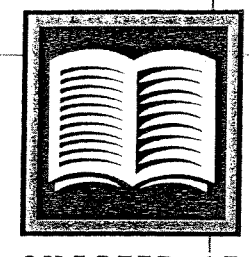

CHAPTER 17

Multisystemic Therapy with Youth Exhibiting Significant Psychiatric Impairment

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Originally developed to address serious antisocial behavior in juvenile offenders (Henggeler & Borduin, 1990; Henggeler et al., 1986), multisystemic therapy (MST) is an intensive home- and community-based intervention grounded in social ecological theories of behavior (Bronfenbrenner, 1979). MST interventions are designed to target the known determinants (Elliott, Huizinga, & Ageton, 1985; Loeber & Farrington, 1998) of youth antisocial behavior in the natural ecology. Substantial evidence supports the effectiveness of MST for delinquent youth. Three randomized trials established the short- and long-term effectiveness of MST in reducing youth antisocial behavior, arrests, and incarceration (Borduin et al., 1995; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Henggeler, Melton, & Smith, 1992; Henggeler, Melton, Smith, Schoenwald, & Hanley, 1993). Since then, several studies of the effects of MST on youth antisocial behavior have been conducted by independent researchers (Leschied & Cunningham, 2001; Satin, 2000). Central to MST-related research, the Family Services Research Center (FSRC) at the Medical University of South Carolina (Scott Henggeler, director) has been conducting federally funded programmatic research on MST and other community-based interventions since 1992. The foci of current projects within the FSRC are the transportability and dissemination of empirically validated treatments, including—but not limited to—MST, and modifications of MST for populations of youth presenting other serious problems. Subsumed under the latter category are randomized trials of MST modified to treat youth with (a) delinquency and substance use disorders (SUDs) (Randall, Henggeler, Cunningham, Rowland, & Swenson, 2001), (b) insulin-dependent diabetes complicated by poor medication compliance (Ellis, Naar-King, Frey, Rowland, & Gregor, 2003), (c) abusive and neglectful families (Kolko & Swenson, 2002), (d) sexual offending behaviors (Swenson, Henggeler, Schoenwald, Kaufman, & Randall, 1998), and (e) serious mental health problems (Henggeler, Schoenwald, Rowland, & Cunningham, 2002).

252 Rowland, M.D., Halliday-Boykins, C.A., Schoenwald, S.K. (2004). Multisystemic therapy with youth exhibiting significant psychiatric impairment. In Epstein, M.H., Kutash, K., & Duchnowski, A.J. (Eds.), *Outcomes for Children and Youth with Emotional and Behavioral Disorders and Their Families: Programs and Evaluation Best Practices* (pp. 401-419). Pro-Ed, Inc., Austin, Texas.

OVERVIEW OF MST

Basic Contours of the Treatment Model

Grounded in social–ecological (Bronfenbrenner, 1979) and systems (Haley, 1976; Minuchin, 1974) theory, MST is broadly specified by nine treatment principles (see Table 17.1). These principles serve as anchors for the design and implementation of MST interventions, MST supervision, and the quality assurance mechanisms designed to support clinician fidelity to the model. Using these principles, MST therapists strive to empower caregivers to address the challenges of parenting teenagers engaged in delinquent behavior and to empower the youth to function more adaptively in family, school, peer, and community contexts. The intervention strategies used by MST therapists are evidence based and include cognitive–behavioral, behavioral, functional, and behavioral family systems, as well as pharmacological interventions. Importantly, these interventions are integrated into a comprehensive social–ecological understanding of the youth and his or her family context and individualized to the strengths and weaknesses in that context. In contrast with "combined" (Kazdin, 1996) and multicomponent approaches to treatment

TABLE 17.1
Multisystemic Therapy Treatment Principles

Principle 1: The primary purpose of assessment is to understand the fit between the identified problems and their broader systemic context.
Principle 2: Therapeutic contacts should emphasize the positive and should use systemic strengths as levers for change.
Principle 3: Interventions should be designed to promote responsible behavior and decrease irresponsible behavior among family members.
Principle 4: Interventions should be present focused and action oriented, targeting specific and well-defined problems.
Principle 5: Interventions should target sequences of behavior within and between multiple systems that maintain the identified problems.
Principle 6: Interventions should be developmentally appropriate and fit the developmental needs of the youth.
Principle 7: Interventions should be designed to require daily or weekly effort by family members.
Principle 8: Intervention efficacy is evaluated continuously from multiple perspectives, with providers assuming accountability for overcoming barriers to successful outcomes.
Principle 9: Interventions should be designed to promote treatment generalization and long-term maintenance of therapeutic change by empowering caregivers to address family members' needs across multiple system contexts.

