



## Emergency Department Utilization for Mental Health in American Indian Children

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**Objectives** To examine emergency department (ED) visits for mental health concerns by American Indian children in a multicenter cohort. To analyze demographic and clinical factors, the types of mental health concerns, and repeat mental health visits.

**Study design** Cross-sectional study of children 5-18 years old who visited 1 of 6 EDs in the Upper Midwest from June 2011 to May 2012 and self-identified as white or American Indian. Mental health visits were identified by primary diagnosis and reasons for visit and were categorized into diagnostic groups. We explored racial differences in ED visits for mental health, diagnostic groups, and repeat mental health visits. Analysis involved  $\chi^2$  tests, Cochran-Mantel-Haenszel tests, and regression models including age, triage, timing, and insurance, and their interactions with race.

**Results** We identified 26 004 visits of which 1545 (5.4%) were for a mental health concern. The proportion of visits for mental health differed by race and age. American Indian children had lower odds of a mental health visit for 5-10 year olds (OR, 0.40; 95% CI, 0.26-0.60), but higher odds for 11-17 year olds (OR, 1.62; 95% CI, 1.34-1.95). In the older age group, American Indian children were seen primarily for depression and trauma- and stressor-related disorders, whereas white children were seen primarily for depression and disruptive, impulse control, and conduct disorders. Repeat visits were not different by race.

**Conclusions** Differences were noted in mental health visits between American Indian and white children and were influenced by age. These findings warrant further investigation into care-seeking patterns and treatment for mental health in American Indian children. (*J Pediatr* 2016;174:226-31).

The lack of permanent and reliable mental health resources and financial sustainability has eroded community-based care options for many patients with mental health concerns.<sup>1-3</sup> As a result, patients with active and chronic mental health concerns often use emergency departments (ED), given their role as safety-net providers.<sup>1-3</sup> Overall prevalence rates for pediatric mental health issues have been increasing for the last 2 decades and have been identified as an important public health topic.<sup>4,5</sup> A recent report from the Centers for Disease Control and Prevention has identified that  $\leq 20\%$  of US children experience a mental health issue in 1 year.<sup>4</sup> Nationally, ED visits for mental health concerns have increased dramatically, with rates of pediatric mental health visits now accounting for  $\leq 7.2\%$  of all ED visits.<sup>6-10</sup> Although mental health complaints are a serious concern, they create a unique situation in the ED, because most EDs are designed to address acute health issues and often lack the capacity and resources to adequately provide mental health care services.<sup>2,3</sup> This gap in capacity and resources may exacerbate a mental health patient's condition and adversely affect their outcome.<sup>3</sup> To address this situation it is necessary to understand who is presenting to the ED for mental health, the types of specific mental health issues, and mental health patients' care use patterns.

Race is an important factor to consider because American Indian populations face significant health disparities in comparison with white populations.<sup>11</sup> Information on mental health regarding race suggests that American Indian populations are at higher risk for and suffer from a disproportionate burden of mental health issues.<sup>12-15</sup> Much less is known about pediatric mental health visits to the ED, especially in American Indian populations. One study examined mental health specifically in a American Indian pediatric population, which identified slightly lower rates for American Indian children compared with their white counterparts.<sup>16</sup> Another study found 29% of American Indian children in a Northern Plains community to have  $\geq 1$  mental health disorder.<sup>17</sup> Whitbeck et al<sup>18</sup> conducted a longitudinal study and found similar results. However, none of these studies were specific to mental health in the ED. Other authors have noted disparities in mental health care by insurance status, age, socioeconomic status, and race.<sup>3,7,19</sup> Unfortunately, these studies did not comment on American Indian pediatric populations. Therefore, if American Indian populations are at

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ED Emergency department

greater risk for mental health issues, it is important to examine their care-seeking patterns in comparison with the majority white population.

