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Multisystemic Therapy

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MULTISYSTEMIC THERAPY (MST)

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Overview and History of MST

Multisystemic Therapy (MST) is a leading evidence-based intervention used with children who have serious emotional disturbances in an effort to reduce or prevent psychiatric hospitalizations and out-of-home placements. Originally, the model was developed to address antisocial behavior (primarily in adolescents) that resulted in their involvement with the juvenile justice system. Over time, the model also has been adopted by those within other child-serving systems, including mental health.

MST operates on the premise that antisocial behavior in youth may be influenced by various areas in their life, including peers, school, family, and neighborhood.

MST is based on the social ecological model (e.g. Bronfenbrenner) and systems theory (e.g. vonBertalanffy; Minuchin) and therefore operates on the premise that antisocial behavior in youth can be attributed to factors in various life domains. Research by MST experts (e.g. Henggeler 1991, 1997) has demonstrated that antisocial behavior in youth is associated with:

- Association with "delinquent peers." Close and continued association with peers who are involved with the juvenile justice system is associated with other behaviors (such as the development of poor relationship skills and the weakening of ties with prosocial peers) which contribute to and sustain antisocial behaviors.
- Difficulties experienced in school. Specific correlates with antisocial behavior include low achievement; dropping out; and characteristics of the school environment such as chaotic structure.
- Troubled family relationships. Aspects of the family contributing to antisocial behavior in youth include lack of monitoring the youth's activities; inconsistent or nonexistent discipline; lack of

warmth; high degree of conflict; and other parental or caregiver problems such as substance abuse or mental health issues.

- Aspects of the neighborhood, to a somewhat lesser extent, including high mobility; presence of criminal activity; and a low degree of support from neighbors and other "natural support systems" such as churches.

Therefore, MST takes a holistic approach in identifying triggers for the youth's problematic behaviors by examining all aspects of his/her life (e.g. including their peers, school, family, and neighborhood) and, just as importantly, the interconnectedness between these areas. That is, according to the social ecology model, interventions should focus beyond the immediate context in which the child operates; more distant factors do have ripple effects which influence the child. For example, the parent's working environment does not directly affect the child's behavior but may indirectly contribute to their development (Henggeler, et al., 1998).

MST places significant emphasis on the family in leading and participating in therapeutic efforts.

MST embraces the family as the focus of the therapeutic efforts. Given that the caregivers play a pivotal role in the child's environment and upbringing, MST takes the family as the treatment unit. Oftentimes, MST devotes a significant amount of attention to understand how the family functions and to help the caregivers improve their parenting skills. In addition to bolstering these skills, other more specialized supports (e.g. mental health and/or substance abuse treatment for the caregiver) may be necessary. Given this perspective, MST has been classified in various ways such as family preservation services, family-centered services, or intensive family services. MST advocates, however, often differ with that classification since family preservation is a service delivery model (not a treatment model). Not all family preservation programs deliver the same treatment and MST is unique.

Multisystemic Therapy was initially developed in the late 1970's and incorporates techniques from cognitive, behavioral, and family therapies[1]. MST was developed under the leadership of Dr. Scott W. Henngeler, now in the Department of Psychiatry and Behavioral Sciences at the Medical University of South Carolina where he founded the Family Services Research Center (FSRC). That Center has devoted much of its research and evaluation efforts to refining the MST model, and implementing it within various populations. Henggeler and his associates (1986) first reported on their efforts in using MST with juvenile offenders.

Although begun as a treatment for youth in juvenile justice settings, the problem-focused (rather than diagnosis-focused) orientation of MST permitted a cross over into other child-serving areas, such as mental health.

As the developers note (Henggeler et al., 1998), the implementation of MST does not depend upon diagnostic labels used within any particular system, be it the juvenile justice (e.g. violent offender) or psychiatric systems (e.g. conduct disorder). Rather, in MST programs, families collaborate with practitioners to identify specific behaviors which are problematic and family members (along with the child) set the treatment goals. This framing has enabled MST to cross over from its initial use in juvenile justice settings to more traditional mental health settings, as well as to more broadly-conceptualized child systems approaches. Although originally designed to address the mental health needs of children and adolescents in the juvenile justice system, as evaluations began to demonstrate the approach's relative effectiveness, other populations began to be targeted. For example, MST has been implemented with abused and neglected youth (Brunk et al., 1987), violent and chronic juvenile offenders in rural settings (Henggeler, Melton et al., 1997) and children in a range of psychiatric inpatient treatment settings (Henggeler, Rowland et al., 1997; Huey et al., 2004; Sheidow et al., 2004). More recently, MST has been implemented in programs serving other populations including: pregnant adolescents and adolescent parents; and maltreated children placed into foster care (as reported in Henggeler et al., 1998). In addition, the MST approach has been combined

[1] The approach now also includes pharmacological interventions when indicated (e.g. for ADHD). In addition, for populations with substance abuse issues, other interventions such as the Community Reinforcement Approach (CRA) may be incorporated.

with philosophically compatible approaches; for example, the Community Reinforcement Approach (CRA), which has been used successfully in treating substance abuse, is being combined with MST to target substance-abusing parents of young children.

