Is Community Stabilization as Effective as Hospitalization for Children with a Mental Health Crisis?

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Background: Psychiatric Hospitalization
- Widely considered an intervention of last resort
  - Most restrictive and intensive treatment
  - Most expensive
    - Consumes nearly half of all money spent on adolescent mental health care

Is it effective?
- Research has focused on clinical outcomes and predictors of hospitalization
  - Reduction in symptoms occurs during hospitalization (Swadi & Bobier, 2005)
  - This decrease does not necessarily persist at follow-up (Dickerson et al., 2001; Sourander & Hannu, 2002)

An Alternative
- There are economic, social and psychological costs of psychiatric hospitalization (Henggeler et al., 1998)
- Long-term success is variable (Mayes et al., 2001)

How about Community Stabilization?
- Less expensive
- Less restrictive
- Less disruptive to youths’ lives
- The natural question: How do community stabilization and psychiatric hospitalization compare as crisis interventions?

SO...
- Current trends emphasize stabilizing youth through community-based treatment
**The Present Study**
- Retrospective analysis of outcomes of youth whose mental health crises were treated either in the hospital or in the community
- Directly, simultaneously compares community stabilization and psychiatric hospitalization, while accounting for different levels of need

**Illinois’ Crisis Program**
- Call comes in to Crisis and Referral Entry Service (CARES) hotline
- CARES assesses acuity, age, & insurance
  - Approves admission to SASS program
  - Refers case to SASS provider in child’s service area
- SASS provider screens child within:
  - 90 minutes (emergency)
  - 24 hours (non-emergency)
  - Prior to discharge (if child was hospitalized)

**How SASS Works**
- SASS is designed to serve children & youth experiencing a MH crisis whose care will require public funding from 1 of the 3 agencies
- Requires public funding from one of the three agencies: DCFS, Dept of Healthcare & Family Services, and Dept of Human Services
- Partnership between DCFS, Dept of Healthcare & Family Services, and Dept of Human Services
- Single statewide system to serve children & youth experiencing a MH crisis whose care will likely require public funding
- All youth who received SASS services during FY05 (n=2541)
  - 2 study groups:
    - **Hospitalization**: The child was hospitalized at any point during his/her SASS episode (n=1760)
    - **Community stabilization** (n=781)
  - Excluded any child whose SASS length of stay was < 4 days

**Study Sample**
- The Present Study
- The difficulty: comparing the two treatments
  - Youth who have been hospitalized are likely different (i.e., higher level of need) from those who have received community-based treatment
  - Past research comparing the treatments has methodological holes
    - Historical controls
    - RCTs with many exclusion criteria

**SASS Services**
- Initial decision to hospitalize or stabilize in community
- Facilitate crisis intervention and stabilization services for up to 90 days
  - Treatment plan for MH services
  - Coordinate outpatient services
- Facilitate child’s admission to psychiatric hospital
  - Participate in hospital staffings & discharge planning
  - Advocate for child during hospitalization
- Support services for parent, guardian, or caregiver
- Facilitate post-hospitalization services
- Develop/execute transition plan at end of 90 days
  - 30 day extensions are possible (usually approved)

**Community Stabilization vs. Psychiatric Hospitalization**
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**Data & Variables**
- SASS administrative data
  - Childhood Severity of Psychiatric Illness (CSPI) (Lyons, et al., 1997)
- Treatment setting
- Demographic characteristics
- Dependent variable: Change in CSPI score
  - \( \Delta \text{CSPI} = (\text{Total score at end of SASS episode}) - (\text{Total score at beginning of SASS episode}) \)
- Key independent variable: Treatment setting (hospitalization or community stabilization)

**CSPI Domains & Scoring**
- Symptoms
  - Neuropsychiatric
  - Emotional
  - Conduit
  - Oppositional behavior
  - Impulsivity
- Contextual & temporal consistency of symptoms
- Risk factors
  - Suicide
  - Danger to others
  - Dependence
  - Crime/delinquency
  - Sexual aggression
- Functioning
  - School
  - Family
  - Peer
- Comorbidity
  - Adjustment to trauma
  - Medical
  - Substance abuse
  - Severity of abuse, neglect
  - Behavioral development
  - LD/DD
- 3-7 items per domain
- Item scores range from 0 (no evidence) to 3 (severe)
- Range of overall score = [0, 63]

**Demographic Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Hospitalized (n=1760)</th>
<th>CS (n=781)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) age</td>
<td>13.5 (3.4)</td>
<td>13.0 (3.5)</td>
<td></td>
</tr>
<tr>
<td>Male, %</td>
<td>51.6</td>
<td>50.9</td>
<td></td>
</tr>
<tr>
<td>Nonwhite, %</td>
<td>48.1</td>
<td>46.5</td>
<td></td>
</tr>
<tr>
<td>Ward of state, %</td>
<td>14.1</td>
<td>12.7</td>
<td></td>
</tr>
<tr>
<td>Previous SASS episode, %</td>
<td>7.0</td>
<td>5.8</td>
<td></td>
</tr>
<tr>
<td>Mean (SD) LOS, days</td>
<td>73 (29)</td>
<td>70 (31)</td>
<td></td>
</tr>
</tbody>
</table>

**Comparing the Groups: Methods**
- Propensity score analysis: Statistical matching of individuals across treatment types to allow for direct comparisons of outcomes
- Matched Hospitalization and Community Stabilization groups on demographic and clinical variables until a valid comparison could be made
- Multiple linear regression, adjusting for covariates in descriptive table

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**CSPI Scores at Beginning and End of SASS Episode**

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<th>CS (n=781)</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (SD) CSPI at Start of Episode</td>
<td>19.2 (7.2)</td>
<td>13.4 (6.8)</td>
<td>19.6*</td>
</tr>
<tr>
<td>Mean (SD) CSPI at End of Episode</td>
<td>14.2 (7.3)</td>
<td>11.4 (6.3)</td>
<td>9.3*</td>
</tr>
<tr>
<td>Mean ( \Delta ) CSPI Score</td>
<td>-5.0 (7.3)</td>
<td>-2.0 (5.5)</td>
<td>-10.2*</td>
</tr>
</tbody>
</table>

A negative change score reflects a reduction in severity

\( p<.001 \)
Comparing the Groups: Results

For the full sample, Community Stabilization was associated with significantly better outcomes (i.e., reduction in total CSPI score) compared to Psychiatric Hospitalization

\[ B = -0.664, \ 95\% \ CI = [-1.344, -0.126], \ t = -2.06, p = .037 \]

Subgroup Analysis

We divided the sample into 2 subgroups:

- Those predicted by the CSPI to be hospitalized ("High Risk")
- Those predicted to be served in the community ("Low Risk")

Re-ran propensity score and multiple linear regression analyses separately for each subgroup

Results of Analysis by Risk Subgroup

![Results of Analysis by Risk Subgroup](image)

Limitations

- Improvement in CSPI score may reflect regression to the mean
- Results may not be generalizable to other states

Next Steps

- Test for regression to the mean effect using a difference-in-difference model
- Test for SASS provider effects

(Preliminary) Implications

- Community stabilization is more effective for children with less severe mental health crises
- Hospitalization is more effective for children with more severe mental health crises
- Risk assessment for children in crisis, particularly prior to hospitalization, is worthwhile