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Parents' Perceptions of Benefit of Children's Mental Health Treatment and Continued Use of Services

Sarah McCue Horwitz, Ph.D.,

Department of Pediatrics and Stanford Health Policy, Stanford University School of Medicine, Stanford, CA

Christine Demeter, M.A.,

Department of Psychiatry, Division of Child and Adolescent Psychiatry, Case Western Reserve University, Cleveland, OH

Margaret Hayden,

Department of Pediatrics, Stanford University School of Medicine, Stanford, CA

Amy Storfer-Isser, M.S., M.A.,

Statistical Research Consultants, LLC, Perrysburg, OH

Thomas W. Frazier, Ph.D.,

Center for Pediatric Behavioral Health and Center for Autism, Cleveland Clinic, Cleveland, OH

Mary A. Fristad, Ph.D.,

Department of Psychiatry, Division of Child and Adolescent Psychiatry, Ohio State University, Columbus, OH

L. Eugene Arnold, M.D.,

Department of Psychiatry, Division of Child and Adolescent Psychiatry, Ohio State University, Columbus, OH

Eric A. Youngstrom, Ph.D.,

Department of Psychology, University of North Carolina at Chapel Hill, Chapel Hill, NC

Boris Birmaher, M.D.,

Western Psychiatric Institute and Clinic, University of Pittsburg Medical Center and the Department of Psychiatry, University of Pittsburg, Pittsburgh, PA

David Axelson, M.D., and

Western Psychiatric Institute and Clinic, University of Pittsburg Medical Center and the Department of Psychiatry, University of Pittsburg, Pittsburgh, PA

Robert L. Findling, M.D., M.B.A

Department of Psychiatry, Division of Child and Adolescent Psychiatry, Case Western Reserve University, Cleveland, OH

Abstract

Objective—To examine characteristics associated with perceived benefit from outpatient mental health services for children and to determine whether perceived benefit is related to continued use of mental health services at a 6 month follow-up.

Corresponding Author: Sarah McCue Horwitz, Ph.D., 117 Encina Commons, Stanford, CA 94305-6019, T: 650.724.5924, F: 650.723.1919, sarah.horwitz@stanford.edu.

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Methods—Eligible children were first time users of the 9 LAMS (Longitudinal Assessment of Manic Symptoms) clinics, 6–12 years, English speaking with no other child in the household screened. Parents completed the Parent General Behavior Inventory 10-Item Mania Scale (PGBI-10M). Children scoring ≥ 12 were invited to participate and 55% agreed (621/1124). Socio demographic, diagnostic and services use data were collected at baseline and 6 months including a question asking parents to rate how much their children had benefited from the most recent outpatient treatment.

Results—29% of parents reported that the treatment their child was receiving benefited them “a lot.” At the baseline visit, perceived benefit was related to receiving medication or medication and therapy as compared to just therapy, higher functioning scores, LAMS site, no comorbid diagnoses, living with both biological parents and no prior hospitalizations of parents or siblings. At the six month follow-up, perceived benefit was related to continued outpatient mental health services use ($p < .0001$).

Conclusions—Perceived benefit of current treatment is related to type of treatment received; medication with or without therapy is perceived as more beneficial than therapy alone. Perceived benefit of treatment is strongly related to continued use of treatment.

Keywords

children’s mental health services; benefit; utilization

Introduction

Mental health problems in children are prevalent, debilitating disorders yet only half of the children with disorders receive services^{1,2} and those who do receive services frequently receive inadequate services.³ Children often come for an evaluation but fail to start treatment, prematurely terminate services, may not adhere to treatment recommendations and, given the slow diffusion of evidence-based practices into typical community-based services, may not receive an efficacious treatment.^{4–8}