Finally, although MST was developed to be delivered as a home-based intervention, it is a treatment model not a service delivery system. Therefore, MST can be and now is being delivered through systems other than the home. Less intensive versions of MST have been developed for use in outpatient settings and within the traditional 50 minute clinical session (Henggeler et al., 1998). For example, MST-based continua of care have been developed in several sites, with support from the Annie E. Casey Foundation and other sources, and have been reported within the literature (Henggeler, 1999).

The MST model first was developed during the late 1970's and its dissemination has been affected by similar and overlapping influences in children's mental health, such as systems of care, and the consumer and family movements.

As a therapeutic intervention, MST developed within a particular historical context. At the time MST emerged, two other forces were exhibiting considerable influence on children's mental health services (Henggeler et al., 1998): namely, systems of care; and the consumer and family advocacy movement. Both have contributed to the growth and acceptance of MST.

In 1984, the largest federal conceptualization of children's mental health care was embodied in the Child and Adolescent Service System Program (CASSP) which was designed to establish multi-level community-based systems to serve children with emotional, behavioral, and mental health needs. CASSP sought to address existing deficiencies in the mental health system including its fragmentation, overly professionalized service delivery, and use of restrictive and out-of-home treatments. Although the initial round of CASSP funding in 1985 supported programs in ten states, by 1989 all 50 states had received CASSP support and had established systems of care. The tenets of systems of care align well with the theoretical underpinnings of MST. Both advocate a community-based context for addressing the mental health needs of youth and

their families, adopt an individualized approach to developing specific treatment plans, and depend upon the active involvement of family members and other natural supports. Nebraska provides a notable example: MST and wraparound services have been incorporated into their systems of care for children with serious emotional disorders (Ferguson and Baxter, 2003).

Consumer and family advocacy groups also grew and achieved a national presence during the 1980's. Many of the principles of these groups (such as those advocated by the Federation of Families for Children's Mental Health) are highly consistent with the MST model: the central role of family members in participating in their child's care, the emphasis on strength-based needs assessments, and individualized service plans. As a result, consumers and advocates often championed the MST model and its use has spread.

Researchers and clinicians at the Family Services Research Center (FSRC) have devoted considerable efforts to disseminating the model. Furthermore, two additional allied organizations were created at MUSC in 1996, each with distinct responsibilities, to assist FSRC. First, MST Services, Inc. provides technical assistance and support to disseminate the model, and coordinates MST licensing agreements with the FSRC and the MUSC. Second, The MST Institute is the most recent organization and it is devoted to quality assurance and outcome tracking in MST programs. The Institute hosts conferences and workshops covering a range of treatment and organizational issues relevant for MST programs. The organizational supports offered by the three groups (FSRC, MST Services, and MST Institute) have fostered consistency of training and treatment across MST programs engaging their services.

MST has been recognized as a promising practice by numerous influential groups and individuals including by the Surgeon General in the 1999 Report on Mental Health.

MST has been recognized as an evidenced-based or promising practice by several leading sources in children's mental health (e.g. Hoagwood et al., 2001) as well as influential policy-makers across a range of child-serving agencies. Many public officials and agencies support MST as a leading

intervention for troubled youth. Recently the Report of the Surgeon General on Children's Mental Health (DHHS, 1999) announced that MST is an effective intervention for children with serious emotional disturbances (SED) and their families. In fact, MST was the only effective intervention included under the category of home-based services. The Office of Juvenile Justice and Delinquency Prevention (OJJDP) has supported MST through a Bulletin, which it released in 1997, devoted to the practice (www.ncjrs.org/pdffiles/165151.pdf) and has since funded several MST programs through the Juvenile Accountability Incentive Block Grants (JAIBG). The national substance abuse centers in NIH and SAMHSA also support the practice. NIDA recognizes MST as an effective research-based treatment program; in 2001, CSAP cited MST with its Exemplary Substance Abuse Prevention Award; and CSAT recognized MST as an effective strategy for integrating substance abuse treatment and the juvenile justice system. MST is among the Model Programs identified by the Substance Abuse and Mental Health Services Administration (SAMHSA).

