populations. Likely, further adaptations would be needed to meet the specific needs of other groups such as adolescent boys, or to strengthen the family involvement in the model (Cohen, Mannarino, Zhitova & Capone, 2003). Finally, the model targets only the co-occurrence of substance abuse and PTSD making it difficult to conclude if and how the program may be used with other psychiatric diagnoses.

Multisystemic Therapy (MST)

An experimental study of Multisystemic Therapy (MST) for juvenile offenders with substance abuse problems (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998) included a sample in which 72% of participants experienced the co-occurrence of psychiatric disorders. However, it should be noted that the treatment model was not expressly designed to address both difficulties but rather focused on substance abuse as the area of treatment. In an effort to determine the effectiveness of MST for the reduction of substance abuse or dependence the authors conducted a follow-up study four years after completion of the original randomized controlled study (Henggeler, Clingempeel, Brondino, & Pickrel, 2002, #2). Reaching 80 of the former 118 participants (43 of the experimental group and 37 of the control group), or 68% of the original sample, the average age in the follow-up sample was 19.6 years. Seventy-six percent of participants were male, 60% African-American, and 40% Caucasian. Forty-eight percent had not secured a high school diploma, 12% had completed some college, 38% had no monthly income, 52% had at least one child, 56% lived with a parent or another relative. Since completion of the program forty-eight percent had committed a violent crime, while 41% had committed a property crime, 22% had been convicted of a violent crime and 26% had been convicted for property crimes.

To compare the efficacy of MST to community-based treatment as usual, the follow-up assessed illicit substance use, criminal behavior and psychiatric symptoms. While MST was associated with significant effects on some criminal behaviors, treatment showed inconsistent effects on illicit drug use, and no effects on psychiatric symptoms. Results indicate a significant chronicity of difficulties in all three areas. Pointing out that a family-oriented approach like MST is not easily compatible with the predominantly group-oriented approaches in the substance abuse field, authors recommend the development of integrated community-based, and evidence-based services. In addition, the study is hampered by its small sample size, having reached only 68% of the original sample, and poor treatment fidelity.

Multidimensional Family Therapy (MDFT)

Another experimental study (Liddle, Dakof, Parker, Diamond, Barrett & Tejeda, 2001, #3) compared the effectiveness of MDFT to two other treatment models for youth with substance abuse problems. Since youth were referred from the juvenile justice system and secondarily through schools and health and mental health agencies, one can assume that the sample contained a significant number of adolescents with co-occurring psychiatric problems. For instance, 61% of the sample was on juvenile probation at intake reflecting significant delinquent behaviors, and likely conduct disorder symptoms, in addition to drug abuse problems.

A total of 182 adolescents, ages 13-18 years, were randomly assigned to either Multidimensional Family Therapy (MDFT), Adolescent Group Therapy (AGT), or Multifamily Educational Intervention (MEI). To be eligible, youths could not be involved in any other form of psychotherapy-oriented drug treatment or any Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) treatment at the time of referral, had no history of mental retardation or organic dysfunction, did not require inpatient detoxification, but were using any illegal substance other than alcohol at least three times per week. In the sample, 80% were male, 51% white, non-Hispanic; 18% African-American; 15% Hispanic; 6% Asian; and 10% other. Thirty-one percent came from two-parent households, 48% from single parent households, and 21% from stepfamilies. The median yearly family income was approximately $25,000. 51% were polydrug users, while 49% were strictly marijuana and alcohol users.

Multidimensional Family Therapy has its roots in structural family therapy models and is a family-based, developmental-ecological, multiple systems approach. Treatment consisted of 16 sessions over a five month period focused on three domains: the adolescent, the parents and the child-parent interaction. MDFT addressed the individual characteristics of the adolescent (e.g., cognitive mediators such as perceptions of the harmfulness of drugs; emotion regulation processes/drug use as coping or as a manifestation of distress), the parent(s) (e.g., parenting practices, parental stress), and other relevant family members (e.g., presence of drug using adults); as well as the interactional patterns. Both individual and family sessions were used. Control treatments were Adolescent Group Therapy consisting of four 90-minute group sessions using Beck's group therapy model for skill building, and Multifamily Educational Intervention involving nine 90-minute psychoeducational multi-family groups.

