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Use of Outpatient Mental Health Services Among Children of Different Ages: Are Younger Children More Seriously Ill?

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Abstract

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Objective—The study compared use of specialty outpatient mental services among children ages six and seven and children ages eight through 12 and investigated predictors of differences in the patterns of service use by age.

Methods—Eligible children were first-time patients of clinics participating in the Longitudinal Assessment of Manic Symptoms who were between ages six and 12 and who were English speaking. Children who screened positive for symptoms of mania (N=1,124) were invited to participate, and families of 621 (55%) children consented. A matched sample of 86 children without a positive screen for mania also participated. Baseline interviews assessed sociodemographic characteristics of the child and family and the child's functioning, diagnoses, and use of services.

Results—Of the 707 children, 30% were younger, and 50% used multiple types of specialty outpatient services. Younger children were more likely to be male, have Medicaid insurance, and have two parents with mental health problems. Use of multiple types of services was related to study site, high depression scores, fewer minor health issues, and fewer stressful life events among younger children and with parental stress, primary diagnosis, poor functioning, and not living with both parents among older children. Younger children were much more likely than older children to have used services before age six.

Conclusions—Younger children showed very early use of multiple types of services for mental health problems and a pattern of persistent impairment despite long-standing use of services. These data argue strongly for focusing on emotional and behavioral issues among young children.

Since the 1950s, epidemiological studies have shown that a very high percentage of children have mental health problems. The studies also have shown that the types of problems children experience differ by age, the distribution of types of problems among boys and girls changes with age, and a majority of children with mental health problems do not receive services for those problems (1). Although these data have been helpful in highlighting the extent and impact of children's mental health problems, they have important limitations. Except for the National Comorbidity Survey Replication Adolescent Supplement (a survey of children ages 13–18) (2), no nationally representative study has employed diagnostic assessments, examined rates and types of disorders across the full age range of childhood and adolescence, and followed a full pediatric age range cohort longitudinally. Nearly every study has found, however, increasing rates of diagnoses and use of mental health specialty sector services as children age (3–5).

Given that so few children receive services and even fewer young children (under age eight) receive services in the mental health specialty sector (3,4), relatively little research has examined child or family characteristics related to service use or described the characteristics of children who visit any type of outpatient mental health services. In general, community-based studies suggest that children with lower functioning, disruptive behavior disorders and depression, and less positive family environments are more likely than other children to receive services. Children who have no insurance or who are from minority racial-ethnic groups receive fewer services compared with other children.

In one of the few studies to examine children who present to outpatient mental health services, Garland and others (6) found that disruptive behavior disorders were more frequent

than anxiety or mood disorders. Prevalence of conduct disorder and anxiety disorders increased with age, whereas prevalence of attention-deficit hyperactivity disorder (ADHD) diagnoses decreased with age. Wood and others (7) examined the same cohort and documented that children who received school services before age six were more likely to receive mental health services and that children from racial-ethnic minority groups received services at later ages than whites. In a study of the same cohort, Hazen and others (8) reported a strong association between age and use of inpatient and nonspecialty outpatient services.

Epidemiological literature suggests that young children are less likely than older children to receive a mental health diagnosis or receive a mental health service and that, in general, children with more impaired functioning are more likely than those with less impairment to receive mental health services. The scant data on children who access such services suggest that there were differences in diagnoses by age, but this literature has not focused on whether young utilizers may be more severely impaired than older utilizers. Given the scarcity of services for young children and the increasing recognition that mental health problems begin in the preschool years and are likely to be long lasting (9–11), understanding the unique needs of young children is important.

To fully understand the mental health needs of young children, it is particularly important to focus on younger service utilizers rather than simply evaluate age as a possible predictor of mental health services use. This study examined diagnoses and functioning, parental and family characteristics, and use of services among patients at nine child outpatient mental health clinics. The analyses focused on three specific questions: Were there differences in diagnoses and functioning among younger (ages six and seven) children versus older children (ages eight through 12)? Did the characteristics of parents and families that are associated with use of multiple types of specialty outpatient mental health services differ between younger and older children? Did patterns of use of mental health services and age at first use differ between young and older children?