In addition, other leading analysts have noted the relative effectiveness of MST. For example, MST is one of the programs recommended by Blueprints for Violence Prevention[2]. MST also is listed as one of the practices in the "Promising Practices Network (PPN) for children, Families, and Communities" operated by the RAND Corporation, and was founded by four state-level intermediary organizations: the Colorado Foundation for Families and Children, the Family and Community Trust (Missouri), the Family Connection Partnership (Georgia), and the Foundation Consortium for California's Children & Youth (California) (www.promisingpractices.net/program.asp?programid=81&benchmarkid=52).

[2] The Blueprints for Violence Prevention program has identified effective violence prevention programs. The initiative has been led by The Center for the Study and Prevention of Violence (CSPV), at the University of Colorado at Boulder, with funding from the Colorado Division of Criminal Justice, Centers for Disease Control and Prevention, and the Pennsylvania Commission on Crime and Delinquency. www.colorado.edu/cspv/blueprints/index.html

Today, MST programs operate in 30 states, and 7 countries outside of the United States (Canada, Denmark, England, Norway, New Zealand, Northern Ireland, and Sweden). Many states, such as Ohio, have adopted MST programs within their portfolio of child-serving programs. In its use of MST, Ohio explicitly makes use of a variety of therapeutic approaches both for the child and for the family. Interventions used include behavioral therapy, cognitive behavioral therapy, family therapy, pharmacological interventions (when warranted), and the Community Reinforcement Approach (developed by Budney and Higgins). Often MST is incorporated into wraparound services and has been used in such visible projects as Stark County's system of care in Ohio.

In addition, other states are using programs modeled after MST to provide children with home-based services and prevent hospitalization or out-of-home placement. The New York State Office of Mental Health supports an MST-based program through its Home-Based Crisis Intervention. BCI is one of four state-wide evidence-based practices being implemented in the state (www.omh.state.ny.us/omhweb/ebp/chldren.htm).

MST Treatment Principles

Although MST is a manualized approach, therapists are not instructed through a step-by-step process. (See the section on "Training Requirements," below.) There is no set curriculum. Rather, clinicians are taught to flexibly adapt their approach to the child and family's needs, using 9 treatment principles (taken from Henggeler et al., 1998) on :

A manualized practice, MST is based on 9 treatment principles, rather than a set curriculum.

1. Finding the fit: The primary purpose of assessment is to understand the fit between the identified problems and their broader systemic context.
2. Positive and strength focused: Therapeutic contacts emphasize the positive and use systemic strengths as levers for change.

3. Increasing responsibility Interventions are designed to promote responsible behavior and decrease irresponsible behavior among family members.

4. Present-focused, action-oriented, well-defined: Interventions are present focused and action oriented, targeting specific and well-defined problems.

5. Targeting sequences: Interventions target sequences of behavior within and between multiple systems that maintain the identified problems.

6. Developmentally appropriate: Interventions are developmentally appropriate and fit the developmental needs of the youth.

7. Continuous effort: Interventions are designed to require daily or weekly effort by family members.

8. Evaluation and accountability: Intervention effectiveness is evaluated continuously from multiple perspectives with providers assuming accountability for overcoming barriers to successful outcomes.

9. Generalization: Interventions are designed to promote treatment generalization and long-term maintenance of therapeutic change by empowering caregivers to address family members' needs across multiple systemic contexts.

Evidence Supporting the Practice

Proponents of MST argue that as an evidence-based practice, MST meets the following minimal criteria:

- At least two control group studies have been conducted;
- At least two investigators have conducted research on the intervention;
- A treatment manual exists;
- There are standards for training therapists; and
- Fidelity measures exist for implementing the intervention.

In addition, the evidence-base is relatively robust and has a high degree of validity given that much of the evaluation research has included:

- Populations of actual clinical cases;
- A range of study outcomes, including measures assessing functioning and psychiatric symptoms; and
- Long-term outcomes past the termination of treatment (and in some cases, the cohorts have been followed for over a decade).

Most of the evidence base for MST derives from studies of youth involved with the juvenile justice system.

Since MST was developed for youth who were involved in the juvenile justice system, much of the evaluation work has examined various populations in this arena. For example, there are at least 9 randomized trials with more than 900 families who have participated (Borduin, 2003). The majority of these studies have been conducted on offender populations (3 with violent and chronic juvenile offenders; 1 with substance abusing or dependent juvenile offenders; 1 with inner-city offenders; and 2 with juvenile sexual offenders). Nonetheless, a few randomized trials have been conducted with other populations (e.g. maltreating families; or those presenting with psychiatric emergencies).

