

Mental Health and Substance Misuse-Related Emergency Department Discharges in Urban Counties of North Carolina

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BACKGROUND National evidence suggests that there is considerable variation between regions in emergency department utilization for routine health care needs. Many emergency departments are poorly equipped to manage the needs of patients with mental health or substance misuse diagnoses, who could often be more effectively managed in other settings. We sought to quantify differences in the frequency of mental health and substance misuse-related emergency department encounters across urban counties in North Carolina.

METHODS Data from the 2010 North Carolina State Emergency Department and Inpatient Databases were analyzed with descriptive, bivariate, and multivariate statistics. Primary discharge diagnoses were classified using the International Classification of Disease, Ninth Revision, Clinical Modification codes included with the databases.

RESULTS The overall rate of mental health and substance misuse encounters in urban counties was 19.1 encounters per 1,000 people (4.5% of all emergency department encounters). This rate ranged from 6.4 encounters per 1,000 people (2.4% of encounters) in Wake County to 30.1 encounters per 1,000 people (6.4%) in Orange County.

LIMITATIONS There is a possibility of nondifferential classification error in the state databases, as coding practices and coding errors may vary between facilities. We were unable to confirm diagnoses through additional clinical information or Diagnostic and Statistical Manual criteria.

CONCLUSION Mental health and substance misuse-related encounters constitute a small percentage of emergency department encounters in North Carolina's urban counties, with significant variation between counties. Diverting some of these encounters to community-based mental health and substance misuse health care providers could reduce emergency department utilization while improving the quality of care delivered to this vulnerable patient population.

Mental illness and substance misuse are deeply intertwined and greatly impact the US health care system. Over one-quarter of the US population has at least one diagnosable mental illness [1], but only one-third of individuals experiencing symptoms of mental illness or substance misuse receive community-based primary care (ie, outpatient pharmacological and/or psychotherapeutic treatment) for their conditions [2]. Given this lack of community-based treatment for those living with symptoms of mental health or substance misuse disorders that impair daily living, emergency departments frequently become points of access to the health care system for this population. Evidence suggests, however, that there is substantial variation in emergency department utilization for mental health or substance misuse needs between regions and settings [3-5].

Many studies suggest that emergency departments are ill-equipped to triage and treat patients with mental health or substance misuse conditions [6-9]. Inaccurate and incomplete assessment of emergency department patients with mental health or substance misuse conditions contributes to repeated encounters, because appropriate referrals are not being made for medication management and psychotherapy services [1]. Further, for those who receive referrals, patient tracking and follow-up have been recommended to discourage future non-emergent encounters [1]. Making appropriate referrals and tracking patients with mental health or

substance misuse conditions after discharge via social work case management efforts is an ideal scenario.

Many communities lack the infrastructure and resources to support patients with mental health or substance misuse conditions [10]. In effect, patients may find themselves cycling in and out of the emergency department because they have nowhere else to go; that is, individuals may be at an increased risk for utilizing the emergency department to address routine mental health or substance misuse health care needs [10]. Further, cognitive and social impairments may adversely impact the ability of individuals with mental health or substance misuse disorders to advocate for their health care needs, which may compromise their care following an emergency department encounter [11].

Understanding regional variations in mental health and substance misuse-related emergency department utilization can provide some insight into variations in community needs and access to care. This article uses a comparative approach to look at the frequency of mental health and sub-

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stance misuse-related emergency department encounters in urban counties in North Carolina. We hypothesized that there are differences in the frequency of these encounters between urban counties and that these differences reflect variations in community needs and access to community-based care. We also hypothesized that major drivers of these differences are readmissions (ie, patients seen multiple times throughout the year) and a spillover effect from out-of-county patients seeking care in urban counties.