Measuring adolescent substance use, behavioral problems, family functioning, prosocial behaviors, and academic functioning, the general pattern of results indicates an overall improvement among youths in each of the three treatments. Still, compared to AGT and MEI, MDFT had the most significant impact on enhanced family functioning (improved parent-child relationships, enhanced family supports in addition to more effective parenting practices), while at the same time contributing to a reduction in adolescent drug use (and other acting out behaviors) and to improved school performance (higher grade point averages). At the end of treatment, participants in MDFT showed a sharp reduction in drug use, and these treatment gains were maintained during the 6- and 12- month follow-up periods and also demonstrated improved prosocial functioning.

The study is limited by high attrition rates, which ranged from 30% to 47% for the three treatment models. Also, while the sample selection and referral sources make it likely that the sample included a significant number of youth with co-occurring disorders, there was no explicit information about present psychiatric disorders. Researchers did not require participants to meet full DSM-IV substance abuse or dependence criteria nor did they identify the percentage of participants at intake experiencing co-morbid psychiatric difficulties. Finally none of the three treatment model was expressly designed to address co-occurrence of disorders.

Promising Interventions identified in the SAMSHA Report to Congress

SAMSHA (2002) cautiously identified six practices as "appearing to be promising" (p. 80): case management, family therapy, Multisystemic Therapy (MST), Therapeutic Communities, Comprehensive Community Mental Health Services for Children and Families, and Circles of Care. A closer review of these models or practices revealed that many of the models were either not specifically designed to address co-occurring disorders, lack published empirical studies of their effectiveness, or do not necessarily produce convincing long-term effects as in the case of MST (see section above). In the absence of stronger empirical evidence, the practices listed in the Report to Congress (SAMSHA, 2002) can at best be thought of as containing ideas for optimizing treatment.

Case Management services seem particularly relevant for children and adolescents presenting with co-occurring disorders because they require the coordination of multiple providers or service systems. According to SAMSHA, the Children and Youth Intensive Case Management Model (Evans et al. 1992, in U.S. DHHS, 1999b, as cited in SAMSHA, 2002) has been evaluated for use with this population. No empirical data about the model were published in peer reviewed literature.

Family Therapy is cited as a crucial element in the prevention of treatment of co-occurring disorders in children and adolescents because contemporary family therapy models involve key adults (parents, other family members), peers, and other systems important to support the young client. Among the models mentioned are *Multisystemic Therapy* (see discussion above) and *Multidimensional Family Therapy*.

Multidimensional Family Therapy (MDFT) combines cognitive-behavioral approaches and family therapy focusing on teen and parent functioning and interactions (Cohen, Mannarino, Zhitova & Capone, 2003). There is some evidence that MDFT is effective to reduce substance abuse and sustain improvements (Liddle et al., 2001, #3, see section above).

Therapeutic Community Models are residential treatments originally developed for adults. The models have been modified for the use with adolescent substance abusers in that they offer shorter stays, use less confrontational interventions, but more staff supervision and evaluation, and include family involvement, education or preparation for employment, and grant attention to potential learning disabilities and mental disorders. However, there is little evidence about the long-term effectiveness of these programs and there their focus remains on substance abuse, and not on the co-occurrence of mental disorders (SAMSHA, 2002).

Comprehensive Community Mental Health Services for Children and Families is a SAMHSA administered program that provides grants to communities to implement a systems of care approach for children with SED. National program data shows that children and adolescents with co-occurring disorders faced greater challenges but also made greater strides than their counterparts without co-occurring disorders (SAMSHA, 2002). Unfortunately, no details are provided to discern if these programs are designed to address co-occurring disorders or what their specific outcomes were.

Circles of Care is a federal grant program funding 16 communities to address the issue of co-occurring disorders. Some grant sites chose to operate inpatient facilities, others focused

on improving cultural sensitivity towards tribal members (SAMSHA, 2002) Again, no details on programs or outcome data are provided.

Suggestions for Interventions based on Clinical Experiences

As for adults, co-occurring disorders in children and adolescents vary in severity, and require ***ongoing assessments and adjustments of treatment along a continuum of care***. However, very little is known about the course of co-occurring disorders in children and the effects of disorders on each other. Treatment must be ***developmentally appropriate*** including the recognition that *confrontation may not be an appropriate method* for adolescent populations. Comprehensive approaches best ***integrate domains*** such as health, educational, legal, and recreational services using group, family and individual treatment modalities. Since a good therapeutic alliance is considered a crucial element, the ***active involvement of youth and family in the design of their program*** is recommended as a key component to successful treatment (SAMSHA, 2002; Federation of Families, 2000).