Methods

Sample

The population consisted of children who were between ages six and 12 years, 11 months, on their first visit to one of the nine child outpatient clinics associated with the four Longitudinal Assessment of Manic Symptoms (LAMS) university partners. The LAMS study was designed to examine the evolution of diagnoses, functioning, and use of mental health services of children with mania-like symptoms. Parents or guardians accompanying eligible children were approached by using procedures approved by each university's or hospital's institutional review board. After consenting, adults were asked to complete the ten-item Parent General Behavior Inventory Mania Form (PGBI-10M) in addition to questions about sociodemographic characteristics (12). Of 3,329 study families visiting participating clinics, 2,622 (79%) agreed to screening. Nearly half (N=1,124, 43%) scored above the PGBI-10M a priori cutoff of 12, indicating a positive screen for elevated symptoms of mania. Of the 1,124 children with positive screens, 13 were ineligible because

of a parent's report of a diagnosis of autism or an IQ <70. Of the 1,111 children eligible for longitudinal follow-up, 621 parent-child dyads agreed to participate.

For every ten children with a positive screen, we selected one child with a negative screen as a potential comparator. Using minimization methods, we selected a sample of the children with negative screens as a comparison group to match the "modal" positive child in each time segment (13). Eighty-six dyads of parents and children with negative screens agreed to participate. The study's design and sample selection as well as sociodemographic data for all children screened have been described previously (14). Families who agreed to participate in the longitudinal portion of the study were scheduled for a baseline interview, which is also described elsewhere (15).

Measures

Demographic characteristics—The children's age, sex, race-ethnicity, insurance status, family composition, socioeconomic status, and parents' education and employment were recorded. Consistent with a study by Leslie and others (5), child's baseline age was categorized as six or seven years or as eight through 12 years.

Family factors—One parent was interviewed by using the modified Family History Screen to determine mental health diagnoses for both parents as well for as first- and second-degree relatives (16). Parental stress was assessed by the Parent Stress Survey (PSS) (17); possible scores range from 0 to 25, with higher scores indicating a greater number of stressful parenting events.

Children's psychiatric disorders and symptoms—The children's current and past psychiatric disorders were assessed by a survey administered to both the children and their guardians (Kiddie Schedule for Affective Disorders and Schizophrenia [K-SADS] for School-Age Children—Present and Lifetime Version [K-SADS-PL-W], a version of the K-SADS-PL that is supplemented with additional mood onset and offset items from the Washington University in St. Louis K-SADS [18,19]). *DSM-IV* items to screen for pervasive developmental disorders were added. Children with comorbid disorders were counted only in the most severe diagnostic category, by using the following hierarchy of most to least severe disorders: bipolar disorder or psychotic disorder, depressive disorder, anxiety disorder, disruptive behavior disorders, ADHD, pervasive developmental disorders, other disorders, and no diagnosis. This order was designed to provide the most information about disorders on the mood spectrum (20), which is the main area of investigation of the LAMS. For example, a child with bipolar and anxiety disorder was included only in the bipolar disorder category. Regardless of hierarchical classification, all diagnoses were taken into account when the impact of comorbid disorders was investigated.

The Children's Depression Rating Scale—Revised was used to assess depressive symptomatology. This 17-item interview involves both the child and parent and has good psychometric properties. Possible scores range from 17 to 133, with higher scores indicating greater depressive symptomatology (21,22).

Child functioning and quality of life—The Children’s Global Assessment Scale (CGAS) measured children’s overall level of functioning at home, at school, and with peers (23). Scores range from 1 to 100, with lower scores indicating more significant impairment. Interviewers completed ratings for the child’s current functioning (past two weeks) and for the most severe past episode of psychiatric illness.

