

Predictors of Residential Placement Following a Psychiatric Crisis Episode Among Children and Youth in State Custody

Jung Min Park, PhD
University of Illinois at Urbana–Champaign

Neil Jordan, PhD
Northwestern University

Richard Epstein, PhD
Vanderbilt University

David S. Mandell, ScD
University of Pennsylvania

John S. Lyons, PhD
University of Ottawa

This study examined the extent and correlates of entry into residential care among 603 children and youth in state custody who were referred to psychiatric crisis services. Overall, 27% of the sample was placed in residential care within 12 months after their 1st psychiatric crisis screening. Among the children and youth placed in residential care, 51% were so placed within 3 months of their 1st crisis screening, with an additional 22% placed between 3 and 6 months after screening. Risk behavior and functioning, psychiatric hospitalization following screening, older age, placement type, and caregiver's capacity for supervision were associated with increased residential placement. The findings highlight the importance of early identification and treatment of behavior and functioning problems following a crisis episode among children and youth in state custody to reduce the need for subsequent residential placement. Having an inpatient psychiatric episode following a crisis episode places children at greater risk for residential placement, suggesting that the hospital is an important point for diversion programs. Children and youth in psychiatric crisis may also benefit from efforts to include their families in the treatment process.

Keywords: residential care, children and youth in state custody, psychiatric crisis

Of 513,000 U.S. children and adolescents in out-of-home care in 2005, 18% were in a residential or group care setting (U.S. Department of Health and Human Services [DHHS], 2006). Placement in residential care mainly aims to provide a safe living environment that can protect youth from their own dangerous behavior, protect others from the youth's dangerous behavior, or facilitate the treatment of emotional or behavioral problems (Wells & Whittington, 1993; Whittaker, 2004; Whittaker & Pfeiffer, 1994). Although widely regarded as a necessary placement option in any comprehensive continuum of care, residential care is both restrictive and expensive, and its effectiveness has not been clearly

demonstrated (Burns, Hoagwood, & Mrazek, 1999; Farmer, Dorsey, & Mustillo, 2004; Lyons, 2004). Residential care costs 6.6 times more than traditional foster care and more than twice as much as treatment foster care (Barth, 2002). Care in residential treatment facilities costs between \$80,000 and \$350,000 per child annually (Lyons, 2004). As a consequence, although only 8% of youth who receive mental health services are in residential care nationally, they account for approximately 25% of total mental health care expenditures (Burns et al., 1999), with considerable variation by state. In California, the 8% of children in residential care account for 37% of out-of-home care expenditures for children in foster care (Barth, 2002).

Evidence on the benefits of residential care, even for children with serious mental disorders, is mixed. For example, a follow-up of 123 adolescents with severe psychiatric problems reported that intensive, short-term residential treatment resulted in a significant decline in symptoms and a reliable improvement in functioning from admission to discharge, and those changes were sustained for the year following discharge (Leichtman, Leichtman, Barber, & Neese, 2001). Another study of youth in treatment foster care and family-style group care showed that group care youth were more likely to be favorably discharged, more likely to return home, and less likely to experience a subsequent formal placement in the first 6 months after discharge (Lee & Thompson, 2008). A statewide study found that residential treatment is effective at reducing

Jung Min Park, PhD, School of Social Work, University of Illinois at Urbana–Champaign; Neil Jordan, PhD, Mental Health Services and Policy Program, Northwestern University; Richard Epstein, PhD, Department of Psychiatry, Vanderbilt University; David S. Mandell, ScD, Departments of Psychiatry and Pediatrics, University of Pennsylvania; John S. Lyons, PhD, Children's Hospital of Eastern Ontario, University of Ottawa, Ottawa, Ontario, Canada.

This project was supported by the Children and Family Research Center, School of Social Work, University of Illinois at Urbana–Champaign, which is funded in part by the Department of Children and Family Services.

For reprints and correspondence: Jung Min Park, PhD, School of Social Work, University of Illinois at Urbana–Champaign, 1010 East Nevada Street, Urbana, IL 61801. E-mail: parkjm@illinois.edu

high-risk behaviors and psychotic symptoms but may exacerbate anxiety and hyperactivity (Lyons, Terry, Martinovich, Peterson, & Bouska, 2001). Although some studies have found that residential treatment improves child outcomes, others have pointed out that residential treatment has not resulted in better clinical outcomes than community-based treatment for children with mental disorders (Barth, 2002; U.S. DHHS, 2000). A study of 786 matched pairs of behaviorally troubled children showed that intensive in-home therapy recipients had a greater tendency to live with family, make progress in school, not experience trouble with the law, and have placement stability compared with residential care youth (Barth et al., 2007).