Methods

We utilized data from 3 sources to quantify the frequency of mental health and substance misuse-related emergency department encounters in urban counties in North Carolina. Data from the 2010 North Carolina State Emergency Department Database were used to identify emergency department encounters that contained a mental health or substance misuse-related diagnosis. Data from the State Emergency Department Database, which contains all of the discharge records from the emergency departments of nonfederal community hospitals, were acquired through a data use agreement with the Healthcare Cost and Utilization Project, an initiative of the Agency for Healthcare Research and Quality. Since the State Emergency Department Database does not contain data on patients who were admitted for inpatient care, it was necessary to include data from the State Inpatient Database in order to capture all patients seen in the emergency department. Only patients from the State Inpatient Database who were admitted through the emergency department were included in our analyses. The 2010 state databases are the most recent data releases in which it is possible to track patients across encounters, allowing us to determine the frequency of emergency department visits by the same patient. Finally, US Census Bureau 2010 population figures were used to calculate rates for these encounters per 1,000 residents. To examine the hypothesized spillover effect, we also examined the proportion of out-of-county patients seen between counties. All analyses were performed using SAS version 9.4. This study was exempt from the institutional review board evaluation under Section 4 of 45 CFR 46.101, which covers research involving collection or study of existing data, documents, records, or diagnostic specimens.

Mental health and substance misuse-related diagnoses were identified through the International Classification of Disease, Ninth Revision, Clinical Modification (ICD-9-CM) diagnosis codes included with each discharge record. The state databases list the main reason for an encounter as the first, or primary, diagnosis. Thus, records that included a mental health or substance misuse-related ICD-9-CM code as the primary discharge diagnosis, including self-harm and drug overdoses, were classified as primarily mental health and substance misuse-related (see Appendix 1; online version only). Discharge records in which a mental health or substance misuse diagnosis was listed as a secondary or

tertiary diagnosis were classified as having a mental health or substance misuse comorbidity. All other records were treated as being unrelated to mental health or substance misuse. To further test whether there was a coding difference between counties, we examined the rates and proportions of all mental health and substance misuse patients (regardless of diagnosis number or position) between urban counties.

We employed descriptive statistics as our main analytic approach to compare the frequency of mental health and substance misuse-related encounters between urban counties. We used chi-square tests, t-tests, and analysis of variance tests—or their non-parametric equivalents (ie, Wilcoxon and Kruskal-Wallis tests)—to compare frequencies, proportions, and mean (billed) charges between counties. All charges are reported in 2015 dollars, using the Consumer Price Index adjustment for inflation.

To further test whether any county was seeing a disproportionate number of mental health and substance misuse-related cases, we compared the frequency of revisits between counties. Additionally, we used multivariate logistic regression to compare the odds of a patient being admitted for inpatient care after presenting to the emergency department with a mental health or substance misuse primary diagnosis, controlling for patient characteristics such as age, race, sex, primary payer, and ZIP code median income. (The quartiles included in the data set are derived from ZIP code demographic data reported by Claritas, Inc./The Nielson Company.) To maintain patient confidentiality, the ZIP code median income was suppressed for 3.6% of patients statewide prior to our receipt of the data. A proxy measure of community resources—unmet prescribing provider need—was also included in the logistic regression model [12]. Wake County, home to the state capital and the county ranked highest for health outcomes in 2010, was selected a priori as the reference county for the multivariate logistic regression model [13].

Results

Over 4 million emergency department encounters occurred in North Carolina in 2010, 2.05 million (49.8%) of which occurred in urban counties (see Table 1). Mecklenburg County had the greatest number of primary mental health and substance misuse-related emergency department encounters (N = 24,667). However, when these encounters are viewed as a proportion of all emergency department

APPENDIX 1. Mental Health and Substance Misuse Related ICD-9-CM Diagnosis Codes

This appendix is available in its entirety in the
online edition of the NCMJ.

Note. ICD-9-CM, International Classification of Disease, 9th Revision, Clinical Modification; NEC, not elsewhere classified.