Note. From *Serious Emotional Disturbance in Children and Adolescents: Multisystemic Therapy,* by S. W. Henggeler, S. K. Schoenwald, M. D. Rowland, and P. B. Cunningham, 2002, New York: Guilford. Copyright 2002 by Guilford Press. Reprinted with permission.

(Liddle, 1996), MST interventions are not delivered as separate elements. Instead, they are strategically selected and integrated in ways intended to maximize the benefits of synergistic interaction for a particular youth and family (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998).

Implementation of MST with Juvenile Offenders

Master's-level therapists using a home-based model of service delivery implement MST. Advantages of the home-based model of service delivery include the removal of barriers to service access (i.e., transportation, childcare, conflicts with work schedule) and increased ecological validity of the assessment and intervention process. MST teams typically consist of four therapists, each of whom works with four to six families at a time. Treatment is intense, averaging approximately 60 hours of direct (i.e., face-to-face) and substantial indirect (i.e., telephone, collateral) contact over a 3- to 5-month period (Henggeler, Mihalic, Rone, Thomas, & Timmons-Mitchell, 1998). The number and duration of sessions is functionally driven; that is, sessions occur as often as needed to ensure the youth and family are able to make concrete progress toward the achievement of desired treatment goals. Thus, the frequency of sessions generally decreases over time but may increase temporarily in response to problems with an ineffective intervention or the emergence of predictable or unpredictable crises. An experienced, preferably doctoral-level, mental health professional trained in MST and in MST supervision procedures supervises each team. MST supervisors are an active and integral part of the treatment team, providing weekly group supervision, field-based assistance, and ongoing promotion of therapist skill development. MST supervisors are, in turn, supported by MST consultants. These consultants are doctoral-level clinicians who work with therapists, supervisors, and administrators to facilitate adherence to the treatment model at all levels of the organization in which the treatment team is embedded. Most MST consultants are housed in a university-affiliated training organization (MST Services, Limited Liability Corporation) and provide weekly team and supervisor consultation, as well as the 5-day initial training, quarterly booster training, and ongoing assistance with implementation difficulties that may arise across or within systems.

DATA SUPPORTING THE EFFECTIVENESS OF MST WITH SERIOUS ANTISOCIAL BEHAVIOR IN YOUTH

The first controlled study of MST with juvenile offenders was published in 1986 (Henggeler et al., 1986). Compared to youth in the control condition,

youth who received MST evidenced significant decreases in conduct problems, association with delinquent peers, and individual psychopathology, and their families experienced significant improvement in functioning. Subsequently, two federally funded trials (Henggeler et al., 1992; Henggeler, Melton, et al., 1997) evaluated the effectiveness of MST with chronic and violent juvenile offenders served by therapists based in community mental health centers. Simultaneously, a university-based trial with chronic juvenile offenders was conducted (Borduin et al., 1995). Across these three projects, more than 400 youth and families were randomly assigned to treatment conditions and evaluated 1.7 to 4 years following treatment. To summarize results from these studies, youth and families who received MST demonstrated (a) 25% to 70% reductions in long-term rates of rearrest, (b) 47% to 64% reductions in out-of-home placements, (c) extensive improvements in family functioning, and (d) decreased adolescent mental health problems. Collectively, more than 50% of the youth evaluated in these studies were African American, and a majority reported low socioeconomic status. Importantly, the effects of MST were not moderated by youth ethnicity (African American vs. Caucasian), age, or socioeconomic status (Henggeler, Mihalic, et al., 1998).

As a result of the documented clinical effectiveness and cost savings associated with MST (Washington Institute for Public Policy, 1998), numerous state agencies and service provider organizations sought to establish MST programs in their communities. Currently, 200 sites in 36 states and 7 countries are implementing MST with delinquent youth. MST Services (http:www.mstservices.com) is a university-affiliated organization that serves as headquarters for this dissemination process. Forty-one of these programs are participating in a federally funded study of the workforce, organizational, and extra-organizational factors associated with adherence to MST and child outcomes in diverse communities (Schoenwald, Sheidow, & Letourneau, 2004; Schoenwald, Sheidow, Letourneau, & Liao, 2003).

The establishment of MST programs in numerous communities within North America and Europe has increased consumer, provider, researcher, and policymaker interest in delivering this treatment to other populations of youth. The remainder of this chapter focuses on completed and current efforts to evaluate the appropriateness and effectiveness of MST for youth at risk of out-of-home placement due primarily to psychiatric impairment.

