

Outcomes for Youth Receiving Intensive In-Home Therapy or Residential Care: A Comparison Using Propensity Scores

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New Wine in an Old Bottle?

- ⇒ Wolins and Piliavin (1964). Foster care or group care: A century of debate...
- ⇒ Group care has been on its way out due to the following:
 - ⇒ Too expensive
 - ⇒ Not obviously effective
 - ⇒ Not "least restrictive"
- ⇒ Intensive in-home therapy is new varietal to be tested against group care

Previous Research: Deficiencies in Residential Care

- ⇒ Critical reviews of efficacy (Burns & Hoagwood, 2002; Lyons & McCullough, 2006)
- ⇒ Inability to meet standards of evidence-based practice (Hair, 2005)
- ⇒ Short-term gains mitigated following discharge (Leichtman, 2006)

Continued High Rates of Residential Care Use

- ⇒ Used by some states for more than 50% of older adolescents (Wulczyn, 2001; Barth & Chintapalli, in press)
- ⇒ Illinois spent 75% of their mental health services budget on residential care and psychiatric hospitalization for 50,000 children (Lyons & McCullough, 2006)
- ⇒ California spent 60% of its out-of-home care budget on children in residential care (Webster, 1999)
- ⇒ FITS THE AMERICAN WAY: You can pay companies for cleaning, cooking, organizing, tutoring, term papers, dog walking, and grocery shopping—
why not caring for troubled children?

Defining Residential Care

- ⇒ 24-hour facilities
 - ⇒ Shift care
 - ⇒ Typically offering mental health treatment
 - ⇒ Typically directed by psychologists and social workers
- ⇒ Vary in size, populations served, and services
- ⇒ Heterogeneous approaches to care: Social learning, Psychoeducational, Milieu therapy
- ⇒ Group processes emphasized over individualization

Defining Intensive In-Home Treatment

- ⇒ Derived from Multisystemic Therapy
 - ⇒ Small caseloads
 - ⇒ Approximately 6 months
 - ⇒ Skill training
 - ⇒ Work with other systems
 - ⇒ Fidelity measures in place

Previous Research: Comparisons

- ⇒ Equivalent outcomes, if not better under certain alternative conditions (Henggeler et al., 2003)
- ⇒ Treatment foster care superior to small group home care (Chamberlain & Reid, 1998; Leve & Chamberlain, 2005)
- ⇒ Decrease in youth's problem behavior has been associated with disaggregation of troubled youth (Dishion & Dodge, 2005)
- ⇒ Alternatives shown to be less costly (Hoagwood, Burns, Kiser, Ringeisen, & Schoenwald, 2001)

Variables Related to RC Outcomes

Age, diagnosis, race, antisocial behavior, prior substance abuse histories, and incarcerated parents (Lyons & McCullough, 2006; Baker, Wulczyn & Dale, 2005; Gorske, Srebalus & Walls, 2003)

But...other studies have found that such characteristics do not predict discharge status (Stage, 1999; Peterson & Scanlan, 2002)

Purpose of Present Investigation

1. To demonstrate whether intensive in-home therapy (IIHT) derived from MST is more effective than traditional residential care (RC) for behaviorally difficult youth
2. To understand and control for differences in case characteristics between IIHT and RC youth

Method: Design

- ⇒ Pre/Post at 1-year after discharge
- ⇒ Post-hoc quasi-experimental design using propensity score matching

Method: Sample

1,369 youth receiving IIHT (n=937) or RC (n=432) from a large provider of behavioral health services in the Southeast

- ⇒ 22% African American
- ⇒ 67% Male
- ⇒ 47% 12-15 years-old
- ⇒ Youth only received either IIHT or RC with this agency
- ⇒ Multiple sites

Method: Measures

Outcome variables at One Year Post-Discharge

- ⇒ Not attending school
- ⇒ Trouble with the law
- ⇒ Not living with family
- ⇒ Subsequent out-of-home of placement

