

EXAMINING INDIVIDUAL, FAMILY, AND COMMUNITY PREDICTORS OF YOUTH  
RECEIPT OF THERAPY IN SYSTEMS OF CARE

BY

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THESIS

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## **ABSTRACT**

Though a variety of psychotherapy interventions have been empirically supported for youth, the majority of children and adolescents with mental health needs do not receive therapy services to treat their disorder. This study examines the predictors of receipt of therapy services for youth within the Children's Mental Health Initiative (CMHI), the largest federally-funded effort in the United States to serve youth with serious emotional disturbance. Using data from 1604 youth aged 10 to 17 in 33 CMHI-funded system of care communities, the impact of youth, family and community-level variables on receipt of individual, family, and group outpatient therapy in the first six months of service were examined. Youth who were African-American, had caregivers with less education, or were in families below the poverty level were less likely to receive therapy overall. At the community level, youth in sites that served a higher rate of impoverished families were less likely to receive therapy. Externalizing behaviors uniquely predicted receipt of group therapy above internalizing behaviors. These results highlight populations that may be underserved within systems of care. Limitations and implications are discussed.

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## CHAPTER 1: INTRODUCTION

A variety of psychotherapy interventions have been empirically supported across a wide range of problems, diagnoses, and outcomes for adolescents (Chorpita et al., 2011; Weisz, 2004; Weisz, Hawley, & Doss, 2004). Despite this, the majority of youth do not receive services specifically to treat their disorder (Angold, Messer, Stangl, & Burns, 1998; Briggs-Gowan, & Carter, 2003; Flisher et al., 1997; Horwitz, Gary, Kataoka, Zhang, & Wells, 2002). In a nationally representative sample, only 36% of youth with mental disorders and 50% of youth with severe levels of impairment received mental health treatment services for their symptoms (Merikangas et al., 2011). The Comprehensive Community Mental Health Services for Children and Their Families Program, also called the Children's Mental Health Initiative (CMHI), represents an effort by the Substance Abuse and Mental Health Services Administration (SAMHSA) to address this gap through the delivery of community-based child and adolescent mental health services. The CMHI is the largest federally funded initiative ever to serve youth with serious emotional disturbance and is based on the system-of-care model (Huang et al., 2005; Stroul & Friedman, 1986). The system of care approach strives to ensure access to community-based services and supports that are culturally competent, family and youth driven, and individualized to the strengths and needs of each family. From its inception in 1993, the CMHI has funded systems of care in 173 sites across the country. A national evaluation effort has collected data from youth enrolled in each site since 1994, creating the largest national data set on child and adolescent mental health service utilization in the United States. Given the size and scope of this initiative, it provides an unprecedented opportunity to address gaps in the accessibility and utilization of therapy for youth. This study examines outpatient therapy as one element of system of care services, and identifies factors that impact the receipt of therapy within

a national sample of youth enrolled in CMHI. Identifying those factors that predict accessing therapy provides an opportunity to identify gaps within the service model and inform efforts to improve access to and utilization of therapy.

Extensive research has found that race and ethnicity impact the use of mental health services in the United States, with greater unmet need among minority populations (Garland et al., 2005; Hurlburt et al., 2004; Snowden & Yamada, 2005; Thompson, 2005). Though addressing racial disparities is not an explicit purpose of the CMHI and the funding process does not impose any rules on the racial composition of youth enrolled, the program has disproportionately served youth who come from poor families and who are Black or Hispanic (Miech et al., 2008). Thus, the CMHI has great potential for addressing mental health disparities across income and race through the provision of services to underserved disadvantaged populations. There is evidence that racial disparities in therapy persist within the CMHI, however. Popescu, Xu, Krivelyova, and Ettner (2015) found that in 55 sites funded from 2002-2006 (phases 4 and 5), African American youth had lower odds of using individual, family, or group psychotherapy and those who did receive therapy used fewer days than non-Hispanic white youth. Additionally, among those who received therapy, Latino/a/x (hereafter referred to as Latinx) youth received fewer days of individual, family, and group therapy than non-Latinx white youth. These disparities were more modest than those reported in the general population (Kataoka et al., 2002), but still significant. Investigating current racial disparities within therapy utilization in the CMHI is important for improving its potential to address these gaps in the child and adolescent mental health system.

Other youth populations may experience disparities in mental health care. There is conflicting evidence on the relationship between gender and receipt of mental health services,

with some studies reporting that girls are less likely to receive needed mental health services (Zimmerman, 2005), while others found no effect of gender (Cohen and Hesselbart, 1993; Flisher et al., 1997; Verhulst & van der Ende, 1997; Witt, Kasper, & Riley, 2003). There is some evidence that girls may be less likely to be perceived as needing mental health intervention (Thompson, 2005) or use mental health services, but more likely to receive high-intensity treatment once identified (Farmer et al., 1999). In regards to youth age, effects have been found primarily in samples with broader age ranges, with mental health service gaps among young children (under six; Kataoka et al., 2002) and transition-aged children (Cohen & Hesselbart, 1993; Pottick, Bilder, Vander Stoep, Warner, & Alvarez, 2007).

In addition to youth characteristics, family-level characteristics such as socioeconomic status and caregiver education may also predict youth service use and highlight potential barriers to accessing therapy. Economic disadvantage has been linked to greater unmet mental health needs in children (Cohen & Hesselbart, 1993; Cunningham & Freiman, 1996; Flisher et al., 1997; Haines, McMunn, Nazroo, & Kelly, 2002; Kataoka et al., 2002), though not in all samples (Zimmerman, 2005, Thompson, 2005). Within the system of care literature, previous research has found that families living below the poverty threshold received fewer services overall, but there was no significant difference between the percentage of poor and non-poor families who received outpatient services including therapy (Gyamfi, 2004). Beyond poverty, a caregiver's ability to navigate the system and advocate for their child may also be an important predictor of service use. There is some evidence that children with more educated parents are more likely to receive specialty mental health services (Farmer et al., 1999), though not all work has not found this effect (Thompson, 2005; Zimmerman, 2005). The system of care approach is in part an effort to make services more cohesive and navigable, with the relevant formal and informal

supports wrapping around the youth. In a CMHI-funded system of care implemented in Chicago Public Schools, a non-linear relationship was found between caregiver education and days of community mental health service. Youth with the highest and lowest-educated caregivers received more days of services than youth of caregivers with a moderate (high school diploma or GED) level of education (Burnett-Zeigler & Lyons, 2010). Investigating the impact of income and caregiver education in a larger sample of CMHI sites may help to identify structural factors that limit access to therapy services.