Studies using both randomized and quasi-experimental designs (that is, studies incorporating a control group) have tended to demonstrate a range of positive outcomes within the MST group. In comparison with controls, those in MST groups have tended to exhibit:

- Improved relationships with their family (e.g. Henggeler et al., 1986.; Brunk et al., 1987);
- Higher attendance at school (e.g. Henggeler, Rowland et al, 1999);
- Reductions in out-of home placements (ranging between 47-64% less than the comparison group: e.g. Henggeler et al., 1992; Henggeler, Melton et al., 1997; Henggeler et al., 1997);
- Fewer psychiatric symptoms (e.g. Henggeler, Melton et al., 1997); and

- Lower rates of substance abuse (e.g. Borduin et al. 1995; Henggeler et al., 1992).

In addition, over time those in the MST groups had lower rates of recidivism and re-arrest, with reductions ranging between 25-70% (Henggeler et al., 1992; Borduin et al., 1995). In these comparative studies, the control group has variously consisted of "usual community-based care" or individual therapy. Again, because many MST programs have included juvenile justice populations, the relative effectiveness of MST with such youth, along these dimensions, has been documented more extensively than among other populations. Those readers who are interested in the relative effectiveness of MST over other treatment programs will want to examine the literature in detail.

One criticism of the MST evidence base is that most studies were led by the group of researchers who developed the MST model.

Although advocates of MST report that the preponderance of the research supports the benefits of MST, there are serious limitations to the evidence-base. Critics have questioned the degree to which the evidence-base on the effectiveness of MST is reported by neutral sources and reflects real-world implementation of the model. The bulk of the evaluations conducted on MST have been led by the developers of the model prompting some to question the objectivity in assessing the effectiveness of the model. In response, the developers (Henggeler et al., 1998) note that independent principal investigators are now beginning to publish on their experiences implementing the model and cite such examples as Dr. Christopher R. Thomas at the University of Texas Medical Branch in Galveston, as well as the Department of Children, Families, and Their Communities in Wilmington, Delaware. Although independent of FSRC, these researchers and practitioners have received technical assistance and consultation, delivered through either FSRC or MST Services, Inc.

A few studies have been conducted with no direct contact from FSRC or its allied organizations. One study (Sutphen, Thyer, and Kurtz, 1995) largely replicated the benefits reported by FSRC (although methodological questions, such as small sample size, limit its generalizability). Still other sites have experienced implementation difficulties which severely compromised the validity of their evaluation and prohibited them from reporting on findings (e.g. in Washington state as reported by Barnoski, 2004). In fact, the issue of transportability has been noted by MST developers (Henggeler, Pickrel and Brondino 1999) as a factor which may have implications not only for the fidelity of the program, but for the outcomes achieved.

Meanwhile a four-year randomized trail in Canada has generated considerable controversy. Four southern Ontario communities implemented MST programs to address the questions: will MST be followed by lower levels of criminal conviction than achieved with existing services? In its interim report, researchers found no statistically significant differences on outcome measures (Cunningham, 2002). In 3 years, 79% of youth had at least one conviction. Proponents of MST argue, and the Canadian researchers agree, that: (1) the sample size (n=409) may not have been large enough to produce a design of sufficient statistical power; (2) self-selection bias may have skewed the results, even though participants were subsequently randomized; and (3) providers may also have skewed the population enrolled by not referring clients. A follow-up study has been continuing through 2004, and results will be reported subsequently.

As a result, researchers, practitioners and policy-makers continue to wait for a sizable body of independently conducted research on MST to be reported.

Policy Issues

There is one over-riding policy issue in implementing MST programs: whether or not states and participating agencies decide to use the family preservation

Whether or not to choose to deliver MST within a "family preservation" delivery system is a major policy issue, especially when abused or neglected children are involved.

approach as the delivery system. As stated previously, MST is not a service delivery system. It is a treatment model, which can be incorporated into various delivery systems. Some of the programs implementing MST have had family preservation as a goal, while others have not. The Homebuilders family preservation program developed in 1997 by Kinney and colleagues in Tacoma, Washington is a frequently cited example of such a program.

Since abused and neglected children often are among those needing and/or seeking mental health services, this issue is a salient one with significant implications. Should states pursue a family preservation model, sufficient safeguards for the welfare of the children and adolescents should be implemented and support from the community should be encouraged from the outset, as the program is being developed.

Implementation Issues

MST is a complex intervention and, therefore, key stakeholders will need to address a range of issues as MST programs are designed, implemented, and sustained. Some of the most relevant implementation issues, for states, programs and families to consider, are outlined below.

➢ Implementation Issues for the State

Some issues, especially those relating to infrastructure and financing, are particularly salient for state agencies choosing to pursue MST programs.

Formal interagency agreements may reduce the frictions that arise from collaboration.

Cross-Agency Collaboration: MST crosses the traditional boundaries of service delivery. While the model originated in juvenile justice, it focuses on mental health services and draws in all child-serving sectors as it addresses the full-range of needs presented by the children and their families. Therefore, if mental health agencies do not have existing relationships with child welfare, juvenile justice, and education, then new relationships will be necessary. Oftentimes, formal interagency agreements, which define MST services and clearly spell out the responsibilities of all parties, may be helpful.

