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Trends in Emergency Department Visits Involving Mental and Substance Use Disorders, 2006–2013

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Highlights

- The rate of emergency department (ED) visits per 100,000 population related to mental and substance use disorders (M/SUDs) increased substantially between 2006 and 2013. The increase over these 7 years was higher for mental disorders (55.5 percent for depression, anxiety or stress reactions and 52.0 percent for psychoses or bipolar disorders) than for substance use disorders (37.0 percent).
- The most rapid increases in the population rate of ED visits involving M/SUDs from 2006 to 2013 by age and sex were as follows:
  - SUDs: women aged 45–64 years (50.2 percent increase)
  - Depression, anxiety, or stress reactions: men aged 45–64 years (64.5 percent increase)
  - Psychoses or bipolar disorders: men and women aged 18–44 years (56.7 and 61.6 percent increase, respectively) and men aged 45–64 years (59.2 percent increase)
- Between 2006 and 2013, increases in the population rate of ED visits involving M/SUDs were largest among those in the lowest income communities, with increases of 40.8 percent (SUDs) to 79.4 percent (depression, anxiety or stress reactions).
- The percentage of M/SUD-related ED visits covered by private insurance decreased whereas the percentage covered by Medicaid increased.

Introduction

Mental illnesses are common in the United States. In 2014, there were an estimated 43.6 million adults aged 18 years or older in the United States with a mental, behavioral, or emotional disorder during the past year, representing 18.1 percent of all U.S. adults.[1] Approximately one in eight visits to emergency departments (EDs) in the United States involves mental and substance use disorders (M/SUDs).[2] Between 2007 and 2011, the rate of ED visits related to M/SUDs increased by over 15 percent.[3] ED visits involving M/SUDs are considered potentially avoidable—if these conditions were adequately managed through appropriate outpatient care, then ED visits should be rare.[4,5] These potentially preventable M/SUD-related ED visits also affect hospitals, because M/SUD-related ED visits are more than twice as likely to result in hospital admission compared with ED visits that do not involve M/SUDs.[6]

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents data on trends from 2006 to 2013 in the rate of ED visits involving the following categories of M/SUDs: substance use disorders (SUDs); depression, anxiety or stress reactions; and psychoses or bipolar disorders. These three categories are based on all-listed diagnoses. Analyses were limited to patients aged 15 years and older. Trends in ED visit rates per 100,000 population aged 15 years and older are presented for each type of M/SUD. Change in the rate of ED visits involving M/SUDs over the 7-year period 2006–2013 are presented by patient age, sex,

[1] National Institute of Mental Health. Any Mental Illness (AMI) Among U.S. Adults. https://www.nimh.nih.gov/health/statistics/prevalence/any-mental-illness-ami-among-us-adults.shtml. Accessed October 21, 2016.
[2] Owens PL, Mutter R, Stocks C. Mental Health and Substance Abuse-Related Emergency Department Visits Among Adults, 2007. HCUP Statistical Brief #92. July 2010. U.S. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb92.pdf. Accessed June 28, 2016.
[3] Agency for Healthcare Research and Quality. Chartbook on Care Coordination. Measures of Care Coordination: Preventable Emergency Department Visits. May 2015. Rockville, MD: Agency for Healthcare Research and Quality. http://www.ahrq.gov/research/findings/nhqrdr/2014chartbooks/carecoordination/carecoord-measures2.html. Accessed June 28, 2016.
[4] Rockett IRH, Putnam SL, Jia H, Chang C, Smith GS. Unmet substance abuse treatment need, health services utilization, and cost: a population-based emergency department study. Annals of Emergency Medicine. 2005;45(2):118–27.
[5] Yoon J, Yano EM, Altman L, Coradsco KM, Stockdale SE, Chow A, et al. Reducing costs of acute care for ambulatory care-sensitive medical conditions: the central roles of comorbid mental illness. Medical Care. 2012;50(8):705–13.
[6] Owens et al., 2010. Op. cit.

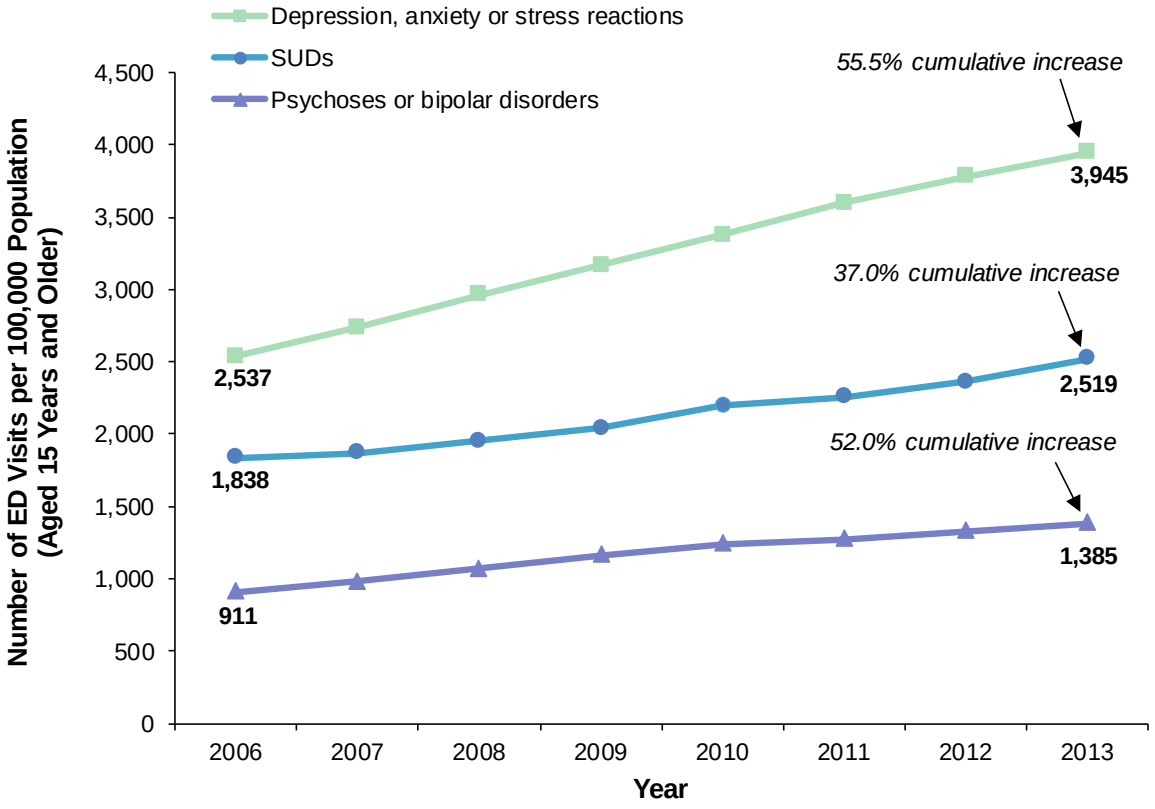
community-level income, hospital region, and patient location of residence. Change in the distribution of ED visits involving M/SUDs between 2006 and 2013 by expected primary payer also is provided. Differences in estimates of 10 percent or greater are noted in the text.

Findings

Trends in M/SUD-related ED visits, 2006–2013

Figure 1 provides trends in the rate of ED visits involving SUDs; depression, anxiety or stress reactions; and psychoses or bipolar disorders per 100,000 population aged 15 years and older, from 2006 to 2013.

Figure 1. Population rates of ED visits involving mental and substance use disorders, 2006–2013



Abbreviations: ED, emergency department; SUD, substance use disorder

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006–2013

- **Between 2006 and 2013, the population rate for ED visits involving mental disorders increased faster than the rate for ED visits involving SUDs.**

  In 2013, the rate of ED visits involving M/SUDs was highest for depression, anxiety or stress reactions at 3,945 per 100,000 population aged 15 years and older, followed by SUDs (2,519 per 100,000 population) and psychoses or bipolar disorders (1,385 per 100,000 population). Between 2006 and 2013, the rate of ED visits increased across M/SUDs, but the increase was higher for mental disorders (55.5 percent for depression, anxiety or stress reactions and 52.0 percent for psychoses and bipolar disorders) than for SUDs (37.0 percent).

Trends in M/SUD-related ED visits by age and sex, 2006–2013

Table 1 provides the rate of ED visits involving SUDs; depression, anxiety or stress reactions; and psychoses or bipolar disorders per 100,000 population aged 15 years and older by patient sex and age group in 2006 and 2013. The cumulative percentage change over the 7-year period also is provided.

