Follow-up of Multisystemic Therapy (MST) as an Alternative to Hospitalization

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Family Services Research Center (FSRC)

Mission:

To develop, validate and study the dissemination of clinically effective and cost effective mental health and substance abuse services for youth presenting serious clinical problems and their families.

MST Research and Dissemination

- **Family Services Research Center (FSRC)**
  Research Center at the Medical University of South Carolina (MUSC), Dr. Scott Henggeler, Director
- **MST Services**
  MUSC affiliated organization offering assistance in MST program development and training through licensing agreements with the MUSC and the FSRC
- **MST Institute**
  Independent non-profit organization providing quality control expertise, data, and tools to all interested parties

Disclosure Statement

- Presenter is stockholder in MST Services Inc., which has the exclusive licensing agreement through MUSC for the dissemination of MST technology and intellectual property.

MST as an Alternative to Psychiatric Hospitalization for Youths in Psychiatric Crisis

NIMH R01 MH51852

Family Services Research Center
Department of Psychiatry & Behavioral Sciences
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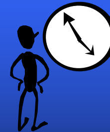
(PI: Scott W. Henggeler)

Henggeler, S.W., Rowland, M.D., Halliday-Boykins, C., et al. -*Journal of the American Academy of Child & Adolescent Psychiatry*, 42, 543-551.

Study Purpose



Can a well-specified family-based intervention, MST, serve as a viable alternative to psychiatric hospitalization for addressing mental health emergencies presented by children and adolescents?

Yes - in the **short term** *(Jnl AACAP 1999, Mental Health Services Research 2000)*

? - in the **long-term** (12 months post-treatment)?

Substantial Data Supports the Use of MST with Delinquent Youth

3 Early Studies Chronic & Violent Delinquents

- Randomized ⑦ > 50% minorities
- > 400 families ⑦ 1.7 to 4 years follow-up

Results

- 25 - 70% ↓ in **long-term** rates of re-arrest
- 47 - 64% ↓ out-of-home placements
- improved family functioning
- decreased adolescent mental health problems

What is MST ?

- **Based on Social-Ecological Theories**
- **Intervention strategies are derived from research**
- **There are principles - manualized**
- **There is a specific MST clinical process**

What is MST II?

- **Master's level home-based therapists**
- **Trained in empirically-based treatments**
- **Working with all contexts within which the youth is embedded to effect improvement in functioning**
- **Supervised by doctoral level clinicians**
- **Closely monitored with an extensive quality assurance/improvement protocol**

Master's level home-based therapists

- Home-Based Model
  - Low therapist caseloads (4-6 families)
  - 24 hour/7 day availability of therapist
  - 60 to 100 hours of direct therapist-family contact over 4 months
  - Therapists work in teams with significant clinical and organizational support

Design

Random assignment to home-based MST vs. inpatient psychiatric hospitalization

Assessments:

T1--within 24 hours of recruitment
T2--post hospitalization (typically 2 weeks post recruitment)
T3--post MST--4 months post recruitment
T4--6 months post T3
T5--12 months post T3
T6--30 months post T3

Participant Inclusion Criteria:

- Emergent psychiatric hospitalization for suicidal, homicidal, psychotic, or risk of harm to self/others
- Age 10-17 years
- Residence in Charleston County
- Medicaid funded or no health insurance
- Existence of a non-institutional residential environment (e.g., family home, kinship home, foster home, shelter)

Participant Exclusion Criteria:

- Autism
- Previous participation in an MST study
- No youth was excluded on the basis of preexisting physical health, intellectual, or other mental health difficulties

Participant Characteristics (N = 156)

- Average age = 12.9 years
- 65% male
- 65% African American, 33% Caucasian
- 51% lived in single-parent households
- 31% lived in 2-parent households
- 18% lived with someone other than a biological/adoptive parent
- $592 median family monthly income from employment
- 70% received AFDC, food stamps, or SSI
- 79% Medicaid

