

## **Comprehensive Community-Based Interventions for Youth with Severe Emotional Disorders: Multisystemic Therapy and the Wraparound Process**

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*Two comprehensive community-based interventions for youth with severe emotional disorders are contrasted and compared. The interventions are multisystemic therapy (MST)—a brief but intensive, clinician-provided, and home-based treatment; and wraparound—a long-term approach to planning and coordinating the provision of both formal and informal services in the community. Both approaches are spreading rapidly across the country. As this occurs, it is important for families, clinicians, and policymakers to have sufficient information to understand the requirements and the research base for each. This paper provides a description of both MST and wraparound across multiple dimensions (i.e., origin, theory, target population, principles, role of family, cultural competence, staffing, training, quality monitoring, costs, and the evidence base). The respective similarities and differences are discussed and options for utilizing both for selected youth and families who require intensive and long-term care are explored briefly.*

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## INTRODUCTION

The current state of mental health service provision to youth with severe emotional disorders (SED) is characterized by a limited research base demonstrating that current services produce outcomes of value to consumers and policymakers. In this current environment which values evidence-based treatment, two innovative community-based interventions stand out—multisystemic therapy (MST) and the wraparound process. These interventions are important first because they have been developed to keep youth with their families and out of institutional settings. Second, both correspond to Child and Adolescent Service System Program values, i.e., that care is community-based, individualized, family-centered, and culturally competent (Stroul & Friedman, 1986)—federal policy for more than ten years. Although these interventions share similar philosophical orientations, they were derived from two quite different traditions: a research one for MST and a practical need to improve service delivery for wraparound. The intervention strategies are quite different: MST provides a short-term intensive home-based clinician-provided treatment, whereas wraparound organizes long-term care centered around a team that coordinates both professional clinical services provided by multiple agencies and informal support services that exist or are developed in the community. In essence, MST is a professionally-driven treatment model for teaching the parent how to more effectively meet the needs of the child, while wraparound is a more team-driven process that relies more heavily on the coordination and utilization of natural supports and existing services. In summary, the main differences between these two important and promising approaches to the treatment of youth with SED relate to: (a) short-term but intensive treatment (MST) versus an unconditional commitment to provide services and supports as long as they are needed (wraparound); (b) the use of specified clinical interventions in MST versus the use of any intervention that the team determines has the best chance to meet the needs of the child and family for wraparound; (c) the extent of required training and supervision; and (d) the status of the research base for each intervention.

The purpose of this paper is to describe and contrast these interventions and their respective research bases, and then to consider their potential compatibility within a system of care. As these are two of the most prominent community-based interventions for youth with SED, understanding their similarities and differences is important to the field as it moves toward implementation of evidence-based interventions for youth with SED.

### **Multisystemic Therapy**

#### *Origins and Spread*

MST began in the early 1980s as an intensive, time-limited, home- and family-focused treatment approach for youth referred from the juvenile justice system

(Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 1998). Traditional services had not taken into account the fact that behavioral problems stemmed from factors not only associated with the youth himself, but also those associated with the family and community where the youth lived. The main purpose of MST was to equip the youth and the family with the clinical skills to function more successfully in their immediate environment, whereas the focus of traditional services had been to temporarily remove the youth from that environment and in many cases place those youth with others who had similar problems. Thus, when the youth was reintroduced into his or her home environment, the same problems often emerged since the juvenile justice system had not intervened in the home or community.

Following the publication of efficacy studies on delinquent youth (Henggeler et al., 1986; Henggeler, Melton, & Smith, 1992), research on MST spread to other child populations, i.e., mental health, substance abuse, and child welfare. Problem behaviors of youth in these sectors tended to mirror those of youth referred to the juvenile justice system, where MST had shown positive results. Outcome research was conducted on multiple youth populations including youthful sex offenders (Borduin, Henggeler, Blaske, & Stein, 1990), abused and neglected youth (Brunk, Henggeler, & Whelan, 1987), and child psychiatric inpatients (Henggeler et al., in press; Schoenwald, Ward, Henggeler, & Rowland, 2000), where positive outcomes were also attained for youth in the mental health and substance abuse sectors.

As the earlier studies were published, MST quickly started to disseminate across the country. MST is now available in at least 15 U.S. states, Canada, and Norway. In addition, the expansion of MST was carried out by the MST developers, which fostered consistency of training and treatment across programs.

### *Theory of Change*

MST is based on two theories of behavior: systems theory and social ecology, and on causal modeling studies of serious antisocial behavior. Systems theory states that various systems interact to determine individual behavior (Plas, 1992). The theory of social ecology emphasizes the reciprocal relationship between the individual and those systems (Bronfenbrenner, 1979). That is, insofar as different systems interact to change a person's behavior, an individual's behavior also changes the surrounding ecology. Based on the empirical literature documenting the multiple factors known to be related to serious behavior problems across key environments, or systems, in which a youth lives, MST directly and promptly intervenes in a manner that alters both the surrounding environment and the individual's behavior. Using the strengths of each system (e.g., family, peers, school, neighborhood, indigenous support network) to facilitate positive change, MST promotes behavioral change in the youth's natural environment. Specific treatment techniques that facilitate positive change are integrated from therapies with the most empirical support, such as strategic, structural, and functional family therapies.

### *Target Population*

MST targets children and adolescents at imminent risk of out-of-home placement due to serious antisocial and other serious emotional and behavioral problems. MST focuses on achieving key ultimate outcomes, or outcomes common to all youth in a particular referral population (i.e., chronic, violent offenders; offenders with substance abuse/dependence; youth referred for crisis stabilization), and instrumental outcomes—outcomes that index changes in the symptoms and functioning of individuals, family members, and peer relations, thought necessary to obtain the ultimate outcomes. Thus, for example, the ultimate outcomes sought for juvenile offenders are reductions in criminal activity, arrests, incarcerations, and other out of home placements. Instrumental outcomes sought for these youth include reductions in the types of behavior problems and improvements in family functioning, peer functioning, and school functioning associated with reductions in criminal behavior.

### *Principles*

The theory-based origin of MST has provided an opportunity to develop principles and standards, which have potentiated the current research base. Nine treatment principles have been delineated, but they are not so rigid as to limit the flexibility that is necessary to deliver ecologically valid treatment on an individual basis. The nine treatment principles are as follows:

- (1) The primary purpose of assessment is to understand the fit between the identified problems and their broader systemic context.
- (2) Therapeutic contacts emphasize the positive and use systemic strengths as levers for change.
- (3) Interventions are designed to promote responsible behavior and decrease irresponsible behavior among family members.
- (4) Interventions are present-focused and action-oriented, targeting specific and well-defined problems.
- (5) Interventions target sequences of behavior within and between multiple systems that maintain the identified problems.
- (6) Interventions are developmentally appropriate and fit the developmental needs of the youth.
- (7) Interventions are designed to require daily or weekly effort by family members.
- (8) Intervention effectiveness is evaluated continuously from multiple perspectives with providers assuming accountability for overcoming barriers to successful outcomes.

- (9) 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 (Henggeler et al., 1998, p. 23).