Table 1. Population rate of emergency department visits involving mental and substance use disorders by patient sex and age, 2006 and 2013

Patient characteristic	SUDs			Depression, anxiety or stress reactions			Psychoses or bipolar disorders		
	2006 rate[a]	2013 rate[a]	Cumulative percentage change	2006 rate[a]	2013 rate[a]	Cumulative percentage change	2006 rate[a]	2013 rate[a]	Cumulative percentage change
Total	1,838	2,519	37.0	2,537	3,945	55.5	911	1,385	52.0
Sex									
Male	2,459	3,346	36.1	1,824	2,854	56.5	875	1,342	53.4
Female	1,248	1,733	38.9	3,215	4,981	54.9	946	1,426	50.8
Males by age group, years									
15–17	1,032	984	–4.7	1,068	1,345	25.9	436	571	31.0
18–44	2,565	3,442	34.2	1,665	2,498	50.0	906	1,419	56.7
45–64	3,078	4,377	42.2	1,888	3,105	64.5	959	1,527	59.2
65+	1,253	1,679	34.0	2,576	3,916	52.0	750	981	30.8
Females by age group, years									
15–17	854	819	–4.1	2,056	2,739	33.3	524	696	32.8
18–44	1,565	2,162	38.1	2,825	4,374	54.9	942	1,522	61.6
45–64	1,280	1,922	50.2	3,110	4,887	57.2	1,009	1,552	53.9
65+	496	676	36.4	4,727	7,077	49.7	966	1,179	22.1

Abbreviation: SUD, substance use disorder

[a] Rate is the number of emergency department visits per 100,000 population aged 15 years and older, by age and sex.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

- **In 2013, the population rate of ED visits involving SUDs was nearly twice as high for males as for females. The rate of ED visits involving mental disorders was either lower for males or similar for both sexes.**

  The rate of ED visits involving SUDs was nearly twice as high among males (3,346 visits per 100,000 population) as among females (1,733 visits per 100,000 population) in 2013. In contrast, the rate of ED visits involving depression, anxiety or stress reactions was lower among males (2,854 visits per 100,000 population) than among females (4,981 visits per 100,000 population). The rate of ED visits involving psychoses or bipolar disorders was similar for males and females (approximately 1,400 visits per 100,000 population).

- **Between 2006 and 2013, the population rate of ED visits involving SUDs increased among all adult age groups but did not increase among teenagers.**

  For both male and female adults aged 18 years and older, the population rate of ED visits involving SUDs increased between 2006 and 2013 by at least 34.0 percent, depending on the specific age group. In contrast, the rate did not change substantially among either male or female teens aged 15–17 years (–4.7 and –4.1 percent, respectively).

  Among males, those aged 45–64 years had the highest rate of ED visits involving SUDs in 2013 (4,377 visits per 100,000 population—2.3 times the rate for females in this age group) and the largest increase in rate (42.2 percent) between 2006 and 2013. Among females, those aged 18–44 years

had the highest rate of ED visits involving SUDs in 2013 (2,162 per 100,000 population), but those aged 45–64 years had the largest increase in rate (50.2 percent) between 2006 and 2013.

- **Between 2006 and 2013, the population rate of ED visits involving depression, anxiety or stress reactions increased the most among males aged 45–64 years.**

  For both male and female adults aged 18 years and older, the population rate of ED visits involving depression, anxiety or stress reactions increased between 2006 and 2013 by at least 49.7 percent, depending on the specific age group. The rate also increased among both male and female teens aged 15–17 years, but not as rapidly (25.9 and 33.3 percent, respectively).

  Among males, those aged 65 years and older had the highest rate of ED visits involving depression, anxiety or stress reactions in 2013 (3,916 per 100,000 population), but those aged 45–64 years had the largest increase in rate (64.5 percent) between 2006 and 2013. Similarly, among females, those aged 65 years and older had the highest rate of ED visits involving depression, anxiety or stress reactions in 2013 (7,077 per 100,000 population—1.8 times the rate of males in this age group), but those aged 18–44 years and 45–64 years had a larger increase in rate (54.9 and 57.2 percent, respectively) between 2006 and 2013.

- **Between 2006 and 2013, the population rate of ED visits involving psychoses or bipolar disorders increased the most among males and females aged 18–44 years and among males aged 45–64 years.**

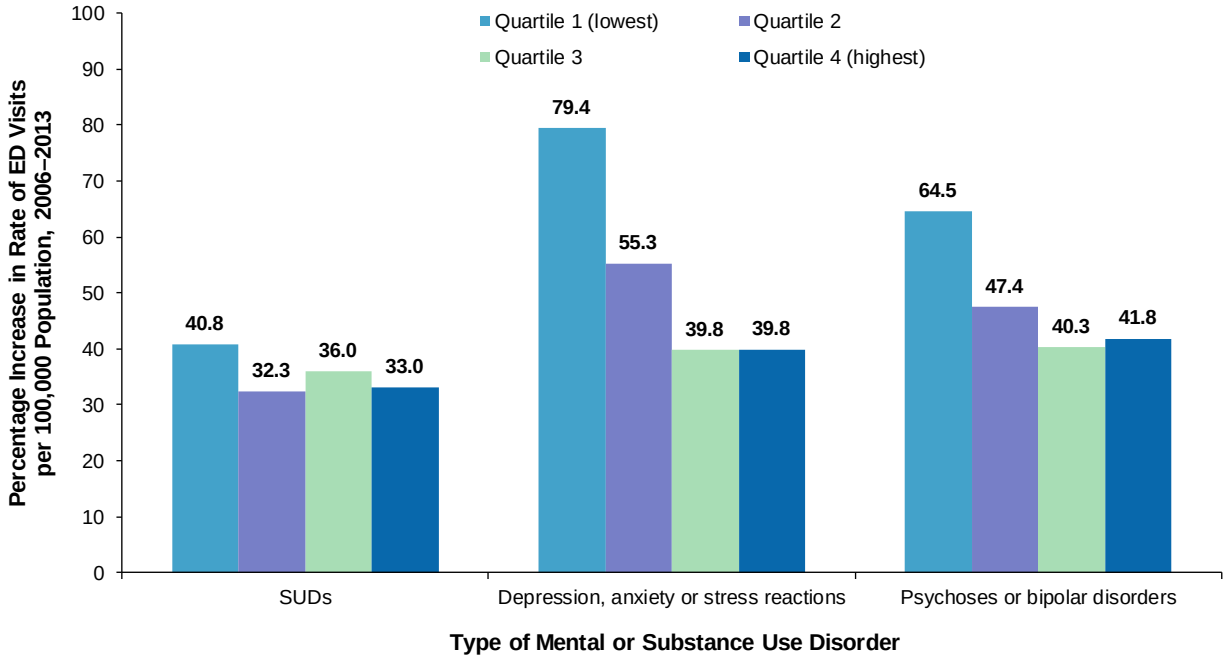
  For both male and female adults aged 18–44 years and 45–64 years, the population rate of ED visits involving psychoses or bipolar disorders increased between 2006 and 2013 by at least 53.9 percent, depending on the specific age group. The rate also increased among both males and females aged 15–17 years and 65 years and older, but not as rapidly (maximum 32.8 percent increase).

  The rate of ED visits involving psychoses or bipolar disorders in 2013 and the percentage increase in the rate from 2006–2013 were relatively similar between males and females in all age groups. Among males, those aged 18–44 years and 45–64 years had the highest rate of ED visits involving psychoses or bipolar disorders in 2013 (1,419 and 1,527 per 100,000 population, respectively) and the largest increase in rates (56.7 and 59.2 percent, respectively) between 2006 and 2013. Similarly, among females, those aged 18–44 years and 45–64 years had the highest rate of ED visits involving psychoses or bipolar disorders in 2013 (1,522 and 1,552 per 100,000 population, respectively) and the largest increase in rates (61.6 and 53.9 percent, respectively).

Trends in M/SUD-related ED visits by community-level income, hospital region, and patient location, 2006–2013

Between 2006 and 2013, the rate of ED visits per 100,000 population related to SUDs; depression, anxiety or stress reactions; and psychoses or bipolar disorders increased across categories of community-level income, hospital region, and location of patient residence. For each characteristic, the percentage increase in the ED visit rate between 2006 and 2013 is presented for each M/SUD category in Figures 2–4. The ED visit population rates and percentage increases from 2006 to 2013 are presented in Tables 2–4.

Figure 2. Percentage increase in population rate of emergency department visits related to mental and substance use disorders by community-level income, 2006–2013



Abbreviations: ED, emergency department; SUD, substance use disorder

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

- **Patients in the lowest income quartiles had larger increases in population rates of M/SUD-related ED visits than did those in the highest income quartiles.**

  Between 2006 and 2013, the increase in the population rate of ED visits involving SUDs was higher in the lowest income communities (Quartile 1: 40.8 percent) than in the three highest income communities (Quartiles 2–4: range, 32.3–36.0 percent). The increase in the rate of ED visits involving depression, anxiety or stress reactions was higher in the two lowest income communities (Quartile 1: 79.4 percent; Quartile 2: 55.3 percent) than in the two highest income communities (Quartiles 3–4: 39.8 percent). Similarly, the increase in the rate of ED visits involving psychoses or bipolar disorders was higher in the two lowest income communities (Quartile 1: 64.5 percent; Quartile 2: 47.4 percent) than in the two highest income communities (Quartiles 3–4: range, 40.3–41.8 percent).