ADAPTING MST FOR YOUTH WITH SERIOUS PSYCHIATRIC IMPAIRMENT

The modification of MST for youth demonstrating significant psychiatric impairment was prompted primarily by the system-of-care movement, health-care finance reform, the lack of data to support the effectiveness of psychiatric hospitalization, and MST's strong track record in treating serious juvenile offenders. In 1995, the National Institute of Mental Health (NIMH) funded a randomized trial comparing MST and psychiatric hospitalization for youth

in psychiatric crises (Henggeler et al., 1999). The remainder of this chapter describes lessons learned during the process of adapting and implementing MST with these youth and families and discusses research directions inspired by those lessons.

Rationale for Additions and Adaptations

In contrast with the extensive multivariate longitudinal research that documents the multidetermined nature of adolescent antisocial behavior and substance abuse (neighborhood, peer, school, family, and individual determinants; see, e.g., Elliott et al., 1985; Loeber & Farrington, 1998), research on the correlates and predictors of child psychiatric disorders has traditionally focused on individual cognitive and biological factors. Evidence that contextual factors contribute to the development and maintenance of a diverse array of mental health problems in children has been accruing for the last decade, however. Recent research on internalizing conditions, such as depression (Birmaher et al., 1996), suicidal behavior (Wagner, 1997), anxiety and posttraumatic stress disorder (Saigh, Yasik, Sack, & Koplewicz, 1999), and on disorders with an externalizing component, such as attention-deficit/hyperactivity disorder (ADHD; Barkley, 1998) and bipolar affective disorder (American Academy of Child and Adolescent Psychiatry, 1997; Geller et al., 2002), suggests the salience of various caregiver, family, peer, and school factors in predicting and sustaining mental health problems in youth. The documented pertinence of such contextual factors is consistent with the social–ecological theoretical framework and comprehensive focus of MST. At the same time, the literature suggests that several characteristics might distinguish youth with psychiatric impairments and their families from youth referred primarily for serious antisocial behavior and their families. Specifically, youth referred for stabilization of psychiatric crises are expected to show a greater prevalence of depression, anxiety, and other internalizing problems; they are more often girls and younger children; and their parents show a prevalence of psychiatric disorders relative to youth referred primarily for externalizing and serious antisocial behavior problems. Thus, MST treatment principles, the rules governing the assessment and intervention process, the integration of empirically tested treatment techniques, and the MST social–ecological framework were retained, but several aspects of the model were modified to anticipate the needs of youth referred for psychiatric hospitalization and their families.

Modifications of MST

Adapting MST to serve youth experiencing significant psychiatric impairment was a dynamic process that was especially intensive during the earliest phase of the study of MST as an alternative to psychiatric hospitalization (Henggeler, Rowland, et al., 1997); the adaptation process continued throughout the 4 years of project implementation. The modifications can be broadly

categorized as administrative or clinical and are summarized in Table 17.2 (see Henggeler et al., 2002, for more detail).

Administrative Adaptations and Additions

Psychiatrists were formally incorporated into the delivery of MST for the first time in the hospitalization study. A child psychiatrist with substantial MST clinical experience served as the MST supervisor for the team. Another child psychiatrist (25% effort) and an adult psychiatrist (10% effort) helped to ensure the delivery and management of appropriate psychiatric services for

TABLE 17.2
Modifications of Multisystemic Therapy (MST) for Youth with Serious Emotional Disturbance

Type	Traditional MST	Modified MST
Administrative Modifications		
Psychiatrists	Consulted as needed	Integrated into team clinical structure
Crisis caseworkers	None required	Two per team of 4 therapists, provide crisis intervention and case management
Supervisory-level time for systems intervention	Varies, approximately 5–10 hours/week	Approximately 15–20 hours/week
Therapist education	Master's level preferred	Master's level required
Respite resources	None required	Access to array of MST respite placements, such as shelter, foster care, and inpatient, required
Supervision frequency	One group supervision a week One group consultation a week	Two group supervisions a week One group consultation a week
Caseload	4–5 families per therapist	3–4 families per therapist
Treatment fidelity	Therapist adherence measure—one per family monthly	Therapist adherence measure—one per family monthly Therapist audiotaped adherence measure—one per therapist weekly
Clinical Modifications		
Training	5-day initial MST training Quarterly booster training Supervisor training	5-day initial MST training Quarterly booster training Supervisor training Crisis intervention training Community reinforcement approach training for adult and youth substance use disorders Psychopharmacologic and psychotherapeutic training to enhance treatment of attention-deficit/hyperactivity disorder and internalizing disorders Evidence-based skill training techniques for working with borderline personality disorder

MST youth. The day-to-day psychiatric care of youth and their family members was carried out by university-based physicians training in a psychiatry residency program and supervised by the team supervisor. Thus, MST youth, families, and therapists had 24-hour access to psychiatry residents and faculty trained in the treatment model. This availability stands in contrast with procedures followed in early randomized trials of MST for juvenile offenders and in dissemination sites, where consultation from psychiatrists in the community was obtained as needed by the MST team and family.