MST is a community-based model of service delivery so that interventions can occur where problems actually arise—at home, in school, or the neighborhood. This model of service delivery also helps overcome barriers to accessing services and increases the likelihood that families will stay in treatment. MST is a pragmatic, goal-oriented treatment that seeks to help families make changes in the youth's environment through intensive intervention. Thus, therapists work with family members as often as daily and typically for three to five months. This intensive, flexible approach to treatment delivery is designed to quickly empower families with the skills and resources needed to address the referral problems and to prevent difficulties that may arise in the future. Therapists engage the family and other key participants in the youth's environment (e.g., teachers, peers, neighbors, workers from agencies with mandated involvement) in the process of understanding the "fit" between the youth's identified problems and the broader systemic context, and designing interventions that change the systemic context in ways that will reduce the identified problems. Thus, typical interventions aim to improve caregiver discipline practices, enhance family relations (e.g., marital interactions, parent-child interactions), decrease a youth's association with deviant peers, and increase positive collaboration between the family and school. Therapists also work with parents to improve the youth's social skills, school performance, and vocational functioning. This might include fostering positive communication with teachers, and scheduling time outside of school hours to promote the youth's academic efforts. Individually oriented interventions are implemented to address possible barriers to change, such as depression in a caregiver or poor social skills in a youth, although even these individually-oriented interventions are implemented with assistance from family members.

MST is provided by clinicians who are available 24 hours a day, seven days a week, and the outcomes of treatment are seen as the responsibility of the MST program rather than the responsibility of the client, as is the case with traditional treatment approaches.

The clinicians are part of MST programs that provide services for about 50 families per year. The teams typically consist of a supervisor and three counselors/clinicians who provide treatment and coordinate services to each child and family. Individual caseloads range from four to six families at any given time. Each family receives an average of 40 to 60 hours of direct clinical contact during the course of treatment, with sessions usually lasting from 20 to 75 minutes. Sessions are held as often as daily at the onset of treatment, and generally take place less often over the course of treatment to about once a week during later stages.

Services are delivered in the home as often as possible, and the specific family members who attend each session varies depending on the issues being addressed in a particular session.

### *Role of the Family and Cultural Competence*

By forming partnerships with parents, MST empowers them to make changes needed for their own family that remain when the intervention ends. The main goal of the intervention is family preservation, thus family interventions in MST are tailored to interactions between parents and children. Within a family, there may be certain barriers to effective parenting (drug abuse, high stress, low social support). MST intervenes to provide the resources that parents may need to overcome those barriers. Specific interventions might include teaching problem-solving skills to deal with day-to-day conflicts, encouraging effective communication between parents, and introducing reward and discipline systems (Henggeler et al., 1998).

In order to establish effective partnerships with parents, MST strives to be culturally competent. Efforts are made to ensure that MST treatment teams include representatives appropriate to a family's ethnic and cultural preferences. Brondino and colleagues (1997) argue that MST has been able to establish cultural competence more effectively than traditional services because this concept is built in to the MST model of service delivery. In two of the randomized trials of MST, the outcomes support Brondino's argument. In a study of serious juvenile offenders, the efficacy of MST was not moderated by client demographic characteristics (race, age, social class, gender, arrest and incarceration history) or by psychosocial variables (family relations, peer relations, social competence, behavior problems, parental symptomatology). Consistent outcomes across ethnic/racial groups were attributed to the inclusion of cultural competence considerations within service plans (Henggeler et al., 1992). Similarly, in a later study of MST with chronic juvenile offenders, hierarchical multiple regression analyses indicated that MST was equally effective for males and females and for youths of multiple ethnic backgrounds (Borduin et al., 1995).

### *Staffing, Training, and Quality Monitoring*

The therapeutic approach of MST requires a high level of clinical training for service providers. Services are provided by clinicians who have at least a masters degree in most cases, and are supervised by a doctoral level or highly competent master's level mental health professional. Originally, training was provided by MST developers. As MST has spread to other states and into larger systems, the developers have trained others as experts who travel to program sites to conduct training.

The MST training process is ongoing. The core training package consists of pre-training organizational assessment and assistance, initial 5-day training, weekly MST clinical consultation for each team of MST clinicians, quarterly booster trainings, and monitoring of fidelity and adherence to the MST treatment model. The MST training package has been developed to replicate the characteristics of clinicians, training, clinical supervision, consultation, monitoring, and program support provided in the successful clinical trials of MST. The training package has been refined through extensive experience providing training and consultation in 15 states.

A recently published training manual provides an extensive overview of MST and serves as an in-depth guide to implementation (Henggeler et al., 1998). The manual gives instructions for assessing family functioning, changing peer relations, promoting academic and social competence in schools, linking families with their community, and implementing individual behavioral interventions.

To monitor the quality of implementation, MST fidelity measures are administered every six weeks to the primary caregiver, the adolescent, and the clinician. This measure has demonstrated high inter-rater and test-retest reliability, as well as internal consistency (Brondino, personal communication, December 1998). Test-retest correlations over a four-week interval, using total scores, were .48 for primary caretakers, .73 for therapists, and .61 for adolescents. Internal consistency scores for primary caretaker, therapist, and adolescent were .90, .94, and .90, respectively. Inter-rater correlations at four- and eight-week ratings ranged between .42 and .50 among primary caretaker, therapist, and adolescent. The fidelity measure is completed at regular intervals determined for each program during training. The measure asks questions that pertain to each of the nine treatment principles, ensuring that each of them is reflected in the services provided. Findings from a recent study of MST in Spartanburg, South Carolina, demonstrated the link between fidelity and outcomes, i.e., low fidelity is related to poor outcomes (Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). As MST continues to disseminate, MST experts and founders will not be able to supervise and consult with every program on a regular basis. Thus, the fidelity measure will become even more crucial for monitoring the quality of implementation. Whether the fidelity measure would differentiate between MST and other well-conceived and implemented clinical interventions has not been tested.

### *Costs*

The time-limited implementation of MST can potentially result in cost savings over programs that intervene on a continuing basis. A study in Simpsonville, South Carolina, reported that MST prevented incarceration more effectively than did usual services (Henggeler et al., 1992). As a result, youth served by MST spent an average of 73 fewer days incarcerated than did youth in usual services. This

translated into a savings of approximately \$3,000 per youth over an eight-month period. In a trial with substance-abusing youth, the reduction in the costs of out-of-home placements for youth in MST served to offset any incremental costs of MST over the costs of usual services (Schoenwald, Ward, Henggeler, Pickrel, & Patel, 1996). In this study, 19 MST youth were incarcerated for a total of 569 days, and 16 youth in usual services were incarcerated for a total of 1051 days. In addition, youth in usual services received more outpatient mental health and substance abuse treatment than the youth in MST. At one year after referral, the total cost of services per youth was \$5,063 in the MST group and \$3,369 in the usual services group. When the savings in incarceration expenses were taken into account, the difference in costs between MST and usual services was estimated at \$877 per youth, with MST being the more expensive intervention. The authors pointed out, however, that the costs of MST would convert to cost savings "rather quickly" if the differences in non-MST service utilization demonstrated in this study continued over time. Theoretically, the costs of MST (which were mainly direct-program costs) would not be incurred again. To date there have been no follow-up studies of long-term costs of MST.