Table 2. Population rate and percentage increase in rate of emergency department visits involving mental and substance use disorders by community-level income, 2006 and 2013

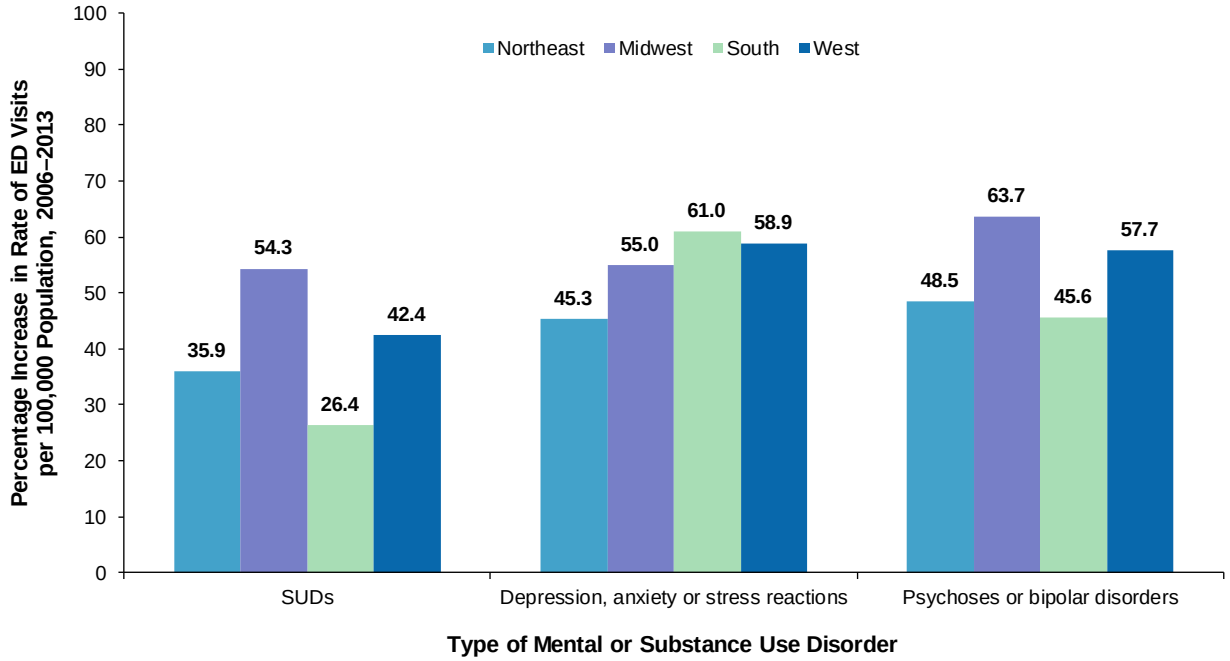
Community-level income	SUDs			Depression, anxiety or stress reactions			Psychoses or bipolar disorders		
	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %
Quartile 1 (lowest)	2,460	3,464	40.8	2,794	5,011	79.4	1,237	2,036	64.5
Quartile 2	1,904	2,519	32.3	2,780	4,318	55.3	964	1,421	47.4
Quartile 3	1,527	2,077	36.0	2,413	3,373	39.8	774	1,086	40.3
Quartile 4 (highest)	1,186	1,578	33.0	1,948	2,724	39.8	563	798	41.8

Abbreviation: SUD, substance use disorder

[a] Rate is the number of emergency department visits per 100,000 population aged 15 years and older, by community-level income.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

Figure 3. Percentage increase in population rate of emergency department visits involving mental and substance use disorders by hospital region, 2006–2013



Abbreviations: ED, emergency department; SUD, substance use disorder

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

- **The Midwest had the largest increase in the population rate of ED visits involving SUDs, and psychoses or bipolar disorders.**

  Between 2006 and 2013, the increase in the population rate of ED visits involving SUDs was highest in the Midwest (54.3 percent), followed by the West (42.4 percent), Northeast (35.9 percent), and South (26.4 percent). The increase in the rate of ED visits involving depression, anxiety or stress reactions was highest in the South (61.0 percent), West (58.9 percent), and Midwest (55.0 percent), and lowest in the Northeast (45.3 percent). The increase in the rate of ED visits involving psychoses or bipolar disorders was highest in the Midwest (63.7 percent), followed by the West (57.7 percent), and lowest in the Northeast (48.5 percent) and South (45.6 percent).

Table 3. Population rate and percentage increase in rate of emergency department visits involving mental and substance use disorders by hospital region, 2006 and 2013

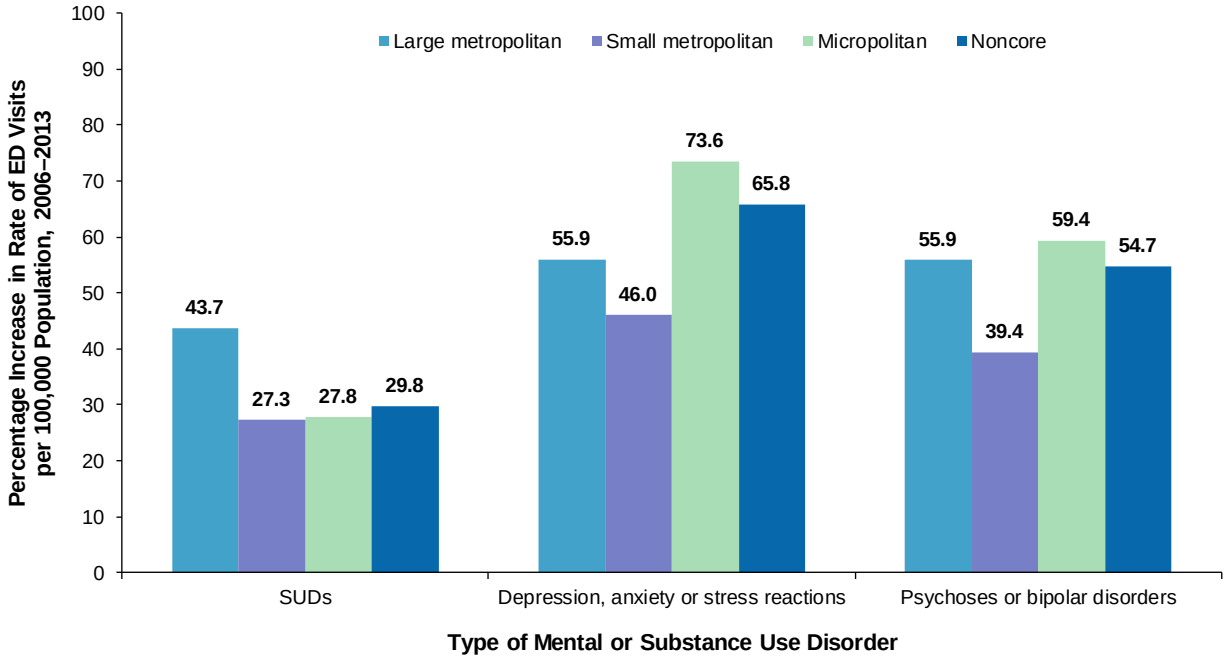
Hospital region	SUDs			Depression, anxiety or stress reactions			Psychoses or bipolar disorders		
	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %
Northeast	2,347	3,190	35.9	2,771	4,027	45.3	1,052	1,563	48.5
Midwest	1,630	2,515	54.3	2,979	4,616	55.0	927	1,518	63.7
South	1,829	2,312	26.4	2,580	4,153	61.0	966	1,407	45.6
West	1,636	2,331	42.4	1,845	2,931	58.9	691	1,089	57.7

Abbreviation: SUD, substance use disorder

[a] Rate is the number of emergency department visits per 100,000 population aged 15 years and older, by region.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

Figure 4. Percentage increase in population rate of emergency department visits involving mental and substance use disorders by location of patient residence, 2006–2013



Abbreviation: ED, emergency department; SUD, substance use disorder

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

- **Large metropolitan areas had the largest increase in the population rate of ED visits involving SUDs, but micropolitan areas had the largest increase in the rate of ED visits involving depression, anxiety or stress reactions.**

  Between 2006 and 2013, the increase in the population rate of ED visits involving SUDs was higher in large metropolitan areas (43.7 percent) than in other locations (range, 27.3–29.8 percent). The increase in the rate of ED visits involving depression, anxiety or stress reactions was highest in micropolitan areas (73.6 percent), followed by noncore areas (65.8 percent), large metropolitan areas (55.9 percent), and then small metropolitan areas (46.0 percent). The increase in the rate of ED visits involving psychoses or bipolar disorders was higher in micropolitan (59.4 percent), large metropolitan (55.9 percent), and noncore (54.7 percent) areas, and lowest in small metropolitan areas (39.4 percent).