Furthermore, while interagency work can raise turf issues, sensitive and knowledgeable administrators can facilitate the process by being aware of the issues and policies most salient in these other sectors. For example, funding sources available to child welfare agencies which can be used to support mental health programming carry their own unique regulatory and statutory requirements, and benefits. Knowledge of these issues and a willingness to participate in open dialogue with other state agencies is essential for state mental health authorities in order to establish a sustainable program.

MST will not entirely replace the need for out-of-home placements: Despite the documented and anecdotal success of MST programs, these home-based interventions will not completely eliminate the need for out-of-home placements. In particular, states can anticipate that youth in these programs, as well as in other programs, will continue to need crisis services such as those provided through 24-hour stabilization units.

➢ **Implementation Issues for Programs**

Agencies or programs which institute MST programs will face challenges in both service delivery and program management/organization.

MST as a new approach to service delivery: At an organizational level, some agencies may have a philosophy or theoretical perspective that is at odds with the goals of MST. For example, some approaches (e.g. psychoanalytic) or goals (e.g. treating children in out-of-home placements) are incompatible with the MST framework. Therefore, organizations should initially consider how compatible their program is with MST.

MST may be difficult to implement in agencies that have radically different approaches to treatment or that have not demonstrated their "organizational readiness" for change.

In addition, key administrators, supervisors, and clinicians in the organization must be in agreement. Agencies may also want to consider their "organizational readiness for change", a standard consideration in adopting new protocols. MST requires that providers work as a team, both with other

providers and with family members, and this approach may require some adjustment for therapists with more traditional training. For example, therapists work within teams of 3-4 other practitioners, each with their own caseload. While providers may be somewhat familiar working as a team with other professionals, MST views the family caregivers as the single most pivotal element to ensuring that the intervention has lasting effects. That is, while providers do play a significant role in the therapeutic process, family members are vital to ensuring that the child experiences lasting success. Here, as in other family-centered approaches such as wraparound, therapists may be challenged to modify their practice philosophies.

Finally, programs may want to consider specific criteria when hiring MST clinicians. The demands of the position, unlike more traditional clinical positions, require that the individual be flexible in the hours and locations in which they work; creative in their treatment approach, using "street smarts" when necessary; and be open to ongoing peer supervision.

Workforce Guidelines: MST programs demand that clinicians work in ways which other programs do not. As a result, the following guidelines for managing MST positions are recommended by MST Services Inc. (adapted from www.mstservices.com/text/program.html#needs)

- MST clinicians should be full-time employees assigned only to the MST program.
- MST clinicians must be accessible at times that are convenient to their clients and in times of crisis, very quickly. Therefore, agencies will need to address the use of flex-time/comp-time, policies regarding the use of personal vehicles, and the use of pagers and cellular phones.
- MST clinicians operate in teams of no fewer than 2 and no more than 4 therapists.

- MST Clinical Supervisors should be assigned to the MST program a minimum of 50% time per MST Team.
- MST case loads should not exceed 6 families per clinician.
- The MST program should have a 24 hour/day, 7 day/week on-call system to provide coverage when MST clinicians are on vacation or taking personal time.

Intensive and creative interventions: Third, MST is a brief but very intensive intervention, typically lasting 3 to 5 months, and thus raises several administrative and programmatic issues which agencies should consider.

The intensity and short duration of MST often cause programmatic difficulties, such as clinical "burn out".

- First, MST providers typically carry low caseloads. A recommended caseload (Henggeler et al., 1998) ranges between three to six families per full-time professional. Therefore, the MST approach can not be "cut-and-pasted" into the agency's existing operations since the agency's total population served could not be accommodated with the existing workforce.

- MST providers may experience "burn out" earlier and more frequently than providers delivering more traditional and less intensive therapies. MST therapists, for example, are expected to be available 24-hours per day/7 days per week (or at least one team member should be accessible). Therefore, agencies may want to consider what types of supports they will build into their programs for their professional staff.

- In addition, given the intensity required, agencies may want to conduct a pilot program before undertaking more widespread enrollment in order to adequately gauge the match of existing resources with the level of need.

- Agencies may want to either simultaneously or sequentially implement MST in different doses; that is, agencies may want to consider what minimal level of support is needed in order to deliver an effective MST intervention.

MST clinicians as "lead" decision makers: Given the interagency collaboration required in MST, the developers of MST recommend that MST clinicians be formally recognized as the "lead" decision makers on these teams. With multiple agencies there are likely to be occasions where several procedures and policies exist which are incompatible. A clearly defined leader is then necessary to help negotiate issues and make case-by-case decisions.

