Selecting Treatments for Adolescent Substance Abuse:

Synthesis of Current Research Findings

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Introduction

Ensuring that effective treatments are readily available for youth with alcohol or other substance use problems is a primary goal of Washington's Division of Alcohol and Substance Abuse (DASA). Data from the DASA's *2008 Tobacco, Alcohol, and Other Drug Abuse Trends Report* shows that the number of youth admitted to substance abuse treatment services in Washington State has remained relatively stable over the past 5 years, but the patterns of youths' substance use are changing. Data show that, during the 5 year period from 2003-2007, the number of youth entering treatment with marijuana use problems declined consistently while the number of youth with alcohol use problems was relatively stable but increased in 2007. After 4 consecutive years of increases in the number of treatment admissions for methamphetamine abuse, admissions for methamphetamine abuse declined for the first time in 2007. Of particular concern, data show that the number of youth entering treatment for abuse of prescription-type opiates (e.g., non-heroin opiates and synthetics such as oxycontin) has more than doubled since 2003. Moreover, it is rare that youth entering treatment for substance use problems (alcohol and other drugs) do not suffer from other significant issues such as depression, anxiety, difficulties in school, family problems, and juvenile justice involvement. A substantial proportion of referrals to youth substance abuse treatment now comes from the juvenile justice system. The DASA is committed to working with treatment providers, key stakeholders, youth and families to successfully identify resources needed to better address the complex problems of youth needing substance abuse treatment in Washington State.

Over the last decade, treatment for youth with substance use problems has improved significantly. Advancements in the biological sciences and increases in the amount of research conducted have increased our understanding of the connections between adolescents' physical development, their environment, and their behavior. As a result, new models for the assessment and treatment of youth substance use problems have arisen. Research has identified numerous developmentally-appropriate adolescent-specific treatment protocols, that when implemented appropriately, enhance standard treatment services.

Despite these advancements, treatment addressing youth substance use problems still has room for improvement as evidenced by the following findings from National and other large scale studies of youth substance abuse treatment:

- It is estimated that as many as 90% of youth needing substance abuse treatment fail to receive needed services
- Treatment attrition rates are typically above 50%
- The majority of youth relapse within 6 months of leaving treatment
- The majority of youth entering substance abuse treatment have mental health issues, but few receive treatment for those issues
- Histories of trauma and/or victimization are common among youth in substance abuse treatment.
- Juvenile justice system involvement is common
- Evidence-based interventions have not been implemented by treatment providers as quickly as anticipated

These findings suggest not only that there is a need for additional substance abuse treatment, but that the treatment currently provided to youth may not be addressing

their multiple and complex needs. A different approach to treatment and the provision of additional resources may be necessary to ensure that the most effective treatments are being provided for youth in Washington State.

In 2005 the DASA was awarded a State Adolescent Substance Abuse Treatment Coordination "infrastructure" grant from SAMHSA's Center for Substance Abuse Treatment (CSAT: TI 17366-02). This grant enabled the DASA to lay the foundation to implement systems-level changes, and enhance linkages with mental health and juvenile justice system partners, with the goal of enhancing youth substance abuse treatment services. To promote dissemination of the most recent research findings, the concept of providing a "Standards of Care" document (SOC) was developed utilizing this CSAT grant.

The development of Washington State's SOC involves integration of 2 sources of information. A synthesis of current research findings (SOCRF) on topics of concern regarding substance abuse treatment of youth comprises one source of information. The second source of information concerns the state of current local treatment needs (SOCLTN) for Washington State youth coupled with information on current treatment practices. Input from youth treatment providers, treatment administrators, key stakeholders, youth having received treatment services, findings from local research and objectives identified in the "Improving the Statewide Adolescent Treatment System of Care Strategic Plan" will be utilized to develop the SOCLTN. The combination of information provided in the completed SOC document is meant to provide clinicians and treatment agencies with a reference and guide on the most effective adolescent treatment practices. SOCs will be produced as needed and updated on an on-going basis as the field continues to advance.

This document represents the SOCRF document for the SOC on Evidence-based Practices for Adolescent Substance Abuse. Many substantive reviews of specific recommended evidence-based treatments for youth substance abuse treatment exist and are easily accessible on-line. Additionally most sources recommending specific treatments provide detailed information on specific techniques and requirements for implementation of treatment protocols. This SOCRF focuses more on providing clinicians information on issues that deserve consideration when choosing which treatment techniques to implement. Issues surrounding the presence of victimization, trauma, and co-occurring mental health disorders are also discussed. These are common problems that are often overlooked and deserve greater attention since they can negatively impact treatment outcomes if not addressed. Information for this document utilizes findings from research studies on adolescent substance abuse and mental health issues published in peer-reviewed journals primarily since 2007. Information and recommendations in this document are designed to augment clinicians' capabilities enabling them to treat youth with the most effective substance abuse treatments possible.

Adolescent Development

A full review of adolescent development is beyond the scope of this SOCRF, but a targeted review of issues especially relevant to the development and treatment of substance use problems follows.

Adolescence is a time of increasing independence and mobility. These changes result in youths' greater exposure to influences outside the family and often coincide with adolescents demonstrating less interest in being with family and greater interest in being with peers. Visible changes in physical appearance signal the onset of puberty and adolescence. But there are also other, less visible, changes occurring

in cognitive skills and personality that mark the passage into adulthood. Generally speaking, females tend to reach maturity earlier than males.

In early adolescence, youth typically demonstrate increased self-consciousness and concern regarding how they are perceived by others. There is increased experimentation with self image, gender roles, and sexual orientation. As youth age, self-centeredness diminishes, they become less self-absorbed and more concerned with the greater society. At the culmination of adolescence, youth should have a clear sense of personal identity, self-worth, and developed individual beliefs and morals. They should possess the ability to think abstractly and the skills necessary to make informed choices, establish close long-lasting interpersonal relationships and broad support systems, and be actively involved in activities outside of home and school.

Behavioral paradoxes are often seen during the transitional points of adolescent development (e.g., puberty, development of abstract reasoning). For example, youth may increasingly tell parents that they want to be alone, or at least not with the parent, but shortly thereafter complains that the parent doesn't do enough with them. Another example is the youth that complains that he is capable of making (and should be allowed to make) his own decisions, but then decides to take the car without permission.

As youth navigate the physical and cognitive changes of adolescence they are likely to exhibit periods of emotional lability. Changes in the way a youth views and is viewed by their environment will be accompanied by positive and negative feelings. Change can be exciting and desirable, but there can also be a sense of loss of the old self and the way things used to be. There can also be anxiety and fear about one's ability to function in a new and different manner. Increases in defiant, argumentative and rebellious behavior, general moodiness and irritability can be expected and frequently signal a transitional point. Involvement in thrill-seeking risky behaviors (e.g., driving fast, unprotected sex) rises along with a broad increase in impulsivity. The risk for substance use is especially great during these transitional periods and any additional negative experience (e.g., trauma, loss of a loved one) will increase the risk.

There is little doubt that an individual's genetics, biology, and environment interact to influence patterns of behavior and the probability of a disease (physical or cognitive/emotional) occurring. Adolescence is a time when many problems that can result in life-long impairments first become evident. Substance use is primary among these and often occurs in conjunction with other psychiatric disorders. Unfortunately, youth are often victims of physical, sexual, and emotional abuse, or some other type of trauma. Substance use, mental illness, victimization and trauma can all negatively impact the successful navigation of adolescence and even result in lasting physical damage or death. Moreover, if untreated, these problems are likely to escalate in severity and continue into adulthood.

It is not uncommon for youth to experiment with substance use and engage in risky behaviors during adolescence. Levels of substance use tend to increase until peaking in the early 20's for most youth. Delinquent behavior demonstrates a similar pattern, but typically peaks earlier between 15-17 years of age. For the majority of youth, substance use and delinquency do not result in noteworthy impairments or problems and don't continue into adulthood, but there is another group of youth whose involvement with substance use and/or illegal activity causes significant impairments and persists into adulthood. It is this group of "life-persistent" youth that substance abuse treatments target. Youth with low levels of otherwise non-

problematic substance use are provided brief interventions, but are generally not referred to formal substance abuse treatment. It is likely that the developmental roots for “experimental” and persistent substance use differ. Indeed, considerable research has focused on identifying factors to help predict which youth are likely to develop persistent problematic patterns of substance use.

Of the numerous factors investigated, an early age of onset is most consistently identified with development of persistent and severe substance use problems. Youth exhibiting early substance use generally have more severe psychological problems, family problems, school difficulties, trauma-related stress, victimization, early sexual behavior, and antisocial behaviors than youth in the general population or youth initiating substance use at a later age. Early substance use predicts a higher risk of progression to dependence, development of other psychiatric disorders, and suicide attempts.

There are numerous other well-known risk factors that, to varying degrees, all contribute to the risk of youth developing a substance use disorder. These include, but are not limited to, problems in academic performance, lack of interest in school, peer substance use, lenient peer attitudes toward substance use, co-occurring mental health issues, low neighborhood attachment, economic deprivation, and family difficulties. In general, the greater the number of risk factors present, the greater the likelihood of developing a substance use disorder. However, even when multiple risk factors are present, it is not inevitable that a disorder will develop. Multiple risk factors can be significantly moderated or buffered by protective factors such as adaptive coping skills, a positive temperament, positive relationships with a parent or role model/mentor, good academic performance and involvement in activities in school and the community.

The brain, which was once thought to be fully mature by the mid-teens, is now known to not fully mature until the early to mid-20s. Neuroscience has identified how the maturity of specific brain structures influences the decision-making process in youth and the subsequent risk that substance use problems will emerge. The nucleus accumbens is believed to modulate how much effort an individual will expend to gain rewards. The amygdala directs one’s vigilance to others and environmental stimuli and helps to modulate emotional reactions particularly fear responses, to internal and external stimuli. The amygdala is also important in storage and consolidation of emotional memories. The ventromedial prefrontal cortex (one of the last areas of the brain to mature) is believed to be responsible for the processing and integration of information allowing for abstract reasoning, adaptability and forethought.

Substance use can impact the development of the physical body including the important brain structures mentioned above. If a youth has yet to establish abstract reasoning, intimate relationships, and regulation of emotions, substance use may interfere with the ability to reach these milestones. This may be one reason why early substance use is associated with greater problem severity and duration compared to onset of use occurring at later stages of development.

While it is good to remember the names and functions of brain structures, it is more important to remember that the degree of a youth’s sensation-seeking, impulsivity, emotional lability, and lack of forethought are the visible behavioral correlates of the brain’s maturity and/or impairment level. These traits are all associated with greater risk for development of substance use disorders and associated problems. Youth are expected to be responsible, considerate, and to think before they act. When youth fail to behave in this manner, it is often assumed that they just don’t want to do these things when, in fact, they may not be physically capable of these behaviors

until their brain matures more.

Youths with impulse control problems (more commonly referred to as having poor self-control) suffer from deficits in self-regulatory behavioral systems. When given the opportunity for pleasure, even if it is risky, those with poor impulse control are more likely to engage in the activity. Self-control is important to successful social functioning and is consistently related to more adept peer and social interactions.

Brain immaturity may be one reason that describing future negative consequences resulting from continued substance use tends to be ineffective in reducing youth substance use. Not only is it unlikely that youth have had time to experienced direct negative consequences as a result of substance use, if they have, those experiences are unlikely to have been incorporated into memory, thereby deterring the impulse for immediate gratification, until the brain has matured. Moreover, if the brain is immature there is limited capacity to understand future consequences. Expectancies regarding substance use are much stronger and more related to future intentions to use if they occur as a result of direct causes/experiences. If youth have only had a positive experience with substance use, this encourages continued use and the view that adults don't know what they are talking about, resulting in the prevention message having little impact.

Clinicians involved with young substance abusers need a clear understanding of adolescent development and how it limits youths' abilities (e.g., their awareness of future consequences) in order to work effectively with youth in substance abuse treatment. Moreover, it is important to be able to recognize behaviors indicative of future problems versus those that are part of normal development. For example, the following list of behaviors is indicative of normal adolescent behavior, depending on severity, they may also suggest the presence of a substance use or mental health disorder:

- Noticeable appetite increases
- Increased need for sleep
- Intense self-focus
- Worrying about what others think about them
- Increased sensitivity to criticism
- Increased desire for privacy
- Frequent mood swings with changes in activities and context
- Forgetfulness-often seen as inconsideration
- Impulsiveness-lack of consideration for future consequences of behavior
- Decreased interest in family,
- Increased focus on peer relationships
- Numerous conflicts with family and peers

For some youth, substance use in adolescence may represent normal experimentation and not necessarily be indicative of a lasting problem. However, the majority of youth referred to substance abuse treatment have developed maladaptive patterns of use. Substance abuse treatment provides an important opportunity to intervene and prevent the likelihood of these problems continuing into adulthood. Given the complexity of the factors most youth display when they enter substance abuse treatment, the challenge for clinicians is great. Support and involvement from other family members and from other involved community agencies may be essential for treatment to be effective.

Substance Use Severity

Severity of substance use is generally discussed in terms of a Diagnostic and Statistical Manual of Mental Disorders- Fourth Edition (DSM-IV) diagnosis of either substance abuse or dependence. By and large, the two diagnoses are treated as 2 separate categorical conditions, with abuse representing the milder case often considered the precursor to dependence. The milder form of substance abuse is generally believed to require lower levels of intervention than dependence which, as a rule, requires more intensive interventions (e.g., inpatient treatment).

There is an increasing call by researchers and clinicians alike that, in the 5th edition of the DSM, substance use disorders be assessed using a dimensional approach. In this approach, one set of criteria would be utilized to represent a spectrum of severity of addiction. In support of this proposal, studies with adolescent substance abusers reveal that several of the current abuse and dependence criteria do little to help discriminate problem severity, and some criteria may be redundant. In part, these results may be related to youth's differing level of physical and cognitive maturity.

The dependence criteria regarding an "inability to quit/control use", "physical and psychological problems", and "tolerance" did little to help distinguish between those with mild and severe levels of substance use. Specifically, these dependence criteria are frequently endorsed by youth with mild levels of overall substance use and problem severity. The abuse criteria of "reduced activities and neglecting duties" are more likely to be found in youth with more severe substance use and associated problems.