A review of the empirical literature on child abuse-related PTSD and substance abuse in adolescents (Cohen, Mannarino, Zhitova & Capone, 2003), identified shared components in treatments that appeared effective for either condition. Based on their findings the authors recommend treatment components for an integrated approach should include

(1) emphasis on the therapeutic relationship that includes clear structure as well as flexibility to individualize treatment methods and goals;
(2) enhancing stress management/ relaxation skills;
(3) cognitive treatment such as identifying negative self-talk and distorted thoughts;
(4) enhancing problem-solving, drug refusal and safety skills;
(5) enhancing social skills;
(6) behavioral techniques such as gradual exposure/ desensitization to traumatic memories;
(7) active involvement of family;
(8) psychoeducation;
(9) using random urine tests throughout treatment;
(10) and using careful psychopharmacological treatments to decrease abuse of substance for self-medication.

Because 12-Step AA/NA models were not designed to be developmentally appropriate for adolescents and do not appear as effective with this population, the authors recommend use of such groups only when the model and group appears to be a good match for the young client (Cohen, Mannarino, Zhitova & Capone, 2003).

Family and Youth Experiences of Treatment

Two family-run organizations, the national Federation of Families for Children's Mental Health, and Keys for Networking, Inc., in Kansas, jointly conducted a focus group study to explore the treatment experiences of youth with co-occurring disorders and their families. Funded by SAMSHA, the two-year-study *Blamed and Ashamed* (Federation of Families, 2001) was designed with extensive input from young people and families. 150 young people from nine States across the country who had resided in both mental health and substance

abuse treatment facilities were interviewed. The sample represented a cross-section of ethnic and socio-economic groups, and ranged in age from 13 to 28 years.
Findings indicated that youth and families face services that are fragmented, isolated and rigid. As a result, families and youth feel blamed and ashamed, and "rarely get the kind of help they need at the time they need it" (Federation of Families, 2001, p. 2).

Based on their experiences, participants recommend that ***providers***

(1) Listen carefully to youth and families and treat them with respect and dignity
(2) Involve youth actively and create opportunities for peer support
(3) Make sure to include families throughout treatment, especially when youth are in residential facilities
(4) Offer services that are individualized, give choices, promote family-youth interaction, is flexible in length of time and combine treatments for substance abuse and mental health
(5) Deliver accurate and useful information about the illnesses, treatment, after acre and funding options to youth and families; and
(6) Heighten public awareness about positive models of treatment in schools, youth groups, etc.

They recommend that ***family members***

(1) Get involved and remain involved, advocate strongly for their child and themselves, and insist that treatment address co-occurrence of disorders; and
(2) Educate themselves, their child, and others as much as possible.

Youth are asked to

(1) Speak up about what works and ask parents to be part of the treatment
(2) Educate themselves on illness and treatment and share what they know with others

Policy makers are asked to

(1) Provide funding for peer support and family-to-family outreach
(2) Facilitate dissemination of information through multiple stakeholders
(3) And fund the collaboration of existing services and integrated treatments involving multiple stakeholders, agencies and providers from mental health and substance abuse services.

Prevention

Currently available data highlights the risk for a co-occurrence of substance abuse for children and adolescents identified as SED. Given the growing evidence that psychiatric disorders precede the onset of substance abuse problems by 5 to 10 years, there appears to be a *"window of opportunity"* (SAMSHA, 2002, p. ix) to prevent the onset or the exacerbating of co-occurring disorders. Early identification of mental disorders, and the available, accessible and appropriate services that include alcohol and drug screening and testing could prevent the development of subsequent substance abuse in this population.

Two prevention programs are mentioned in the Report to Congress (2002), the "High Risk Youth Demonstration Project" and "Starting Early Starting Smart (SESS)," however,

neither program is specifically designed to prevent co-occurring disorders and no efficacy studies could be located in the peer-reviewed literature.