Understanding the characteristics of mental health visits to the ED can assist with primary and secondary prevention efforts. The inadequate information on mental health conditions within American Indian populations provides a gap in knowledge in identifying and addressing problem areas relating to mental health care-seeking patterns, diagnosis rates in mental health categories, as well as possible implications for any disparities. To help address these critical issues, we sought to examine visits to the ED for mental health reasons by American Indian children in the Upper Midwest. Furthermore, we wanted to analyze the impact of demographic and clinical factors for mental health visits, as well as the types of mental health concerns that patients presented with and repeat mental health visits.

## Methods

We conducted a cross-sectional, observational study at 6 EDs from June 2011 to May 2012. Enrolling sites were selected based upon geographic distribution, as well as proportion of American Indian patients within their catchment,<sup>20</sup> and included EDs located in various settings. Two were located in large cities (population  $\geq 250\,000$ ), 2 in mid-sized cities (population between 70 000 and 170 000), and 2 in rural towns (population  $< 20\,000$ ). White and American Indian children comprise the majority of the study population for all ED visits at midsize (white, 66%; American Indian, 23%; other races, 11%) and rural (white, 50%; American Indian, 47%; other races, 3%) sites, and 37% at the 2 large urban centers (white, 35%; American Indian, 2%; other races, 63%). The urban sites primarily served the American Indian populations in those cities, and rural sites primarily served American Indian populations on nearby reservations ( $\leq 30$  miles). Two sites had an Indian Health Service ED within 20 miles. All of our other sites did not have a nearby Indian Health Service ED. We enrolled children aged 5-18 years who self-identified race during ED registration as American Indian or white. Children  $< 5$  years old were excluded owing to the difficulty of accurately diagnosing mental health concerns in that age range.<sup>9</sup> Patients who had missing race or *International Classification of Diseases, Ninth Revision, Clinical Modification* codes were also excluded.

Data were extracted electronically from medical records and sent to a central data warehouse location where the data was cleaned and analyzed. We analyzed patient age in 2 categories: 5-10 years old and 11-17 years old. Insurance was categorized as medical assistance/other or private. Triage levels were based on the 5-level Emergency Severity Index, version 4,<sup>21</sup> and categorized as emergent/critical (levels 1 and 2), acute (level 3), and urgent/nonurgent (levels 4 and 5). A timing variable was used to identify peak ED usage hours. Timing was defined as follows: business hours, Monday-Friday from 8:00 a.m.-4:59 p.m.; after hours,

Monday-Friday from 5:00 p.m.-7:59 a.m.; and weekends, all day Saturday and Sunday. The study was approved by the institutional review board at each enrolling site, with a waiver of informed consent.

## Outcome Measures

The primary outcome was type of ED visit (mental health or nonmental health). The determination of a mental health visit(s) was based on *International Classification of Diseases, Ninth Revision, Clinical Modification* codes ([Appendix](#); available at [www.jpeds.com](http://www.jpeds.com)). and reasons for visit. Secondary outcomes included category of mental health visit and repeat visits. Mental health visits were categorized into 1 of 11 mental health subgroups based on the *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition* categories.<sup>22</sup> The categories included anxiety disorders; disruptive, impulse control, and conduct disorders; bipolar disorders; depressive disorders; mood disorders; neurodevelopmental disorders; schizophrenia disorders; substance use/abuse disorders; suicide ideation/attempt; trauma- and stressor-related disorders; and other (miscellaneous). Mood disorders were subdivided into bipolar disorders, depressive disorders, and mood disorders (other) because there were a sufficient number in each subgroup to be assessed separately. Repeat visits were identified as a patient having  $\geq 2$  visits to the ED for mental health complaints during the study period. We also identified patients who returned to the ED 30 days after their initial mental health ED visit.