The disproportionately high costs of residential care combined with the lack of consistent evidence regarding its effectiveness raise the question of how we can improve the matching of residential placements to the needs of youth. Indeed, studies have shown that as many as a third of children in residential care may not meet criteria for a psychiatric disorder (Leon et al., 2000; Lyons, Libman-Mitzer, Kisiel, & Shallcross, 1998) and that factors other than psychiatric need—such as policy mandates, administrative reasons, organizational context, and service availability—are associated with decisions to refer youth to these placements (Fontanella, Early, & Philips, 2008; Hendryx, Urdaneta, & Borders, 1995; James et al., 2006; Stiffman et al., 2001). Mismatches between residential placement and service needs are concerning because they are inconsistent with the notion of treatment in the least restrictive setting possible, are at odds with the importance of placement decisions based on clinical needs, and represent an inefficient use of limited resources. However, little is known about when children enter residential care and what prompts such placement (James et al., 2006).

Only a handful of studies have directly addressed this issue. Previous studies have found that children in residential care are older, have had less placement stability (Breland-Noble et al., 2005; Wulczyn, Kogan, & Harden, 2003), and exhibit more behavior problems (Handwerk, Friman, Mott, & Stairs, 1998) than children in other types of out-of-home care, although differences in behavioral and cognitive functioning are no longer significant after age is taken into account (Barth, 2002). Interpretation of these findings is hampered by the studies' cross-sectional design, which makes it difficult to determine characteristics preceding placement. A recent study by James et al. (2006), using data from the National Study of Child and Adolescent Wellbeing, found that among children in out-of-home care, those who were male or older or had a greater behavioral and cognitive impairment were more likely to be placed in intensive and restrictive out-of-home care. Although studies using National Study of Child and Adolescent Wellbeing data, based on a prospective nationally representative sample, have greatly increased our understanding of the experiences of children in foster care, this study was limited in several important ways. First, data were collected at four time points over a 36-month period and relied on caregiver report of activities occurring during the prior interval. Information was not collected concurrently on the children's ever-changing clinical status, and validity was potentially biased by differential recall. In addition, the sample included children who had already been placed in residential settings.

The current study addresses some of these limitations by following a cohort of children in the custody of a child welfare

agency who were at potential risk of placement in residential care because they were identified as having had a psychiatric crisis. Their clinical status and placement experiences were noted whenever changes in any of these variables occurred. The primary objectives of the study were twofold: (a) to determine the rates of residential care placement following a psychiatric crisis episode among children and youth in state custody and (b) to examine predictors of residential care placement. Understanding predictors of residential placement can guide the development of interventions to divert youth to less restrictive and costly home- and community-based alternatives or the development of residential treatment models that more effectively address the needs of the youth who require this intensive level of care.

Method

Data Sources

The current retrospective cohort study was conducted using two sources of data collected by the Illinois Department of Children and Family Services (DCFS). The first data source was DCFS child welfare records, which include information on demographic characteristics (age, race, and sex), allegations of maltreatment (report date and substantiation status), reasons for child welfare case opening, and placement dates and types.

The second data source was the Screening, Assessment and Support Services (SASS) records. All children who are the legal and financial responsibility of the Illinois DCFS are eligible for SASS. Children are referred to SASS when they exhibit a significant level of psychiatric risk, such as suicide risk and danger to others, that may result in the need for psychiatric hospitalization. Referrals were made by DCFS personnel, clinicians from a hospital to which a child had been presented for psychiatric hospitalization, and caseworkers. A SASS team screened the child using a standardized instrument, the Childhood Severity of Psychiatric Illness (described later), to determine whether the child could be stabilized in the community (Leon et al., 2000; Lyons, 2004; see Mental Health Policy and Services Program, 2005, for the details on the scale). SASS services include ongoing monitoring of hospitalized children, posthospitalization services, and intensive community treatment for children who do not meet admission criteria. The SASS records provide information on children's symptoms and functioning, contextual factors and comorbidities, disposition of screening, date of services, and demographic characteristics.

Sample

There were four inclusion criteria for potential study participants. Participants (a) were children and youth in the custody of the child welfare agency in Illinois; (b) were screened for the first time by the SASS between July 1, 2001, and June 30, 2003; (c) were ages 7–18 at the first SASS episode, and (d) had no history of residential care at the time of first SASS episode.

A total of 2,066 children were in state custody and screened for the first time by the SASS between July 2001 and June 2003. Of these children, 538 were younger than age 7 or older than age 18, and an additional 919 had a history of residential care before their first SASS episode; these 1,457 children were excluded from the study. We also excluded an additional 6 children whose main

reason for placement was sexual abuse because of the very small number of cases. The final sample consisted of the 603 children with 880 SASS episodes. Every individual in the sample was followed up to 12 months.