Program commitment to remove barriers to access: Given the intensive nature of MST, programs must make a distinct and concerted commitment to addressing any potential barriers which might limit participants' access to services. For example, meetings are to be scheduled at the family's convenience which often entails evening and weekend appointments.

Training: MST requires what has been called "elaborate training, supervision and monitoring" (DHHS, 1999). The practitioner's manual developed by Henggeler and colleagues is relatively complex and requires a relatively high degree of clinical training (See the section on "Training Requirements" for additional details).

Funding: MST is an intensive, non-traditional intervention which is not compatible with many funding mechanisms relying on "contact hours". In its place, many MST programs have found that case rates or annual program support are more amenable to the programs' goals. (Additional information about cost and financing are provided in the section on "Fiscal Issues" below.)

The developers of MST have produced an MST Adherence Scale that assesses how closely clinicians adhere to the fundamental principles described earlier.

Fidelity: MST is a complex intervention and its developers have noted the challenges inherent in delineating the elements of MST which contribute to its effectiveness (e.g. Schoenwald, Henggeler et al., 2000). Issues related to fidelity are receiving increased attention in the literature and it is important for programs to understand some of these issues. The developers of the MST model have constructed an MST Adherence Scale which they used in one of their studies of a program which implemented limited supervision and monitoring within a community-based treatment setting (Henggeler, Melton et al, 1997). The measure was developed to be used in contexts in which many programs find themselves, i.e. with tight funding that limits the amount of direct supervision and consultation provided to clinicians. Unlike other adherence measures which assess clinical behaviors against a particular standard, this measure recognizes that MST is an individualized approach. Therefore, rather than assessing the staging or quality of a particular intervention, the measure assesses the degree to which clinicians adhere to the principles of MST. More detailed information about the current version of this measure, such as the degree to which it correlates with outcomes and the reliability of scoring via expert ratings, has been published elsewhere (Schoenwald et al., 2000).

The research has demonstrated three substantive findings about treatment fidelity in MST programs. First, in the absence of ongoing, weekly consultation, adherence to the MST treatment model has varied considerably (Henggeler, Melton et al., 1997; Huey et al., 2001). Second, how closely supervisors align their practice with the MST model as developed is related to how closely therapists then implement the model (Henggeler, Schoenwald et al, 2002). For example, supervisor expertise in MST was associated with therapist fidelity to the MST model. Yet less intuitive findings have emerged which warrant additional research (e.g. supervisor focus on developing therapists' MST competencies was associated with low therapist adherence to the model). Third, increased fidelity to the treatment model has been

Research has shown that omitting ongoing weekly consultation decreases adherence to the MST treatment model.

associated with positive outcomes for the child and family (reductions in recidivism, psychiatric symptoms, and incarceration of violent and chronic juvenile offenders) (Henggeler, Melton et al., 1997; Henggeler, Pickrel and Brondino, 1999; Huey, Henggeler et al., 2000). Therefore, incorporating ongoing consultation and supervision is likely to increase the success of an MST program and readers are urged to consult the source materials directly for more nuanced discussions of the findings.

In addition, programs might want to consider some of the conditions under which greater adherence/ fidelity has been documented, although many questions remain and interested readers should consult the source articles directly. For example, therapists in programs with more challenging populations (youth referred for both criminal offenses and for substance abuse problems) reported lower adherence than in programs targeting youth with just one of those problems (Schoenwald et al., 2003). In addition, certain characteristics of the families have been associated with increased adherence: namely, families in which caregivers have educational, vocational, and economic challenges reported greater adherence. Two interpretations are possible: therapists are able to implement MST as intended with these individuals or therapists have difficulty implementing MST with better educated and economically well off caregivers. In addition, although therapist adherence has been positively associated with caregiver-therapist ethnic match, researchers have questioned potential bias in that reporting given that the source is the caregiver themselves (Schoenwald et al., 2003).

Accountability for service outcomes and quality assurance: Finally, the MST program philosophy emphasizes that providers be held accountable for outcomes. Typically, MST programs devote a significant amount of effort to documenting ongoing program performance (as noted above) and engaging in quality assurance activities. Programs will need to consider what, if any, additional supports will be needed to support such quality assurance.

➢ **Implementation Issues for Families**

Families participating in MST may need supports to become better advocates for their children and more involved participants in the therapeutic process.

Families with children who are involved in MST may need to be educated to become stronger advocates for their children. Many parents and other caregivers of children with serious emotional disturbances are placed in the position of having to become instant experts in multiple service systems when their children seek services or are placed in treatment. Yet parents can be taught to build upon their existing strengths and to incorporate new strategies, through sensitive and empowering ways, that will increase their ability to successfully navigate the multiple systems often encountered when MST interventions are used.

