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## Prevalence and Treatment of Mental Disorders Among US Children in the 2001–2004 NHANES

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### Abstract

**OBJECTIVE**—This article presents the 12-month prevalence estimates of specific mental disorders, their social and demographic correlates, and service use patterns in children and adolescents from the National Health and Nutrition Examination Survey, a nationally representative probability sample of noninstitutionalized US civilians.

**METHODS**—The sample includes 3042 participants 8 to 15 years of age from cross-sectional surveys conducted from 2001 to 2004. Data on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* criteria for mental disorders were derived from administration of selected modules of the National Institute of Mental Health Diagnostic Interview Schedule for Children, version IV, a structured diagnostic interview administered by lay interviewers to assess psychiatric diagnoses of children and adolescents.

**RESULTS**—Twelve-month prevalence rates of Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition—defined disorders in this sample were 8.6% for attention-deficit/hyperactivity disorder, 3.7% for mood disorders, 2.1% for conduct disorder, 0.7% for panic disorder or generalized anxiety disorder, and 0.1% for eating disorders. Boys had 2.1 times greater prevalence of attention-deficit/hyperactivity disorder than girls, girls had twofold higher rates of mood disorders than boys, and there were no gender differences in the rates of anxiety disorders or conduct disorder. Only approximately one half of those with one of the disorders assessed had sought treatment with a mental health professional.

**CONCLUSION**—These data constitute a first step in building a national database on mental health in children and adolescents.

### Keywords

mental disorders; children; epidemiology; services; National Health and Nutrition Examination Survey

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Recent attention in the media to the diagnosis,<sup>1,2</sup> prevalence,<sup>3</sup> and treatment<sup>4</sup> of mental illness and the consequences of untreated mental illness<sup>5</sup> in children has generated increasing public recognition of the serious impact of childhood mental disorders. In fact, there have been more references to child mental health in the news in the past 2 years than in the entire preceding decade. However, the absence of empirical data on the magnitude, course, and treatment patterns of mental disorders in a nationally representative sample of US youths has impeded efforts essential for establishing mental health policy for US youths.<sup>6–11</sup>

On the basis of the recommendations of the landmark report of the Surgeon General on mental health<sup>12</sup> and those of a subgroup of the National Institute of Mental Health (NIMH) National Advisory Mental Health Council,<sup>13</sup> the NIMH established several research initiatives to address the lack of national statistics on mental health in children. This led to a collaboration between the NIMH and the National Center for Health Statistics to collect population-based data on selected mental disorders<sup>14–16</sup> in the National Health and Nutrition Examination Survey (NHANES). This article reports the first aggregate prevalence rates of mental disorders in children and adolescents 8 to 15 years of age, from the 2001–2004 NHANES findings. Previous reports presented prevalence data on attention-deficit/hyperactivity disorder (ADHD)<sup>17</sup> and conduct disorder.<sup>18</sup> The goals of this report are to present (1) estimates of the prevalence of specific mental disorders and their social and demographic correlates in children and adolescents in the United States and (2) patterns and correlates of service use among children with these mental health problems in the United States.

## METHODS

### Sample

The sample for the present study included 3024 children 8 to 15 years of age who were evaluated in person at the mobile examination centers of the 2001–2004 NHANES, a nationally representative probability sample of noninstitutionalized US civilians. The NHANES used a complex, stratified, multistage, probability cluster design that oversampled low-income persons, adolescents 12 to 19 years of age, persons >60 years of age, black persons, and Mexican American persons. The response rates for the youth sample ranged from 79.2% to 92.3%, depending on the disorder and the source of information. There were no significant differences in demographic characteristics between participants and nonparticipants. Additional details of the NHANES methods are available elsewhere.