TABLE 1.
Frequency, Outcomes, and Characteristics of Mental Health and Substance Misuse-Related Emergency Department Encounters in North Carolina in 2010, by County

County	Total encounters (any diagnosis)	MHSM primary diagnoses								Total charges
		Encounters	Percent of all encounters	Encounters per 1,000 residents	Discharged to home (%)	Admitted for inpatient care (%)	Out-of-county patient (%)	Readmissions ^a (%)	2 or more MHSM diagnoses on record (%)	
All counties in North Carolina	4,125,904	160,589	3.9%	16.9	75.7	24.3	25.9	31.8	58.9	\$790,713,715
Urban counties	2,054,713	91,738	4.5%	19.1	73.2	26.8	26.1	34.4	60.1	\$503,057,085
Alamance	53,064	2,192	4.1%	14.5	59.8	40.2	18.2	38.4	67.9	\$9,894,135
Buncombe	95,521	5,702	6.0%	23.9	65.5	34.5	22.4	NR	68.9	\$34,264,643
Cabarrus	88,835	2,431	2.7%	13.7	87.7	12.3	27.2	35.6	66.4	\$9,614,070
Catawba	82,539	4,185	5.1%	27.1	57.6	42.4	35.5	42.8	71.9	\$30,967,413
Cumberland	109,399	5,288	4.8%	16.6	80.2	19.8	16.5	40.4	72.3	\$26,948,292
Davidson	64,780	2,270	3.5%	13.9	89.1	10.9	16.7	37.9	72.4	\$9,332,979
Durham	128,149	3,999	3.1%	14.9	69.2	30.8	30.1	34.9	50.3	\$30,351,550
Forsyth	194,447	9,153	4.7%	26.1	66.0	34.0	31.5	46.7	64.0	\$56,376,444
Gaston	101,053	5,190	5.1%	25.2	63.3	36.7	19.9	NR	57.6	\$27,227,034
Guilford	230,768	9,315	4.0%	19.1	67.8	32.3	27.5	43.5	59.7	\$40,124,507
Mecklenburg	436,590	24,667	5.7%	26.8	84.7	15.3	23.2	47.4	51.0	\$112,492,117
New Hanover	110,779	5,163	4.7%	25.5	71.2	28.8	30.6	39.4	56.3	\$26,195,759
Orange	62,443	4,023	6.4%	30.1	47.5	52.5	61.2	NR	70.7	\$40,107,163
Rowan	58,237	2,383	2.1%	17.2	71.7	28.3	16.5	46.0	59.2	\$10,771,407
Wake	240,019	5,770	2.4%	6.4	81.5	18.5	17.0	9.3	59.4	\$38,389,573

Note. MHSM, mental health and substance misuse; NR, not reported.

^aThe unique patient identifier was not available in both data sets for Buncombe, Gaston, and Orange counties. Thus, it was not possible to accurately assess readmissions in these counties. The cumulative readmission rate was calculated excluding these counties in both the numerator and denominator.

encounters, Mecklenburg County (5.7%) was surpassed by Buncombe (6.0%) and Orange counties (6.4%).

The overall rate of mental health and substance misuse-related emergency department encounters was 19.1 encounters per 1,000 people in the urban counties of North Carolina. Over one-third (34.4%) of mental health and substance misuse-related emergency department encounters were for patients seen at least twice during the year for a primary diagnosis related to mental health or substance misuse. Overall, 15.7% (N = 322,001) of all emergency department encounters in urban counties (regardless of diagnosis) resulted in an inpatient admission; patients with a primary mental health or substance misuse diagnosis were more likely to be admitted (26.1%). Statewide, nearly one-quarter of all patients (24.3%) presenting to the emergency department had at least 1 mental health or substance misuse-related diagnosis (data not shown).

Overall, 26.1% of patients with a mental health or substance misuse diagnosis seen in urban counties resided outside of the county in which they received care (see Table 1). Orange County had the highest proportion of out-of-county patients (61.2%). In comparison, emergency departments in Wake County—the county with the lowest rate of emergency department encounters attributable to primary mental health or substance misuse diagnoses—were far less likely to see out-of-county patients (17.0%). Emergency departments in Mecklenburg County, which had the highest

proportion of these primary encounters, also tended to see far fewer out-of-county patients (23.2%).