Given that children rarely make their own treatment decisions, examinations of barriers to mental health treatment usually focus on parental and family factors. Although many theoretical models have been proposed to describe use of mental health treatment, a particularly useful model for explaining parental engagement has been described by Olin and colleagues, 2010.⁹ Using the Unified Theory of Behavior^{10,11} they proposed that parent engagement is focused on four primary constructs including beliefs and expectations, social norms, attitudes and self efficacy. Structural barriers include availability of services, transportation and insurance while perceptual barriers, include stigma, denial of need for treatment and questions about the effectiveness of services.^{12–20} For families who terminate early concerns about the cultural relevance of services, their comfort engaging with services and the lack of consideration of family preferences when selecting services appear to be important factors.^{5–8} Family treatment preference is especially important for medications, since many parents, particularly African American parents, prefer psychotherapy over medication.^{21–24} Kazdin and colleagues, as well as others, have established that parental ratings of the relevance of treatment is related to premature termination.^{5,21,25,26} Further, parental beliefs in the likely effectiveness of therapy appear to have a curvilinear relationship to treatment attendance.²⁵

Although similar to parental expectations of treatment effectiveness, largely absent from the investigation of barriers is attention to perceived benefit of current services even though the Olin et al model and available data suggest that parent involvement in child mental health treatment depends on perception of benefit.⁹ Data suggest that parental perceived risk of

antidepressants predicts fewer future child medication visits.²¹ Similarly, parental expectations are related to perceived barriers to treatment and appear to limit treatment efficacy.²⁴ Adult data suggest that patients who strongly preferred counseling and did not receive it were likely to forego treatment completely,²³ and that attendance at self-help groups for families of individuals with mental illness is related to perceived benefits.²⁷

Given the potential importance of parental perceived benefits of treatment early in the treatment process for utilization of child mental health services, we examined family and child characteristics related to perceived benefits from outpatient mental health services for children. Additionally, we examined whether benefit, assessed after the initial treatment visit, predicted continued outpatient mental health services use over a 6 month follow-up. Specifically, we tested the hypothesis: Parental rating of “a lot” of benefit from the current treatment measured early in the care process is related to mental health services use at a six month follow-up.

Method

Institutional Review Boards at each of the four university-affiliated LAMS sites (Case Western Reserve University, Cincinnati Children’s Medical Center, the Ohio State University, and the University of Pittsburgh Medical Center/Western Psychiatric Institute and Clinic) reviewed and approved all procedures in the protocol. Written informed consent from parents/guardians and assent from participants were obtained before any study-related procedures were performed.

Design

Parents/guardians of children between the ages of 6 years, 0 months and 12 years, 11 months who were new patients to LAMS outpatient clinics, spoke English, whose accompanying parent/guardian spoke English and who had not had a child living in the same household previously screened, were asked to complete the Parent General Behavior Inventory 10-Item Mania Scale (PGBI-10M)^{28,29} to screen for elevated symptoms of mania. The items that comprise the PGBI-10M describe hypomanic, manic, and biphasic symptomatology and have been reported to discriminate bipolar disorder in youth from other diagnoses.²⁹ Each patient whose parent/guardian rated the child at or above a score of 12 on the PGBI-10M was invited to participate in the longitudinal portion of the LAMS study. In addition, a smaller comparison group of patients who scored 11 or lower roughly matched in real time on age, sex, race, ethnicity, and Medicaid status was selected to enroll in the longitudinal portion of the study. More details concerning participant ascertainment and the rationale for the cut score of 12 on the PGBI-10M are described in Horwitz et al.³⁰ and Findling et al.³¹

Of the 1124 children with elevated symptoms of mania (≥ 12 on the PGBI-IOM), 621 or 55% accepted the invitation. There were no statistically significant sociodemographic differences (age, sex, race/ethnicity, insurance type) between children/families who did and did not agree to enroll in the longitudinal study. Children without elevated symptoms of mania (< 11 on the PGBI-IOM) were sampled with replacement (those who were approached, but refused, were replaced by another demographically matched youth scoring ≥ 11) resulting in 86 children without symptoms of mania also being included in the longitudinal cohort.³⁰ Baseline assessments were completed after the initial visit to the clinic and participants who continued to be eligible were seen every six months. At 6 months, 678 children (96%) remained eligible and the 573 with baseline benefit and treatment data (85%) were included in these analysis. Children in the LAMS study received treatment as usual initiated during their visit first to participating clinics.

