

The Relationship Between Caregiver Capacity and Intensive Community Treatment for Children with a Mental Health Crisis

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Abstract We studied 9,220 children referred to a comprehensive mental health crisis stabilization program to examine the impact of caregiver capacity on crisis worker decisions to refer children for intensive community-based treatment as opposed to inpatient psychiatric hospitalization. Due to the different role of caregivers in the child welfare system, analyses were stratified by state custody status. Among both groups, there was a significant inverse association between child mental health need and referral to intensive community-based treatment. For children not in state custody with low mental health need, there was no difference in the likelihood of referral to intensive community-based treatment across levels of caregiver capacity. However, for children not in state custody with medium and high mental health needs, those whose caregivers were deficient or severely deficient were significantly more likely to be referred for intensive community-based treatment than were those who had capable caregivers. Multivariate analyses demonstrated similar results after controlling for potential confounding variables and confirmed that caregiver capacity contributes significantly to the logistic model's classification accuracy. Results suggest

further investigation of the impact of caregiver capacity on mental health crisis worker referral decisions is needed.

Keywords Caregiver capacity · Child mental health · Crisis stabilization · Intensive community-based treatment

Introduction

Publicly funded mental health crisis stabilization programs for children are engaged in the process of reallocating program resources to provide community-based alternatives to inpatient psychiatric hospitalization (Lyons 2004). This shift is prompted by the realization that hospitalization is restrictive, expensive, and of questionable effectiveness (Glied and Cuellar 2003; Sourander and Leijala 2002; Stroul 1993), and is supported by evidence that some intensive community-based treatments are less expensive and at least as effective (Henggler et al. 2003). The process has also created the need to identify factors that are associated with crisis worker referral decisions and to evaluate the clinical effectiveness of those decisions.

Little effort has been devoted to identifying factors associated with crisis worker decisions in comprehensive mental health crisis stabilization programs (He et al. 2004; Leon et al. 1999; Romansky et al. 2003). Most of this research has utilized samples from children and youth in the child welfare system. As a dependent variable, the crisis workers' referral decision can either be regarded as a proxy for service use or as a measure of access to services (Lyons 2004).

It is helpful to conceptualize the factors that are associated with crisis worker referral decisions in comprehensive mental health crisis stabilization programs using Andersen and Newman's (1973) behavioral theory of health services

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use. The 3-part theory includes predisposing, enabling, and need factors related to individuals' use of health services (Andersen and Newman 1973; Andersen 1995; Andersen et al. 1996). Predisposing factors include an individual's demographic characteristics such as age, gender, and race. Enabling factors are social factors such as income level and social support and can either promote or impede an individual's use of health services. Need factors can either be "perceived" or "evaluated."

Existing research on the factors associated with crisis worker referral decisions in comprehensive mental health crisis stabilization programs focuses on factors that are best conceptualized as "evaluated need" factors. Behavior dangerous to others, suicidal behavior, emotional disturbance, neuropsychiatric disturbance, behavioral disturbance, impulsivity, and a history of running away from home and/or treatment settings have each been shown to be positively associated with a crisis worker decision to refer a child for inpatient psychiatric hospitalization and negatively associated with a decision to refer for intensive community-based treatment (He et al. 2004; Leon et al. 1999; Romansky et al. 2003).

Predisposing factors such as age, gender, race, and region of residence have been included as covariates in the studies that identify factors associated with crisis worker referral decisions in comprehensive child mental health crisis stabilization programs (He et al. 2004; Leon et al. 1999; Romansky et al. 2003). There are not currently any studies of comprehensive mental health crisis stabilization programs that serve all children in need of publicly funded psychiatric care, but research comparing children who are and are not in state custody suggests that children in state custody have a higher prevalence of physical and mental health problems (Chernoff et al. 1994) and significantly higher rates of mental health service use (Harman et al. 2000; Takayama et al. 1994). This suggests that state custody status may be an important predisposing factor.

