

Emergency Department Visits Related to Suicidal Ideation or Suicide Attempt, 2008–2017

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If You Know Someone in Crisis

Call the toll-free [National Suicide Prevention Lifeline](https://www.national suicide prevention lifeline.org) at 1-800-273-TALK (8255), 24 hours a day, 7 days a week. The service is available to everyone. All calls are confidential. **You can also visit the National Suicide Prevention Lifeline’s website at <http://www.suicidepreventionlifeline.org>.**

Introduction

Suicide is a major and growing public health concern in the United States, ranking among the top 10 leading causes of death.¹ From 2001 to 2017, the suicide rate increased 31 percent, from 10.7 to 14.0 per 100,000 population.² In 2017, this equated to more than 47,000 deaths.^{2,3}

Suicide is preventable. Suicidal thoughts or actions are indications of extreme distress and require immediate intervention. Emergency departments (EDs) are an important site of care to identify individuals at risk, to provide timely support and intervention, and, in some cases, to facilitate entry into more intensive treatment.⁴ Information on trends in ED utilization related to suicidal ideation or suicide attempt can help inform resource needs and target prevention efforts.

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents statistics on ED visits related to suicidal ideation or suicide attempt among individuals aged 5 years and older. The Brief uses the HCUP Nationwide Emergency Department Sample (NEDS) to examine 2008–2017 trends in the population rate of ED visits related to suicidal ideation or suicide attempt by age group. The 2017 NEDS is used to provide data on patient characteristics and outcomes. In addition, maps based on the 2017 State Inpatient Databases (SID) and 2017 State Emergency Department Databases (SEDD) present State-level rates of ED visits related to suicidal ideation or suicide attempt. Maps are also presented that illustrate the variation in the highest rates within the State by patient location (i.e., counties in large metropolitan, small/medium metropolitan, or rural areas). Because of the large sample size of the HCUP data, small differences can be statistically significant. Thus, only differences greater than or equal to 10 percent are discussed in the text.

Highlights

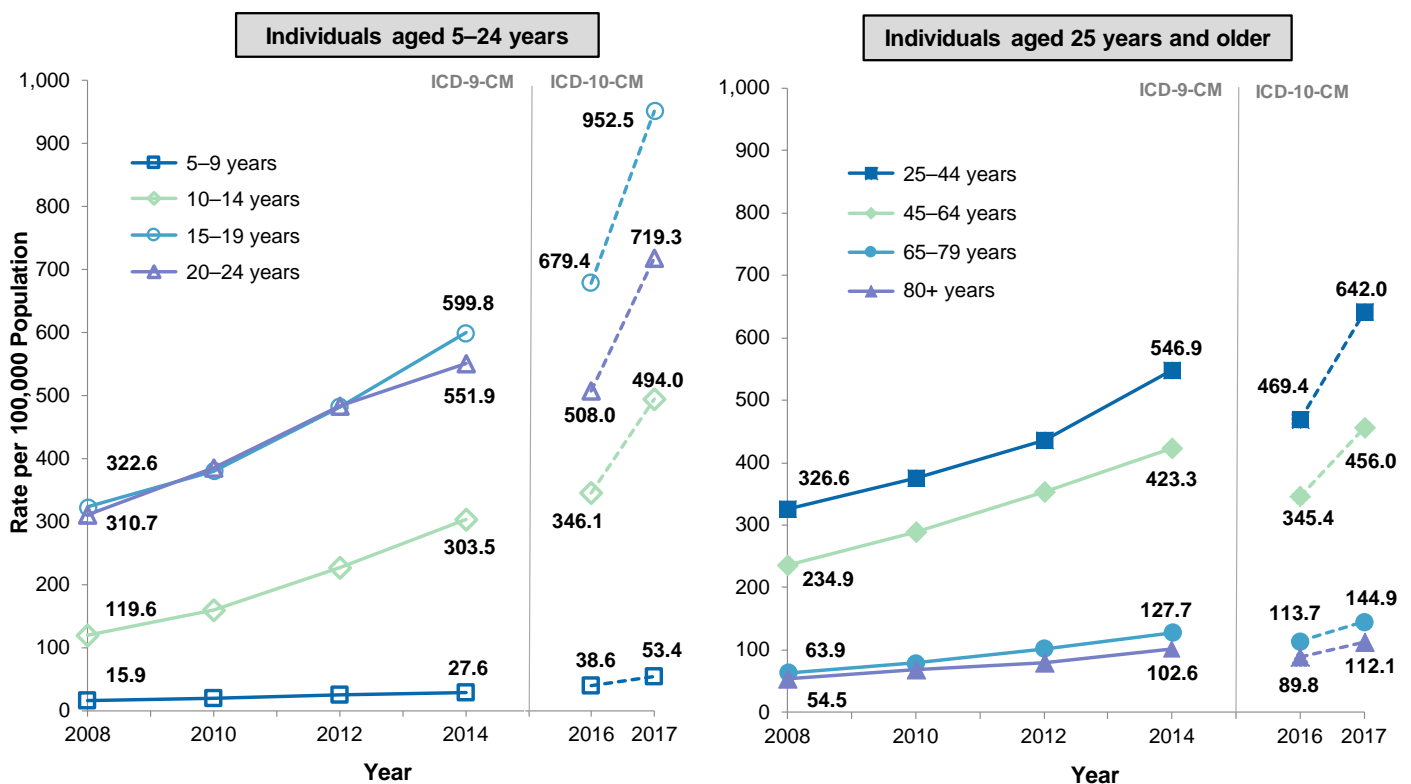
- Between 2008 and 2017, the rate of emergency department (ED) visits related to suicidal ideation or suicide attempt increased for all age groups.
- In 2017, the rate of ED visits related to suicidal ideation or suicide attempt was highest among those aged 15–19 (952.5 per 100,000 population), 20–24 (719.3), and 25–44 (642.0) years.
- Males overall had a higher rate of ED visits related to suicidal ideation or suicide attempt than did females (527.8 vs. 445.3 per 100,000 population). However, females had the higher rate among two age groups: 10–14 years (673.2 vs. 322.1 per 100,000 population) and 15–19 years (1,196.9 vs. 719.6).
- Medicaid or Medicare (for patients aged <65 years) was more frequently the primary expected payer for ED visits related to suicidal ideation or suicide attempt compared with all other ED visits (52.1 vs. 35.4 percent).
- In 2017, 64.4 percent of ED visits related to suicidal ideation or suicide attempt resulted in an admission to the hospital or transfer to another facility versus 17.1 percent for all other ED visits.
- The rates of ED visits related to suicidal ideation or suicide attempt varied by State and by urban/rural area within the State. Nearly half of States had the highest rate in small/medium metropolitan areas.