Combined to create a 3-level ordinal composite outcome variable

- ⇒ Desirable, Mixed and Undesirable

Method: Analytic Approach

1. Identify selection bias among sample
 - ⇒ Bivariate analyses
2. Conduct propensity score matching (PSM)
 - ⇒ Logistic regression
 - ⇒ Create matched sample using nearest-neighbor matching
 - ⇒ Sensitivity analyses
 - ⇒ Bivariate analysis
3. Perform outcome analysis with matched samples
 - ⇒ Ordinal logistic regression

Natural Selection Bias

Before Matching, differences among IIHT and RC youth:

	RC Youth	IIHT Youth	
African-American	36.6%	21.9%	***
Male	81.3%	67.1%	***
12 - 15 years old	61.3%	47.2%	***
Presenting problem of delinquency	75.5%	62.5%	***
Number of delinquency types	40.7%	33.4%	***
Youth from Mississippi	9.9%	13.8%	*
Presenting problem of mental health issues	60.5%	48.9%	***
Number of mental health problems	22.9%	15.5%	***
Incorrigible/Unruly	17.8%	10.9%	**
Other criminal behavior	18.5%	10.7%	***
Commission of a sex offense	18.3%	10.8%	***
Siblings in out-of-home care	4.4%	1.5%	**
Past mental health treatment	70.4%	45.9%	***
Past inpatient treatment	42.6%	25.4%	***
Past outpatient treatment	46.1%	30.0%	***
Received special education services	25.5%	15.7%	***
Parents received public financial assistance	40.3%	35.2%	*

*p < .05
**p < .01
***p < .001

Propensity Score Matching with Sensitivity Analysis: Procedure

Logistic regression using 2 models to estimate propensity for receiving IIHT

- ⇒ **Scheme 1** - race, gender, age group, number of mental health problems, committed a status offense, committed a sex offense, siblings in out-of-home care, and past treatment
- ⇒ **Scheme 2** - race, gender, age group, presenting problem of delinquency, number of mental health problems, committed a status offense, other criminal behavior, committed a sex offense, and receipt of special education services

Propensity Score Matching with Sensitivity Analysis (cont.)

PSM: One-to-One Nearest Neighbor Matching within Caliper

- ⇒ 2 calipers
 - ⇒ Narrow = .10
 - ⇒ Wide = .25 of SD of propensity score
- ⇒ Results of matching within 2 calipers were the same (Results presented use .10 caliper)

Results: PSM

Matched n=393 PAIRS

5 of 17 bivariate differences remained significant:

- ⇒ Race (p<.01)
- ⇒ Age group (p<.01)
- ⇒ Presenting problem of mental health problems (p<.05)
- ⇒ Number of of mental health problems (p<.05)
- ⇒ Committed a status offense (p<.01)

Results: Post Matching Logistic Regression Model

Proportions with desirable outcome

IIHT: = .615
RC: = .558

Proportion with undesirable outcome

IIHT: = .202
RC: = .243

(p<.06)

Interpretation:
Slightly positive impact of IIHT as compared to RC with a statistical trend

Results: Post-Matching Analysis

Siblings in out-of-home care: OR (95%, CI) = .356 (.167, .756)*

Past mental health treatment: OR=.662 (.470, .931)*

Not significant: Treatment, Race, Gender, Age group, Number of mental health problems, Committed a status offense, or Committed a sex offense

*p<.05

Limitations

- ⇒ Not randomized
- ⇒ PSM did not eliminate all measured pre-existing differences
- ⇒ Final sample may represent youth in group care with less serious problems, thus not indicate the effectiveness of group care for all youth

Implications for Practice

- ⇒ Intensive in-home approaches can reduce need for residential care
- ⇒ Intensive in-home approaches should be tried before youth enter residential care
 - ⇒ First out-of-home placements are often more restrictive, bypassing alternative, less restrictive approaches (James, Leslie, Hurlburt, Slymen, Landsverk, Davis, et al., 2006)
- ⇒ Potential for cost savings

Implications for Research

More studies are needed using...

- ⇒ Randomized service trials
- ⇒ Quasi-experimental designs with methods to reduce selection effects (i.e., PSM)
- ⇒ Large samples
- ⇒ Longitudinal approaches to tease out cause/effect relationships
- ⇒ Standardized measures
- ⇒ Cost-benefit analyses

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Thanks for your interest!

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