Only one of the above studies investigates factors that are best conceptualized as enabling factors. In that study, He et al. (2004) report that a caregiver's knowledge of a child is inversely associated with inpatient psychiatric hospitalization referral, after controlling for evaluated need and predisposing characteristics. In other words, children with caregivers who were evaluated as not knowing, understanding, or having the ability to address the child's needs were less likely to be referred for inpatient psychiatric hospitalization (e.g., they were more likely to be referred for intensive community-based treatment) regardless of the severity of the child's psychiatric symptoms.

Additional research on the impact of caregiver-related enabling factors on crisis worker referral decisions in a comprehensive mental health crisis stabilization program is important because crisis workers must consider a child's

mental health needs in ecological context (Lyons 2004). Caregiver-related enabling factors are a critical part of that context, but there is no research that specifically investigates the impact of caregiver-related enabling factors on crisis worker referral decisions in comprehensive mental health crisis stabilization programs. The current paper is an attempt to address this gap in the literature by investigating the association between (a) child mental health need and crisis worker decisions to refer for intensive community-based treatment, (b) caregiver capacity and crisis worker decisions to refer for intensive-based community treatment, and (c) the impact of caregiver capacity on the association between child mental health need and crisis worker decisions to refer for intensive community-based treatment.

Method

Setting

The current study was conducted using data collected by the Screening, Assessment and Support Services (SASS) program of the Illinois Department of Human Services (DHS), Department of Healthcare and Family Services (HFS), and Department of Children and Family Services (DCFS). Established in 1992, the SASS program was originally designed to serve children in state custody. It was expanded in 2004 to serve as a single point of entry for all children who are experiencing a mental health crisis (e.g., who display behavior dangerous to themselves or others, homicidal or suicidal ideation, and/or psychotic symptoms), and whose psychiatric care requires public funding through DHS, HFS, and/or DCFS (Illinois Department of Healthcare and Family Services 2005).

The SASS program operates a crisis phone line that is available 24 h a day, 7 days a week. Although the overwhelming majority of calls are placed by an adult who has responsibility for a child's well-being and who believes the child to be experiencing a mental health crisis, calls may be placed by the child. Many calls are placed to the crisis phone line, but some children are not eligible to be screened by a crisis worker because they do not qualify for participation in the SASS program.

Crisis phone line operators direct appropriate calls to local agencies that send a crisis worker, most of whom are master's level clinicians, to conduct a face-to-face crisis screening with the child, his or her caregivers, and any other relevant parties. At minimum, the crisis screening involves clinical interviews and completion of a standardized clinical screening tool. After conducting the mental health crisis screening, crisis workers make a referral for inpatient psychiatric hospitalization or for a flexible, multi-disciplinary package of intensive community-based

treatments. Crisis worker referral decisions are the chosen course of action in an overwhelming majority of the cases. A physician may override a crisis worker decision at the point of hospitalization, but physicians do not approve all decisions.

Children are eligible to receive services through the SASS program for 90 days after the initial crisis screening. The role of the crisis worker during this time varies by agency. In some agencies, crisis workers only conduct the initial screening; in other agencies, crisis workers follow a child's care from the initial screening until program discharge. Following a child's care may include monitoring inpatient psychiatric hospitalization, providing outpatient individual and family therapy, and/or providing referrals to Medicaid-reimbursable services outpatient services.

There is regional variation in the availability of psychiatric hospital beds, but the program has sufficient resources to provide intensive community-based treatment for children who are not referred for inpatient psychiatric hospitalization. Cook County (the Illinois region that includes Chicago) is the state's most densely populated and diverse region. Although Northern Illinois is a predominantly suburban region, Central and Southern Illinois are predominantly rural. There are more psychiatric hospital beds available in Cook County than there are in the other regions.

Crisis workers submit screening data to the SASS program administrative database via an online data management system. Screening data include child demographic characteristics (e.g., age, race, gender, state custody status, region of residence), the results of a required standardized assessment measure (described below), and the crisis worker referral decision. The crisis worker referral decision is contained in the database as a dichotomous variable—e.g., referral for psychiatric hospitalization or intensive community-based treatment. Beyond the referral decision, the program database does not contain information about the particular services children receive or about where children are living at the time of the screening.

The program database is a compilation of screening data from every crisis screening conducted by the program. The program contracts with Northwestern University's Mental Health Services and Policy Program (MHSP) for data management services. The Institutional Review Board of Northwestern University approved secondary analysis of SASS program administrative data for research purposes. Informed consent was unnecessary because the data used in the analyses was de-identified.

