5. MST and the Oversight of MST Services Inc.

This chapter provides an overview of the MST approach, the American research that supports its use for young offenders, and the role of MST Services Inc. in the training and supervision of the Ontario MST teams.

These topics are reviewed.....

- Family Services Research Center
  - Randomized Studies
    - Simpsonville, South Carolina
    - Columbia, Missouri
    - Charleston, South Carolina
    - Multi-site, South Carolina
- What is MST?
- MST Services Inc.
  - Go/No Go Decisions and MST
  - MST Training
  - MST Adherence
    - The MST Institute
    - Transportability Study
    - Adherence in Ontario
  - The Costs of MST
    - The Cost of MST in Ontario
    - Other Costs of Implementation
    - Local Capacity to Deliver MST Independently
  - MST Licensing
- The Future Development of MST in the United States
- Summary and Conclusions
- Endnotes

The origin of this MST study dates to the late 1980s when evidence began to emerge suggesting MST was effective in reducing criminal behaviour and correctional costs among serious young offenders in the United States.[1] Outcome data from randomized studies made MST a stand-out among delinquency intervention efforts, a field not characterized by overwhelming success. While *some* meta-analyses of research were showing that *some* treatment programs can be effective with *some* youths, differences were small and translation of "best practice" models to field environments had proved challenging. Moreover, few were claiming success with the most hard-to-serve youth, whose anti-social behaviour seemed intractable and who were on a trajectory that could well take them to the adult penal system.

Since we began the study, based upon data from the American randomized trials, several high-profile American organizations have highlighted MST as an efficacious intervention for delinquency prevention:

1. Strengthening America's Families, funded by the Office for Juvenile Justice and Delinquency Prevention, identified MST as an exemplary program for delinquency[2]

2. The Washington State Institute for Public Policy rated MST as the most effective and cost efficient of the 16 delinquency prevention programs studied[3]

3. The Center for the Study and Prevention of Violence at the University of Colorado identified MST as one of ten exemplary violence prevention programs[4]

In addition, the National Institute of Drug Abuse identified MST as one of 12 scientifically based approaches to drug addiction treatment.[5]

MST is now used in 23 American states and has spread to Europe (Norway, Sweden, Northern Ireland, and England) and New Zealand.

MST promised to be effective with serious and chronic young offenders, a claim few interventions make.

This section of the report describes MST and the role of MST Services Inc. in the Ontario study. Key observations and conclusions are these:

- evidence for MST's efficacy comes from two randomized studies, conducted in Simpsonville, South Carolina, and Columbia, Missouri

- two other randomized studies failed to find significant differences in re-arrest after treatment

- MST adopts a family preservation treatment modality that involves intensive work with a small

number of families

- MST is an expensive intervention to implement with a high "per case" cost, attributable to the low therapist-to-family ratio and the high cost of training and consultation
- the high cost of MST is expected to be recouped by down-stream savings in correctional costs
- use of the MST approach requires a contractual relationship with the American corporation that undertakes training, consultation and licensing
- arrest rate and days of incarceration were statistically associated with parent reports of fidelity to the MST model in a study that was released after the Ontario project began
- unlike Ontario, many U.S. jurisdictions are adopting the MST approach without first testing its effectiveness in their areas

Family Services Research Center

MST was developed at the Family Services Research Center (FSRC) of the Department of Psychiatry and Behavioral Sciences, Medical University of South Carolina. They observed how mental health services for serious young offenders were minimally effective at best, extremely expensive and not accountable for outcomes.[6] They searched the literature for interventions with documented success in shaping good outcomes for anti-social youth. They also noted which interventions, some quite popular, have no empirical support. This process of discarding ineffective techniques while gleaning those most effective means that MST is really more an amalgam of best practices than a brand-new method. The FSRC conducted the original and on-going research about MST. It has approximately 35 full-time individuals working on various MST-related research projects.

http://www.musc.edu/psychiatry/

> The high cost of MST was expected to be recouped by savings to the correctional system.

Randomized Studies

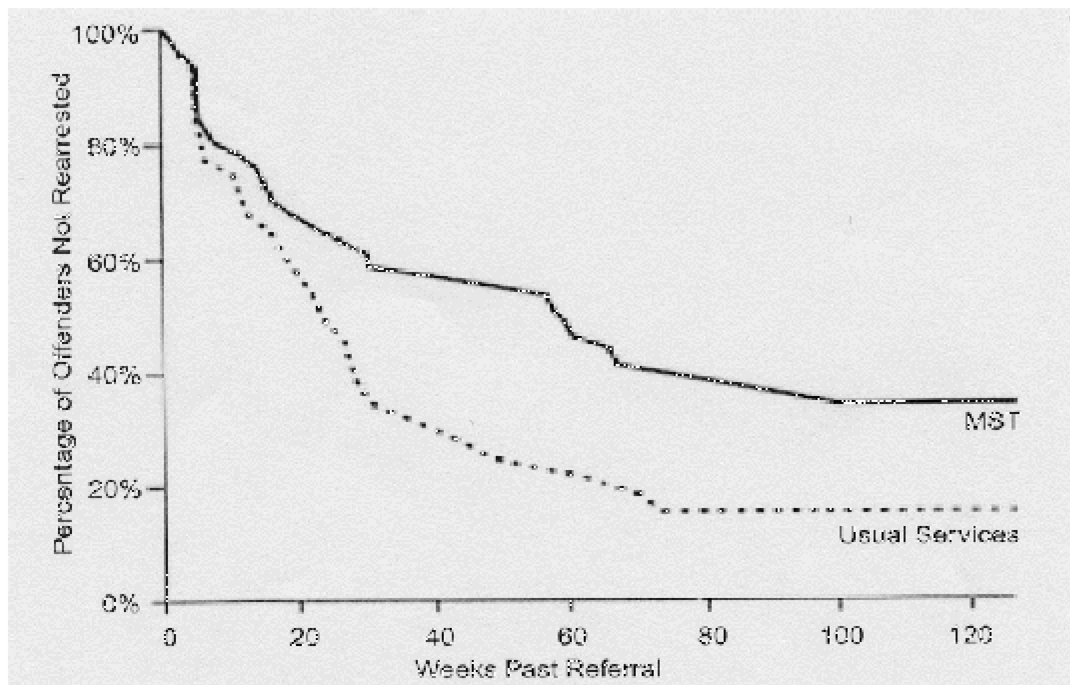
MST came to the public's attention in large measure because of randomized trials that compared MST to "usual services" in Simpsonville, South Carolina,[7] and to individual counselling in Columbia, Missouri.[8] Modest but not statistically significant differences in arrest were found in two other studies, with substance abusing youth in Charleston and with young offenders in two South Carolina sites. The latter two studies indicated that efforts to implement MST in the field were less successful. Another Missouri study focussed on sex offenders but the sample size of 16 was extremely small and the results should be interpreted with caution.[9]