The cost effectiveness of 11 intervention programs for juvenile offenders across the U.S. was recently evaluated by the Washington State Institute for Public Policy (1998). The cost effectiveness of each intervention was determined based on its ability to reduce felonies, the total taxpayer cost avoided, and the crime victim costs avoided. Multisystemic therapy was the most cost-effective, saving the taxpayer and crime victim an estimated \$21,863 over one year, and reducing felonies by 44%. Other programs that showed notable cost savings and reductions in crime included treatment foster care, functional family therapy (a home-based intervention focused on increasing family problem-solving skills and interactions among family members), and an adolescent diversion project in Michigan utilizing behavioral contracting and child advocacy.

#### *Evidence Base*

MST has been studied in seven randomized clinical trials, one with a quasi-experimental design, and one uncontrolled study with inner-city juvenile offenders, victims of child abuse and neglect, adolescent sexual offenders, and youth presenting for an inpatient psychiatric admission (see Table I). All but one were conducted by the developers of MST. The first study compared inner-city delinquents ( $n = 196$ ) in Memphis, Tennessee, receiving MST to a group of their counterparts receiving usual services (Henggeler et al., 1986). All 33 youth in the study were assessed at baseline and immediately after treatment, and MST was found to be more effective in decreasing behavioral problems and improving family relationships.

While this first study did not include random assignment, the positive findings that emerged from the study led to the first randomized trial of MST. Also

Table I. The MST Research Base

Study	Target population	Sample size	Average age or age range	Comparison condition	MST outcomes
Quasi-experimental <i>Memphis, Tennessee</i> Henggeler et al., 1986	Inner-city delinquents	<i>n</i> = 196	14.8 yr	Usual community services	Decreased adolescent behavioral problems Improved family relations Decreased association with deviant peers
Randomized clinical trials <i>Memphis, Tennessee</i> Brunk et al., 1987	Maltreating families	<i>n</i> = 43	MST: 9.8 yr Comparison: 6.8 yr	Parent training	Improved parent-child relations
<i>Columbia, Missouri</i> Borduin et al., 1990	Juvenile sex offenders	<i>n</i> = 16	14 yr	Individual therapy	Fewer youth re-arrested for sexual and nonsexual crimes Lower frequency of sexual arrests Improved family relations Prevention of future criminal behavior Decreased parental psychiatric symptomatology
Borduin et al., 1995	Serious juvenile offenders	<i>n</i> = 176	14.8 yr	Individual therapy	Lower substance-related arrests than youth in individual therapy Lower self-reported drug use than youth in usual services
Henggeler et al., 1991	Violent and chronic juvenile offenders	<i>n</i> = 123	14.4–15.1 yr	Usual juvenile justice services, Individual therapy	Fewer re-arrests and self-reported offenses Average 10 fewer weeks incarcerated Increased family cohesion Decreased youth aggression in peer relations
<i>Simpsonville, SC</i> Henggeler et al., 1992	Violent and chronic juvenile offenders	<i>n</i> = 84	15.2 yr	Usual juvenile justice services	

(Continued)

Table I. (Continued)

Study	Target population	Sample size	Average age or age range	Comparison condition	MST outcomes
Henggeler et al., 1993	Violent and chronic juvenile offenders	$n = 84$	15.2 yr	Usual juvenile justice services	Reduced re-arrest rates over 2.4 years
<i>Spartanburg, SC</i>					
Henggeler et al., 1997	Violent and chronic juvenile offenders	$n = 155$	15.2 yr	Usual juvenile justice services	Decreased psychiatric symptomatology Decreased number of days in out-of-home placements Decreased recidivism
<i>Charleston, SC</i>					
Schoenwald et al., 2000	Youth presenting psychiatric emergencies	$n = 116$	10–17 yr	Inpatient hospitalization	Reduced number of days hospitalized out-of-home and in other placements
Schoenwald et al., 1996	Substance abusing or dependent adolescent offenders	$n = 118$	15.7 yr	Usual substance abuse services	Improved clinical outcomes Overall less use of out-of-home placements resulting in cost-offset
Henggeler et al., 1999	Substance abusing or dependent adolescent offenders	$n = 118$	15.7 yr	Usual substance abuse services	Decreased drug use (self-report) Decreased rates of incarceration Fewer out-of-home placements
Pre-post design					
Sutphen et al., 1995	First-time offenders	$n = 8$	13 yr		Decreased delinquent activity Decreased re-offending Decreased problem behaviors Increased family functioning Increased school attendance & improved grades

located in Memphis, this study focused on families referred by social services—124 victims of child abuse and neglect (Brunk et al., 1987). Specifically, youth were assigned either to home-based MST or to clinic-based behavioral parent training. Both groups were assessed before and after treatment. Parents in both groups reported decreases in psychiatric symptomatology and reduced overall stress following treatment. In addition, both groups demonstrated decreases in the severity of the identified problems. The study also included observational measures of parent-child interactions. The outcomes indicated that MST had improved such interactions, implying a decreased risk for maltreatment of children in the MST condition.

A second randomized clinical trial in Columbia, Missouri, with 16 juvenile sex offenders, found MST to be more effective than individual outpatient counseling in decreasing the number and frequency of arrests for sexual crimes, as well as the frequency of arrest for nonsexual crimes for a period of three years after treatment (Borduin et al., 1990). A subsequent randomized trial in Columbia, Missouri, involved 176 chronic juvenile offenders randomly assigned to either MST or individual therapy (Borduin et al., 1995). These youth and their families were assessed at baseline and immediately following treatment, and the family members in the MST group showed changes in their methods of interacting that led to improved family functioning. Youth in the MST group also demonstrated decreases in behavioral problems that were maintained at a four-year follow-up. The youth who had received MST had fewer arrests following treatment than did those receiving individual therapy, suggesting that MST was better at preventing future criminal behavior. In addition, those youth who completed MST performed better at the four-year follow-up than did the youth in the MST group who did not complete the full course of treatment. Both groups still performed significantly better than the comparison group, suggesting that a small dose of MST was more effective than individual therapy, while a complete course of MST was the most effective option.

MST has also been studied in the context of a collaborative effort between the mental health and juvenile justice service systems. Specifically, a randomized trial in Simpsonville, South Carolina, involved 84 violent and chronic juvenile offenders who were referred by the local mental health center to either MST or to usual juvenile justice services (community-based services or incarceration). Assessments occurred immediately before and after treatment, and again at a 59-week follow-up. Shortly after treatment, youth in the MST group showed decreased rates of criminal activity and institutionalization. At the 59-week follow-up, 62 percent of the youth in usual services had been re-arrested, compared with 42 percent of those in MST. In addition, MST youth had spent an average of ten fewer weeks incarcerated than their counterparts in usual services. MST had also served to increase family cohesion and had decreased aggression against peers, whereas family cohesion had decreased in the group incarcerated by juvenile justice. The

differences in the re-arrest rates between groups were maintained at 2.4 years follow-up (Henggeler, Melton, Smith, Schoenwald, & Hanley, 1993).