Sample

The study sample was drawn from the SASS program administrative database. The sample ($n = 9,220$) includes

the first screening in the study time period for all children screened by the program between December 1, 2005, and August 31, 2006. Children who are younger than 3 or older than 21 years of age were excluded from the analyses.

Measures

The Childhood Severity of Psychiatric Illness (CSPI) scale is a standardized 34-item communimetric measure used to rate children across several life domains (Lyons 1998). The CSPI is completed by crisis workers as a standard part of every crisis screening, takes less than 10 min to complete, and is submitted by crisis workers to the program database via an on-line data management system. The SASS program requires certification and annual recertification of crisis workers in the use of the CSPI at a reliability of 0.70 or greater.

The items are rated on a 4-point scale with a rating of '0' indicating evidence of no, a '1' indicating mild, a '2' indicating moderate, and a '3' indicating severe dysfunction. The items are categorized into six domains: Risk Behaviors (suicide risk, self mutilation, other self harm, danger to others, sexual aggression, runaway, judgment, fire setting, social behavior), behavioral and emotional symptoms (psychosis, impulse/hyperactivity, depression, anxiety, oppositional, conduct, adjustment to trauma, anger control, substance use), functioning problems (living situation, community, school, peer functioning, developmental, medication compliance), juvenile justice risk (juvenile justice status, community safety, delinquency), child protection (abuse/neglect, domestic violence) and caregiver needs and strengths (health, supervision, involvement, social resources, residential stability). The CSPI is a predecessor to the child and adolescent needs and strengths (CANS). Shared items have similar wording and information on item wording can be found at www.buddinpraed.org.

Previous research has shown that the CSPI has adequate internal consistency (Lyons et al. 2004) and inter-rater reliability (Leon et al. 1999; Lyons et al. 2000). Findings from an audit that compared crisis worker screenings to retrospective clinical chart reviews found reliability to be over 70% (Anderson et al. 2003; Lyons et al. 2002). The CSPI has also been shown to have adequate divergent validity (Lyons et al. 2000), ability to distinguish juvenile offenders placed in institutional versus community detention settings (Lyons et al. 2001), and ability to predict inpatient psychiatric hospitalization (Leon et al. 1999; Lyons et al. 1997). The CSPI has been used by many states as a decision support tool and as a tool for quality and outcomes monitoring (Lyons 2004).

In the current study, the CSPI items were used to model five variables: child mental health need, caregiver capacity, child functioning problems, juvenile justice risk, and child

protection needs. To model child mental health need, the current study uses three items from the risk behaviors domain (suicide risk, danger to others, judgment) and four items from the behavioral and emotional symptoms domain (psychosis, depression, impulsivity, anger control) to create a single child mental health need variable. A psychosis rating of 1, 2, or 3, and a rating of 2 or 3 on suicide risk, judgment, danger to others, depression, impulsivity, or anger control are considered to be worth 1 point per item. The points are then summed to create three categories of child mental health need (low = sum score of 0 or 1; medium = sum score of 2, 3, or 4; high = sum score of 5, 6, or 7. Internal consistency reliability for the child mental health need variable is modest (Cronbach's $\alpha = 0.61$).

This 7-item model of child mental health need is based upon previous work to identify the most parsimonious model of child mental health need (McClelland and Lyons, unpublished). That work used the area under the receiver operating curve (AUROC) to identify which combination of CSPI items best predicts crisis worker decision to refer children for inpatient psychiatric hospitalization. Unlike model selection methods based on statistical significance or odds ratios, methods that maximize the AUROC yield the best balance of sensitivity and specificity. That work demonstrated that the 7-item model had an AUROC of 0.84. The model compared favorably to and was more parsimonious than linear and quadratic models regarding each item as a continuous variable ranging from 0 to 3. The 7-item model has high face validity, is consistent with the use of the CSPI data in clinical practice, and is in concordance with existing research reporting that similar CSPI items are positively associated with crisis worker referral to inpatient psychiatric hospitalization in a comprehensive child mental health crisis stabilization program (He et al. 2004; Leon et al. 1999; Romansky et al. 2003).