Simpsonville, South Carolina

This study was funded by the National Institute of Mental Health and conducted in conjunction with the South Carolina Department of Mental Health and the South Carolina Department of Juvenile Justice. The sample was 84 violent or chronic juvenile offenders at imminent risk of out-of-home placement. They

were typically male (77%) with a mean age of 15.2 and had spent an average of 9.5 weeks in correctional facilities before referral. Over half (56%) were African American and one quarter lived with neither biological parent. The youths were randomly assigned to either MST or to the “usual services” of the Department of Juvenile Justice. The case loads of the three MST therapists at the Department of Mental Health, each with a master’s degree, averaged four families and the treatment period averaged 13 weeks. At 59-weeks, the MST youth averaged .87 arrests while the usual services group averaged 1.52. Dramatically lower weeks of incarceration were also evident (5.8 versus 16.2). Moreover, a 2.4 year follow-up showed that MST doubled the percentage of youth who were not re-arrested, in comparison with usual services.

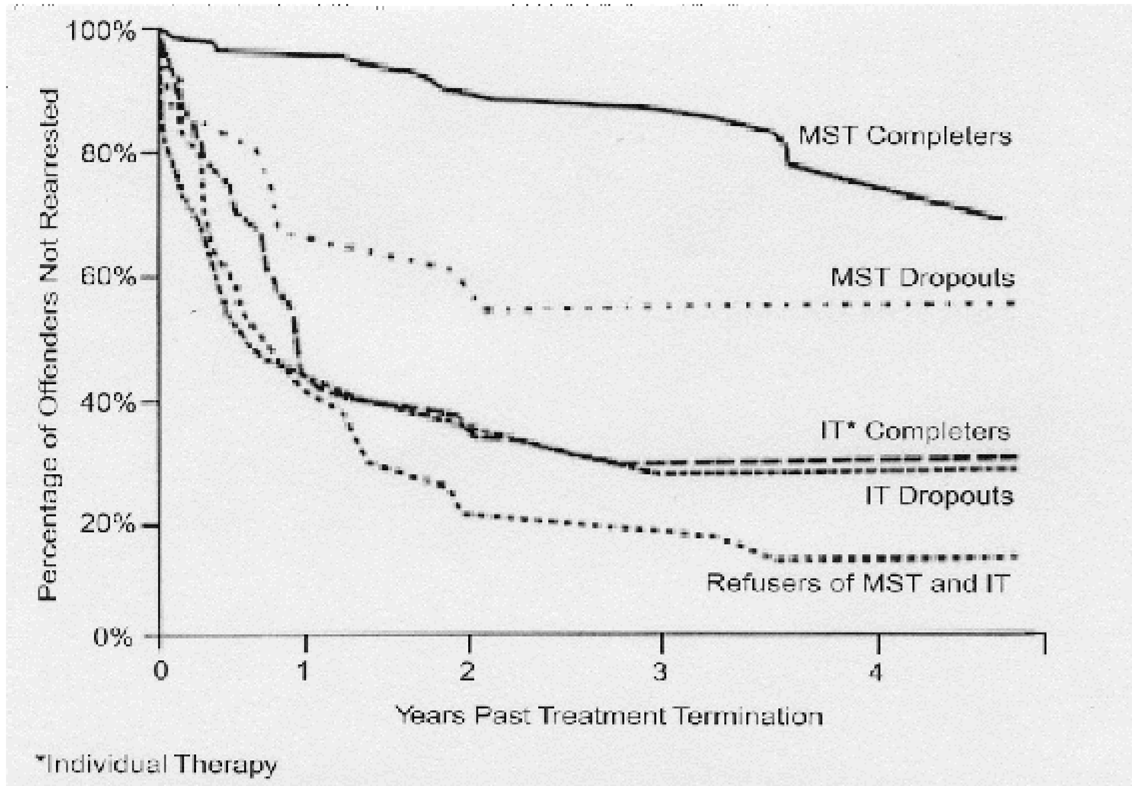
Figure 5.1
Survival Curve from Simpsonville, South Carolina, MST Project (n=84)



Source: S.W. Henggeler (1997). Treating Serious Anti-Social Behavior in Youth: The MST Approach. *OJJDP Juvenile Justice Bulletin*, May, at 4.

The success of MST in reducing arrests and correctional costs among young offenders was demonstrated in two studies, in Simpsonville, South Carolina, and Columbia, Missouri.

Figure 5.2
Survival Curve from Columbia, Missouri, MST Project (n = 200)



Source: S.W. Henggeler (1997). Treating Serious Anti-Social Behavior in Youth: The MST Approach. *OJJDP Juvenile Justice Bulletin*, May, at 5.

Columbia, Missouri

This project was conducted under the auspices of the Family Assessment Lab in Missouri, directed by Charles M. Borduin. The sample was 176 juvenile offenders aged 12 to 17 who were randomly assigned to either MST (n=92) or individual counselling (n=84). Also included in the study were the 24 who refused to participate. Six doctoral candidates in clinical psychology delivered the MST services while six masters-level therapists delivered out-patient, mental health services to the control group. The youths were 14.8 years old on average, most (70%) were Caucasian and two thirds (63%) had spent some time in a correctional facility.