The adolescent version of the Longitudinal Interval Follow-up Evaluation (A-LIFE) assesses current and previous six-month global social adjustment and overall interpersonal functioning; possible scores range from 1, very good, to 5, very poor (except for school scores, which range from 1 to 6) in each area of functioning (for example, school and primary caregiver). Areas that are not applicable (for example, no secondary caregiver) are scored 0. The total functioning, school, and recreational scores are summed to create overall current and previous functioning scores (24).

The Revised Children Quality of Life Questionnaire (the English version of the German KINDL-R), parent report, measures quality of life among healthy and ill children. It has six quality-of-life subscales—physical, emotional, self-esteem, family, friends, and school. Possible scores range from 0 to 100, with higher scores indicating better functioning. The scale has been validated in many languages, across the age range of the LAMS’ participants, and across a range of health conditions, including mental health conditions (25–28).

Stressful life events—The parent-reported Stressful Life Events Schedule collected information on the occurrence, date, duration, and perceived threat of events experienced by youths. It also allows for determination of whether an event was independent of or dependent on the youth’s behaviors. Possible scores range from 0 to 80, with higher scores indicating a greater number of stressful life events. The Stressful Life Events Schedule has shown good test-retest reliability ($\kappa=.68$) and has two versions, for children ages six through 12 and adolescents ages 13–17 (29).

Use of services—The Service Assessment of Children and Adolescents (SACA), parent version, gathered information about use of various types of child mental health services in three broad domains: inpatient, outpatient, and school. The SACA was used to collect information on lifetime and current service utilization (30,31). In addition, type of treatment received (therapy, medication, both, other, and unknown) and type of medication are also collected.

Definition of terms

Specialty outpatient mental health services utilization was defined as any use of a mental health clinic, community mental health counselor or professional, partial hospitalization, drug or alcohol clinic, and in-home therapist or counselor. Use of multiple types of mental health services was defined as parent report of use of two, three, or four types of mental health services; use of a single service or no services was defined as use of one type of service or no services. Use of mental health services in general medical settings was defined as use of a pediatrician, a family doctor, or an emergency room for a mental health problem.

Analyses

Descriptive statistics, including means and percentages, were used to describe demographic, clinical, and service use variables. Bivariate comparisons of younger versus older children and multiple types versus no or single type of mental health service were conducted by using chi square analyses (or Fisher's exact test when cells showed low expected frequencies) for categorical variables and two-sample t tests for continuous measures. Logistic regression analyses evaluated relationships of child clinical, family, and demographic characteristics and utilization of multiple types of mental health services by children in the two age groups after adjustment for study design variables (study site and the presence of manic symptoms). A value of $p < .05$ was considered to be statistically significant; no adjustments were made for multiple comparisons in these exploratory analyses. All analyses used SAS, version 9.2.

Results

The sample included 707 children, of whom 210 (30%) were ages six or seven, 351 (50%) were users of multiple types of mental health services, and 621 (88%) screened positive for symptoms of mania. Table 1 displays sociodemographic characteristics of younger versus older children and of users of no or a single type of mental health services versus multiple types of services. Table 2 presents the children's diagnoses and functioning measures broken out by age group and by use of mental health services.

The younger group was slightly more likely to be male, be insured by Medicaid, have two parents with mental health problems, and have elevated symptoms of mania (Table 1). Parents of younger children, however, reported less stress than parents of older children (PSS scores of 7.97 versus 9.07, $p = .002$). Younger and older children did not differ significantly by race-ethnicity, by parent education, and by whether the child lived with both parents.

Children who used multiple types of services were more likely than users of no or single services to be older, to have Medicaid coverage, and to be unequally distributed across the four study sites. Users of multiple types of services were less likely to live with both parents, and their parents reported more stress. Children's sex and race-ethnicity, parent education and mental health problems, and children's symptoms of mania were not related to service utilization.