Baseline Assessment

Demographics—Parents/guardians provided information on age, sex, race, ethnicity, parental education, health insurance status, whether the child was living with both biological parents and medical history.

Diagnoses—Children and their guardians were administered the Schedule for Affective Disorders and Schizophrenia for School-Age Children-Present and Lifetime Episode (K-SADS-PL)³² with additional depression and manic symptom items derived from the Washington University in St. Louis Kiddie Schedule for Affective Disorders (WASH-U K-SADS).^{33,34} Items to assess nonverbal communication, the child's relationship with others, shared enjoyment, and social-emotional reciprocity according to DSM-IV criteria were added to the K-SADS-PL to screen for pervasive developmental disorders. The resulting instrument, the K-SADS-PL-W, is a semi-structured interview that assesses current and lifetime psychiatric diagnoses and the time course of each illness.

Unmodified DSM-IV diagnostic criteria were used in the LAMS study. The criteria for BP-NOS were clarified for the LAMS study to follow the same criteria used in the Course and Outcome of Bipolar Youth study (COBY).³⁵ All diagnoses were reviewed and confirmed by a licensed child psychiatrist or psychologist.

Medication History—Each child's parent/guardian provided a complete history of the child's past and currently prescribed psychotropic medications during the interview.

Functional Assessment—The Children's Global Assessment Scale (CGAS) was completed by study interviewers to provide a severity rating of participants' current impairment.³⁶

Unfiltered manic and behavioral dysregulation was assessed by parent report on the PGBI-10M and the Young Mania Rating Scale (YMRS).³⁷ Filtered ratings of manic symptoms were rated on the K-SADS Mania Rating Scale (KMRS).³⁸ Unfiltered depressive symptoms were measured by the Children's Depression Rating Scale-Revised.³⁹ Filtered ratings of depressive symptoms were rated on the K-SADS Depression Rating Scale (KDRS).

Family Factors—Parent self reported mental health diagnoses as well as those for 1st and 2nd degree relatives were collected using the Modified Family History Screen.⁴⁰ Parents were asked whether they or any of the study child's siblings had received treatment or had been hospitalized for an emotional or behavioral problem. Parental stress was assessed by the Parent Stress Survey,⁴¹ and parental burden was assessed through 13 items from the Parent Stress Survey.⁴¹

Mental Health Services Use—The Services Assessment of Children and Adolescents (SACA) was completed at baseline and at each follow-up. The SACA documents mental health services use for inpatient, outpatient and school settings with detailed data on inpatient and outpatient services with excellent reliability and validity.^{42–44} Parents were asked about the most recent treatment children received (medication, therapy, medication and therapy or just an evaluation), to rate how well the most recent outpatient services matched their child's needs (not well, somewhat, very well) and how much their child had benefited from the most recent treatment (not at all, some, a lot). This last question served as an outcome for these analyses. The responses were dichotomized to examine the factors related to parents' perceptions of benefits of treatment (a lot versus some/not at all) and because in these analysis the some/not all responses showed similar patterns of relationships.

The SACA was used at the 6 month follow-up visit to establish whether children remained in services (scored yes or no).

Statistical Analyses

SAS version 9.2 was used to analyze the data; alpha was set at .05, and two-tailed tests were used for all analyses. Child and family characteristics were described using counts and proportions for categorical variables, medians, 25th and 75th percentile for skewed variables and means and standard deviations for normally distributed continuous measures. Bivariate associations of child and family characteristics with each outcome of interest were examined using univariable logistic regression analyses. Post-hoc pairwise comparisons were examined if the overall p-value was statistically significant; given the descriptive nature of the bivariate analyses, no adjustments were made for multiple comparisons. Multivariable logistic regression examined adjusted associations of child and family characteristics with each outcome, with site included as a design variable. The first model (model 1) of parent perception of benefit included site and the three clinical measures of interest: primary diagnosis, treatment, baseline child functioning; model 2 included those measures plus child and family characteristics that were statistically significantly related to parent perception of benefit in the bivariate analysis and days between screening (the initial clinic visit) and baseline assessment. The relation of parent perception of benefit from most recent treatment with continuation of treatment for six months was examined using a similar method. Model 1 included parent perception of benefit and site while model 2 additionally included child and family characteristics that were significantly related to continuation of treatment in the bivariate analysis. Results of the logistic regression analyses are summarized using adjusted odds ratios (aOR) and 95% confidence intervals (CI).⁴⁵