### Measures

Information on mental disorders was derived from the NIMH Diagnostic Interview Schedule for Children (DISC), version IV, a structured diagnostic interview administered by lay interviewers to assess *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (DSM-IV) diagnostic criteria for mental disorders in children and adolescents.<sup>14,15,19</sup> Modules for generalized anxiety disorder (GAD), panic disorder, eating disorders (anorexia nervosa and bulimia nervosa), and major depressive disorder (MDD)/dysthymic disorder (DD) were administered to youths, and those for MDD/DD, eating disorders, ADHD, and conduct disorder were administered to the primary caretakers, via telephone, within 4 to 28 days after the youth interviews. The diagnoses of GAD and panic disorder were based on youth reports alone, those of ADHD and conduct disorder on parent reports alone, and those of MDD/DD and eating disorders on either youth or parent reports. Diagnostic algorithms corresponding to DSM-IV criteria were developed in SAS (SAS Institute, Cary, NC) by the DISC Group at the Division of Child and Adolescent Psychiatry, Columbia University (New York, NY).<sup>20</sup>

Four levels of impairment were derived for each disorder, on the basis of 6 impairment questions, as follows: level A, intermediate or severe rating on  $\geq 1$  question; level B,

intermediate or severe rating on  $\geq 2$  questions; level C, severe rating on  $\geq 1$  question; level D, either level B or C. These questions assessed impairment in 6 domains, including interference with the respondent's own life, family life, social life, peers, teachers, and school performance.

Information on 12-month mental health service use was collected in each of the diagnostic modules. In each of the DISC diagnostic modules by the following: "In the past year, have you been to see someone at a hospital or a clinic or at their office [for specific symptoms of disorders]?"

### Statistical Methods

The sample weights used followed National Center for Health Statistics guidelines and were calculated according to the base probabilities of selection, adjusted for nonresponse, and poststratified to match population control totals. Weighted prevalences and SEs were estimated according to gender, age, race/ethnicity, and poverty index ratio (PIR) (family income/family poverty threshold level ratio, on the basis of family size) by using a 4-year weight variable for pooled data analysis, using one half of the 2-year medical examination center weight in the 2001–2002 NHANES and one half of the 2-year medical examination center weight in the 2003–2004 NHANES. The weight represents the number of individuals in the target population each sample participant is estimated to represent.

Logistic regression models were used to assess the association between mental disorders with service use and comorbidity across disorders. Data were analyzed by using SUDAAN 9 (RTI International, Research Triangle Park, NC) procedures, which apply Taylor series linearization methods to accommodate sampling weights to account for stratification and clustering of the multistage NHANES sampling design in the calculation of SEs and test statistics. The sampling weights are inversely proportional to the probability of selection into the sample and are interpreted as the number of individuals in the target population each sample participant is estimated to represent.

## RESULTS

Table 1 presents the 12-month prevalence of specific disorders, with or without impairment, as assessed in the NHANES, according to child gender and age group. One of 8 children 8 to 15 years of age met 12-month criteria for  $\geq 1$  of the 6 DSM-IV–defined disorders, which yielded a weighted prevalence of 13.1% (SE: 0.9%). Approximately 14% of children with one 12-month disorder met the criteria for  $\geq 2$  of the 6 DSM-IV–defined disorders, which yielded a weighted prevalence of 1.8% (SE: 0.3%). Total rates of specific disorders were 8.6% for ADHD (4.3% for attention deficit, 2.0% for hyperactivity, and 2.2% for attention deficit and hyperactivity combined type), 2.1% for conduct disorder, 0.7% for anxiety disorders (0.3% for GAD and 0.4% for panic disorder), 0.1% for eating disorders (0.1% for anorexia and 0.1% for bulimia), and 3.7% for mood disorders (2.7% for MDD and 1.0% for DD).

