

Multisystemic Therapy® (MST®) Adaptations

Pilot Studies to Large-Scale Dissemination

The purpose of this document is to describe the general process by which standard Multisystemic Therapy (MST) (Henggeler et al., 2009) is adapted for use with other challenging clinical problems and eventually transported to community-based MST programs.

Dissemination

In the case of MST for serious juvenile offenders, for example, the initial pilot study was conducted by Henggeler in Tennessee. The success of this work led to efficacy research conducted by Borduin in Missouri and effectiveness trials conducted by Henggeler in South Carolina. Success here led to early dissemination efforts (i.e., transportability pilots). Lessons learned from these early dissemination attempts have informed the large-scale dissemination work of MST Services as well as the important independent replications of Leschied in Canada, Ogden in Norway, and Timmons-Mitchell in Ohio. The entire process took more than 20 years to complete!

As the effectiveness of MST in treating serious juvenile offenders became known to the larger practice and research communities in the 1990s, several groups of investigators have used standard MST as a platform for the development of adaptations to treat other serious clinical problems, including psychiatric problems, child abuse and neglect, substance abuse, problem sexual behaviors, and health care conditions such as diabetes, HIV infection and obesity. More importantly, each of these adaptations is progressing along the dissemination continuum noted below. Although this carefully reasoned process will hopefully take fewer than 20 years to complete, we are primarily concerned with developing effective and sustainable interventions.

The usual path to dissemination is as follows:

- 1 Adaptation Pilot Studies
- 2 Efficacy Trial(s)
- 3 Effectiveness Trial(s)
- 4 Transportability Pilots
- 5 Mature Transport
- 6 Proactive Dissemination

1 Adaptation Pilot Studies

In cases where adaptations to the standard MST model might produce an effective intervention for a challenging clinical problem, relatively low-cost pilot research is conducted to determine the feasibility and preliminary effects of the adaptation. Ellis and Naar-King have conducted a number of pilots on adaptations for youth failing to adhere to medical health care recommendations (MST-HC) in a number of domains such as treating poorly controlled type 1 diabetes, obesity, asthma and HIV-positive youths. Similarly, the Building Stronger Families Project, currently being piloted in Connecticut, is integrating MST for Child Abuse and Neglect (MST-CAN) and Reinforcement-Based Therapy (RBT), which is an evidence-based treatment of parental substance abuse. If outcomes from the pilot are favorable, such work is used to support efforts to obtain funding for a more rigorous evaluation of the MST adaptation. Importantly, for reasons of program fidelity, all research on MST adaptations includes researchers who developed the adaptations.

2 Efficacy Trial(s)

The purpose of a controlled efficacy trial is to determine whether the adaptation can achieve desired clinical outcomes

under relatively favorable intervention conditions. Thus, for example, Borduin's efficacy trials have included him as the clinical supervisor and highly qualified doctoral students as the therapists within a university-based program. Likewise, Rowland's adaptations for psychiatric problems included considerable supervision from MST-trained psychiatrists at the Family Services Research Center at the Medical University of South Carolina. If results from the efficacy trials are positive, the adaptation is ready for rigorous evaluation in community treatment settings.

3 Effectiveness Trial(s)

The purpose of controlled effectiveness trials is to examine the effectiveness of the adaptation in more usual practice settings and to identify barriers to such effectiveness. For example, Swenson has recently examined the effectiveness of MST-CAN provided by an MST team based in a community mental health center. Similarly, an effectiveness trial for psychiatric problems was recently completed in Hawaii, and an effectiveness trial for problem sexual behavior has recently been completed in Chicago.

4 Transportability Pilots

The purpose of the transportability pilots is to test the feasibility of the adaptation in several MST community programs. The pilots are kept very structured, under close oversight by adaptation developers (e.g., Swenson for child abuse and neglect, Borduin for problem sexual behavior, Rowland for psychiatric problems), and, if appropriate, protocols for broader dissemination are developed under the leadership of MST Services.

