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

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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.

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

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.

Henggeler, S. W., Rowland, M. D., Randall et al (1999). Home-based multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis: Clinical outcomes. *Journal of the American Academy of Child and Adolescent Psychiatry*, 38, 1331-1339

Schoenwald, S. K., Ward, D. M., Henggeler, S. W., Rowland, M. D. (2000). MST vs. hospitalization for crisis stabilization of youth: Placement outcomes 4 months post-referral. *Mental Health Services Research*, 2, 3-12.

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?

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

Mixed effects growth curve modeling

Summary – 1 year f/u Study

- 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 (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

Halliday-Boykins, C. A., Henggeler, S. W., Rowland, M. D. & DeLucia, C. (in press). Heterogeneity in Youth Trajectories following Psychiatric Crisis: Predictors and Placement Outcomes. *Journal of Consulting and Clinical Psychology*

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?

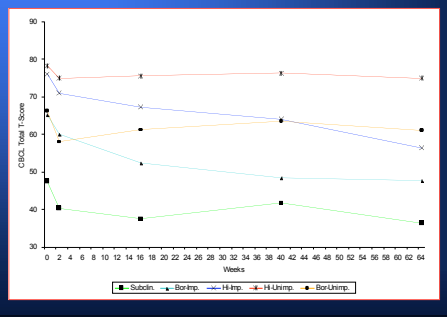
Youth Symptom Trajectories

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



Prediction of Group Membership

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

Variable	*B*	p-value	Odds ratio
Income	-0.67	.009	.51
Disruptive (DISC)	1.04	.02	2.83
Mood (DISC)	0.99	.02	2.68

Predicting High vs. Borderline Initial Symptoms

Higher Symptoms at Intake

- Low Income
- Disruptive Behavior Disorder (DISC)
- Mood Disorder (DISC)

Predicting Improved vs. Unimproved Group Membership

Variable	*B*	p-value	Odds ratio
Age	0.22	.03	1.25
Admission Suicidality	0.94	.03	2.56
Hopelessness	-0.13	.02	0.88
Caregiver Empowerment	-0.84	.03	0.43

Predicting Improved vs. Unimproved Group Membership

Improved Symptom Trajectory Group

- Older
- Suicidality (As a reason for admission)
- Less Hopelessness (HSC – Kazdin)
- Less Caregiver Empowerment (FES – Koren)

Predicting Days Out of Home from T1-T5

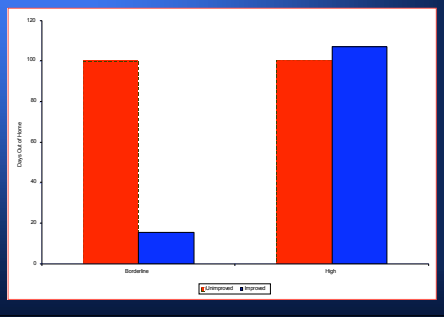
To what degree is symptom trajectory group membership associated with out-of-home placement?

- 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

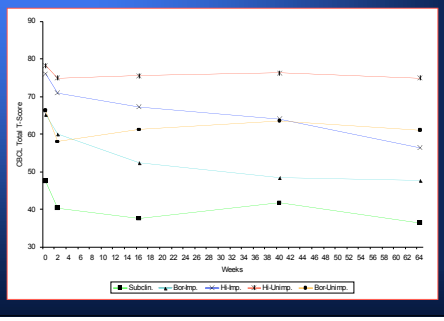
Predicting Days Out of Home from Intake 16 months

Variable	*B*	p-value
Previous Hospitalization	0.53	Marginal .06
High Symptom Group	-1.94	.006
Improved x High Symptom	1.43	.03

Predicting Days Out of Home from Intake 16 months



Youth Symptom Trajectories



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 T5-T6

Variable	*B*	p-value	Odds ratio
Improved Group	-1.02	.01	.36

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**

More Detailed look at youth and families who were non-responsive vs responsive.

Acknowledgements

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

This presentation was based upon research funded by:

- NIMH (R01MH51852)
- NIDA (DA-99-008)
- NIAAA (AA12202-01A)
- NIDA/AACAP K12
- OJJDP