Variables

We defined residential care as placement in group homes or institutional settings through the child welfare system. We did not count psychiatric hospitalizations as residential care. Placement in residential care was coded as a dichotomous variable. Residential care consists of a variety of types of programs, including community-based group homes, campus-based residential facilities, and secure facilities (Shireman, 2003). For hazard analysis, the dependent variable was time, measured in months, to the first placement in residential care. This study focused on a first residential care placement rather than any placement into residential care because identifying an entry point for intensive, restricted services can help identify an important point for intervention and also service needs around such a placement.

Symptoms and functioning were measured at each crisis screening using the Childhood Severity of Psychiatric Illness (CSPI), a standardized screening tool completed by SASS workers who conduct a screening using the CSPI to determine whether the crisis can be stabilized by a referral to intensive community treatment instead of psychiatric hospitalization. The CSPI is a 27-item rating scale with four anchored levels per item (0 = *no evidence of disturbance*, 1 = *mild disturbance*, 2 = *moderate disturbance*, and 3 = *acute or severe degree of disturbance*). The CSPI items include measures from five domains: risk behaviors (e.g., suicide risk or danger to others), symptoms (e.g., psychosis or conduct disturbance), functioning (e.g., school, family, or peer dysfunction), comorbidity (e.g., substance abuse or adjustment to trauma), and system factors (e.g., caregiver's supervision or placement safety).

Results from previous studies have suggested that the CSPI can serve as a useful decision-support tool and is an accurate measure of children's mental health needs and outcomes (Leon et al., 2000; Lyons et al., 1998). SASS requires that program workers be certified in the use of the CSPI. All SASS workers are trained to an interrater reliability of at least .70. The statewide average reliability is approximately .80 using the Spearman ρ (Leon, Uziel-Miller, Lyons, & Tracy, 1999; Lyons et al., 1998).

Psychiatric hospitalization, a dichotomous variable, was determined by an admission into inpatient psychiatric treatment following a SASS screening. This information was obtained from the SASS dataset.

Number of SASS screenings was calculated as the sum of completed CSPIs during the observation period and was in the range of 1 to 6 ($M = 1.5$, $SD = 0.8$). We recoded the original measure as ranging from 1 to 4 because of a very small number of individuals with more than four screenings.

We classified types of placement at the time of or immediately preceding a SASS episode as (a) specialized foster care (we use this term interchangeably with *treatment foster care* and *therapeutic foster care*), (b) nonkinship foster home, (c) kinship foster home, and (d) home setting (e.g., adoptive or biological parent or subsidized guardianship). A small number of children lived with adoptive or biological parents at the time of SASS screening.

Although none of these children were in substitute care settings, all were under the legal responsibility of the state child welfare system. These children are believed to have been in transition, for example, temporarily returning to their parents or under monitoring of child welfare caseworkers after achieving permanence. Because children could be in a different type of placement at each SASS screening, we present frequencies of placements in the descriptive analyses, with the total equal to the total number of SASS episodes.

We categorized reasons for child welfare case openings as physical abuse, neglect, and no abuse or neglect. "No abuse or neglect" covers various reasons such as child behavior problem and pending investigation. Dichotomous variables were created for each category. These were all substantiated cases.

We first calculated placement instability by counting the number of changes in physical location of out-of-home care. The total number of placement changes was recoded into a dichotomous variable for which 0 = one or two placements and 1 = three or more placements. Federal guidance defines a placement as "last-(ing) more than 24 hours while the child is in foster care under the placement, care or supervision responsibility of the State agency" (U.S. DHHS, Administration for Children and Families, 2006, p. 26). If a child moved from kinship foster care to specialized foster care, this constituted two placements. Temporary living conditions, such as hospitalization for medical treatment, acute psychiatric episodes or diagnosis, respite care, and runaway episodes, were not counted as a placement. The number of placement changes ranged from 0 to 21 ($M = 4.4$, $SD = 3.4$). The original measure of instability was recoded because the distribution was heavily right skewed, and three or more placement changes are known to increase the risk of negative outcomes (Ryan & Testa, 2005).

We extracted demographic characteristics from the child welfare records; they included age, race and ethnicity, and gender. Age at the time of first SASS episode was categorized as 7–12 years and 13–18 years. Race, a dichotomous variable, was classified as White and non-White because of the small number of Hispanics and other racial or ethnic groups in the sample. The percentages of African American, Hispanic, and other racial or ethnic groups in the non-White category were 87%, 10% and 3%, respectively.

Analyses

We used chi-square tests to explore the bivariate relationships between covariates and placement in residential care. Rates of residential care placement were presented by months since the first SASS assessment. Hazard functions were produced to estimate the instantaneous risk that residential care placement occurs during the observation period. We used a Cox proportional hazards model with time-dependent covariates for multivariate analysis. Time-dependent covariates that changed at irregular intervals included symptoms and functioning, psychiatric hospitalization, and type of placement. Time-constant covariates included reason for child welfare case opening and demographic characteristics. The proportional hazard assumption was tested by the scaled Schoenfeld residuals and by testing interactions between the covariates and time (Allison, 1995). Multicollinearity among the covariates was diagnosed by the variance inflation factor. The data analysis for

this study was generated using SAS software (Version 9.1; SAS Institute, 2008). A p value of .05 was used to indicate statistical significance, and 95% confidence intervals were reported for multivariate analyses. The institutional review board of the University of Illinois approved this study before any analyses were conducted.