Boys had significantly higher rates of any 12-month disorder than did girls, primarily because of the high rates of male-predominant ADHD. Girls had higher rates of mood disorders ( $\chi^2_1=6.64$ ;  $P=.015$ ), particularly MDD ( $\chi^2_1=4.65$ ;  $P=.039$ ). Rates of conduct disorder, mood disorders, and MDD were higher in older children (12–15 years of age) than in younger ones, whereas ADHD (hyperactivity subtype) was marginally significantly greater in younger children ( $\chi^2_1=3.85$ ;  $P=.059$ ). Compared with non-Hispanic white youths, Mexican American youths had significantly lower rates of 12-month ADHD (hyperactivity subtype) ( $\chi^2_3=28.20$ ;  $P<.001$ ) and higher rates of DD ( $\chi^2_3=11.08$ ;  $P=.022$ ). Youths with low PIR were more likely to report any 12-month disorder, ADHD, and its inattention subtype, whereas those with high

PIR were more likely to report an anxiety disorder ( $\chi^2_3=8.75; P=.050$ ). PIR was not associated with other 12-month, DSM-IV–defined disorders (race/ethnicity and PIR data not shown in Table 1).

Table 1 shows the prevalence of disorders with impairment level D (defined by  $\geq 2$  intermediate or 1 severe rating on the 6 impairment questions regarding personal distress and social [at home or with peers] and academic difficulties), referred to as severe impairment. For most disorders, there was minimal reduction in rates with application of impairment criterion D. Rates of ADHD decreased from 8.6% to 7.8% (9%) and rates of conduct disorder from 2.1% to 1.7%. There were greater reductions in mood disorders (from 3.7% to 2.9%), panic disorders or GAD (from 0.7% to 0.4%), and eating disorders (from 1.0% to 0.5%). However, the only significant reduction occurred for mood disorders (odds ratio [OR]: 4.4 [95% confidence interval [CI]: 1.4–14.1];  $P=.0145$ ).

We also examined patterns of comorbidity across the 12-month disorders (data not shown). After adjustment for age, gender, ethnicity, and poverty level, significant associations were found between 12-month ADHD and conduct disorder (OR: 7.6 [95% CI: 4.0–14.7]), between ADHD and mood disorder (OR: 3.4 [95% CI: 1.8–6.4]), and between mood disorder and anxiety disorder (OR: 29.5 [95% CI: 9.4–92.3]).

Table 2 presents the rates of mental health service use for those with each of the mental disorders assessed in this study, for all cases and for those with severe impairment. Youths with ADHD and those with conduct disorder had the greatest treatment rates (47.7% and 46.4%, respectively), whereas those with GAD or panic disorder had the lowest treatment rates (32.2%). Treatment rates were slightly greater for those with severe impairment.

Table 3 presents the demographic predictors associated with mental health service for those with any 12-month, DSM-IV–defined disorder and for those with severe impairment. Few of the demographic correlates were associated with service use among those with either a 12-month disorder or a severe 12-month disorder. Boys were more likely to seek treatment than were girls, and older youths (12–15 years of age) reported more mental health service use than did younger youths (8–11 years of age). Neither race/ethnicity nor poverty level was associated with professional service use specifically for  $\geq 1$  of the disorders assessed in this survey.

## DISCUSSION

The findings of this article provide the first estimates of the prevalence of DSM-IV–defined mental disorders in a broad age range of children in the general population of the United States. The most-common 12-month disorder was ADHD (8.7%),<sup>17</sup> followed by mood disorders (3.7%), conduct disorder (2.1%),<sup>18</sup> and panic disorder/GAD (0.7%). Eating disorders were very rare (0.1%). With the exception of ADHD, these rates are substantially lower than those reported in other prevalence studies of mental disorders in children.<sup>21–23</sup> However, they are quite comparable to findings from other US studies that used similar diagnostic methods and criteria<sup>24–28</sup> and are strikingly similar to those reported for a community survey conducted at the same time in Houston, Texas.<sup>26</sup>

The sociodemographic correlates of mental disorders in this survey also confirmed those of previous community studies of youths in the United States.<sup>25–35</sup> The prevalence of mood disorders was greater in girls, whereas there was a male preponderance of ADHD. Inspection of age-specific prevalence rates revealed that the rates of mood disorders were higher among older children, compared with younger children, whereas the rates of conduct disorder were higher among early adolescents (12–15 years of age), compared with younger children. In general, there were few ethnic differences in disorders studied in this survey; however, Mexican

American youths had significantly higher rates of mood disorders than did either white or black youths. Finally, poor children had higher rates of any disorder and ADHD and lower rates of anxiety disorders than did their wealthier counterparts.