After four years, the re-arrest rates of five groups were compared: MST completers (n=77), MST drop outs (n=15), therapy completers (n=63), therapy drop outs (n=21) and those who refused to participate in the study (n=24). Results are illustrated in Figure 5.2, where it can be seen that dramatic differences in re-arrest rates were evident.

http://web.missouri.edu/~psycbord/Delinquency.html

Charleston, South Carolina

Of the four MST randomized studies discussed here, this study is perhaps the closest to the conditions of implementation achieved in the Ontario project. The sample was 118 juvenile probationers recruited through the Department of Juvenile Justice in Charleston County from 1992 to 1994. All youth met the DSM-III-R criteria for substance abuse (54%) or dependence (46%).[10] The substances used were primarily alcohol and marijuana. Their average age was 15.7, with a range of 12 to 17. They averaged 2.9 previous arrests. They were described as "relatively disadvantaged," with a median family income in the $15,000 to $20,000 range. There were typically other clinical diagnoses, such as conduct disorder (35%), social phobia (19%), oppositional defiant disorder (12%) and major depression (9%). About one fifth of the birth mothers (18%) and one half of the birth fathers (56%) reported problems with alcohol or drugs.

Those assigned to the MST condition received an average of 40 contact hours (range 12 to 187) over an average of 130 days (range 61 to 252). MST training and consultation were undertaken by the developers of the method. MST was delivered by a team of three therapists, two with masters degrees and one with as bachelors degree. All but one of the 57 families assigned to the MST condition completed the full course of treatment. Youths in the usual service condition were referred by their probation officers to outpatient substance abuse services from the local office of the state substance abuse commission. This intervention typically involved weekly group meetings using a 12-step model. One youth spent time in a residential program. A variety of mental health services were also available. However, among those in the usual service condition, 78% received neither substance abuse nor mental health services. Those who did receive one, the other or both were exposed to "relatively low quantities" of those interventions.

Using computerized arrest records from the Department of Juvenile Justice, adjudicated arrests for criminal offences were tracked from program admission until six-months post discharge, a period of about 11 months. Note this is different from the approach used here and in the Missouri study, where recidivism was tracked from the discharge point. After the 11 months, 42% of the ususal services group had been arrested compared with 34% of the MST group, a non-significant difference of 19%. There were no differences in offence severity. One third of the MST youth (33%) were incarcerated at least once during the 11 months compared with 27% youth in the usual services condition. However, average days in custody was lower for the MST recipients (30 versus 66 days).

> The Charleston study found some promising but non-significant differences and matched most closely the conditions of implementation of MST in the Ontario project.

Multi-site, South Carolina

The stated intention of this study was to test MST when the developers of the method were not intensively involved with the program delivery. It was recognized that MST as implemented in the previous three studies was financially and administratively difficult, a fact that had implications for the broad dissemination of the model. The results of this study were released after the Ontario study had started.[11] The conditions of implementation were described as a real-world dissemination. MST was delivered through two community mental health centres, one with a rural catchment area and one a mixed urban/rural catchment area. The two MST teams consisted of two full-time therapists and a supervisor. In contrast to the above three studies, program administrators hired the therapists, all of whom had masters degrees. Over the course of the project, ten therapists were trained. Each therapist underwent a six-day training and participated in quarterly booster sessions. However, there was no weekly consultation with an MST expert. Instead, clinical supervision reflected that typically found in a community-based mental health agency.

MST was delivered in two public-sector mental health agencies in South Carolina. The 155 youths who averaged 15.2 years of age had all been arrested for criminal offences and were awaiting disposal of their cases. By agreement, all youth who consented to participation were placed on probation by a judge. They were then randomly assigned to either MST or to the usual juvenile justice services. Judges and other court-related personnel were kept unaware of the group to which they were assigned. Members of the usual services group were on probation for a minimum of six months. Visits to the probation officer ranged from weekly to once per month. Probation officers referred the youths to the counselling or training programs available locally, as needed.

In a 1.7 year follow-up, differences in arrest rate (between referral and 1.7 years post-discharge) between the control and treatment groups were not statistically significant, and neither was rate of incarceration in the period between discharge and follow-up (38% MST and 50% usual services). Again, there was no difference between the groups on offence severity. However, among those who were incarcerated at any point between referral and the end of the follow-up, the number of days incarcerated was significantly different (average of 33.2 versus 70.4). The rate of incarceration for that period was not reported.

At the outset, it was hypothesized that failure to replicate the findings of Simpsonville and Missouri would be because of lower levels of therapist adherence to the MST method. Accordingly, the therapist adherence measure (TAM) was developed involving parent, youth, and therapist self-report. The parent version, still in use, is described later in this chapter. Parents and youths in the MST condition completed these instruments twice during the treatment period. There were two scores on the parent-report TAM that were associated with arrest, one of which was the total adherence score. Extremely weak but significant associations were found between rate of incarceration and total adherence score and the sub-scale called “non-productive treatment sessions.” It was concluded that the poor results of MST were explained by the absence of a key element of implementation – specifically the weekly consultation to monitor fidelity. This finding had implications for the Ontario project, as described below.

> The findings of the multi-site study had serious implications for the Ontario MST project because it seemed to indicate that weekly monitoring by MST experts was necessary for MST to “work.”

What is MST?

MST adopts a social-ecological approach to understanding anti-social behaviour. The underlying premise of MST is that criminal conduct is multi-causal; therefore, effective interventions would address the multiple sources of criminogenic influence. These sources are found not only in the youth (values and attitudes, social skills, organic factors, etc.) but also in the youth’s social ecology: the family, school, peer group and neighbourhood. Treating the youth in isolation of these other systems means that any gains are quickly eroded upon return to the family, school or neighbourhood.[12] In addition, many common interventions can have an iatrogenic effect and foster higher levels of criminal behaviour than would have been the case with no intervention at all.[13] It is a key premise of MST that community-based treatment informed by an understanding of the youth’s ecology will be more effective than other methods including costly residential treatment. This is even true when you select as candidates for MST those youths who are bound for residential treatment or custodial placements because of the seriousness of their conduct or emotional problems.

The underlying premise of MST is that criminal conduct is multi-causal; therefore, effective interventions would address multiple factors in a youths ecology: individual, family, peers, school, and community

Using the family preservation service delivery model, MST differs from conventional approaches in several respects (see Table 5.1). The work is done in the community, usually the family home, rather than an office. As needed, therapists will spend time at school and meet with the youth's peer group and extended family. Instead of weekly or monthly appointments, there is daily contact if needed, especially in the beginning. The therapist is responsible for engaging the family and is ultimately accountable for outcomes. Progress is measured daily in an objective and observable way and the case is closed when the family-defined goals have been attained.