## Statistical Analyses

We compared our patient population using descriptive statistics and data are presented as counts and proportions for categorical variables and either mean values and SDs or median values and IQRs for continuous variables as appropriate. Univariate comparisons were assessed using  $\chi^2$  tests. Multivariable analysis used the Cochran-Mantel-Haenszel test and regression models. Mixed effect logistic regression was used to identify differences in mental health visits vs nonmental health visits based on race. Bivariate models explored interactions with age, sex, triage, timing, and insurance. These models included a random effect for study site. A multivariable model was created including race, age, triage, timing, and insurance, along with possible 2-level interactions with race. Only those interactions significant at the .05 level were retained in the final model. One site did not use the 5-level Emergency Severity Index system and was excluded from the logistic regression analysis ( $n = 514$ ; 57 with a mental health visit). A sensitivity analysis was conducted to assess the effect of this removal on other estimates within the model.

Our secondary analysis involved only data from mental health visits. The Cochran-Mantel-Haenszel test was used to identify differences in mental health categories by race controlling for age. Repeat visits were analyzed on a patient level using mixed effect logistic regression. We compared differences in race for patients with single vs repeat mental health visits, adjusting for sex, urban/rural status, insurance,

and age, with a random effect for study site. We also looked descriptively to explore repeat visits that occurred within 30 days of a patient's initial mental health visit. All analyses were conducted using SAS version 9.4 (SAS Institute, Cary, North Carolina).

## Results

### Primary Outcomes

A total of 26 004 pediatric ED visits by 20 413 patients were identified over the 12-month study period, with 1545 visits (5.94%) by 1287 patients for mental health reasons. Visits by older children were more likely to be for mental health reasons compared with younger children ( $P < .0001$ ). A higher proportion of visits were for mental health in American Indian children (10.8%) compared with white children (5.1%;  $P < .0001$ ; **Table I**). Significant interactions by race found in the bivariate and multivariable analysis included age, triage, and timing variables (**Tables I and II**). In the 5-10-year-old group, American Indian children had lower odds of a mental health visit (OR, 0.40; 95% CI, 0.26-0.60; **Table II**). The opposite effect was seen in the older group of 11-17-year-olds with higher odds of a mental health visits for American Indian children (OR, 1.62; 95% CI, 1.34-1.95). Significant differences by triage included lower odds of a mental health visit for American Indian children (OR, 0.28; 95% CI, 0.19-0.41) in those with an emergent/critical triage level. Conversely, we found higher odds of a mental health visit for American Indian children compared with white children (OR, 1.39; 95% CI, 1.02-1.89) in those with an urgent/nonurgent triage level (**Table II**). For those

presenting during business hours, American Indian children were less likely to have a mental health visit compared with white children (OR, 0.60; 95% CI, 0.44-0.80; **Table II**). Our sensitivity analysis on the effect of removal of 1 site without triage found similar estimates for timing and age without this site.

### Secondary Outcomes

Within the mental health diagnostic classification we found differences by race and age (**Figure**). After controlling for age, this difference persisted. (Cochran–Mantel–Haenszel test,  $P < .0001$ ). For older white children, the most common categories were other mental health reasons (21.2%), depressive disorders (19.4%), and disruptive, impulse control, and conduct disorders (16.9%). In older American Indian children, the most common categories were depressive disorder (36.8%) and trauma- and stressor-related disorders (17.3%; **Figure**). All of the diagnoses in the trauma- and stressor-related disorders category for American Indian children involved adjustment disorders. In the younger age group of 5-10-year-olds, mood disorders were most common (41.9%) in American Indian children, and disruptive, impulse control, and conduct disorders were most common (46.3%) in white children.

We also identified 185 patients (14.4%) from our mental health dataset as having  $\geq 2$  visits during the 12-month study period. Of the patients who returned to the ED for mental health complaints during the 12-month period, 92 (49.73%) returned to the ED for another mental health visit in the first 30 days after their initial mental health visit. In this analysis, insurance was the only statistically significant