To model caregiver capacity, the current study used the 5 items from the caregiver needs and strengths domain (Table 1) to create a single 3-level variable: capable = a rating of '0' on all five items in the domain; deficient = a rating of '1' on at least one item in the domain and no ratings of '2' or '3' on any items in the domain; and severely deficient = a rating of '2' or '3' on at least one item in the domain. Internal consistency reliability for the caregiver needs and strengths domain in the current sample was adequate (Cronbach's $\alpha = 0.77$). This method of modeling caregiver capacity is consistent with the use of the CSPI in clinical practice. We tested several other methods of modeling caregiver capacity and each returned similar results to those of the current model. It is important to note that if children are not living with a biological parent at the time of the crisis, the current caregiver is rated (e.g., foster parent, residential facility).

Table 1 Caregiver needs and strengths item wording

Item	Item wording
Health	Physical health includes medical and physical challenges faced by the caregiver(s)
Supervision	This rating is used to determine the caregiver's capacity to provide the level of monitoring and discipline needed by the child
Involvement	This rating should be based on the level of involvement the caregiver(s) has in the planning and provision of child welfare and related services
Social resources	This rating refers to the financial and social assets (extended family) and resources that the caregiver(s) can bring to bear in addressing the multiple needs of the child and family
Residential stability	This rating refers to the caregiver's current and likely future housing circumstances

To model child functioning problems, juvenile justice risk, and child protection needs, the items of each of those CSPI domains were used to create 3-level variables in the same manner as the one used for modeling caregiver capacity. Internal consistency reliability for these variables range from less than adequate (child protection needs, Cronbach's $\alpha = 0.46$) to adequate (juvenile justice risk, Cronbach's $\alpha = 0.79$). This method of modeling these other child needs is also consistent with the use of the CSPI in clinical practice.

Analysis

The purpose of the current study is to investigate the impact of caregiver capacity on crisis worker referral decisions in a comprehensive child mental health crisis stabilization program. In the first stage of our analysis we tested whether children who are and are not in state custody should be analyzed separately. To test this, we conducted chi-square analyses to determine whether there are statistically significant differences between both groups of children on the variables of interest in the current study.

In the second stage of our analysis we conducted chi-square analyses stratified by state custody status to determine: (a) the association between child mental health need and referral to intensive community-based treatment, (b) caregiver capacity and referral to intensive community-based treatment, and (c) child mental health need, caregiver capacity, and referral to intensive community-based treatment. Bonferroni's correction was applied to the multiple pair-wise comparisons when necessary.

In the third and final stage of our analysis we investigated two aspects of the statistically significant interaction effects from the chi-square analyses conducted in stage 2. First, we used adjusted odds ratios and corresponding 95%

confidence intervals to determine whether the observed interaction effects persist after controlling for predisposing factors and other aspects of evaluated child need. Second, we used the likelihood ratio test to compare multivariate models that do and do not include caregiver capacity and its interaction with child mental health need in order to determine whether caregiver capacity results in a model that more accurately predicts crisis worker referral decisions.

Results

Sample Description

Comparison of children in and not in state custody (Table 2) shows that there are statistically significant differences between the two groups on two of the three primary variables of interest. A greater percentage of children not in state custody had caregivers with deficient or severely deficient capability [$\chi^2(2) = 151.69, p < .001$] and a greater percentage of children in state custody were referred to intensive community treatment [$\chi^2(1) = 7.86, p < .01$].

Child Mental Health Need and Referral for Intensive Community-Based Treatment

There are statistically significant differences in the percentage of children in each category of mental health need who were referred for intensive community-based treatment. For children in state custody, 81.2% with low, 40.1% with medium, and 14.3% with high mental health need were referred for intensive community-based treatment [$\chi^2(2) = 293.91, p < .001$]. For children not in state custody, 75.3% with low, 37.0% with medium, and 11.7% with high mental health need were referred for intensive community-based treatment [$\chi^2(2) = 1456.24, p < .001$].