The role of the crisis caseworker was developed to enhance the therapist's ability to achieve treatment goals with families despite the often overwhelming needs of youth and families experiencing multiple crises. The crisis caseworkers were bachelor's-level mental health professionals with experience serving youth with emotional disturbance in the community. These individuals served two functions: assisting with specific crisis interventions and providing practical, clinical, and administrative support of therapist interventions. To assist with crisis intervention, the caseworkers performed safety assessments, coordinated access to crisis services (e.g., police, ambulance), and provided clinical support to therapists during crisis situations (e.g., calming siblings, monitoring youth). Caseworker support of therapists was best categorized as case management activities (i.e., transport, finding housing and employment resources) undertaken to free therapist time for clinical interventions. The psychiatrists and caseworkers operated within the same clinical and administrative structure of MST that characterized previous clinical trials. That is, the MST therapist continued to be the primary interventionist, working with families to design and implement effective clinical interventions. The MST supervisor retained ultimate responsibility for the team's performance.

Early in the implementation of MST as an alternative to hospitalization, it became apparent that youth in psychiatric crisis and their families required substantially more time, clinical acumen with respect to psychiatric disorders in adults and children, and systems intervention (i.e., school, probation, and social services) than had been necessary in previous MST trials. Thus, administrative changes were made to accommodate these realities. The changes included (a) increased frequency of supervision (i.e., from one to three times a week), (b) reduced caseload (from four to three families), (c) allocation of more supervisor-level administrative time for system-level interventions, and (d) enhancement of techniques to facilitate therapist adherence to MST. Treatment adherence was enhanced by having trained coders rate audiotapes of therapist interventions for their adherence to the nine MST principles on a weekly basis. Feedback was then supplied to the MST supervisor, who in turn utilized this information to promote therapist adherence. This process was so helpful in facilitating and maintaining treatment integrity that it is now used in many ongoing clinical trials of MST.

Clinical Adaptations and Additions

To better equip therapists to address the needs of youth in psychiatric crisis and their families, salient aspects of research on the predictors, prevention,

and treatment of youth and adult suicidal, homicidal, and psychotic behaviors were incorporated into the MST treatment model. This information was integrated into a crisis intervention protocol that provides information and tools to facilitate safety assessment and intervention, was used to train the clinical team, and appears in a recently published book (Henggeler et al., 2002).

Even after safety had been established, and in the absence of crisis, the treatment team found that helping families of youth with psychiatric impairment to achieve their treatment goals was more difficult than helping families of adolescent offenders to do so. The subjective experience of the team was that effecting change required more effort, with youth experiencing high levels of both internalizing and externalizing symptoms and caregivers experiencing significant psychiatric and substance abuse difficulties. Thus, the difficulties encountered by many families previously referred for MST, such as school expulsion, low social support, poverty, and iatrogenic effects of service system involvement, were compounded by the more extensive psychiatric symptomatology apparent in both the youth and caregivers in the hospital study. Additional training was required to better equip therapists to recognize and intervene more effectively with these difficulties. Booster training sessions focused on empirically supported assessment and intervention techniques for the following: child and adult depression and bipolar disorder, trauma symptoms in children, ADHD and posttraumatic stress disorder (PTSD) in adults and youth, anxiety disorders, borderline personality disorder, and adult substance abuse and dependence. Therapists were trained to work with psychiatrists to determine whether psychiatric evaluation and psychopharmacologic treatment were needed in conjunction with cognitive–behavioral individual therapy for adult caregivers. Substance abuse or dependence among caregivers was generally treated utilizing the community reinforcement approach and voucher system (CRA; Budney & Higgins, 1998). CRA is a manualized intervention in which therapists utilize behavioral and systemic interventions to treat adult drug dependence. This treatment was selected because an extensive favorable evidence base supports its effectiveness with adults, and its principles and procedures are highly compatible with MST.