Findings

Rate of ED visits related to suicidal ideation or suicide attempt, 2008–2017

Figure 1 presents the rate per 100,000 population of ED visits related to suicidal ideation or suicide attempt among individuals aged 5 years and older by age group between 2008 and 2017. The figure presents trends in ED visits for each group during 2008–2014 using International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM)-coded data. There are known discontinuities between the ICD-9-CM and the International Classification of Diseases, Tenth Revision, Clinical Modification (ICD-10-CM) coding systems that affect the identification of cases, including a transition period in which the new codes were adopted. The figure presents estimates related to suicidal ideation or suicide attempt for 2016 and 2017 based on ICD-10-CM data, establishing new baseline estimates of such cases. It is expected that hospitals required a transition period in which to become more familiar with the ICD-10-CM coding system. Changes in rates between 2016 and 2017 may not reflect an actual change in rates and, therefore, are not intended for comparison. For this reason, the changes are symbolically represented as a dashed line, rather than a solid line, in the graph.

Figure 1. Rate of ED visits related to suicidal ideation or suicide attempt, by age group, 2008–2017



Abbreviations: ED, emergency department; ICD-9-CM, International Classification of Diseases, Ninth Revision, Clinical Modification; ICD-10-CM, International Classification of Diseases, Tenth Revision, Clinical Modification

Note: The solid trend line between 2008 and 2014 represents cases identified using ICD-9-CM coding. The grey vertical line reflects the shift in diagnosis coding in 2015 to the updated ICD-10-CM system. New baseline estimates account for known differences between the coding systems. The dashed trend line between 2016 and 2017 highlights an initial transition period in the uptake of the new system.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2008, 2010, 2012, 2014, 2016, and 2017

- **In every year from 2008 to 2017, the rate of ED visits related to suicidal ideation or suicide attempt was highest among older adolescents, young adults, and those aged 25–44 years and lowest among children aged 5–9 years and older adults.**

From 2008 to 2017, regardless of the coding scheme used to identify cases, the rate of ED visits related to suicidal ideation or suicide attempt was higher among individuals aged 15–19, 20–24, and 25–44 years than among those aged 5–9, 65–79, and 80+ years.