In an examination of the outcomes for the chronic juvenile offenders in the Simpsonville, South Carolina, and Columbia, Missouri, studies, researchers found that MST had led to significant decreases in both drug-related arrests and self-reported drug use after treatment (Henggeler et al., 1991). As a result, a randomized trial of MST with delinquents with substance abuse and dependence was undertaken in Charleston, South Carolina. This study compared youth receiving MST to a group receiving usual substance abuse services. Assessments occurred prior to treatment, at treatment completion, at six months, and at 12 months post-treatment. At the first post-treatment assessment period, MST youth had significantly decreased drug use and number of re-arrests. The youth in the usual services group showed less improvement, although the difference between groups was not statistically significant. At 12 months, MST decreased the number of days incarcerated by 46 percent and total days in out-of-home placements by 50 percent (Henggeler et al., 1998).

A further randomized trial of MST occurred in Spartanburg, South Carolina, and like the Simpsonville project, involved a collaboration between mental health and juvenile justice (Henggeler et al., 1997). Chronic juvenile offenders receiving MST were compared to those receiving usual juvenile justice services ( $n = 155$ ). Assessments occurred at referral, immediately following treatment, and at 1.7 years follow-up. This study was the first one to not include ongoing weekly consultation with the MST experts in Charleston. Instead, parents, youth, and therapists assessed adherence to treatment fidelity twice during treatment. At the post-treatment interval, MST was more effective at improving adolescent symptomatology, and at the 1.7 years follow-up, MST showed a 47 percent decrease in incarceration rates. However, MST did not decrease criminal activity to the extent that previous studies had demonstrated. A closer look at the data revealed a link between the degree of adherence to MST treatment principles, based on the fidelity measure, and changes in criminal activity, incarceration, and psychiatric symptomatology. Greater treatment fidelity was associated with better MST outcomes.

A small study of MST is unusual because, for the first time, it was conducted by investigators who were not involved in the development of the intervention (Sutphen, Thyer, & Kurtz, 1995). Funding was limited, resulting in a sample of only eight delinquent youth, and the use of a pre-post study design. Data collection occurred across the eight months of treatment and again at six months after completion. It is important to note that a treatment period of eight months is about double that of the MST in all the other studies and that components of treatment were delivered in a manner not consistent with the MST model tested in other clinical trials. However, this program incorporated the same family preservation principles, and was based on MST in South Carolina, potentially questionable since there was no contact with the MST program there. Fourteen months after

initial referral to MST, the outcomes for all eight youth were positive. There was a 52 percent decrease in delinquent activity, a 49 percent decrease in behavioral problems, and a 56 percent decrease in delinquent peer group associations. In addition, there were significant improvements in family adjustment and school attendance and grades. Rates of offending were compared to those of 20 youth who were diverted to usual services instead of MST at the time the funding was cut. A significant difference between the comparison youth and the MST youth in rates of offending was consistent with prior studies directed by the MST developers.

The most recently conducted study of MST represents a further transfer of this intervention to a new target population. Youths ( $n = 113$ ) were randomly assigned to either MST or psychiatric hospitalization (Henggeler et al., in press; Schoenwald et al., 2000). Four months after referral, hospitalization had been prevented for 57 percent of the youth in the MST condition. The number of days hospitalized was 72 percent less than for the control group. These reductions were not offset by increases in other out-of-home placements. Youth in MST also spent approximately half as many days in out-of-home placements as the youth in the hospitalization condition. Further, the clinical outcomes for MST youth were equal or better than those for youth in the hospital group. When the incremental costs for out-of-home placements were added to the direct-program costs of four months of treatment, the average cost per month for one youth was almost equal (about \$6,000 per episode per youth) for both treatment conditions.

## **The Wraparound Process**

### *Origins and Spread*

Wraparound is a philosophy of care that includes a definable planning process involving the child and family and results in a unique set of community services and natural supports that are individualized for the child and family to achieve a positive set of outcomes. Wraparound arose from a need to decrease fragmented and largely institutionalized care for youth with SED. According to VanDenBerg (1999), wraparound essentially began in Chicago, Illinois in the early 1980's, with the Kaleidoscope program which had set up group homes for troubled youths. Kaleidoscope's philosophy was to treat these youth on an unconditional, individualized basis, and eventually the program began treating the youth in their own homes by providing in-home family support services. Kaleidoscope's format was later adopted in Alaska in 1985, when all youth who were in out-of-state residential placements through the departments of social services, mental health, and education, were returned to Alaska. This was accomplished through a grant from the Child and Adolescent Services System Program, a federal program that promoted a comprehensive community-based system of care for children and youth with severe emotional disturbance (Stroul & Friedman, 1986). A third piece of the

early wraparound development occurred in Vermont in 1986, with the initiation of Project Wraparound, a three-year demonstration project, funded in 1986 by the Office of Special Education. The purpose of the project was to serve all children within the community, by identifying those who were 'at-risk' of being removed from the community and wrapping services around them within their families, schools, and communities (Burchard & Clarke, 1990).

By 1990, the wraparound process had been established as a viable alternative to residential treatment with many advocates expressing the belief that it was more youth and family friendly, less costly, and more effective than traditional services. Since that time there has been a remarkable expansion in both the interest and the utilization of the wraparound process. The interest is reflected in an increasingly large attendance at four national wraparound conferences (550 in Pittsburgh in 1991; 850 in Chicago in 1993; 1,150 in Vermont in 1994; and over 2,000 in California in 1996). With respect to the spread of this process, a 1998 survey of U.S. states and territories revealed that wraparound was available in 47 of the 55 U.S. states and territories (85 percent), and that it was being administered by various agencies (most notably mental health, education, and social services), and serving at least 91,327 children with SED across the country (Faw, 1999).

### *Theory of Change*

The theory most closely associated with wraparound is that of environmental ecology (Munger, 1998) which assumes that a child will function best when the larger service system surrounding him/her coordinates most efficiently with the microsystem of his immediate home and family environment. That is, supportive relationships among the family, school, and community facilitate the attainment of improved behavioral functioning for a given child across a comprehensive set of life domains. While the wraparound process stresses unconditional care (i.e., a no reject, no eject policy) and could conceivably never end for a child, there is an assumption that effective wraparound programs change the surrounding environment of the child and thus foster lasting changes that occur in individuals, families, and communities.

### *Target Populations*

While most wraparound has focused on children and adolescents with severe emotional and behavioral problems at-risk of out-of-home placement and their families, it is also being utilized increasingly with 'at-risk' children, even at the preschool level. Target populations include children in the mental health, education, juvenile justice, and child welfare sectors. Intended outcomes involve increasing those behaviors that facilitate community adjustment (e.g., positive family and peer relationships, school achievement, employment) and eliminating

those behaviors that place the child at risk for removal from his family or community (e.g., aggression, theft, vandalism, self-injury). Because the overall goal of wraparound is to keep children in their home community, a common outcome sought is the elimination of out-of-community placements.