Results

Characteristics Associated with Perceived Benefit

Baseline characteristics for the entire sample and stratified by perceived benefit from treatment at baseline and continuation of treatment for six months are shown in Tables 1–3. Twenty nine percent (n=167) of the 573 parents reported that the treatment their child was receiving benefited them a lot, while 52% (n=299) reported some benefit and 19% (n=107) reported no benefit. Children living with both biological parents were more likely to have parents who reported benefit from most recent outpatient mental health treatment compared to children who lived with one or neither biological parent (36% vs. 26%, p=.01). Child clinical characteristics were consistently related to parent reported treatment benefit. Children with a primary diagnosis of Bipolar or Psychotic Disorders, Anxiety, or uncomplicated ADHD were more likely to have parents who reported considerable benefit compared to children with Disruptive Behavior Disorders. Children with a Depressive Disorder were less likely to have parents who rated their treatment as very beneficial compared to children with ADHD (26% vs. 41%, p=.03). Those children without comorbid diagnoses and fewer diagnoses had parents who were more likely to rate the most recent treatment as beneficial. Children who were only receiving psychosocial therapy were half as likely to have parents rate their most recent treatment as beneficial compared to children who were receiving medication with or without therapy (19% vs 36% and 35% respectively, p<.001).

Parents were more likely to rate treatment as beneficial if their child had higher C-GAS scores, lower CDRS-R scores and no immediate family member who had been hospitalized for a mental health problem. Parents in Cleveland were twice as likely to rate mental health services as beneficial (52% vs. 19%, 27% and 21%; all p<.001) compared to parents in the other three sites. There were no statistically significant differences in ratings of benefit

among the three other sites. Finally, the proxy measure of length of treatment, days between screening and the baseline interview, was positively associated with benefit.

Table 4 shows the results of the multivariable modeling of parent perception of a lot of benefit. Although diagnosis was no longer significantly related to perceived benefit of previous treatment, the other factors were (model 1). Compared to therapy alone, parents of children receiving medication had 1.81-fold increased odds of reporting considerable benefit (CI: 1.07–3.07) and parents of children receiving medication and therapy in combination had more than two-fold increased odds (aOR=2.17, CI: 1.31–3.58; overall p-value < .009). Similarly, functioning as measured by the C-GAS remained related to perceived benefit such that each 5-point increase in C-GAS score was associated with a 21% increased odds of perceived benefit (aOR=1.21, CI=1.07–1.36; p=.003). Model 2 also indicated that parents of children with no comorbid diagnoses had almost twice the odds of perceiving their treatment as beneficial (aOR=1.91; 95% CI=1.03–3.56; p=.04). Other factors remaining associated with perceived benefit in the model included site, living with both biological parents and never having had an immediate family member hospitalized for a mental health problem.

We next examined characteristics associated with remaining in services at the six month follow-up (Tables 1–3). Three-quarters of the children (n=435; 76%) continued to receive outpatient mental health services at the six-month follow-up. No child demographic characteristic including race/ethnicity was associated with continuation of treatment. Children who lived with both biological parents were more likely to continue outpatient treatment compared to children who lived with one or neither biological parent (83% vs. 73%, p=.01). A smaller proportion of children with Medicaid insurance continued outpatient treatment for six months compared to children who did not have Medicaid insurance (71% vs. 81%, p=.003). None of the child clinical characteristics at baseline were significantly related to continuation of treatment but clinical characteristics of the family, including fewer parent mental health problems (4.5 vs. 5.5, p=.02) and neither parents nor siblings having ever been hospitalized for a mental health problem (79% vs. 70%, p=.02), had positive associations with continuation of treatment. A majority (83%) of parents who perceived a lot of benefit from their child's most recent outpatient mental health treatment reported that their child continued with treatment for six months; fewer children continued with treatment if their parents perceived only "some" benefit (78%) or no benefit (60%).