With system of care sites spread across the country, community-level characteristics may also impact youth contact with therapy services. Previous research has found that implementation of the system of care model has varied between sites (Brannan, Brashears, Gyamfi, & Manteuffel, 2012; Vinson, Brannan, Baughman, Wilce & Gawron, 2001), and communities may have different availability of services and resources. There is a shortage of mental health care providers in many US counties, particularly those that are rural or have low per-capita income (Thomas, Ellis, Konrad, Holzer, & Morrissey, 2009). Sites that serve higher rates of disadvantaged populations may encounter greater limitations in terms of community resources and available mental health care providers. We will examine the site-level variables of racial makeup (percent of the youth enrolled who are white), economic makeup (the percent of the youth enrolled who are below the poverty level), and average age as potential predictors of receipt of therapy services. Investigating site characteristics that impact use of therapy can highlight which types of sites may need additional attention in order to achieve their optimal service structure.

While all youth within the CMHI have identified mental health needs, level and type of symptomatology may impact the receipt of therapy services. Those youth who present with high

levels of problem behaviors may be more likely to be identified as having an urgent need for intervention by their case managers, caregivers, or themselves, and therefore may be more likely to receive therapy. Outside of the CMHI, level of symptomatology has been found to predict use of mental health services (Burns et al., 1995; Farmer et al., 1999). However, a previous study of 89 youth in a single system of care site found that child dysfunction did not predict receipt of family or individual therapy (Graves, Shelton, & Kaslow, 2009). This may be explained by the restricted range of symptomatology experienced by youth within the CMHI, as all youth had identified mental health needs. In addition to the severity, the manifestation of youth problems may shape whether or not they receive services. In general populations, youth with externalizing problems may be more likely to receive services than youth with internalizing problems (Thompson, 2005; Thompson & May, 2006). This has been found to be especially true for minority and immigrant populations as compared to non-Hispanic Whites (Gudiño, Lau, & Hough, 2008; Gudiño, Lau, Yeh, McCabe, Hough, 2009). Thus, controlling for level of youth symptomatology and investigating the treatment of both internalizing and externalizing symptoms is important for investigating gaps in the provision of therapy services.

In summary, there are many youth within the United States with mental health needs who do not receive therapy services that may help them. As the largest federally funded initiative to serve youth with serious emotional disturbance, the CMHI is in a unique position to address this treatment gap and improve access to mental health care. Identifying potentially underserved youth is an important step in strengthening youth mental health services and structures. This paper will investigate individual (age, gender, race, problem behaviors), family (caregiver education, poverty level), and site (poverty rate, percent white, average age) characteristics to identify those that impact the receipt of therapy. To our knowledge, this is the

first study to investigate these multilevel variables simultaneously with a national sample of youth.

## CHAPTER 2: METHOD

### Data

The data examined in this study were collected as part of the longitudinal outcome study of the National Evaluation of the CMHI. Youth enrolled in the system of care programs were eligible for the longitudinal outcome study if they had a caregiver or legal custodian who would grant consent and was capable of completing a data collection interview, did not have a sibling who was already enrolled in the outcome study, had been receiving or were on the verge of receiving services at the time of the baseline outcome study interview, and were between 5 and 17.5 years of age at the time of the baseline interview. In addition, some sites had sampling schemes to select a subset of youth for the longitudinal outcome study.

Data were drawn from sites funded in 2008, 2009, and 2010 and come from 47 system of care sites across the country. The sample was reduced to youth who were age 10-17 at the time of the enrollment, to focus on adolescents under the age of majority. This narrowed the data to 39 communities. Six communities were dropped because they had fewer than ten youth with sufficient data in these age ranges, leaving us with a total of 33 communities represented in the sample.

A total of 9083 youth aged 10 to 17 were enrolled in the system of care. Out of these youth, 3607 participated in the longitudinal outcome study. Common reasons for not participating in the longitudinal outcome study included missing the 30 day baseline data collection window (28.2%), failure to collect consent from the caregiver or independent youth (27.1%), delay in local evaluation procedures (11.9%), ineligibility because a sibling was enrolled in the study (6.2%), or ineligibility because the youth was not selected through the site's

sampling scheme (4.2%). Out of the 3607 youth enrolled in system of care services and in the longitudinal outcome study, 1604 completed the measures required for this study at intake and six months and are included in our analyses. The majority of the 2003 youth who are enrolled in the longitudinal outcome study but not in our sample were lost to follow-up at 6 months and therefore did not have data on service usage (1700 youth).

**Participants**

Participants in our sample were predominately male (60%) with a mean age of 14 (SD=2.15). Youth were predominately white (43%), African American (24%), or Hispanic/Latinx (20%). In regards to family characteristics, 51% of caregivers had a high school degree or less and 73% were near or below the poverty level. Characteristics of our sample as compared to other youth aged 10-17 who were enrolled in system of care services but are not in our sample are presented in Table 1. Our sample is slightly younger and reflects a slightly different racial makeup. Though these differences are statistically significant due to the large sample size, they are practically small.

**Table 1.** Sample Demographics

<b>Variable</b>	<b>Study sample (N=1604)</b>	<b>In outcome study; not in sample (N=2003)</b>	<b>SOC-enrolled; not in sample (N=7479)</b>
	Percent/Mean (SD)	Percent/Mean (SD)	Percent/Mean (SD)
<b>Age</b>	13.99 (2.15)	14.18* (2.17)	14.13* (2.17)
<b>Race</b>			
White	43	36*	41*
Black/AA	25	26	26
Latinx	20	22	17

**Table 1 (cont.)**

Multiracial/Other	12	16	16
<b>Gender</b>			
Male	60	57	57
Female	40	43	43
Other	0	.1	.3
<b>Family Poverty<sup>a</sup></b>			
Below Poverty	59	60	
At/near Poverty	14	13	
Above Poverty	28	26	
<b>Caregiver Education<sup>a</sup></b>			
HS degree or less	51	50	
Higher ed.	49	50	

<sup>a</sup>Family poverty status and caregiver education were not collected from youth who were not enrolled in the longitudinal outcome study.