Thus, over the 4-year implementation of MST with youth experiencing psychiatric crises and their families, all members of the treatment team—supervisor, therapists, psychiatrists, crisis caseworkers, and investigators—implemented a more extensive and comprehensive array of clinical tools than had been necessary in MST implementation with juvenile offenders and their families. In addition, respite placements were essential to stabilize some youth out of their home and family contexts. Thus, extensive efforts were invested in establishing a core set of placement resources spanning the spectrum of restrictiveness from respite foster home or shelter to inpatient psychiatric hospitalization. In each of these placement settings, the MST team maintained clinical responsibility for the youth, thus facilitating the maintenance of clinical gains and transition back to less restrictive services when the youth and family were ready.

MST AS AN ALTERNATIVE TO PSYCHIATRIC HOSPITALIZATION: OUTCOMES

Two publications have described the posttreatment outcomes for youth in the hospitalization study (Henggeler et al., 1999; Schoenwald, Ward, Henggeler, Rowland, & Brondino, 2000). The articles detailed the placement, clinical, and preliminary cost outcomes of the study's first 113 youth approximately 4 months after study intake. A summary of the participants and these outcomes is provided in Table 17.3.

Fifty-seven youth were randomly assigned to MST, and 56 were assigned to the comparison condition. The average age of the youth was 13.0 years, with 65% boys, 64% African American, 34% White, 1% Asian American, and 1% Hispanic. The majority (58%) of the youth lived in single-parent households that included at least one biological or adoptive parent, 22% lived in two-parent households with at least one biological or adoptive parent, and 20% lived with someone other than a biological or adoptive parent. The youth and families were relatively economically disadvantaged, with 75% receiving Medicaid, 72% receiving federal financial assistance, and a median monthly family income from employment of $250. Data derived from structured diagnostic interviews and records of previous mental health and juvenile justice involvement indicated that 96% of youth met criteria for more than one *DSM–III–R* diagnosis, 86% had received previous psychiatric treatment, 38% had been hospitalized for psychiatric reasons, and 38% had been involved with juvenile justice. Research assessments were conducted for all youth within 24 hours of enrollment in the project (T1), shortly after youth in the

TABLE 17.3
Multisystemic Therapy (MST) as an Alternative to Psychiatric Hospitalization: Outcomes

Study	Population	Comparison	Follow-Up	MST Outcomes
Henggeler et al. (1999) $N = 13$ (Final sample = 156)	Youths presenting psychiatric emergencies	Psychiatric hospitalization	None	Decreased externalizing problems (CBCL) Improved family relations Increased school attendance Higher consumer satisfaction
Schoenwald et al. (2000)	Same sample			75% reduction in days hospitalized 50% reduction in days in other out-of-home placements
Henggeler et al. (2003)	Same sample		1 year	Initial favorable outcomes gradually dissipated by 12 months posttreatment

Note. CBCL = *Child Behavior Checklist* (Achenbach, 1991).

hospitalization condition were discharged (T2), and at the completion of MST home-based services (T3, an average of 4 months postenrollment). A multirespondent, multimethod assessment battery composed of validated measures was used to assess youth diagnoses, including substance use and dependence; symptoms of youth and caregiver; youth functioning; family functioning; and consumer satisfaction at each time point. Data on hospitalization, placement, and arrest were obtained from official records.

With respect to hospitalization, 100% of youth in the comparison condition were hospitalized upon enrollment in the study, with 20% rehospitalized between T2 and T3. By comparison, 25% of youth in the MST condition were hospitalized during the T1–T2 period, and a total of 44% of the youth in MST were hospitalized at some point during the T1–T3 period. Length of hospital stay was significantly shorter for youth in the MST condition (3.78 vs. 6.06 days), and they experienced a 72% decrease in days hospitalized and a 50% decrease in days in other out-of-home placements relative to youth in the comparison group. The youth in the MST condition experienced significantly fewer placement changes and fewer changes to a more restrictive placement relative to their counterparts who were hospitalized for initial crisis stabilization (Schoenwald et al., 2000).

With respect to clinical posttreatment outcomes, youth in the MST condition evidenced significant improvements in externalizing symptoms as reported by caregivers and teachers on the *Child Behavior Checklist* (Achenbach, 1991). Youth in the MST condition also spent significantly fewer days out of school during the 4 months between T1 and T3 (14 days for MST vs. 37 days for the comparison group). Caregiver and youth reports on the third edition of the *Family Adaptability and Cohesion Scales* (FACES–III; Olson, Portner, & Lavee, 1985) indicated that by T2, families in the MST condition had become more structured, whereas families in the comparison condition had become less structured, and that cohesion increased in the MST condition and decreased in the comparison condition between T1 and T3. MST was equally effective in reducing youth internalizing symptoms, and youth and caregivers in the MST condition were substantially more satisfied with treatment services.