Comorbidity was less common among youths in this survey than in comparable studies of adults, where the majority of studies found that few individuals in the population had only 1 disorder. In the present study, only 1.8% (SE: 0.3%) of youths 8 to 15 years of age had >1 disorder. Similar to previous community studies,<sup>21</sup> the disorders with the highest rates of cooccurrence were conduct disorder and ADHD. Previous prevalence studies of children and adolescents yielded far higher rates of comorbidity, particularly those that assessed lifetime disorders.<sup>21,30,36,37</sup> The lower rates of comorbidity are likely attributable to the limited number of disorders assessed in the current study, compared with the full range of disorders assessed in other studies.

With respect to service use, we found that about one half of those who had 1 of the mental disorders examined in this survey during the past year had sought treatment in the mental health sector. Approximately one half of those with ADHD had sought mental health treatment. This finding confirms the continuing increase in service use for childhood mental disorders, particularly ADHD, in recent decades.<sup>38–42</sup> Nearly equal proportions of those with conduct disorder (46.4%) and mood disorders (43.8%) reported service contacts for those conditions.<sup>43</sup> There was a moderate range of treatment rates for specific subtypes of disorders, ranging from 47.7% mental health service use among those with ADHD to 32.2% among those with GAD or panic disorder. Treatment rates increased substantially for those with panic disorder/GAD, eating disorders, and/or mood disorders when the sample was restricted to youths with severe impairment. Despite the relatively large proportions of youths with ADHD, conduct disorder, and mood disorders who sought mental health services specifically for those disorders, only a minority (32.2%) of youths with anxiety disorders, even those with severe impairment, did so. This confirms the consistent finding from previous studies that up to 80% of youths with anxiety disorders do not use health services.<sup>44</sup> Increased education about the availability of effective treatments for anxiety disorders are also may be warranted.

This study has several strengths. It provides the first estimates of the prevalence of specific DSM-IV–defined mental disorders in the US population of children and adolescents. The reliability of the prevalence rates is enhanced by the use of repeated surveys over 4 years, which increases the precision of the estimates. The use of a structured interview and standardized diagnostic criteria facilitate comparisons of these findings with those of other local studies in the United States and in international settings. Information that supplements the diagnostic data in this study includes ratings of the clinical significance of the disorders through inclusion of systematic information on different levels of functional impairment; data on service-seeking for specific disorders, as well as for mental health services in general; and a comprehensive series of laboratory measurements and assessments of numerous physical disorders and health behaviors. Future reports on this survey will address these potential correlates of mental health.

There are several methodologic features of this study that should be considered as possible sources of differences from the findings of previous studies. First, it is likely that these findings are underestimates of the true population base rates, because the most-common disorders in children, including separation anxiety and phobic states, were not included in the survey.<sup>21, 45</sup> Second, the rates of most disorders in this study were based on reports of only 1 informant, rather than information from both parent and child informants, which has been shown to provide the most-valid information on disorders in youths.<sup>46</sup> Third, the parent report was obtained by telephone after completion of the direct assessment of the child. This would be expected to yield different rates, compared with studies that assess both informants in the same direct interview.