Younger children were diagnosed as having disruptive behavior disorders more often than older children, who were more likely to have mood disorders (Table 2). Older children also had higher scores for depressive symptom severity, more stressful life events, and lower functioning/quality of life (KINDL-R scores). Notably, type of outpatient mental health treatment received at baseline, number of diagnoses, use of antipsychotic medications, and overall functioning (CGAS and A-LIFE scores) did not differ between younger and older children.

Not surprisingly, primary diagnosis (bipolar spectrum disorders), lower functioning as measured by the A-LIFE, and a lower score on the KINDL-R friends subscale were related to use of multiple types of outpatient service. Further, users of multiple types of services

were much more likely to receive outpatient mental health treatment that consisted of both therapy and medication, less likely to receive therapy alone, and considerably more likely to be receiving an antipsychotic medication.

To examine further the relationship between characteristics of children of younger versus older ages and use of multiple types of mental health services, we developed logistic regression models by age group (Table 3). For younger children, study site, high depression scores, and a higher score on the physical subscale of the KINDL-R (indicating fewer minor health issues) were related to use of multiple types of mental health services, and a high score on the Stressful Life Events Schedule was associated with decreased odds of use of multiple types of outpatient mental health services. For older children, study site, higher parental stress, primary diagnosis, and poorer previous functioning (A-LIFE total scores) were related to use of multiple types of outpatient mental health services; living with both parents was related to use of a single service or of no services. Parental stress was higher in two-parent families (data not shown).

Children in both age groups first utilized outpatient mental health services at approximately three years of age (Table 4). Younger children were less likely to have seen a psychiatrist or to have used multiple types of outpatient mental health services. However, there were no differences by age group in use of school services or outpatient mental health services before being seen in a LAMS clinic. Younger and older children, however, differed dramatically in age at first inpatient hospitalization (5.54 versus 8.23, $p < .001$) and age at first use of a mental health service in a general medical setting (4.73 versus 6.36, $p < .001$).

To examine more closely differences in the timing of service use by age group, we next examined whether the proportion of children who used services before age six differed between younger and older children (Table 4). Younger children were considerably more likely than older children to have utilized services before age six (inpatient, 46% versus 16%, $p = .03$; specialty outpatient, 42% versus 26%, $p < .001$; and mental health services within general medical settings, 65% versus 40%, $p < .001$).

Discussion

These data provide a rich, rarely available look at patients of child mental health outpatient clinics located in the community and at academic medical centers. They point to clear differences between younger and older utilizers of services. Younger children were more likely to be male, insured through Medicaid, have a disruptive behavior disorder diagnosis, come from families where both parents have mental health problems, have fewer stressful life events and fewer minor health issues, and score high for symptoms of mania and depression. Although younger children scored higher on the KINDL-R physical health measure, their overall functioning as measured by the CGAS was not statistically significantly different from older children, suggesting that although young children may have fewer minor health issues, like older children they have major deficits in functioning. Overall, these data suggest that younger utilizers of specialty outpatient services came from resource-poor families with considerable psychopathology.

For eight- to 12-year-olds in the LAMS cohort, use of multiple types of mental health services was related to characteristics commonly cited in the extant literature—diagnosis of bipolar spectrum disorders, psychosis, or depressive disorder and unfavorable family factors, such as living with one parent and parental stress. The importance of parental factors in use of services has been long identified (4) and remains an important influence. The absence of a significant association between parental stress and single parenthood and use of multiple types of services among younger children may be due to several reasons. First, it may be that stress is important only when coupled with the burden of being a single parent. Possibly the child's problems even contribute to the parents' separation by the time the child reaches the older age range. Second, young children's problems may not exacerbate already existing parental stress in the same way as do older children's problems, so that parental stress is not associated with use of multiple types of outpatient services at the younger age. Chronic exposure to the child's problems may be necessary to finally convince parents to seek mental health help for the child and to seek multiple types of services. It could also be that stress accumulates as children age, particularly children whose functioning may predispose them to poor interactions with their peers.