The multivariable model predicting continued use of treatment showed that perceived benefit of treatment was significantly related to continued treatment at six months after adjusting for site (Table 5). Parents who perceived a lot of benefit from treatment had a 1.91 fold increased odds (CI: 1.19–3.08) of continuing treatment for six months compared to those who perceived some/no benefit. The only other baseline characteristic that was significantly associated with continuation of treatment for six months was living with both biological parents (aOR=1.59, CI: 1.00–2.52) (model 2).

Discussion

These analyses suggest that perceived benefit early in treatment may be an important predictor of remaining in treatment and that multiple factors are correlated with parents' perceptions of the benefit of treatment. Parents perceive treatment to be beneficial when their children's functioning is higher and when they have fewer symptoms as previously suggested in the literature.²⁴ Surprisingly, among the previously identified sociodemographic variables associated with perceived efficacy of treatment,^{21,24} only living with both biological parents was related to perceived benefit in this study population. Perhaps most striking was the association with benefit of receiving medication or medication and therapy as compared to therapy alone, similar to the MTA findings.⁴⁶ Given

the reported preference of parents, particularly minority parents, for counseling over medication^{18,24} this endorsement of benefit for medication may indicate that parents suspend their concerns about potential side effects when they believe medications have led to improvements in their children. Interestingly, race/ethnicity was not related to perceived benefit from treatment or continuing treatment at six months. In fact, African American and White children continued in treatment similarly (74% and 76% respectively) as did Latino and other/mixed race children (82% and 79%). This suggests that the often reported early termination of treatment by non-white children and families may be service-setting specific.

The relationship of perceived benefit to remaining in treatment, although not the same as, is consistent with Nock et al's finding that parent expectancies are related to premature termination.²⁴ Thus, as suggested by Olin et al⁹ discussing parents' perceptions of the benefits their children are receiving from treatment early in the treatment process may be a useful strategy to prevent premature termination.⁴⁷ Parental engagement in their children's mental health treatment has been shown to increase utilization and seeking input about treatment benefit may be an important part of such engagement.^{9,48}

As with all data, these have certain limitations. This is a cohort of outpatient utilizers that is enriched for symptoms of mania and collected in one geographical region. These children may not be representative of all users of child outpatient mental health services. Not all members of the study population had baseline treatment and benefit data although we could identify no child, family or clinical differences between those with and without these data. These treatment-utilization data are self report and no data were verified. Benefit from treatment consisted of one question and we collected no data on the quality of care children received from clinic records. The absence of data on the care received is important because of the differences in perceived benefit of treatment in Cleveland compared to the other sites. Because these children were recruited from outpatient mental health clinics, these data also provide no information on factors important for initially seeking services.

The relationship of perceived benefit from treatment to continued use of treatment is an important finding and one that could be used to develop strategies to engage families in treatment. Given the paucity of interventions that improve engagement and retention exploration of perceived benefit is warranted.⁴⁹ Future studies should also consider the child's perception of benefit^{50,51} as well as the interaction of parental and child perceptions of benefit. With efficacious mental health treatments available, initiating and maintaining children in treatment is critically important for assuring that they receive the care that potentially could improve their health.

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Table 1

Baseline Child Sociodemographic and Clinical Characteristics by Baseline Parent Perception of Benefit and Treatment at Six-Month Follow-up