5 Mature Transport

As with MST for serious juvenile offenders, broader dissemination of the adaptation will occur when (a) we are reasonably confident that the intervention protocols will achieve the desired outcomes if implemented with fidelity, and (b) the training and quality assurance procedures are sufficient to support the effective implementation of the intervention protocols. The transport experts, MST Services and its Network Partners, take the lead in national and international transport and implementation efforts.

6 Proactive Dissemination

The objective of dissemination strategies is to cultivate awareness of, and interest in, using a product or service. For MST and other evidence-based mental health and substance abuse treatments, the development and evaluation of effective strategies to proactively disseminate the model (that is, to encourage adoption of the model) is in its infancy.

See status of MST and Adaptations on back cover >>>



MST and MST Clinical Adaptations

Model Acronym	Name and Target Population	Areas of Increased Focus in Adaptations	Developer(s)	Summary/Overview
MST	Multisystemic Therapy ————○———— Serious juvenile offenders	Foundational model upon which adaptations are built	Henggeler/ Borduin	MST is a family- and home-based treatment that strives to change how youth function in their natural settings – home, school and neighborhood – in ways that promote positive social behavior while decreasing antisocial behavior including substance use. The primary goals of MST are to: (a) reduce youth criminal activity; (b) reduce antisocial behavior including substance abuse; and (c) achieve these outcomes at a cost savings by decreasing rates of incarceration and out-of-home placement.
MST-BSF	MST - Building Stronger Families (BSF) ————○———— Families involved with child welfare due to co-occurring parental substance abuse and physical abuse and/or neglect	Trauma, post-traumatic stress disorder (PTSD) treatment, safety planning, family problem solving, and communication plus Reinforcement Based Therapy (RBT) for parental substance abuse	Swenson/ Schaeffer	This adaptation of MST combines two evidence-based treatment approaches: (1) MST-CAN and (2) RBT for parental substance abuse. MST-BSF is a program designed to work specifically with parents who have physically abused and/or neglected their children, ages 6 to 17, and are experiencing substance abuse issues. Typically, children in such situations would be at risk of out-of-home placement.
MST-CAN	MST for Child Abuse and Neglect (CAN) ————○———— Families involved with child welfare due to physical abuse and/or neglect	Trauma, post-traumatic stress disorder (PTSD) treatment, safety planning, family problem solving, and communication	Swenson	This adaptation of MST is a treatment of youth, ages 6 to 17, and their families who have come to the attention of child welfare due to physical abuse and/or neglect and for whom the abuse report was filed within the last six months. Additionally, youth who are currently in foster care and will be reuniting with their families may receive clinical services as long as the abuse report was filed within the last six months. Youth who will not be reunited with their families will be excluded.
MST-CM	MST plus Contingency Management (CM) ————○———— Substance-abusing youth	Key components of CM include frequent drug testing, with consequences linked to results; functional analyses of substance use; and development of self-management plans	Henggeler/ Cunningham	This adaptation of MST adds components of CM to standard MST for use with substance-abusing youth. MST-CM is an evidence-based treatment for substance abuse that includes drug and alcohol testing.
MST-EA	MST - Emerging Adults (EA) ————○———— 17- to 26-year-olds with criminal justice involvement and serious mental health conditions	Social network, individual factors, mental health treatment, housing, vocation, life skills	Sheidow	This adaptation of MST is focused on transition age youth and young adults (17-26 years) with justice system involvement and psychiatric disabilities. These emerging adults are old enough to emancipate from their families and may be living independently or exiting foster care. The initial controlled pilot, funded by NIMH, is limited to 17- to 21-year-olds.
MST-FIT	MST - Family Integrated Transition (FIT) ————○———— Incarcerated juvenile offenders	Individual factors, Motivational Enhancement Therapy (MET), relapse prevention, and Dialectical Behavior Therapy (DBT)	Trupin	This adaptation of MST provides targeted services for youth with co-occurring mental health and substance abuse who are transitioning back to the community from being incarcerated. This adaptation directly targets emotion dysregulation as a primary driver of offending behaviors and substance use relapse. In addition to core MST strategies, MST-FIT incorporates motivational interviewing, DBT skills training, and relapse prevention.
MST-HC	MST - Health Care/ Juvenile Diabetes ————○———— Youth receiving medical health care	Medical treatment components specific to condition of interest	Ellis/ Naar-King	This adaptation of MST is for youth failing to adhere to medical health care recommendations in a number of domains such as treating poorly controlled type 1 diabetes, obesity and asthma in youths.