In addition, given the social ecological perspective of MST, families also will participate in various therapeutic interventions. In some cases, their participation will be necessary to assist the child or adolescent. In other cases, however, the needs of other family members may be identified and therapeutic options may be presented for those individuals, in addition to the child. While such interventions may present an opportunity to address a full range of needs (from everyday coping strategies to serious mental health and substance abuse issues), at times family members may be challenged by or resistant to the choices they face.

Fiscal Issues

Although the program is intensive, MST has been heralded as a cost-savings home-based approach. For example, MST ranked first among 15 programs, in terms of net costs/savings, considered by the State of Washington to lower crime related costs (Aos et al., 2001).

Despite its intensity, research has shown that MST results in cost-savings when compared with more traditional programs.

Since MST targets high-risk youth, the potential costs incurred by these populations across the various traditional child-serving systems are quite high. Even though an MST program with three therapists might cost $250,000 per year to implement (Henggeler et al., 1998), savings could be realized across a range of other high-cost services the youth might have accessed during that

same time period (e.g. residential treatment centers). In addition, many of the capital costs incurred by more traditional programs (e.g. facility space) are minimized because MST services are provided in community settings (e.g., homes, schools). Other programming costs not typically covered or relied upon to such an extent, however, are incurred by MST programs, although these tend to be relatively minimal (such as transportation and cellular telephones for clinicians). Mileage reimbursement typically ranges between 8,000 to 12,000 miles a year per therapist (www.strengtheningfamilies.org/html/programs_1999/04_MST.html).

For those programs using MST Services, Inc for training and MST Institute for quality assurance (See "Training Requirements" below), other ongoing costs will be incurred. For example, Quality Control measures are scored over the internet by MST Services. "Based upon an average annual service capacity of 15 families per therapist per year, the total long-term QA costs (program support and training) is usually in the range of $400 to $550 per youth served."(www.strengtheningfamilies.org/html/programs_1999/04_MST.html). In addition, a required annual program-licensing fee is based upon the size of the MST program. (Training costs are discussed separately in the section on "Training Requirements" below.)

A review of MST programs (Aos et al., 2001) found that the average program cost was about $4,500 per MST participant (in 1998 dollars). More recent reports are that community-based MST programs cost "about $6,000 to $7,000 per episode of treatment with the greatest cost variable being staff salaries that vary with geographic location" (www.promisingpractices.net/program.asp?programid=81&benchmarkid=52).

Some analysts have attempted to also calculate the cost-benefits or costs not incurred as a result of MST programs. These "costs saved" might include projected savings due to reductions in incarceration, for example. The

Washington State Institute for Public Policy calculated that in FY2003, the net gain to Washington State for implementing MST was $9,316 per participant. That is, while the program cost the state $5,681 per child to implement, the per person benefit realized was calculated at $14,996 (Aos et al., 2004). Nonetheless, some cost savings are more tangible for state funders than others. For example, even though the individual children who received MST might not be incarcerated in the future, other individuals will be and the state may not realize a system-wide benefit due to the MST program. Cost savings are more likely to be realized through such sources as decreased out-of-state (and out-of-home) placements. For example, when compared to "boot camps", MST has demonstrated cost savings of $29,000 per case (including victim costs; Aos et al., 1998)

Funding mechanisms for MST programs have included: Medicaid reimbursement, cost shifting from residential treatment programs, and incorporating MST into the managed care continuum of services.

Different funding mechanisms have been used to support MST programs including: "(a) Medicaid reimbursement under family preservation or rehabilitation standards; (b) shifting state children's services moneys allocated for residential treatment programs or other out-of-home placements (e.g., foster care) to the MST program; and (c) making home-based MST a component of the continuum of care provided by a managed care organization that treats youths with serious emotional disturbance under a capitated rate from the state." (cited from www.mstservices.com/text/program.html#needs) In addition, some states, such as Washington have elected to use the Juvenile Accountability Incentive Block Grant (JAIBG) to fund MST programs in selected counties. (Barnoski, 2004).

Training Requirements

Although some agencies do operate MST programs which are not sanctioned by the model's developers, other agencies use MST Services, Inc. to provide training assistance (through licensing agreements with the Medical University of South Carolina and the Family Services Research Center, where the original developers of the MST model now are located). The training provided by MST

Services is comprehensive and ongoing. "The cost of program support and training is based on an all-inclusive annual per team fee. Fees range from $15,000 to $24,000 per team, plus travel expenses based upon the nature and size of the program" (www.strengtheningfamilies.org/html/programs_1999/04_MST.html).