Table 4. Population rate and percentage increase in rate of emergency department visits involving mental and substance use disorders by location of patient residence, 2006 and 2013

Location of patient residence	SUDs			Depression, anxiety or stress reactions			Psychoses or bipolar disorders		
	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %	2006 rate[a]	2013 rate[a]	Change, %
Large metropolitan	1,797	2,582	43.7	2,241	3,493	55.9	892	1,391	55.9
Small metropolitan	1,939	2,468	27.3	2,909	4,246	46.0	967	1,348	39.4
Micropolitan	1,671	2,134	27.8	2,870	4,982	73.6	872	1,390	59.4
Noncore	1,419	1,842	29.8	2,534	4,200	65.8	699	1,081	54.7

Abbreviation: SUD, substance use disorder

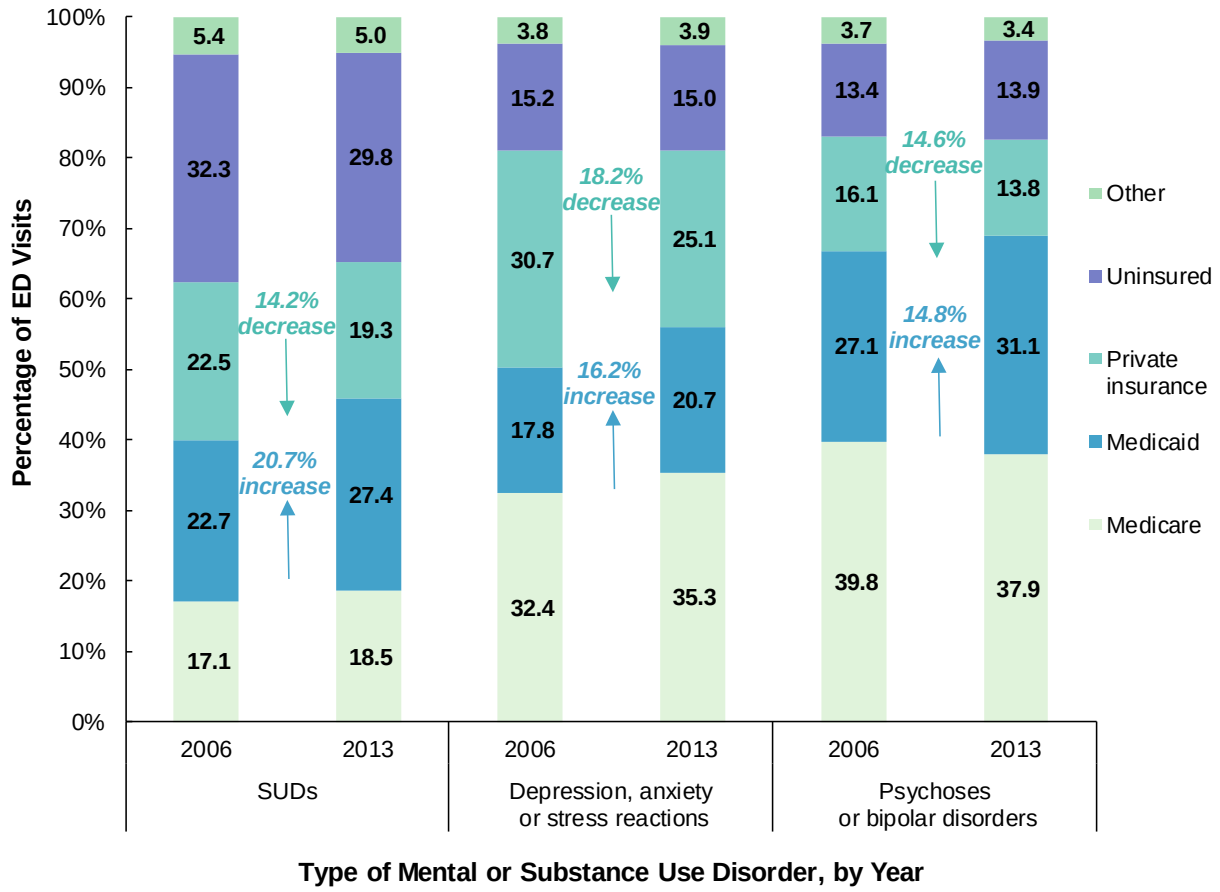
[a] Rate is the number of emergency department visits per 100,000 population aged 15 years and older, by location.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

Trends in M/SUD-related ED visits by payer, 2006–2013

Figure 5 presents the distribution of ED visits involving SUDs; depression, anxiety or stress reactions; and psychoses or bipolar disorders, by expected primary payer in 2006 and 2013.

Figure 5. Distribution of emergency department visits involving mental and substance use disorders by expected primary payer, 2006 and 2013



Abbreviations: ED, emergency department; SUD, substance use disorder

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2006 and 2013

- **Between 2006 and 2013, the proportion of M/SUD-related ED visits paid by private insurance decreased whereas the proportion paid by Medicaid increased.**

  For all three types of M/SUDs, the percentage of ED visits with an expected primary payer of private insurance decreased between 2006 and 2013 (range: 14.2 to 18.2 percent decrease) whereas the percentage of ED visits covered by Medicaid increased (range: 14.8 to 20.7 percent increase).

Data Source

The estimates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) 2006–2013 Nationwide Emergency Department Sample (NEDS). Supplemental sources included population denominators based on data obtained from the Nielsen Company.[7]

Definitions

Diagnoses, ICD-9-CM
The *principal diagnosis* is that condition established after study to be chiefly responsible for the patient's admission to the hospital. *Secondary diagnoses* are concomitant conditions that coexist at the time of admission or develop during the stay. *All-listed diagnoses* include the principal diagnosis plus these additional secondary conditions.

ICD-9-CM is the International Classification of Diseases, Ninth Revision, Clinical Modification, which assigns numeric codes to diagnoses. There are approximately 14,000 ICD-9-CM diagnosis codes.

Case definition
The mental and substance use disorders (M/SUDs) in this Statistical Brief were defined using all-listed ICD-9-CM diagnosis codes and external cause of injury codes (E codes). The specific ICD-9-CM and E codes used for the inclusion and exclusion criteria for each of the three types of M/SUDs are provided in the separate appendix associated with this Statistical Brief on the HCUP-US website at http://www.hcup-us.ahrq.gov/reports/statbriefs/sb216-appendix.pdf.

Categories for M/SUDs used in this Statistical Brief were conceptualized and reviewed in 2013 by a workgroup of 15 invited experts with expertise in medicine, behavioral health, community health, measurement, and data. The workgroup was tasked with reviewing, evaluating, and providing feedback on initial development work for Prevention Quality Indicators (PQIs) adapted for the emergency department (ED) setting. The two mental disorder categories used in this Statistical Brief are mutually exclusive, but an ED visit record containing diagnoses for both substance use and mental disorders can be counted in both the SUD category and one of the two mental disorder categories. Psychoses and bipolar disorders were categorized together because these diagnoses represent illnesses that are typically more severe and persistent, particularly among patients who present to EDs. These diagnoses may not be recorded first on a record and are usually noted only if they are an important component of the ED visit. Some physicians may code acute psychoses even when chronic disease is suspected, because of the difficulty of confirming chronic diagnoses in the ED setting.

Types of hospitals included in the HCUP Nationwide Emergency Department Sample
The Nationwide Emergency Department Sample (NEDS) is based on data from community hospitals, which are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). The NEDS includes specialty, pediatric, public, and academic medical hospitals. Excluded are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. Hospitals included in the NEDS have hospital-owned emergency departments and no more than 90 percent of their ED visits resulting in admission.

Unit of analysis
The unit of analysis is the ED encounter, not a person or patient. This means that a person who is seen in the ED multiple times in 1 year will be counted each time as a separate encounter in the ED.

Location of patients' residence
For the purpose of this Statistical Brief we define the urban-rural designation using Urban Influence Codes (UICs). UICs emphasize the relationship of outlying counties to major metropolitan areas. UICs were developed at the U.S. Department of Agriculture's Economic Research Service as a refinement of

[7] The Nielsen Company. Nielsen Demographic Data. http://www.tetrad.com/demographics/usa/nielsen. Accessed November 28, 2016.

the Office of Management and Budget Metropolitan Statistical Area definition.[8] The four urban-rural designations are as follows:

- Large metropolitan areas with at least 1 million residents
- Small metropolitan areas with fewer than 1 million residents
- Micropolitan areas with cities of at least 10,000 residents
- Areas that are neither metropolitan nor micropolitan (cities with fewer than 10,000 residents)

Median community-level income
Median community-level income is the median household income of the patient's ZIP Code of residence. Income levels are separated into population-based quartiles with cut-offs determined using ZIP Code demographic data obtained from the Nielsen Company. The income quartile is missing for patients who are homeless or foreign.

Payer
Payer is the expected payer for the hospital stay. To make coding uniform across all HCUP data sources, payer combines detailed categories into general groups:

- Medicare: includes patients covered by fee-for-service and managed care Medicare
- Medicaid: includes patients covered by fee-for-service and managed care Medicaid
- Private Insurance: includes Blue Cross, commercial carriers, and private health maintenance organizations (HMOs) and preferred provider organizations (PPOs)
- Uninsured: includes an insurance status of *self-pay* and *no charge*
- Other: includes Workers' Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs

Hospital stays billed to the State Children's Health Insurance Program (SCHIP) may be classified as Medicaid, Private Insurance, or Other, depending on the structure of the State program. Because most State data do not identify patients in SCHIP specifically, it is not possible to present this information separately.

For this Statistical Brief, when more than one payer is listed for an ED visit, the first-listed payer is used.

About HCUP

The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). HCUP databases bring together the data collection efforts of State data organizations, hospital associations, and private data organizations (HCUP Partners) and the Federal government to create a national information resource of encounter-level health care data. HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs, and outcomes of treatments at the national, State, and local market levels.

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:

Alaska State Hospital and Nursing Home Association
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development

[8] Additional information about the UIC classification scheme is available at U.S. Department of Agriculture, Economic Research Service. Urban Influence Codes. Updated October 12, 2016. http://www.ers.usda.gov/data-products/urban-influence-codes.aspx. Accessed November 4, 2016.

Colorado Hospital Association
Connecticut Hospital Association
District of Columbia Hospital Association
Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Louisiana Department of Health and Hospitals
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association
Mississippi Department of Health
Missouri Hospital Industry Data Institute
Montana MHA - An Association of Montana Health Care Providers
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New Mexico Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association
Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Office of Health Analytics
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

About Statistical Briefs

HCUP Statistical Briefs are descriptive summary reports presenting statistics on hospital inpatient, ambulatory surgery, and emergency department use and costs, quality of care, access to care, medical conditions, procedures, patient populations, and other topics. The reports use HCUP administrative health care data.