**Table I.** Univariate and bivariate analysis of ED visit demographics by race

	Overall					White					American Indian					Interaction P value*
	Mental health		Nonmental health		$\chi^2$ P value	Mental health, N = 1115		Nonmental health, N = 20 900		$\chi^2$ P value	Mental health, N = 430		Nonmental health, N = 3544		$\chi^2$ P value	
	N	%	N	%		N	%	N	%		N	%	N	%		
Age (y)					<.001					<.001					<.001	<.001
5-10	275	2.1	12 719	97.9		244	2.2	10 843	97.8		31	1.6	1876	98.4		
11-17	1270	9.8	11 725	90.2		871	8.0	10 057	92.0		399	19.3	1668	80.7		
Sex					.03					.67					.02	.05
Male	756	6.3	12 656	93.7		537	5.1	9930	94.9		252	11.9	1858	88.1		
Female	789	5.6	11 788	94.4		578	5.0	10 970	95.0		178	9.5	1686	90.5		
Triage					<.001					<.001					<.001	<.001
Emergent/critical	612	17.6	2864	82.4		558	17.7	2591	82.3		54	16.5	273	83.5		
Acute	524	4.8	10 383	95.2		348	3.6	9284	96.4		176	13.8	1099	86.2		
Urgent/nonurgent	303	2.9	10 323	97.1		179	2.0	8582	98.0		124	6.7	1741	93.4		
Missing	106		874			30		443			76		431			
Timing					<.001					<.001					<.001	<.001
Business hours	683	8.3	7591	91.7		535	7.6	6517	92.4		148	12.1	1074	87.9		
Afterhours	570	5.9	9159	94.1		375	4.6	7780	95.4		195	12.4	1379	87.6		
Weekend	292	3.7	7694	96.3		205	3.0	6603	97.0		87	7.4	1091	92.6		
Insurance					<.001					<.001					.007	.65
Medical assistance	930	8.1	10 591	91.9		519	6.6	7334	93.4		411	11.2	3257	88.8		
Private	614	4.2	13 847	95.8		595	4.2	13 560	95.8		19	6.2	287	93.8		
Missing	1		6			1		6			0		0			

\*Calculated in a mixed logistic regression model with only the demographic variable, race, and their interaction.

**Table II.** OR comparison of mental health and non-mental health visits, interaction with race

Effect	OR*	Lower OR	Upper OR	P value
Age (y)				
5-10	0.4	0.26	0.6	<.001
11-18	1.62	1.34	1.95	<.001
Triage				
Emergent/critical	0.28	0.19	0.41	<.001
Acute	1.31	0.99	1.74	.06
Urgent/nonurgent	1.39	1.02	1.89	.04
Timing				
Business hours	0.6	0.44	0.8	.001
After hours	1.06	0.79	1.41	.7
Weekends	0.81	0.57	1.16	.26

\*OR for American Indian vs white and adjusted for age, triage, time, and insurance.