Barriers to Treatment

Like the *Blamed and Ashamed* report (Federation of Families, 2001), SAMSHA (2002) also identifies the ***fragmentation*** of substance abuse and mental health services as a major barrier to effective treatment. Typically, treatments occur either sequentially or parallel but rarely coordinated or integrated. Young clients and their families are particularly affected by this fragmentation because, more so than adults, they often must negotiate additional systems including, schools, juvenile justice, child welfare etc., which all too often do not share common knowledge, language, or treatment philosophies but require the child to be labeled in different ways in order to receive services (SAMSHA, 2002). Young people tend to receive those services currently paid for by public or private insurances irregardless of the child's individual needs. As a result, youth with co-occurring disorders may be hospitalized more often even though there is little evidence to favor inpatient over outpatient treatments (SAMSHA, 2002).

Few staff are trained to provide integrated services and ***different frameworks*** for treatments make clinicians uneasy about providing competent services for both disorders. To further complicate matters, many traditional substance abuse programs deny services to clients who require psychotropic medications to treat co-occurring psychiatric disorders (SAMSHA, 2002). ***Medication*** research is still needed in order to determine the effectiveness and cross-effects of psychotropic medications for persons with co-occurring disorders. Many treatment centers and mental health clinics lack staff psychiatrists able to conduct medication management visits for clients, especially children, with co-occurring disorders (Cohen et al., 2003; SAMSHA, 2002).

Knowledge specific to the prevalence, course, or treatment of co-occurring disorders in young people is extremely ***limited***, and ***screening and assessment tools are not standardized*** (Cohen et al., 2003; SAMSHA, 2002).

Finally, ***funding*** issues are complex and traditional mechanisms in both mental health and substance abuse treatment systems fail to encourage flexible or creative spending to overcome barriers to integrated treatment. Medicaid is typically the primary funding mechanism, and the two primary SAMHSA Federal Block Grants are the Substance Abuse Prevention and Treatment (SAPT) Block Grant (1.725 billion in 2002) and the Community Mental Health Services Block Grant (433 million in 2002). Both of these grants can be used to serve consumers presenting with co-occurring disorders. While SAPT Block Grants do not require states to report what services they have provided to co-occurring consumers, mental health plans must specifically report the manner in which their agencies are serving co-occurring consumers. Neither system has developed the capacity to provide both mental health and substance abuse treatment within a single program (SAMSHA, 2002).

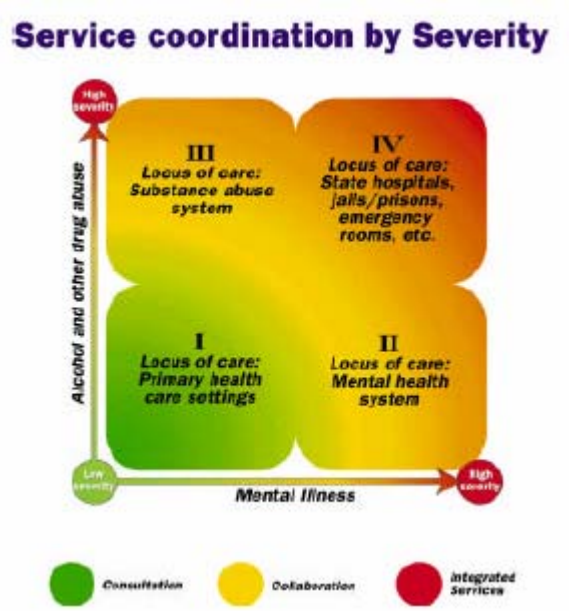
SAMSHA Recommendations for Improving Services

SAMSHA (2002) formulated recommendations to improve services for this population. These recommendations include the promotion of a "Comprehensive Continuous Integrated

System of Care" (SAMSHA, 2002) for people with co-occurring disorders, and the following items:

1. Expect Co-occurring disorders. Providers in all settings including primary care, mental health and substance abuse should consider co-occurring illness an expectation rather than an exception.
2. No wrong door. Any door should be the right door to receive treatment for co-occurring disorders, understanding both disorders as "primary".
3. Promote awareness of different sites of care and need for collaboration. Based on the severity of co-occurring disorders, the primary locus of care for adults as well as children may differ. In other words, clients with differing levels of disorder severity typically present themselves at different treatment settings (SAMSHA, 2002). While persons with less severe mental health and substance abuse issues are likely to present themselves first at the physician's office, people with more severe mental disorders and less substance abuse problems tend to be treated in mental health settings first. People suffering from stronger substance abuse disorders accompanied by less strong mental disorders are likely to first present in the substance abuse treatment system. Finally, individuals who experience a combination of severe mental and substance abuse disorders are typically served in the most restrictive or crisis driven systems such as state mental hospitals, prisons or emergency rooms (SAMSHA, 2002). Each locus of care requires different degrees of collaborations between systems ranging from consultations to fully integrated services (see Figure 1.)