### *Values, Elements, and Practice Requirements*

The leaders of wraparound development recently met to reach consensus as to the values, elements, and practice requirements (Goldman, 1999). The values delineated during that meeting underscore the theory of change in wraparound, and include voice and choice for the child and family; compassion for children and families; integration of services and systems; flexibility in approaches to working with families and in the funding and provision of services; safety, success, and permanency in home, school, and community; care that is unconditional, individualized, strength-based, family-centered, culturally competent, and community-based with services close to home and in natural settings. Building upon these values, the following ten elements of wraparound were identified as being essential at the level of the child and family:

- (1) Wraparound efforts must be based in the community.
- (2) Services and supports must be individualized, built on strengths, and meet the needs of children and families across the life domains in order to promote success, safety, and permanency in home, school, and community.
- (3) The process must be culturally competent.
- (4) Families must be full and active partners in every level of the wraparound process.
- (5) The wraparound process must be a team-driven process involving the family, child, natural supports, agencies, and community services working together to develop, implement, and evaluate the individualized service plan.
- (6) Wraparound teams must have flexible approaches with adequate and flexible funding.
- (7) Wraparound plans must include a balance of formal services and informal community and family resources.
- (8) The community agencies and teams must make an unconditional commitment to serve their children and families.
- (9) A service/support plan should be developed and implemented based on an interagency, community-neighborhood collaborative process.
- (10) Outcomes must be determined and measured for each goal established with the child and family as well as for those goals established at the program and system levels (Goldman, 1999, p. 11).

The preceding focus group also laid out ten elements that are essential at the community level and facilitate the work of the child and family teams:

- (1) The community collaborative structure, with broad representation, manages the overall wraparound process and establishes the vision and the mission.
- (2) A lead organization is designated to function under the community collaborative structure and manage the implementation of the wraparound process.
- (3) A referral mechanism is established to determine the children and families to be included in the wraparound process.
- (4) Resource coordinators are hired as specialists to facilitate the wraparound process, conducting strength-needs assessments; facilitating the team planning process; and managing the implementation of the service/support plan.
- (5) With the referred child and family, the resource coordinator conducts a strengths and needs assessment.
- (6) The resource coordinator works with the child and family to form a family team.
- (7) The child and family team functions as a team with the child and family engaged in an interactive process to develop a collective vision, related goals, and an individualized plan that is family centered and team based.
- (8) A crisis/safety plan is produced by the child and family team.
- (9) Within the service/support plan, each goal must have outcomes stated in measurable terms, and the progress on each monitored on a regular basis.
- (10) The community collaborative structure reviews the plans (Goldman, 1999, p. 12–13).

Wraparound programs are organized to coordinate services across multiple human service sectors in the community. Most often, they are based in the local community mental health center, the school, or in some cases in a juvenile justice program. The wraparound process is implemented by individualized teams led by resource coordinators, and consisting of various instrumental people in the child's life (e.g., parent, relative, teacher, friend, therapist, clergy, etc.). An initial planning meeting is used to identify the strengths and needs of the family, and an overall service and support plan is established. A resource coordinator, who accesses or helps create the appropriate services and supports that are specified in the plan, usually leads the team meetings. However, in some instances, especially in the later stages of wraparound, a family member may lead the team. A typical wraparound service and support plan for a challenging child might include some type of respite for the family, after-school community- and/or school-related activities, a mentor, individual therapy, and parent skills training.

Team meetings are held as needed, typically occurring on a weekly basis at the beginning of the process, and then less frequently as the service and support plan

becomes solidified and the child's behavior becomes more stable. Crisis plans, drafted early in the planning, identify the necessary services and supports that will be available in the event that a crisis situation should emerge (e.g., 24-hour supervision in response to a suicide threat).

### *Role of the Family and Cultural Competence*

One of the essential elements of wraparound is that families must be full and active partners in every level of the wraparound process. It is assumed that families best understand the strengths and needs of the individual child. As such, wraparound stresses empowerment of families, and mandates that they have voice and choice at all times. The only exception to family choice is when the family does not have custody of the child. However, in such instances, the family is still given as much voice as possible. It is the responsibility of each member of the wraparound team to learn about the family's culture and the natural resources that exist in their home and neighborhood. Service and support plans cannot be completely individualized without an understanding of the family's values, beliefs, and lifestyles as well as the relevant characteristics of the surrounding community (VanDenBerg & Grealish, 1996).

### *Staffing, Training, and Quality Monitoring*

Wraparound teams are led by resource coordinators. Their caseloads usually average from four to six families at any given time. Educational requirements for resource coordinators are usually limited to a bachelor's degree, and they are not responsible for providing direct clinical services. As a result, the quality of clinical care is dependent on that of the local service system.

Most wraparound programs bring in one of a small group of national wraparound experts who conduct two- to three-day training seminars. Most programs then do internal follow-up training at regular (usually monthly or quarterly) intervals. Several states have developed their own standards (e.g., Vermont, Michigan, Pennsylvania, California), influenced by the founders of wraparound since they have trained extensively across the country. Examples of training curricula range from comprehensive formal curricula in Florida, Illinois, California, and North Carolina to brief handbooks delineating the values and elements of wraparound. These are usually meant to be used as a supplement to formal wraparound training seminars conducted by national experts which represent the most common approach to wraparound training.

A wraparound training manual developed by VanDenBerg and Grealish (1998) includes 12 chapters which provide a detailed explanation of each step of the wraparound process. The manual then gives examples of child and family plans, and two videos (also developed by VanDenBerg and Grealish) supplement the manual by featuring an introduction to wraparound and a mock planning team meeting.

Wraparound values, elements, and practice requirements to date have not been highly specific, and thus standards which can be translated into quality monitoring tools are not fully developed. However, in Illinois, there has been an effort to develop a national wraparound fidelity measure. Epstein and colleagues developed the Wraparound Observation Form which demonstrated high inter-rater reliability, regarding the nature of wraparound team meetings, in a recent study (Epstein et al., 1998). As nationally recognized standards for wraparound are disseminated, fidelity measures that index these standards should be developed, and research examining the relationship between fidelity of this intervention and outcomes should be conducted.

### *Costs*

Examples of cost savings have been demonstrated. In a study of wraparound in Vermont, the average cost to treat a child for one month during the first month of wraparound was \$3,859. After one year of wraparound, the average monthly cost had lowered to \$3,556 (Bruns, Burchard, & Yoe, 1995). In a study of wraparound in Baltimore, the per diem rate for treating a child in wraparound was \$216, compared to \$269 for a child in out-of-state placement (Hyde, Woodworth, Jordan, & Burchard, 1995). In Milwaukee, Wisconsin, Kamradt reported that wraparound cost \$3,250 per month per child in contrast to \$4,700 per month for a child in a residential treatment center (1996), a difference of over \$17,000 during the course of a year. Finally, in the study of wraparound in New York (described subsequently), the annual cost for a child in wraparound (including other support services) was estimated at \$18,000 while the annual cost for a child in therapeutic foster care (TFC) was approximately \$51,965 (Johnson, 1998). The cost estimate for the comparison condition, TFC, is higher than in other states (e.g., \$30,000 in North Carolina) due to the inclusion of other support services in the estimate. The preceding wraparound cost estimates reflect the full range of services utilized, including hospital admissions or a community placement such as therapeutic foster care, or a small group home.