Not everyone, even therapists with years of experience, will be an effective MST worker. The developers of MST suggest that characteristics that would hinder a therapist's ability to deliver MST effectively include clinical belief systems that are non-ecological, pejorative attitudes toward parents of youth who have significant problems, reluctance to assume accountability for outcomes, and difficulty in viewing families as full collaborators in all aspects of treatment.

Table 5.1
Differences Between Traditional Mental Health Services and Family Preservation Using Multisystemic Therapy

Service Element	Traditional Services	Family Preservation
Treatment Sites	In the clinic (out-patient) or in the hospital/residential treatment center (in-patient	In the field (home, school, neighborhood, community)
Treatment Modality	Individual psychotherapy, group therapy, medication	Total care
Provider	Individual clinician (out-patient); multi-disciplinary teams (in-patient)	Generalist team
Clinical Staff to Patient Ratio	1 : 60-100 (out-patient); varies in in-patient settings	1 : 4-6
Staff Availability	Working office hours highly (out-patient); highly variable (in-patient)	Team available 24/7
Family Contact	Weekly or bi-weekly (out-patient); highly variable (in-patient)	Daily in most cases
Frequency of Contact	Occasional	Daily in most cases
Treatment Outcome	Responsibility of patient and family	Responsibility of staff
Case Management	Broker of services	Services provider
Expectations of Outcomes	Gradual change	Immediate, maximum effort by staff and family to attain goals

Source: S.W. Henggeler (1997). Treating Serious Anti-Social Behavior in Youth: The MST Approach. *OJJDP Juvenile Justice Bulletin*, May, at 2.

MST is an individualized, flexible intervention tailored to each unique situation. There is no one recipe for success. Instead, nine principles guide intervention:

1. *The primary purpose of assessment is to understand the "fit" between the identified problems and their broader context*

2. *Therapeutic contacts should emphasize the positive and should use systemic strengths as levers for change.*

3. *Interventions should be designed to promote responsible behaviour and decrease irresponsible behaviour among family members.*

4. *Interventions should be present-focussed and action-oriented, targeting specific and well-defined problems.*

5. *Interventions should target sequences of behaviour within or between multiple systems that maintain the identified problems.*

6. *Interventions should be developmentally appropriate and fit the developmental needs of the youth.*

7. *Interventions should be designed to require daily or weekly effort by family members.*

8. *Intervention efficacy is evaluated continuously from multiple perspectives with providers assuming accountability for overcoming barriers to successful outcomes.*

9. *Interventions should be designed to promote treatment generalization and long-term maintenance of therapeutic change by empowering care givers to address family members' needs across multiple systemic contexts.*

The MST-specific training augments the education and experience therapists bring from their chosen fields (usually social work or psychology).

Collaboration with community agencies is a crucial part of MST. The school is a key player and workers may be in daily contact with teachers and administrators. MST therapists also work in close partnership with probation officers who in many cases are the referral source. There may be a need to involve the youth in substance abuse treatment or seek a psychiatric consultation about a parent, for example. While the initial MST involvement may be intensive, perhaps daily, the ultimate goal is to empower the family to take responsibility for making and maintaining gains. An important goal in this process is to foster in parents the ability to be good advocates for their children and themselves with social service agencies and to seek out supportive services and networks. In other words, parents are encouraged to develop the requisite skills to solve their own problems rather than to rely on professionals.

> The nine principles of MST guide the intervention, including focusing on the present and emphasizing the positive.

The MST process begins with the identification of the problem behaviours, a task which involves the whole family. In other words, parents are key in identifying treatment targets. Examples of these behaviours include non-compliance with family rules, failure to attend school, failure to complete school work, substance use, disrespect to authority figures, and assaultive behaviour. While the focus is on elimination of problem behaviours, this is accomplished in great measure by building on strengths. So the assessment process also involves identifying the strengths in the youth and his or her family, which can

include athletic ability, a trusting relationship with an extended family member or teacher, warmth and love among family members, or a hobby.

The next step is an assessment of the factors in the youth's ecology which support the continuation of the problem behaviours and the factors which operate as obstacles to their elimination. These factors may be a found in any sphere of the youth's ecology or the linkages among them so therapists go to the school, spend time with the peer group, or speak with members of the extended family. Examples of these factors might include poor discipline skills on the part of the parents or teachers, marital discord, parental substance use, lack of supervision, peer reinforcement of problem behaviours, neighbourhood culture which condones violence or encourages anti-social values, low commitment to education, chaotic school environment, poor parent-to-school communication, or financial stresses experienced by the family.

By identifying the "fit" between the problems and the broader systemic context, MST workers are defining both the targets of intervention and the indicators of effectiveness of the measures undertaken. Examples of interventions, as listed in the Blueprints document, are to:

- improve caregiver discipline practices
- enhance family affective relations
- decrease youth association with deviant peers
- increase youth association with pro-social peers
- improve youth school or vocational performance
- engage youth in pro-social recreational outlets
- develop an indigenous support network of extended family, neighbours, and friends to help caregivers achieve and maintain such changes
-

A therapeutic strategy should produce observable results in behaviour or the strategy is revised. In other words, desired change in the behaviour (e.g., school attendance) is used as indication that the intervention (e.g., parent contacting the school daily) is on the right track. Failure to achieve change requires a reassessment of the "fit" and plainly indicates the need to try a new tactic. The MST service providers are ultimately accountable for overcoming barriers to change. Blaming language such as "sabotage," "resistence," and "intractable problems" is not permitted. In fact, diagnostic labels of any type are discouraged in favour of a perspective that focuses on challenges and strengths.

> Examples of typical MST interventions include improving caregiver discipline practices and engaging youth in pro-social activities.

MST is designed to be an intense but short-term service that encourages the generalization of treatment gains over the long-term. The frequency and duration of contacts will decrease over time, being intense in the beginning but lessening as improvements are observed. No social service intervention can last forever, so the ultimate goal is to empower the family or other care giver to continue with the strategies and interventions which were successful. The clearly articulated definition of success permits objective definition of when the case can be closed.