The rates are based solely on reports of the diagnostic criteria by either the parent or the child, rather than clinicians or teachers, who may be more knowledgeable about impairment and disability either in the individual youths or among comparable children as a frame of reference. Fourth, there were no systematic clinical evaluations to validate the diagnoses.<sup>16,47,48</sup>

The generally low base rates of most disorders in this study should be interpreted in the context of the methods used in this study. Reviews of the aggregate data from population-based studies have shown that different methods of ascertaining data on diagnostic criteria (eg, symptom rating scales, structured and semistructured diagnostic interviews, and objective measures) can yield a wide range of prevalence estimates.<sup>11,21</sup> It will be important to consider a range of prevalence estimates, depending on the specific goals of the application of morbidity rates. Nevertheless, the similarity between our findings and those of previous community surveys that generated 12-month estimates of mental disorders in children on the basis of DISC and DSM-IV criteria demonstrated the reliability of the methods used here. The large variation between our estimates and those of studies using other diagnostic interviews, prevalence periods, and constellations of disorders also highlights the need for research designed to validate the diagnostic classification of mental disorders in children.<sup>7–9,11,21,49–51</sup>

This study has begun to address the gap in knowledge regarding national patterns of mental health problems in children. When combined with the results of several regional epidemiological studies of mental disorders in children<sup>11</sup> and other national, population-based studies now underway (including the National Comorbidity Survey Adolescent Supplement,<sup>52,53</sup>), these data will provide a valuable empirical basis for the development of health policies designed to maximize prevention efforts and to minimize the consequences of these conditions in US youths.

#### WHAT'S KNOWN ON THIS SUBJECT

Although there have been several regional community surveys of mental disorders in the United States, there are no studies of DSM-IV–defined disorders in a representative sample of US youths.

#### WHAT THIS STUDY ADDS

This study adds new information about the prevalence of DSM-IV–defined mental disorders and service patterns in a general population sample in the United States.

## ABBREVIATIONS

NHANES	National Health and Nutrition Examination Survey
NIMH	National Institute of Mental Health
DISC	Diagnostic Interview Schedule for Children
DSM-IV	<i>Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition</i>
ADHD	attention-deficit/hyperactivity disorder
GAD	generalized anxiety disorder
MDD	major depressive disorder
DD	dysthymic disorder
OR	odds ratio
CI	confidence interval

PIR poverty index ratio

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**TABLE 1**  
Prevalence of 12-Month, DSM-IV – Defined Disorders According to Gender and Age in US Children 8 to 15 Years of Age