In 2017, the highest population rate of ED visits related to suicidal ideation or suicide attempt was among adolescents aged 15–19 years (952.5 per 100,000 population). Young adults (aged 20–24 years) and those aged 25–44 years also had relatively high rates of 719.3 and 642.0 per 100,000 population, respectively. In contrast, the rate was lowest among children aged 5–9 years (53.4 per 100,000), followed by adults aged 80+ years (112.1 per 100,000) and 65–79 years (144.9 per 100,000).

- **Among all age groups, the rate of ED visits related to suicidal ideation or suicide attempt increased from 2008 to 2014.**

The rate of ED visits related to suicidal ideation or suicide attempt among 10–14 year olds more than doubled between 2008 and 2014, increasing from 119.6 to 303.5 per 100,000 population. The rate among other age groups also rose consistently over this 6-year period, with increases ranging from 67 percent (ages 25–44 years) to 100 percent (ages 65–79 years).

Patient characteristics and discharge disposition of ED visits related to suicidal ideation or suicide attempt, 2017

Table 1 presents patient characteristics and discharge disposition of ED visits related to suicidal ideation or suicide attempt compared with all other ED visits in 2017.

Table 1. Patient characteristics and discharge disposition of ED visits related to suicidal ideation or suicide attempt, 2017

Characteristic or disposition	ED visits related to suicidal ideation or suicide attempt		All other ED visits	
	N	Percent	N	Percent
Total	1,482,402	100.0	132,074,873	100.0
Age group, years				
5–9 years	10,880	0.7	5,951,528	4.5
10–14 years	102,808	6.9	5,258,013	4.0
15–19 years	207,915	14.0	7,815,897	5.9
20–24 years	163,275	11.0	10,436,508	7.9
25–44 years	543,776	36.7	39,108,538	29.6
45–64 years	384,890	26.0	34,360,758	26.0
65–79 years	55,209	3.7	18,425,668	14.0
80+ years	13,649	0.9	10,717,964	8.1
Sex				
Male	790,761	53.3	57,679,665	43.7
Female	691,524	46.6	74,388,749	56.3
Primary expected payer				
Medicare, 65+ years	59,615	4.0	25,371,440	19.2
Medicare, <65 years	184,847	12.5	9,212,990	7.0
Medicaid	587,078	39.6	37,478,639	28.4
Private insurance	371,266	25.0	37,865,385	28.7
Self-pay/No charge*	224,898	15.2	16,656,051	12.6
Patient location				
Large metropolitan	745,269	50.3	66,705,345	50.5
Medium/small metropolitan	483,950	32.6	41,980,114	31.8
Rural	221,905	15.0	22,736,245	17.2
Discharge disposition				
Routine, discharged to home, home health care	513,182	34.6	106,439,904	80.6
Admitted to the same hospital	446,751	30.1	18,867,438	14.3
Transfer to short-term hospital	92,685	6.3	2,081,335	1.6
Transfer to other facility	414,648	28.0	1,545,671	1.2
Against medical advice	10,746	0.7	2,134,307	1.6
Died in hospital or ED	1,210	0.1	721,034	0.5
Discharged alive, destination unknown	0	0.0	1,183	0.0

Abbreviation: ED, emergency department

Note: Primary expected payer, patient location, and discharge disposition were missing for 3.7, 2.1, and 0.2 percent of ED visits related to suicidal ideation/suicide attempt, respectively, and for 4.2, 0.5, and 0.2 percent of all other ED visits, respectively.

*Self-pay/No charge: includes self-pay, no charge, charity, and no expected payment.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2017

- **In 2017, 1.5 million ED visits were related to suicidal ideation or suicide attempt.**

Of the nearly 134 million ED visits, 1.5 million involved a diagnosis of suicidal ideation or suicide attempt. Of these 1.5 million ED visits, 129,044 (8.7 percent) also included a diagnosis indicative of self-harm (data not shown).

- **Male patients accounted for more than half of the 1.5 million ED visits related to suicidal ideation or suicide attempt in 2017.**

Males accounted for 53.3 percent of ED visits related to suicidal ideation or suicide attempt but represented only 43.7 percent of all other ED visits.

- **In 2017, younger age groups (<25 years) accounted for nearly one-third of ED visits related to suicidal ideation or suicide attempt but less than one-fourth of all other ED visits.**

Younger age groups accounted for a disproportionate share of ED visits related to suicidal ideation or suicide attempt (32.6 percent) compared with all other ED visits (22.3 percent). Specifically, nearly 7.0 percent of ED visits related to suicidal ideation or suicide attempt were for patients aged 10–14 years, 14.0 percent were for patients aged 15–19 years, and 11.0 percent were for patients 20–24 years; however, patients in these age groups accounted for 4.0, 5.9, and 7.9 percent of ED visits related to all other conditions, respectively.