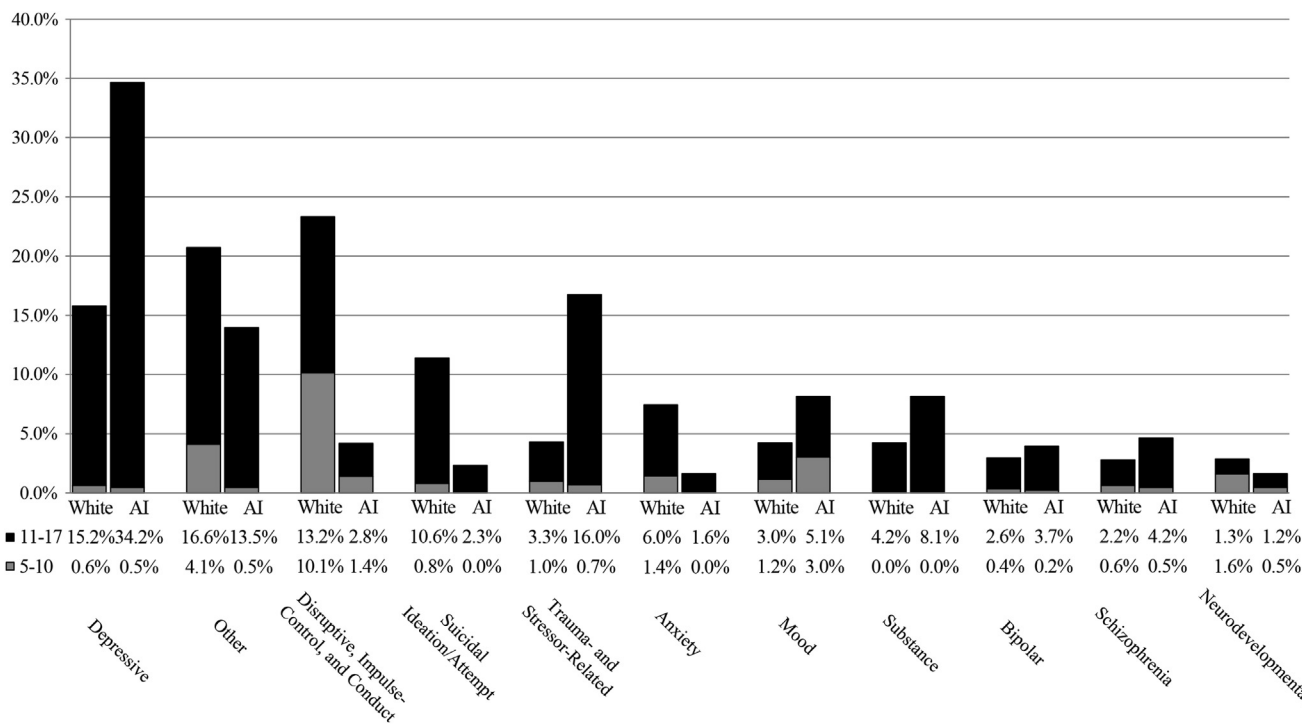
predictor of repeat mental health visits. For patients with medical assistance insurance, the odds of a repeat visit are 1.58 (95% CI, 1.18-2.13) times the odds for those with private insurance (Table III).

### Discussion

We conducted this study given the lack of information on the use of the ED for mental health concerns among American Indian children. We report that younger American Indian children (those aged 5-10 years) in our cohort had a lower proportion of ED visits for mental health complaints, and older American Indian children had a higher proportion of ED visits for mental health complaints compared with white

children. The proportion of visits by mental health category differed significantly by race and age. When looking at repeat visits, race was not a significant predictor for a repeat visit; however, insurance was significant.

Visits to the ED for mental health reasons by American Indian children are a complex problem and not fully understood. The proportion of pediatric ED visits for mental health issues in our study fell within the range of proportions reported in other studies.<sup>6-10</sup> However, in our data, we observed the proportion of American Indian pediatric mental health visits to the ED to be 2 times greater than the proportion of white children presenting to the ED for a mental health visit. There are a variety of possible contributing factors for the greater proportion in American Indian children. Lack of access to facilities that specialize in mental health care has been identified in other studies as one reason for increased mental health ED visits.<sup>3,23</sup> However, even if such facilities are available in the community, financial constraints may prevent patients from using the services. Although a majority of American Indian patients (95.6%) had medical assistance, this type of insurance may not have been accepted by mental health providers in the respective regions. For example, one previous study found that many American Indian children had mental health services in their communities, but access to those services was limited owing to long waiting lists and limited provider options.<sup>24</sup> In the younger age group, we found a lower proportion of ED visits for mental health by children overall, with a greater disparity by American Indian children compared with white children.



**Figure.** Mental health category percentages of visits by race and age. AI, American Indian.

**Table III.** OR for predictors of repeat mental health visits

Variables	Level	Total percent	Repeat visits	OR*	P value
Race	American Indian	430 (27.83%)	157 (36.51%)	1.07 (0.79-1.45)	.67
	White	1115 (72.17%)	286 (25.65%)		
Insurance	MA and others	930 (60.23%)	317 (34.09%)	1.58 (1.18-2.13)	.0022
	Private	614 (39.77%)	125 (20.36%)		
Sex	Female	786 (51.07%)	217 (27.50%)	0.88 (0.70-1.11)	.28
	Male	756 (48.93%)	226 (29.89%)		
Urban	Rural	781 (50.55%)	279 (35.72%)	2.63 (0.47-14.64)	.27
	Urban	764 (49.45%)	164 (21.47%)		
Age category (y)	5-10	275 (17.80%)	85 (30.91%)	1.25 (0.92-1.70)	.16
	11-17	1270 (82.20%)	358 (28.19%)		

MA, medical assistance.