Primary Reason for Psychiatric Hospitalization

- 38% suicidal ideation, plan, or attempt
- 37% posed threat of harm to self or others
- 17% homicidal ideation, plan, or attempt
- 8% psychotic

* based on approval by a mental health professional who was not affiliated with the study

Youth Histories at Intake

- 35% had prior arrests
- 85% had prior psychiatric treatments
- 35% had prior psychiatric hospitalizations
- Mean # DISC Diagnoses at Intake
  - Caregiver report 2.89
  - Youth report 1.78

Clinical Experiences & Solutions

Significant parental psychopathology

- 26% cg SUD (65% of these with co-morbid mental d/o)
- 57% cg with mental health d/o (30% co-morbid SUD)
- cg GSI/BSI significantly elevated compared to MST Drug Court Study parents
- ⇧ psychiatric resources to caregivers
- ⇧ therapist training in EBT for SUD (CRA)
- ⇧ therapist training in EBT for MH disorders (depression, BPAD and borderline pdo)

Clinical Experiences & Solutions II

Youth exhibited greater psychopathology

- Externalizing & Internalizing CBCL - 2 SD above the mean
- GSI of BSI significantly elevated
- ⇧ psychiatric resources to youth
- ⇧ therapist training in EBT for youth
- ⇧ therapist resources (next slide)

Therapist Support Modifications

- Hiring changes - trained in EBT, masters required
- Supervisory changes - ↑ time in office and in field, ↑ QA protocols (audiotapes), ↓ caseloads, ↑ systems-level intervention help (schools, courts).
- Clinical additions - Crisis caseworker position established
- Resource enrichment - ↑ continuum of placements available (respite beds, temporary foster care)

MST as an Alternative to Psychiatric Hospitalization for Youths in Psychiatric Crisis

Implementation

Implementation

- Recruitment Rate:
  - 90% (160 of 177 families consented)
- Research Retention Rates:
  - 98% at T1, **97.5%** for T2 through T5!!
- MST Treatment Completion:
  - 94% (74 of 79 families) - full course of MST
  - mean duration = 127 days
  - mean time in direct contact = 92 hours

Post-treatment Outcomes (T3, *n=113*) Favoring MST

- ↓ Externalizing symptoms - *parent & teacher CBCL*
- Trend for ↓ adolescent alcohol use - *PEI self report*
- ↑ Family cohesion - *caregiver FACES*
- ↑ Family structure - *adolescent FACES*
- ↑ School attendance
- 72% reduction in days hospitalized
- 50% reduction in other out of home placements
- ↑ Youth & caregiver satisfaction

FAVORING HOSPITAL CONDITION:

- ↑ Youth self-esteem

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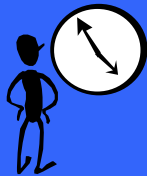
What about the long-term outcomes?

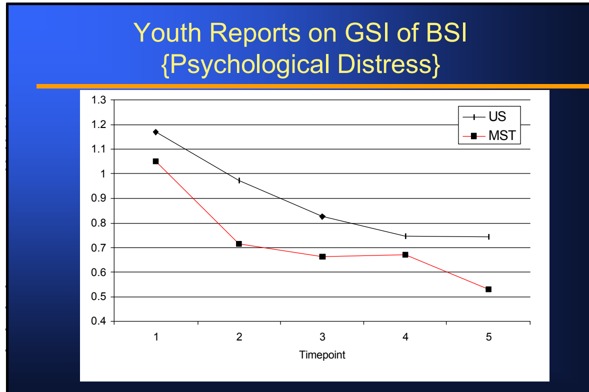


Youth Mental Health Outcomes T1 - T5 (1 year post-treatment)

Youth GSI of BSI

- MST youth less symptomatic at T1 (p = .06)
- MST and US groups - both significantly better over time
- Significant difference in symptom trajectory between groups
- No difference between groups at T5
- Both groups sub-clinical at T5