Caregiver Capacity and Referral for Intensive Community-Based Treatment

There are no statistically significant differences in the percentage of children with caregivers in each capability category who were referred for intensive community-based treatment. For children in state custody, 42.4% with capable, 42.9% with deficient, and 39.8% with severely deficient caregivers were referred for intensive community-based treatment. For children not in state custody, 36.9% with capable, 38.9% with deficient, and 38.7% with severely deficient caregivers were referred for intensive community-based treatment.

Interaction between Child Mental Health Need and Caregiver Social Support Need

The interaction between child mental health need and caregiver capacity on likelihood of referral for intensive community-based treatment differed by state custody status. For children in state custody, the interaction between child mental health need and caregiver capacity was not statistically significant. For children not in state custody and who have low mental health need, there was no difference in the likelihood of referral to intensive community-based treatment across caregiver capacity categories (Table 3). However, for children not in state custody and who have medium [$\chi^2(2) = 34.75, p < .001$] and high [$\chi^2(2) = 25.08, p < .001$] mental health need, children who had deficient or severely deficient caregivers were significantly more likely than those who had capable caregivers to be referred to intensive community-based treatment.

The association between child mental health need and caregiver capacity was further investigated using multivariate analysis (Table 4). Model 1 shows that in comparison to children with low mental health need, children with medium (AOR = 0.19, 95% CI = 0.16–0.22) and high (AOR = 0.04, 95% CI = 0.03–0.05) mental health needs were significantly less likely to be referred for intensive community-based treatment after controlling for predisposing factors and other aspects of evaluated child need. Model 2 shows that adding caregiver capacity and the interaction between caregiver capacity and child mental health need to the multivariate model did not change the strength of the association between child mental health need and likelihood of referral for intensive community-based treatment. Comparing the goodness of fit of model 1 ($-2 \log$ likelihood = 8554.99) and model 2 ($-2 \log$ likelihood = 8488.19) via the likelihood ratio test demonstrated that model 2 had significantly improved classification accuracy [$\chi^2(6) = 66.80, p < .001$].

Model 2 demonstrates that in comparison to children with capable caregivers, children who had deficient (AOR = 1.34, 95% CI = 1.13–1.58) and severely deficient (AOR = 1.80, 95% CI = 1.50–2.15) caregivers were significantly more likely to be referred for intensive community-based treatment after controlling for the same covariates. Model 2 shows that in comparison to children with deficient caregivers and low mental health need, children who had deficient caregivers and medium (AOR = 1.53, 95% CI = 1.12–2.10) and high (AOR = 2.28, 95% CI = 1.42–3.66) mental health need were more likely to be referred to intensive community-based treatment, and in comparison to children with severely deficient caregivers and low mental health need, children with severely deficient caregivers and high mental health need (AOR = 1.73, 95% CI = 1.05–2.86) were more likely to

Table 2 Sample descriptive statistics by child welfare status

	Not in state custody (<i>n</i> = 7,839)	In state custody (<i>n</i> = 1,381)	Total (<i>N</i> = 9,220)	<i>p</i> -value
Gender %				<.05
Male	51.2	54.9	51.8	
Female	48.8	45.1	48.2	
Age %				n.s.
3–5 years	1.9	2.2	1.9	
6–12 years	27.8	28.4	27.9	
13–15 years	37.8	35.4	37.4	
16–21 years	32.6	34.0	32.8	
Race %				<.001
Caucasian	51.6	29.6	48.3	
African-American	36.4	63.4	40.5	
Hispanic, Asian, other	12.0	7.0	11.2	
Illinois region %				<.001
Cook County (e.g., Chicago)	43.2	55.7	45.0	
Northern	16.2	16.0	16.2	
Central	28.2	19.7	26.9	
Southern	12.4	8.6	11.9	
Child mental health need %				n.s.
Low	19.1	20.8	19.3	
Medium	56.1	53.4	55.7	
High	24.8	25.8	25.0	
Caregiver capacity %				<.001
Capable	41.5	59.3	44.1	
Deficient	30.6	21.4	29.2	
Severely deficient	28.0	19.3	26.7	
Child functioning problems %				n.s.
None	8.2	6.7	8.0	
Moderate	20.6	21.9	20.8	
Severe	71.2	71.5	71.3	
Juvenile justice risk %				<.05
None	72.3	69.4	71.9	
Moderate	13.1	13.0	13.1	
Severe	14.6	17.6	15.1	
Child protection needs				<.001
None	77.6	74.7	77.2	
Moderate	15.8	14.8	15.7	
Severe	6.6	10.4	7.2	
Referred to community %	38.0	42.0	38.6	<.01