Although the findings immediately posttreatment support the effectiveness of MST as a safe, viable, and potentially better treatment than psychiatric hospitalization, long-term follow-up analyses have not been as promising. In an evaluation recently accepted for publication (Henggeler et al., 2003), youth and family outcomes 10 and 16 months after study intake were analyzed. Findings from these analyses generally indicated that many of the posttreatment effects of MST diminish over time. Multiple predictors of youth outcomes over time are being evaluated and include variables such as youth and caregiver psychiatric disturbance and substance abuse. Thus, although the MST treatment model for delinquent youth is well explicated and has substantial data to support its effectiveness for 1.7 to 4 years posttreatment, MST for youth with psychiatric disturbance is still being modified and evaluated for longer term outcomes.

FUTURE DIRECTIONS

The clinical and research experiences derived from the hospitalization study have led to the reconceptualization of the delivery of effective treatment for youth who are at imminent risk of out-of-home placement due to serious psychiatric impairment. First, it is likely that youth with significant emotional disturbance will often require longer term interventions with substantial follow-up to maintain clinical gains. Second, safely stabilizing these youth in the community requires an intense level of intervention, with more face-to-face family and therapist contact time, more supervision, and additional team members (i.e., psychiatrists, crisis caseworkers) than were required to implement MST for juvenile offenders. Third, MST clinicians serving youth with psychiatric impairment require additional training in crisis interventions, psychopharmacologic treatments, and the use of CRA with caregiver substance use disorders. Finally, the ability to access temporary out-of-home respite placement sites in which the MST model can be implemented is crucial in stabilizing many youth and families who are experiencing psychiatric crises. Thus, current projects are evaluating the feasibility of establishing a spectrum of MST-informed services that incorporate the modifications developed during the hospital study (i.e., audiocoded monitoring of therapist adherence, psychiatric services, and crisis training).

Testing an MST Continuum of Care

A randomized trial currently under way in Philadelphia is an example of new MST strategies to serve youth with emotional disturbance. The product of 4 years of collaboration among multiple stakeholders in Philadelphia, investigators at the FSRC, and the Annie E. Casey Foundation, this project will ultimately involve 100 juvenile offenders aged 10 to 16 years with comorbid psychiatric illness who are about to be placed out of home. Youth and families in this project receive services for at least 1 year from an MST team configured much like the one developed for the hospitalization study (i.e., supplemented with crisis caseworkers, psychiatrists). This project is designed to ensure that the youth served by the team have access to a continuum of placement and respite services that are clinically supervised by the MST team. Thus, therapists in the Philadelphia MST continuum-of-care project can access foster families, residential treatment, and psychiatric hospital beds when these are indicated for MST youth. Regardless of where the youth is placed, however, the MST therapist continues to provide treatment to the youth and his or her family. The MST clinical supervisor also retains clinical supervision responsibility for the youth, regardless of placement setting. Thus, a youth hospitalized temporarily due to suicidal behavior does not participate in the usual individual and group treatments provided on the ward; instead, he or she has an individualized plan established and implemented by the MST therapist, supervisor, psychiatrist, and family.

Because the capacity of families to effectively stabilize and manage chronic psychiatric problems in a child often waxes and wanes, strategies are being developed within the MST continuum project to vary the intensity of treatment delivery as well as provide a continuum of placements. As noted earlier, in previous studies and community-based MST dissemination sites, an "episode" of MST has lasted 3 to 5 months and required a therapist and a home-based model of service delivery to be available at all times. As such, therapists have not been free to provide less intensive follow-up, monitoring, or "booster" treatment sessions after the 3- to 5-month treatment period ends. In the MST continuum project, as families stabilize, the youth may be stepped down to receive less intensive levels of MST and ultimately placed on a monitoring or check-in status. Yet, treatment intensity can be accelerated if indicated by youth and family functioning. Importantly, the families participate in interventions based on the MST model, by the same MST team, at all levels of treatment intensity and levels of service.

The Philadelphia project is the second attempt made by the FSRC to implement and evaluate an MST continuum-of-care treatment for youth at risk of out-of-home placement due to psychiatric impairment. The first MST continuum project was developed jointly by the FSRC and the State of Hawaii Department of Health. Created in response to urgent needs and without the benefit of the multistakeholder collaborative process, this study was implemented for 13 months before being closed by mutual agreement of the project developers. One of the primary reasons for closing the project was the inability to create a functional continuum of MST services for youth in the treatment condition. Despite implementation difficulties, 55 youth were enrolled in the randomized trial, and 26 families were served with MST home-based services. Outcomes from this study, although preliminary, were consistent with posttreatment outcomes in the hospitalization study and provide some promise for future studies of MST for youth with psychiatric impairment (Rowland et al., 2003). To highlight important features of the MST continuum project still in operation, a case example of a youth and family receiving treatment in the Philadelphia project is outlined in the next section.