The total billed charges for mental health and substance misuse-related emergency department encounters in North Carolina exceeded \$790 million (see Table 1). Urban counties accounted for 63.6% of the total billed charges for mental health and substance misuse-related emergency department encounters. The average billed charge for a mental health or substance misuse-related encounter in urban counties was \$5,138.40. This total is approximately \$400 more than the state average for any diagnosis (\$4,752.60; $P < .01$), and it is over \$1,000 more than the average for mental health and substance misuse-related encounters in non-urban counties (\$3,913.50; $P < .01$). As would be expected, the average total charges for an inpatient stay (\$12,952.50) were significantly higher than the charges for patients discharged directly from the emergency department (\$1,927.90; $P < .01$).

Patient characteristics are depicted in Table 2. The average age of a patient with a mental health or substance misuse-related diagnosis presenting to the emergency department in urban counties was 37.6 years. Males constituted a slight majority (51.6%) of mental health and substance misuse patients in all urban counties combined. In terms of the expected primary payer, self-pay patients were most commonly reported, with nearly one-third of all patients listed as the expected payer. In Mecklenburg

County, the county with the highest number of emergency department encounters for mental health and substance misuse, the proportion of self-pay patients was 37.9%—the highest in the state.

The odds that a patient who presented to the emergency department with a mental health or substance misuse diagnosis would be admitted for inpatient care varied between counties, adjusting for patient characteristics, diagnosis, and proxies for community resources (see Table 3). Compared to Wake County, which had the lowest rate of mental health and substance misuse-related encounters, patients in 10 of 14 urban counties had increased odds of being admitted to the hospital. Patients presenting to the emergency department in Orange County had the greatest odds of being admitted for inpatient care, compared to Wake County (5.4 greater odds). Patients presenting to emergency departments in Mecklenburg County, where the highest rate of these encounters was observed, were 1.4 times more likely to be admitted compared to patients in Wake County. Importantly, revisits did not appear to significantly impact the odds of being admitted for inpatient care (odds ratio [OR], 1.0; 95% confidence interval [CI], 0.9-1.1). The odds of inpatient admission were 352% higher in counties where prescriber needs were met (OR, 3.5; 95% CI, 2.2-3.8; not displayed in table).

Discussion

Our findings support the hypothesis that there are differences in the frequency of mental health and substance misuse-related encounters between urban counties in North

Carolina. Across the state, 2-6% of patients presenting to the emergency department in urban counties had a mental health or substance misuse-related primary diagnosis. However, nearly one-quarter of all patients had at least 1 mental health or substance misuse-related diagnosis. Over one-third of encounters with a primary mental health or substance misuse-related diagnosis occurred among patients who utilized the emergency department more than once during the year for their health care needs.

We find the differences between our 2 largest counties, Mecklenburg and Wake, particularly interesting. Our findings suggest that emergency departments in Mecklenburg County are seeing a disproportionate number of mental health and substance misuse cases, compared to Wake County. The rate of mental health and substance misuse-related emergency department encounters was more than 4 times higher in Mecklenburg County than in Wake County (26.8 discharges per 1,000 residents versus 6.1 discharges per 1,000 residents, respectively). Additionally, the number of patients with mental health or substance misuse diagnoses who were seen in the emergency department multiple times throughout the year varied significantly between Wake County (9.3%) and Mecklenburg County (47.4%). It is likely, then, that these conditions could be better managed through community-based primary care and crisis intervention, particularly in Mecklenburg County. Investing in these community-based services may help to reduce excess expenditures in the emergency department and improve quality of life for individuals with mental health and sub-

TABLE 2.
Characteristics of Emergency Department Patients With a Mental Health or Substance Misuse-Related Primary Diagnosis, by County