<sup>b</sup>“Higher ed” includes some college, associates degrees, college degrees, or advanced degrees.

\*p or overall  $\chi^2 < .05$  as compared to the study sample.

The CMHI is intended to serve youth with serious emotional and behavioral disturbance, which is reflected in our sample. Ninety three percent of the youth had a DSM or ICD diagnosis at the time of intake (see Table 2). The most common diagnoses were Mood disorders (49%), Attention Deficit Hyperactivity Disorder (40%), Oppositional Defiant Disorder (22%), substance use disorder (12%), Anxiety disorders (10.7%), and PTSD and Acute Stress Disorder (9%). The majority of youth had diagnoses in two or more categories (67%). Caregivers reported high rates of problem behaviors on the CBCL; the mean total problems T score was 69.6 (SD=9.9), which is considered to be in the clinical range (cutoff=63). Similarly, the mean externalizing score was 69.3 (SD=10.6) and the mean internalizing score was 66.2 (SD=10.5). As compared to the youth

enrolled in the longitudinal outcome study and not in our sample, youth in our sample had slightly higher total problem, externalizing, and internalizing scores at baseline (1.8 points, 1.4 points, and 1.6 points higher, respectively). These differences were not considered clinically significant.

**Table 2.** Percent of Youth with Diagnosis at Intake

<b>Diagnosis Category</b>	<b>Percent of Youth</b>
Mood disorder	49.2
Attention Deficit Hyperactivity Disorder	40.2
Oppositional Defiant Disorder	22.2
Substance use disorder	12.1
Anxiety disorder	10.7
PSTD and Acute Stress disorder	9.0
Adjustment Disorder	6.9
Conduct Disorder	5.1
Pervasive developmental disorder	4.5
Schizophrenia/other psychotic disorder	2.9
Impulse Control Disorders	2.4

**Measures**

Demographic information (race/ethnicity, age, gender, poverty level, and caregiver education) was collected at intake using the Enrollment and Demographic Information Form (EDIF) and the Caregiver Information Questionnaire, Revised (CIQ-R). These measures were designed for the National Evaluation to capture uniform demographic information about youth

and caregivers from all sites. Poverty level was used in this analysis instead of family income because it is adjusted for family size and location and thus better reflects need across a national sample. Poverty level was calculated using thresholds provided by the Department of Health and Human Services (HHS). Families above the poverty line had incomes more than 1.5 times the poverty threshold; families at/near the poverty line had incomes 1 to 1.5 times the threshold.

Service use was assessed using the Multi-Sector Service Contact (MSSC-R), a caregiver report created by Macro International, Inc. to investigate the types and frequencies of services received by children and families in the National Evaluation. A dichotomous variable indicating whether the youth had received therapy in the first six months of enrollment in the system of care was created using three items (family therapy, group therapy, and individual therapy). Previous work with similar measures suggests that caregiver report of child service use is reasonably consistent with provider report (Ascher, Farmer, Burns, & Angold, 1996; Hoagwood et al., 2000).

Youth mental health problems at intake were assessed using the Child Behavior Checklist (CBCL 6-18; Achenbach, 1991), a standardized parent-report measure of emotional and behavioral problems. The CBCL has demonstrated good internal consistency, test-retest reliability, construct validity, and criterion-related validity (Achenbach & Rescorla, 2001). T-scores based on population norms were used for the total problems, externalizing, and internalizing scales because they adjust for age and gender.

### **Analysis**

To account for dependencies created by the nested nature of youth in communities, a multilevel logistic regression with community as the clustering variable was used to examine predictors of receipt of therapy services. Level two predictors were created by aggregating

available youth-level data for each community. Aggregated poverty status (percentage of youth at or below the poverty level), race (percent white), and average age were calculated for each community using all available data. Continuous level one predictors (age, CBCL total problems, CBCL internalizing, and CBCL externalizing) were group-centered, in order to investigate the impact of these variables within each system of care.

Youth demographics (age, gender, and race) and other level one predictors (caregiver education, poverty level, and CBCL total problems) were all entered in one step. Level two variables (percent below the poverty level, percent white, and average age) were added in a second step. During model refinement, non-significant level two variables were removed from the final models; all other variables remained in as controls. As a post-hoc analysis, separate models predicting receipt of individual, family, and group therapy were tested. Analyses were run using the SAS software system version 9.4, using the PROC GLIMMIX procedure (SAS Institute Inc, Cary, North Carolina). Laplace's method was used to approximate the marginal likelihood.

## CHAPTER 3: RESULTS

Overall, 72% of the sample received at least one session of therapy during the six month period. The most common therapy received was individual therapy (68%); group therapy and family therapy were less common (20% and 24%, respectively). For those who received at least one session of any therapy, the median and modal number of total sessions was 24 (mean=29.2). Most youth who received therapy received more than a few sessions; 10.4% received fewer than five sessions.

### Overall Therapy

In the multilevel logistic regression predicting receipt of any type of therapy, age and gender were not significant predictors. After controlling for age, gender, caregiver education, poverty level, CBCL total problems, and percent of the SOC-enrolled population below the poverty level, race still attained significance. Black youth were less likely to receive therapy than white youth; the odds that a black youth received therapy were .71 times the odds of a white youth. Conversely, Latinx youth were marginally more likely to receive therapy; the odds that a Latinx youth received therapy were 1.43 times the odds of a white youth ( $p=.08$ ). Caregiver-reported youth problems (CBCL total problems) were not a significant predictor of receipt of therapy (see Table 3).

In regards to family characteristics, caregiver education and poverty level were both significantly predictive of receipt of therapy. Youth with caregivers who had attained a high school degree or less were less likely to receive therapy than youth with caregivers who had education beyond a high school degree ( $OR=.76$ ). Youth in families near or below the poverty level were less likely to receive therapy than those in families above the poverty level ( $OR=.73$ ).

At the community level (level two), percent of SOC enrollees who were white and average age were not significant predictors and were dropped from subsequent analyses. Aggregated poverty status did significantly predict receipt of therapy. Youth living in communities where the system of care served a more impoverished population (i.e., where the poverty rate of families in the system of care was 10% higher than the full sample average) were less likely to receive therapy (OR=.77).

In addition to the total problems scale on the CBCL, a post-hoc model was run to investigate any unique impacts of the internalizing and externalizing subscales. These subscales were significantly correlated ( $r=0.53$ ) and did not uniquely predict receipt of therapy overall (i.e., one was not significantly predictive when controlling for the other).

