The Impact of Multisystemic Therapy on Children Within a System of Care

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Importance of Studying MST within a System of Care

- Multisystemic Therapy
- Systems of Care
- Wraparound

Nebraska Family Central System of Care

- Individualized Care
- Evidence-Based Treatment
- Family Involvement
- Interagency Collaboration
- Data-Based Decision Making

Total Number of Youth Served by Program
All Youth Served From 10/01/97 to 08/30/03
(n=1309)

PPP & School Wrap (n=485)
37.1%

ICCU (n=404)
30.9%

MST (n=240)
18.3%

Community Based Wrap (n=93)
7.1%

NE Model* (n=87)
6.6%

2002 System of Care Assessment

2002 System of Care Assessment

PPP (32 caregivers, 22 youth, 48 case managers) combined percentages
SBW (33 caregivers, 18 youth, 48 case managers) combined percentages

Wraparound Fidelity Index for PPP and SBW July-Dec. 2003

- Average Cohort Score
- NE Family Central

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MST Adherence Measures for NE Family Central Provider (1/1/02-12/31/03)

Outcomes

- Child and Adolescent Functional Assessment Scale (CAFAS) (Hodges, 1994)
- Weekly Adjustment Indicator Checklist (WAI) (Burchard, 1990)

Age of Children in the Analysis
N=54

Race of Children in the Analysis

- White: 86%
- Other: 14%

Ethnicity of Children in the Analysis

- Hispanic: 5%
- Non-Hispanic: 95%

Gender of Children in the Analysis

- Boy: 31%
- Girl: 69%
Average Length of Time Before During and After MST

<table>
<thead>
<tr>
<th>In Wraparound Prior to Multisystemic Therapy</th>
<th>In Wraparound and Multisystemic Therapy</th>
<th>In Wraparound After Multisystemic Therapy</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0 Months</td>
<td>4.0 Months</td>
<td>4.1 Months</td>
</tr>
</tbody>
</table>

Mean CAFAS Scores Pre and Post MST

<table>
<thead>
<tr>
<th></th>
<th>Pre-MST Mean</th>
<th>Post-MST Mean</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>126.48</td>
<td>105.45</td>
<td>2.275</td>
<td>.021*</td>
</tr>
<tr>
<td>School Role</td>
<td>22.84</td>
<td>21.58</td>
<td>.733</td>
<td>.396</td>
</tr>
<tr>
<td>Home Role</td>
<td>26.46</td>
<td>23.22</td>
<td>.458</td>
<td>.037*</td>
</tr>
<tr>
<td>Community Role</td>
<td>13.74</td>
<td>10.80</td>
<td>2.260</td>
<td>.139</td>
</tr>
<tr>
<td>Behavior/Others</td>
<td>21.85</td>
<td>17.78</td>
<td>7.477</td>
<td>.009*</td>
</tr>
<tr>
<td>Moods/Emotions</td>
<td>20.80</td>
<td>16.95</td>
<td>7.205</td>
<td>.010*</td>
</tr>
<tr>
<td>Self Harm Behavior</td>
<td>11.60</td>
<td>6.65</td>
<td>12.253</td>
<td>.001*</td>
</tr>
<tr>
<td>Substance Use</td>
<td>3.64</td>
<td>3.40</td>
<td>.044</td>
<td>.835</td>
</tr>
<tr>
<td>Thinking</td>
<td>7.13</td>
<td>6.60</td>
<td>.175</td>
<td>.678</td>
</tr>
</tbody>
</table>

MANCOVA Results

- No significant effects for gender
- Significant effect for age on total score (F=2.984, p=.009) – older youth had lower pre and post CAFAS scores
- Significant effect for age on pre and post behavior toward others (F=10.915, p=.002) – older youth had lower pre and post scores
- Significant effect for age on post-MST substance use (F=8.027, p=.006) – older youth had higher scores

Mean WAI Scores Pre and Post MST

<table>
<thead>
<tr>
<th></th>
<th>Pre-MST Mean</th>
<th>Post-MST Mean</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative Behaviors</td>
<td>9.116</td>
<td>6.219</td>
<td>9.958</td>
<td>.003*</td>
</tr>
<tr>
<td>Positive Behaviors</td>
<td>15.67</td>
<td>17.62</td>
<td>.551</td>
<td>.462</td>
</tr>
</tbody>
</table>

Hypothesized Changes on WAIs

- Change in Intercept
- Change in Slope
Other WAI Results

- No significant results on pre-post MST slope analysis for negative behaviors ($F=4.65, p=.706$) or positive behaviors ($F=.43, p=.516$).
- No significant results on pre-post MST intercept analysis for negative ($F=.435, p=.513$) or positive behaviors ($F=.402, p=.530$).
- ANCOVA main effect for age for negative ($F=6.968, p<.05$) and positive ($F=5.136, p<.05$) behaviors: older youth had greater positive and lower negative scores.

Conclusions

- MST appears to be associated with improved CAFAS and WAI scores for youth with SED in a system of care using a wraparound approach.
- Limitations: no control group.
- Surprises:
  - Greater functional impairment of younger children.
  - Improving WAIs prior to MST.
  - Absence of significant change in WAI slope or intercept.

Future Analyses

- Additional Statistical Analyses
  - ANOVA across multiple time periods
  - Interrupted Time Series Analysis
- Comparison Groups
  - Matched wraparound-only group
  - Matched MST-only group
- Additional Measures
  - School attendance and performance
  - Juvenile justice involvement
  - Restrictive placements