In the context of the outcomes reported in the evidence base below, these findings indicated that wraparound is a potentially cost-effective approach to treatment. The potential for cost savings derives from several possibilities. Since the wraparound process facilitates the gradual movement from formal to informal resources, wraparound may result in substantial cost savings over long periods of time. If a given child can be sustained in their home community until adulthood, the potential high costs of long-term residential placement can be avoided. Furthermore, by encouraging supportive relationships between the individual and his community, the wraparound process may increase the probability that the individual will be able to function in the community when formal enrollment in wraparound is terminated. By phasing in individual service plans from formal to informal resources, wraparound carries the potential to shift from categorical,

billable services to lifestyles in which children can become an active part of their surrounding community with reduced service involvement.

### *Evidence Base*

In a review of the research base Burns and colleagues (1999) identified 14 published studies that had occurred across nine U.S. states. The studies were mainly descriptive, with study designs distributed as follows: two randomized clinical trials, one with a quasi-experimental design, nine pre-post designs, and two qualitative studies (involving 18 cases) (see Table II).

The first randomized clinical trial occurred in New York (Evans, Armstrong, & Kuppinger, 1996; Evans, Armstrong, Kuppinger, Huz, & Johnson, 1998). The intervention studied employed most of the values and elements of wraparound, but since the combination of client, agency, and state teams did not exist at the time in New York, the authors did not consider the program a full wraparound model (Evans, personal communication, Fall 1997). However, this standard is above that set by the wraparound consensus panel at the Duke wraparound consensus meeting (Goldman, 1999). Specifically, the study compared a wraparound-like program called Family Centered Intensive Case Management (FCICM) to a standard community-based program called Family Based Treatment (FBT), known elsewhere as therapeutic foster care, that did not include case managers or treatment teams. The study population consisted of children and adolescents referred to treatment foster care, and randomly assigned to either FCICM or FBT. At 18 months, children in FCICM exhibited more favorable outcomes than did those in FBT on role performance, behavior, and overall functioning scales of the CAFAS, and on externalizing behavior, social problems, and thought problems as measured by the CBCL.

A second randomized clinical trial, also involving youth referred to foster care, took place in Florida. This study compared outcomes for youth randomly assigned to either the Fostering Individualized Assistance Program (FIAP) or to a standard practice foster care group (Clark et al., 1998). Both groups received standard foster care treatment services, but the FIAP youth received additional services, such as case management and flexible funds, through a wraparound program. Interview data were collected at baseline and then at 6 month intervals, across eight waves, for 3.5 years. The findings were encouraging for both groups, but more so for those who received wraparound. Specifically, for wraparound youth, fewer placement changes and fewer days absent from school were observed in comparison with standard practice youth. In addition, boys in the wraparound group had significantly lower delinquency rates and showed better externalizing adjustment than their standard practice counterparts. Finally, the older youths in the wraparound group achieved significantly more permanency placements (i.e., living with relatives or on their own) than did the youth in standard foster care. It is important to note that despite the many positive findings of this study,

Table II. The Wraparound Research Base

Study & design	Target population	Sample size	Average age or age range	Comparison condition	Wraparound outcomes
Randomized clinical trials					
<i>New York</i> Evans et al., 1998	Youth at risk for residential placement	$n = 42$	5–12 yr	Treatment foster care	Better behavioral adjustment Better family adjustment
<i>Florida</i> Clark et al., 1998	Youth at risk for residential placement	$n = 131$	7–15 yr	Standard foster care	Increased permanency placements Decreased restrictiveness of living environment Improved behavioral adjustment Decreased delinquency and incarceration (males) Improved school adjustment
Quasi-experimental <i>Maryland</i> Hyde et al., 1996	Youth at risk for residential placement	$n = 106$	15.6–20.1 yr	Usual mental health services	Greater school attendance or employment Less restrictive living situation
Pre-post design <i>Vermont</i> Clarke et al., 1992	Youth in special education mainstreamed into regular education Youth in state custody at risk for residential placement	$n = 24$	5–18 yr	None	Improved home adjustment
Yoe et al., 1996	Youth in state custody at risk for residential placement	$n = 40$	16 yr	None	Decreased restrictiveness of living environment Decreased problem behaviors Decreased negative behaviors
Bruns et al., 1995	Youth placed in therapeutic foster care	$n = 27$	13.6 yr	None	
<i>Kentucky</i> Illback et al., 1993	Youth at risk for residential placement	$n = 497$	3–20 yr	None	Decreased behavioral problems Decreased restrictiveness of living environment

<i>Maryland</i> Hyde et al., 1995	Youth at risk for residential placement	<i>n</i> = 70	16 yr	None	Decreased problem behaviors Decreased restrictiveness of living environment
<i>Illinois</i> Eber et al., 1996b	Youth in special education at risk for out-of-home placement	<i>n</i> = 81	14.6 yr	None	Improved family functioning
Eber & Osuch, 1995 Eber et al., 1996a	Youth in self-contained special education and youth from other community sources	<i>n</i> = 44	Not reported	None	Reduced hospital days and placements for community group
<i>Wisconsin</i> Kamradt, 1996	Youth at risk for residential placement	<i>n</i> = 25	Not reported	None	19 successfully returned to community living environments 24 regularly attending school
<i>Indiana</i> Russell et al., 1999	Youth at risk for residential placement	<i>n</i> = 34	5–18 yr	None	Improved behavioral adjustment Decreased restrictiveness of living environment
Case Studies <i>Alaska</i> Burchard et al., 1993	Youth returned from out-of-state placements	<i>n</i> = 10	8–18 yr	None	Improved community adjustment Improved school/career adjustment
<i>Illinois</i> Cumblad, 1996	Youth in child welfare custody	<i>n</i> = 8	Not reported	None	Decreased negative behaviors Improved stability of living environment

it was not clear that the parents had the “access, voice, and choice” that are essential to the wraparound process (Burns & Goldman, 1999).

The single study with a quasi-experimental design was done under the auspices of the Family Preservation Initiative in Baltimore. Most of the youth included in the study had received wraparound services for at least two years. The family care coordinators carried an average caseload of six families at one time and coordinated teams made up of family members and human service providers to create and execute an interagency plan for each child. The teams met every 60 to 90 days, with the family care coordinators completing updates on team progress in meeting the goals of the treatment plan. Designated staff within the study served as contract monitors, assuring implementations and maintenance of the services contract. The sample consisted of four groups: (1) Wraparound Return (WR,  $n = 25$ )—all youth who returned from residential services; (2) Wraparound Diversion (WD,  $n = 24$ )—all youth who were regarded as at risk for residential treatment; (3) Pre-Wraparound (PW,  $n = 39$ )—youth returned from out-of-state during the year prior to initiation of wraparound services; and (4) Non-Wraparound (NW,  $n = 18$ )—youth who returned from out-of-state during the same period as the WR group, but did not receive wraparound services. All subjects in the wraparound groups completed the study, compared to 56 percent of the Non-Wraparound group and 36 percent of the Pre-Wraparound group, thus limiting comparison of results across groups since bias related to attrition was not reported. Two years into the study, youth involved in wraparound were the most involved in community activities, and only 7 percent were living in residential settings. About half of the youth in the wraparound groups were attending school or working on a regular basis, whereas, of the few youth that could be located in the groups who were not receiving wraparound, 6 were living in a very restrictive environment, and 2 were working or attending school. Also, about half of the wraparound youth had reached adjustment level ratings of “good,” whereas none of the Non-Wraparound group and 14 percent of the Pre-Wraparound group received that rating.