	All n=573		Perceived Benefit--Most Recent Outpatient Mental Health Services				Treatment at Six Month Follow-up			
	N	%	None/Some n=406, 71%	N	%	Discontinued (n=138)	N	%	Continued (n=435)	p-value
Child Socio-demographic Characteristics										
Age	9.4 ± 1.9		9.4 ± 1.9	9.6 ± 2.0		9.4 ± 1.9		9.5 ± 1.9		.78
Sex-Female	184	32%	133	51	28%	40	28%	144	78%	.37
Race/Ethnicity:										
White	362	63%	252	110	30%	88	24%	274	76%	.80
African-American	136	24%	104	32	24%	35	26%	101	74%	
Latino	28	5%	16	12	43%	5	18%	23	82%	
Other	47	8%	34	13	28%	10	21%	37	79%	
Insurance:										
Not Medicaid	274	48%	185	89	33%	51	19%	223	81%	.003
Medicaid	299	52%	221	78	26%	87	29%	212	71%	
Biological parents in home:										
0 or 1	380	68%	283	97	26%	102	27%	278	73%	.01
2	180	32%	115	65	36%	31	17%	149	83%	
Primary Baseline diagnosis[†]										
BPSD/psychotic disorder	143	25%	98	45	32%	36	25%	107	75%	.66
Depressive disorder	94	16%	70	24	26%	22	23%	72	77%	
Anxiety disorder	38	7%	22	16	42%	6	16%	32	84%	
Disruptive behavior disorder	171	30%	136	35	21%	47	28%	124	73%	
ADHD	78	14%	46	32	41%	16	21%	62	80%	
Other diagnosis	49	9%	34	15	31%	11	23%	38	78%	
Comorbid diagnoses:										
No	132	23%	76	56	42%	30	23%	102	77%	.68
Yes	441	77%	330	111	25%	108	25%	333	76%	
Number of diagnoses	2.5 ± 1.3		2.7 ± 1.3	2.2 ± 1.2		2.5 ± 1.2		2.5 ± 1.3		.81

BPSD=bipolar spectrum disorder.

[†]Benefit at baseline: disruptive disorder significantly different from bipolar/psychotic ($p=.03$), anxiety ($p=.005$) and ADHD ($p<.001$); Depressive disorder significantly different from ADHD ($p=.03$).

Table 2
Baseline Child Clinical and Service Characteristics by Baseline Parent Perception of Benefit and Treatment at Six-Month Follow-up.

	All (n=573)		Perceived Benefit--Most Recent Outpatient Mental Health Services		A Lot (n=167)		p-value		Treatment at Six Month Follow-up				
	N	%	N	%	N	%	N	%	Discontinued (n=138)	Continued (n=435)	N	%	p-value
Type of baseline outpatient treatment[‡]:													
Therapy only	211	37%	172	82%	39	19%			56	155	56	74%	
Medication only	174	30%	114	66%	60	35%	<.001		42	132	42	76%	.47
Medication & Therapy	188	33%	120	64%	68	36%			40	148	40	78%	
C-GAS score	54.9 ± 10.3		53.9 ± 10.2		57.5 ± 10.0		<.001		54.3 ± 10.5	55.1 ± 10.2			.42
C-GAS score 51:													
No	213	37%	169	79%	44	21%			51	162	51	76%	.97
Yes	357	63%	236	66%	121	34%	<.001		86	271	86	76%	
Children's Depression Rating Scale-Revised	34.8 ± 11.0		35.6 ± 11.0		32.8 ± 10.5		.006		34.2 ± 9.9	35.0 ± 11.3			.44
Young Mania Rating Scale	16.8 ± 9.3		17.2 ± 9.3		15.8 ± 9.2		.12		15.8 ± 8.6	17.1 ± 9.5			.15
PGBI-10M	12.9 ± 7.2		13.0 ± 7.4		12.7 ± 7.0		.69		13.7 ± 7.6	12.7 ± 7.1			.16
Elevated mania symptoms:													
Negative	73	13%	46	63%	27	37%			14	59	14	81%	.29
Positive	500	87%	360	72%	140	28%	.11		124	376	124	75%	
Days between screening and baseline assessment; median (25th, 75th percentile)	36 (20, 62)		34 (20, 56)		43 (23, 75)		.004		37 (18, 62)	36 (20, 62)			.88

[‡]Therapy only significantly different from medication only (p<.001) and medication & therapy (p<.001). C-GAS scores range from 1–100 with higher scores indicating better functioning.

Children's Depression Rating Scale-Revised scores range from 17 to 113 with higher scores indicating more depression.

Young Mania Rating Scale scores range from 0 to 60 with higher scores indicating more manic symptoms. PGBI-10M scores range from 0 to 30 with higher scores indicating more manic symptoms.