County	Age, in years (mean)	Race (%)			Sex		Primary expected payer (%)					Median household income ^a (%)			
		White	Black	Other	Female (%)	Medicare	Medicaid	Private insurance	Self-pay	Other	\$1-\$40,999	\$41,000-\$50,999	\$51,000-\$66,999	≥ \$67,000	
All counties in North Carolina	38.1	65.8	24.8	9.4	49.3	18.1	26.0	22.0	30.0	3.9	43.7	34.6	11.8	6.3	
Urban counties	37.6	63.1	26.0	11.0	48.4	16.1	26.1	23.7	30.2	4.1	32.4	37.8	16.6	9.9	
Alamance	39.4	73.4	23.1	3.5	50.7	24.4	22.1	18.3	22.0	13.2	27.7	63.4	5.0	1.4	
Buncombe	37.5	87.9	9.5	2.5	45.0	20.7	33.5	21.0	23.4	1.5	40.5	45.2	10.1	0.8	
Cabarrus	38.8	82.1	14.2	3.7	53.3	19.2	20.8	27.6	31.1	1.3	15.3	53.3	25.0	4.9	
Catawba	38.7	84.9	11.8	3.4	47.6	17.7	23.5	22.1	21.0	15.8	27.9	66.8	2.0	0.5	
Cumberland	35.7	NR	NR	NR	50.4	17.0	32.2	12.2	27.6	11.1	22.8	72.1	2.8	0.8	
Davidson	39.9	85.3	10.6	4.1	51.7	15.8	27.9	22.3	32.3	1.7	66.4	27.4	2.2	0.9	
Durham	38.6	48.4	43.8	7.8	49.2	19.8	21.4	27.8	29.6	1.4	27.9	45.3	14.8	9.4	
Forsyth	38.5	69.6	26.0	4.4	47.1	15.2	36.7	26.1	18.6	3.3	28.7	47.4	15.0	5.2	
Gaston	37.2	83.4	14.5	2.1	49.1	18.4	30.7	18.4	30.5	2.0	38.4	42.5	16.5	0.6	
Guilford	39.3	63.9	31.5	4.6	47.0	14.9	23.4	27.0	33.0	1.7	58.4	18.1	18.7	3.9	
Mecklenburg	35.8	52.2	40.0	7.9	47.8	11.4	25.3	23.2	37.9	2.3	30.8	20.7	20.6	22.0	
New Hanover	40.2	78.8	18.9	2.3	50.0	21.1	21.0	24.9	28.9	4.0	40.7	40.3	11.0	7.6	
Orange	35.4	68.7	20.5	10.8	47.5	17.5	21.1	26.0	25.6	9.9	11.4	42.4	32.8	11.4	
Rowan	37.8	78.9	21.1	3.0	50.8	18.8	30.7	21.2	27.9	1.4	31.3	61.7	2.1	0.6	
Wake	39.2	63.3	29.5	7.2	50.5	17.0	14.2	31.9	33.6	3.4	7.6	31.2	36.2	22.6	

Note. NR, not reported.

^aFor each county, columns do not sum to 100% because data were missing for 3.6% of patients statewide.

stance misuse disorders.

Following the logic espoused in an article by Thomas and colleagues, we postulate that the location of the state's academic medical centers and 3 psychiatric hospitals is

an additional factor contributing to this regional variation [12]. North Carolina's 4 academic medical centers—Duke University, Eastern Carolina University, the University of North Carolina at Chapel Hill, and Wake Forest University—are clustered in and around Wake County. Not coincidentally, these counties are among the 5 counties meeting the prescribing provider needs of the population [12].

Additionally, the closest inpatient psychiatric facility to Mecklenburg County is located approximately 70 miles northwest. In contrast, Wake County has much more convenient access, with a state psychiatric facility in a neighboring county 30 miles east. Further, the only other state psychiatric hospital is located 50 miles east of Wake County and more than 200 miles east of Mecklenburg County. Individuals with a mental health or substance misuse diagnosis utilize emergency services at high rates [9]; therefore, it is likely that Wake County institutionalizes this population at a higher frequency than does Mecklenburg County, thus restricting the pool of patients with a mental health or substance misuse-related diagnosis reporting to the emergency department.