CASE EXAMPLE

Background

Samal, a 16-year-old Jamaican American boy, was referred to the MST continuum for significant behavioral, emotional, and substance use problems. At intake, Samal had a history of two prior arrests, including one for aggravated assault and one for possession of cocaine with intent to deliver. His mental health background was significant for two past suicidal attempts/gestures involving superficial self-mutilation, drug use, anxiety, and depression. He had been hospitalized once and had received 10 years of intermittent outpatient treatment.

Assessment of Strengths and Barriers

In her initial assessment of the youth, family, and their ecology, the therapist discovered numerous barriers to healthy functioning. At the family level, immediate concerns included the father's health (single parent, HIV-positive, substance dependent with chronic medical problems), and Samal's 21-year-old brother's criminal behavior. This brother, Cal, served as a co-parent, providing financial resources and some instrumental supports for the father. Both Cal and his father demonstrated poor parenting skills. Samal and two younger siblings lived in the home and experienced school failure, oppositional behaviors, substance use, and mild mental retardation. When stressed, the family appeared chaotic and disorganized. Cal's criminal behavior (i.e., selling drugs to finance family and personal needs) contributed to the family's problems and was an immediate concern for the clinical team. Cal was 15 when his mother died and he dropped out of school to provide for his siblings. At that time, his father was often absent from the home. Cal worked as a mechanic at a local garage, but he seemed to be subsidizing his income with criminal activity. He had been arrested twice for possession of marijuana with intent to sell, and several unemployed peers with similar histories frequented the home. The potential for Cal's alleged criminal actions to serve as a contributing factor to Samal's antisocial behavior through modeling, introduction of deviant peers, poor monitoring, or direct involvement in crime was an immediate urgent concern for the team. The family's problems were compounded by the community in which they lived. Residing in a high-crime, socioeconomically depressed neighborhood, they were surrounded by neighbors who also experienced substance abuse and mental health difficulties. These neighbors, while at times supportive, promoted the involvement of family members in neighborhood conflicts and were a source of alcohol and drugs. The home itself was in poor physical condition. Samal's family had a history of conflict with the school, and the children rarely attended class. Samal was in a remedial placement, having failed two grades. School officials were dubious about Samal's ability to succeed in an academic environment due to his behavioral and emotional problems and the family's track record.

Although the family experienced complex and serious clinical and practical difficulties, the therapist was able to identify significant strengths to leverage for change. Among these was that Cal and the father were sincere and committed in their love for the children. They wanted Samal and his siblings to finish school, stay drug free, and obtain a "better life." The entire family was intent on staying together and expressed a high level of commitment to one another. They were also generally willing to allow the therapist into their home and accepted the clinical team's help.

Interventions

Samal's family worked with the MST continuum treatment team for 15 months, during which time the team provided numerous interventions.

The actions that were implemented by the family and clinical team for Samal are outlined briefly next by system.

Individual

At the individual level, Samal was treated for symptoms of depression, severe mood lability, anxiety, and substance abuse. In collaboration with the therapist and youth, the MST psychiatrist provided medication and monitored psychiatric symptoms and medication compliance. CRA interventions (described previously; Budney & Higgins, 1998) were implemented to address Samal's substance use. Thus, behavioral and cognitive behavioral approaches were used to evaluate the multiple determinants of drug use and to develop interventions to interrupt the sequence of behaviors that triggered use. Results of frequent urine drug screens were paired with rewards (for abstinence) or consequences (for use) that were implemented by the family.

Family

The clinical team worked with the caregivers to address their medical and psychiatric symptoms and to improve their ability to safely monitor and supervise the children. Interventions included psychiatric evaluations for both the father and Cal, facilitation of appropriate medical care for the father, and enrollment of the father in a detoxification and day treatment program for his substance dependence. Significant work went into teaching Cal and the father skills for monitoring the children and helping them work through problems implementing what they had learned. Family sessions focused on improving communication and interaction skills. Interventions targeting Cal's alleged criminal behavior are outlined in the safety section.

School

Extensive effort was directed toward working with the school and family to diminish truancy and improve Samal's academic performance. Assessment and intervention strategies included observing and monitoring the youth in the school; using role plays and coaching sessions to promote better school–family collaboration; and specific action plans that enabled teachers and the family to develop, implement, and maintain home follow-through of consequences for teacher-reported behaviors.