Similarly, a higher percentage of ED visits related to suicidal ideation or suicide attempt were for patients aged 25–44 years compared with all other ED visits (36.7 vs. 29.6 percent).

Although more than 22 percent of ED visits related to other conditions were for patients aged 65 years and older, less than 5 percent of ED visits related to suicidal ideation or suicide attempt were for patients in this age group.

- **More than half of ED visits related to suicidal ideation or suicide attempt had a primary expected payer of Medicaid or disability-related Medicare (aged <65 years).**

Medicaid and disability-related Medicare (aged <65 years) accounted for 52.1 percent of ED visits related to suicidal ideation or suicide attempt. In contrast, these payers accounted for only 35.4 percent of all other ED visits. Visits with a primary expected payer of self-pay/no charge also represented a larger proportion of ED visits related to suicidal ideation or suicide attempt compared with all other ED visits (15.2 vs. 12.6 percent).

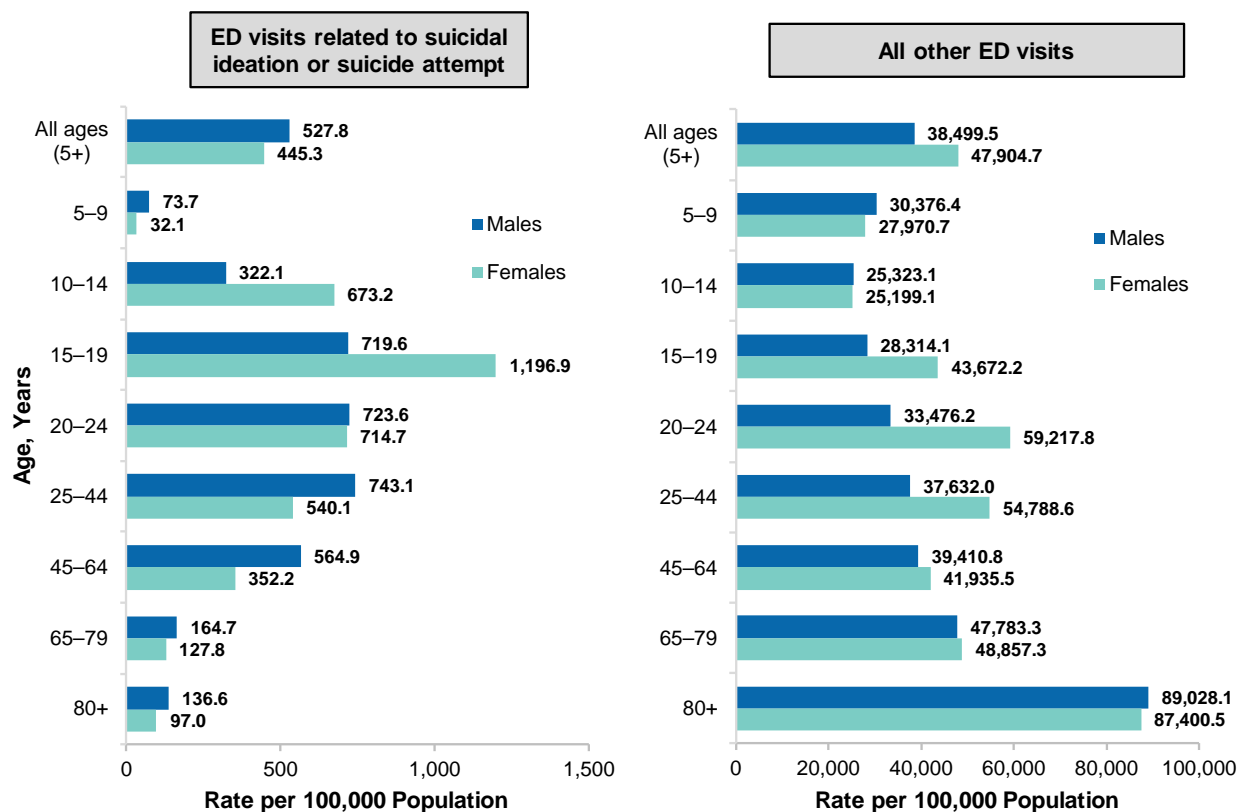
Age-related Medicare (aged 65+ years) and private insurance represented a lower proportion of ED visits related to suicidal ideation or suicide attempt (4.0 percent and 25.0 percent, respectively) compared with all other ED visits (19.2 percent and 28.7 percent, respectively).

