Youths Presenting in Psychiatric Crisis: A Closer Look at Responders and Non-Responders

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www.musc.edu/psychiatry/research/fsrc/abt_fsrc.htm

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.

Goals of Today’s Presentation

- Overview & Brief Review-NIMH-funded Study
- New Findings
  Symptom trajectories
- Clinical and Service System Implications

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

NIMH R01 MH51852
Family Services Research Center
Department of Psychiatry & Behavioral Sciences
Medical University of South Carolina
(PI: Scott W. Henggeler)
**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?

**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** - 10 months post recruitment (6 months post treatment)
- **T5** - 16 months post recruitment (1 year post treatment)
- **T6** - 22 months post recruitment (18 months post treatment)

**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

**Reasons for Psychiatric Hospitalization**

Based on hospital intake worker information:
- 62% posed threat of harm to self or others
- 38% suicidal ideation, plan, or attempt
- 29% homicidal ideation, plan, or attempt
- 14% psychotic

These were not mutually exclusive codes
- 33% met 2 criteria
- 11% met 3 criteria
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

Implementation

- Recruitment Rate: 90% (160 of 177 families consented)
- Research Retention Rates:
  - T1 through T5: 98%
  - T6: 94%
- MST Treatment Completion:
  - 94% (74 of 79 families) - full course of MST
  - mean duration = 127 days
  - mean time in direct contact = 92 hours

Intervention - MST

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

Intervention - 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

Post-treatment

- ANOVA s - group data - represented one point (mean) for each time point.


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
Follow-Up One Year Post-Treatment

What about the long-term outcomes?


Mixed effects growth curve modeling

Summary I

- Across treatment conditions & respondents - psychopathology symptoms improved to subclinical 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 (school, family placement) 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

The Data – Another Look Inside

More Detailed View


Youth Symptom Trajectories

Overriding purpose of study:
- To identify symptom trajectories following psychiatric crises and to examine the psychosocial correlates and placement outcomes associated with these trajectories.
- Can we find different trajectories?
- What pre-treatment factors may predict group membership?
- Is group membership linked to placement?

Youth Symptom Trajectories

What different courses do these youths’ symptoms follow after a psychiatric crisis?

Data analytic technique: Semiparametric growth mixture modeling (SGM)

Trajectory grouping was based on CBCL Total T-scores from T1-T5 (16 months).
Youth Symptom Trajectories

Can we predict which of these groups a youth will be in based on pretreatment variables?

- Logistic regression
  - high vs. borderline
  - Improved vs. unimproved

### Predicting High vs. Borderline Initial Symptoms

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<th>Variable</th>
<th>B</th>
<th>p-value</th>
<th>Odds ratio</th>
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<tr>
<td>Income</td>
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<tr>
<td>Disruptive (DISC)</td>
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<td>Mood (DISC)</td>
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### Predicting Improved vs. Unimproved Group Membership

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<td>Age</td>
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<td>Admission Suicidality</td>
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<td>Hopelessness</td>
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<td>Caregiver Empowerment</td>
<td>-0.84</td>
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### Higher Symptoms at Intake

- Low Income
- Disruptive Behavior Disorder (DISC)
- Mood Disorder (DISC)
Predicting Days Out of Home from T1-T5

To what degree is symptom trajectory group membership associated with out-of-home placement?

- Poisson regression (Intake to 16 months)
  - Age, Race, Gender, Income
  - Prior hospitalization (6 months)
  - Symptom Pattern Group
  - Baseline Level Group
  - Interaction - Symptom x Baseline
  - Interaction – Symptom x MST
  - Interaction – Baseline x MST

Predicting Days Out of Home from T5-T6

To what degree is symptom trajectory group membership associated with out-of-home placement?

- Logistic regression (16 to 22 months)
  - Age, Race, Gender, Income
  - Prior hospitalization (6 months)
  - Symptom Pattern Group
  - Baseline Level Group
  - Treatment Condition

Predicting Days Out of Home from Intake → 16 months

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<td>High Symptom Group</td>
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<tr>
<td>Improved x High Symptom</td>
<td>1.43</td>
<td>.03</td>
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Youth Symptom Trajectories

Predicting Days Out of Home from T5-T6

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<th>Variable</th>
<th>B</th>
<th>p-value</th>
<th>Odds ratio</th>
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</thead>
<tbody>
<tr>
<td>Improved Group</td>
<td>-1.02</td>
<td>.01</td>
<td>.36</td>
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Predicting Days Out of Home from T5-T6

The only significant predictor was symptom group.
- Unimproved group - 2.78 times as likely to be placed as improved group.

What does it all mean?
- Half of these youth do not get better - they have a chronic serious problem
- Symptoms severity at intake does not predict outcome (contrary to previous studies)
- Look at the predictors “no improvement” for guidance.
- Further research (of course)

Intake Predictors of “Non-response”
- Younger age
- Hopeless
- Suicidality (SI/SA/SP)
- Caregiver Empowerment (perceived ability to negotiate for services)

The Placement Data Tell Us

We need to address this chronic problem (non-response) as it is a costly problem.

Further Research

Current study - symptom trajectory - same time period as T1-T5 placement outcomes - thus cannot tell direction of effects.
- It may be that placement predicts continued elevation of symptoms - further research needed

Acknowledgements

This presentation was based upon research funded by:
- NIMH (R01MH51852)
- NIDA (DA-99-008)
- NIAAA (AA12202-01A)
- NIDA/AACAP K12
- OJJDP