Nine of the identified studies of wraparound used a pre-post design. In three such studies in Vermont, involving 95 youth, the major outcomes included decreases in negative behaviors and restrictiveness of living environment, and improvements in home adjustment (Bruns et al., 1995; Clarke, Schaefer, Burchard, & Welkowitz, 1992; Yoe, Santarcangelo, Atkins, & Burchard, 1996). In an earlier study of wraparound in Baltimore City, 70 youth demonstrated improvements in behavioral and community adjustment, along with decreases in the restrictiveness of their living environment (Hyde, Burchard, & Woodworth, 1996; Hyde, et al., 1995). Similarly, a study of 497 youth in Kentucky found that wraparound decreased behavioral problems and restrictiveness of living environment (Illback, Neill, Call, & Andis, 1993).

In a pilot study of Wraparound Milwaukee, most of the 25 youth enrolled were found to be attending school regularly and functioning well in the community after

two years of wraparound (Kamradt, 1996). Similar outcomes were demonstrated in a study of wraparound in Indiana, in which 34 youths were assessed after six months of enrollment (Russell, Rotto, & Matthews, 1999). In addition to maintaining less restrictive living environments, these youth showed substantial improvements in behavioral adjustment. In Illinois, two studies were conducted that involved 125 youth who were part of wraparound in schools. Findings included a reduction in days hospitalized and number of placements for community-referred youth (Eber & Osuch, 1995; Eber, Osuch, & Redditt, 1996a) and improved family functioning (Eber, Osuch, & Rolf, 1996b).

The remaining two wraparound studies utilized a case study method to provide a more in-depth analysis of both the process and outcomes for wraparound youth and their families. One such study was described in a monograph on the Alaska Youth Initiative (Burchard, Burchard, Sewell, & VanDenBerg, 1993). Specifically, the outcomes for ten families were described in detail after two years of wraparound participation. Second, the Kaleidoscope program in Chicago executed a study of a similar type in 1994, after an average of 3 years of service per family (Cumblad, 1996). In both evaluations, the case studies offered a method to demonstrate the extent to which service and support plans were individualized, and outcomes varied among families depending on their specific treatment goals. The outcomes were extremely positive for the youth and their families in both qualitative studies.

These early studies offer preliminary evidence of the benefits of the wrap-around process. The research designs are largely uncontrolled (either case study or pre-post) and potentially subject to problems such as internal validity (relevant to full specification of the intervention) and regression to the mean. Although these designs are appropriate to the early study of new interventions, the limited use of a control condition (comparison with usual care or a well-established treatment) is reflective of the early stages of efficacy research (see Burns, 1999). This emerging research base has established the feasibility, safety, and early evidence of usefulness preparatory to controlled clinical trials. The results from the two randomized clinical trials that were reported (in Florida and New York), despite the limitations noted, open the door to more controlled studies of wraparound once a method for insuring the integrity of wraparound is established. Recent steps taken toward better definition of wraparound, formal training curricula, standards, and measurement of fidelity, identified as needs by Rosenblatt (1996), will support the feasibility of more informative research.

## DISCUSSION

While both MST and wraparound have had a marked influence on the delivery of services to children and families, the evolution of the two interventions has been quite different. MST, a more theoretically and empirically driven intervention, was

developed through research. Wraparound was driven by a pragmatic need to resolve conflicting policies and create more sensible pathways through the bureaucratic maze of the multiple agencies serving youth with SED. Both interventions share common goals, and are offering many youth across the United States and other countries a true alternative to usual outpatient or institutional care. Following a brief summary of the similarities and differences between these interventions (see Table III) and their evidence bases, the relative role of each for youth with SED is discussed.

**Table III.** Comparison of Multisystemic Therapy and the Wraparound Process

Category	Multisystemic therapy	Wraparound
Theory	Social ecology and systems theory	Environmental ecology
Approach to treatment	Clinical treatment in home; families seldom linked to existing services	Plan and coordinate treatment and services provided by community organizations
Major treatment modalities	Behavioral, cognitive behavioral, and pragmatic family therapy	Not specified (varies with availability in the community)
Treatment site	Home primarily, school, peers, neighborhood, community	Clinic, home, school, community
Value on individualized care, family participation, and cultural competence	Important	Important
Clinical staff: client ratio	1: 4–6	1 : 6
Duration of intervention	3 to 5 months in most cases	Long-term, no limit
Frequency of family contact	Daily or less often	Weekly or less often
Availability of services	24 hours/7 days a week	24 hours/7 days a week
Flexible funds	Occasionally	Yes
Team leader qualifications	Usually a master's level clinician	Usually a bachelor's degree for resource coordinators
Responsibility for outcomes	Clinician	Shared by team, including family and child
Expectations of outcomes	Rapid behavioral change in the child, family, school, peers, and neighborhood	Gradual change in child, family, and community to facilitate adjustment and reduce risk of placement
Training	One week, weekly on-site supervision, phone consultation, and quarterly booster sessions	Workshops by national leaders and local follow-up
Training materials	Comprehensive manual	Introductory manual and videotapes
Fidelity monitoring	Adolescent, parent, clinician self-report; factor scores correlated with outcomes	An observation form with inter-rater reliability
Research base by design	Randomized trials: 7 Quasi-experimental: 1 Pre-post: 1	Randomized trials: 2 Quasi-experimental: 1 Pre-post: 9 Case studies: 2

### Similarities

Both MST and the wraparound process are individualized, community-based interventions that target youth with SED and their families. These interventions represent a movement away from traditional child guidance models for this population in which children and parents were treated in outpatient clinics separately with little communication, except possibly between parent and child therapists. The overriding goal of both MST and wraparound is to keep youths in their home communities, and with their biological families whenever possible. Both interventions include a team approach (clinician and supervisor in the case of MST and multiple agency providers and community supports for wraparound), tapping resources from the surrounding environment for each family. Service plans are developed that are strengths-based, encompassing all life domains. Every effort is made to assist the child and family in their natural environment by utilizing resources in their natural support groups (e.g., neighbors, teachers, church members, extended family) in the intervention process.

The role of the family is critical in MST and wraparound, and represents a shift from their roles in traditional services to greater participation and direction. Families are seen as full collaborators in both interventions, and their input drives the goals of their child's service plan. In the treatment planning process, careful efforts are made to avoid blaming parents, but instead to focus on their strengths and build upon them throughout the course of treatment. This is essential since families, in most cases, play a predominant role in the youth's environment and change process. By ensuring that families feel they are part of the process, these interventions facilitate families working together to alter the environment, as opposed to isolating the youth for treatment.

### Differences

Despite the similarities in the main tenets of wraparound and MST, there are a number of substantial differences. A comparison between the two interventions by service element is shown in Table III.

#### *Service Provision Model*

The major difference between the two interventions is the approach to service provision. MST primarily provides direct treatment, utilizing ancillary services as required, whereas wraparound is oriented towards coordinating (and creating if necessary) a range of professional services and community supports. The combination of systems and social ecological theory that drives MST requires that it intervene clinically at the level of the family microsystem to alter behavior and

perspectives in youth and families as well as with interactions between the family and other indigenous systems (peer, school, neighborhood). That is, MST targets changes within the family, within naturally occurring systems around the family, and between the family and these systems.