Its developers believe MST is successful for these reasons:

- treatment targets are known causes of delinquency associated with family relations, peer relations and school performance

- treatment occurs in the youths' natural environment and is family driven
- providers are accountable for outcomes
- therapists are well trained and supported
- significant energies are devoted to developing positive inter-agency relations

A key feature of MST, one that is a major focus of the initial training, is the effort expended to engage the family in the treatment. The therapist is responsible and accountable for the engagement and they are taught to "never give up" on a family. The motto of MST is "whatever it takes."

The motto of MST is "whatever it takes."

MST Services Inc.

How do you take an intervention like MST from virtual laboratory conditions and make it viable in the real world? In 1996, the research and dissemination functions previously performed by the Family Services Research Center were split and MST Services Inc. was created as a private, for-profit corporation to oversee MST dissemination. They employ 19 people as MST consultants to undertake training and consultation at the growing number of agencies using MST.

www.mstservices.com

Go/No Go Decisions and MST

As part of its dissemination mission, the staff at MST Services Inc. are responsible for quality assurance of MST delivery. This process begins with an assessment of the local conditions before the MST begins. What they call the "go/no-go" conditions for implementation are listed in Table 5.2. It is unwise for a community to go forward with MST unless these conditions are met. In the Ontario project, a representative of MST Services Inc. visited the four sites in March of 1997 and did community presentations on the method and the conditions of implementation associated with successful outcomes. The need for these three factors was stressed:

- continuous focus on outcomes
- fidelity to the treatment model
- accessibility of treatment

These critical elements are influenced by organizational support of the MST program at the host agency, operational practices and policies, and inter-agency collaboration. It is recommended that there be a clear understanding of MST at all levels of the agency, the agency be committed to implementing MST fully, the client population be compatible with the groups with which the method has been validated, and that the agency be willing to modify policies (e.g., on flex time) and dedicate necessary resources (e.g., cellular telephones).

To implement MST requires an agreement with MST Services Inc. for training, consultation and licensing.

Table 5.2

Go/No-Go Conditions for MST Implementation

Yes F No F The target population served will be youth referred primarily for anti-social behaviours.

Yes F No F The following youth will not be referred to the MST program: youth referred soley for sex offenses in the absence of all other anti-social behavior (i.e. they are following family and community rules, associating with positive peers, doing well in school, etc.), and youth in need of crisis stabilization for active suicidal, homicidal, or psychotic behavior (once stable, these youth would be eligible for MST services).

Adherence to the MST model is critical to achieving positive outcomes. It is essential that therapists participate in the following activities to ensure consistent adherence to the model:

Yes F No F 1) complete the week-long introductory training in MST;

Yes F No F 2) participate in weekly MST consultation with an MST Consultant;

Yes F No F 3) participate in regular booster training with an MST Consultant;

Yes F No F 4) track progress and outcomes on each case weekly by completing MST-specific case summary forms;

Yes F No F 5) participate in weekly MST team clinical supervision with the on-site clinical supervisor.

Yes F No F The program will measure the adherence of therapists to the MST model using the measure validated as part of the landmark clinical trials of MST.

Yes F No F The provider organization will be able to take the "lead" on cases with the buy-in of other organizations and agencies (i.e. MST therapists will be able to "take the lead" for clinical decision making on each case). The organization sponsoring the MST program has responsibility for initiating collaborative relationships with these organizations and agencies. Each MST therapist sustains these relationships through ongoing, case-specific collaboration.

Yes F No F Therapists will operate in teams of no fewer than 2 and no more than 4 therapists (plus the clinical supervisor) and use a home-based model of service delivery.

Yes F No F Case loads will not exceed 6 families per therapist with a normal range being 4 to 6 families (each therapist will serve approximately 15 families per year).

Yes F No F The expected duration of treatment will be 3 to 5 months.

Yes F No F MST therapists will be full-time Masters-level or equivalently-trained, seasoned mental health professionals assigned to the MST program solely.

Yes F No F MST clinical supervisors will be either Ph.D. level or experienced Masters level professionals.

Yes F No F MST clinical supervisors will be assigned to the MST program a minimum of 50% time (full-time is preferable) per MST team to conduct weekly team clinical supervision, facilitate the weekly telephone consultation, and be available for individual clinical supervision for crisis situations. Supervisors carrying a partial case load should be assigned to the program on a full-time basis.

Yes F No F Supervision practices will conform to the following format: weekly MST group consultation, weekly group clinical supervision, and individual supervision only as needed due to case crises, or to implement clinician-specific training.

Yes F No F MST clinical supervisors will have credible authority over the MST clinicians (e.g. provide feedback relevant to performance reviews and salary decisions).

Yes F	No F	Therapists will be accessible at times convenient to their clients and, in times of crisis, very quickly. Issues to be addressed here include the dedicated nature of the role, use of flex-time/ comp-time, policies regarding use of personal vehicles, and use of pagers and cellular phones.
Yes F	No F	The MST program will have a 24 hour/day, 7 day/week on-call system to provide coverage when therapists are on vacation or taking personal time. This system must be staffed by professionals who know the details of each case and understand MST.
Yes F	No F	Discharge criteria will be outcome-based, not focused on treatment duration or other criteria.
Yes F	No F	Is the funding structure in place? If not, is there a well-articulated plan for how the program will be sustained financially?

Source: MST Services Inc. (see www.mstservices.com)

MST Training

Once an agency decides to implement MST, they enter into a contract with MST Services Inc. for training. They will be assigned an MST consultant and start with a five-day orientation session, the objectives of which are to:

- familiarize participants with the scope, correlates and causes of serious criminal behaviour
- describe the theoretical and empirical underpinnings of MST
- describe the family, peer, school and individual intervention strategies used
- train participants to conceptualize cases and interventions terms of the principles of MST, and
- provide participants with practice in delivering MST interventions

This initial training in the Ontario study was held near Orillia in April of 1997.[14] Four clinical supervisors and 13 therapists participated, along with agency managers and the research team.

After that initial week of training, the next phase of the training began. The therapists were assigned a caseload and applied the MST principles to families, with rigorous monitoring by the MST consultant and the on-site clinical supervisors. Four times a year, the teams met in a central location for 1.5 day booster training sessions.