**Table 3.** Multilevel Logistic Regression Predicting Receipt of Any Therapy

	$\beta$	p	OR	OR 95% CI
<b>Level 1 Variables</b>				
Age	-.02	.45	.98	.92, 1.04
Female (vs. male)	.18	.15	1.20	.94, 1.55
Race (vs. NHW <sup>a</sup> )		.01		
Black/AA	-.34	.06	.71	.50, 1.01
Latinx	.36	.08	1.43	.96, 2.13
Multiracial/Other	-.10	.62	.90	.59, 1.36
Caregiver Ed: HS degree or less (vs. higher ed.) <sup>b</sup>	-.28	.03	.76	.59, .97
Below/near poverty level (vs. above poverty level)	-.31	.05	.73	.54, 1.00

**Table 3 (cont.)**

CBCL total problems	.01	.11	1.11 <sup>†</sup>	.98, 1.26 <sup>c</sup>
<b>Level 2 Variables</b>				
Percent below poverty level	-.03	.03	.77 <sup>‡</sup>	.60, .97 <sup>d</sup>

<sup>a</sup> *NHW= non-Hispanic White*

<sup>b</sup> *“Higher ed” includes some college, associates degrees, college degrees, or advanced degrees.*

<sup>c</sup> *Odds for one standard deviation above average*

<sup>d</sup> *Odds for 10% above average*

### **Individual, Group, and Family Therapy**

Similar models were run for receipt of individual therapy, group therapy, and family therapy (see Tables 4-6). For individual therapy, race, caregiver education, and site-level poverty were significantly predictors of receipt of therapy (Table 4). Black youth were less likely to receive individual therapy than white youth (OR=.60). Conversely, Latinx youth were marginally more likely to receive therapy than white youth (OR=1.39; p=.09). Youth with caregivers who had a high school degree or less education had .74 times the odds of receiving individual therapy as youth with caregivers who had more education.

Internalizing behaviors were a marginally significant predictor of receipt of individual therapy above and beyond externalizing (p=.06). Youth with internalizing scores that were one standard deviation above the sample average had 1.14 times the odds of receiving individual therapy. Externalizing behaviors were not significantly predictive after controlling for internalizing behaviors.

At level two, site poverty was significant. Youth in communities where the system of care served a more impoverished community had .75 times the odds of receiving individual therapy.

**Table 4.** Multilevel Logistic Regression Predicting Receipt of Individual Therapy

	$\beta$	p	OR	OR 95% CI
<b>Level 1 Variables</b>				
Age	-.02	.57	.98	.93, 1.04
Female (vs. male)	.16	.19	1.18	.92, 1.50
Race (vs. NHW <sup>a</sup> )		.01		
Black/AA	-.38	.03	.69	.49, .96
Latinx	.33	.09	1.39	.95, 2.02
Multiracial /Other	.06	.77	1.06	.71, 1.59
Caregiver Ed: HS degree or less (vs. higher ed. <sup>b</sup> )	-.30	.02	.74	.58, .94
Below/near poverty level (vs. above poverty level)	-.11	.44	.89	.67, 1.19
Internalizing	.01	.06	1.14 <sup>c</sup>	1.14, 1.32 <sup>c</sup>
Externalizing	.00	.94	1.00 <sup>c</sup>	.87, 1.16 <sup>c</sup>
<b>Level 2 Variables</b>				
Percent below poverty level	-.03	.02	.75 <sup>d</sup>	.59, .96 <sup>d</sup>

<sup>a</sup> *NHW= non-Hispanic White.*

<sup>b</sup> *“Higher ed” includes some college, associates degree, college degree, or advanced degree.*

<sup>c</sup> *Odds for one standard deviation above average.*

<sup>d</sup> *Odds for 10% above average.*

For group therapy, age, family poverty level, and externalizing symptoms were significant predictors (Table 5). Older youth were slightly less likely to receive group therapy (OR=.94 for a one year increase in age). Youth in families below the poverty level were less

likely to receive group therapy than those above the poverty level (OR= .61). Youth with externalizing scores that were one standard deviation above the group average were more likely to receive group therapy (OR=1.24). Notably, group therapy was the only type of therapy for which race was not a significant predictor overall and the estimate for black youth was positive.

**Table 5.** Multilevel Logistic Regression Predicting Receipt of Group Therapy

	$\beta$	P	OR	OR 95% CI
<b>Level 1 Variables</b>				
Age	-.07	.05	.94	.88, 1.00
Female (vs. male)	.00	.97	1.01	.77, 1.32
Race (vs. NHW <sup>a</sup> )		.16		
Black/AA	.32	.10	1.37	.94, 2.00,
Latinx	.13	.54	1.14	.75, 1.72
Multiracial /Other	-.25	.31	.78	.48, 1.27
Caregiver Ed: HS degree or less (vs. higher ed. <sup>b</sup> )	-.22	.12	.80	.61, 1.06
Below/near poverty level (vs. above poverty level)	-.49	.00	.61	.46, .83
Internalizing	.01	.28	1.07 <sup>c</sup>	.91, 1.26 <sup>c</sup>
Externalizing	.02	.01	1.24 <sup>c</sup>	1.05, 1.47 <sup>c</sup>
<b>Level 2 Variables</b>				
Percent below poverty level	-.02	.08	.80 <sup>d</sup>	.63, 1.00 <sup>d</sup>

<sup>a</sup> *NHW= non-Hispanic White.*

<sup>b</sup> *“Higher ed” includes some college, associates degree, college degree, or advanced degree.*

<sup>c</sup> *Odds for one standard deviation above average.*

<sup>d</sup> *Odds for 10% above average.*

For family therapy, age was a marginally significant predictor; older youth were slightly less likely to receive therapy (OR=.94; p=.05). Black youth were less likely to receive family

therapy than white youth (OR= .70). Latinx youth were marginally more likely to receive family therapy than white youth (OR=1.40; p=.08). Site-level poverty was also marginally significant. Youth in sites where the poverty rate in the system of care was 10% higher than the full sample average were slightly less likely to receive family therapy (OR=.81).