About the NEDS

The HCUP Nationwide Emergency Department Database (NEDS) is a unique and powerful database that yields national estimates of emergency department (ED) visits. The NEDS was constructed using records

from both the HCUP State Emergency Department Databases (SEDD) and the State Inpatient Databases (SID). The SEDD capture information on ED visits that do not result in an admission (i.e., treat-and-release visits and transfers to another hospital); the SID contain information on patients initially seen in the ED and then admitted to the same hospital. The NEDS was created to enable analyses of ED utilization patterns and support public health professionals, administrators, policymakers, and clinicians in their decisionmaking regarding this critical source of care. The NEDS is produced annually beginning in 2006. Over time, the sampling frame for the NEDS has changed; thus, the number of States contributing to the NEDS varies from year to year. The NEDS is intended for national estimates only; no State-level estimates can be produced.

For More Information

For other information on M/SUDs, refer to the HCUP Statistical Briefs located at http://www.hcup-us.ahrq.gov/reports/statbriefs/sb_mhsa.jsp.

For additional HCUP statistics, visit:

- HCUP Fast Stats at http://www.hcup-us.ahrq.gov/faststats/landing.jsp for easy access to the latest HCUP-based statistics for health information topics
- HCUPnet, HCUP's interactive query system, at http://hcupnet.ahrq.gov/

For more information about HCUP, visit http://www.hcup-us.ahrq.gov/.

For a detailed description of HCUP and more information on the design of the Nationwide Emergency Department Sample (NEDS), please refer to the following database documentation:

Agency for Healthcare Research and Quality. Overview of the Nationwide Emergency Department Sample (NEDS). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated January 2016. http://www.hcup-us.ahrq.gov/nedsoverview.jsp. Accessed February 17, 2016.

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* * *

AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, and to share suggestions on how HCUP products might be enhanced to further meet your needs. Please e-mail us at hcup@ahrq.gov or send a letter to the address below:

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Agency for Healthcare Research and Quality, Healthcare Cost and Utilization Project, Statistical Brief #216: Trends in Emergency Department Visits Involving Mental and Substance Use Disorders, 2006–2013 (Weiss AJ, Barrett ML, Heslin KC, Stocks C)

Appendix A.1. List of ICD-9-CM diagnosis codes and descriptions (inclusion and exclusion criteria) for emergency department visits for substance use disorders (SUDs)

Inclusion criteria (all-listed)	
Alcohol-related	
291.0	Alcohol withdrawal delirium
291.1	Alcohol-induced persisting amnestic disorder
291.2	Alcohol-induced persisting dementia
291.3	Alcohol-induced psychotic disorder with hallucinations
291.4	Idiosyncratic alcohol intoxication
291.5	Alcohol-induced psychotic disorder with delusions
291.81	Other specified alcohol induced mental disorders – alcohol withdrawal
291.82	Other specified alcohol induced mental disorders – alcohol induced sleep disorders
291.89	Other specified alcohol induced mental disorders – other
291.9	Unspecified alcohol-induced mental disorders
303.0	Acute alcoholic intoxication – unspecified
303.01	Acute alcoholic intoxication– continuous
303.02	Acute alcoholic intoxication – episodic
303.03	Acute alcoholic intoxication – in remission
303.90	Other and unspecified alcohol dependence – unspecified
303.91	Other and unspecified alcohol dependence – continuous
303.92	Other and unspecified alcohol dependence – episodic
303.93	Other and unspecified alcohol dependence – in remission
305.00	Alcohol abuse – unspecified
305.01	Alcohol abuse – continuous
305.02	Alcohol abuse – episodic
305.03	Alcohol abuse – in remission
790.3	Excessive blood level of alcohol
980.0	Toxic effect of alcohol – ethyl alcohol
980.9	Toxic effect of alcohol – unspecified alcohol
Substance use-related	
292.0	Drug withdrawal
292.11	Drug-induced psychotic disorder with delusions
292.12	Drug-induced psychotic disorder with hallucinations
292.2	Pathological drug intoxication
292.81	Drug induced delirium
292.82	Drug induced persisting dementia
292.83	Drug induced persisting amnestic disorder
292.84	Drug induced mood disorder
292.85	Drug induced sleep disorders
292.89	Drug induced mental disorder – other
292.9	Drug induced mental disorder – unspecified
304.0	Opioid type dependence – unspecified
304.01	Opioid type dependence – continuous

304.02	Opioid type dependence – episodic
304.03	Opioid type dependence – in remission
304.10	Sedative, hypnotic, or anxiolytic dependence – unspecified
304.11	Sedative, hypnotic, or anxiolytic dependence – continuous
304.12	Sedative, hypnotic, or anxiolytic dependence – episodic
304.13	Sedative, hypnotic, or anxiolytic dependence – in remission
304.20	Cocaine dependence – unspecified
304.21	Cocaine dependence – continuous
304.22	Cocaine dependence – episodic
304.23	Cocaine dependence – in remission
304.30	Cannabis dependence – unspecified
304.31	Cannabis dependence – continuous
304.32	Cannabis dependence – episodic
304.40	Amphetamine and other psychostimulant dependence – unspecified
304.41	Amphetamine and other psychostimulant dependence – continuous
304.42	Amphetamine and other psychostimulant dependence – episodic
304.43	Amphetamine and other psychostimulant dependence – in remission
304.50	Hallucinogen dependence - unspecified
304.51	Hallucinogen dependence - continuous
304.60	Other specified drug dependence – unspecified
304.61	Other specified drug dependence – continuous
304.62	Other specified drug dependence – episodic
304.63	Other specified drug dependence – in remission
304.70	Combinations of opioid type drug with any other – unspecified
304.71	Combinations of opioid type drug with any other – continuous
304.72	Combinations of opioid type drug with any other – episodic
304.73	Combinations of opioid type drug with any other – in remission
304.80	Combinations of drug dependence excluding opioid type drug – unspecified
304.81	Combinations of drug dependence excluding opioid type drug – continuous
304.82	Combinations of drug dependence excluding opioid type drug – episodic
304.83	Combinations of drug dependence excluding opioid type drug – in remission
304.90	Unspecified drug dependence – unspecified
304.91	Unspecified drug dependence – continuous
304.92	Unspecified drug dependence – episodic
304.93	Unspecified drug dependence – in remission
305.20	Cannabis abuse – unspecified
305.21	Cannabis abuse – continuous
305.22	Cannabis abuse – episodic
305.23	Cannabis abuse – in remission
305.30	Hallucinogen abuse – unspecified
305.31	Hallucinogen abuse – continuous
305.32	Hallucinogen abuse – episodic
305.40	Sedative, hypnotic, or anxiolytic abuse – unspecified
305.41	Sedative, hypnotic, or anxiolytic abuse – continuous
305.42	Sedative, hypnotic, or anxiolytic abuse – episodic

305.43	Sedative, hypnotic, or anxiolytic abuse – in remission
305.50	Opioid abuse – unspecified
305.51	Opioid abuse – continuous
305.52	Opioid abuse – episodic
305.53	Opioid abuse – in remission
305.60	Cocaine abuse – unspecified
305.61	Cocaine abuse – continuous
305.62	Cocaine abuse – episodic
305.63	Cocaine abuse – in remission
305.70	Amphetamine or related acting sympathomimetic abuse – unspecified
305.71	Amphetamine or related acting sympathomimetic abuse – continuous
305.72	Amphetamine or related acting sympathomimetic abuse – episodic
305.73	Amphetamine or related acting sympathomimetic abuse – in remission
305.80	Antidepressant type abuse – unspecified
305.81	Antidepressant type abuse – continuous
305.82	Antidepressant type abuse – episodic
305.90	Other, mixed, or unspecified drug abuse – unspecified
305.91	Other, mixed, or unspecified drug abuse – continuous
305.92	Other, mixed, or unspecified drug abuse – episodic
305.93	Other, mixed, or unspecified drug abuse – in remission
965.00	Poisoning – opium (alkaloids), unspecified
965.01	Poisoning – heroin
965.02	Poisoning – methadone
965.09	Poisoning – opiates and related narcotics, other
968.2	Poisoning – other gaseous anesthetics
968.3	Poisoning – intravenous anesthetics
968.4	Poisoning – other and unspecified general anesthetics
969.4	Poisoning – benzodiazepine-based tranquilizers
969.6	Poisoning – psychodysleptics [hallucinogens]
969.72	Poisoning – amphetamines *(Diagnosis code was valid as of 10/1/2009. For prior year data, the more general diagnosis code of 969.7 was used to identify similar cases.)*
969.73	Poisoning – methylphenidate *(Diagnosis code was valid as of 10/1/2009. For prior year data, the more general diagnosis code of 969.7 was used to identify similar cases.)*
967.0	Poisoning – analeptics
970.81	Poisoning – other central nervous system stimulants, cocaine *(Diagnosis code was valid as of 10/1/2010. For prior year data, the more general diagnosis code of 970.8 was used to identify similar cases.)*
975.4	Poisoning – antitussives
981	Toxic effect of petroleum products
V65.42	Counseling on substance use and abuse
Additional drug/alcohol E codes	
E850.0	Accidental poisoning by heroin
E850.1	Accidental poisoning by methadone
E850.2	Accidental poisoning by other opiates and related narcotics
E850.8	Accidental poisoning by other specified analgesics and antipyretics