\*OR for American Indian vs white and adjusted for sex, urban/rural status, insurance and age.

Other studies have found lower prevalence for younger children as well.<sup>7,25</sup> The reason for this difference is unclear, but we hypothesize that the mental health conditions are present but are not being recognized or screened properly. We also believe this is exacerbated for American Indian children owing to differential access to mental health providers and financial constraints.

Diagnostic categories also differed by race and age in our study. The previous literature on mental health ED visits highlight specific categories like suicide, mood disorders, behavioral disorders, and substance use/abuse, but few have provided a current in-depth assessment of mental health categories, especially within pediatric and American Indian populations.<sup>10,16,25</sup> We found that the depressive disorder category was most common for older American Indian children. Similar to our results, one previous study found that adjustment disorders as well as posttraumatic stress disorder were common among urban American Indian and Alaska Native Youth receiving mental health services.<sup>26</sup> There are several possible contributing factors as to why these types of mental health conditions are more common in American Indian children. Major depressive disorder has been found to be associated with suicide, post-traumatic stress disorder, and substance use.<sup>17,27</sup> Furthermore, trauma- and stressor-related disorders, including adjustment disorders, may be more common in American Indian children for reasons relating to exposure to serious health conditions, challenging life circumstances, and historical trauma.<sup>26,28,29</sup>

Other differences in mental health category by race show higher proportions of disruptive, impulse control, and conduct disorders, anxiety disorders, and suicidal ideation/attempt for white children. Again, the reasons for these differences are unclear, but could be due to a difference in prevalence, a difference in severity, parent behavior and response, or how a mental health visit is recorded. This information is significant in identifying and understanding the status of mental health in American Indian pediatric populations of the Upper Midwest, as well as some aspects of their care-seeking patterns. Although we did not find that race was associated with repeat ED visits for mental health, the relationship

with insurance could speak to lack of access to mental health services. Most of the ED visits for mental health by American Indian children relied on public insurance.

Our study is subject to several limitations. First, although we used mental health *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*-based categories in our analysis, we were unable to validate the mental health diagnosis attributed to individual patients; thus, the true rate of mental health diagnosis in our population could not be determined. It is possible that ED physicians relied on self-report from the patient/families or relied on clinical judgment to make a mental health diagnosis rather than conducting a rigorous assessment of the child using *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*, criteria. Moreover, given the negative stigma associated with some mental health conditions, some patients may not have disclosed this information. Second, many American Indian patients use the Indian Health Service for health care services and thus the sample of patients who elected to use our enrolling EDs may not be representative of the population as a whole. Third, we relied on self-categorization for racial classification; however, some patients and/or their parents/caregivers may have elected to not provide their race secondary to mistrust of the medical system and known history of bias.<sup>24</sup> Last, our study is subject to missing data, secondary to the nature of our retrospective design.

Despite our limitations, our study has the following strengths. We enrolled patients from multiple locations within the Upper Midwest, providing us with a large number of patients who represent a cross-section of the care provided to American Indian patients. Even though prior national studies have focused on ED use for mental health concerns, these studies have not focused on American Indian populations. We believe our data can help to inform clinicians and policymakers on the appropriate resources and interventions that can be used to improve care for American Indian children.