- **Most ED visits related to suicidal ideation or suicide attempt resulted in an admission to the same hospital or a transfer to another hospital or facility; the majority of all other ED visits were discharged to home or home health care.**

In 2017, 64.4 percent of ED visits related to suicidal ideation or suicide attempt resulted in the patient's admission to the same hospital (30.1 percent) or transfer to another short-term hospital or another type of facility (34.3 percent). Only 34.6 percent of ED visits related to suicidal ideation or suicide attempt resulted in the patient being discharged home or to home health care (routine). In contrast, 80.6 percent of all other ED visits resulted in routine discharges, whereas 14.3 percent were admitted to the same hospital and 2.8 percent were transferred.

Figure 2 presents the rate per 100,000 population of ED visits related to suicidal ideation or suicide attempt compared with all other ED visits by age group and sex in 2017.

Figure 2. Rate of ED visits related to suicidal ideation or suicide attempt, by age group and sex, 2017



Abbreviation: ED, emergency department

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), Nationwide Emergency Department Sample (NEDS), 2017

- **The population rate of ED visits related to suicidal ideation or suicide attempt was higher for males than for females.**

The overall rate of ED visits related to suicidal ideation or suicide attempt was higher among males than among females (527.8 vs. 445.3 per 100,000 population). In contrast, the rate of ED visits related to other conditions was higher among females than among males (47,904.7 vs. 38,499.5 per 100,000 population).

- **The population rate of ED visits related to suicidal ideation or suicide attempt was higher among females than among males aged 10–14 and 15–19 years but higher among males than among females aged 25 years and older. A different age-sex pattern emerged for all other ED visits.**

Females aged 10–14 years and 15–19 years were more likely to have an ED visit related to suicidal ideation or suicide attempt than males in the same age groups (673.2 vs. 322.1 per 100,000 population aged 10–14 years and 1,196.9 vs. 719.6 per 100,000 population aged 15–19 years).

Males aged 25–44 years, 45–64 years, 65–79 years, and 80+ years were more likely to have an ED visit related to suicidal ideation or suicide attempt than females in the same age groups.

In contrast, females aged 15–19 years, 20–24 years, and 25–44 years were more likely to have an ED visit for other conditions than were males in the same age groups. Among other age groups, rates of all other ED visits were similar for males and females.

- **Females aged 15–19 years had the highest rate of ED visits related to suicidal ideation or suicide attempt compared with all other age-sex groups.**

Overall, the highest rate of ED visits related to suicidal ideation or suicide attempt was for females aged 15–19 years (1,196.9 per 100,000 population); this was more than 1.5 times the rate observed among any other age-sex group. In addition, the rate of ED visits related to suicidal ideation or suicide attempt for females aged 10–14 years was more than twice the rate for males of the same age group (673.2 vs. 322.1 per 100,000 population).