E851	Accidental poisoning by barbiturates
E852.0	Accidental poisoning by chloral hydrate group
E852.1	Accidental poisoning by paraldehyde
E852.2	Accidental poisoning by bromine compounds
E852.3	Accidental poisoning by methaqualone
E852.4	Accidental poisoning by glutethimide compounds
E852.5	Accidental poisoning by mixed sedatives, not elsewhere classified
E852.8	Accidental poisoning by other specified sedatives and hypnotics
E852.9	Accidental poisoning by unspecified sedative or hypnotic
E853.0	Accidental poisoning by phenothiazine-based tranquillizers
E853.1	Accidental poisoning by butyrophenone-based tranquillizers
E853.2	Accidental poisoning by benzodiazepine-based tranquillizers
E853.8	Accidental poisoning by other specified tranquillizers
E853.9	Accidental poisoning by unspecified tranquillizers
E854.1	Accidental poisoning by pshychodysleptics [hallucinogens]
E854.2	Accidental poisoning by psychostimulants
E854.3	Accidental poisoning by central nervous system stimulants
E855.1	Accidental poisoning by other central nervous system depressants
E858.0	Accidental poisoning by hormones and synthetic substitutes
E858.6	Accidental poisoning by agents primarily acting on the smooth and skeletal muscles and respiratory system
E860.0	Accidental poisoning by alcoholic beverages
E860.1	Accidental poisoning by other and unspecified ethyl alcohol and its products
E860.9	Accidental poisoning by unspecified alcohol
E862.0	Accidental poisoning by petroleum solvents
E862.1	Accidental poisoning by petroleum fuels and cleaners
E862.4	Accidental poisoning by other specified solvents
E862.9	Accidental poisoning by unspecified solvent
Exclusion criteria (all-listed)	
Therapeutic use E codes	
E932.0	Adrenal cortical steroids causing adverse effects in therapeutic use
E932.1	Androgens and anabolic congeners causing adverse effects in therapeutic use
E932.2	Ovarian hormones and synthetic substitutes causing adverse effects in therapeutic use
E932.3	Insulin and antidiabetic agents causing adverse effects in therapeutic use
E932.4	Anterior pituitary hormones causing adverse effects in therapeutic use
E932.5	Posterior pituitary hormones causing adverse effects in therapeutic use
E932.6	Parathyroid and parathyroid derivatives causing adverse effects in therapeutic use
E932.7	Thyroid and thyroid derivatives causing adverse effects in therapeutic use
E932.8	Antithyroid agents causing adverse effects in therapeutic use
E932.9	Other and unspecified hormones and synthetic substitutes causing adverse effects in therapeutic use
E933.0	Antiallergic and antiemetic drugs causing adverse effects in therapeutic use
E933.1	Antineoplastic and immunosuppressive drugs causing adverse effects in therapeutic use
E933.2	Acidifying agents causing adverse effects in therapeutic use
E933.3	Alkalizing agents causing adverse effects in therapeutic use
E933.4	Enzymes, not elsewhere classified, causing adverse effects in therapeutic use
E933.5	Vitamins, not elsewhere classified, causing adverse effects in therapeutic use

E933.6	Oral bisphosphonates causing adverse effects in therapeutic use
E933.7	Intravenous bisphosphonates causing adverse effects in therapeutic use
E933.8	Other systemic agents, not elsewhere classified, causing adverse effects in therapeutic use
E933.9	Unspecified systemic agent causing adverse effects in therapeutic use
E934.0	Iron and its compounds causing adverse effects in therapeutic use
E934.1	Liver preparations and other antianemic agents causing adverse effects in therapeutic use
E934.2	Anticoagulants causing adverse effects in therapeutic use
E934.3	Vitamin K [phytonadione] causing adverse effects in therapeutic use
E934.4	Fibrinolysis-affecting drugs causing adverse effects in therapeutic use
E934.5	Anticoagulant antagonists and other coagulants causing adverse effects in therapeutic use
E934.6	Gamma globulin causing adverse effects in therapeutic use
E934.7	Natural blood and blood constituents causing adverse effects in therapeutic use
E934.8	Other agents affecting blood constituents causing adverse effects in therapeutic use
E934.9	Unspecified agent affecting blood constituents causing adverse effects in therapeutic use
E935.0	Heroin causing adverse effects in therapeutic use
E935.1	Methadone causing adverse effects in therapeutic use
E935.2	Other opiates and related narcotics causing adverse effects in therapeutic use
E935.3	Salicylates causing adverse effects in therapeutic use
E935.4	Aromatic analgesics, not elsewhere classified, causing adverse effects in therapeutic use
E935.5	Pyrazole derivatives causing adverse effects in therapeutic use
E935.6	Antirheumatics [antiphlogistics] causing adverse effects in therapeutic use
E935.7	Other non-narcotic analgesics causing adverse effects in therapeutic use
E935.8	Other specified analgesics and antipyretics causing adverse effects in therapeutic use
E935.9	Unspecified analgesic and antipyretics causing adverse effects in therapeutic use
E936.0	Oxazolidine derivatives causing adverse effects in therapeutic use
E936.1	Hydantoin derivatives causing adverse effects in therapeutic use
E936.2	Succinimides causing adverse effects in therapeutic use
E936.3	Other and unspecified anticonvulsants causing adverse effects in therapeutic use
E936.4	Anti-Parkinsonism causing adverse effects in therapeutic use
E937.0	Barbiturates causing adverse effects in therapeutic use
E937.1	Chloral hydrate group causing adverse effects in therapeutic use
E937.2	Paraldehyde causing adverse effects in therapeutic use
E937.3	Bromine compounds causing adverse effects in therapeutic use
E937.4	Methaqualone compounds causing adverse effects in therapeutic use
E937.5	Glutethimide group causing adverse effects in therapeutic use
E937.6	Mixed sedatives, not elsewhere found, causing adverse effects in therapeutic use
E937.8	Other sedatives and hypnotics causing adverse effects in therapeutic use
E937.9	Unspecified sedatives and hypnotics causing adverse effects in therapeutic use
E938.0	Central nervous system muscle-tone depressants causing adverse effects in therapeutic use
E938.1	Halothane causing adverse effects in therapeutic use
E938.2	Other gaseous anesthetics causing adverse effects in therapeutic use
E938.3	Intravenous anesthetics causing adverse effects in therapeutic use
E938.4	Other and unspecified general anesthetics causing adverse effects in therapeutic use
E938.5	Surface and infiltration anesthetics causing adverse effects in therapeutic use
E938.6	Peripheral nerve- and plexus-blocking anesthetics causing adverse effects in therapeutic use
E938.7	Spinal anesthetics causing adverse effects in therapeutic use
E938.9	Other and unspecified local anesthetics causing adverse effects in therapeutic use

E939.0	Antidepressants causing adverse effects in therapeutic use
E939.1	Phenothiazine-based tranquillizers causing adverse effects in therapeutic use
E939.2	Butyrophenone-based tranquillizers causing adverse effects in therapeutic use
E939.3	Other antipsychotics, neuroleptics, and major tranquillizers causing adverse effects in therapeutic use
E939.4	Benzodiazepine-based tranquillizers causing adverse effects in therapeutic use
E939.5	Other tranquillizers causing adverse effects in therapeutic use
E939.6	Psychodysleptics [hallucinogens] causing adverse effects in therapeutic use
E939.7	Psychostimulants causing adverse effects in therapeutic use
E939.8	Other psychotropic agents causing adverse effects in therapeutic use
E939.9	Unspecified psychotropic agent causing adverse effects in therapeutic use
E940.0	Analeptics causing adverse effects in therapeutic use
E940.1	Opiate antagonists causing adverse effects in therapeutic use
E940.8	Other specified central nervous system stimulants causing adverse effects in therapeutic use
E940.9	Unspecified central nervous stimulant causing adverse effects in therapeutic use
E941.0	Parasympathomimetics [cholinergics] causing adverse effects in therapeutic use
E941.1	Parasympatholytics [anticholinergics and antimuscarinics] and spasmolytics causing adverse effects in therapeutic use
E941.2	Sympathomimetics [adrenergics] causing adverse effects in therapeutic use
E941.3	Sympatholytics [antiadrenergics] causing adverse effects in therapeutic use
E941.9	Unspecified drug primarily affecting the autonomic nervous system causing adverse effects in therapeutic use
E942.0	Cardiac rhythm regulators causing adverse effects in therapeutic use
E942.1	Cardiotonic glycosides and drugs of similar action causing adverse effects in therapeutic use
E942.2	Antilipemic and antiarteriosclerotic drugs causing adverse effects in therapeutic use
E942.3	Ganglion-blocking agents causing adverse effects in therapeutic use
E942.4	Coronary vasodilators causing adverse effects in therapeutic use
E942.5	Other vasodilators causing adverse effects in therapeutic use
E942.6	Other antihypertensive agents causing adverse effects in therapeutic use
E942.7	Antivaricose drugs, including sclerosing agents causing adverse effects in therapeutic use
E942.8	Capillary-active drugs causing adverse effects in therapeutic use
E942.9	Other and unspecified agents primarily affecting the cardiovascular system causing adverse effects in therapeutic use
E943.0	Antacids and antigastric secretion drugs causing adverse effects in therapeutic use
E943.1	Irritant cathartics causing adverse effects in therapeutic use
E943.2	Emollient cathartics causing adverse effects in therapeutic use
E943.3	Other cathartics, including intestinal atonia drugs causing adverse effects in therapeutic use
E943.4	Digestants causing adverse effects in therapeutic use
E943.5	Antidiarrheal drugs causing adverse effects in therapeutic use
E943.6	Emetics causing adverse effects in therapeutic use
E943.8	Other specified agents primarily affecting the gastrointestinal system causing adverse effects in therapeutic use
E943.9	Unspecified agent primarily affecting the gastrointestinal system causing adverse effects in therapeutic use
E944.0	Mercurial diuretics causing adverse effects in therapeutic use
E944.1	Purine derivative diuretics causing adverse effects in therapeutic use
E944.2	Carbonic acid anhydrase inhibitors causing adverse effects in therapeutic use
E944.3	Saluretics causing adverse effects in therapeutic use
E944.4	Other diuretics causing adverse effects in therapeutic use