Results

Sample Characteristics

As shown in Table 1, 52.2% of the sample were between the ages of 13 and 18 and 47.8% were between the ages of 7 and 12. Approximately 44% of the children were non-Hispanic White, and the rest were mostly African American. The sample was almost evenly split between boys and girls. More than 20% had two crisis screenings and an additional 11.3% had three or more crisis screenings over the 12-month period. Approximately 40% of the sample had a psychiatric inpatient treatment episode subsequent to a crisis episode during the study period. The main reason for child welfare case opening was neglect (54.8%), followed by physical or sexual abuse (22.6%). About two thirds of the children experienced placement instability, as indicated by three or more placement changes. Almost half of the sample was placed in nonkinship foster care at the time of SASS screening; an additional 22.4%

were placed in kinship foster care, 22.1% in specialized foster care, and 7.4% in home settings.

Rates of Residential Care Placement

Of 603 children and adolescents, 161 (26.7%) entered residential care after their first SASS screening over the 12-month period (see Table 1). The rate of placement in residential care was higher for children between ages 13 and 18 (37.8%) compared with that for those between ages 7 and 12 (14.6%). Rates of residential placement were 34.1% for children with a history of psychiatric hospitalization following a crisis episode and 20.5% for those without. Children who received child welfare services for physical abuse (22.1%) or neglect (25.4%) were less likely to be placed in residential care than those receiving services for other reasons (34.6%). Children who resided at home at the time of crisis screening (41.5%) were much more likely to enter residential care than those in nonkinship foster care (22.0%), kinship foster care (27.9%), and specialized foster care (27.2%). Rates of residential placement did not significantly differ by race, gender, number of SASS screenings, or placement instability.

Figure 1 shows residential care placement over time. Among the 26.7% who were placed in residential care following their first SASS screening, 51% were placed within 3 months of their first

Table 1
Sample Characteristics and Rates of Residential Placement Following a Referral to Psychiatric Crisis Screening and Services Over the 12-Month Period ($N = 603$)

Variable	N (%)	% residential placement	p
Age ($M = 12.1$, $SD = 3.1$)			<.0001
7–12 years	288 (47.8)	14.6	
13–18 years	315 (52.2)	37.8	
Race			.36
White	262 (43.5)	24.8	
Non-White	341 (56.5)	28.2	
Gender			.82
Male	295 (48.9)	26.3	
Female	308 (51.1)	27.1	
No. SASS screenings ($M = 1.5$, $SD = 0.8$)			.19
1	413 (68.5)	24.9	
2	122 (20.2)	27.9	
3 or more	68 (11.3)	35.3	
Hospitalization following SASS screening			<.0001
Yes	349 (39.7)	34.1	
No	531 (60.3)	20.5	
Reason for child welfare case opening			.05
Physical or sexual abuse	136 (22.6)	22.1	
Neglect	331 (54.8)	25.4	
Other (no abuse, no neglect) reasons	136 (22.5)	34.6	
No. placement changes ($M = 4.4$, $SD = 3.4$)			.28
2 or less	204 (33.8)	29.4	
3 or more	399 (66.2)	25.3	
Placement type immediately preceding SASS screening ($N = 880$)			<.01
Nonkinship foster care	423 (48.1)	22.0	
Kinship foster care	197 (22.4)	27.9	
Specialized foster care	195 (22.1)	27.2	
Home settings	65 (7.4)	41.5	
Total	603 (100.0)	26.7	

Note. SASS = Screening, Assessment and Support Services.

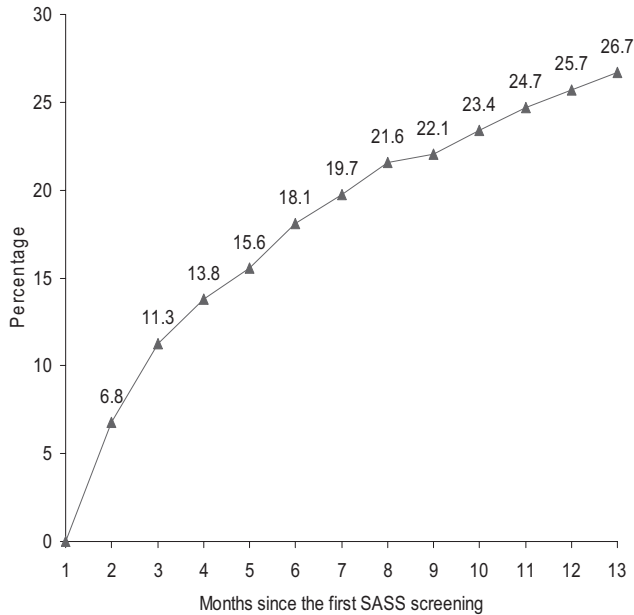


Figure 1. Proportion of children who entered residential care following a referral to psychiatric crisis screening and services over the 12-month period ($N = 603$). SASS = Screening, Assessment and Support Services.