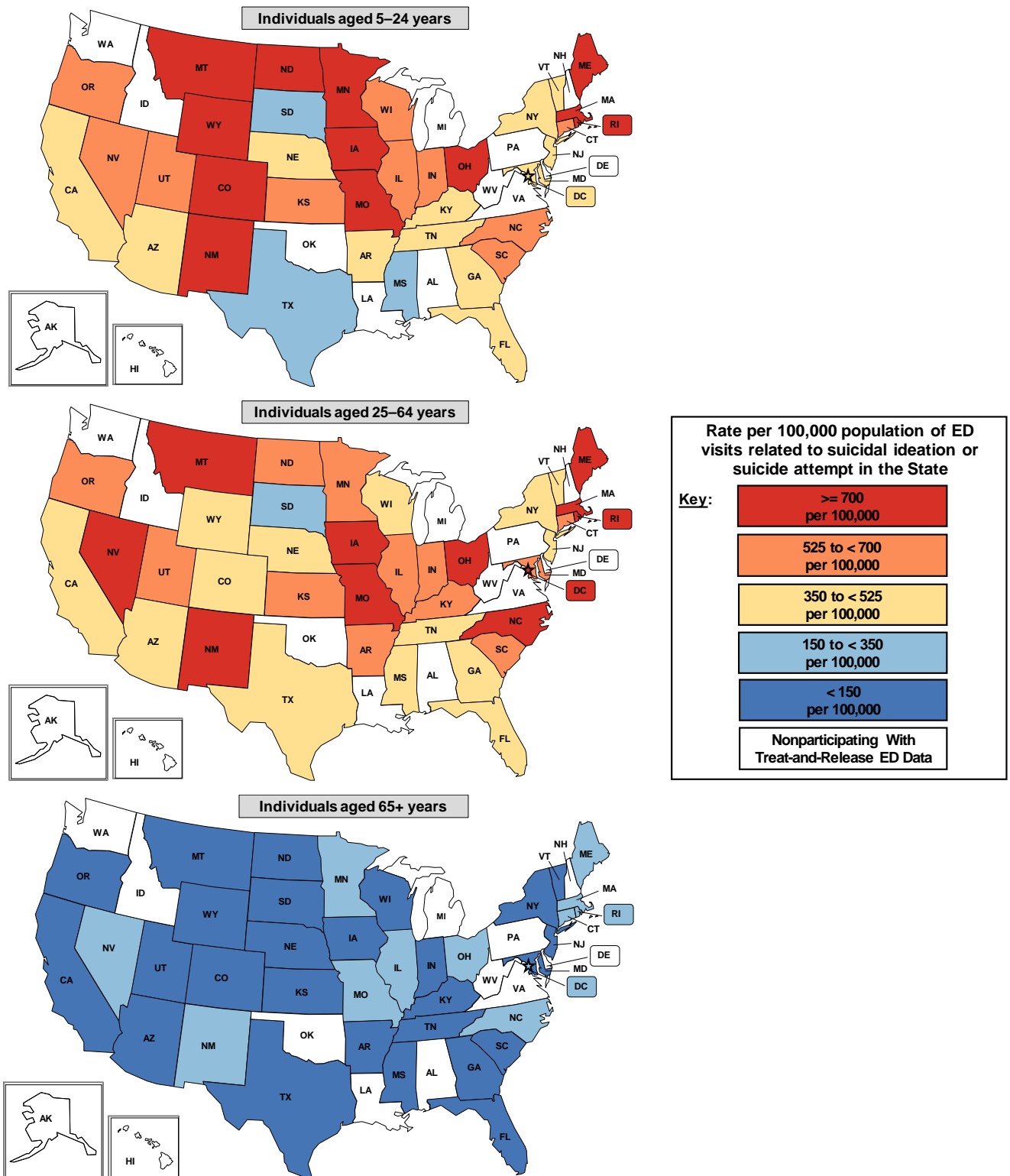
Among females of all ages, those aged 10–14, 15–19, and 20–24 years had the highest rates of ED visits related to suicidal ideation or suicide attempt: 673.2, 1,196.9, and 714.7 per 100,000 population, respectively. Among males, those aged 15–19, 20–24, and 25–44 years had the highest rates: 719.6, 723.6, and 743.1 per 100,000 population, respectively.

Rate of ED visits related to suicidal ideation or suicide attempt for three age groups, by State, 2017

Figure 3 shows the 2017 State-level population rate of ED visits per 100,000 population related to suicidal ideation or suicide attempt.^a The range of rates were classified into five categories of rates per 100,000 population (<150, 150 to <350, 350 to <525, 525 to <700, and ≥700) based on the quintile distribution of age -group -specific rates across the States. The top map shows rates for individuals aged 5–24 years, the middle map shows rates for individuals aged 25–64 years, and the bottom map shows rates for individuals aged 65+ years. Differences discussed in the text refer to differences in the rate category for the State and do not necessarily imply that the difference in specific State-level rates is 10 percent or greater.

^a Population rates are presented for the 37 States and the District of Columbia that provided 2017 ED data (ED visits resulting in inpatient admission and treat-and-release ED visits) for HCUP.

Figure 3. Rate of ED visits related to suicidal ideation or suicide attempt for three age groups, by State, 2017



Abbreviation: ED, emergency department

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Emergency Department Databases (SEDD) for 37 States and the District of Columbia, 2017

- **The highest rate of ED visits related to suicidal ideation or suicide attempt was evident among 5–24 year olds and 25–64 year olds, depending on the State.**

Across the 37 States and the District of Columbia, the overall population rate of ED visits related to suicidal ideation or suicide attempt was 452.5 per 100,000 population. The rate was higher among individuals aged 5–24 years and 25–64 years (527.2 and 508.5 per 100,000 population, respectively) than among those aged 65+ years (133.1) (data not shown).

Within each State, individuals aged 65+ years had the lowest rate of ED visits related to suicidal ideation or suicide attempt compared with individuals in younger age groups.

In five States (Colorado, North Dakota, Minnesota, Wisconsin, and Wyoming), individuals aged 5–24 years had higher rates of ED visits related to suicidal ideation or suicide attempt compared with the two older age groups.