There was some spillover effect observed in our analyses, as out-of-county patients sought care in other urban counties. Orange County represents the most obvious example of this trend in mental health and substance misuse-related emergency department encounters, with 61.2% of encounters attributable to out-of-county patients. A possible explanation for the high incidence of out-of-county encounters in Orange County is its highway system; Orange County is home to both Interstate 85 and Interstate 40, which are 2 of the most traveled highways in the state. Many of Orange County's hospitals are located within a few miles of these interstates; therefore, high spillover rates could be due to the location of these thoroughfares and the ease with which ambulances and patients can access emergency departments. In addition, Chapel Hill is home to the University of North Carolina hospitals, further bolstering this medical system's reputation as a destination for high-quality care. We postulate that residents in surrounding areas, including Wake County, likely consider Orange County superior in terms of mental health and substance misuse-related care, contributing to its high rate of spillover. This is an area for future research.

Our findings fit within a broader conversation about mental health and substance misuse-related health care in North Carolina, which some suggest is "devolving, not evolving" [14]. The majority of the unmet mental health and substance misuse needs are for providers authorized to prescribe medication in North Carolina [12]. These prescribing providers are concentrated near major medical centers and the state's 3 psychiatric hospitals [12]. This leads to an unmet need for prescribers in 95 of North Carolina's 100 counties, including the state's largest county, Mecklenburg County. In fact, only 39.0% of the need for prescribing mental health and substance misuse providers is met in Mecklenburg County [12]. Our findings are consistent with previous research,

TABLE 3.
Adjusted Odds That a Patient Presenting to the Emergency Department With a Mental Health or Substance Misuse Primary Diagnosis Will Be Admitted for Inpatient Care, Controlling for Patient Characteristics, Primary Diagnosis^a, and Met Need for Prescribers^a

	Odds ratio	95% CI
Urban counties		
Alamance	2.4	1.6-3.4
Buncombe	3.9	2.9-5.2
Cabarrus	1.2	0.8-1.6
Catawba	3.4	2.4-4.7
Cumberland	1.0	0.7-1.4
Davidson	0.9	0.7-1.4
Durham	1.8	1.3-2.3
Forsyth	1.8	1.4-2.3
Gaston	3.3	2.5-4.4
Guilford	2.3	1.9-2.9
Mecklenburg	1.4	1.1-1.7
New Hanover	2.4	1.8-3.1
Orange	5.4	4.0-7.4
Rowan	1.4	1.0-2.1
Wake	Reference	
Age		
≤ 20 years	Reference	
21-40 years	2.2	1.9-2.6
41-60 years	3.1	2.6-3.7
> 60 years	4.1	3.1-6.3
Race		
White	Reference	
Black	0.8	0.7-1.0
Other	1.2	1.0-1.6
Sex		
Female	Reference	
Male	1.2	1.1-1.3
Expected primary payer		
Private insurance	Reference	
Medicare	1.2	1.0-1.4
Medicaid	1.0	1.0-1.0
Self-pay	0.5	0.5-0.6
Other	1.3	1.0-1.6
Median income		
\$1-\$40,999	1.1	0.8-1.6
\$41,000-\$50,999	1.0	0.7-1.4
\$51,000-\$66,999	0.9	0.6-1.4
≥ \$67,000	Reference	
Readmission^b		
First encounter	Reference	
Readmission	1.0	0.9-1.1

Note. CI, confidence interval.

^aNot displayed in table.

^bMore than 1 encounter in 2010.

including that of the Annapolis Commission, which reported that there are shortages in and maldistribution of the mental health workforce nationally [15, 16].

We utilized a broad definition of mental health and substance misuse-related diagnostic categories from the ICD-9-CM. For example, we included dementia in our definition of mental health and substance misuse-related primary diagnoses. It is worth noting, however, that dementia conditions did not significantly contribute to the overall number of emergency department discharges in our study. In Mecklenburg County, fewer than 10 dementia-related discharges (without inpatient care) occurred. Across the state, only 0.2% of emergency department discharges (n = 183) were related to dementia.