The most striking differences between younger and older users of child mental health services was their use patterns. Although younger children first started using outpatient services around the same time as older children (around age three) and they were somewhat less likely to have been hospitalized for a mental health problem (6% versus 11%, $p=.06$), when they were hospitalized it occurred at a much younger age than among older children (5.54 versus 8.23 years, $p<.001$), suggesting that their symptoms and functioning were quite concerning. A similar pattern was seen for age at first use of mental health services and of a general medical setting for a mental health problem. Thus, for most specialized services, younger utilizers started their service itineraries at much younger ages.

Furthermore, these data speak to the importance of the general medical system as a provider of mental health services to preschool children. The fact that 65% of young children and 40% of older children in the LAMS cohort received mental health care in a general medical setting before age six speaks loudly for integration of general medical and mental health care, particularly for young children, and for improving primary care providers' identification, management, and referral of these problems.

These data had limitations. The cohort was screen-enriched for symptoms of mania and thus is not representative of all users of outpatient child mental health services. In fact, 57% of children visiting the nine outpatient clinics did not score high enough for manic symptoms to qualify for study inclusion. That 43% of children scored high for symptoms of mania is not surprising, given that high rates of mania among clinically referred children have been reported previously (32–34). Similarly, participants were recruited in four Midwestern cities, and the results may not be generalizable to the entire United States. Indeed, even within that limited geographic area, some site differences were found. All data were parent and child reports; no attempts were made to verify service utilization. Thus reporting biases may have been present. Diagnosis may be more difficult among young children than among older children, and the diagnoses may be less stable. Perhaps the most important limitation is that this was a cross-sectional snapshot that involved a comparison of age cohorts. To determine

whether differences in the diagnostic evolution and use of high-end mental health services between younger and older utilizers of service continued, prospective LAMS data will need to be examined.

Conclusions

The findings present a picture of very early use of multiple types of services for mental health problems among six- and seven-year-olds at nine outpatient clinics in four Midwestern cities. The six- and seven-year-olds began using services at an average age of three years, and 6% had been hospitalized, on average, at age six. A total of 46% who had had an inpatient hospitalization had been hospitalized before six years of age. In addition, their functioning suggests that they had considerable and persistent impairment, despite longstanding, substantial, and multiple interventions, and that they came from resource-challenged families with considerable parental psychopathology. All of these factors argue strongly for focusing attention on the emotional, behavioral, and service use issues for very young children, given that their problems and use of services appear to be persistent even at a very young age.

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Table 1
 Characteristics of 707 children in the Longitudinal Assessment of Manic Symptoms, by age and number of types of services used

Characteristic	Age of child ^a				Use of services				p
	Younger (N=210)		Older (N=497)		Single type or none (N=356)		Multiple types (N=351)		
	N	%	N	%	N	%	N	%	
Age									.007
6 or 7			122	34	88	25			
8-12			234	66	263	75			
Male	157	75	321	65	238	67	240	68	.665
Race									.128
White	125	59	330	66	242	68	213	61	
African American	60	29	127	26	85	24	102	29	
Other	25	12	40	8	29	8	36	10	
Hispanic ethnicity	7	3	24	5	15	4	16	5	.823
Medicaid primary insurance	122	58	248	50	169	48	201	57	.009
Lives with both parents	66	32	157	32	131	38	92	27	.002
Both parents have mental health problems	135	67	268	56	196	57	207	62	.203
Both parents have mood disorder	34	16	83	17	58	17	59	17	.893
Parent education									.488
Less than high school	16	8	50	10	33	9	33	10	
High school or GED	47	22	125	26	81	23	91	26	
Some college or associate's degree	110	53	217	44	165	47	162	47	
Four-year college degree or higher	36	17	96	20	74	21	58	17	
Parental stress (M±SD score) ^b	7.97±4.38		9.07±4.27		8.16±4.27		9.34±4.31		<.001
Site ^c									<.001
CWRU	42	20	129	26	43	12	128	36	
Cincinnati	50	24	123	25	129	36	44	13	
OSU	60	28	124	25	111	31	73	21	
Pittsburgh	58	28	121	24	73	21	106	30	
Positive screen for mania symptoms	195	93	426	86	306	86	315	90	.123

^aYounger children were ages 6 or 7; older children were ages 8–12.