The "trying to quit" and "using more than intended" criteria are often reported by youth that have no other evidence of heavy or problematic substance use. These criteria present a diagnostic paradox with youth. Youth with severe substance use may have no intention of stopping or reducing their substance use, so they have had no trouble "controlling" their use and do not meet this criterion. However, in normal adolescence youth that are in later stages of maturity that experiment with substance use are likely to have periods during which they struggle with control issues. As the brain matures, youth become capable of a more long-term perspective and delay of gratification, but, for a period, will still be drawn to the immediate reward of substance use despite potential risks. If questioned, such youth are likely to state that they have issues "controlling use" and will meet the criterion--as result of positive behavioral change.

The majority of youth meeting the criterion regarding physical and psychological problems appear to meet the criterion because of a psychological problem. Youth generally have not used substances for long enough periods of time to develop physical problems as a result of substance use, while periods of difficulties with modulation of moods are typical in youth. If youth are suffering from a mood disorder, it is more likely that they will report that substance use made their mood worse even when the level of substance use is relatively low. This may be especially true in the case where alcohol or sedatives are being used.

Symptoms of withdrawal are rare in adolescents and tolerance symptoms may be of little discriminatory value. Youth do endorse the "using more often than intended" symptom of tolerance but have no other indications of a substance use problem as described above. Some youth initially start using large amounts of a substance, making it difficult to develop tolerance as defined in DSM-IV. Conversely, youth with a low initial level of use could significantly increase their use, but still have relatively

low non-problematic overall levels of substance use. In assessing tolerance symptoms in youth, it is important to always consider the timeframe being considered and the role that physical maturation may play. As youth increase in physical size they will be able to use and metabolize greater amounts of a substance. Substance use levels may increase dramatically over a long-time interval (e.g., started drinking at age 10 and is now 17) yet may not indicate problematic use, whereas a dramatic increase occurring over a one-year period likely indicates problematic use.

Hazardous use and legal problems may also be of little help in distinguishing between those with mild and severe levels of substance use. Adolescents are normally impulsive and substance use increases both impulsivity and the likelihood of engaging in risky behaviors. These criteria may also be confounded as patterns of hazardous use often lead to legal problems (e.g., drinking while driving and getting arrested), so behavior from one event may be counted twice, so to speak.

Several gender differences in the usefulness of current criteria have also been identified. Since females are more likely to have mood disorders than males they are more likely to meet the criterion regarding “psychological problems”. Conversely, the criterion of “hazardous use’ is more likely to be met by males since they are generally more likely to be involved in dangerous and risky behaviors than females. Although females are less likely to meet the “hazardous use” or “legal problem criteria”, when they do meet the criteria, they exhibit higher levels of problem severity compared to males also meeting these criteria.

In general, the relationship between the level of use and the number of DSM-IV substance disorder criteria endorsed is moderate at best for youth. DSM-IV appears to lack accuracy when measuring the milder and more severe forms of substance use in adolescents and places most youth in the moderate range of severity. There is some indication that the abuse criteria may be related more to antisociality than substance use problems since the criteria are strongly related to being an older male adolescent with conduct disorder.

Nevertheless, DSM-IV abuse and dependence criteria are currently the manner in which substance use disorders are classified. However, the assumption that youth with abuse require only low levels of treatment compared to dependent youth may not always be correct. The constellation of symptoms appears to be more important in determining the optimal treatment intervention. In most cases, once a diagnosis of dependence is made symptoms of abuse are not assessed. But assessing the symptoms for both abuse and dependence disorders may be beneficial in determining the most appropriate modality of treatment, regardless of actual diagnosis. After a comprehensive assessment and review of clinical needs, youth that are diagnosed as abusers may actually require more intensive intervention, including inpatient treatment, than some youth diagnosed as chemically dependent. The clinician’s comprehensive assessment skills will be critical in determining if the diagnostic categorization coincides with the needed level of intervention and available placement options.

Substance Abuse Treatment

Substance abuse treatments for youth have made significant advancements over the last decade. Increased research has illustrated the complexity of problems possessed by youth entering substance abuse treatment. Research has identified interventions likely to result in positive long-lasting treatment outcomes. There is

also a growing cooperation between researchers and treatment providers in efforts to provide optimal substance abuse treatment for youth in need.

The DASA oversees a spectrum of services for youth with substance use issues ranging from primary prevention to residential inpatient treatments. But the majority of referrals continue to be for outpatient treatment services. The DASA strives to ensure that needed treatment services are available in a timely fashion. However, limited resources and high demand often result in a lack of services being immediately available for youth. This is especially true for residential treatments and for services in rural areas.

A review of research fails to indicate that any one modality or treatment program is consistently superior (e.g., inpatient vs. outpatient). However, reviews of research over the last decade have resulted in the development of a set of core elements of treatment that should be present regardless of the treatment modality. These key elements are essential to the effectiveness of adolescent substance abuse treatment programs. The key elements identified are:

- The program is developmentally appropriate.
- The program employs qualified staff that are trained in adolescent development, addiction, and co-occurring disorders.
- Adolescent assessment utilizes standardized proven tools, and is comprehensive and dynamic.
- Treatment is guided by an individual's assessment results and unique needs.
- Treatment is comprehensive and utilizes evidence-based practices including manualized treatments,
- Youth are actively engaged and retained in treatment, by building trust between clinicians and youth.
- Families are engaged in treatment.
- Distinct gender and cultural minority needs are addressed.
- Continuing care is provided including relapse prevention, aftercare plans and follow-up contacts.
- Treatment outcomes are studied to measure success, target resources, and improve services.
- There is a cooperative and collaborative integration of systems involved in youth treatment and care.

There is no proscription regarding the form that these elements should take or specifics on the implementation requirements for the elements. The emphasis is on an approach that develops an individual treatment plan based on a comprehensive dynamic assessment utilizing reliable and valid assessment instruments.

Recovery-Oriented Systems of Care

The development of recovery-oriented systems of care (ROSCs) is an embodiment of the shift toward viewing substance abuse as a chronic disease requiring on-going treatment similar to that for other lifelong physical illnesses (e.g., diabetes). ROSCs are defined by CSAT as treatments that "support person-centered and self-directed approaches to care that build on the personal responsibility, strengths, and resilience of individuals, families, and communities to achieve sustained health, wellness, and recovery from alcohol and drug problems."

ROSCs do not represent specific treatments, but an overarching approach to treatment. Compared to more "traditional" models of treatment, ROSCs strive to be more uniquely individualized, comprehensive, and flexible. There is increased recognition that recovery is an individualized process of change that can be reached by multiple pathways. The emphasis on helping youth to define themselves without substances and to rejoin their physical, social and cultural community is a developmentally appropriate goal for individuals in the process of establishing their identity.

Choice of specific treatment techniques is outcome-driven in ROSCs. Staff, youth and family input, as well as research findings are utilized in choosing appropriate methods to implement. ROSCs work toward improved integration of substance abuse treatment with other youth-involved agencies (e.g., mental health, juvenile justice), with local recovery support groups, and with peer-based recovery mentors.

ROSCs may be an especially appropriate approach for youth substance abuse treatment. ROSCs propose that clinicians solicit more client input when determining treatment plans and recovery efforts. Clinicians act more as guides than directors with youth in ROSCs- in line with research demonstrating that a confrontational approach is seldom effective when dealing with youth. ROSCs also encourage use of peer-recovery groups and mentors which may enhance development of newly-learned skills and reasoning abilities. Before new skills can become fully integrated into youths' behavior patterns, opportunities to actively practice these skills and evaluate their effectiveness are required. For example, peer-recovery groups and mentors can be especially helpful when establishing new drug refusal skills, relapse prevention techniques, and anger management skills.

ROSCs provide a continuum of stage-appropriate care and a choice of services that can be utilized in recovery efforts. The knowledge that there is a ROSC that youth can check-in with for support and/or additional care, as needed, also promotes greater responsibility on the part of the youth for their own treatment and encourages them to practice new decision-making skills and roles, thereby enhancing self-confidence.

Evidence-Based and Best Practices

The "evidence-based" and "best" practices designations of treatments can assist policy makers, physicians, clinicians, and consumers in decisions concerning which substance abuse treatment services to implement or use. However, definitions of what constitutes evidence-based and best practice vary across several dimensions.

As research on adolescent substance abuse treatment has increased so has the scientific rigor of those studies. Studies are increasingly using large samples of youth randomly assigned to a control or test group. The majority of studies utilize a comprehensive standardized assessment battery which allows for comparisons of results across studies. Treatments are administered by trained and supervised clinicians according to specified, and often manualized, protocols. Trained researchers conduct follow-up assessments on youth during and after the program to assess the treatments' impact compared to the control condition. Studies with these elements are referred to as controlled studies. This type of study measures the "efficacy" of a practice. Being efficacious does not necessarily mean that the practice will result in positive outcomes in a more real-world setting. When a practice demonstrates positive results in real-world settings it is said to be "effective".

Evidence-based practices (EBPs) are those which have repeatedly demonstrated positive outcomes in controlled research studies of youth. What constitutes an EBP varies but, generally speaking, a practice must have demonstrated positive outcomes in at least 2-3 efficacy studies. The EBP may or may not have been tested in a real-world setting. Treatments that have produced inconsistent results, or that have only been tested in uncontrolled studies, are referred to as "best" or "promising" practices (BPs). BPs can also be treatments recommended by panels of experts in the field. For purposes of this report the term EBP now refers to both EBP and BP treatments since both are typically recommended by oversight agencies.

In order to be effective, an EBP must be replicable in other settings. Use of treatment manuals along with extensive training and supervision are methods commonly employed to replicate an EBP. The majority of evidenced-based treatments are now 'manualized' meaning that there is a published treatment manual available either free of charge or for purchase. Treatment manuals provide detailed descriptions of techniques, including guidelines for the training of therapists and delivery of services. Numerous EBPs have now been identified for treatment of substance use disorders in youth. No one particular EBP appears to be superior to others.

EBP Links

Several Federal, State, and local agencies, and Universities involved with substance abuse treatment and research (e.g., SAMHSA, DASA, and University of Washington) maintain regularly-updated websites listing recommended EBP for substance abuse treatment for youth. Below are links for several useful websites.

General Collections:

National Registry of Evidence-based Programs and Practices (NREPP)
SAMHSA, 2009
http://www.nrepp.samhsa.gov/
Searchable database of interventions for the prevention and treatment of mental health and substance use disorders. Can limit search to co-occurring, mental health treatment, adolescents, substance abuse, and more.

Oregon's Mental Health Evidence-Based Practices (EBP) site
OR Dept of Human Services, 2009
http://www.oregon.gov/DHS/mentalhealth/ebp/main.shtml
Listing of approved practices for use by DSH and four other OR state agencies, as mandated by the OR legislature. Includes Addiction and Mental Health Services (AMH) approved practices and processes which feature EBPs on mental health and co-occurring disorders.

Substance abuse treatment for youth specifically:

A Guide to Evidence-Based Practices (EBP) on the Web
SAMHSA, 2007
http://www.samhsa.gov/ebpWebguide/index.asp
This guide provides a list of web sites that contain information about specific EBPs or provide comprehensive reviews of research findings.

Evidence-Based Practices for Substance Use Disorders
ADAI, 2006
http://adai.washington.edu/ebp/
Searchable database of 42 interventions for substance abuse treatment (14 specifically for adolescents).

NIDA Clinical Toolbox: Science-Based Materials for Drug Abuse Treatment Providers
NIDA, 2000
http://www.nida.nih.gov/TB/Clinical/ClinicalToolbox.html
Includes a variety of treatment-related materials for providers, including therapy manuals, NIDA's Research Report series, the book "Approaches to Drug Abuse Counseling," the booklet "Principles of Drug Addiction Treatment," and more. All materials downloadable from the web.

Treatment Improvement Protocol Series
CSAT, 2006
http://www.ncbi.nlm.nih.gov/books/bv.fcgi?call=bv.View..ShowSection&rid=hstat5.part.22441
The Treatment Improvement Protocols (TIPs) are best practice guidelines for the treatment of substance abuse. See TIPs 3, 4, 21, 31, and 32 for adolescent-specific interventions, and TIP 9 for Co-occurring mental illness and substance abuse.

Western CAPT's Best and Promising Practices Database
CSAP, https://casat.unr.edu/bestpractices/search.php
Searchable database of best practices for substance abuse prevention for children through young adults.

After review of several of these sites, some of the variation in definitions becomes clear. Although there is some overlap in listings across sites, there is also a great deal of inconsistency in the programs listed. Some sites consider techniques that have only one reference article as evidence of efficacy, while other sites include only techniques that have undergone extensive testing. The intensity of programs also varies greatly with respect to training and resources required. The duration of programs varies, as well, from simple short-term techniques to comprehensive programs lasting almost a year. The task of choosing which EBP to implement can seem overwhelming.

Selecting Interventions

There is no clear pathway to selecting the most appropriate EBP to implement. The field of choices can be narrowed somewhat based on extensive reviews of current research. Despite numerous variations in treatment protocols, the vast majority of EBPs involve the use of at least one of 4 main types of treatment. These types of treatment are:

- Contingency management
- Family-based
- Behavioral
- Cognitive-behavioral

Contingency management (CM) techniques are some of the most extensively supported treatments for substance use problems in youth. CM techniques involve use of tangible rewards for targeted behaviors. Tangible rewards such as gift certificates or tickets can be received immediately or may be obtained at a later date

by the exchange of “earned tokens” in a type of micro-economy. Common examples of CM include the voucher and level systems often employed in residential settings. CM techniques are frequently utilized in juvenile drug court settings to earn reductions in sanctions.

Family-based Treatment (FBT) approaches are based on the premise that an individuals’ behavior is fundamentally related to how they behave and their relationships with their family. Most FBTs also view the youths’ social and community groups as having an influence on youths’ behavior and beliefs. Some of the best known examples of FBT are Multisystemic therapy (MST) and Multidimensional therapy (MDT), and Functional Family Therapy (FFT).

Behavioral Treatment (BT) view substance use problems as the result of situations or triggers in youths’ environment that they are unable to cope with or control effectively. BTs are based on classic (Pavlovian) and operant (Skinnerian) conditioning. Identification of behaviors that promote substance use and determination of how best to eliminate or control those behaviors are key goals of BTs. BTs are similar to CM techniques in that both reward positive behaviors in some manner, but CM techniques are not concerned with discovering the causes of the behavior. There are a wide range of BTs, including stress and anger management training, drug refusal skills, self-regulation skills, and parenting and social skills training. BTs are commonly used as part of relapse prevention efforts, and have been successfully used in both individual and family contexts.