> MST training begins with a one-week session that serves as an orientation to the MST approach.

MST Adherence

Adherence to the nine principles of MST is measured by an instrument called the Therapist Adherence Measure (TAM) reproduced in Table 5.3. This instrument was developed at the FSRC, as noted above, to test the hypothesis that fidelity to the MST model will predict the quality of outcome. They have found “modest support” for an association between TAM scores and outcome as measured by arrest.[15] These data led them to conclude that a high degree of fidelity to MST is needed if the outcomes of the Simpsonville and Missouri studies are to be replicated. It was further concluded that on-going involvement by consultants at MST Services Inc. was necessary to attain and maintain a high level of adherence.

TAMs are completed by the principal caregiver at several points during treatment and again at case closure. The caregiver is asked to make reference to the previous two or three sessions when making their

ratings. This instrument yields six sub-scale scores: overall adherence, non-productive settings, therapist/family problem-solving effort, therapist attempts to change interaction, lack of direction, and family-therapist consensus. Three of the sub-scales have been validated by the authors of the instrument. In addition to its use as a research tool, patterns of adherence scores over a large number of administrations (at least 12 to 15) can aid on-site supervisors in identifying trends in adherence deficits in individual therapists. This feedback, in turn, can focus supervisory efforts.

Table 5.3

MST Therapist Adherence Measure

Regarding your last 2-3 sessions:					
1. The sessions were lively and energetic.	not at all	a little	some	pretty much	very much
2. The therapist tried to understand how my family's problems all fit together.	not at all	a little	some	pretty much	very much
3. My family and the therapist worked together effectively.	not at all	a little	some	pretty much	very much
4. My family knew exactly which problems we were working on.	not at all	a little	some	pretty much	very much
5. The therapist recommended that family members do specific things to solve our problems.	not at all	a little	some	pretty much	very much
6. The therapist's recommendations required family members to work on our problems almost every day.	not at all	a little	some	pretty much	very much
7. My family and the therapist had similar ideas about ways to solve problems.	not at all	a little	some	pretty much	very much
8. The therapist tried to change some ways that family members interact with each other.	not at all	a little	some	pretty much	very much
9. The therapist tried to change some ways that family members interact with people outside the family.	not at all	a little	some	pretty much	very much
10. My family and the therapist were honest and straightforward with each other.	not at all	a little	some	pretty much	very much
11. The therapist's recommendations should help the children to mature.	not at all	a little	some	pretty much	very much
12. Family members and the therapist agreed upon the goals of the sessions.	not at all	a little	some	pretty much	very much
13. My family talked with the therapist about how well we followed her/his recommendations from the previous session.	not at all	a little	some	pretty much	very much
14. My family talked with the therapist about the success (or lack of success) of his/her recommendations from the previous session.	not at all	a little	some	pretty much	very much
15. The therapy session included a lot of irrelevant small talk (chit-chat).	not at all	a little	some	pretty much	very much
16. NOT much was accomplished during the therapy sessions.	not at all	a little	some	pretty much	very much
17. Family members were engaged in power struggles with the therapist.	not at all	a little	some	pretty much	very much

18. The therapist's recommendations required us to do almost all the work.	not at all	a little	some	pretty much	very much
19. The therapy sessions were boring.	not at all	a little	some	pretty much	very much
20. The family was NOT sure about the direction of treatment.	not at all	a little	some	pretty much	very much
21. The therapist understood what is good about our family.	not at all	a little	some	pretty much	very much
22. The therapist's recommendations made good use of our family's strengths.	not at all	a little	some	pretty much	very much
23. My family accepted that part of the therapist's job is to help us change certain things about our family.	not at all	a little	some	pretty much	very much
24. During the session, we talked about some experiences that occurred in previous sessions.	not at all	a little	some	pretty much	very much
25. The therapist's recommendations should help family members to become more responsible.	not at all	a little	some	pretty much	very much
26. There were awkward silences and pauses during the session.	not at all	a little	some	pretty much	very much

Source: www.mstinstitute.org

The MST Institute

The MST Institute was created part way through our project to monitor the quality of MST delivery in all sites around the world. Its web site can be used by organizations implementing MST. It contains information about the Therapist Adherence Measure and the Supervisor Adherence Measure and gives to registered users the ability to input and score a TAM in a few seconds. On-line scoring permits the MST Institute to accumulate a large data set of adherence scores with which to conduct further research on the instrument.

www.mstinstitute.org

> The MST Institute was created to help monitor the quality of MST implementation.

NIMH Transportability Study

Conducted under the direction of Sonja Schoenwald, Assistant Director of the FSRC, this study got underway in December of 1999, funded by the National Institute of Mental Health. It is a multi-site study with which the Ontario teams cooperated along with teams in eight American states. The goal of the study is to investigate the connections among treatment fidelity (as measured by the TAM), clinical supervision, organizational factors, community factors and case outcome. This study is on-going.

Adherence in Ontario

The TAM instrument was made available to the Ontario teams shortly after the onset of our study in 1997. In the first two years, TAMs were administered to the families by clinical supervisors. On-line scoring of the TAM became available in March of 1999 and the backlog of administered instruments was scored at that point. Beginning with cases that started in December of 1999, the instrument was administered over the telephone by researchers at the Medical University of South Carolina, as part of the transportability study. Adherence scores are available for 75% of cases. However, in some of these cases, only one or two TAMs were administered. It is not recommended to make conclusions about adherence

based on fewer than three TAMs per case. Excluding cases with fewer than three TAMs, leaving 26% of the total MST cases, adherence data are presented in Table 5.4. Slightly more than half of the cases (53%) had mean scores that fell above the recommended level for overall adherence. TAM scores are not statistically associated with any of our outcome measures pertaining to recidivism.

The Costs of MST

For a community-based intervention, MST is expensive to deliver, mostly because of the low caseload carried by workers and the high cost of on-going training and consultation. Other costs include mileage, cellular telephones, parking and other expenses associated with a program delivered outside the confines of an office. Costs associated with the training include weekly long-distance telephone charges for case consultations with MST Services Inc. in South Carolina and travel of team members to quarterly booster training sessions.