DSM-IV-Defined Disorder	Prevalence, Estimate ± SE, %								
	Disorder Without Impairment				Disorder With Severe Impairment (Level D) <sup>d</sup>				
	Gender		Age		Gender		Age		
	Male (N = 1492)	Female (N = 1550)	8-11 y (N = 1148)	12-15 y (N = 1894)	Male (N = 1492)	Female (N = 1550)	8-11 y (N = 1148)	12-15 y (N = 1894)	Total (N = 3042)
ADHD, all	11.6 ± 1.0	5.4 ± 0.6	9.9 ± 1.0	7.4 ± 1.0	10.8 ± 0.9	4.7 ± 0.7	9.1 ± 1.0	6.7 ± 0.8	7.8 ± 0.7
	$\chi^2_1=45.18, P<.001$		$\chi^2_1=3.23, P=.082$		$\chi^2_1=46.86, P<.001$		$\chi^2_1=4.29, P=.047$		
Attention deficit	5.4 ± 0.9	3.1 ± 0.5	4.6 ± 0.8	4.0 ± 0.8					4.3 ± 0.6
	$\chi^2_1=5.59, P=.025$		$\chi^2_1=0.43, P=.517$						
Hyperactivity	2.8 ± 0.7	1.2 ± 0.3	2.8 ± 0.7	1.3 ± 0.3					2.0 ± 0.4
	$\chi^2_1=4.56, P=.041$		$\chi^2_1=3.85, P=.059$						
Combined	3.4 ± 0.4	1.1 ± 0.2	2.4 ± 0.5	2.1 ± 0.3					2.2 ± 0.2
	$\chi^2_1=20.99, P<.001$		$\chi^2_1=0.27, P=.610$						
Conduct disorder	2.3 ± 0.3	1.9 ± 0.5	1.5 ± 0.3	2.7 ± 0.5					2.1 ± 0.3
	$\chi^2_1=0.71, P=.406$		$\chi^2_1=5.76, P=.023$		$\chi^2_1=1.26, P=.271$		$\chi^2_1=3.90, P=.058$		
Anxiety disorder	0.4 ± 0.2	0.9 ± 0.3	0.4 ± 0.2	0.8 ± 0.3					0.7 ± 0.2
	$\chi^2_1=1.74, P=.197$		$\chi^2_1=1.04, P=.317$		0.4 ± 0.2	0.4 ± 0.2	0.3 ± 0.2	0.5 ± 0.2	0.4 ± 0.1
Generalized anxiety	0.3 ± 0.2	0.4 ± 0.2	0.1 ± 0.1	0.7 ± 0.3					0.3 ± 0.1
	$\chi^2_1=0.33, P=.569$		$\chi^2_1=3.54, P=.070$		0.3 ± 0.2	0.1 ± 0.1	0.0 ± 0.0	0.4 ± 0.2	0.2 ± 0.1
Panic disorder	0.2 ± 0.1	0.6 ± 0.2	0.4 ± 0.2	0.4 ± 0.2					0.4 ± 0.1
	$\chi^2_1=2.51, P=.124$		$\chi^2_1=0.003, P=.955$		0.2 ± 0.1	0.4 ± 0.2	0.3 ± 0.2	0.2 ± 0.1	0.3 ± 0.1
Eating disorder	0.1 ± 0.0	0.2 ± 0.1	0.1 ± 0.1	0.2 ± 0.1					0.1 ± 0.1
					0.0 ± 0.0	0.1 ± 0.0	0.0 ± 0.0	0.1 ± 0.0	0.03 ± 0.01

DSM-IV-Defined Disorder	Prevalence, Estimate ± SE, %									
	Disorder Without Impairment					Disorder With Severe Impairment (Level D) <sup>a</sup>				
	Gender		Age			Total (N = 3042)	Gender		Age	
Male (N = 1492)	Female (N = 1550)	8-11 y (N = 1148)	12-15 y (N = 1894)	Total (N = 3042)	Male (N = 1492)	Female (N = 1550)	8-11 y (N = 1148)	12-15 y (N = 1894)	Total (N = 3042)	
Mood disorder	$\chi^2_1=2.01, P=.167$ 2.5 ± 0.7	4.9 ± 0.9	$\chi^2_1=1.07, P=.309$ 2.5 ± 0.7	4.8 ± 0.9	3.7 ± 0.6	$\chi^2_1=2.86, P=.101$ 1.7 ± 0.5	4.1 ± 0.8	$\chi^2_1=2.85, P=.102$ 1.8 ± 0.5	3.9 ± 0.8	2.9 ± 0.5
Major depression	$\chi^2_1=6.64, P=.015$ 1.8 ± 0.6	3.7 ± 0.8	$\chi^2_1=7.08, P=.012$ 1.6 ± 0.5	3.8 ± 0.8	2.7 ± 0.6	$\chi^2_1=7.37, P=.011$ 1.6 ± 0.5	3.2 ± 0.7	$\chi^2_1=7.26, P=.011$ 1.4 ± 0.4	3.2 ± 0.7	2.4 ± 0.5
Dysthymia	$\chi^2_1=4.65, P=.039$ 0.7 ± 0.3	1.2 ± 0.4	$\chi^2_1=10.00, P=.004$ 0.8 ± 0.4	1.1 ± 0.3	1.0 ± 0.3	$\chi^2_1=3.90, P=.058$ 0.1 ± 0.1	0.9 ± 0.4	$\chi^2_1=7.65, P=.010$ 0.4 ± 0.2	0.7 ± 0.3	0.5 ± 0.2
Any of above	$\chi^2_1=1.53, P=.225$ 14.5 ± 1.0	11.6 ± 1.1	$\chi^2_1=0.28, P=.601$ 12.8 ± 1.3	13.4 ± 1.2	13.1 ± 0.9	$\chi^2_1=4.73, P=.038$ 13.0 ± 0.9	9.4 ± 1.2	$\chi^2_1=0.91, P=.348$ 11.0 ± 1.1	11.5 ± 1.3	11.3 ± 0.9
	$\chi^2_1=6.47, P=.016$		$\chi^2_1=0.12, P=.731$			$\chi^2_1=9.73, P=.004$		$\chi^2_1=0.10, P=.758$		