Cognitive Behavioral Treatments (CBTs) are based on social learning theory. CBT builds upon BT by focusing not just on the environmental cues and triggers, but also on how thoughts and feelings before and after an action influence behaviors related to substance use. CBT helps youth recognize high risk situations and then seeks to help them acquire skills to cope with those situations. CBT is the framework for many well-known programs often used with youth in treatment such as the Cannabis Youth Treatment, Marlatt’s Relapse Prevention program, Dialectical Behavior Therapy, and Moral Reconation Therapy.

Motivational Interviewing (MI) and Motivational Enhancement Therapy (MET) are also worth mentioning even though these are not considered an EBP in the strictest sense. MI and MET are based on the premise that there are critical conditions or stages in the thoughts and feelings that promote changes in behavior. For example, a youth’s verbal talk for or against a behavior should be directly related to the likelihood that a behavior change will occur. MI/MET capitalize on cognitive dissonance to try to increase “change talk”. These models have demonstrated effectiveness in reducing tobacco, alcohol, and marijuana use with young adults, but have yet to be tested extensively in youth with substance use problems as stand-alone treatments. MET is often used in conjunction with CBT and FBT interventions which makes it difficult to determine the benefit gained from use of MI or MET alone. Current evidence suggests that MI/MET techniques may be more useful in engaging youth in treatment rather than impacting substance use levels, but more research is required.

A lot of EBPs incorporate several of these treatment techniques in their programs. For example, MDT uses a FBT approach, CBT, and behavioral techniques to reduce substance use. It is unknown whether the number of different techniques employed by an EBP is related in any way to outcomes.

Selection Issues

There are several practical agency, youth and clinician factors to consider when selecting an EBP. The fiscal costs and resources required to implement EBPs vary widely. A substance abuse treatment agency wanting to implement an EBP should understand and be able to provide or access all the needed resources (fiscal and otherwise). The costs with regard to personnel time, who will administer the EBP, how many people need to be trained, and the length of training required should all be considered when selecting an EBP. A specific educational level may be required in order to be trained for some EBPs. The program duration should also be considered since this will significantly influence the resources needed, and the number of youth that the program will be able to treat.

The issue of program support should not be overlooked. It is important to know if there is any training, follow-up support, and supervision required for the EBP, from where that will come (e.g., agency, developer, State, local trainer), and what are the associated costs. The expertise level of the individuals providing supervision for some EBPs has been shown to be positively related to the resulting treatment outcomes, stressing the need for being able to easily access appropriate supervisors if an EBP requires on-going supervision.

Prior to selecting an EBP, the agency should have a plan regarding evaluation of the program. This includes determining what outcomes are expected and how these will be measured. The only way to know if the program works is to measure it. There is no benefit to the continued use of an ineffective program! The use of the DASA Treatment and Report Generation Tool (TARGET) enables treatment agencies to track behaviors across several dimensions that can be used to evaluate youth treatment outcomes.

EBPs are implemented by treatment agencies for the benefit of youth they serve. However, what an EBP requires of youth may be overlooked in the selection process. Some programs require a great deal of the youths' time in treatment as well as outside the program. For example, as part of an EBP youth may be required to keep logs, do homework, read books, practice skills in everyday settings, and go to self-help meetings. It is important to consider how youth will respond to such demands. Feeling overwhelmed is not likely to be conducive to positive changes occurring, and could even negatively impact how youth feel about their coping abilities and treatment in general.

While the educational level of clinicians may be important when selecting EBPs, it may not be as important as how the clinician feels about the program. If an EBP does not fit well with the clinician's views of treatment it may be difficult for the clinician to follow the program. If able, a clinician should select an EBP that interests them so they are invested and enthusiastic in its proper use. Youth will no doubt quickly become aware of a clinician that is not engaged in the treatment process, which could negatively impact their retention in treatment.

Limitations and Considerations

Treatments for young substance abusers are designed to be "developmentally appropriate". Treatments address the different needs of youth (e.g., developing identity, academic issues, peer relationships), include less didactic interaction and more active types of treatment that provide opportunities to practice developing skills. Research reveals that the goals and abilities (e.g., sexual identity, abstract reasoning) of adolescents differ based on their developmental stage. Not all 16 year olds have the same capacities, a 14 year old does not necessarily have the cognitive

abilities of a 17 year old, yet most youth treatments, including EBPs, treat adolescents as a single homogenous group. Clinicians are provided evidence that consideration of developmental level is key in treating youth, yet there does not appear to be a standardized method that clinicians can employ to easily determine youths' developmental level. EBPs tested on older adolescents may not necessarily be appropriate for younger adolescents and vice versa.

In the strictest sense, an EBP should be implemented as operationalized and directed and used with the same population upon which it was originally tested. However, if only programs tested on the demographics (e.g., type of drug used, ethnicity, age, gender) of referred youth can be used, many groups would have few if any EBPs. Any revisions or adaptations made to an EBP would technically require new tests of efficacy and effectiveness before being implemented. This is clearly not feasible. But how should differences in age, gender, ethnicity, pattern of substance use, and family structure between the tested and clinical populations be treated when selecting an EBP?

Most EBPs recognize that clinical skill and creativity is required to appropriately implement a manualized treatment while at the same time making it individualized. A rigid adherence to manuals can produce a strain on the therapeutic relationship without such skills. In the clinical setting it is likely that EBPs will be "adapted" to some degree. The effective therapist is able to adapt EBP features to match the needs and interests of the youth. Since it is hard to define when adaptations have gone so far as to negatively impact the treatment, it is important when making adaptations to consider whether the stated goals of sessions and the overall program are still being met in a manner true to the original EBP. Any adaptations should be well documented and outcomes should be measured. Implementation of EBPs is not meant to limit input and innovation of treatment staff, especially as advancements in the field often stem from observations made by treatment staff.

Surveys of treatment providers including those considered to have "exemplary" programs revealed that providers have difficulty implementing all of the recommended elements of treatment including using EBPs. Programs reported that insufficient fiscal resources (e.g., for evaluation, continuing care), inadequate dissemination of new research findings, and/or lack of access to, and resources to obtain, appropriate training were main reasons for this difficulty.

Research is still in the early stages for many issues concerning treatment of youth substance use disorders. Key common elements of substance abuse treatment have been identified, but it is not clear if these are the only important elements. It is still unclear how treatment duration impacts outcomes and whether there is an optimal "dose" length for EBP treatments. Even when EBPs are successfully implemented, they typically result in only moderate improvements in retention and reductions in substance use suggesting that there is still room for improvement in youth treatment.

It is possible that there are other co-factors related to the development and maintenance of substance use problems that need to be addressed if outcomes are to be improved. Research details the high rates of victimization and co-morbid psychiatric disorders among youth in substance abuse treatment, both of which are known to complicate the course of substance abuse treatment. Victimization and co-occurring disorders may be important areas that warrant greater attention, including increased resources and opportunity for clinician training, in efforts to improve substance abuse treatment for youth.

Victimization and Traumatic Stress

Victimization is defined as experiencing direct or threatened harm. Physical and/or sexual violence, emotional abuse, and neglect are all forms of victimization. Traumatic stress can arise in reaction to victimization as well as to man-made (e.g., violent crime, car accident) and natural (e.g., hurricane, earthquake) disasters. An individual does not have to be directly harmed to develop traumatic stress. Being a witness or learning about harm coming to someone else (e.g., school violence, car accidents) can also result in experiencing traumatic stress. Stress in reaction to extreme experiences is a normal and healthy response. However, when a youth is unable to cope effectively with the event, and if the related stress does not dissipate it can become detrimental. Response to traumatic stress is, in part, a function of genetics (i.e. temperament) but also involves learned behaviors, cognitions, and affects.

The negative implications that result from youths' experience of physical and sexual abuse and violence are well documented. However, there is less awareness that emotional neglect and abuse may be even more damaging to a youth's sense of well-being. The loss of a loved family member or friend can result in significant traumatic stress for many youth. Assessment of youth entering substance abuse treatment should include screening for such experiences, in addition to screening for sexual and physical abuse, violence and neglect.

Experiencing a traumatic event, especially physical or sexual abuse or loss of a loved one increases the risk of serious depression and risk of suicidal behavior, substance abuse, and post-traumatic stress disorder (PTSD). There can also be sexualized behavior, bullying or physical abuse of others in response to violent or sexual trauma. Supportive relationships can act as a buffer, help establish good social networks, and help youth to learn to be more aware of dangers in the case of violent traumas.

High rates of traumatic exposure are consistently found among youth in substance abuse treatment compared to youth in the general population. When youth dealing with traumatic stress turn to substance use it may signal that the stress is becoming severe and overwhelming. Substance use as a means of coping with traumatic stress may be learned through modeling of parents, peers, or other significant people. Substance use may lessen stress and thereby create a positive expectancy that substance use is a helpful way to escape and/or cope with stress and tension. Traumatized youth in substance abuse treatment tend to have greater overall problems and may struggle more with recovery than non-traumatized youth.

There is some indication that sexually-abused youth are likely to experience more depressive and anxiety-related symptoms, while youth exposed to family violence or physical abuse may experience greater problems with impulsiveness, risk-taking, and other problem behaviors. It appears that youth may be more willing to report physical versus sexual abuse, and females are more willing to report physical abuse than males. Males tend to have a stronger denial of sexual victimization compared to females.

Research also finds that females and minorities are most likely to experience victimization or traumatic stress. African Americans have greater rates of victimization, and are more likely to report knowing someone who was a crime victim, to have been in a fight, or to have witnessed violence compared to Hispanics and Caucasians. Murder is the leading cause amongst African American adolescent death (15-19 year olds) compared to being the third for Caucasians.

Knowledge regarding the treatment outcomes of traumatized youth in substance abuse treatment has increased greatly over the last decade. The majority of current EBPs for substance abuse treatment does not, however, adequately address issues of traumatic stress or provide clinicians the resources needed to treat traumatized youth.

CBTs are currently the only EBP treatments for youth exposed to trauma. CBTs with a focus on trauma (Trauma Focused-CBT; TF-CBT, Seeking Safety) have many forms, but all share the following components:

- Work in an individual format, at least initially,
- Provide training in cognitive and behavioral procedures to manage stress,
- Employ exposure tasks via narratives, drawings, or other imagery, methods,
- Build emotional regulation skills,
- Support youth to resume negatively-impacted developmental competencies.

Programs usually include a parent skill-building and behavioral management component as well. Treatments may include parents in meetings with or without the youth depending on the type of trauma, age of youth and parental relationships. A parent's reaction to their youth's trauma can make matters worse if they are themselves having difficulty dealing with the event. In this case, parents would not be included in sessions with the youth until the stress level of the parents has decreased.

Since substance use may be a reaction to a trauma and not be the primary problem, it has been recommended that treatment for trauma should be integrated into substance abuse treatment. It may be necessary to address the trauma issues prior to substance abuse issues when youth are severely impacted by the stress. Abused and neglected youth can develop an insecure, avoidant, and/or disorganized form of attachment to others. The youth believe that they can't rely on others for support because of past experiences, thereby making it harder to establish a positive therapeutic relationship.

Youth that have been victimized are, perhaps, in the greatest need of a trusting healing relationship. These youth, however, often have the hardest time establishing a positive therapeutic relationship. Due to the high rates of trauma and victimization, clinicians should be sensitive to the possibility that a trauma occurred even if youth do not admit to them initially. It is also possible that youth may not be able to link current symptoms with a past trauma without careful clinician guidance and exploration of the youth's past. Youth frequently need to develop a sense of trust and safety with a clinician before revealing a traumatic incident. It is normal behavior to not want to talk about painful /difficult subjects so active guidance, reassurance, and encouragement to talk about the trauma are critical especially when the trauma involve shame, embarrassment, stigma, or self-blame issues, stressing the need for dynamic on-going assessment of youth.

Sexual Orientation

The adolescent propensity toward impulsiveness may be developmentally normative but it also indicates the need to make sure youth are aware of the seriousness of risks involved with impulsive sexual behavior. Adolescents aged 13-24 represent the fastest growing group contracting HIV and 25% of all new cases of sexually transmitted disease occur in youth. Although most substance abuse treatment programs are aware of these facts and provide information on sexual behavior risk reduction, less attention is paid to the issue of a youth's sexual identity and associated problems.

Youth typically develop an awareness of their sexual orientation between the ages of 10-11. Self-identification as a non-heterosexual gay, lesbian, bisexual, or transgendered (GLBT) youth generally occurs at age 15, but, on average, it is another 2-5 years before youth disclose their orientation to others. Sexual minority youth are at increased risk for negative parental relationships, parental abuse, homelessness, sexual abuse, violence, substance use problems, sexually transmitted infections, serious anxiety, depression, and suicide. These youth are more likely to experience discrimination and marginalization in their families, at school, in treatment and in the community than are heterosexual youth.

Generally, it is believed that GLBT youths' disclosure of their sexual orientation is an indication of self acceptance, increased self esteem, social support and positive psychological adjustment. The fear of the consequences of revealing sexual orientation may result in youth having prolonged identity development and confusion. If a youth is unable or unwilling to disclose their sexual orientation, they are expected to experience increased stress and anxiety as a result. Substance use may be a way to alleviate that stress. Research does reveal that GLBT youth are more likely to report alcohol, tobacco, and other drug use compared to heterosexual youth, but not all GLBT youth report substance use problems.

An interesting study found that if a GLBT youth received negative reactions after revealing their sexuality they reported more depression, anxiety, and substance use than GLBT youth receiving a positive reaction. Additionally, the greater the number of rejecting responses a youth received, the more likely they were to have a substance use problem regardless of their levels of emotional distress. Conversely, the number of accepting reactions was found to act as a buffer against the negative effects of rejection and could result in reduced levels of substance use. The reaction youth receive from individuals when they disclose their sexual orientation may be an important factor to consider in the assessment of and treatment for substance use and mental health issues among sexual minority youth.

It is not uncommon for adolescents to be unsure of their sexual orientation identity. These youth, often referred to as "questioning" youth, may experience even greater isolation and emotional distress than GLBT youth. Questioning youth may not feel a sense of connection with either the heterosexual or GLBT communities. They may also experience increased internal and external pressures to decide on their sexual orientation which adds to emotional distress. It has been found that questioning males tend to report higher levels of substance use compared to heterosexual or GLBT youth. Questioning females have been found to report higher levels of depression than non-questioning females.

Ethnicity should be considered when dealing with sexual minority youth. A comparison of substance use levels (an assumed index of distress level) between Caucasian heterosexual and GLBT youth, found higher rates of use in GLBT youth. The same comparison in minority youth found no significant differences in substance

use. This suggests that, although minority GLBT youth may experience discrimination because of sexual prejudice, the discrimination related to their ethnicity may be more salient and cause more problems for the youth. Ethnicity can impact the likelihood that sexual orientation is disclosed. For example, African American and Latino youth have been found to be less likely than Caucasian youth to disclose sexual orientation and less likely to utilize community outlets for sexual minorities.