Table 5.4
Average MST Adherence Scores, All Sites (n=55)

	Lowest Score	Highest Score	Mean	Standard Deviation	Target
Non-productive Sessions	-0.99	0.47	-0.27	0.34	< 0
Therapist/Family Problem Solving Effort†	-1.38	0.88	0.24	0.4	> 0.20
Therapist Attempt to Change Interactions	-1.03	1.31	0.25	0.65	> 0.25
Lack of Direction†	-0.83	1.82	-0.02	0.46	n/a
Family/Therapist Consensus†	-1.07	0.71	-0.09	0.47	> 0.20
Total Adherence	-1.06	1.03	0.32	0.47	> 0.40

† Not validated.

> MST is a relatively costly intervention, probably $5,000 (USD) per case, but the costs are supposed to be recouped by savings related to reduced recidivism.

Current costs of MST consultation are $1,500 (USD) per month for each team of two to four therapists. The consultant's travel expenses for the quarterly boosters are not included and are typically estimated at about $10,000 (USD) per year. A newly hired therapist must take the one-week training for $750 (USD) plus travel and accommodation expenses. The average per case cost in the U.S. is estimated by MST Services Inc. at $4,500 (USD) and by the Washington State Institute of Public Policy at $5,000 (USD). The assumption is that these high, up-front costs will be recouped in downstream savings to the state.

The Cost of MST in Ontario

The London Family Court Clinic, as a transfer payment agency, entered into a one-year contract for training and consultation with MST Services Inc. in 1997. The cost of the initial site visit at the onset of the project was slightly in excess of $3,200 (USD). In the first year of the MST study (1997/98), payments to

MST Services Inc. totalled $60,000 (USD) plus approximately $10,000 (USD) for the MST consultant to travel to Canada for the boosters. This amount covered the initial one-week training for all four teams, weekly telephone consultations and quarterly booster sessions. Individual agencies were responsible for training new therapists as they were needed, covering the cost of the one-week training, travel and accommodation.

Although one year of consultation had originally been envisioned, at the end of the first year MST Services Inc. suggested another year of supervision was necessary. The rationale was that the treatment fidelity study had just been completed, demonstrating how MST delivery in the absence of consultation was not effective. Unless MST was delivered with a high degree of fidelity, the desired outcomes would not be achieved. After a period of negotiation, during which consultation by MST Services Inc. continued, the government of Ontario entered into a second contract with MST Services Inc. for $4,700 (USD) per month plus travel expenses related to the boosters. While the monthly fee remained the same in the second year, changes in the exchange rate increased the cost in Canadian dollars from $91,000 in the first year to about $115,000 in the second.

When that contract ended, another period of negotiation ensued and consultation was suspended at the request of the provincial government. The government continued to pay the MST licensing fee for each site ($6,000 USD per site) and some costs associated with the booster training. The arrangement eventually negotiated, described in the next chapter, was to create the position of system supervisor to the Ontario agencies. This move was taken to create Ontario capacity to operate with less involvement from MST Services Inc.

In this study, the average cost was well over $25,000 per case because the referrals were so low. Had the teams been working at capacity, the cost would have been slightly less than half that amount. Because of the research burden borne by the therapists, they were expected to have no more then five families on their caseload. However, assuming that each therapist can complete 15 cases each year, the projected cost under non-research conditions is expected to between $6,000 and $7,000 per case, depending upon salary levels and type of MST consultation.

As an example, per client cost at the Ottawa site was $5,482 excluding the fees for MST supervision. Were that supervision to be provided by MST Services Inc., it would average $400 (USD) or approximately $616 in Canadian dollars per case. With consultation conducted locally by the system supervisor, the per client cost to MST Services Inc. would be about $222 in Canadian dollars to cover the site license fee, assuming that the team of three therapists can treat 45 cases per year. In that scenario, the agencies delivering MST pool their resources to cover the costs of Ontario-based supervision.

> We can estimate that each MST case would probably cost an average of $6,000 to $7,000 (CDN) under non-research conditions, assuming sufficient levels of referrals.

Other Costs of Implementation

There are other costs which will be borne by agencies implementing MST. First and foremost, there is a heavy toll on therapists who must flex their day to the schedules of client families, be subject to continuous scrutiny of every facet of their work, share responsibility for a pager for 24/7 availability, and ultimately be held accountable for the success of intervention strategies. MST is an intensive intervention from the point-of-view of the families which receive it but it is an even more intensive intervention from the point-of-view of the therapists who deliver it. It can be an isolating job working almost entirely outside the office, on the road travelling or in family homes. Experience with MST in the United States demonstrates

that a therapist can deliver MST for only one to three years on average before burning out.

Local Capacity to Deliver MST Independently

One of the key accomplishments during the previous four years has been the movement toward internal capacity for consultation within the Ontario teams with the development of the position of System Supervisor. The four teams evolved to a point where the stringent supervision and consultation requirements were met with Ontario resources. One of the clinical supervisors was elevated to the position of system supervisor and she undertook with weekly consultations with the four teams. Under this arrangement, a modified association with MST Services Inc. was negotiated whereby the system supervisor was supervised by the MST consultant in South Carolina. MST Services Inc. also oversaw two of the quarterly booster sessions each year.

MST Licensing

To be licensed to deliver MST, it is necessary to pay an annual site license fee which currently stands at $6,000 (USD). This condition will apparently continue in perpetuity.

Future Development of MST in the United States

Since we began this project, there have been two developments of note in the use of MST in the United States. First, the number of jurisdictions implementing MST without benefit of research is growing. These jurisdictions are confident that the good results of the Simpsonville and Missouri studies will be replicated in their jurisdictions. MST is now being delivered under license in Colorado, Connecticut, Delaware, Florida, Hawaii, Illinois, Iowa, Kansas, Kentucky, Maine, Michigan, Minnesota, Missouri, Montana, Nebraska, New York, North Carolina, Ohio, Oregon, Pennsylvania, Tennessee, Virginia, and Washington. A wide-spread implementation is also under way in Norway. Initial plans for a randomized trial in Norway were abandoned.