E944.5	Electrolytic, caloric, and water-balance agents causing adverse effects in therapeutic use
E944.7	Uric acid metabolism drugs causing adverse effects in therapeutic use
E945.0	Oxytocic agents causing adverse effects in therapeutic use
E945.1	Smooth muscle relaxants causing adverse effects in therapeutic use
E945.2	Skeletal muscle relaxants causing adverse effects in therapeutic use
E945.3	Other and unspecified drugs acting on muscles causing adverse effects in therapeutic use
E945.4	Antitussives causing adverse effects in therapeutic use
E945.5	Expectorants causing adverse effects in therapeutic use
E945.6	Anti-common cold drugs causing adverse effects in therapeutic use
E945.7	Antiasthmatics causing adverse effects in therapeutic use
E945.8	Other and unspecified respiratory drugs causing adverse effects in therapeutic use

Abbreviation: ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification

Appendix A.2. List of ICD-9-CM diagnosis codes and descriptions (inclusion and exclusion criteria) for emergency department visits for depression, anxiety or stress reactions

Inclusion criteria (all-listed)	
Depression, anxiety, or stress reaction	
296.20	Major depressive disorder, single episode – unspecified
296.22	Major depressive disorder, single episode – moderate
296.23	Major depressive disorder, single episode – severe, without mention of psychotic behavior
296.30	Major depressive disorder, recurrent episode – unspecified
296.32	Major depressive disorder, recurrent episode – moderate
296.33	Major depressive disorder, recurrent episode – severe, without mention of psychotic behavior
300.00	Anxiety state, unspecified
300.01	Panic disorder without agoraphobia
300.02	Generalized anxiety disorder
300.09	Other anxiety, dissociative, and somatoform disorders
300.21	Agoraphobia with panic disorder
300.22	Agoraphobia without mention of panic attacks
300.23	Social phobia
300.29	Other isolated or specific phobias
300.3	Obsessive-compulsive disorders
300.4	Dysthymic disorder
300.6	Depersonalization disorder
300.7	Hypochondriasis
300.81	Somatization disorder
300.82	Undifferentiated somatoform disorder
300.89	Other somatoform disorders
300.9	Unspecified nonpsychotic mental disorder
308.0	Predominant disturbance of emotions
308.1	Predominant disturbance of consciousness
308.2	Predominant psychomotor disturbance
308.3	Other acute reactions to stress
308.4	Mixed disorders as reaction to stress
308.9	Unspecified acute reaction to stress
309.0	Adjustment disorder with depressed mood
309.1	Prolonged depressive reaction
309.24	Adjustment disorder with anxiety
309.28	Adjustment disorder with mixed anxiety and depressed mood
309.29	Other adjustment reactions with predominant disturbance of other emotions
309.3	Adjustment disorder with disturbance of conduct
309.4	Adjustment disorder with mixed disturbance of emotions and conduct
309.81	Posttraumatic stress disorder
309.82	Adjustment reaction with physical symptoms
309.83	Adjustment reaction with withdrawal
309.89	Other specified adjustment reactions
309.9	Unspecified adjustment reaction
311	Depressive disorder, not elsewhere classified

Suicidal ideation/attempt	
V62.84	Suicidal ideation
E950.0	Suicide and self-inflicted poisoning by analgesics, antipyretics, and antirheumatics
E950.1	Suicide and self-inflicted poisoning by barbiturates
E950.2	Suicide and self-inflicted poisoning by other sedatives and hypnotics
E950.3	Suicide and self-inflicted poisoning by tranquilizers and other psychotropic agents
E950.4	Suicide and self-inflicted poisoning by other specified drugs and medicinal substances
E950.5	Suicide and self-inflicted poisoning by unspecified drug or medicinal substances
E950.6	Suicide and self-inflicted poisoning by agricultural and horticultural chemical and pharmaceutical preparations other than plant foods and fertilizers
E950.7	Suicide and self-inflicted poisoning by corrosive and caustic substances
E950.8	Suicide and self-inflicted poisoning by arsenic and its compounds
E950.9	Suicide and self-inflicted poisoning by other and unspecified solid and liquid substances
E951.0	Suicide and self-inflicted poisoning by gas disturbed by pipeline
E951.1	Suicide and self-inflicted poisoning by liquefied petroleum gas distributed in mobile containers
E951.8	Suicide and self-inflicted poisoning by other utility gas
E952.0	Suicide and self-inflicted poisoning by motor vehicle exhaust gas
E952.1	Suicide and self-inflicted poisoning by other carbon monoxide
E952.8	Suicide and self-inflicted poisoning by other specified gases and vapors
E952.9	Suicide and self-inflicted poisoning by unspecified gases and vapors
E953.0	Suicide and self-inflicted injury by hanging
E953.1	Suicide and self-inflicted injury by suffocation by plastic bag
E953.8	Suicide and self-inflicted injury by other specified means
E953.9	Suicide and self-inflicted injury by hanging, strangulation, and suffocation – unspecified means
E954	Suicide and self-inflicted injury by submersion [drowning]
E955.0	Suicide and self-inflicted injury by handgun
E955.1	Suicide and self-inflicted injury by shotgun
E955.2	Suicide and self-inflicted injury by hunting rifle
E955.4	Suicide and self-inflicted injury by other and unspecified firearms
E955.5	Suicide and self-inflicted injury by explosives
E955.6	Suicide and self-inflicted injury by air gun
E955.9	Suicide and self-inflicted injury by unspecified firearms, air guns, and explosives
E956	Suicide and self-inflicted injury by cutting and piercing instruments
E957.0	Suicide and self-inflicted injuries by jumping from residential premises
E957.1	Suicide and self-inflicted injuries by jumping from other man-made structures
E957.2	Suicide and self-inflicted injuries by jumping from natural sites
E957.9	Suicide and self-inflicted injuries by jumping from unspecified high place
E958.0	Suicide and self-inflicted injury by jumping or lying before a moving object
E958.1	Suicide and self-inflicted injury by burns, fire
E958.2	Suicide and self-inflicted injury by scald
E958.3	Suicide and self-inflicted injury by extremes of cold
E958.4	Suicide and self-inflicted injury by electrocution
E958.5	Suicide and self-inflicted injury by crashing of motor vehicle
E958.7	Suicide and self-inflicted injury by caustic substances, except poisoning
E958.8	Suicide and self-inflicted injury by other and specified means

E958.9	Suicide and self-inflicted injury by unspecified means
Exclusion criteria (all-listed)	
Psychoses or bipolar disorders	
296.00	Bipolar I disorder, single manic episode – unspecified
296.03	Bipolar I disorder, single manic episode – severe, without mention of psychotic behavior
296.04	Bipolar I disorder, single manic episode – severe, specified as with psychotic behavior
296.10	Manic disorder, recurrent episode – unspecified
296.13	Manic disorder, recurrent episode – severe, without mention of psychotic behavior
296.14	Manic disorder, recurrent episode – severe, specified as with psychotic behavior
296.24	Major depressive disorder, single episode – severe, specified as with psychotic behavior
296.34	Major depressive disorder, recurrent episode – severe, specified as with psychotic behavior
296.40	Bipolar I disorder; most recent episode (or current) manic – unspecified
296.41	Bipolar I disorder; most recent episode (or current) manic – mild
296.42	Bipolar I disorder; most recent episode (or current) manic – moderate
296.43	Bipolar I disorder; most recent episode (or current) manic – severe, without mention of psychotic behavior
296.44	Bipolar I disorder; most recent episode (or current) manic – severe, specified as with psychotic disorder
296.50	Bipolar I disorder; most recent episode (or current) depressed – unspecified
296.52	Bipolar I disorder; most recent episode (or current) depressed – moderate
296.53	Bipolar I disorder; most recent episode (or current) depressed – severe, without mention of psychotic behavior
296.54	Bipolar I disorder; most recent episode (or current) depressed – severe, specified as with psychotic disorder
296.60	Bipolar I disorder; most recent episode (or current) mixed – unspecified
296.62	Bipolar I disorder; most recent episode (or current) mixed – moderate
296.63	Bipolar I disorder; most recent episode (or current) mixed – severe, without mention of psychotic behavior
296.64	Bipolar I disorder; most recent episode (or current) mixed – severe, specified as with psychotic disorder
296.7	Bipolar I disorder; most recent episode (or current) unspecified
296.80	Bipolar disorder, unspecified
296.90	Unspecified episodic mood disorder
296.99	Other specified episodic mood disorder
295.00	Simple type schizophrenia – unspecified
295.01	Simple type schizophrenia – subchronic
295.02	Simple type schizophrenia – chronic
295.03	Simple type schizophrenia – subchronic with acute exacerbation
295.04	Simple type schizophrenia – chronic with acute exacerbation
295.05	Simple type schizophrenia – in remission
295.10	Disorganized type schizophrenia – unspecified
295.11	Disorganized type schizophrenia – subchronic
295.12	Disorganized type schizophrenia – chronic
295.13	Disorganized type schizophrenia – subchronic with acute exacerbation
295.14	Disorganized type schizophrenia – chronic with acute exacerbation
295.15	Disorganized type schizophrenia – in remission