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MST and MST Clinical Adaptations (continued)

Model Acronym	Name and Target Population	Areas of Increased Focus in Adaptations	Developer(s)	Summary/Overview
MST-HIV	MST-based HIV Treatment -----○----- HIV-positive adolescents	High-risk sexual behaviors plus medical treatment components specific to HIV	Letourneau/ Naar-King	This adaptation of MST addresses high-risk sexual behaviors by HIV-positive adolescents and incorporates prior successful adaptations of MST for use with substance-abusing and dependent youth and medication non-adherent youth.
MST-JDC	MST - Juvenile Drug Court (JDC) -----○----- Juvenile drug court involved youth	MST-CM (see MST-CM items) used within the context of a juvenile drug court	Henggeler/ Cunningham	This adaptation of MST is implemented in collaboration with juvenile drug courts (JDCs). The MST-JDC partnership serves youth who currently participate in a drug court program and who have stable community-based placement with an adult caregiver who is willing to participate in treatment. Most JDCs target one year of participation per youth.
MST-PSB	MST - Problem Sexual Behavior (PSB) -----○----- Juvenile sex offenders	Structural/strategic family therapy, safety planning, individual factors, and interventions specific to PSB (e.g., victim clarification, promotion of normative sexual behavior)	Borduin	This adaptation of MST is for youth with externalizing, delinquent behaviors, including aggressive (e.g., sexual assault, rape) and non-aggressive (e.g., molestation of younger children) sexual offenses.
MST-Psychiatric	MST - Psychiatric Care -----○----- Youth with psychiatric service needs	Psychiatric and substance abuse drivers in youth and caregiver, medication management, safety planning	Rowland	This adaptation of MST is for youth, ages 9-17, at risk for out-of-home placement due to serious behavioral problems AND co-occurring mental health symptoms such as thought disorder, bipolar affective disorder, depression, anxiety and impulsivity. It includes the addition of a child psychiatrist (part-time) to the MST team. MST-Psychiatric may be used to stabilize home placement after acute hospitalization or to avert residential placement.

System/Implementation Adaptation

Model Acronym	Name and Target Population	Areas of Increased Focus in Adaptations	Developer(s)	Summary/Overview
MST-CRAFT	MST plus Community Restitution Apprenticeship-Focused Training (CRAFT) -----○----- Juvenile offenders with substance abuse problems	No change in the focus within MST – addition of job skills training using CRAFT, which is operated by the Home Builders Institute	Henggeler/ Schaeffer/ Mann	This adaptation of MST focuses on economic empowerment for juvenile offenders through improved vocational and employment outcomes. Youth participate in both MST and a six-month employment program, CRAFT, which is designed to train and place high-risk youths in employment within the residential building industry. CRAFT is operated by the Home Builders Institute, the educational arm of the National Association of Home Builders.
Neighborhood Solutions	Community-wide intervention for a neighborhood high in violence and substance abuse -----○----- Juvenile offenders	No change in the focus within MST – additional interventions as described in summary/overview	Swenson	This adaptation includes MST as a part of a community-wide intervention for a neighborhood high in violence and substance abuse. In addition to standard MST, there are other interventions which are MST-based and include school-based interventions for referred youth and interventions related to increasing prosocial behavior and cohesion among nonreferred youth and the neighborhood in general. All interventions are based highly on the culture of the community. Strong community leadership is essential.
BlueSky	Continuum of care comprised of MST, Functional Family Therapy (FFT) and Multidimensional Treatment Foster Care (MTFC) -----○----- Serious juvenile offenders	Some clinical and operational protocol changes (e.g., MST provides family therapy component of MTFC; some supervision overlap) and MST, FFT and MTFC are integrated under a single program structure	Various	The BlueSky project aims to improve clinical and cost-related outcomes for youth with serious antisocial behavior by developing a continuum of care that integrates three evidence-based treatments of serious antisocial behavior in adolescents - MST, FFT and MTFC. The development of this adaptation has been funded by the Annie E. Casey Foundation.