crisis screening. The rate then declines, with an additional 22% placed in residential care between 3 and 6 months and an additional 14% between 6 and 9 months after their first SASS screening. Hazard function in Figure 2 also confirmed that the risk of residential care was highest during the first quarter after the first crisis assessment.

Multivariate Analyses

Table 2 shows the results of multivariate Cox regression analysis. The risk for residential placement increased with a higher level of criminal or delinquent behavior (Hazard ratio [HR] = 1.39, $p < .01$), runaway or elopement risk (HR = 1.22, $p < .05$), and inappropriate sexual activities (HR = 1.66, $p < .0001$) and decreased with greater suicide risk (HR = 0.72, $p < .001$). A greater level of family dysfunction was associated with an increased risk for residential placement (HR = 1.21, $p < .05$). A greater level of medical problems decreased the risk for residential placement (HR = 0.64, $p < .05$). Caregiver's inability to provide supervision was associated with an increased risk for residential placement (HR = 1.33, $p < .05$). Children who experienced a psychiatric inpatient episode subsequent to a crisis episode were 2.7 times more likely to enter residential care than those who did not ($p < .0001$). Each increased year of age was associated with an 18% increased risk for residential placement ($p < .0001$). Children in nonkinship foster care had a 51% lower risk of residential placement than those in home setting ($p < .01$).

Discussion

Of children and youth in state custody who had no history of residential care before their first psychiatric crisis screening, 27% were subsequently placed in residential care over the 12-month

observation period, and the majority did so within 3 months of their first psychiatric crisis episode.

A history of criminal or delinquent behaviors, elopement risk, and inappropriate sexual behaviors was predictive of residential care placement. Although the current sample of child welfare clients referred to a psychiatric crisis screening differs from samples from the general population of foster youths previously studied, the findings are consistent with those of previous studies showing that children in residential care settings were more likely than those in foster care settings to have behavior problems (Friman, Evans, Larzelere, Williams, & Daly, 1993; Handwerk et al., 1998; Heflinger, Simpkins, & Combs-Orme, 2000; James et al., 2006), a history of running away, and prior involvement with the juvenile justice system (Curtis, Alexander, & Lunghofer, 2001). These findings suggest the need for intervention to address behavior problems following a crisis episode to reduce the need for residential placement.

A decreased risk for residential placement related to suicide risk is at odds with the premise that residential treatment is beneficial to severely emotionally disturbed children and youth (Segal, King, & Naylor, 1995). As Segal et al. (1995) pointed out, once youths who are suicidal are stabilized and no longer in an acute episode, they may not be placed in residential care because they are not severely disturbed enough to warrant such placement. A decreased risk of residential placement related to serious medical problems can be interpreted in the same way.

A greater risk of residential placement associated with a higher level of family dysfunction and the caregiver's inability to provide appropriate supervision and monitoring is in line with prior research showing that the caregiver's knowledge of children and multisystem needs was associated with children's admission to a psychiatric hospital (He, Lyons, & Heinemann, 2004), which often functions as a gateway into residential care (Lyons, 2004). These findings suggest that family support services (i.e., intensive community care, including mentoring and respite services) may reduce the need for residential placement.

Psychiatric hospitalization following a SASS screening predicted residential placement among those referred to crisis screening. It may be that the hospitalization is a placeholder while a

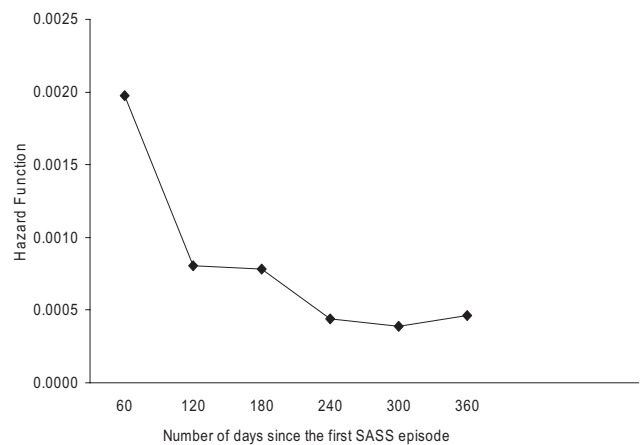


Figure 2. Hazard functions of residential care placement. SASS = Screening, Assessment and Support Services.