295.20 Catatonic type schizophrenia – unspecified
295.21 Catatonic type schizophrenia – subchronic
295.22 Catatonic type schizophrenia – chronic
295.23 Catatonic type schizophrenia – subchronic with acute exacerbation
295.24 Catatonic type schizophrenia – chronic with acute exacerbation
295.30 Paranoid type schizophrenia – unspecified
295.31 Paranoid type schizophrenia – subchronic
295.32 Paranoid type schizophrenia – chronic
295.33 Paranoid type schizophrenia – subchronic with acute exacerbation
295.34 Paranoid type schizophrenia – chronic with acute exacerbation
295.35 Paranoid type schizophrenia – in remission
295.40 Schizophreniform disorder – unspecified
295.41 Schizophreniform disorder – subchronic
295.42 Schizophreniform disorder – chronic
295.43 Schizophreniform disorder – subchronic with acute exacerbation
295.44 Schizophreniform disorder – chronic with acute exacerbation
295.45 Schizophreniform disorder – in remission
295.50 Latent schizophrenia – unspecified
295.53 Latent schizophrenia – subchronic with acute exacerbation
295.54 Latent schizophrenia – chronic with acute exacerbation
295.60 Residual type schizophrenia – unspecified
295.62 Residual type schizophrenia – chronic
295.63 Residual type schizophrenia – subchronic with acute exacerbation
295.64 Residual type schizophrenia – chronic with acute exacerbation
295.65 Residual type schizophrenia – in remission
295.70 Schizoaffective disorder – unspecified
295.71 Schizoaffective disorder – subchronic
295.72 Schizoaffective disorder – chronic
295.73 Schizoaffective disorder – subchronic with acute exacerbation
295.74 Schizoaffective disorder – chronic with acute exacerbation
295.75 Schizoaffective disorder – in remission
295.80 Other specified types of schizophrenia – unspecified
295.82 Other specified types of schizophrenia – chronic
295.83 Other specified types of schizophrenia – subchronic with acute exacerbation
295.84 Other specified types of schizophrenia – chronic with acute exacerbation
295.85 Other specified types of schizophrenia – in remission
295.90 Unspecified schizophrenia – unspecified
295.91 Unspecified schizophrenia – subchronic
295.92 Unspecified schizophrenia – chronic
295.93 Unspecified schizophrenia – subchronic with acute exacerbation
295.95 Unspecified schizophrenia – in remission
297.00 Paranoid state, simple
297.1 Delusional disorder

297.2	Paraphrenia
297.3	Shared psychotic disorder
297.8	Other specified paranoid states
297.9	Unspecified paranoid state
298.0	Depressive type psychosis
298.1	Excitative type psychosis
298.2	Reactive confusion
298.3	Acute paranoid reaction
298.4	Psychogenic paranoid psychosis
298.8	Other and unspecified reactive psychosis
298.9	Unspecified psychosis

Abbreviation: ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification

Appendix A.3. List of ICD-9-CM diagnosis codes and descriptions (inclusion and exclusion criteria) for emergency department visits for psychoses or bipolar disorders

Inclusion criteria (all-listed)	
Psychoses or bipolar disorders	
296.00	Bipolar I disorder, single manic episode – unspecified
296.03	Bipolar I disorder, single manic episode – severe, without mention of psychotic behavior
296.04	Bipolar I disorder, single manic episode – severe, specified as with psychotic behavior
296.10	Manic disorder, recurrent episode – unspecified
296.13	Manic disorder, recurrent episode – severe, without mention of psychotic behavior
296.14	Manic disorder, recurrent episode – severe, specified as with psychotic behavior
296.24	Major depressive disorder, single episode – severe, specified as with psychotic behavior
296.34	Major depressive disorder, recurrent episode – severe, specified as with psychotic behavior
296.40	Bipolar I disorder; most recent episode (or current) manic – unspecified
296.41	Bipolar I disorder; most recent episode (or current) manic – mild
296.42	Bipolar I disorder; most recent episode (or current) manic – moderate
296.43	Bipolar I disorder; most recent episode (or current) manic – severe, without mention of psychotic behavior
296.44	Bipolar I disorder; most recent episode (or current) manic – severe, specified as with psychotic disorder
296.50	Bipolar I disorder; most recent episode (or current) depressed – unspecified
296.52	Bipolar I disorder; most recent episode (or current) depressed – moderate
296.53	Bipolar I disorder; most recent episode (or current) depressed – severe, without mention of psychotic behavior
296.54	Bipolar I disorder; most recent episode (or current) depressed – severe, specified as with psychotic disorder
296.60	Bipolar I disorder; most recent episode (or current) mixed – unspecified
296.62	Bipolar I disorder; most recent episode (or current) mixed – moderate
296.63	Bipolar I disorder; most recent episode (or current) mixed – severe, without mention of psychotic behavior
296.64	Bipolar I disorder; most recent episode (or current) mixed – severe, specified as with psychotic disorder
296.7	Bipolar I disorder; most recent episode (or current) unspecified
296.80	Bipolar disorder, unspecified
296.90	Affective Psychosis Nos (after Oct 1, 2004)
296.99	Unspecified episodic mood disorder
295.00	Simple type schizophrenia – unspecified
295.01	Simple type schizophrenia – unspecified
295.02	Simple type schizophrenia – subchronic
295.03	Simple type schizophrenia – chronic
295.04	Simple type schizophrenia – subchronic with acute exacerbation
295.05	Simple type schizophrenia – chronic with acute exacerbation
295.10	Disorganized type schizophrenia – unspecified
295.11	Disorganized type schizophrenia – subchronic
295.12	Disorganized type schizophrenia – chronic
295.13	Disorganized type schizophrenia – subchronic with acute exacerbation
295.14	Disorganized type schizophrenia – chronic with acute exacerbation
295.15	Disorganized type schizophrenia – in remission
295.20	Catatonic type schizophrenia – unspecified
295.21	Catatonic type schizophrenia – subchronic

295.22	Catatonic type schizophrenia – chronic
295.23	Catatonic type schizophrenia – subchronic with acute exacerbation
295.24	Catatonic type schizophrenia – chronic with acute exacerbation
295.30	Paranoid type schizophrenia – unspecified
295.31	Paranoid type schizophrenia – subchronic
295.32	Paranoid type schizophrenia – chronic
295.33	Paranoid type schizophrenia – subchronic with acute exacerbation
295.34	Paranoid type schizophrenia – chronic with acute exacerbation
295.35	Paranoid type schizophrenia – in remission
295.40	Schizophreniform disorder – unspecified
295.41	Schizophreniform disorder – subchronic
295.42	Schizophreniform disorder – chronic
295.43	Schizophreniform disorder – subchronic with acute exacerbation
295.44	Schizophreniform disorder – chronic with acute exacerbation
295.45	Schizophreniform disorder – in remission
295.50	Latent schizophrenia – unspecified
295.53	Latent schizophrenia – subchronic with acute exacerbation
295.54	Latent schizophrenia – chronic with acute exacerbation
295.60	Residual type schizophrenia – unspecified
295.62	Residual type schizophrenia – chronic
295.63	Residual type schizophrenia – subchronic with acute exacerbation
295.64	Residual type schizophrenia – chronic with acute exacerbation
295.65	Residual type schizophrenia – in remission
295.70	Schizoaffective disorder – unspecified
295.71	Schizoaffective disorder – subchronic
295.72	Schizoaffective disorder – chronic
295.73	Schizoaffective disorder – subchronic with acute exacerbation
295.74	Schizoaffective disorder – chronic with acute exacerbation
295.75	Schizoaffective disorder – in remission
295.80	Other specified types of schizophrenia – unspecified
295.82	Other specified types of schizophrenia – chronic
295.83	Other specified types of schizophrenia – subchronic with acute exacerbation
295.84	Other specified types of schizophrenia – chronic with acute exacerbation
295.85	Other specified types of schizophrenia – in remission
295.90	Unspecified schizophrenia – unspecified
295.91	Unspecified schizophrenia – subchronic
295.92	Unspecified schizophrenia – chronic
295.93	Unspecified schizophrenia – subchronic with acute exacerbation
295.95	Unspecified schizophrenia – in remission
297.00	Paranoid state, simple
297.1	Delusional disorder
297.2	Paraphrenia
297.3	Shared psychotic disorder
297.8	Other specified paranoid states
297.9	Unspecified paranoid state
298.0	Depressive type psychosis
298.1	Excitative type psychosis
298.2	Reactive confusion
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