Figure 1.: Service Coordination by Severity



Source: SAMSHA (2002) p. vii

4. Individualized and family-oriented treatment. Treatment plans should be client-centered and individualized and families must be involved in treatment; recognition that there is no single correct intervention.

5. Prevention and treatment services must be culturally competent, and appropriate for the diversity in age, sexual orientation and gender, reflecting the community at large
6. Training is needed to expand and enhance providers' capacities to serve persons with co-occurring disorders.
7. Develop standardized screening and assessment tools that can be used across disciplines and fields of service to help determine needs of co-occurring consumers.
8. Develop an epidemiological framework to help determine level of severity and care persons with co-occurring disorders need.
9. calculate cost effectiveness when co-occurring disorders are effectively prevented and treated.
10. Conduct research to determine how to best implement financial incentives and accountability measures to affect system change.

Conclusion and Recommendations

While there is increasing attention to the co-occurrence of psychiatric and substance abuse disorders, current knowledge about the specific needs and evidence about treatment for children and adolescent populations is very limited. Publications tend to describe models which seem effective in addressing *either* psychiatric disorders *or* substance abuse. However, there is no direct evidence as to how these latter programs could or should be adapted across populations or how they could target both areas of difficulty simultaneously. Thus to date, there is only a ***poor level of empirical evidence*** about which treatments work for children or youth with co-occurring disorders. Only one, still unpublished and small study could be found that targeted the co-occurrence of substance abuse and serious psychiatric disorders in youth. Family systems models of treatment appear to be the most promising approach for youth with co-occurring disorder at this time.

SAMSHA cautiously identified several practices, including case management, family therapy, Therapeutic Communities, Comprehensive Community Mental Health Services for Children and Families, and Circles of Care, as "appearing to be promising." However, many of the models were either not specifically designed to address co-occurring disorders, lack published empirical studies of their effectiveness, or do not necessarily produce convincing long-term effects.

A central ***barrier to effective treatment*** is the *fragmentation* of substance abuse and mental health services in which treatments occur either sequentially or parallel but are rarely coordinated. Young clients and their families are particularly affected by this fragmentation because they often must negotiate additional systems that fail to share knowledge, language, or labels. Families and youth feel blamed and ashamed, and rarely get the kind of help they need at the time they need it. *Too few staff are trained to provide integrated services* and *different frameworks* for treatments make clinicians uneasy about providing competent services for both disorders. *Medication* research is needed in order to determine the effectiveness and cross-effects of psychotropic medications. *Knowledge and research* specific to the prevalence,

course, or treatment of co-occurring disorders in young people is extremely *limited*, and *screening and assessment tools are not standardized*.

Recommendations

Based on the review of the empirical literature, publications about clinical experiences and the SAMSHA's Report to Congress, the following recommendations are indicated:

For Treatment

- Co-occurring disorders in children and adolescents vary in severity, and require ***ongoing assessments,*** including random urine tests throughout treatment and careful psychopharmacological treatments to decrease abuse of substance for self-medication, as well as ***adjustments of treatment along a continuum of care***.
- Treatment must be ***developmentally*** appropriate which includes the recognition that ***confrontation may not be an appropriate method*** for adolescent populations. Because 12-Step AA/NA models were not designed to be developmentally appropriate for adolescents and do not appear as effective with this population, some authors recommend use of such groups only when the model and group appears to be a good match for the young client.
- ***Comprehensive approaches*** best ***integrate domains*** such as health, educational, legal, and recreational services using a ***variety of approaches*** including group, family and individual treatment modalities. *Cognitive treatment* such as identifying negative self-talk and distorted thoughts as well as *behavioral techniques* such as gradual exposure/ desensitization to traumatic memories are recommended for youth with substance abuse and PTSD. *Skill training*, such as stress management/ relaxation skills, problem-solving, drug refusal and safety skills and social skills, and *psychoeducation* should be included as well.
- Since a good ***therapeutic alliance*** is considered a crucial element, the ***active involvement of youth and family in the design of their program*** is recommended along with clear structure as well as flexibility to individualize treatment methods and goals.
- Early identification of mental disorders, and available, accessible and appropriate services that include alcohol and drug screening and testing could prevent the development of subsequent substance abuse.