Table 3 Referral to intensive community-based treatment by child mental health need and caregiver capacity for children not in state custody

Child mental health need	Caregiver capacity (<i>n</i> = 7839)			Comparison <i>p</i> -values		
	Capable ^a	Deficient ^b	Severely deficient ^c	a–b	a–c	b–c
Low	75.0	72.8	79.7	n.s.	n.s.	n.s.
Medium	31.9	39.5	41.5	<.001	<.001	n.s.
High	6.9	13.3	15.2	<.001	<.001	n.s.

Table 4 Logistic regression predicting referral to intensive community-based treatment for children not in state custody

Predictors	Model 1 (<i>n</i> = 7,839) AOR ^a (95% CI)	Model 2 (<i>n</i> = 7,839) AOR (95% CI)
Child mental health need (low)	1.00	1.00
Medium	0.19 (0.16–0.22)	0.19 (0.16–0.22)
High	0.04 (0.03–0.05)	0.04 (0.03–0.05)
Child functioning problems (none)	1.00	1.00
Moderate	1.26 (1.02–1.56)	1.22 (0.98–1.52)
Severe	1.04 (0.86–1.27)	0.93 (0.75–1.15)
Juvenile justice risk (none)	1.00	1.00
Moderate	0.97 (0.83–1.14)	0.92 (0.78–1.08)
Severe	0.90 (0.77–1.06)	0.85 (0.72–1.00)
Child protection needs (none)	1.00	1.00
Moderate	1.11 (0.96–1.28)	1.04 (0.90–1.20)
Severe	0.71 (0.56–0.89)	0.80 (0.51–0.81)
Gender (male)	1.00	1.00
Female	0.85 (0.76–0.95)	0.84 (0.75–0.94)
Race (Caucasian)	1.00	1.00
African-American	1.10 (0.96–1.25)	1.11 (0.97–1.26)
Hispanic, Asian, other	1.18 (0.99–1.41)	1.19 (1.00–1.42)
Age (3–5 years)	1.00	1.00
6–12 years	0.99 (0.68–1.43)	1.04 (0.72–1.52)
13–15 years	0.84 (0.58–1.22)	0.88 (0.61–1.27)
16–21 years	0.62 (0.42–0.90)	0.66 (0.45–0.96)
Illinois region (Cook County)	1.00	1.00
Northern	2.28 (1.95–2.68)	2.19 (1.86–2.57)
Central	2.47 (2.14–2.85)	2.50 (2.16–2.89)
Southern	1.44 (1.20–1.73)	1.43 (1.19–1.72)
Caregiver capacity (capable)	–	1.00
Deficient	–	1.34 (1.13–1.58)
Severely deficient	–	1.80 (1.50–2.15)
CC ^b moderate * MH ^c (low)	–	1.00
CC moderate * MH medium	–	1.53 (1.12–2.10)
CC moderate * MH high	–	2.28 (1.42–3.66)
CC severe * MH (low)	–	1.00
CC severe * MH medium	–	1.12 (0.77–1.62)
CC severe * MH high	–	1.73 (1.05–2.86)

^a AOR = adjusted odds ratio;
^b CC = caregiver capacity;
^c MH = child mental health need

be referred to intensive community-based treatment. Model 2 also shows that children with severe child protection needs and residence in a region other than Cook County were more likely to be referred for intensive community-based treatment and that children who are female and who are between the ages of 16–21 years were less likely to be referred for intensive community-based treatment.

Discussion

The current study investigated the association between caregiver capacity and crisis worker referral decisions in a comprehensive mental health crisis stabilization program

and reports several significant findings. First, the current study reports a significant inverse association between child mental health need and referral to intensive community-based treatment regardless of state custody status. This finding is consistent with existing research demonstrating that evaluated mental health need is positively associated with referral for inpatient psychiatric hospitalization and negatively associated with referral for intensive community-based treatment (He et al. 2004; Leon et al. 1999; Romansky et al. 2003).