^bMeasured by the Parent Stress Survey. Possible scores range from 0 to 25, with higher scores indicating a greater number of stressful parenting events.

^cCWRU, Case Western Reserve University; OSU, Ohio State University

Diagnoses and level of functioning of 707 children in the Longitudinal Assessment of Manic Symptoms, by age and number of types of services used

Table 2

Variable	Age of child ^a						Use of services					
	Younger (N=210)			Older (N=497)			Single type or none (N=356)			Multiple types (N=351)		
	N	%	P	N	%	P	N	%	N	%	P	
Diagnoses			.154								.103	
0	1	1		13	2		8	2	6	2		
1	44	21		104	21		81	23	67	19		
2	63	30		168	34		116	33	115	33		
3	57	27		118	24		89	25	86	24		
4	45	21		94	19		62	17	77	22		
Primary diagnosis			.005								.002	
Bipolar spectrum or psychotic disorder	43	20		129	26		63	18	109	31		
Depressive disorder	24	11		100	20		63	18	61	17		
Anxiety disorder	14	7		29	6		23	6	20	6		
Disruptive behavior disorder	82	39		130	26		121	34	91	26		
ADHD	29	14		62	12		49	14	42	12		
Other	18	9		47	10		37	10	28	8		
CDRS-R (M±SD score) ^b	32.3±9.8		<.001	35.8±11.0			34.4±10.5		35.1±11.0		.389	
CGAS (M±SD score) ^c	53.8±10.2		.229	54.9±10.4			54.8±10.0		54.3±10.6		.539	
SLES (M±SD score) ^d	8.06±5.40		<.001	9.99±5.84			9.14±5.58		9.70±5.96		.183	
A-LIFE (M±SD score) ^e												
Previous functioning	11.08±2.88		.070	11.49±2.75			11.13±2.77		11.62±2.80		.020	
Current functioning	10.71±3.01		.468	10.89±2.87			10.59±2.86		11.09±2.94		.022	
KINDL-R (M±SD score) ^f												
Physical	74.2±15.7		<.001	67.5±20.3			69.2±18.0		69.8±20.5		.659	
Emotional	77.0±16.3		<.001	70.9±17.9			73.3±17.2		72.1±18.1		.363	
Friends	62.3±19.6		.027	58.7±19.2			61.9±19.6		57.6±19.0		.004	
Overall	62.9±12.0		<.001	58.3±12.2			60.4±12.0		58.9±12.6		.105	
Outpatient treatment at baseline			.737								<.001	

Variable	Age of child ^a				Use of services						
	Younger (N=210)		Older (N=497)		Single type or none (N=356)			Multiple types (N=351)			
	N	%	N	%	N	%	N	%	N	%	P
Therapy only	55	26	110	22	99	28	66	19			
Medication only	61	29	144	30	109	31	96	28			
Therapy and medication	69	33	171	35	86	25	154	44			
Other or unknown	25	12	65	13	57	16	33	9			
Antipsychotic medication	47	22	110	22	53	15	104	30	.942		<.001

^a Younger children were ages 6 or 7; older children were ages 8–12.

^b Children's Depression Rating Scale-Revised. Possible scores range from 17 to 113, with higher scores indicating greater depressive symptomatology.

^c Children's Global Assessment Scale. Possible scores range from 1 to 100, with higher scores indicating less impairment.

^d Stressful Life Events Schedule. Possible scores range from 0 to 80, with higher scores indicating a greater number of stressful life events.

^e Adolescent version of the Longitudinal Interval Follow-up Evaluation. Possible scores range from 4 to 20, with higher scores indicating lower functioning.