Table 2
Cox Regression of Residential Care Placement Following a Referral to Psychiatric Crisis Screening and Services Over the 12-Month Period (N = 603)

Independent variable	Hazard ratio	95% confidence interval	<i>p</i>
Crime–delinquency	1.39	1.09–1.77	<.01
Elopement risk	1.22	1.04–1.45	<.05
Inappropriate sexual activities	1.66	1.30–2.12	<.0001
Suicide risk	0.72	0.59–0.88	<.001
Family dysfunction	1.21	1.07–1.44	<.05
Comorbidity with medical status	0.64	0.45–0.91	<.05
Caregiver's inability for supervision	1.33	1.00–1.76	<.05
Psychiatric hospitalization following SASS screening	2.73	1.81–4.13	<.0001
Age (1-year increase)	1.18	1.10–1.26	<.0001
Male (reference = female)	1.31	0.91–1.87	.14
Non-White (reference = White)	1.26	0.86–1.83	.23
Neglect (reference = abuse)	1.12	0.72–1.75	.61
Non-neglect, nonabuse reasons (reference = abuse)	1.34	0.82–2.20	.24
Kinship foster care (reference = home setting)	0.65	0.37–1.13	.13
Nonkinship foster care (reference = home setting)	0.49	0.29–0.83	<.01
No. placement changes	1.00	0.95–1.06	.95
No. crisis episodes	1.15	0.93–1.43	.19

Note. SASS = Screening, Assessment and Support Services.
 Model $\chi^2(38) = 154.3, p < .0001$.

residential placement is found, particularly for youth with no other placements available. Although the manner in which hospitalization leads to residential placement needs to be further investigated, the finding demonstrates that psychiatric hospitalizations play an important role in the pathway of children and youth into residential placement. It should also be noted that when making decisions about placements, child welfare professionals take hospitalization history into account as an indicator of need for residential treatment. Consideration of service history in making decisions about residential placement may not necessarily be problematic, and there is no universal consensus about what criteria should be used to determine the necessity of residential placement. Nonetheless, a significant effect of hospitalization on residential placement independent of the severity of psychiatric symptoms is concerning given that the placement decision should be based on the child's or youth's current needs rather than historical patterns of service receipt.

As in prior research (James et al., 2006), older age was associated with an increased risk for residential placement. This might result from less availability of foster homes and a lesser likelihood of family reunification and adoption for older children. Residential placement, therefore, may be one of a more limited number of options available to older children.

An excess risk for children and youth from home settings compared with those in nonkinship foster care indicates that foster care might be more supportive of children with significant mental health needs than would biological or adoptive parents. The family of origin may continue to have problems that led to their children being removed. Caregivers of children in these types of care may have a greater need for supports. Parents of those children returned to their families or adopted may have difficulty in managing the children's behavior problems or emotional disturbances, or the child welfare agency may be able to provide more intensive services, such as residential treatment, to their children that they

cannot otherwise afford. Obtaining information on caregivers' service needs along with assessment of children's needs seems critical for more effective service planning.

Limitations

We should note several study limitations. First, this study was based on data from one state. Child welfare and children's mental health systems vary across states, limiting the generalizability of this study's findings. Second, there is limited information on the reasons for request or referral for SASS screening, particularly reentry into the SASS program. There may be factors other than psychiatric need associated with a child's referral to a crisis screening. It may be these factors, rather than need per se, that are associated with youth residential placement. Third, we did not control for potential confounding factors that may be associated with decisions to place children and youth in residential care, such as clinician characteristics and availability of community-based resources. Finally, the extent of psychiatric crisis and level of functioning were measured when a SASS assessment was conducted, and the timing of SASS assessment did not usually coincide with that of residential placement. It is possible that symptoms might change over time, and the crisis presentation may be different than the presentation at time of placement in residential care. Combining different types of cases and age groups is also a limitation that makes clinical implications problematic.

Implications for Practice

This study's findings highlight the importance of early identification and treatment of behavior and functioning problems following a crisis episode among children and youth in state custody to reduce the need for subsequent residential placement. It appears that psychiatric hospitalization, independent of the severity of

symptoms at the time of crisis screening, is a risk factor for future residential placement. Thus, it would be efficient to develop diversion programs from residential placements within and immediately following psychiatric hospital episodes of care. The higher risk for residential care placement during the first 3 months after crisis assessment suggests that any interventions to decrease the need for residential care would be more effective if implemented immediately following the crisis screening rather than later on. Along with providing mounting evidence for in-home and community-based services for behaviorally and emotionally difficult youth (Barth et al., 2007), the findings also indicate that intensive in-home services, such as multisystemic therapy (Henggeler et al., 2003), and intensive community services using the wraparound approach (Lyons, 2004) can reduce the demand for residential care. Both mental health and child welfare professionals need to be aware of the excess risk for residential care among children and youth in the custody of child welfare agencies who are in psychiatric crisis and make efforts to include their biological, adoptive, or foster families as part of the treatment process. Clinicians might also need to help families access community-based, prevention-oriented services available through both the public mental health and the child welfare systems.