**Table 6.** Multilevel Logistic Regression Predicting Receipt of Family Therapy

	$\beta$	p	OR	OR 95% CI
<b>Level 1 Variables</b>				
Age	-.06	.05	.94	0.89, 1.00
Female (vs. male)	-.02	.89	.98	.76, 1.27
Race (vs. NHW <sup>a</sup> )		.01		
Black/AA	-.37	.06	.69	.47, 1.01
Latinx	.33	.08	1.40	.96, 2.03
Multiracial /Other	-.01	.97	.99	.65, 1.51
Caregiver Ed: HS degree or less (vs. higher ed. <sup>b</sup> )	-.01	.95	.99	.77, 1.28
Below/near poverty level (vs. above poverty level)	-.22	.13	.80	.60, 1.07
Internalizing	-.01	.37	.93 <sup>c</sup>	.80, 1.09 <sup>c</sup>
Externalizing	.01	.16	1.12 <sup>c</sup>	.96, 1.31 <sup>c</sup>
<b>Level 2 Variables</b>				
Percent below poverty level	-.02	.05	.81 <sup>d</sup>	.65, 1.00 <sup>d</sup>

<sup>a</sup> NHW= non-Hispanic White.

<sup>b</sup> “Higher ed” includes some college, associates degrees, college degrees, or advanced degrees.

<sup>c</sup> Odds for one standard deviation above average.

<sup>d</sup> Odds for 10% above average.

While most youth who received therapy were in treatment for a substantial number of sessions (mean=29), some youth received very few sessions (10.4% received fewer than five sessions). In order to examine the effect that this minority had on the results, all analyses were

run a second time excluding youth who received fewer than five sessions of therapy. No substantive differences emerged in the results.

## CHAPTER 4: DISCUSSION

While a variety of psychotherapy interventions have been empirically supported across a wide range of problems, diagnoses, and outcomes for children and adolescents (Chorpita et al., 2011; Weisz, 2004), the majority of youth with mental disorders do not receive therapy (Merikangas et al., 2011). As the largest national initiative to provide mental health services to children and adolescents in the United States, the CMHI is uniquely positioned to address the treatment gap in youth mental health. In a national sample of CMHI sites, youth receipt of therapy varied based on race, age, family poverty, caregiver education, and site-level poverty after controlling for mental health problem behaviors and all other predictors. These predictors can provide information about populations that may be underserved and about potential structural barriers to care.

Race was a significant predictor of receipt of therapy, such that African American youth were less likely than non-Hispanic white youth to receive therapy. While not unexpected as this matches a pattern commonly found in services research (e.g., Kataoka et al., 2002), this finding is disheartening as it suggests that service disparities still exist in federally-funded systems of care. The odds ratio for African American youth found in this study (.70) is similar to the odds ratio reported by Popescu et al. in phases 4 and 5 (2002-2006) of the CMHI (.73), suggesting consistency across funding years in terms of this disparity. As indicated by Popescu et al., these racial differences in service use within the CMHI are more modest than those that have been found in the general population.

Considerable research has sought to explain the racial disparities observed in mental health services and health services broadly. The current study cannot disentangle the role of

individual and family preference, referral pathways, accessibility (e.g., financial, transportation, or time constraints), availability of culturally appropriate care, racial discrimination, distrust of health care providers, and other possible factors. Closer examination of these factors is needed in order to develop strategies to address this disparity. For example, if African-American youth are less likely to be referred to needed therapy services, education of care coordinators and monitoring of racial differences in service referral would be a step towards addressing this disparity. If African-American youth are just as likely to be referred to needed therapy services but less likely to use them, approaches that focus on reducing stigma towards therapy or improving the cultural competency of available services is warranted. Longitudinal evaluation of the implementation of CMHI suggests that fidelity to system of care principles has varied across sites and over time, and sites have struggled with enacting the principle of cultural competence in particular (Brannan et al., 2012; Vinson et al., 2001). Further investigation of the strategies used by sites that have more successfully implemented this principle and possible co-occurring reductions in racial disparities may inform approaches for improving service provision to racial minorities.

Inconsistent with previous research (Garland et al., 2005; Kataoka et al., 2002), Latinx youth were not less likely to receive therapy services as compared to non-Hispanic white youth. Further, estimates for Latinx youth were positive in all models, though these effects did not reach significance. This result should be interpreted with caution, however, as the plurality of Latinx youth (41%) came from two communities. Thus, this finding may not generalize across the sample as a whole. Analysis of earlier stages of the CMHI also found that Latinx youth did not have lower odds of receiving therapy services as compared to non-Hispanic white youth (Popescu et al., 2015). Taken together with the findings regarding African American youth, this

finding suggests that the CMHI may be addressing service disparities in Latinx youth more successfully than service disparities in African American youth.

Internalizing and externalizing behaviors were not unique predictors of overall receipt of therapy. However, they uniquely predicted individual and group therapy; internalizing behaviors marginally predicted receipt of individual therapy after controlling for externalizing behaviors, while externalizing behaviors predicted receipt of group therapy after controlling for internalizing behaviors. In regards to race, while Black youth were less likely to receive individual and family therapy, they were equally likely as non-Hispanic white youth to receive group therapy. Together, these findings suggest that Black youth and youth with higher levels of externalizing problems are more likely to end up in group therapy. Previous research has found that minority youth are overrepresented in systems and services such as special education, juvenile justice, and child welfare (Crane & Ellis, 2004; De Valenzuela, Copeland, & Qi, 2006; Jones & Yamagata, 2000). These systems may serve as pathways to non-elective therapy, particularly modalities like group therapy that are lower-cost and do not require parental involvement. Given that Black youth are less likely to receive other forms of therapy, it is important for further research to investigate the effectiveness of group therapy within the CMHI to ensure that they are not receiving poorer-quality services.

Caregiver education was significantly predictive of individual therapy and therapy overall, such that youth of caregivers who had education beyond a high school degree were more likely to receive therapy. Notably, this cannot be explained by a relationship between caregiver education and poverty, as poverty status was controlled for. Caregivers with a higher level of education may be better able to navigate service systems and advocate for services for their child. Longitudinal evaluation of the CMHI suggests that sites have struggled to fully implement

the principle of interagency collaboration (Brannan et al., 2012). Improving this may foster a more cohesive, navigable service array. Additionally, previous literature has suggested that parents with more years of education may be more likely to identify that their child needs special health care services (Porterfield & McBride, 2007). The system of care aims to create a service network that is family driven and youth guided, and therefore relies to some extent on caregiver's perceptions of their child's needs. Family and community education on symptoms of psychopathology and effective therapy interventions may be instrumental in improving utilization of potentially beneficial services.