Mental health concerns impact multiple health care settings, professionals, and patients. EDs can expect to see an increase in the number of children presenting for a mental health reason, especially in communities where mental health

services are unmet. Further investigation is warranted to explore diagnoses and care-seeking patterns in American Indian pediatric populations. An improved understanding of mental health in American Indian populations will assist providers in the delivery of appropriate ED care. ■

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**Appendix. International Classification of Diseases, Ninth Revision, Clinical Modification Codes included study**

291.89	Other specified alcohol-induced mental disorders
292.0	Drug withdrawal
292.12	Drug-induced psychotic disorder with hallucinations
292.81	Drug-induced delirium
292.84	Drug-induced mood disorder
292.89	Other specified drug-induced mental disorders
293.0	Delirium due to conditions classified elsewhere
295.30	Paranoid type schizophrenia unspecified state
295.70	Schizoaffective disorder, unspecified
295.90	Unspecified type schizophrenia unspecified state
296.20	Major depressive affective disorder single episode unspecified degree
296.22	Major depressive affective disorder single episode moderate degree
296.23	Major depressive affective disorder single episode severe degree without psychotic behavior
296.24	Major depressive affective disorder single episode severe degree specified as with psychotic behavior
296.30	Major depressive affective disorder recurrent episode unspecified degree
296.32	Major depressive affective disorder recurrent episode moderate degree
296.33	Major depressive affective disorder recurrent episode severe degree without psychotic behavior
296.34	Major depressive affective disorder recurrent episode severe degree specified as with psychotic behavior
296.35	Major depressive affective disorder recurrent episode in partial or unspecified remission
296.50	Bipolar I disorder, most recent episode (or current) depressed, unspecified
296.7	Bipolar I disorder, most recent episode (or current) unspecified
296.80	Bipolar disorder, unspecified
296.89	Other and unspecified bipolar disorders, other
296.90	Unspecified episodic mood disorder
296.99	Other specified episodic mood disorder
297.1	Delusional disorder
298.9	Unspecified psychosis
299.00	Autistic disorder, current or active state
299.80	Other specified pervasive developmental disorders, current or active state
299.90	Unspecified pervasive developmental disorder, current or active state
300.00	Anxiety state unspecified
300.01	Panic disorder without agoraphobia
300.02	Generalized anxiety disorder
300.09	Other anxiety states
300.11	Conversion disorder
300.21	Agoraphobia with panic disorder
300.4	Dysthymic disorder
300.7	Hypochondriasis
300.82	Undifferentiated somatoform disorder
300.9	Unspecified nonpsychotic mental disorder
301.3	Explosive personality disorder
301.83	Borderline personality disorder
301.9	Unspecified personality disorder
303.90	Other and unspecified alcohol dependence unspecified drinking behavior
304.30	Cannabis dependence unspecified use
305.00	Nondependent alcohol abuse unspecified drinking behavior
305.02	Nondependent alcohol abuse episodic drinking behavior
305.20	Nondependent cannabis abuse unspecified use
305.70	Nondependent amphetamine or related acting sympathomimetic abuse unspecified use
305.90	Other mixed or unspecified drug abuse unspecified use
306.1	Respiratory malfunction arising from mental factors
306.4	Gastrointestinal malfunction arising from mental factors
306.8	Other specified psychophysiological malfunction
307.1	Anorexia nervosa
307.20	Tic disorder unspecified
307.21	Transient tic disorder
307.23	Tourette disorder
307.46	Sleep arousal disorder
307.47	Other dysfunctions of sleep stages or arousal from sleep
307.50	Eating disorder unspecified
307.51	Bulimia nervosa
307.52	Pica
307.59	Other disorders of eating
307.81	Tension headache
307.9	Other and unspecified special symptoms or syndromes not elsewhere classified
308.0	Predominant disturbance of emotions
308.3	Other acute reactions to stress
308.9	Unspecified acute reaction to stress
309.0	Adjustment disorder with depressed mood
309.28	Adjustment disorder with mixed anxiety and depressed mood
309.29	Other adjustment reactions with predominant disturbance of other emotions