Youth Reports on GSI of BSI {Psychological Distress}

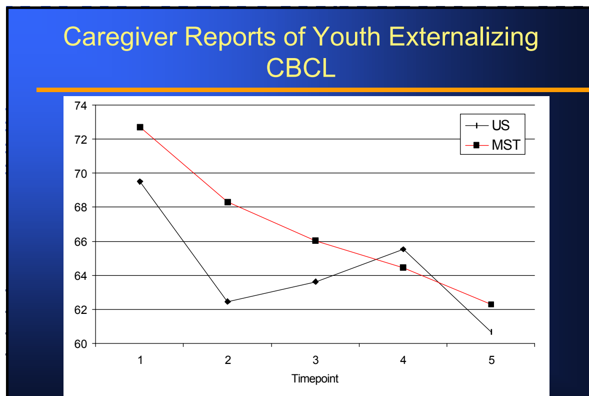


Youth Mental Health Outcomes T1 - T5 (1 year post-treatment)

Caregiver reports of youth **CBCL Externalizing** sx.

- MST youth significantly more symptomatic at T1
- MST and US groups - both significantly better over time
- MST youth symptoms drop more (p = .06) over time
- Significant difference in symptom trajectory between groups
- No difference between groups at T5

Caregiver Reports of Youth Externalizing CBCL



Youth Mental Health Outcomes T1 - T5 (1 year post-treatment)

Caregiver reports of youth **CBCL Internalizing** sx.

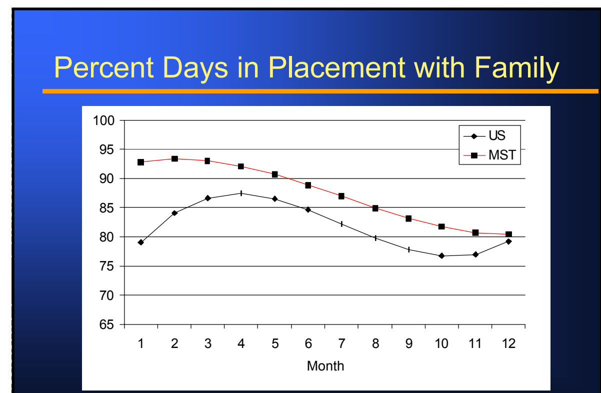
- No between group differences at T1
- MST and US groups - both significantly better over time
- Significant difference in symptom trajectory between groups
- No difference between groups at T5

Youth **Functional** Outcomes T1 - T5 {Placements}

Percent Days in Family Placement

- MST youth with family more months 1➡ 4
- US group, no significant linear change over time
- MST group significantly worse over time, equal to US by T5.
- No significant difference in symptom trajectory between groups

Percent Days in Placement with Family

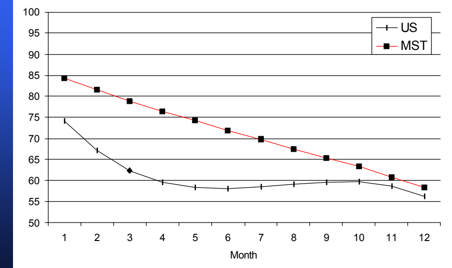


Youth Functional Outcomes T1 - T5 {School Attendance}

Percent Days in Regular School Setting

- MST youth in school more months 1 ➡ 8
- MST and US groups - both significant decline over time
- No significant difference in symptom trajectory between groups

Percent Days in Regular School Setting



Summary

- Across treatment conditions & respondents - psychopathology symptoms improved to sub-clinical range by 12 - 16 months.
- Groups reached improved symptoms with significantly different trajectories.
- During treatment (4 months), MST was significantly better at promoting youths functional outcomes, yet these improvements were not maintained post-treatment.

Summary II

Key measures of functioning showed deterioration across treatment conditions.

- Adolescents with serious emotional disturbance are at high risk for failure to meet critical developmental challenges

MST for Youth with SED A Work in Progress

- Lengthen treatment
- Provide continuum of services (respite, hospitalization as well as home-based)
- Rigorous integration of EBP
- Treat the entire family
- Continue research
  - Ongoing continuum study - Philadelphia
  - Future community-based pilots

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