A non-heterosexual orientation is not a mental health disorder, but substance abuse treatment of sexual minority youth can be more challenging as a result of the issues of marginalization, discrimination and harassment these youth may face. It is important for clinicians to broach the subject of sexual orientation in a supportive, nonjudgmental manner so that youth feel safe in exploring issues of sexuality. Clinicians working with sexual minority youth must be aware and address their own potential biases so they do not interfere with effective treatment. When treating GLBT youth several issues especially relevant to sexual minority youth should be addressed. These include:

- Helping youth manage stress associated with GLBT identity issues,
- Self-disclosure of sexual orientation and the related consequences,
- Disruption of peer relationships,
- Emotional reactions to romantic relationships,
- Isolation from GLBT supportive groups, peers and situations,
- Coping with harassment, violence, and discrimination because of sexual orientation,
- General anxieties surrounding sexuality.

Developmentally, many GLBT youth may be ill-equipped to deal with being different. Building cognitive and behavioral coping and reasoning skills and supportive networks may decrease the tendency to have issues surrounding sexual identity as well as involvement in self-destructive behaviors regardless of sexual orientation.

Co-Occurring Disorders

According to the National Comorbidity Survey, 15- to 24-year olds are at greater risk for psychiatric comorbidity than any other age group. Co-occurrence of depression and substance use is particularly common in this age group and this combination has been linked with numerous connected difficulties. Research consistently documents that rates of co-occurring psychiatric disorders and the odds of experiencing suicidal ideation/attempt are higher in substance abusing youth than in the general population of adolescents. Compared to youth without co-morbid disorders, youth with co-morbid disorders enter and leave substance abuse treatment with more severe substance use, are more likely to not complete treatment, have poorer treatment outcomes, and are more likely to relapse and to relapse sooner. Youth with psychiatric symptoms are especially vulnerable to relapse following a conflict, life stress, and strong negative or positive emotional states. As is the case with substance use disorders, genetics and environment interact to influence the development and the course of a co-occurring disorder.

Among adolescent substance abusers the most commonly diagnosed psychiatric conditions are conduct disorder (CD) and oppositional defiant disorder (ODD), depressive disorders (DD) and attention deficit hyperactivity disorder (ADHD).

Anxiety disorders such as post-traumatic stress disorder (PTSD) are also prevalent, but less research has focused on these syndromes as they relate to youth substance abuse treatment outcomes.

Disorders of adolescence are often categorized as externalizing or internalizing types. Externalizing disorders are characterized by behaviors directed outward, and typically involve conflict with others. Not surprisingly, these behaviors are also referred to as "under-controlled" and “disruptive disorders". CD, ODD, and ADHD are examples of externalizing disorders. Symptoms of these disorders include disobedience, aggression, delinquency, temper tantrums, and an inability to focus. Youth with disruptive disorders exhibit high levels of the personality traits of sensation-seeking, impulsiveness, and risk-taking. Youth with substance use problems have 5 times the normal risk for developing an eternalizing disorder.

Internalizing disorders are characterized by problems "within the self". Symptoms of internalizing disorders include excessive worry or fear, depressed mood, physical complaints, excessive shyness and irritability. These disorders are also referred to as "over-controlled" and “over-inhibited" problems. Major depression, social anxiety and PTSD are examples of internalized disorders. Internalizing disorders usually cause more distress to youth, but because the symptoms of externalizing disorders are often more visible, they usually receive more attention than internalizing disorders.

Gender differences exist in the rates of co-morbidity. Generally, female adolescents are more likely than males to be diagnosed with an internalizing disorder. Conversely, males are more likely to be diagnosed with an externalizing disruptive disorder (i.e. CD, ODD, or ADHD). Although females are less likely than males to have an externalizing disorder, when they do it is more likely to co-occur with a substance use disorder than for males.

Determining whether substance use or a co-morbid disorder occurred first may be important when developing treatment plans for youth with co-morbid disorders. There are 4 views concerning the causes of and relationship between substance use and mental health problems. These are:

- There is a set of common factors for both disorders.
- Substance use disorders occur first and increase the risk for mental health disorders.
- Mental health disorders occur first and increase the risk for substance use disorders.
- Either disorder increases the risk for the other regardless of which occurs first.

An early-onset of regular marijuana use has been found to predict later depression, but there is little evidence that an early onset of depression leads to marijuana use. Studies also find that youth demonstrating escalating use of tobacco, alcohol, or marijuana more than their peers also showed greater increases in depressive symptoms compared to peers. These findings provide limited support for the 2nd and 4th views concerning co-morbid and substance use disorders. Regardless of which develops first, substance use and mental health issues are developmentally intertwined and each can influence the course of treatment if not addressed.

Clinicians are faced with the difficult task of teasing out whether a symptom is best characterized by the substance use disorder or is independent of substance use and

better characterized by another mental health disorder. Utilization of a standardized comprehensive assessment that includes estimation of psychological symptomatology can greatly aid in this process. At a minimum, it is recommended that youth entering substance abuse treatment should be screened for depressive, anxiety, disruptive disorders and suicidal ideation. Most recommended instruments for substance abuse assessment do include measures of symptoms for co-occurring disorders. The use of these instruments has highlighted the prevalence of co-occurring disorders and the myriad associated problems of youth in substance abuse treatment on a national and local level. If a youth is suspected of having a co-occurring disorder based on assessment and/or clinical observations during substance abuse treatment, it is recommended that the youth be further assessed by a mental health specialist. Integrated substance abuse and mental health treatment may be required.

EBP Links

Links to several useful website providing information on EBPs for co-occurring disorders are provided below. In the section following these links, a brief review of the primary co-occurring disorders seen in youth in substance abuse treatment is provided along with the currently recommended treatment approaches for each disorder.

Empirically Supported Treatments
American Psychological Association, Division 12, last updated date unavailable
http://www.apa.org/divisions/div12/rev_est/index.html
Includes links to descriptions of various psychotherapies that have met basic scientific standards for effectiveness. Includes anxiety disorders, depression, drug & alcohol abuse.

Guidelines for Best Practice in Child and Adolescent Mental Health Services
PA Dept of Public Welfare, 2001, updated 2007
http://www.dpw.state.pa.us/Resources/Documents/Pdf/OMHSASComm/GuidelinesChildAdolescentMentalHealthServices.pdf
Includes information on assessment, practice, and behavioral health funding submissions.

EBP Toolkits
SAMHSA, 2009
http://mentalhealth.samhsa.gov/cmhs/CommunitySupport/toolkits/
See links under “In This Section” for information about the toolkits. There is one for family psychoeducation that includes adolescents, and also one for treatment of co-occurring disorders.

Report to Congress on the Prevention and Treatment of Co-Occurring Substance Abuse Disorders and Mental Disorders
SAMHSA, 2002
http://www.samhsa.gov/reports/congress2002/index.html
Chapter 4 includes a section with information on evidence-based interventions for children and adolescents with co-occurring disorders:
http://www.samhsa.gov/reports/congress2002/chap4icacd.htm.

Externalizing Disorders

Oppositional Defiant and Conduct Disorders

ODD is defined by a persistent pattern of negativistic, hostile, and defiant behavior that interferes with functioning in school, home, or the community. Youth with ODD have quick tempers, argue and annoy people, can be spiteful or vindictive and blame others for behaviors. About half of youth diagnosed with ODD go on to be diagnosed with CD. There are few youth in substance abuse treatment that are diagnosed with ODD without being diagnosed with CD as well. Greater research attention is usually given to CD since it is considered to be representative of greater impairment than ODD.

CD is defined by a repetitive and persistent pattern of behavior in which the basic rights of others or major societal norms or rules are violated or disregarded. Behaviors such as verbal or physical aggression towards people or animals, destruction of property, theft, deceitfulness, or violation of rules (e.g., curfew, truancy), and increases in risky behaviors are indicative of CD. Many youth will engage in disruptive behaviors like these at some time during their adolescence, but do not continue these behaviors as adults. Research generally finds that the greater the numbers of CD symptoms present, the more severe co-occurring substance use problems are likely to be. CD preceding substance use problems may indicate a greatest risk for ongoing delinquency and drug use in adulthood, especially if accompanied by an evident lack of empathy. Approximately 30-40% of youth with CD go on to develop a persistent pattern of this type of behavior and are likely to develop antisocial personality disorder as adults.

A recent neuro-imaging study of aggressive adolescents with CD found that seeing people getting hurt resulted in activation of the part of the brain that responds to feelings of reward (the nucleus accumbens), but little to no activation in the areas of the brain involved in understanding social interaction and moral reasoning (the amygdala and frontal cortex). This pattern of brain reactions indicates immaturity in those structures and suggests pleasure in seeing others hurt. Viewing people being hurt did not appear to be pleasurable for youth without aggressive CD. These results and similar findings have prompted the call by some researchers to include a criterion regarding a lack of empathy to the diagnosis of CD. Findings provide additional support for the importance of the interaction between maturity of brain structures and behaviors, and complement the considerable evidence linking a lack of empathy with an increased likelihood of physical aggression occurring.

CD is more common among adolescent males than females. However comparing substance abusing youth to non-substance abusers, CD is more likely to be diagnosed in substance abusing females than non-substance using females, but no such group differences are found for males. The link between CD and substance use seems to be stronger in females than males. There is no research indicating consistent racial differences in the rates of CD among youth with substance use problems.

Several treatment techniques have demonstrated success in reducing disruptive behavior disorders such as ODD and CD. As with EBPs for substance abuse treatment, programs often combine multiple techniques to maximize treatment benefits. The EBPs identified for ODD and CD all involve use of at least one of the following techniques:

- Contingency management (CM)

- Cognitive-behavioral treatment (CBT)
- Family-based treatments (FBT)

The CM protocols used to manage disruptive behaviors vary slightly from those used in substance abuse treatment. Negative behaviors are typically penalized in substance abuse CM protocols, but are ignored and not penalized when treating youth with ODD or CD. Attention to unconstructive behaviors even if the attention is to penalize, can act as a reinforcer to youth with ODD or CD.

CBT for externalizing disorders involves techniques to improve problem-solving skills, self-control and focus on reducing aggressive behaviors with anger management training. CBT teaches youth to identify potential problems, come up with options other than aggressive responses, and evaluate those options by considering the consequences, deciding on an action, and then evaluating how the choice worked.

Of the FBTs, parent training programs are the most researched and have the greatest support for treatment of conduct problems. The form of programs varies, but all train parents in the use of basic behavioral principles. Understanding the importance of how attention, even if negative, may be reinforcing unwanted behaviors is a key feature of most FBTs. These programs also provide parents with general problem-solving and parenting skills so they are better able to manage their child's behavior.

Attention Deficit Hyperactivity Disorder

Attention Deficit Hyperactivity Disorder (ADHD) is characterized by a chronic and impairing behavior pattern of abnormal levels of inattention, hyperactivity, or their combination. The inability to concentrate and focus can lead to academic difficulties which, in turn increases the risk for development of substance use problems and other risky behaviors. ADHD is associated with an earlier onset of substance use, illegal behaviors, CD, and depression. The combination of ADHD and CD together has been found to significantly increase the risk for substance use disorder more than the presence of either CD or ADHD alone. As with CD, rates of ADHD are greater in males than in females. No studies have, to our knowledge, evaluated the impact of ADHD on substance abuse treatment outcomes. No research to date has examined racial differences in rates of ADHD among substance abusing youth.

Some of the most significant advances in treating ADHD are from the use of stimulant medications. A combination of pharmacological and EBP behavioral treatment is recommended as the most effective treatment strategy, followed by medication alone, and then EBP behavioral treatment alone. EBP behavioral treatments for ADHD are the same as for ODD and CD, but also include extensive use of relaxation and biofeedback, in addition to CM, CBT and FBTs.

Relaxation and biofeedback focus on self-calming and relaxation. Techniques including listening to tapes, doing exercises, and getting feedback from either visual or auditory feedback can have strong positive impacts on ADHD. Even as few as 3-4 sessions of less than one-half-hour of biofeedback and relaxation can significantly reduce impulsivity and improve attention spans in youth with ADHD.

Behavioral parent training is frequently used and typically involves the use of CM techniques. Strategies may be implemented to reinforce self-control and appropriate behavior and concentration. Parents create and maintain environments that reward desirable behaviors and punish undesirable ones. As many problems also occur at school, involvement of the teacher, if possible, can be beneficial.

Internalizing Disorders

Major Depression

Major (unipolar) depression, dysthymia, and manic-depressive (bipolar) disorder are the primary constituents of the internalizing disorder category. Bipolar disorder is characterized by a persistent cycling, of varying durations, between depression and an extremely elevated mood. Not long ago it was believed that youth did not suffer from bipolar disorder. It is now known that bipolar disorder can develop as early as age 15. However, the research is still scarce on bipolar disorder in adolescents with substance use problems.

Major depression is characterized by a very low mood that pervades all aspects of life and an inability to experience pleasure from activities that formerly were enjoyed. Dysthymia is best thought of as a chronic, low-grade depression lasting for several years. Even though dysthymia is a less intense form of depression it can be just as debilitating as, and perhaps even more so, than major depression because of its duration. The term depression as used in this report (and in much of the research on adolescent depression) encompasses behaviors representative of major depression and/or dysthymia.

Depressed youth tend to exhibit trouble concentrating, a lack of motivation, a loss of interest in school that often leads to a decline in academic performance, problems with peers, and physical symptoms (e.g., weight loss, insomnia). It is not uncommon for depressed youth to exhibit an irritable rather than an unhappy mood or for younger depressed youth to be very clingy, demanding, or insecure. If depression is related to a sense of failure, youth may hide their depression and avoid drawing attention to themselves because being depressed is viewed as more evidence of their failures. It can be easy to miss and/or mistake the presence of depressive symptoms for typical teenage moodiness without dynamic on-going assessments of behavior.

Genetic, biological, and environmental factors are involved in the development of affective disorders as are combinations of these factors. Depression has a high rate of reoccurrence. Approximately 70% of youth with a depressive disorder have another episode within 5 years. Youth are particularly vulnerable to developing affective disorders during transitional periods (e.g., puberty, emergence of abstract reasoning) and in response to trauma as mentioned previously. As for most psychiatric disorders, an earlier onset of depressive symptomatology, is associated with a more protracted and severe course of depression. But younger adolescents also have a greater chance of spontaneous remission of depression than older youth developing depression for the first time.