Second, for children not in state custody, the current study reports a significant interaction between caregiver capacity and child mental health need. Specifically, while having deficient and severely deficient caregivers was not

associated with referral to intensive community-based treatment for children with low mental health need, children who had deficient and severely deficient caregivers and medium or high mental health need had an increased likelihood of referral to intensive community-based treatment. This finding persists after controlling for other factors that might effect referral decisions (e.g., demographic characteristics and other evaluated child needs). In addition, although the effect is not large in absolute terms, comparison of multivariate models with and without caregiver capacity show that its inclusion resulted in a model with significantly improved classification accuracy.

The finding that caregiver capacity, a factor that may be conceptualized as an enabling factor according to Andersen and Newman's (1973) theory of behavioral health service use, interacts with evaluated child mental health need after controlling for predisposing factors and other aspects of child need to impact the likelihood of referral to intensive community-based treatment is a new finding that raises several questions. One question raised by this finding regards the differential impact of caregiver capacity for children who are and who are not in state custody. We believe that this finding is accounted for by two features of the Illinois SASS program. First, the local child welfare system makes many social resources available to support foster parents and successful child placement in foster homes. Second, crisis workers complete the caregiver needs and strengths domain of the CSPI regarding the child's current caregivers. For children in residential and group home settings, many of whom are in state custody, caregiver capacity might be expected to be a somewhat less of a concern.

Another question raised by this finding regards its clinical or policy implications. Although we can only speculate, it may be that crisis workers view caregiver capacity, in and of itself, as a target for intervention and believe that children are more appropriately referred for intensive community-based treatment when their mental health needs are associated with deficits in caregiver capacity. Exploratory or qualitative research will be needed to test this hypothesis. Alternatively, there may be an important role for caregiver advocacy in inpatient psychiatric hospitalization. For example, it may be that children who have caregivers who are strong advocates for the need for inpatient psychiatric hospitalization are more likely to be hospitalized and that children whose caregivers are not strong advocates for the need for inpatient psychiatric hospitalization are less likely to be hospitalized, regardless of whether hospitalization is "appropriate" in objective terms. In other words, the ability of caregivers to advocate for a particular course of action may be a latent factor measured by the construct conceptualized in the current

study as caregiver capacity. This is another important topic of potential future research.

There are several limitations of the current study. Regarding internal validity, the current study has three important limitations. First, our sample size can produce results that, while statistically significant, do not reflect substantial clinical or policy effect. We have attempted to address this issue by using appropriate corrections for multiple pair-wise comparisons and by reporting odds ratios and confidence intervals in our multivariate analysis. Second, although the CSPI has established inter-rater reliability, because the current study utilizes administrative data, we were not able to calculate inter-rater reliability on the current sample. However, all crisis workers who completed a CSPI had been trained to a reliability of a 0.70 on certification test vignettes. Third, there are many factors that are likely to be associated with crisis worker referral decisions and that are not included in our analyses. It is possible that inclusion of such factors in the current analyses would alter the results. Regarding external validity, the ability to generalize the results of the current study to other comprehensive child mental health crisis stabilization programs is limited by the relative uniqueness of the Illinois SASS program. One important aspect of the SASS program's uniqueness is that it is a fee-for-service program. It may be that referral decisions in crisis stabilization programs that are reimbursed differently are also influenced differently by enabling factors. The current study is also limited by its inability to investigate whether SASS program referral decisions are clinically appropriate. Future research is necessary to determine whether the referrals that are made are appropriate.

In spite of these limitations, the results of the current study suggest that further investigation of the impact of caregiver-related enabling factors on crisis worker referral decisions in comprehensive mental health crisis stabilization programs is important. Crisis workers decide services children are able to access and they must continue to make clinical decisions based on a child's evaluated mental health needs. However, they must also consider those needs in ecological context. Existing literature has not done an adequate job of investigating the impact caregiver-related or other enabling factors on crisis worker referral decisions. The current study is one of the first to demonstrate that enabling factors may impact referral decisions. Future research may help expand our understanding of the role of enabling factors on crisis worker referral decisions in comprehensive child mental health crisis stabilization programs.

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