Second, the developers at MST have moved forward with the extension of the approach to new populations. Family Services Research Center continues to adapt and test MST for new populations of youths with serious clinical problems. These populations include youths presenting with psychiatric emergencies such as suicidal behaviour, parents with substance abuse problems, pregnant adolescents and adolescent parents, and clients of child welfare systems. A pilot project using a school-based MST is also underway. A version of MST is being developed for sex offending adolescents with a randomized study will begin soon in the United States.

Summary and Conclusions

This chapter began with a brief overview of the research that suggest MST might be effective in Canada. Those interested in the extent to which MST might be effective in their jurisdictions should note the characteristics of the youth, the usual services offered and the conditions of implementation in the American studies. Generalizability of the findings from Simpsonville and Missouri will be dictated by those factors. Our experience has been that the results of the Simpsonville and Missouri studies were not replicated in Canada. Indeed, our findings were closer to the Charleston study where MST experts were involved in the implementation but where no significant differences in outcome were found. Our study is distinguished from that one, however, in that the usual services had better outcomes on about half of the outcome variables. While it had been hypothesized that adherence to MST would be correlated with outcome, the data did here did not reveal that pattern.

Endnotes

1. For a summary of American research on MST, see C.M. Borduin (1999). Multisystemic Treatment of Criminality and Violence in Adolescents. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38(3): 242-249.

2. K.L. Kumpfer & R. Alvaredo (1998). *Effective Family Strengthening Interventions: OJJDP Juvenile Justice Bulletin.* Washington DC: Office of Juvenile Justice and Delinquency Prevention. Key among their findings was that family-focussed interventions have greater empirical support than youth-focussed interventions in preventing or reducing youthful criminal behaviour. See also www.strengtheningfamilies.org/.

3. Washington State Institute for Public Policy (1998). *Watching the Bottom Line: Cost-Effective Interventions for Reducing Crime in Washington.* Olympia: Washington State Institute for Public Policy, Evergreen State College. After subtracting the cost of the MST intervention itself, MST saved taxpayers on average $7,881 (U.S.) per youth for services associated with criminal behaviour, such as incarceration. The cost of the intervention was recouped after two years. A 2001 update of this work has previously been discussed.

4. S.W. Henggeler, S.F. Mihalic, L. Rone, C. Thomas & J. Timmons-Mitchell, J. (1998). *Blueprints for Violence Prevention, Book Six: Multisystemic Therapy.* Boulder, CO: Center for the Study and Prevention of Violence.

5. National Institute of Drug Abuse (1999). *Principles of Drug Addiction Treatment: A Research-Based Guide.* Washington DC: NIDA. Among the principles of effective treatment they identified for substance abuse are that the treatment must be matched to each individual's particular problems and needs; treatment must attend to the multiple needs of the individual, not just the drug use; the treatment and services plan must be assessed continually and modified as necessary as the individual's needs change; and, treatment duration depends on the person's problems and needs.

6. For an overview of the development of MST, see S.W. Henggeler (1997). Treating Serious Anti-Social Behavior in Youth: The MST Approach. *OJJDP Juvenile Justice Bulletin*, May; and S.W. Henggeler, S. K. Schoenwald, C.M. Borduin, M.D. Rowland, & P.B. Cunningham (1998). *Multisystemic Treatment of Antisocial Behavior in Children and Adolescents.* New York: Guilford.

7. S.W. Henggeler, G.B. Melton, L.A. Smith, S.K. Schoenwald & J.H. Hanley (1993). Family Preservation Using Multisystemic Treatment: Long-term Follow-up to a Clinical Trial with Serious Juvenile Offenders. *Journal of Child and Family Studies*, 2: 283-293; and, S.W. Henggeler, G.B. Milton & L.A. Smith (1992). Family Preservation Using Multisystemic Therapy: An Effective Alternative to Incarcerating Serious Juvenile Offenders. *Journal of Consulting & Clinical Psychology*, 60: 953-961.

8. C.M. Borduin, B.J. Mann, L.T. Cone, S.W. Henggeler, B.R. Fucci, D.M. Blaske & R.A. Williams (1995). Multisystemic Treatment of Serious Juvenile Offenders: Long-term Prevention of Criminality and Violence. *Journal of Consulting & Clinical Psychology*, 63: 569-578.

9. C.M. Borduin, S.W. Henggeler, D.M. Blaske & R. Stein (1990). Multisystemic Treatment of Adolescent Sexual Offenders. *International Journal of Offender Therapy & Comparative Criminology*, 34: 105-113.

10. S.W. Henggeler, S.G. Pickrel, M.J. Brondino & J.L Crouch (1996). Eliminating (Almost) Treatment Dropout of Substance Abusing or Dependent Delinquents Through Home-Based Multisystemic Therapy. *American Journal of Psychiatry*, 153: 427-428; and, A.W. Henggeler, S.G. Pickrel & M.J. Brondino (1997). Multisystemic Treatment of Substance Abusing and Dependent Youth: Outcomes for Drug Use, Criminality and Out-of-home Placement, unpublished manuscript.

11. S.W. Henggeler, G.B. Melton, M.J. Brondino, D.G. Scherer & J.H. Hanley (1997). Multisystemic Therapy with Violent and Chronic Juvenile Offenders and Their Families: The Role of Treatment Fidelity in Successful Dissemination. *Journal of Consulting & Clinical Psychology*, 60: 953-961.

12. For a review of ineffective techniques, see K.L. Kumpfer & R. Alvaredo (1998). *Effective Family Strengthening Interventions: OJJDP Juvenile Justice Bulletin.* Washington DC: Office of Juvenile Justice and Delinquency Prevention.

13. T.J. Dishion, J. McCord & F. Poulin (1999). When Interventions Harm: Peer Groups and Problem Behavior. *American Psychologist*, 54(9): 755-64; M.E. Arnold & J.N. Hughes (1999). First do no Harm: Adverse Effects of Grouping Deviant Youth for Skills Training. *Journal of School Psychology*, 37(1): 99-115.

14. Any one who joined the project after the beginning of the project, true of 13 therapists and one supervisor, travelled to the United States to undergo the orientation, joining in with whatever American agency happened to be starting the training at that time.

15. Schoenwald, S.K., S.W. Henggeler, M.J. Brondino & M.D. Rowland (2000). Multisystemic Therapy: Monitoring Treatment Fidelity. *Family Process*, 39(1): 83-103.