The course of what is referred to as “normal developmental depression” appears to be different for males and females. For males, depressed mood either increases slowly over the course of adolescence, or stays at relatively low levels throughout adolescence. For females, depressed mood tends to increases sharply at the onset of puberty and continues to increase throughout adolescence. Clinical depression is more common in females and family relationships appear to have a stronger association with depression in females than in males. This may be because females are often more sensitive to criticism from family members and others in general.

Depression is often associated with increased social isolation. Since substance use tends to be a social activity among teens, depressed youth could be expected to

have lower levels of substance use compared to non-depressed peers. Research findings regarding this idea are inconsistent though and, at least for females, suggest that a depressed mood is less likely to inhibit substance use as youth age. Since normative depression increases more in females over time, depression may be less of a cause for social isolation with increasing age and hence have less impact on levels of substance use. Depressed females may be less likely to feel different from their peers as they age since more peers are likely to also be experiencing some degree of depression—making her more like her peers.

Youth with substance use disorders are 4 times more likely than youth without substance use disorders to develop depression. Many depressed youth leave treatment before their depression is identified, underscoring the need for early and comprehensive assessment of youth entering treatment. Even if correctly identified, most depressed youth in substance abuse treatment do not receive appropriate treatment for their depression. If a youth with a substance use disorder does not experience a decrease in depressive symptomatology they are less likely to decrease their substance use.

EBPs for depression include CBT, Interpersonal Therapy for Adolescents (IPT-A), and use of antidepressant medication. Since conflicts with parents are a significant predictor of depression reoccurring, it is also recommended that FBT interventions be used in conjunction with an EBP. CBT has the greatest evidence of effectiveness for treatment of youth depression and is frequently included in IPT-A and family-based interventions.

CBT and IPT-A are similar in several ways but view depression in different contexts. Depression in CBT is seen as the result of the individual's maladaptive cognitions or beliefs, while IPT-A views depression as the result of problematic interpersonal relationships and patterns of communication.

The impact of behavioral interventions on depression can take several months to see, while the impact of antidepressant medications is more immediately evident. It is recommended that the first line of defense for depression should be behavioral therapies except when the risk for self harm is great. If the depression fails to remit within a month, a pharmacological intervention should be considered. Optimal treatment for youth with moderate to severe levels of depression generally entails use of anti-depressant medication and an EBP such as CBT but also requires involvement of mental health specialists including a psychiatrist.

Suicide

Suicide is the 3rd leading cause of death among 15-19 year olds. Research finds that depression is related to the presence of suicidal thoughts, but not to suicide attempts. Depression is not the only risk factor for suicidal ideation and or attempts. Adolescents with substance use problems are among those at highest risk for suicide. Youth with CD and prior mental health treatment are also at higher risk for suicidal ideation and/or attempts. In general, when a youth admits to previous suicidal ideation they are more likely to experience it again. It is critical that youth reporting thoughts of suicide or previous attempts be monitored closely in substance abuse treatment.

Substance use increases the likelihood of impulsive actions thereby increasing the risk of suicide occurring when a youth is under the influence. Youth are 5 times more likely to successfully commit suicide if they are under the influence at the time of the suicide attempt. Substances used to alleviate negative affects can result in

increased intensity of negative affects (e.g., drinking can result in increased depression) which can lead to suicide as well. Youth with CD, and perhaps other externalizing disorders, also have difficulty controlling their impulses and emotions which increases the risk for suicide. The impact of the combination of an externalizing and substance use disorder may increase the risk for suicide more than the presence of only one disorder, but more research is needed to clarify this relationship.

There is some consensus on the warning signs for suicide risk and more often than not attempts are preceded by a negative life event. Warning signs include increased:

- preparation for suicide
- intent
- hopelessness
- rage, agitation, or anxiety
- substance use
- restlessness, insomnia
- feeling of being trapped
- risky activities
- social withdrawal
- dramatic mood changes

Aggressive and antisocial behaviors are strong predictors of suicide for males; depressive symptoms are stronger predictors for females. Some studies find that African Americans are less likely than Caucasians to report suicide ideation.

Few studies have looked specifically at treatment for suicidal risk. Most studies examine suicidal risk in relation to depression. As a result there is little empirical evidence on how best to treat suicidal ideation in youth. Current recommendations stress the importance of treating the suicidal behavior first, and then targeting the specifics of the suicidal crisis (e.g., immediate trigger) then attention can shift to the underlying disorder and causes. It is recommended that clinicians utilize manuals to deal with suicidal ideation which clearly lay out the area to be addressed, several such manual are now available.

A combination of CBT and antidepressant medication may significantly reduce suicide risk once the youth's immediate safety is ensured. Hospitalization is often necessary. Addition of a family skills intervention may also be beneficial. Treatments can be delivered in a variety of formats from individual to intensive home-based interventions. Research does not support the effectiveness of no-suicide contracts, but trying to obtain a commitment to a treatment program or general safety plan is recommended.

The therapeutic relationship is very important when treating suicidal youth. Clinicians must listen to and empathize with the youth, but avoid agreeing with the youth's suicidal point of view. Clinicians also need to alleviate risk factors and enhance protective factors and the youth's reasons for living. Since youth are often likely to deny their suicidal intentions, it is recommended that clinicians use an inquisitive non-judgmental approach when assessing suicidal risk level. MI/MET techniques may be useful for developing immediate concrete steps to reduce risk of suicide.

Anxiety Disorders

An estimated 12-20% of children and youth are affected by anxiety disorders, but these disorders have received less research attention than disruptive and affective disorders in youth. Normal anxiety is a subjective sense of worry, apprehension, fear and distress that acts as a warning to the individual. The subjective experience of anxiety typically has two components: physical sensations (e.g., headache, nausea,

sweating) and the emotions of nervousness and fear. Anxiety disorders, when severe, can affect a youth's thoughts, decision-making ability, perceptions of the environment, and their learning and concentration abilities. When anxiety becomes excessive or uncontrollable and occurs without an appropriate stimulus, it becomes damaging to cognitions, behaviors, and somatic reactions.

Anxiety disorders include several categories, but all share the common feature of excessive fear and worry regarding a stimulus. As a result of that worry and fear the object, or reminders of the object or situation, are actively avoided. Cognition problems arise from distorted ideas about why something happened. For example, youth may feel that they are inadequate or that they are responsible for a trauma occurring (e.g., I deserve to be abused because I'm no good). Youth may hide their anxiety if they have feelings of inadequacy and self-hatred. Somatic and behavioral symptoms for anxiety disorders are often mistaken for symptoms of ADHD (e.g., lack of attention) or affective disorders (e.g., irritability, inability to concentrate).

Although there appears to be a genetic predisposition to developing an anxiety disorder, family relationship and environmental stressors can also impact their development. Parental anxiety, especially maternal anxiety, has been shown to impact youth anxiety levels. Children of depressed parents have also been found to be at increased risk for anxiety disorders.

The best known anxiety disorders include generalized anxiety, social anxiety, phobias, and PTSD. Phobias involve anxiety and fear associated with a specific object (e.g., snakes, heights). Phobias are common but seldom linked to substance use problems in youth. Generalized anxiety disorder (GAD) is characterized by excessive worrying about multiple areas of life. GAD seems to be more common in older youth and in females. Youth with GAD may present with symptoms similar to those of affective disorders (e.g., depressed mood, weight loss, inability to enjoy things). Social anxiety disorder (SAD) is characterized by extreme concern and worry regarding how others perceive them. In PTSD, the worry and fear surround a traumatic event that was directly or indirectly experienced. There is limited research on anxiety disorders in substance abusing youth. Research that does exist, primarily deals with SAD and PTSD which are discussed below.

It has been proposed that youth with SAD are more likely to use substances to help cope with social situations, but this may only be true for females. Young females with high levels of social anxiety are found to be more likely to use substances in response to peer pressure than those with low levels of social anxiety. No such relationship has been found for males. It is still unclear whether females are more vulnerable to peer pressure than males, or whether social anxiety pushes these females to seek out substance using peers.

It has also been found that negative critical parenting styles are related to development of SAD and substance use problems for females but not for males. High levels of family cohesion seem to act as a protective factor for girls with SAD, but not for males. Young females may be more sensitive to negative criticism and, generally, females internalize stress, which can result in anxiety, while males are more likely to externalize their stress. Youth maturing early can also be at risk for increased anxiety, aggression, and depression. In general, youth with SAD are found to report less peer and family support than youth without SAD.

Despite the high frequency of youth reporting traumatic incidents in substance abuse treatment, rates of PTSD tend to be less than 15% among youth in substance abuse treatment. PTSD, as discussed earlier, occurs after experiencing or witnessing a

traumatic event. Following the event a physical reaction develops to stimuli that trigger memories of the event and/or a sense of re-experiencing the event. To avoid these feelings the external stimuli are avoided. The symptoms of PTSD can also be mistaken for depression, other anxiety disorders, or dysfunctional personality traits. Females most often receive a diagnosis of PTSD as a result of rape or domestic violence. For males the triggering event is more often a violent assault or event involving a weapon. Substance use can be exacerbated by the presence of PTSD, but PTSD can also result in the initiation of substance use to alleviate the associated anxiety. In cases where a trauma occurred in the past, a youth may be unable to identify the connection between their symptoms and the trauma without guidance from a clinician.

Recommended EBPs for anxiety disorders are primarily CBT techniques. Short- term use of medication may be necessary as an adjunct for optimal results in severe cases. For anxiety disorders, CBT generally includes education regarding the nature and normal course of anxiety. Skills to reduce physical tension (e.g. relaxation, breathing techniques) are also included. Modeling and graduated exposure tasks are used to manage and master the anxiety. It can be challenging to determine the appropriate degree of exposure in treatment to avoid youth becoming overwhelmed.

There is some evidence that parental involvement in treatment of anxiety disorders is not essential to positive outcomes. Anxious youth are more likely to have anxious parents. If parents are anxious, they may actually be maintaining avoidant and anxious behaviors in the youth which can hinder treatment efforts. In such cases it is recommended that clinicians work with parents alone, and not include them in sessions with youth.

Schizophrenia

Schizophrenic disorders frequently begin in late adolescence and early adulthood. The presence of a substance use problem complicates the course of schizophrenia, increases severity of symptoms, and generally increases the likelihood of poor treatment outcomes. It is unclear whether substance use among schizophrenia patients is a type of self-medication or related to a dopamine imbalance in the brain's reward circuitry that encourages substance use.

Youth with a diagnosis of schizophrenia or psychosis are uncommon in substance abuse treatment settings, since youth with visible symptoms of these disturbances are usually referred to a mental health treatment program. However, the early phase of schizophrenia, the prodromal phase, often begins in the early teens. Early symptoms of schizophrenia may be evident more than 2 years before the full constellation of the disorder is visible. Given that substance use disorders are common in patients with schizophrenia, youth in the early stages of schizophrenia may be seen in substance abuse treatment. If these youth could be identified and treated early, the likelihood of severe disruptions in their lives occurring could be decreased significantly.

Symptoms of schizophrenia are referred to as "positive" and "negative" symptoms. Positive symptoms are often referred to as psychosis and include delusions, auditory hallucinations, and thought disorders. Negative symptoms are the loss or absence of normal traits or abilities, and include features such as flat or blunted affect, poverty of speech, inability to experience pleasure, lack of desire for relationships (asociality), and lack of motivation.

Although blunted affect is generally characteristic of schizophrenia, recent studies indicate that normal or even heightened levels of emotionality may be present in schizophrenia, especially in response to stressful or negative events. Youth in the early phase may evidence non-specific symptoms of social withdrawal, irritability, depressed mood and transient psychotic symptoms. These youth are sometimes described as being distant, odd, eccentric, or aloof when interacting with others.

There is evidence indicating that if a youth is likely to develop schizophrenia, use of marijuana may hasten the onset of the disorder. Marijuana, amphetamine, and cocaine use have been associated with psychosis independent of schizophrenia. Given the potential seriousness of schizophrenia, it is important that clinicians not overlook the possibility that the seemingly odd, shy, detached, or depressed youth may actually be in the early stages of the disorder. On-going observation and assessment of such youth by mental health specialists is strongly recommended especially if they are using marijuana, amphetamines or cocaine. Recommended treatment for schizophrenic disorders requires a long-term perspective and the integration of medication and specialized social support services.

Medication Assisted Therapy

Optimal treatment for several co-occurring disorders requires a combination of medication and behavioral therapies. Research on the use of medications for treatment of affective disorders, especially major and bipolar depression, is more extensive than research on medication assisted therapy (MAT) for disruptive disorders. Support for the effectiveness of medication to treat aggressive and disruptive behaviors is increasing, but youth with disruptive disorders have demonstrated highly variable responses to these medications.

Medications frequently used in adults to decrease urges to drink or to use opiates are infrequently used with youth in substance abuse treatment. These medications include disulfiram (Antabuse), acamprosate (Campral) and naltrexone (ReVia). Recent clinical trials suggest that buprenorphine (Suboxone) may be effective for reducing cravings and relapse in opiate dependent youth age 16 years or older, and disulfiram has been shown to reduce the risk of alcohol relapse in older youth. However, research on the use of these medications in youth is still very limited.

The long-term impacts of any psychiatric medication on adolescent development are still not well understood. Therefore, when treating youth with co-occurring mental health issues, it is generally recommended that, except in the case of severe impairments, aggression, or suicide risk, behavioral therapies should be used first. If significant improvements are not seen within a month, the youth should then be evaluated for the appropriateness of medications.

Substance abuse treatment programs are sometimes reluctant to deal with youth requiring medication for psychiatric disorders (i.e. co-occurring disorders and chemical dependency). There are concerns that the safety of youth on psychiatric medication could be jeopardized in the likely case that youth use drugs recreationally. There is also concern that youth will abuse, and could become addicted to medications especially stimulants and sedatives prescribed for ADHD, depression and anxiety disorders.

Misuse of prescribed medication is a valid issue. A certain percentage of youth will abuse medications, and may even sell or give their medications to other youth. These concerns should not, however, overshadow the increasing evidence of the

effectiveness of medications to treat select psychiatric disorders. Moreover, not all youth will abuse psychiatric medications and not all of these medications have the potential to be addictive. To alleviate the risk for misuse, clinicians should work with families to develop safety plans to monitor their child's use of prescribed medications and any resulting effects.