*(continued)*

## Appendix. Continued

309.3	Adjustment disorder with disturbance of conduct
309.4	Adjustment disorder with mixed disturbance of emotions and conduct
309.81	Posttraumatic stress disorder
309.89	Other specified adjustment reactions
309.9	Unspecified adjustment reaction
310.2	Postconcussion syndrome
311	Depressive disorder not elsewhere classified
312.00	Undersocialized conduct disorder aggressive type unspecified degree
312.81	Conduct disorder childhood onset type
312.82	Conduct disorder adolescent onset type
312.89	Other specified conduct disorder not elsewhere classified
312.9	Unspecified disturbance of conduct
313.81	Oppositional defiant disorder
313.89	Other emotional disturbances of childhood or adolescence
313.9	Unspecified emotional disturbance of childhood or adolescence
314.01	Attention deficit disorder of childhood with hyperactivity
315.32	Mixed receptive-expressive language disorder
315.39	Other developmental speech disorder
315.8	Other specified delays in development
327.23	Obstructive sleep apnea (adult) (pediatric)
327.41	Confusional arousals
333.4	Huntington chorea
345.91	Epilepsy unspecified with intractable epilepsy
368.16	Psychophysical visual disturbances
564.89	Other functional disorders of intestine
648.44	Postpartum mental disorders of mother
682.6	Cellulitis and abscess of leg except foot
780.02	Transient alteration of awareness
780.09	Alteration of consciousness other
780.1	Hallucinations
780.2	Syncope and collapse
780.50	Unspecified sleep disturbance
780.57	Unspecified sleep apnea
780.58	Sleep related movement disorder, unspecified
780.93	Memory loss
780.95	Excessive crying of child, adolescent, or adult
780.97	Altered mental status
784.0	Headache
785.1	Palpitations
789.03	Abdominal pain right lower quadrant
799.29	Other signs and symptoms involving emotional state
873.42	Open wound of forehead uncomplicated
880.03	Open wound of upper arm without complication
881.00	Open wound of forearm without complication
910.8	Other and unspecified superficial injury of face neck and scalp without infection
913.0	Abrasion or friction burn of elbow forearm and wrist without infection
920	Contusion of face scalp and neck except eye(s)
924.8	Contusion of multiple sites not elsewhere classified
935.2	Foreign body in stomach
959.01	Other and unspecified injury to head
959.09	Other and unspecified injury to face and neck
959.4	Other and unspecified injury to hand except finger
959.9	Other and unspecified injury to unspecified site
962	Poisoning by hormones and synthetic substitutes
962.0	Poisoning by adrenal cortical steroids
963.8	Poisoning by other specified systemic agents
965.01	Poisoning by heroin
965.09	Poisoning by other opiates and related narcotics
965.1	Poisoning by salicylates
965.4	Poisoning by aromatic analgesics not elsewhere classified
965.61	Poisoning by propionic acid derivatives
966.3	Poisoning by other and unspecified anticonvulsants
967.8	Poisoning by other sedatives and hypnotics
969.03	Poisoning by selective serotonin reuptake inhibitors
969.05	Poisoning by tricyclic antidepressants
969.09	Poisoning by other antidepressants
969.3	Poisoning by other antipsychotics neuroleptics and major tranquilizers
969.4	Poisoning by benzodiazepine-based tranquilizers
969.6	Poisoning by psychodysleptics (hallucinogens)
969.79	Poisoning by other psychostimulants
977.8	Poisoning by other specified drugs and medicinal substances
977.9	Poisoning by unspecified drug or medicinal substance

*(continued)*



**Appendix. Continued**

980.0	Toxic effect of ethyl alcohol
983.9	Toxic effect of caustic unspecified
986	Toxic effect of carbon monoxide
991.6	Hypothermia
994.7	Asphyxiation and strangulation
v40.39	Other specified behavioral problem
v40.9	Unspecified mental or behavioral problem
v61.29	Other parent-child problems
v61.8	Other specified family circumstances
v62.84	Suicidal ideation
v62.85	Homicidal ideation
v65.5	Person with feared complaint in whom no diagnosis was made
v70.2	General psychiatric examination other and unspecified
v70.3	Other general medical examination for administrative purposes
v70.4	Examination for medicolegal reasons
v71.89	Observation for other specified suspected conditions