A major difference between the two interventions is the approach to service provision. With MST, a therapist (clinician) develops a treatment plan with the parent(s) that is focused on both the microsystem (changes within the family) and the mesosystem (changes involving peers, school, and neighborhood). The therapist then helps parents implement clinical interventions that are designed to achieve the objectives of the plan. With wraparound, a service and support plan is developed with similar objectives but by a larger team. The resource coordinator coordinates or helps create the necessary professional services and community supports. If clinical services are needed, they are provided by a therapist who usually becomes a member of the wraparound team. With wraparound services, the resource coordinator does not provide direct clinical services.

Within the realm of service provision, another major difference between wraparound and MST relates to service intensity and duration. Operating on the theory that serious problems in youth are sustained by identifiable factors across the family, school, peer, neighborhood, and indigenous support system, MST seeks to change these factors, and expects the problem behaviors to be alleviated or greatly reduced, accordingly. Such rapid change is accomplished initially by frequent, often daily, intervention with the family, school, peers, etc. The wraparound process, in contrast, works to alter the services available to a child and family to better fit their needs. Changing the services available in a community may take much longer than does MST. The quality of the intervention through the wraparound process is dependent on the ability of the team to access and mobilize supports and services in the local community, while MST clinical services are intrinsic to the intervention and therefore more consistent across programs with respect to orientation, quality, and duration. In short, MST focuses on changing the functioning of the child by changing the child's natural ecology in a short period of time, whereas wraparound focuses on changing the community as an avenue to improving and supplement to improving the functioning of the child and family, however long it takes. Long-term change through MST relies on the maintenance of behavioral change after the clinician leaves or a relatively rapid transition to services in the community. The absence of a time limit in wraparound affords the opportunity to create mechanisms for coordinating services, developing new services (including informal supports, e.g., mentoring) or altering existing ones.

The aforementioned clinical trials have tested MST using a home-based model of service delivery with a time-limited duration of services (e.g., about 4 months). Recognizing that children presenting serious and chronic mental health problems often need continued access to a range of services that vary in intensity (e.g., outpatient to home-based to short-term crisis stabilization outside the home) the

Annie E. Casey Foundation and other public sources have funded the development and evaluation of MST-based continua of care in several sites. These projects will examine the clinical and cost effectiveness of continua of services in which an empirically-validated treatment model (MST) is implemented relative to extant continua of care.

### *Training and Quality Monitoring*

Training manuals that include comprehensive descriptions of the intervention and include case examples have been developed for the wraparound process and MST. In addition, there are several training videotapes for wraparound. Wraparound training tends to be brief with some follow-up, whereas MST training is conducted intensively by MST developers and researchers or second generation training specialists, and is ongoing in nature. MST training and supervision seem to occur in a more systemic manner relative to training for wraparound.

Fidelity measures have also been developed for both wraparound and MST. However, all MST programs use the same measures, whereas wraparound programs can choose to select Epstein's Wraparound Observation Form (Epstein et al., 1998), or develop quality monitoring tools specifically for their program. Although the Wraparound Observation Form and the MST fidelity measure have demonstrated reliability, the MST measure has also been shown to predict outcomes (Henggeler et al., 1997).

### *Evidence Base*

A final major difference between wraparound and MST lies in the extensiveness and sophistication of the respective research bases. There are a number of strengths in both evidence bases, i.e., multiple studies and reasonably large sample sizes. With wraparound, the use of the pre-post design has demonstrated encouraging empirical outcomes. However, without more comparison studies, the evidence that wraparound is more effective than usual services has not yet been demonstrated. There is a clear need for randomized clinical trials of wraparound. Factors underscoring this need include: (a) the evidence of rapid dissemination of wraparound; (b) observations of considerable variation as wraparound is being implemented across the country; (c) preliminary indications that wraparound results in costs savings, suggesting that further confirmation would be beneficial; and (d) the increasing availability of standards and fidelity measures which will facilitate interpretation of research findings.

In contrast, the evidence base for MST is characterized by considerable controlled research, but little diversity among investigators. The efficacy of MST as described previously, was established through three randomized clinical trials with delinquents, and effectiveness through the transfer of MST to other clinical

populations (sex offenders, abused children, youth referred for a psychiatric inpatient admission) and to multiple organizational settings (i.e., child welfare and mental health). The research base meets the criteria for a “probably efficacious” treatment, but it was not classified as “well-established” (Lonigan, Ebert, & Johnson, 1998). The replications of positive findings from MST research have been achieved solely by researchers associated with the development of MST, with the exception of a recent small study (Sutphen et al., 1995), but this may change with research that is currently being conducted by other investigators (Leschied & Cunningham, 1998; Miller, 1997; Thomas, 1994). The current strong evidence base awaits evaluation of MST by independent research teams, or related tests of mature MST programs without direct involvement of the developers, to ensure that comparable results can be obtained on the merits of its theory and principles. In addition to studies in the field by other investigators cited above, an NIMH-supported transportability study will test in multiple sites whether outcomes are comparable when the quality of MST treatment is equivalent to the outcomes obtained in the randomized clinical trials directed by the developers of MST.

## CONCLUSIONS

The logic, service provision, and evidence base for MST and wraparound have been described. The two approaches share similar philosophies and values, but differ with respect to the mechanisms specified for addressing the complex problems of children with SED and their families. Wraparound serves as an umbrella for service provision, relies on the existing service system to provide clinical care, and tries to build new services as family and community circumstances allow. In contrast, MST provides clinical care directly. The nature of the evidence base regarding the clinical and cost effectiveness of these approaches differs, with descriptive studies dominating the literature on the wraparound process and clinical trials dominating the literature on MST.

In short, the values and philosophy underlying the wraparound process and MST are compatible, but the activities subsumed by each, and evidence supporting their effectiveness, differ. Because the wraparound process and MST subsume different activities (coordinating care in wraparound vs. direct clinical service in MST) but are somewhat compatible philosophically, some communities are implementing both approaches. Recently, efforts to integrate MST within a wraparound process began in the Center for Mental Health Services Child Demonstration in Kearney, Nebraska. Based on a 1999 consultation of this site by Burns, Burchard, and Strother, the feasibility of a range of approaches to combining these interventions are being explored: separate, but concurrent; sequential (stop and go); blended (complementary), and fully integrated.

As policymakers, providers, and consumers of mental health services seek to remedy the system-, service-, and treatment-level problems that leave many children and families poorly served, they look to system-, service-, and treatment-level

solutions. For complex problems, a combination of solutions that crosses all of these levels may be needed. The wraparound process can be conceptualized as a service-level solution, whereas MST can be conceptualized as a treatment-level solution. The extent to which combining these particular approaches to system and treatment problems presents as clinically and cost-effective remains to be seen.

However, for the present, the most pressing need is to further develop the wraparound research base by conducting randomized clinical trials that include fidelity monitoring. It will be necessary to directly link positive outcomes to the integrity of the wraparound process, similar in scope to what has been demonstrated in research on MST. On the MST side, the next step is to test the transportability of this intervention to settings where it is controlled by local investigators.

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