Poverty level was significantly predictive of group therapy and therapy overall, such that youth in families above the poverty level were more likely to receive therapy. This may reflect limited capacity for low resource, stressed families to navigate a complicated system and advocate for and attend additional services. Poverty has long been associated with transportation barriers (Sanchez, 2008) that can limit access to healthcare (Syed, Gerber, & Sharp, 2013). Families living in poverty may have greater distrust of health care and other services (Canvin, Jones, Marttila, Burström, & Whitehead, 2007; Katapodi, Pierce, & Facione, 2010). This relationship could also reflect a difficulty in paying for these services or a lack of local providers who accept Medicaid.

Average rate of receipt of therapy varied significantly between sites. This may reflect that some programs were more successful with connecting their clients with services or that the availability of community therapy services varied between sites. At the site-level, aggregated race (percent of the system of care youth who were white) and average age of youth were not significant predictors of receipt of therapy, but poverty was. Youth in system of care sites with more youth below the poverty level were less likely to receive therapy. Site differences in receipt

of therapy may be related to availability of community services, as poor communities are more likely to have a severe shortage of mental health care providers (Thomas et al., 2009). Brannan et al. (2012) found that nearly all sites in phases II, III, and IV reported difficulties in service capacity, but did not investigate site-level poverty or racial makeup as possible correlates of service array deficits.

There are several notable limitations of the current study. First, receipt of therapy and reports of youth problem behaviors in the previous six months were based on parent report, which may be biased by perceived stigma (e.g., certain groups of parents may be more reluctant to report use of therapy services or behavioral problems) or by memory, and may not align with youth perceptions. Previous work has found modest agreement between parent ratings on the Child Behavior Checklist and adolescent ratings on the Youth Self-Report (a corresponding measure; Achenbach & Rescorla, 2001); youth-parent agreement is often found to be better for externalizing than internalizing symptoms (Youngstrom, Loeber, and Stouthamer-Loeber, 2000). Thus, adolescent internalizing symptomatology may be under-reported in this sample.

Secondly, in order to maintain a larger sample size, this analysis only uses data from baseline and six month interviews. It is possible that utilization rates would have changed over time and that findings may be different over the course of 12 or 18 months. Still, given that youth were enrolled in services due to acute need, receipt of services within the first six months is an important indicator of system responsiveness.

Lastly and most importantly, the data do not allow for analysis of what kind of therapy was received beyond the basic modality (i.e., family, individual, or group). Thus, we cannot evaluate how well the therapy “matched” the youths’ specific needs, diagnosis, or preferences. Further, while there is strong evidence of the efficacy of specific psychotherapies in clinical

trials, there is less work on the effectiveness of therapy as it is actually received in real-world conditions, in community settings with diverse youth and high rates of comorbidity (Friedman & Hernandez, 2002; Shirk, 2001; Weisz & Hawley, 1998). Evidence on empirically supported treatments is typically conducted with racially homogenous groups, and research on the effectiveness of different interventions for minority youth is limited (Bernal & Scharró-del-Río, 2001; Hall, 2001; Sue, 1999). Thus, we cannot make claims about the appropriateness of the therapy received in this study. In addition to quality of therapy services, youth may also have received an insufficient number of therapy sessions. This study uses a dichotomous measure of receipt of therapy, which speaks to whether or not a youth was connected to a mental health care service but does not speak to the sufficiency, frequency, or length of services. The majority of youth received more than a few sessions and the interpretation of the results were unchanged when analyses were re-run excluding youth who received fewer than five sessions. Nonetheless, this study primarily addresses access to care, and not quality or sufficiency of care. Finally, this study focuses specifically on the receipt of outpatient therapy and not medication, support services, or inpatient therapy.

Despite these limitations, this study investigates a critical element of child and adolescent mental health services with a national sample. The results call attention to particular groups of youth that are less likely to access therapy and therefore may be underserved within the CMHI. Youth living below the poverty level, youth with caregivers without postsecondary education, Black youth, and youth in sites that serve a higher rate of families below the poverty level are less likely to receive therapy in the first six months of enrollment. Future work should focus on these groups to investigate possible reasons for the lower use of therapy, and sites should pay

particular attention to these populations in order to attain the goal of serving all enrolled youth equally.

## REFERENCES

- Achenbach, T. M. (1991). *Manual for the child behavior checklist 14–18 and 1991 profile*. Burlington, VT: University Associates in Psychiatry
- Achenbach TM, & Rescorla LA. (2001). *Manual for the ASEBA School—Age Forms and Profiles*. Burlington, VT: University of Vermont, Research Center for Children, Youth and Families.
- Angold, A., Messer, S. C., Stangl, D., Farmer, E. M. Z., Costello, E. J., & Burns, B. J. (1998). Perceived parental burden and service use for child and adolescent psychiatric disorders. *American Journal of Public Health, 88*(1), 75–80. <http://doi.org/10.2105/AJPH.88.1.75>
- Ascher, B. H., Z. Farmer, E. M., Burns, B. J., & Angold, A. (1996). The Child and Adolescent Services Assessment (CASA): Description and Psychometrics. *Journal of Emotional and Behavioral Disorders, 4*(1), 12–20. <http://doi.org/10.1177/106342669600400102>
- Bernal, G., & Scharró-del-Río, M. R. (2001). Are empirically supported treatments valid for ethnic minorities? Toward an alternative approach for treatment research. *Cultural Diversity and Ethnic Minority Psychology, 7*(4), 328–342. <http://doi.org/10.1037/1099-9809.7.4.328>
- Brannan, A. M., Brashears, F., Gyamfi, P., & Manteuffel, B. (2012). Implementation and development of federally-funded systems of care over time. *American Journal of Community Psychology, 49*(3–4), 467–82. <http://doi.org/10.1007/s10464-011-9472-8>
- Burnett-Zeigler, I., & Lyons, J. S. (2010). Caregiver Factors Predicting Service Utilization Among Youth Participating in a School-based Mental Health Intervention. *Journal of Child and Family Studies, 19*(5), 572–578. <http://doi.org/10.1007/s10826-009-9331-5>
- Burns, B. J., Costello, E. J., Angold, A., Tweed, D., Stangl, D., Farmer, E. M., & Erkanli, A. (1995). Children’s mental health service use across service sectors. *Health Affairs (Project Hope), 14*(3), 147–159. <http://doi.org/10.1377/HLTHAFF.14.3.147>
- Canvin, K., Jones, C., Marttila, A., Burstrom, B., & Whitehead, M. (2007). Can I risk using public services? Perceived consequences of seeking help and health care among households living in poverty: qualitative study. *Journal of Epidemiology & Community Health, 61*(11), 984–989. <http://doi.org/10.1136/jech.2006.058404>
- Chorpita, B. F., Daleiden, E. L., Ebesutani, C., Young, J., Becker, K. D., Nakamura, B. J., ... Starace, N. (2011). Evidence-Based Treatments for Children and Adolescents: An Updated Review of Indicators of Efficacy and Effectiveness. *Clinical Psychology: Science and Practice, 18*(2), 154–172. <http://doi.org/10.1097/01.chi.0000181047.59702.58>