The state databases are untapped resources for health-related research. Although discharge records are clinically validated data sources, there may have been nondifferential misclassification of diagnoses in the data set (ie, patients may not have been assigned the appropriate ICD-9-CM code). We were unable to validate diagnoses with clinical data or Diagnostic and Statistical Manual of Mental Disorders criteria. However, we believe that if our estimates were biased as a result of misclassification, it is likely that we understated, rather than overstated, the incidence and cost of these discharges (ie, bias toward the null).

Additionally, an important limitation to our analyses is that the 2010 state databases did not capture Hispanic ethnicity, which limits the interpretation of our results regarding racial and ethnic disparities. Missing data points are also an issue in our data set (eg, 3 counties did not report readmission rates). Thus, it was not possible to capture all possible covariates in our multivariate logistic regression model. Further research is desirable to confirm our findings.

Finally, it is possible that our findings represent differences in coding practices between counties. Mecklenburg County appeared more likely to code a patient as having a primary mental health or substance misuse-related diagnosis, while other counties were more likely to identify a patient as having any mental health or substance misuse-related diagnosis. Further study, perhaps in the form of a multicenter retrospective chart review, is warranted to discern whether these differences are real or an artifact of coding practices.

Conclusion

While mental health and substance misuse-related discharges account for a small proportion of emergency department discharges in urban counties, these discharges lead to significant expenditures that impact urban counties across the state differently. In an era of cost-consciousness, diverting some of these patients to community-based mental health and substance misuse providers could substantially reduce health care expenditures while improving patient outcomes in this vulnerable population. We postulate that the majority of the cost savings could come from avoided revisits to the emergency department. **NCMJ**

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APPENDIX 1.
Mental Health and Substance Misuse Related ICD-9-CM Diagnosis Codes

ICD-9-CM heading	Category	ICD-9-CM heading	Category
290	Dementias	305	Nondependent abuse of drugs
291	Alcoholic psychoses	306	Physiological malfunction arising from mental factors
292	Drug psychoses	307	Special symptoms or syndromes, NEC
293	Transient organic psychotic conditions	308	Acute reaction to stress
294	Other chronic organic psychotic conditions	309	Adjustment reaction
295	Schizophrenic disorders	310	Specific nonpsychotic mental disorders following organic brain damage
296	Episodic mood disorders	311	Depressive disorder, NEC
297	Paranoid states	312	Disturbance of conduct, NEC
298	Other non-organic psychoses	313	Disturbance of emotions specific to childhood and adolescence
299	Psychoses originating in childhood	314	Hyperkinetic syndrome of childhood
300	Neurotic disorders	315	Specific delays in development
301	Personality disorders	316	Psychic factors associated with diseases classified elsewhere
302	Psychosexual disorders	317	Mild mental retardation
303	Alcohol dependence syndrome	318	Other specified mental retardation
304	Drug dependence	319	Unspecified mental retardation
Additional ICD-9-CM codes (Substance misuse)		Additional ICD-9-CM codes (Self-harm)	
E850	Accidental poisoning by analgesics, antipyretics, and antirheumatics	E950- E952	Self-inflicted poisoning
E851	Accidental poisoning by barbiturates	E953	Self-inflicted hanging, strangulation, and suffocation
E852	Accidental poisoning by other sedatives and hypnotics	E954	Self-inflicted submersion/drowning
E853	Accidental poisoning by tranquilizers	E955	Self-inflicted injury by firearms, air guns, and explosives
E854	Accidental poisoning by other psychotropic agents	E956	Self-inflicted injury by cutting and piercing instrument
E855	Accidental poisoning by other drugs acting on central and autonomic nervous system	E957	Self-inflicted injury by jumping from high places
E858	Accidental poisoning by other drugs	E958	Other self-inflicted injury
		E959	Late effects of self-inflicted injury

Note. IC9-9-CM, International Classification of Disease, 9th Revision, Clinical Modification; NEC, not elsewhere classified.