Clinicians treating youth on medications for any co-occurring issues should establish cooperative relationships with the prescribing doctor, whether the doctor is affiliated with the substance abuse treatment program or not. This will ensure comprehensive monitoring of youth symptoms which increases the likelihood that medications are being used effectively and decreases the chances for misuse and abuse of prescribed medications.

Continuing Care

The fact that so many youth relapse to substance use within 6 months of leaving treatment indicates a clear need for additional services following treatment and suggests that customary methods of after or continuing care may be lacking. Aftercare traditionally involves referral to a less intensive treatment modality, as in the case of going from residential to outpatient treatment, or from outpatient services to a community-based self-help program such as Alcoholics Anonymous (AA). Although clinicians are involved in discharge planning and may make referrals to other services, the primary responsibility for engaging in those services falls to the youth in standard aftercare. It is not unusual for a clinician to have no further follow-up contact with a youth once they leave treatment.

Recent research indicates that a more aggressive or "assertive" approach to providing additional care may be beneficial for youth with substance use disorders. In contrast to the traditional post-treatment view of "aftercare", the assertive approach recognizes that as with all chronic illness, effective treatment will likely consist of multiple interventions, of various intensities over time. All treatment interventions, regardless of modality, or when they occurred, are considered to be part of a youth's continuing care so there is no "aftercare" per se only a next stage of their care.

The assertive continuing care (ACC) approach shifts the primary responsibility for linking treatment and other needed services from the youth to the clinician or case manager. Another change from traditional aftercare methods is that ACC places greater emphasis on retaining youth in treatment. When a youth leaves treatment prematurely treatment staff actively reaches out to re-engage youth in treatment or in other beneficial services. The fact that a youth leaves treatment prematurely does not negate their need for continuing treatment services, but may indicate a need to re-assess appropriate treatment options. Research on the effectiveness of ACC is still relatively limited, but ACC has demonstrated association with longer periods of abstinence and decreases in substance use for youth leaving residential treatment.

The ACC approach is based on behavioral therapies and utilizes many CBT techniques including relapse prevention. This approach actively addresses the 2 main barriers to youth participation in continuing care; unplanned treatment termination and distance from services. ACC services are typically delivered utilizing a combination of home-visits, telephone calls and in-persons meetings.

In studies of ACC, services are typically provided for 90 days. Given that the period of relapse risk is known to be at least 6 months it is suggested that services, of

various intensities, may be required for longer periods of time, as long as one-year. The clinician or case manager in an ACC approach is actively involved in:

- Linking youth to needed services
- Assisting with admission requirements,
- Following up with youth that appointments were kept
- Review, with youth, of services youth receive and their impact
- Acting as a general advocate for youth
- Monitoring behaviors indicating potential lapses and continue building relapse prevention skills
- Building upon treatment gains in coping, communication and problem solving skills
- Developing ways to socialize and have fun without substance use
- Providing transportation assistance to needed services
- Assistance with academic and employment needs
- Working with youth parents to increase their motivation and support of youth in ACC and improve parenting skills if needed

The ACC approach is growing in popularity, but the 12-step model of AA may still be the most common form of self–help and continuing care for substance use problems. The two methods are not exclusionary; youth in ACC are free to choose to be involved in AA.

Research on AA is limited but shows that AA attendance is associated with better outcomes and longer periods of abstinence. A recent long-term study found that for every AA meeting attended there was an additional gain of almost 2 days of abstinence achieved.

Generally it is thought that the number of AA meetings attended is directly related to longer periods of abstinence. Individuals have been encouraged to attend 90 meetings in 90 days. However, a recent study of youth found that attendance in even a single AA meeting a week was beneficial. Additionally, results suggest that maximum benefits form AA may be obtained by attending three meetings per week. Attendance in more than 3 meetings per week was not found to significantly enhance outcomes any more than gains from attending 3 weekly meetings.

The appropriateness of AA and potential risks that being exposed to older substance users posses to youth with milder levels of substance use, or co-occurring disorders has been questioned. At this time there is no evidence that AA involvement has any negative impact on youths' recovery efforts. Youth are less likely to attend AA or to find it helpful when other youth are not attending, which can be a common problem in rural areas and small communities. Youth with more severe levels of substance use, are more likely to be involved in AA compared to youth with lower severity of problems. Being religious is not necessary to benefit from AA, but religious youth attend AA more often than non-religious youth. To date, no gender differences in rates of AA attendance have been found.

Since one of the principles of AA is accepting powerlessness over substance use, clinicians that do not accept the idea of powerlessness, may prefer referring youth to other self-help programs. Unfortunately such programs are not always readily available.

Regardless of the form of continuing care that is implemented, timing is of critical importance. Youths' risk for relapse increases instantaneously following discharge from treatment. It is absolutely essential that youth are actively involved in support services immediately following discharge. Delays in engaging youth in continuing care increases the risk of relapse and decrease the likelihood of engaging youth in continuing services at a later date. Utilizing staff that youth are already familiar with, such as their clinician or case manager, help to maintain continuity of treatment services and increases the likelihood of youth's involvement in continued care services.

Juvenile Justice Involvement

The link between substance use and delinquency in youth is well documented. The risk factors for substance use disorders and delinquency have considerable overlap (e.g., mental health disorders, trauma/victimization, and poor family functioning). The greater the number of risk factors, the greater the probability that young offenders will have poorer substance abuse treatment outcomes, and re-offend.

Research consistently finds that, among youth in substance abuse treatment, those with justice system involvement have more severe substance use, mental health issues, family, and school problems than those with no justice system involvement. Taking into account severity of crime, juvenile offenders with high levels of psychiatric symptoms are more likely to receive longer sentences than youth with few psychiatric symptoms. It is not uncommon for youth with co-occurring disorders to behave in an argumentative, and/or hostile manner towards court or treatment personnel. The youth's uncooperative behavior may be negatively affecting how probation and treatment counselors, prosecutors, and Judges perceive and react to the youth, which consequently may color the sentencing recommendations made for the youth.

Increasing numbers of females in general, and younger females in particular, are entering the juvenile justice system. Female juvenile offenders report higher rates of psychosocial stressors and trauma symptomatology compared to male offenders. Female juvenile offenders have also been found to have higher rates of both externalizing and internalizing problems compared to male youth.

The pathways to delinquency may differ for males and females. There is indication that family factors play a more significant role in female than male delinquency. Young females are arrested more frequently than males for what are called "survival reaction" crimes (e.g., running away, domestic violence). In most instances the young females are victims of physical and sexual abuse, and their crimes were the result of trying to avoid further abuse (e.g., trying to fight off an abuser resulted in charges for domestic violence).

Young female offenders are often treated differently by the justice system than their male counterparts. Even though males and females commit equal numbers of status offenses, females are more likely than males to be arrested and processed for these offenses. When they appear in court, females are more likely to receive a harsher punishment and/or to be removed from home than males. In part, this may be related to the youth's demeanor affecting others as described above for youth with mental health disorders. A study of admission to treatment programs found that if an intake evaluator perceives a negative demeanor from either parent or youth they were more likely to deny the youth's admission to the program.

As mentioned previously, many of the referrals for youth substance abuse treatment in Washington State come from the juvenile justice system. Youth in the juvenile justice system are typically ordered into community based-treatment but can also receive treatment in a detention or a residential facility (e.g., inpatient, prison). Juvenile drug courts (JDCs) are a popular treatment avenue for juvenile offenders with substance use disorders. Many juvenile courts have begun implementing mental health treatment courts based on the JDC model for juvenile offenders. A review of treatment services provided for youth in the juvenile justice system is beyond the scope of this SOC. Suffice it to say that research is increasing on how best to provide needed services to youth in the justice system, but it will certainly involve strong linkages with DASA, and mental health services to be effective.

General Considerations

Ethnicity

Historically, minority youth have had higher rates of treatment attrition and poorer outcomes in substance abuse treatment than non-minority youth. There is a longstanding view that minority youth would be retained in treatment longer and have better outcomes, if treatments were designed to be "culturally-responsive or sensitive". Translating this view into practice has proved somewhat difficult as ethnicity and culture are complex, dynamic concepts that are hard to easily define and measure, especially when considering multiracial youth. The meaning of ethnicity and culture can also differ greatly in meaning and importance among individuals of a minority group. These facts may, in part, explain why there are currently so few EBPs specifically for minority youth.

There is limited evidence that culturally-responsive treatment results in better outcomes for minority youth, but there is considerable evidence that EBPs for substance use and co-occurring disorders are just as effective for ethnic minority as non-minority youth. CBT approaches are found to be especially effective for treatment of substance use and psychiatric issues with minority youth.

Ethnicity may impact how youth respond to different treatment modalities. When given a choice between a group and individual therapy, Caucasian and African-American adolescents tend to prefer group formats, while Latino and Asian adolescents choose individual formats. This may also have to do with the types of co-occurring disorders a youth may have. For instance, youth with SAD may require individual treatment to reduce anxiety and build interpersonal skills prior to being involved in group treatment.

While minority youth are included in the majority of research studies on substance abuse treatment, few studies include samples of minority youth large enough to examine their outcomes independent of Caucasian youth. Clearly further work is needed to determine whether, and how, treatment components and/or implementation strategies should be modified to meet the specific needs of ethnic minority youth and their families. Therefore, it is recommended that clinicians work with youth in an on-going manner to determine if utilized treatments are meeting youths' needs with respect to minority issues. When modifications are deemed necessary, they should be documented and assessed so that in the case that the modification results in positive outcomes, replication of the procedure is possible.

Clinician Issues

Substance abusing youth are very difficult to engage in treatment as evidenced by high rates of program dropout. Research has examined the therapeutic alliance (TA) between clinician and client and the impact of the TA on treatment engagement, retention, and outcome. Some, but not all, studies suggest that successful treatment outcomes may be related more to characteristics of the clinician than to the types of services provided. Few of these studies were done with youth though, and even fewer with youth in substance abuse treatment. The few studies exploring the TA with youth reveal that a confrontational, didactic, and authoritarian approach does little to promote a positive TA and is likely to elicit resistance in treatment. Using a collaborative approach, evocation, and encouraging youth autonomy does facilitates the TA.

Research with adults looking at the TA ratings made by the clinician and client find that most variations in TA ratings are attributable to client differences. However, two clinician characteristics are related to TA ratings by adults. Clinicians in recovery appeared to establish better relationships, but it was not clear in the study whether clients were aware of their clinician's recovery status, and if they were aware, when in treatment they became aware. Clinicians that had been counseling for less time tended to receive higher TA ratings than more experienced clinicians. This result is most likely a result of clinician "burnout" or fatigue more than to age discrepancy. Clinicians in substance abuse programs deal with large caseloads of individuals with complex problems and typically have little support or supervision. It is important that to reduce clinician fatigue agencies provide adequate support in terms of outlets to discuss problematic cases, reduce work-related stress, and provide opportunities for growth and advancement.

Clinicians treating youth have to deal with the youth's family to varying degrees. This requires a different conceptualization of the TA than when dealing with the youth alone. A clinician must establish a positive TA with the parents to promote change. However, if the youth feels that the clinician is favoring the parent(s), they may feel that the clinician is "siding" with the parents and as a result become resistant and may even leave treatment. If the clinician forms too strong of a TA with any one family member this may jeopardize relationships with other family members as well. Issues of privacy are paramount when working with families. Information regarding the youth absolutely should not be discussed in family treatments without the youth's prior approval. When working with families, clinicians should also be aware of culture norms concerning family structure and power.

Stigma

The diagnosis of a psychiatry disorder including a substance use disorder can have profound impacts on a youth's future, perhaps even more so than for adults. A psychiatric diagnosis may influence a youth's future ability to obtain certain forms of health insurance and possibly even impact future employment opportunities. A diagnosis is beneficial when it leads to obtaining effective treatment and needed resources, but a diagnosis can also lead to stigmatization and discrimination.

Being diagnosed with a disorder may cause others to change how they interact with a youth and even to lower their future expectations for the youth. This can result in a self-fulfilling prophecy. For example, parents discover that a good friend of their child has been diagnosed with CD and substance abuse. Even though this youth has given them no prior reason to mistrust them, based on this new knowledge the parents become hesitant to include their child's friend in social activities. The youth,

hurt by this apparent rejection, becomes upset and tries to talk to the friend's parent. The parent thinks that the youth's distress is because the youth is using drugs, and despite the youth's denials of substance use, the parent dismisses the youth. In response to being misjudged and rejected by the parent, the youth acts out impulsively by throwing some planters which scratch the parent's car. The youth then feels awful and, since people already think they are using drugs, ends up using drugs. This reinforces the parent's view that the youth is an untrustworthy behavioral problem but may also discourage youth's attempts to change. Helping youth to understand why others may treat them differently as the result of a diagnosis and in cases where there is a loss of trust, that others may be slow to acknowledge youth's behavioral changes can greatly decrease the impact of experienced discrimination.

Even if youth are unconcerned about potential stigma and discrimination, their parents may be concerned. Parents may be hesitant to seek treatment for their child when there is a strong community stigma towards substance use or mental health problems. If a youth's parents have untreated psychopathology themselves, which is not uncommon among youth in substance abuse treatment, there may be more resistance to seeking treatment for their child.

The importance of conducting a comprehensive assessment using appropriate tools with on-going monitoring, and protecting youth's diagnostic information cannot be stressed enough. This enables clinicians to make accurate diagnoses and to be more likely to tease out whether youth symptoms are the result of substance use, normal development, and/or other psychiatric disorders. With such information treatments can be tailored and modified on an individual basis as needed so that maximal treatment benefits are obtained and that youth are not misdiagnosed with disorders that can potentially impact their future.

Summary & Recommendations

The field of adolescent substance abuse treatment has made substantial gains during the last decade. Substance abuse treatments for youth are now designed to be developmentally appropriate and to meet youths' unique needs; treatment is no longer merely an adult treatment given to youth. Several key elements believed to be essential for the successful treatment of youth substance use problems have been identified. These include using "proven" techniques or EBPs when treating youth. Numerous EBPs for substance use problems of various durations and intensities have been identified for youth and the number continues to grow. Despite recent advances, high rates of treatment dropout and high percentages of youth relapsing within 6 months of leaving treatment suggests that further improvements to treatment models are needed.

There are several possible explanations for these findings. Many treatment providers have had difficulty incorporating all of the key elements into their programs and/or to implement the EBPs. In part, the hindrance to implementation is due to a lack of fiscal and other organizational resources. However, even when the key elements and EBPs are successfully implemented, programs are often still plagued by less than optimal outcomes. If the key elements and/or EBPs were implemented incorrectly, that may explain why treatment outcomes were not more improved. Given that most EBPs involve extensive training, are frequently manualized, and often provide follow-up supervision and support to ensure fidelity, this seems unlikely.