Table 3
Baseline Family Characteristics by Baseline Parent Perception of Benefit and Treatment at Six-Month Follow-up

	All (n=573)		Perceived Benefit--Most Recent Outpatient Mental Health Services				Treatment at Six Month Follow-up			
	N	%	None/Some (n=406)	A Lot (n=167)	p-value	Discontinued (n=138)	Continued (n=435)	p-value		
Parent Education:										
< High school	54	10%	39	15	28%	13	41	76%		
High school/GED	138	24%	98	40	29%	32	106	77%		
Some college/A.S.	263	47%	192	71	27%	73	190	72%		
4-year college degree or higher	110	20%	72	38	35%	17	93	85%		
Parent reported diagnoses	4.7 ± 4.2		4.9 ± 4.3	4.3 ± 3.7	.16	5.5 ± 4.1	4.5 ± 4.2	.02		
Parental burden	4.5 ± 2.8		4.6 ± 2.8	4.3 ± 2.8	.35	4.4 ± 3.0	4.5 ± 2.8	.67		
Parent stress	8.7 ± 4.3		8.9 ± 4.4	8.3 ± 4.2	.14	8.4 ± 4.5	8.9 ± 4.3	.26		
Parent or sibling prescribed medication for psychological or emotional problem										
No	198	35%	135	63	32%	48	150	76%		
Yes	375	66%	271	104	28%	90	285	76%		
Parent or sibling hospitalized for psychological or emotional problem										
No	406	71%	274	132	33%	87	319	79%		
Yes	167	29%	132	35	21%	51	116	70%		
Study site										
CWRU	136	24%	66	70	52% ^a	34	102	75%		
Cincinnati	151	26%	122	29	19% ^b	26	125	83%		
OSU	142	25%	104	38	27% ^b	38	104	73%		
Pittsburgh	144	25%	114	30	21% ^b	40	104	72%		

* Post-hoc pairwise comparisons show that CWRU is significantly different from the other 3 sites.

Parent burden scores range from 0 to 52 with higher scores indicating more burden.

Parent stress scores range from 0 to 100 with higher scores indicating more stress.

Table 4 Child and Family Characteristics Associated with Baseline Parent Perception of A Lot of Benefit From Most Recent Outpatient Mental Health Services

Child/Family Characteristic	Model 1		Model 2	
	aOR	CI	aOR	CI
Primary baseline diagnosis				
Bipolar spectrum disorder				
Depressive disorder	.96	.51-1.83		
Anxiety disorder	2.37	1.03-5.45		.07
Disruptive behavior disorder	.77	.43-1.38		
ADHD	1.28	.64-2.53		
Other diagnosis	1.16	.54-2.50		
Baseline treatment				
Therapy only				
Medication only	1.81	1.07-3.07		.003
Medication & therapy	2.17	1.31-3.58		
Baseline CGAS (per 5-point increase)	1.21	1.07-1.36		.003
Site				
Case Western Reserve University				
Cincinnati	.25	.14-.44		<.001
Ohio State University	.61	.34-1.12		
Pittsburgh	.33	.18-.60		
Comorbidities				
None vs. 1 comorbidities			1.91	1.03-3.56
Biological parents in the home				
Both vs. neither or one parent			1.61	1.06-2.47
Parent/sibling hospitalized for psychological/emotional problem				
No vs. Yes			1.80	1.12-2.92

-reference- Indicates the comparison group for the odds ratios.

Table 5

Baseline Parent Perception of Perceived Benefit from Most Recent Outpatient Mental Health Services Predicts Continued Child Outpatient Mental Health Services Parent Treatment at 6 months

	Model 1			Model 2		
	aOR	CI	P	aOR	CI	P
Perceived benefit from treatment at baseline						
A lot vs. some/none	1.91	1.19–3.08	.008	1.96	1.19–3.21	.008
Biological parents in the home						
Both vs. neither or one parent				1.59	1.00–2.50	.05
Site						
Case Western Reserve University						
Cincinnati	1.96	1.08–3.56	.08	1.81	.98–3.36	.14
Ohio State University	1.06	.61–1.85		.99	.56–1.74	
Pittsburgh	1.05	.60–1.82		1.00	.57–1.75	

-reference- Indicates the comparison group for the odds ratios.