<sup>a</sup>Impairment level D indicates ≥2 intermediate or 1 severe rating on the 6 impairment questions regarding personal distress and social (at home or with peers) or academic difficulties.

**TABLE 2**

Past-Year Mental Health Service Use Among Children 8 to 15 Years of Age With 12-Month, DSM-IV–Defined Disorder

12-mo Disorder	All Cases		Cases With Severe Impairment <sup>a</sup>	
	<i>n</i>	Proportion, Estimate ± SE, %	<i>n</i>	Proportion, Estimate ± SE, %
Any disorder	366	50.6 ± 3.4	305	52.8 ± 3.7
ADHD	218	47.7 ± 4.4	195	48.5 ± 4.5
Conduct disorder	68	46.4 ± 8.0	63	44.2 ± 8.4
Anxiety disorders (GAD or panic disorder)	21	32.2 ± 14.3	12	33.9 ± 19.0
Mood disorders	128	43.8 ± 6.0	95	50.7 ± 6.0

Service use indicated the respondent saw someone at a hospital, clinic, or office because of [specific disorder] in the previous 12 months.

<sup>a</sup>Impairment level D.

TABLE 3

Demographic Correlates of Mental Health Service Use Among Subjects With 12-Month Mental Disorders, With and Without Severe Impairment

Demographic Correlates	Among Subjects With Mental Disorder (N = 366)		Among Subjects With Any Impairment Level D Mental Disorder (N = 305)	
	n	Adjusted OR (95% CI)	n	Adjusted OR (95% CI)
Gender				
Male	186	Reference	163	Reference
Female	180	0.5 (0.3–1.0)	142	0.6 (0.3–1.2)
$\chi^2$		4.8		2.4
P		.029		.120
Age				
8–11 y	153	Reference	130	Reference
12–15 y	213	1.9 (1.0–2.8)	175	1.6 (0.7–2.6)
$\chi^2$		4.1		3.4
P		.042		.067
Race/ethnicity				
White, non-Hispanic	128	Reference	111	Reference
Black, non-Hispanic	122	0.8 (0.5–1.3)	102	0.9 (0.5–1.5)
Mexican American	90	0.5 (0.2–1.0)	69	0.5 (0.2–1.1)
Other	26	1.1 (0.4–2.7)	23	0.8 (0.3–1.9)
$\chi^2$		4.2		3.5
P		.240		.319
PIR <sup>a</sup>				
>2	131	Reference	113	Reference
1–2	97	0.8 (0.4–1.5)	79	0.9 (0.4–1.8)
<1 (poor)	130	0.8 (0.4–1.8)	105	0.9 (0.4–2.2)
$\chi^2$		0.7		0.2
P		.690		.917
Health insurance				
Not covered	48	Reference	40	Reference
Covered	318	2.7 (0.7–10.2)	265	2.8 (0.7–10.5)
$\chi^2$		2.4		2.5
P		.126		.113

Service use indicated the respondent saw someone at a hospital, clinic, or office because of [specific disorder] in the previous 12 months. Adjusted ORs were from a model containing all variables shown in the table.

<sup>a</sup>Data for subjects with unknown PIRs are not presented in the table.