Peers

The therapist and family worked together to decrease Samal's access to deviant peers (i.e., Cal's associates, neighbors who supplied drugs) and to increase involvement with prosocial peers. This was largely accomplished through interventions intended to increase Samal's exposure to prosocial peers (e.g., school basketball team), increase the caregivers' awareness of peers, and provide significant levels of adult supervision.

In addition to system-specific interventions such as those just outlined, interventions to ensure safety at times of crisis were developed and included the use of MST continuum placement settings on two occasions.

Safety

An extensive safety evaluation of the youth, family, and home is conducted at intake and repeated periodically for every family in the MST continuum. The home and surrounding area are assessed for weapons, medications, drugs, alcohol, and other potentially harmful items. Samal's family cooperated in the safety assessment initially and worked with the team to lock up medications, remove potential weapons, and monitor processes identified in the safety plan. Although the clinical team perceived Cal's involvement in criminal activity as an ongoing safety threat, he also seemed to be the best candidate to assume the primary parent role in the family. The father's cognitive limitations, substance dependence, and medical conditions were such that he seemed to best serve the family in a secondary caregiver role. Thus, the clinical team focused substantial energies on helping Cal to step up to the role of primary parent. Leveraging his strengths (i.e., paternal feelings for siblings, parentified role in the family, skills as a mechanic), the therapist assisted Cal in developing strategies to remove criminal activity and influences from the home environment. The team was able to accomplish these goals, and Cal enrolled in an adult education program to obtain his GED and further training as a mechanic.

Placement

The team used MST therapeutic foster care twice and psychiatric hospitalization once to help Samal safely manage his symptoms of mood lability and substance use. On the first occasion, Samal was placed in an MST therapeutic foster home for 5 days after becoming intoxicated and suicidal during a time of high family conflict. On this occasion, the team was able to help the foster parent implement treatment plans in the foster home while the team made necessary changes to the family environment. Approximately 5 months into treatment, Samal became very agitated and suicidal secondary to numerous therapist, family, and individual stressors. As a result, he was placed in the psychiatric hospital by the MST team for 5 days to stabilize his psychiatric and behavioral symptoms, and then he was transferred back to the MST therapeutic foster care home. He remained at this foster home for approximately 90 days. While he was in the MST foster home, extensive MST interventions were implemented with Samal and his family of origin, with the foster parent playing a substantial clinical role in Samal's care.

Reunion

After approximately 60 days in MST foster care, Samal and his family reached many of the goals targeted for Samal's return home. The clinical team, youth, family, and foster family worked to slowly integrate Samal back into his home and school environment over a 30-day period. During this time, Samal's home visits were contingent upon family maintenance of safety standards and responsible behaviors as objectively monitored by MST team members. By the time Samal returned to the home, all ties to criminal behavior had

been removed from the home, and Samal was closely monitored to ensure compliance with the goals set jointly by the clinical team, youth, and family (e.g., school attendance, medication compliance, curfew, prosocial activity). Samal's father then worked with the MST therapist to diminish his substance abuse, maintain access to appropriate medical care, and improve his parenting skills.

Prior to discharge from MST, Cal was able to demonstrate substantially improved parenting skills and worked with the MST therapist to develop behavioral and school interventions for Samal's younger brother, who was experiencing significant academic and behavior difficulties. Samal's urine drug screens indicated 3 months of abstinence, and his family was making substantial progress toward the goal of locating housing in a safer community.

SUMMARY

The development of MST to serve youth at risk of out-of-home placement due to serious psychiatric impairment is a work in progress. Although several clinical trials have supported the long-term effectiveness of MST for delinquent youth, only one study involving 156 families (half of whom received MST) supported the short-term efficacy of MST for youth and families in psychiatric crisis. Both data and clinical experience have led to the reconceptualization of MST for use with families of youth whose functional impairments are due to psychiatric illness. Modifications to MST include the incorporation of psychiatrists and crisis caseworker resources into the team. Also, training strategies have been added to supplement therapists' skills in crisis intervention, psychopharmacologic treatments, and caregiver substance abuse interventions. Finally, additional strategies have been incorporated that focus on achieving and maintaining therapists' adherence to MST. Although these changes seemed to promote short-term improvements in youth and family functioning posttreatment, they have not been shown to generalize to longer term effective management of psychiatric impairment in youth. Thus, a current project is attempting to help families sustain improved outcomes over the longer term by modifying the full array of services a youth receives in accordance with MST principles and procedures. Outcomes from this evaluation will help to determine the future viability of MST for families and youth with serious psychiatric impairments.

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