References

- Allison, P. D. (1995). *Survival analysis using the SAS system: A practical guide*. Cary, NC: SAS Institute.
- Barth, R. P. (2002). *Institutions vs. foster homes: The empirical base for the second century of debate*. Chapel Hill: University of North Carolina, School of Social Work, Jordan Institute for Families.
- Barth, R. P., Greeson, J. K., Guo, S., Green, R. L., Hurley, S., & Sisson, J. (2007). Outcomes for youth receiving intensive in-home therapy or residential care: A comparison using propensity scores. *American Journal of Orthopsychiatry*, 77, 497–505.
- Breland-Noble, A. M., Farmer, E. M. Z., Dubs, M. S., Potter, E., & Burns, B. J. (2005). Mental health and other service use by youth in therapeutic foster care and group homes. *Journal of Child and Family Studies*, 14, 167–180.
- Burns, B. J., Hoagwood, K., & Mrazek, P. J. (1999). Effective treatment for mental disorders in children and adolescents. *Clinical Child and Family Psychology Review*, 2, 199–254.
- Curtis, P. A., Alexander, G., & Lunghofer, L. A. (2001). A literature review comparing the outcomes of residential group care and therapeutic foster care. *Child and Adolescent Social Work*, 18, 377–392.
- Farmer, E. M., Dorsey, S., & Mustillo, S. A. (2004). Intensive home and community interventions. *Child and Adolescent Psychiatric Clinics of North America*, 13, 857–884.
- Fontanella, C. A., Early, T. J., & Phillips, G. (2008). Need or availability? Modeling aftercare decisions for psychiatrically hospitalized adolescent. *Children and Youth Services Review*, 30, 758–773.
- Friman, P. C., Evans, J., Larzelere, R., Williams, G., & Daly, D. L. (1993). Correspondence between child dysfunction and program intrusion: Evidence of a continuum of care across five child mental health programs. *Journal of Community Psychology*, 21, 227–233.
- Handwerk, M. L., Friman, P. C., Mott, M. A., & Stairs, J. M. (1998). The relationship between program restrictiveness and youth behavior problems. *Journal of Emotional and Behavioral Disorders*, 6, 170–185.
- He, X. Z., Lyons, J. S., & Heinemann, A. W. (2004). Modeling crisis decision-making for children in state custody. *General Hospital Psychiatry*, 26, 378–383.
- Heflinger, C. A., Simpkins, C. G., & Combs-Orme, T. (2000). Using the CBCL to determine the clinical status of children in state custody. *Children and Youth Services Review*, 22, 55–73.
- Hendryx, M. S., Urdaneta, M. E., & Borders, T. (1995). The relationship between supply and hospitalization rates for mental illness and substance use disorders. *Journal of Health Administration*, 2, 167–176.
- Henggeler, S. W., Rowland, M. D., Boykins, C., Sheidow, A. J., Ward, D. M., & Randall, J. (2003). One-year follow-up of multisystemic therapy as an alternative to the hospitalization of youths in psychiatric crisis. *Journal of the American Academy of Child & Adolescent Psychiatry*, 42, 543–551.
- James, S., Leslie, L. K., Hurlburt, M. S., Slymen, D. J., Landsverk, J., Davis, I., et al. (2006). Children in out-of-home care: Entry into intensive or restrictive mental health and residential care placements. *Journal of Emotional and Behavioral Disorders*, 14, 196–208.
- Lee, B., & Thompson, R. (2008). Comparing outcomes for youth in treatment foster care and family-style group care. *Children and Youth Services Review*, 30, 746–757.
- Leichtman, M., Leichtman, M. L., Barber, C. C., & Neese, D. T. (2001). Effectiveness of intensive short-term residential treatment with severely disturbed adolescents. *American Journal of Orthopsychiatry*, 71, 227–235.
- Leon, S. C., Lyons, J. S., Uziel-Miller, N. D., Rawal, P., Tracy, P., & Williams, J. (2000). Evaluating the use of psychiatric hospitalization by residential treatment centers. *Journal of the American Academy of Child & Adolescent Psychiatry*, 39, 1496–1507.
- Leon, S. C., Uziel-Miller, N. D., Lyons, J. S., & Tracy, P. (1999). Psychiatric hospital service utilization of children and adolescents in state custody. *Journal of the American Academy of Child & Adolescent Psychiatry*, 38, 305–310.
- Lyons, J. S. (2004). *Redressing the emperor: Improving our children's public mental health system*. Westport, CT: Praeger.
- Lyons, J. S., Libman-Mintzer, L. N., Kisiel, C. L., & Shallcross, H. (1998). Understanding the mental health needs of children and adolescents in residential treatment. *Professional Psychology: Research and Practice*, 29, 582–587.
- Lyons, J. S., Terry, P., Martinovich, Z., Peterson, J., & Bouska, B. (2001). Outcome trajectories for adolescents in residential treatment: A state-wide evaluation. *Journal of Child and Family Studies*, 10, 333–345.
- Mental Health Policy and Services Program. (2005). *Childhood severity of psychiatric illness: Manual (Version 2.0)*. Winnetka, IL: Buddin Praed Foundation. Retrieved March 23, 2007, from https://www.dcfsoutcomesnu.com/cspi2_manual.pdf
- Ryan, J. P., & Testa, M. F. (2005). Child maltreatment and juvenile delinquency: Investigating the role of placement and placement instability. *Children and Youth Services Review*, 27, 227–249.
- Segal, H. G., King, C. A., & Naylor, M. W. (1995). Psychosocial functioning of severely disturbed adolescents after short-term hospitalization. *Psychiatric Services*, 46, 287–289.
- Shireman, J. F. (2003). *Critical issues in child welfare*. New York: Columbia University Press.
- Stiffman, A. R., Striley, C., Horvath, V. E., Hadley-Ives, E., Polgar, M., Elze, D., & Pescarino, R. (2001). Organizational context and provider perception as determinants of mental health service use. *Journal of Behavioral Health Services and Research*, 28, 188–204.
- U.S. Department of Health and Human Services. (2000). *Report of the Surgeon General's conference on children's mental health: A national action agenda*. Retrieved April 18, 2007, from <http://www.surgeongeneral.gov/topics/cmh/childreport.htm>
- U.S. Department of Health and Human Services. (2006). *The AFCARS report*. Retrieved April 8, 2007, from http://www.acf.hhs.gov/programs/cb/stats_research/afcars/tar/report13.htm
- U.S. Department of Health and Human Services, Administration for Children and Families. (2006). *Child welfare policy manual*. Retrieved April 8, 2007, from http://www.acf.hhs.gov/j2ee/programs/cb/laws_policies/laws/cwpm/pdf/cwpm1.pdf
- Wells, K., & Whittington, D. (1993). Characteristics of youths referred to