For Policy:

- Providers in all settings including primary care, mental health and substance abuse should ***consider co-occurring illness an expectation*** rather than an exception.
- ***No wrong door.*** Any door should be the right door to receive treatment for co-occurring disorders, understanding both disorders as "primary".
- ***Promoting awareness of different sites of care and the need for collaboration.***
- Treatment plans should be ***client-centered and individualized*** and families must be involved in treatment; recognition that there is ***no single correct intervention***.
- Prevention and treatment services must be ***culturally competent***, and appropriate for the diversity of age, sexual orientation and gender.
- ***Training*** is needed to allow for collaboration and integration of mental health and substance abuse treatment.

For Research:

- Research is needed about the ***prevalence and etiology*** of co-occurring disorders,
- to develop ***standardized screening and assessment tools,***
- the ***effectiveness*** of treatment models.
- and about the best way to ***implement an integration*** of systems.

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#	Author(s) & Date	Type of Article	Key Variables/Components	Main Conclusions	Comments
1	Najavits, Gallop & Weiss (under review)	Randomized Controlled Trial of Seeking Safety Treatment for adolescent girls with co-occurring SA and PTSD	**Subjects**: 26(n) Caucasian and 7(n) minority female adolescents. Drugs of choice were cannabis (78.8%) and alcohol (66.7%), and the prominent trauma experienced was sexual abuse (87.9%). **Treatment**: Treatment as Usual compared to Seeking Safety. Seeking Safety participants were provided 25 individual 50 minute coping skill sessions. Parents were permitted to attend one session and two session topics could be chosen by the participant. Subjects were also permitted to attend additional treatments such as AA, NA, medication appointments in addition to other types of individual and or group therapies. **Measures** evaluated substance abuse, PTSD including cognition and psychosocial domains, psychopathology, and client satisfaction with services. Other measures tracked attendance of experimental and other concurrent treatments, and adherence to the model.	***Results*** indicate that compared to the control group Seeking Safety participants had significantly lower drug use, some reduction of trauma-related symptoms, improved cognition scores, improved psychopathology ratings, and moderate client satisfaction. Effect sizes were calculated to be in the moderate to high range. While adherence to the model was relatively strong, attendance of participants was lower than expected averaging only 12 (of 25) sessions. Concurrent treatments utilized in both groups included (in order of highest to lowest intensity of use): medication, psychotherapy, hospitalization, and self-help groups. **Limitations:** While this study is the first randomized controlled trial of a program designed to address co-occurring disorders for young people, it is also limited in a variety of ways. The small sample size, low attendance rate, and low retention of participants for follow-up data collection severely limit the study. The program was originally designed for adult women, and somewhat modified for adolescent girls. Therefore no conclusions can be drawn about the effectiveness or appropriateness of the program for other groups. Likely, further adaptations would be needed to meet the specific needs of other groups such as adolescent boys, or to strengthen the family involvement in the model. The model targets only the co-occurrence of substance abuse and PTSD making it difficult to conclude if and how the program may be used with other psychiatric diagnoses.	First controlled, still unpublished, study of treatment for co-occurring DO specific to females. Further evidence of the model's effectiveness will have to be established with larger and more diverse samples.
2	Henggeler, Clingempeel, Brondino & Pickrel	4 Year Follow-Up Study of 80 Substance-Abusing and Substance Dependent Juvenile	**Subjects**: 80 (n) of a prior study 118 (n) (68%). Participants averaged 19.6 years of age at the time of the follow-up study, 76% were male, 60% were African American, 40% were white,	In an effort to determine the effectiveness of MST for the reduction of substance abuse or dependence the authors conducted a follow-up study four years after completion of the original randomized controlled study. To compare the efficacy of MST to	The original treatment model was not expressly designed to address both