In seven States (Arkansas, Kentucky, Maryland, Mississippi, Nevada, North Carolina, and Texas) and the District of Columbia, individuals aged 25–64 years had higher rates of ED visits related to suicidal ideation or suicide attempt compared with the other two age groups.

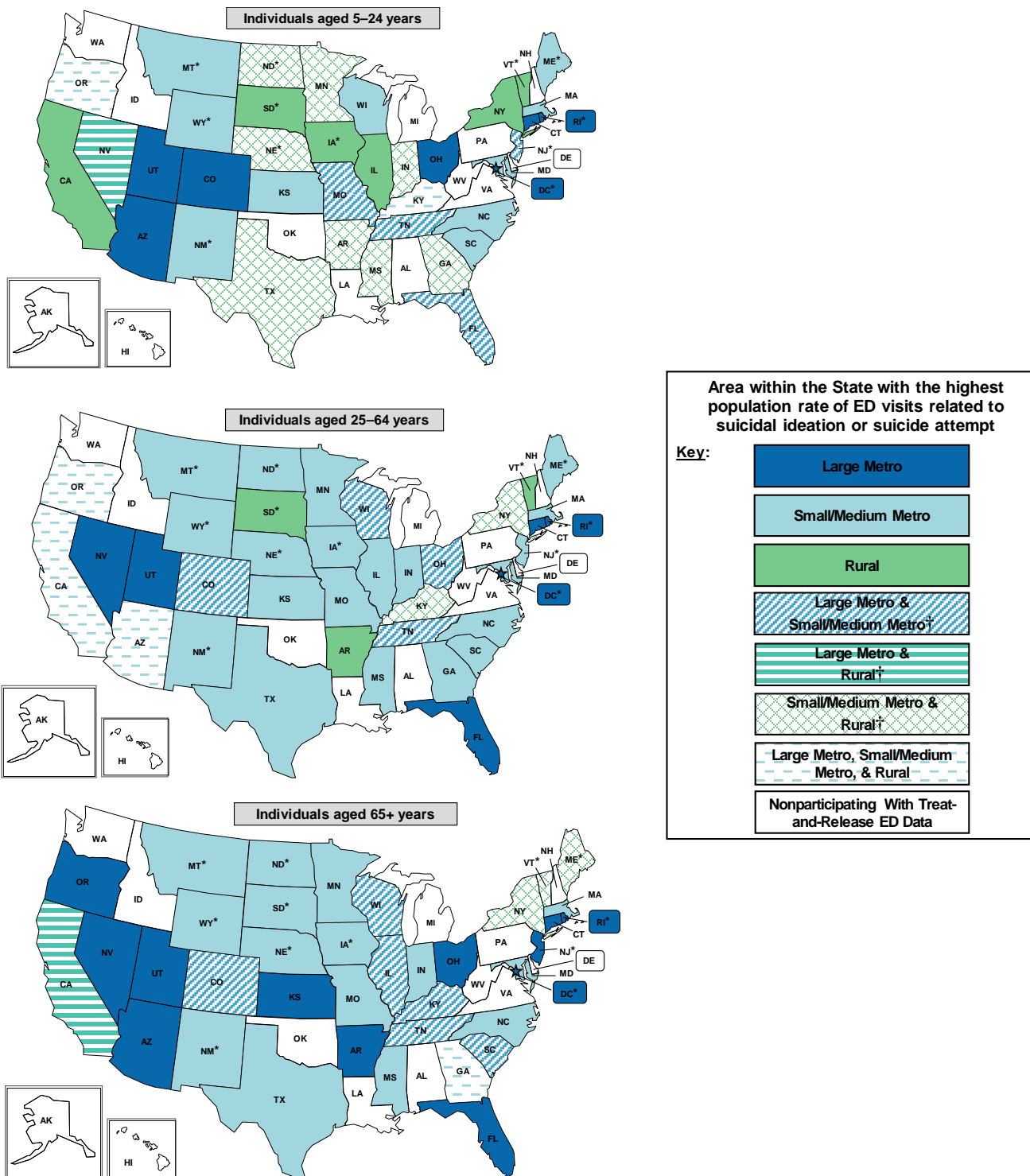
In the remaining 25 States, individuals aged 5–24 years and 25–64 years had similar rates of ED visits related to suicidal ideation or suicide attempt. The rate was higher for both age groups in these States than the rate among those aged 65+ years.