^f The KINDL-R is a parent-report measure of children's quality of life that has been translated into many languages, including English, from the original German. Possible scores range from 0 to 100, with higher scores indicating better functioning.

Table 3

Association of sociodemographic and clinical characteristics and use of multiple types of outpatient mental health services among younger and older children^a

Characteristic	Younger (N=210)			Older (N=497)		
	OR	95% CI	p	OR	95% CI	p
Site (reference: CWRU) ^b			<.001			<.001
Cincinnati	.21	.08–.55		.05	.03–.10	
OSU	.26	.11–.64		.15	.08–.28	
Pittsburgh	1.04	.44–2.47		.36	.19–.68	
Positive screen for mania symptoms (reference: negative screen)	1.19	.35–4.01	.780	1.05	.57–1.94	.881
Child lives with both parents (reference: 1 parent)		ns		.58	.36–.91	.019
Parental stress (per 1-point increase) ^c		ns		1.10	1.04–1.16	<.001
Primary diagnosis (reference: other)						.041
Bipolar spectrum or psychotic disorder				1.59	.67–3.75	
Depressive disorder				.64	.27–1.52	
Anxiety disorder		ns		2.37	.74–7.60	
Disruptive behavior disorder				.94	.41–2.14	
ADHD				.78	.31–1.94	
A-LIFE score, previous functioning scale (per 1-point increase) ^d		ns		1.10	1.01–1.20	.029
SLES score (per 5-point increase) ^e	.68	.50–.94	.018		ns	
KINDL-R physical subscale score (per 10-point increase) ^f	1.42	1.13–1.80	.003		ns	
CDRS-R score (per 5-point increase) ^g	1.32	1.08–1.61	.006		ns	

^aYounger children were ages 6 or 7; older children were ages 8–12.

^bCWRU, Case Western Reserve University; OSU, Ohio State University

^cMeasured by the Parent Stress Survey. Possible scores range from 0 to 25, with higher scores indicating a greater number of stressful parenting events.

^dAdolescent version of the Longitudinal Interval Follow-up Evaluation. Possible overall scores for the previous functioning subscale range from 4 to 20, with higher scores indicating lower functioning.

^eStressful Life Events Schedule. Possible scores range from 0 to 80, with higher scores indicating a greater number of stressful life events.

^fThe KINDL-R is a parent-report measure of children's quality of life that has been translated into many languages, including English, from the original German. Possible scores on the physical subscale range from 0 to 100, with higher scores indicating better functioning.

^gChildren's Depression Rating Scale-Revised. Possible scores range from 17 to 113, with higher scores indicating greater depressive symptomatology.

Table 4

Lifetime use of mental health services among children receiving specialty outpatient mental health services, by age^a

Variable	Younger (N=210)		Older (N=497)		p
	N	%	N	%	
Age at first use of services (M±SD)	3.01±1.04		3.11±1.63		.652
Age <6 years at first use of services	51	98	73	92	.243
Ever seen a psychiatrist	108	51	303	61	.019
Ever hospitalized for mental health problem	13	6	53	11	.062
Age at first inpatient hospitalization (M±SD)	5.54±1.51		8.23±2.30		<.001
Age <6 years at first inpatient hospitalization	6	46	8	16	.028
Use of medication at study entry	130	62	318	64	.600
Use of outpatient mental health services prior to study entry	171	81	426	86	.151
Use of school services prior to study entry	94	45	254	51	.124
Specialty outpatient mental health services					
Multiple types	88	42	263	53	.007
Age at first use (M±SD)	5.54±1.30		7.22±2.45		<.001
Age <6 years at first use	81	42	125	26	<.001
Mental health care services in general medical settings					.646
Services used					
0	79	38	203	41	
1	120	57	265	53	
2	11	5	29	6	
Age at first use (M±SD)	4.73±1.49		6.36±2.49		<.001
Age <6 years at first use	84	65	118	40	<.001

^aYounger children were ages 6 or 7; older children were ages 8–12.