It is also possible that the selected EBP may not be appropriate for the capabilities and developmental level of all youth being treated. Despite the emphasis on

"developmentally appropriate" treatment, it is unclear how this concept is translated into EBP selection and implementation. Although there is evidence that adolescence is comprised of several developmental stages and involves significant changes in brain structures, youth are generally treated as a homogenous group. Youth may fail to be engaged in treatment and may not obtain maximal benefits from treatment if they lack the ability to understand and incorporate the skills being taught in treatment.

There may also be complicating co-factors present in youth that, if not addressed during treatment, reduce the benefits derived from treatment. Research has increasingly illustrated the complexity of the problems that are present in the majority of youth entering substance abuse treatment. Experiencing victimization/trauma and the presence of co-occurring disorders is common among youth in substance abuse treatment. Many youth in treatment are also involved with the juvenile justice system. Determining when a behavior is problematic, the importance of various diagnostic features, and how the "pieces fit together" is essential for developing appropriate and effective treatment plans. Comprehensive on-going assessment, and an understanding of adolescent development and co-occurring disorders can augment clinicians' ability to elucidate the complex issues of youth.

There is growing acknowledgment of the importance of and the interconnectedness between substance use, vicitimization/trauma and mental health disorders. Treatment for any one of these factors, which fails to adequately address the other factor(s) will likely result in suboptimal outcomes. Cooperation among the systems (e.g., juvenile justice and substance abuse treatment systems) that youth are involved with is also essential to providing effective comprehensive treatment.

The integration of substance abuse and mental health services appears to be necessary to accomplish the best possible treatment outcomes. Currently, it is a widespread-practice to treat mental health issues separately from substance abuse issues. Independent administrative entities tend to oversee treatment services for these issues. Treatment for these disorders is usually delivered in different physical locations by independent clinicians. The fact that there are no widely-accepted models for specialty training and/or certifications for the treatment of substance use and co-occurring disorder also makes it difficult to integrate treatments for the two disorders. Encouragingly, a limited number of EBPs have been developed that address substance use and specific co-morbid disorders and/or victimization/trauma issues concurrently.

The multiple and complex issues present in most youth entering substance abuse treatment can make selection of appropriate EBPs difficult. EBPs are usually developed and tested with specific circumstances (e.g., marijuana dependence and depression) in a specific population (e.g., 14 year-old African American males in NY). They may not be effective for all types of youth (e.g., 16-year old Hispanic females in WA). Rather than trying to master several EBP treatment protocols to meet the diverse needs of youth, it may be more practical for clinicians to master an identified set of core skills common to most EBPs (e.g., CM, CBT). This approach gives clinicians greater flexibility and the ability to tailor treatments to meet individual needs while providing a better fit with the diagnostic complexity of youth entering treatment. Clinician expertise in core EBP skills should also increase the ease of implementing, modifying as needed, and sustaining use of selected EBPs.

The common view of substance use problems is shifting from that of an acute disorder to one of a more chronic condition. Effective treatment of substance use

disorders requires a longer-term view of care. Treatments should include transitional and support services and more active involvement of treatment providers in the full spectrum of services. Provision of continuing care services ensures that youth are provided every opportunity to maintain and strengthen gains made in treatment, thereby increasing treatment retention and decreasing rates of relapse. To improve rates of treatment retention, treatment providers are encouraged to actively reach out to reengage youth leaving treatment prematurely.

While the knowledge regarding the best methods for treating youth substance use problems increases so does the need for youth treatment services. National studies reveal that the majority of youth requiring substance abuse treatment fail to get needed services. Moreover, youth with co-occurring disorders commonly fail to receive needed treatment services. The current environment of shrinking fiscal resources underscores the need to utilize effective treatment methods, thus ensuring that limited resources are utilized to maximize the number of youth treated and the benefits received from treatment.

As a result of the research literature reviewed for this SOCRF, it is suggested that:

- Additional fiscal resources be sought from State and Federal sources to expand the available network of youth substance abuse treatment programs
- There be increased effort to integrate substance abuse and mental health treatment services for youth
- A program enabling clinicians to obtain joint certification/accreditation in the treatment of substance use and co-occurring mental health issues be developed, and subsequently required, for clinicians
- The cooperation between substance abuse providers and the juvenile justice system be further strengthened
- Treatment providers develop and implement plans to re-engage youth leaving treatment prematurely
- Continuing care services be made available to all youth upon discharge from treatment
- A set of “moral dilemmas” be developed to determine cognitive capacity of youth to assist in choice of the most appropriate treatment.
- Treatment providers continue to encourage the active involvement of parents in their child’s treatment
- Clinicians be provided increased supervision and support by individuals with expertise in the treatment of youth substance abuse and co-morbid disorders
- Clinicians providing youth substance abuse services receive education on adolescent development, mental health disorders in youth, and issues related to victimization/trauma and sexual orientation
- Clinicians be required to annually attend specialty training/continuing education on adolescent development, co-occurring disorders, victimization/trauma, and/or other relevant issues (e.g., specific EBPs, ethnicity, continuing care)
- Clinicians be required to demonstrate competence in the implementation of:
    - ✓ Contingency management (CM)
    - ✓ Behavioral therapies (BT)
    - ✓ Cognitive behavioral therapies (CBT)
    - ✓ Motivational interviewing and enhancement techniques (MI/MET)

References

Albert, D.H. (2008). *Tobacco, Alcohol, and Other Drug Abuse Trends in Washington State: 2008 Report.* Olympia, Washington: Division of Alcohol and Substance Abuse, Washington State Department of Social and Health Services.

Baer, J.S., Beadnell, B., Garrett, S., Hartzler, B., Wells, E.A., & Peterson, P. (2008). Adolescent change language within a brief motivational intervention and substance use outcomes. *Psychology of Addictive Behaviors*, 22:4, 570-575.

Barnes, J.C., Miller, J.M., Miller, H.V., Gibson, C. (2008). Juvenile Drug Court Program Admission, Demeanor and Cherry Picking: A research note. *American Journal of Criminal Justice*, 33:2, 161-176.

Behrendt, S., Wittchen, H.U., Hofler, M., Lieb, R., & Beesdo, K. (2009). Transitions from first substance use to substance use disorders in adolescents: Is early onset associated with a rapid escalation? *Drug and Alcohol Dependence*, 99:1-3, 68-78.

Branstetter, S.A., Horn, K., Dino, G., and Zhang, J. (2009). Beyond quitting: Predictors of teen smoking cessation, reduction and acceleration following a school-based intervention. *Drug and Alcohol Dependence*, 99:1-3, 160-168.

Buckner, J.D. and Turner, R.J. (2009). Social anxiety disorder as a risk factor for alcohol disorders: A prospective examination of parental and peer influences. *Drug and Alcohol Dependence*, 100:1-2, 128-137.

Bruns, E.J., Hoagwood, K.E., Rivard, J.C., Wotring, J., Marsenich, L., & Carter, B. (2008). State implementation of evidenced-based practice for youths, part II: Recommendations for research and policy. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47:5, 499-504.

Ciesla, J.R., Valle, M. & Spear, S. (2008). Measuring relapse after adolescent substance abuse treatment: A proportional hazard approach. *Addictive Disorders & Their Treatment*, 7:2, 87-97.

Clark, D.B., Martin, C.S., & Cornelius, J.R. (2008). Adolescent onset substance use disorders predict young adult mortality. *Journal of Adolescent Health*, 42:6, 637-639.
Cohen, J.A. & Mannarino, A.P. (2008). Trauma-focused cognitive behavioral therapy for children and parents. *Child and Adolescent Mental Health*, 13:4, 158-162.

Colins, O., Vermeiren, R., Vreugdenhil, C., Schuyten, G., Broekaert, E., & Krabbendam, A. (2009). Are psychotic experiences among detained juvenile offenders explained by trauma and substance use? *Drug and Alcohol Dependence*, 100:1-2, 39-46.

Compton, W., Saha, T.D., Conway, K.P., & Grant, B.F., (2009). The role of cannabis use within a dimensional approach to cannabis use disorders. *Drug and Alcohol Dependence*, 100:3, 221-227.

Cropsey, K.L., Weaver, M.F., & Dupre, M.A. (2008). Predictors of involvement in the juvenile justice system among psychiatric hospitalized adolescents. *Addictive Behaviors*, 33:7, 942-948.

Cruise, K.R., Marsee, M.A, Dandreaux, D.M., & DePrato, D.K. (2007). Mental health screening of female juvenile offenders: Replication of a subtyping strategy. *Journal of Child and Family Studies*, 16:5, 615-625.

Davidson, L. & White, W. (2007). The concept of recovery as an organizing principle for integrating mental health and addiction services. *Journal of Behavioral Health Services & Research*, 34:2, 109-120.

Deas, D. (2008). Evidenced-based treatments for alcohol use disorders in adolescents. *Pediatrics*, 121, S348-S354.

Dembo, R., Schmeidler, J. & Childs, K. (2007). Correlates of male and female juvenile offender abuse experiences. *Journal of Child Sexual Abuse*, 16:3, 75-94.

Eiden, R.D., Colder, C., Edwards, E.P., & Leonard, K.E. (2009). A longitudinal study of social competence among children of alcoholic and nonalcoholic parents: Role of parental psychopathology, parental warmth and self regulation. *Psychology of Addictive Behaviors*, 23:1, 36-46.

Ewing, S.W., Hendrickson, S.M., & Payne, N. (2008). The validity of the desired effects of drinking scale with a late adolescent sample. *Psychology of Addictive Behaviors*, 22:4, 587-591.

Eyberg, S.M., Nelson, M.M., & Boggs, S.R. (2008). Evidence-based psychosocial treatments for children and adolescents with disruptive behavior. *Journal of Clinical Child and Adolescent Psychology*, 37:1, 215-237.

Feldstein, S.W. & Ginsburg, J.I. (2006). Motivational Interviewing With Dually Diagnosed Adolescents in Juvenile Justice Settings. *Brief Treatment and Crisis Intervention*, 6:3, 218-233.

Fleming, C.B., Mason, W.A., Mazza, J.J., Abbott, R.D., & Catalano, R.F. (2008). Latent growth modeling of the relationship between depressive symptoms and substance use during adolescence. *Psychology of Addictive Behaviors*, 22:2, 186-197.

Flicker, S.M., Turner, C.W., Waldron, H.B., Brady, J.L., & Ozechowski, T.J. (2008). Ethnic background, therapeutic alliance, and treatment retention in functional family therapy with adolescents who abuse substances. *Journal of Family Psychology*, 22:1, 167-170.

Fontanella, C.A. (2008). The influence of clinical, treatment, and healthcare system characteristics on psychiatric readmission of adolescents. *American Journal of Orthopsychiatry*, 78:2, 187-198.

Foster, J.H. & Jumnoodoo, R. (2008). Relapse prevention in serious and enduring mental illness: A pilot study. *Journal of Psychiatric and Mental Health Nursing*, 15:7, 552–561.

Garland, A.F., Hawley, K.M., Brookman-Frazee, L., & Hurlburt, M.S. (2008). Identifying common elements of evidence-based psychosocial treatments for children's disruptive behavior problems. Journal of the American Academy of Child & Adolescent Psychiatry, 47:5, 505-514.

Garner, B.R., Godley, S.H., & Funk, R.R. (2008). Predictors of early therapeutic alliance among adolescents in substance abuse treatment. *Journal of Psychoactive Drugs*, 40: 1, 55-65.

Garner, B.R., Godley, M.D., Funk, R.R., Dennis, M.L., & Godley, S.H. (2007). The impact of continuing care adherence on environmental risks, substance use, and substance-related problems following adolescent residential treatment. *Psychology of Addictive Behaviors*, 21:4, 488-497.

Gavazzi, S.M., Lim, J., Yarcheck, C.M., Bostic, J.M., & Scheer, S.D. (2008). The impact of gender and family processes on mental health and substance use issues in a sample of court-involved female and male adolescents. *Journal of Youth and Adolescence*, 37:9, 1071-1084.

Godley S.H., Dennis M.L., Godley M.D., & Funk RR. (2004). Thirty-month relapse trajectory cluster groups among adolescents discharged from out-patient treatment. *Addiction*, 99:S2, 129-139.

Godley, M.D. Godley, S.H., Dennis, M.L., Funk, R., & Passetti, L. (2007). The effect of assertive continuing care on continuing care linkage, adherence and abstinence following residential treatment for adolescents with substance use disorders. *Addiction*, 102:1, 81-93.

Godley, S.H., Godley, M. D., Wright, K.L., Funk, R.R., & Petry, N.M. (2008). Contingent reinforcement of personal goal activities for adolescents with substance use disorders during post-residential continuing care. *American Journal on Addictions*, 17:4, 278–286,

Godley, S.H., Passetti, L.L., Funk, R.R., Garner, B.R., & Godley M.D. (2008). One-year treatment patterns and change trajectories for adolescents participating in outpatient treatment for the first time. *Journal of Psychoactive Drugs*, 40:1, 17-28.

Hall, J.A., Smith, D.C., Easton, S.D., A., H. Williams, J.K., Godley, S.H. & Jang, M. (2008) Substance abuse treatment with rural adolescents: Issues and outcomes. *Journal of Psychoactive Drugs*, 40:1, 109-120.

Hamilton, J.D. (2008). Concluding the series on evidence-based practice: The spread of excellence in child and adolescent psychiatry, 47:11, 1222-1227.

Hawkins, E. (2009). A tale of two systems: Co-occurring mental health and substance abuse disorders treatment for adolescents. *Annual Review of Psychology*, 60, 97-227.

Henggeler, S.W., Chapman, J.E., Rowland, M.D., Halliday-Boykins, C.A., Randall, J., Shackelford, J., & Schoenwald, S.K. (2008). Statewide adoption and initial implementation of contingency management for substance-abusing adolescents. *Journal of Consulting and Clinical Psychology*, 76:4, 556-567.

Hinduja, S. & Patchin, J. W. (2008) Cyberbullying: An exploratory analysis of factors related to offending and victimization. *Deviant Behavior*, 29:2, 129-156.

Hoagwood, K. & Kolko, D.J. (2009). Introduction to the special section on practice contexts: A glimpse into the nether world of public mental health services for children and families. *Administration and Policy in Mental Health and Mental Health Services Research*, 36:1, 35-36.