➢ **Pre-Training Assessment**

Prior to actual training, MST Services recommends that agencies undergo a pre-training assessment to lay the groundwork for the MST program and for the training. In the assessment, the following tasks are undertaken:

- The mission, policies, and operating practices of the agency are identified;
- The community context in which the MST program will operate is defined; and
- The range of resources (clinical, organizational, fiscal, and community) which are necessary to successfully implement an MST program within the particular community are assessed.

➢ **Training Procedures**

MST clinicians typically have a Master's degree and participate in formal and ongoing training in MST

MST is an intensive intervention and therefore the recommended training procedures are rigorous. MST clinicians are master's level practitioners, employed full-time in the MST program, for whom an initial 5-day training has been developed (Henggeler et al., 1998). The training orients clinicians to the intervention and provides them with hands-on experience. A range of didactic strategies are used including slide presentations, structured discussion, role-play, and interactive formats, In addition, periodic/quarterly booster trainings (1 ½ days each) accomplish several functions including: assisting individual clinicians to problem-solve difficult cases; filling in knowledge gaps experienced by the clinician teams; addressing emerging developments in the field; and helping to ensure that fidelity to the treatment model is maintained.

➢ **Supervision**

MST clinicians are required to implement complex intervention protocols with challenging caseloads. Therefore, adequate supervision for these clinicians is

an essential component of the service delivery model. Supervisors tend to be doctorally trained (although highly experienced individuals with masters or bachelors degrees also have successfully supervised MST programs). On site-supervisors are encouraged to meet weekly with the 3-4 member clinician team and review the entire MST caseload. Not only do supervisors monitor adherence to the MST model and the 9 MST principles, but supervisors can encourage creativity and resourcefulness in developing interventions and overcoming barriers. Individual supervision also is provided immediately for crisis situations (e.g. potential harm by the youth to themselves or others). In addition, MST developers recommend that on-site clinical supervision be supported by remote (telephone) consultation with MST experts, readily available to MST practitioners. Supervision is conducted in the same collaborative and goal-oriented spirit as the rest of the MST process.

➢ **Procedures to Increase Fidelity to the Model**

Treatment session logs and supervisor-reviewed audio-taped treatment sessions both may help to increase fidelity to the model.

MST Services recommends two procedures, in addition to ongoing training, to ensure fidelity to the MST model is maintained. First, MST treatment session logs are maintained by the clinician. This record-keeping helps clinicians track direct (youth and family) and indirect (school, employer, peer) contact. Clinicians note the "frequency and duration of each contact, systems addressed (e.g., marital, family, peer, school, etc.), problem areas within each system addressed, homework assigned and completed, etc." (www.mstservices.com/text/program.html#needs)

Second, Clinical Supervisors are encouraged to review audio-taped treatment sessions and rate how well the clinician adheres to the MST model (using measures developed in clinical trials of MST).

Training & Other Ancillary Materials Available

MST Services Inc. (www.mstservices.com) manages the training and support program and the MST treatment manual for practitioners (Henggeler et al., 1998) has been published as a separate monograph, available through Guilford Press.

➢ Training Materials

These materials can be obtained as follows:
Telephone: (800) 365-7006 or (212) 431-9800
FAX: (212) 966-6708
E-mail: info@guilford.com
Website: www.guilford.com/cgi-bin/cartscript.cgi?page=cpap/henggeler.htm&cart_id=730612.13710

➢ Implementation Materials

MST Institute provides quality assurance services and outcome tracking. As part of their program, this technical assistance service has developed and provides QA materials, including:

Therapist Adherence Measure (TAM): is a 26 item measure evaluating how well the therapist adheres to the MST model and is completed by the primary caregiver in the family. It is administered every month, beginning the second week of MST treatment. Staff contact the family member by telephone or in person to complete the measure. Alternatively, organizations may contract with an independent data collector (through MSTI) to collect the data.

Supervisor Adherence Measure (SAM): is a 43 item measure evaluating how well the supervisor adheres to the MST model and is completed by the MST clinicians. It is administered every 2 weeks, beginning four weeks after the MST program begins. Therapists enter data directly into a centralized database on MSTI's website. Average scores from the team are shared with the supervisor by MSTI at team booster meetings.

Consultant Adherence Measure (CAM): This measure is more recently developed to assess how consistently the consultants implement the MST model. Consultants conduct the initial training and booster sessions, train the clinical supervisor, and provide weekly team consultation. The literature has documented factors related to these consultants which are associated with increased adherence by therapists, as assessed by the TAM (Schoenwald et al., 2004). The developers of the measure expect that some programs will use it, along with TAM and SAM, in CQI processes.

Resources

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➤ **Sample Programs Using MST**

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In addition, readers may consult the “Licensed Programs” page of the MST Services, Inc. Website for a state-by-state listing of licensed programs (www.mstservices.com/text/licensed_agencies.htm)