#	Author(s) & Date	Type of Article	Key Variables/Components	Main Conclusions	Comments
	(2002)	Offenders who had previously participated in a randomized clinical trial. [Original study: Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998]	48% did not secure a high school diploma, 12% had completed some college, 38% had no monthly income, 52% had at least one child, 56% lived with a parent or another relative, 48% had committed a violent crime, while 41% had committed a property crime, 22% had been convicted of a violent crime and 26% had been convicted for property crimes. **Treatment**: MST as opposed to Treatment as Usual (community based services such as drug and alcohol outpatient treatment etc). **Measures**: Substance abuse (hair and urine samples), criminal behavior and psychiatric symptoms.	community-based treatment as usual, the follow-up assessed illicit substance use, criminal behavior and psychiatric symptoms reaching 80 of the former 118 participants (43 of the experimental group and 37 of the control group), or 68% of the original sample. **Results**: Since completion of the program 48% had committed a violent crime, while 41% had committed a property crime, 22% had been convicted of a violent crime and 26% had been convicted for property crimes. While MST was still associated with significant positive effects on some criminal behaviors, treatment showed inconsistent effects on illicit drug use, and no effects on psychiatric symptoms. Results indicate a significant chronicity of difficulties in all three outcome areas. Pointing out that a family-oriented approach like MST is not easily compatible with the predominantly group-oriented approaches in the substance abuse field, authors recommend the development of integrated community-based, and evidence-based services. **Limitations**: The study is hampered by its small sample size, having reached only 68% of the original sample, and poor treatment fidelity.	difficulties but rather focused on substance abuse as the area of treatment.
3	Liddle, Dakof, Parker, Diamond, Barrett & Tejeda (2001)	Randomized Controlled Trial: Youth with SA assigned to one of three manualized treatment types: Multidimensional Family Therapy (MDFT), Adolescent Group Therapy (AGT) or Multifamily Educational	**Subjects**: 182(n) adolescents 13 - 18 years old, with no history of mental retardation or organic dysfunction, who did not require inpatient detoxification, and who were using any illegal substance other than alcohol at least three times per week. Alcohol use could be greater or less than three times per week. Youth were referred from the juvenile justice system and secondarily through schools and health and mental health agencies. To be eligible, youths could	**Results:** The general pattern of results indicates an overall improvement among youths in each of the three manual-guided treatments. Still, compared to AGT and MEI, MDFT had the most significant impact in regard to enhanced family functioning (improved parent-child relationships, enhanced family supports in addition to more effective parenting practices) while at the same time contributing to a reduction in adolescent drug use (and other acting out behaviors) and to improved school performance (higher grade point averages). At the end of treatment, participants in MDFT showed a sharp reduction in drug use, and these	Treatment models are not expressly designed to address co-occurring disorders. Authors did not require subjects to meet full DSM-IV substance abuse or dependence criteria nor did they identify the percentage of participants at

#	Author(s) & Date	Type of Article	Key Variables/Components	Main Conclusions	Comments
		Intervention (MEI).	not be involved in any other form of psychotherapy-oriented drug treatment or any Alcoholics Anonymous (AA) or Narcotics Anonymous (NA) treatment at the time of referral. 80% were male, 51% white, non-Hispanic; 18% African-American; 15% Hispanic; 6% Asian; and 10% other. 31% came from two-parent households, 48% from single parent households, and 21% from stepfamilies. The median yearly family income from all sources was approximately $25,000. 51% were polydrug users, while 49% were strictly marijuana and alcohol users. Reflecting delinquent behaviors in addition to drug abuse problems, 61% were on juvenile probation at intake. **Treatment**s MDFT: 16 sessions over 5 months period (for details see next column). AGT: four 90-minute group sessions using Beck's group therapy model for skill building. MEI: nine 90-minute psychoeducational multi-family groups. **Measures included**: adolescent substance use, behavioral problems, family functioning, prosocial behaviors, academic functioning.	treatment gains were maintained during the 6- and 12- month follow-up periods and also demonstrated improved prosocial functioning. **MDFT** has its roots in structural family therapy models and is a family-based, developmental-ecological, multiple systems approach. Treatment focuses on three domains: the adolescent, the parents and the child-parent interaction. It addresses the individual characteristics of the adolescent (e.g., cognitive mediators such as perceptions of the harmfulness of drugs; emotion regulation processes [drug use as coping or as a manifestation of distress]), the parent(s) (e.g., parenting practices, parental stress), and other relevant family members (e.g., presence of drug using adults); as well as the interactional patterns (e.g., emotional disconnection) that link to the development and continuation of drug use and related problem behaviors. In the present study, MDFT consisted of 16 total sessions delivered on a weekly basis in an office-based setting over an average of 5 months. Individual and family sessions were used throughout, frequently on the same treatment occasion. **Limitations**: Even though the sample selection and referral sources make it likely that the sample included a significant number of youth with co-occurring disorders, there was no explicit information about psychiatric disorders Attrition rates for three treatments ranged from 30% to 47%, making for a small n overall.	intake experiencing co-morbid psychiatric difficulties.
4	Jaycox, Morral, & Juvonen	Study examining the co-occurrence of MH, medical problems and	**Method**: Analyzed were admission and 3-month follow-up reports of mental health, medical problems, and	**Results**: High levels of mental health problems were found at both time points, but few received mental health treatment.	