Pilot Studies to Large-Scale Dissemination: Stages of Development

	Adaptation Pilot Studies	Efficacy Trial(s)	Effectiveness Trial(s)	Transportability Pilots	Mature Transport 2nd Gen.	Mature Transport 3rd Gen.	Proactive Dissemination
Purpose of stage	Demonstrate viability	Scientific validation: "university/ideal" conditions	Scientific validation: "clinic/usual care" conditions	Transition from "science" to "practice"	Replicability: multi-site replication	Broad-scale use	Identify and address barriers to adoption
Research context	Model/Adaptation Development Research			Experimental Phase— collaborative effort between "purveyor" and research organizations	Real World Use and Application (including implementation research agendas)		Pilot and Experimental Phase—TBD
Expert "in charge" of implementation	Model/Adaptation Developer			2nd generation expert supported by developer*	2nd generation expert*	3rd generation expert**	TBD
Est. time in stage	2-3 years	0-5 years	3-5 years	2-3 years	2-3 years	Ongoing	Ongoing
Main question examined in each stage	Feasibility: Can the adaptation be specified and shown to be safe and viable?	Can outcomes be achieved under "university/ideal" implementation conditions?	Can outcomes be achieved under "clinic/usual care" implementation conditions?	Can we develop/train a 2nd generation expert in the model/adaptation?*	Can we replicate more broadly 2nd generation transport with adherence to model/adaptation and high quality outcomes?*	Can 3rd generation experts also transport the model/adaptation with model adherence and high quality outcomes?*	How do we get more organizations and service systems to adopt the model/adaptation?
What is required to move into this stage?	Support of the adaptation concept by members of the research community	Developer support and funding for rigorous evaluation	Developer support and funding for rigorous evaluation in a "real world" implementation site	Scientific validation, in at least two settings, of the effectiveness of the adaptation	Evidence that a 2nd generation expert in the adaptation can lead replication*	Evidence that many experts in the adaptation can be trained effectively to lead replication efforts	Strategies to get organizations, payors, clinicians, consumers to adopt the model and test which strategies promote adoption
What comes next after this stage?	Randomized trial/evaluation	Evaluation in more "real world" settings	Moving beyond developer's direct control	Multi-site replication	Broad-scale use	Model becomes part of "usual services"	Greater number of systems implement model

1st generation = model/adaptation developers; *2nd generation = experts trained directly by the model/adaptation developers;
**3rd generation = experts trained by 2nd generation experts and not directly associated with the model/adaptation developers

Status of MST and Adaptations as of July 2009

Clinical Adaptations	Adaptation Pilot Studies	Efficacy Trial(s)	Effectiveness Trial(s)	Transportability Pilots	Mature Transport 2nd Generation	Mature Transport 3rd Generation	Proactive Dissemination
Serious Juvenile Offenders (MST)	█	█	█	█	█	█	█
Problem Sexual Behavior (MST-PSB)	█	█	█	█	█	█	█
Child Abuse and Neglect (MST-CAN)	█	█	█	█	█	█	█
Contingency Management (MST-CM)	█	█	█	█	█	█	█
Psychiatric Problems (MST-Psychiatric)	█	█	█	█	█	█	█
Health Care/Juvenile Diabetes (MST-HC)	█	█	█	█	█	█	█
Juvenile Drug Court (MST-JDC)	█	█	█	█	█	█	█
HIV/Health Care (MST-HIV)	█	█	█	█	█	█	█
Building Stronger Families (MST-BSF)	█	█	█	█	█	█	█
Emerging Adults (MST-EA)	█	█	█	█	█	█	█
Family Integrated Transition (MST-FIT)	█	█	█	█	█	█	█
System/Implementation Adaptations							
Community Restitution Apprenticeship-Focused Training (MST-CRAFT)	█	█	█	█	█	█	█
Neighborhood Solutions	█	█	█	█	█	█	█
BlueSky	█	█	█	█	█	█	█