- Cohen, P., & Hesselbart, C. S. (1993). Demographic factors in the use of children's mental health services. *American Journal of Public Health, 83*(1), 49–52.  
<http://doi.org/10.2105/AJPH.83.1.49>
- Cunningham, P. J., & Freiman, M. . (1996). Determinants of ambulatory mental health services use for school-age children and adolescents. *Health Services Research, 31*(4), 409–27.  
 Retrieved from  
<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1070129&tool=pmcentrez&rendertype=abstract>
- De Valenzuela, J. S., Copeland, S. R., Qi, C. H., & Park, M. (2006). Examining Educational Equity: Revisiting the Disproportionate Representation of Minority Students in Special Education. *Exceptional Children, 72*(4), 425–441.  
<http://doi.org/10.1177/001440290607200403>
- Farmer, E. M. Z., Stangl, D. K., Burns, B. J., Costello, E. J., & Angold, A. (1999). Use, persistence, and intensity: Patterns of care for children's mental health across one year. *Community Mental Health Journal, 35*(1), 31–46. <http://doi.org/10.1023/A:1018743908617>
- Flisher, A. J., Kramer, R. A., Grosser, R. C., Alegria, M., Bird, H. R., Bourdon, K. H., ... Hoven, C. W. (1997). Correlates of unmet need for mental health services by children and adolescents. *Psychological Medicine, 27*(5), 1145–1154.  
<http://doi.org/10.1017/S0033291797005412>
- Friedman, R. M., & Hernandez, M. (2002). The National Evaluation of the Comprehensive Community Mental Health Services for Children and Their Families Program: A Commentary. *Children's Services, 5*(1), 67–74.  
[http://doi.org/10.1207/S15326918CS0501\\_6](http://doi.org/10.1207/S15326918CS0501_6)
- Garland, A. F., Lau, A. S., Yeh, M., McCabe, K. M., Hough, R. L., & Landsverk, J. A. (2005). Racial and Ethnic Differences in Utilization of Mental Health Services Among High-Risk Youths. *The American Journal of Psychiatry, 162*(7), 1336–1343.  
<http://doi.org/http://dx.doi.org/10.1176/appi.ajp.162.7.1336>
- Graves, K. N., Shelton, T. L., & Kaslow, N. J. (2009). Utilization of Individual versus Family Therapy Among Adolescents with Severe Emotional Disturbance. *American Journal of Family Therapy, 37*, 227–238. <http://doi.org/10.1080/01926180802403328>
- Gudiño, O. G., Lau, A. S., & Hough, R. L. (2008). Immigrant status, mental health need, and mental health service utilization among high-risk Hispanic and Asian Pacific Islander youth. *Child and Youth Care Forum, 37*(3), 139–152. <http://doi.org/10.1007/s10566-008-9056-4>
- Gudiño, O. G., Lau, A. S., Yeh, M., McCabe, K. M., & Hough, R. L. (2009). Understanding Racial/Ethnic Disparities in Youth Mental Health Services: Do Disparities Vary by Problem Type? *Journal of Emotional and Behavioral Disorders, 17*(1), 3–16.  
<http://doi.org/10.1177/1063426608317710>

- Gyamfi, P. (2004). Children with serious emotional disturbance: The impact of poverty and receipt of public assistance on behavior, functioning, and service use. *Children and Youth Services Review, 26*, 1129–1139. <http://doi.org/10.1016/j.chidyouth.2004.05.004>
- Haines, M. M., McMunn, A., Nazroo, J. Y., & Kelly, Y. J. (2002). Social and demographic predictors of parental consultation for child psychological difficulties. *Journal of Public Health, 24*(4), 276–284. <http://doi.org/10.1093/pubmed/24.4.276>
- Hall, G. C. N. (2001). Psychotherapy research with ethnic minorities: Empirical, ethical, and conceptual issues. *Journal of Consulting and Clinical Psychology, 69*(3), 502–510. <http://doi.org/10.1037/0022-006X.69.3.502>
- Hoagwood, K., Horwitz, S., Stiffman, A., Weisz, J., Bean, D., Rae, D., et al. (2000). Concordance between parent reports of children's mental health services and service records: The Services Assessment for Children and Adolescents (SACA). *Journal of Child and Family Studies, 9*(3), 315–331.
- Horwitz, S. M., Gary, L. C., Briggs-Gowan, M. J., & Carter, A. S. (2003). Do needs drive services use in young children? *Pediatrics, 112*(6 Pt 1), 1373–8. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/14654612>
- Huang, L., Stroul, B., Friedman, R., Mrazek, P., Friesen, B., Pires, S., & Mayberg, S. (2005). Transforming Mental Health Care for Children and Their Families. *American Psychologist, 60*(6), 615–627. <http://doi.org/10.1037/0003-066X.60.6.615>
- Hurlburt, M. S., Leslie, L. K., Landsverk, J., Barth, R. P., Burns, B. J., Gibbons, R. D., ... Zhang, J. (2004). Contextual Predictors of Mental Health Service Use Among Children Open to Child Welfare. *Archives of General Psychiatry, 61*(12), 1217. <http://doi.org/10.1001/archpsyc.61.12.1217>
- Kataoka, S. H., Zhang, L., & Wells, K. B. (2002). Unmet need for mental health care among U.S. children: Variation by ethnicity and insurance status. *American Journal of Psychiatry, 159*(9), 1548–1555. <http://doi.org/10.1176/appi.ajp.159.9.1548>
- Katapodi, M. C., Pierce, P. F., & Facione, N. C. (2010). Distrust, predisposition to use health services and breast cancer screening: Results from a multicultural community-based survey. *International Journal of Nursing Studies, 47*(8), 975–983. <http://doi.org/10.1016/j.ijnurstu.2009.12.014>
- Merikangas, K. R., He, J., Burstein, M., Swendsen, J., Avenevoli, S., Case, B., ... Olfson, M. (2011). Service Utilization for Lifetime Mental Disorders in U . S . Adolescents: Results of the National Comorbidity Survey– Adolescent Supplement (NCS-A). *Journal of the American Academy of Child and Adolescent Psychiatry, 50*(1), 32–45. <http://doi.org/10.1016/j.jaac.2010.10.006>