#	Author(s) & Date	Type of Article	Key Variables/Components	Main Conclusions	Comments
	(2003)	services received by youth admitted to substance abuse treatment.	service use within a large cohort *(N*= 1,088) of 12-19 year olds (mean = 15.8 years) who had been admitted to one of seven inpatient or outpatient substance abuse treatment programs across the United States between 1998 and 2001. The **sample** is 77% male, 52% white, 19% Hispanic, 18% African American, and 11% mixed or other ethnicities. For the 3-month follow-up assessment 95% of the baseline sample successfully interviewed. The main **measure** was the Global Appraisal of Individual Needs (GAIN) Which includes substance use, mental health and other psychosocial domains	At admission, half (50%) of the sample reported symptoms consistent with a DSM-IV diagnosis of attention deficit/ hyperactivity disorder and two thirds (66%) met criteria for conduct disorder. Although 67% of youths reported severe mental health problems at treatment entry, only 15% of the sample reported recent receipt of mental health services (19% of those with severe problems). Thus 54% of the sample reported severe problems but no mental health services in the prior 3 months. Use of mental health services was skewed: 3.1% reported only one treatment contact in the prior 90 days, an additional 5.3% reported two to six contacts, and the remaining 6.6% had seven or more contacts. Visiting an emergency room for mental health problems and spending a night or more in an inpatient setting were both reported by 2.4%, whereas 13.9% reported outpatient service use. At 3 months follow up, the rate of recent mental health problems remained high, with 64% reporting severe mental health. Self-reports of mental health service utilization suggested that 24% of the sample received such services in 3 months after program entry. Among those with severe problems, 33% reported receiving services in the past 3 months. Thus 43% of the sample reported severe problems but no mental health services in the 3 months after admission. Again, service use was minimal: 5.7% reported only one treatment contact in the prior 90 days, an additional 9.3% reported two to six contacts, and the remaining 7.5% reported more than seven contacts. Logistic regression predicting mental health treatment receipt found females in residential settings with more current and baseline distress to be more likely to receive services. Ethnicity,	

#	Author(s) & Date	Type of Article	Key Variables/Components	Main Conclusions	Comments
				baseline behavioral problems, and whether or not currently in substance abuse treatment did not predict service use. A logistic regression predicting medical services showed that females in residential treatment were also more likely to receive medical treatment. **Conclusion:** Although results require replication and validation, they suggest that more could be done to take advantage of the opportunity to link youths entering substance use treatment with mental health services.	
5	Wilens, Biederman, Kwon, Ditterline, Forkner, Moore, Swezey, Snyder, Henin, Wozniak, & Faraone, (2004)	Controlled study of adolescents with and without Bipolar Disorder to evaluate the risk of co-occurring Substance abuse.	**Subjects**: 57 (n) with BP Disorder (mean age 13.3 years) and 46 (n) without BPD *(*mean age 13.6), mostly male, **Measures** Structured psychiatric interviews and multiple measures of SUD.	**Results:** Bipolar disorder was associated with a highly significant risk factor for SUD (32% versus 7%, p = .004) that was not accounted for by conduct disorder. Adolescent-onset BPD (>13 years) was associated with a higher risk of SUD compared with those with child-onset BPD (p = .002). In addition, rates of most comorbid conditions (including ADHD, Conduct disorder, Oppositional Defiant Disorder, major depression, psychosis, multiple anxiety disorder, and smoking) were significantly greater in BPD group. **Conclusions:** Findings strongly indicate that BPD, especially adolescent onset, is a significant risk factor for SUD even independent of conduct disorder.	