Huey, S.J. & Polo, A.J. (2008). Evidence-based psychosocial treatments for ethnic minority youth. *Journal of Clinical Child and Adolescent Psychology*, 37:1, 262-301.

Hussey, D. l., Drinkard, A. M., Falletta, L., & Flannery, D.J. (2008). Understanding clinical complexity in delinquent youth: Comorbidities, service utilization, cost, and outcomes. *Journal of Psychoactive Drugs*, 40:1, 85-95.

Jensen-Doss, A., Cusack, K.J., & de Arellano, M.A. (2008). Workshop-based training in trauma-focused CBT: An in-depth analysis of impact on provider practices. *Community Mental Health Journal*, 44:4, 227-244.

Kaminer, Y., Burleson, J.A., & Burke, R.H. (2008) Efficacy of outpatient aftercare for adolescents with alcohol use disorders: A randomized controlled study. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47:12, 1405-1412.

Kelly, J.F., Brown, S.A., Abrantes, A., Kahler, C.W., & Myers, M. (2008). Social recovery model: An 8-year investigation of adolescent 12-step group involvement following inpatient treatment. *Alcoholism: Clinical and Experimental Research*, 32:8, 1468-78.

Kendall, P.C., Gosch, E., Furr, J.M., & Sood, E. (2008). Flexibility within fidelity. *Journal of the American Academy of Child and Adolescent Psychiatry*, 47:9, 987-993.

Kendall, P.C. Hudson, J.L., Gosch, E., Flannery-Schroeder, E. & Suveg, C. (2008). Cognitive-behavioral therapy for anxiety disordered youth: A randomized clinical trail evaluating child and family modalities. *Journal of Consulting and Clinical Psychology*, 76:2, 282-297.

Kennard, B.D., Emslie, G.J., Mayes, T.L., Nightingale-Teresi, J., Nakonezny, P.A., & Hughes, J.L., et al. (2008). Cognitive-behavioral therapy to prevent relapse in pediatric responders to pharmacotherapy for major depressive disorder. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47:12, 1395-1404.

Kim, R.J. & Jackson, D.S. (2009). Outcome evaluation findings of a Hawaiian culture-based adolescent substance abuse treatment program. *Psychological Services*, 6:1, 43-55.

Kleinjan, M., Engles, R.C., van Leeuwe, J., Brug, J., van Zundert, R.M., & van den Eijnden, R.J. (2009). Mechanisms of adolescent smoking cessation: Roles of readiness to quit, nicotine dependence, and smoking of parents and peers. *Drug and Alcohol Dependence*, 99:1-3, 204-214.

Kolko, D.J., Cohen, J.A., Mannarino, A.P., Baumann, B.L., & Knudsen, K. (2009). Community treatment of child sexual abuse: A survey of practitioners in the National Child Traumatic Stress Network. *Administration and Policy in Mental Health and Mental Health Services Research*, 36:1, 37-49.

Letourneau, E.J., Henggeler, S.W., Borduin, C.M., Schewe, P.A., McCart, M.R., Chapman, J.E., & Saldana, L. (2009). Multisystemic therapy for juvenile sexual offenders: 1-year results from a randomized effectiveness trial. *Journal of Family Psychology*, 23:1, 89-102.

Liddle, H.A., Rowe, C.L., Dakof, G.A., Henderson, C.E., & Greenbaum, P.E. (2009). Multidimensional Family Therapy for young adolescent substance abuse: Twelve-month outcomes of a randomized controlled trial. *Journal of Consulting and Clinical Psychology*, 77:1, 12-25.

Lott D.C. & Jencius, S. (2009). Effectiveness of very low-cost contingency management in a community adolescent treatment program. *Drug and Alcohol Dependence*, 102:1-3, 162-165.

Maid, R., Smokowski, P., & Bacallao, M. (2008). Family treatment of childhood anxiety. *Child and Family Social Work*, 13:4, 433-442.

Martin, C.S., Chung, T., Kirisci, L. & Langenbucher, J.W. (2006). Item response theory analysis of diagnostic criteria for alcohol and cannabis use disorders in adolescents: Implications for DSM-V. *Journal of Abnormal Psychology,* 115:4, 807-814.

Marshal, M.P., Friedman, M.S., Stall, R., King, K.V., Miles, J., & Gold, M.A., et al (2008). Sexual orientation and adolescent substance use: A meta-analysis and methodological review. *Addiction*, 103:4, 546-556.

Mason, W.A., Hitchings, J.E., & Spoth, R. (2007). Emergence of delinquency and depressed mood throughout adolescence as predictors of late adolescent problem substance use. *Psychology of Addictive Behaviors*, 21:1, 13-24.

Muehlenkamp, J.J., Ertelt, T.W., & Azure, J.A. (2008). Treating outpatient suicidal adolescents: Guidelines from the empirical literature. *Journal of Mental Health Counseling*, 30:2, 105-120.

National Comorbidity Survey Replication Adolescent Supplement (NCS-A): I. Background and measures. Merikangas, Kathleen R.; Avenevoli, Shelli; Costello, E. Jane; Koretz, Doreen; ***Kessler,*** Ronald C. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4): 367-379, 2009.

National Comorbidity Survey Replication Adolescent Supplement (NCS-A): II. Overview and design. ***Kessler***, Ronald C.; Avenevoli, Shelli; Costello, E. Jane; Gruber, Michael J.; Merikangas, Kathleen R.; Sampson, Nancy A.; Zaslavsky, Alan M.; Pennell, Beth-Ellen; Heeringa, Steven; Green, Jennifer Greif; *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4): 380-385, 2009.

National Comorbidity Survey Replication Adolescent Supplement (NCS-A): III. Concordance of DSM-IV/CIDI diagnoses with clinical reassessments. ***Kessler***, Ronald C.; Avenevoli, Shelli; Green, Jennifer; Guyer, Margaret; Jin, Robert; Sampson, Nancy A.; Merikangas, Kathleen R.; Zaslavsky, Alan M.; Kaufman, Joan; He, Yulei; Gruber, Michael J. *Journal of the American Academy of Child & Adolescent Psychiatry*, 48(4): 386-399, 2009.

Oesterle, S., Hill, K.G., Hawkins, J.D., & Abbott, R.D. (2008). Positive functioning and alcohol-use disorders from adolescence to young adulthood. *Journal of Studies on Alcohol and Drugs*, 69:1, 100-111.

Office of Applied Studies. (2008). *Results from the 2007 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 08-4343, NSDUH Series H-34). Rockville, MD: Substance Abuse and Mental Health Services Administration. Also available online: http://oas.samhsa.gov.

Palmer, RHC, Young, SE, Hopfer CJ., Corley, RP Stallings, MC, Crowley, TJ, et al. (2009). Developmental epidemiology of drug use and abuse in adolescence and young adulthood: Evidence of a generalized risk. *Drug and Alcohol Dependence*, 102:1-3, 78-87

Passetti, L.L. & Godley, S.H. (2008). Adolescent substance abuse treatment clinicians' self-help meeting referral practices and adolescent attendance rates. *Journal of Psychoactive Drugs*, 40:1, 29-40.

Perepletchikova, F., Krystal, J.H. & Kaufman, J. (2008). Practitioner review: Adolescent alcohol use disorders: Assessment and treatment issues. *Journal of Child Psychology and Psychiatry*, 49:11, 1131-1154.

Perron B.E., Gotham, H.J., & Cho, D. (2008). Victimization among African-American adolescents in substance abuse treatment. *Journal of Psychoactive Drugs*, 40:1, 67-75.

Poteat, V.P., Aragon, S.R., Espelage, D.L., & Koenig, B.W. (2009). Psychosocial concerns of sexual minority youth: Complexity and caution in group differences. *Journal of Consulting and Clinical Psychology*, 77:1, 196-201.

Probst, B. (2008). Issues in portability of evidence-based treatment for adolescent depression. *Child and Adolescent Social Work Journal*, 25:2, 111-123.

Ramchand, R., Griffin, B.A., Harris, K.M., McCaffrey, D.,F., & Morral, A.R. (2008). A prospective investigation of suicide ideation, attempts, and use of mental health service among adolescents in substance abuse treatment. *Psychology of Addictive Behaviors*, 22:4, 524-532.

Ridenour,TA, Tarter, RE, Reynolds, M, Mezzich, A, Kirisci, L., Vanyukov, M. (2009). Neurobehavior disinhibition, parental substance use disorder, neighborhood quality and development of cannabis use disorder in boys. *Drug and Alcohol Dependence*, 102: 1-3, 71-77

Riggs, P., Levin, F., Green, A.I, & Vocci, F. (2008) Comorbid psychiatric and substance abuse disorders: Recent treatment research. *Substance Abuse*, 29:3, 51-63.

Rosario, M., Schrimshaw, E.W., & Hunter, J. (2009). Disclosure of sexual orientation and subsequent substance use and abuse among lesbian, gay and bisexual youths: Critical role of disclosure reactions. *Psychology of Addictive Behaviors*, 23:1, 175-184.

Schoenwald, S.K., Carter, R.E., Chapman, J.E., & Sheidow, A.J. (2008). Therapist adherence and organizational effects on change in youth behavior problems one year after multisystemic therapy. *Administration and Policy in Mental Health and Mental Health Services Research*, 35:5, 379–394.

Shane, P., Diamond, G.S., Mensinger, J.L., Shera, D., & Wintersteen, M.B. (2006) Impact of Victimization on Substance Abuse Treatment Outcomes for Adolescents in Outpatient and Residential Substance Abuse Treatment. *American Journal on Addictions*, 15:S1, 34-42.

Sheidow, A.J., Donohue, B.C., Hill, H.H., Henggeler, S.W., & Ford, J.D. (2008). Development of an audiotape review system for supporting adherence to an evidence-based treatment. *Professional Psychology: Research and Practice*, 39:5, 553-560.

Silverman, W.K., Ortiz, C.D., Viswesvaran, C., Burns, B.J., Kolko, D.J., & Putnam, F.W. (2008). Evidence-based psychosocial treatments for children and adolescents exposed to traumatic events. *Journal of Clinical Child and Adolescent Psychology*, 37:1, 156-183.

Simmons, R., Ungemack, J., Sussman, J., Anderson, R., Adorno, S., Aguayo, J., et.al. (2008) Bringing adolescents into substance abuse treatment through community outreach and engagement: The Hartford Youth Project. *Journal of Psychoactive Drugs*, 40:1, 41-54.

Skenderian, J.J., Siegel, J.T., Crano, W.D., Alvaro, E.E., & Lac, A. (2008). Expectancy change and adolescents' intentions to use marijuana. *Psychology of Addictive Behaviors*, 22:4, 563-569.

Sloboda, Z, Stephens, R.C., Stephens, PC, Grey, SF, Teasdale, B., Hawthorne, J. et al. (2009) The Adolescent Substance Abuse Prevention Study: A randomized field trial of a universal substance abuse prevention program. *Drug and Alcohol Dependence*, 102:1-3, 1-10

Sontag, L.M., Graber, J.A., Brooks-Gunn, J., & Warren, M. (2008). Coping with social stress: Implications for psychopathology in young adolescent girls. *Journal of Abnormal Child Psychology*, 36(8), 1159-1174.

Subramaniam, G.A., & Stitzer, M.A. (2009). Clinical characteristics of treatment-seeking prescription opioid vs. heroin-using adolescents with opioid use disorder. *Drug and Alcohol Dependence*, 101:1-2, 13-19.

Subramaniam, G.A., Stitzer, M.L., Woody, G., Fishman, M.J., & Kolodner, K. (2009). Clinical characteristics or treatment-seeking adolescents with opioid versus cannibis/alcohol use disorders. *Drug and Alcohol Dependence*, 99:1-3, 141-149.

Substance Abuse and Mental Health Services Administration, Office of Applied Studies. (2009). *The NSDUH Report: Young Adults' Need for and Receipt of Alcohol and Illicit Drug Use Treatment: 2007.* Rockville, MD.

Thush, C., Wiers, R.W., Moerbeek, M., Ames, S.L., Grenard, J.L., Sussman, S., & Stacy, A.W. (2009). Influence of motivational interviewing on explicit and implicit alcohol-related cognition and alcohol use in at-risk adolescents. *Psychology of Addictive Behaviors*, 23:1, 146-151.

Vega, W.A., Canino, G., Cao, Z., & Alegria, M. (2009). Prevalence and correlates of dual diagnosis in US Latinos. *Drug and Alcohol Dependence*, 100:1-2, 32-38.

Vitiello, B. (2008). Recent NIMH clinical trials and implications for practice. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47:12, 1369-1373.

Wanner, B., Vitaro, F., Carbonneau, R., & Tremblay, R.E. (2009). Cross-lagged links among gambling, substance use, and delinquency from mid-adolescence to young adulthood: Additive and moderating effects of common risk factors. *Psychology of Addictive Behaviors*, 23:1, 91-104.

Weinstein, S.M., Mermelstein, R., Shiffman, S., & Flay, B. (2008). Mood variability and cigarette smoking escalation among adolescents. *Psychology of Addictive Behaviors*, 22:4, 504-513.

Weisz, J.R., & Gray, J.S. (2008). Evidenced-based psychotherapy for children and adolescents: Data from the present and a model for the future. *Child & Adolescent Mental Health*, 13:2, 54-65.

Williams, J.K., Smith, D.C., An, H., & Hall, J.A. (2008). Clinical outcomes of traumatized youth in adolescent substance abuse treatment: A longitudinal multisite study. *Journal of Psychoactive Drugs*, 40:1, 77-84.

Wills, T.A., Ainette, M.G., Stoolmiller, M., Gibnbons, F.X., & Shinar, O. (2008). Good self-control as a buffering agent for adolescent substance use: An investigation in early adolescence with time-varying covariates. *Psychology of Addictive Behaviors*, 22: 4, 459-471.

Wills, T.A., Sargent, J.D., Gibbons, F.X., Gerrard, M., & Stoolmiller, M. (2009). Movie exposure to alcohol cues & adolescent alcohol problems: A longitudinal analysis in a national sample. *Psychology of Addictive Behaviors*, 23:1, 23-25.

Winters, K.C., Botzet, A.M., Fahnhorst, T., Baumel, L., & Lee, S. (2009). Impulsivity and its relationship to risky sexual behaviors and drug abuse. *Journal of Child & Adolescent Substance Abuse*, 18, 43-56.

Smith, S.D., Dermer, S.B., & Astramovich, R.L. (2005). Working With Nonheterosexual Youth to Understand Sexual Identity Development, At-Risk Behaviors, and Implications for Health Care Professionals. *Psychological Reports,* 96:3, 651-654.