residential treatment: Implications for program design. *Children and Youth Services Review*, 15, 195–217.

Whittaker, J. K. (2004). The re-invention of residential treatment: An agenda for research and practice. *Child and Adolescent Psychiatric Clinics of North America*, 13, 267–278.

Whittaker, J. K., & Pfeiffer, S. I. (1994). Research priorities for residential group care. *Child Welfare*, 73, 583–602.

Wulczyn, F., Kogan, J., & Harden, B. J. (2003). Placement stability and movement trajectories. *Social Service Review*, 76, 212–236.

Received April 15, 2008
Revision received January 26, 2009
Accepted March 25, 2009 ■



AMERICAN PSYCHOLOGICAL ASSOCIATION SUBSCRIPTION CLAIMS INFORMATION

Today's Date: _____

We provide this form to assist members, institutions, and nonmember individuals with any subscription problems. With the appropriate information we can begin a resolution. If you use the services of an agent, please do **NOT** duplicate claims through them and directly to us. **PLEASE PRINT CLEARLY AND IN INK IF POSSIBLE.**

PRINT FULL NAME OR KEY NAME OF INSTITUTION _____

MEMBER OR CUSTOMER NUMBER (MAY BE FOUND ON ANY PAST ISSUE LABEL) _____

ADDRESS _____

DATE YOUR ORDER WAS MAILED (OR PHONED) _____

CITY _____

STATE/COUNTRY _____

ZIP _____

____ PREPAID ____ CHECK ____ CHARGE
CHECK/CARD CLEARED DATE: _____

YOUR NAME AND PHONE NUMBER _____

(If possible, send a copy, front and back, of your cancelled check to help us in our research of your claim.)

ISSUES: ____ MISSING ____ DAMAGED

TITLE _____

VOLUME OR YEAR _____

NUMBER OR MONTH _____

_____	_____	_____
_____	_____	_____
_____	_____	_____

Thank you. Once a claim is received and resolved, delivery of replacement issues routinely takes 4–6 weeks.

(TO BE FILLED OUT BY APA STAFF)

DATE RECEIVED: _____	DATE OF ACTION: _____
ACTION TAKEN: _____	INV. NO. & DATE: _____
STAFF NAME: _____	LABEL NO. & DATE: _____

Send this form to APA Subscription Claims, 750 First Street, NE, Washington, DC 20002-4242

PLEASE DO NOT REMOVE. A PHOTOCOPY MAY BE USED.