- Miech, R., Azur, M., Dusablon, T., Jowers, K., Goldstein, A., Stuart, E., ... Leaf, P. (2008). The Potential to Reduce Mental Health Disparities Through the Comprehensive Community Mental Health Services for Children and Their Families Program. *Journal of Behavioral Health Services & Research, 35*(3), 253–264. <http://doi.org/10.1002/ana.22528>. Toll-like
- Popescu, I., Xu, H., Krivelyova, A., & Ettner, S. (2015). Disparities in receipt of specialty services among children with mental health need enrolled in the CMHI.
- Porterfield, S. L., & McBride, T. D. (2007). The effect of poverty and caregiver education on perceived need and access to health services among children with special health care needs. *American Journal of Public Health, 97*(2), 323–329. <http://doi.org/10.2105/AJPH.2004.055921>
- Pottick, K. J., Bilder, S., Stoep, A. Vander, Warner, L. A., & Alvarez, M. F. (2007). US Patterns of Mental Health Service Utilization for Transition-Age Youth and Young Adults. *Journal of Behavioral Health Services and Research, 37*–389.
- Sanchez, T. W. (2008). Poverty, policy, and public transportation. *Transportation Research Part A: Policy and Practice, 42*(5), 833–841. <http://doi.org/10.1016/j.tra.2008.01.011>
- Shirk, S. R. (2001). The road to effective child psychological services: Treatment processes and outcome research. In J. H. Hughes, A. M. LaGreca, & J. C. Conoley (Eds.), *Handbook of psychological services for children and adolescents* (pp. 43–59). New York: Oxford University Press.
- Snowden, L. R., & Yamada, A. (2005). Cultural Differences in Access to Care. *Annual Review of Clinical Psychology, 1*, 143–166. <http://doi.org/10.1146/annurev.clinpsy.1.102803.143846>
- Stroul, B., & Friedman, R. (1986, revised edition). *A system of care for severely emotionally disturbed children and youth*. Washington, DC: CASSP Technical Assistance Center.
- Sue, S. (1999). Science, ethnicity, and bias: Where have we gone wrong? *American Psychologist, 54*(12), 1070–1077. <http://doi.org/10.1037/0003-066X.54.12.1070>
- Syed, S., Gerber, B., & Sharp, L. (2013). Traveling Towards Disease: Transportation Barriers to Health Care Access, *38*(5), 976–993. <http://doi.org/10.1007/s10900-013-9681-1>. Traveling
- Thomas, K. C., Ellis, A. R., Konrad, T. R., Holzer, C. E., & Morrissey, J. P. (2009). County-level estimates of mental health professional shortage in the United States. *Psychiatric Services, 60*(10), 1323–8. <http://doi.org/10.1176/appi.ps.60.10.1323>
- Thompson, R. (2005). The course and correlates of mental health care received by young children: Descriptive data from a longitudinal urban high-risk sample. *Children and Youth Services Review, 27*(1), 39–50. <http://doi.org/10.1016/j.childyouth.2004.07.003>

- Thompson, R., & May, M. A. (2006). Caregivers' perceptions of child mental health needs and service utilization: An urban 8-year old sample. *Journal of Behavioral Health Services and Research*, 33(4), 474–482. <http://doi.org/10.1007/s11414-006-9021-7>
- Verhulst, F., & van der Ende, J. (1997). Factors Associated With Child Mental Health Service Use in the Community. *Journal of the American Academy of Child & Adolescent Psychiatry*, 36(7), 901–909. <http://doi.org/10.1097/00004583-199707000-00011>
- Vinson, N. B., Brannan, a. M., Baughman, L. N., Wilce, M., & Gawron, T. (2001). The System-of-Care Model: Implementation in Twenty-seven Communities. *Journal of Emotional and Behavioral Disorders*, 9(1), 30–42. <http://doi.org/10.1177/106342660100900104>
- Weisz, J. R. (2004). *Psychotherapy for children and adolescents: Evidence-based treatments and case examples*. Cambridge, England: Cambridge University Press.
- Weisz, J. R., & Hawley, K.M. (1998). Finding, evaluating, refining, and applying empirically supported treatments for children and adolescents. *Journal of Clinical Child Psychology*, 27, 206–216.
- Weisz, J., Hawley, K., & Doss, A. (2004). Empirically tested psychotherapies for youth internalizing and externalizing problems and disorders. *Child and Adolescent Psychiatric Clinics of North America*, 13(4), 729–815. <http://doi.org/10.1016/j.chc.2004.05.006>
- Witt, W. P., Kasper, J. D., & Riley, A. W. (2003). Mental Health Services Use among School-Aged Children with Disabilities: The Role of Sociodemographics, Functional Limitations, Family Burdens, and Care Coordination. *Health Services Research*, 38(6p1), 1441–1466. <http://doi.org/10.1111/j.1475-6773.2003.00187.x>
- Youngstrom, E., Loeber, R., & Stouthamer-Loeber, M. (2000). Patterns and correlates of agreement between parent, teacher, and male adolescent ratings of externalizing and internalizing problems. *Journal of Consulting and Clinical Psychology*, 68(6), 1038–1050. <http://doi.org/10.1037/0022-006X.68.6.1038>
- Zimmerman, F. J. (2005). Social and economic determinants of disparities in professional help-seeking for child mental health problems: Evidence from a national sample. *Health Services Research*, 40(5 I), 1514–1533. <http://doi.org/10.1111/j.1475-6773.2005.00411.x>