Rate of ED visits related to suicidal ideation or suicide attempt for three age groups, by urban-rural area within the State, 2017

Figure 4 shows the urban-rural area within the State, based on the residence of the patient, with the highest population rate of ED visits related to suicidal ideation or suicide attempt in 2017.^b The colors in the maps indicate which geographic area in a State (large metropolitan, small/medium metropolitan, or rural) had the highest rate of suicidal ideation or suicide attempt. The top map shows areas with the highest population rates for individuals aged 5–24 years, the middle map shows areas with the highest population rates for individuals aged 25–64 years, and the bottom map shows areas with the highest population rates for individuals aged 65+ years.

^b Information is presented for the 37 States and the District of Columbia that provided 2017 ED data (ED visits resulting in inpatient admission and treat-and-release ED visits) for HCUP.

Figure 4. Urban-rural area with the highest rate of ED visits related to suicidal ideation or suicide attempt for three age groups, by State, 2017



Abbreviation: ED, emergency department; metro, metropolitan

* Denotes States that do not have all urban-rural designations (e.g., no large metropolitan or no rural counties). All of DC and RI counties are classified as large metropolitan; IA, ME, MT, ND, NE, NM, SD, VT, and WY counties are classified as either small/medium metropolitan or rural; and NJ counties are all classified as large metropolitan or small/medium metropolitan.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Emergency Department Databases (SEDD) for 37 States and the District of Columbia, 2017

■ **For most States, age-specific rates of ED visits related to suicidal ideation or suicide attempt varied by geographic area.**

Across the 37 States and District of Columbia, the overall population rate of ED visits related to suicidal ideation or suicide attempt was similar for each of the geographic areas: large metropolitan areas (475.8 per 100,000 population), small/medium metropolitan areas (509.5), and rural areas (466.5) (data not shown).

Among those aged 5–24 years across the 37 States and the District of Columbia, the rate was higher in small/medium metropolitan areas (581.7 per 100,000 population) and rural areas (604.3) than in large metropolitan areas (482.0) (data not shown). Specifically, the highest rate was in:

- Large metropolitan areas for six States and the District of Columbia, noting that all counties in the District of Columbia and Rhode Island are classified as large metropolitan
- Small/medium metropolitan areas for 10 States
- Rural areas for six States
- Large metropolitan and small/medium metropolitan areas for four States, including one State (New Jersey) in which all counties are classified as large metropolitan or small/medium metropolitan
- Large metropolitan and rural areas for one State
- Small/medium metropolitan and rural areas for eight States, including two States (Nebraska and North Dakota) in which all counties are classified as small/medium metropolitan or rural

Among those aged 25–64 years across the 37 States and the District of Columbia, the rate was higher in large metropolitan areas (582.7 per 100,000) and small/medium metropolitan areas (591.0) than in rural areas (529.3) (data not shown). Specifically, the highest rate was in:

- Large metropolitan areas for five States and the District of Columbia, noting that all counties in the District of Columbia and Rhode Island are classified as large metropolitan
- Small/medium metropolitan areas for 20 States
- Rural areas for three States
- Large metropolitan and small/medium metropolitan areas for four States
- Small/medium metropolitan and rural areas for two States

Among those aged 65+ years across the 37 States and the District of Columbia, the rate was higher in large metropolitan areas (138.5 per 100,000 population) and small/medium metropolitan areas (136.8) than in rural areas (108.7). Specifically, the highest rate was in:

- Large metropolitan areas for 11 States and the District of Columbia, noting that all counties in the District of Columbia and Rhode Island are classified as large metropolitan
- Small/medium metropolitan areas for 15 States
- Large metropolitan and small/medium metropolitan areas for six States
- Large metropolitan and rural areas for one State
- Small/medium metropolitan and rural areas for three States, including two States (Maine and Vermont) in which all counties are classified as small/medium metropolitan or rural

References

- ¹ Xu J, Murphy SL, Kochanek KD, Arias E. Mortality in the United States, 2018. NCHS Data Brief #355. January 2020. Centers for Disease Control and Prevention. www.cdc.gov/nchs/products/databriefs/db355.htm. Accessed August 10, 2020.
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- ³ Zwald ML, Holland KM, Annor FB, Kite-Powell A, Sumner SA, Bowen DA, et al. Syndromic surveillance of suicidal ideation and self-directed violence — United States, January 2017–December 2018. *Morbidity and Mortality Weekly Report*. 2020;69:103–8.
- ⁴ Office of the Surgeon General, National Action Alliance for Suicide Prevention. 2012 National Strategy for Suicide Prevention: Goals and Objectives for Action. September 2012. www.surgeongeneral.gov/library/reports/national-strategy-suicide-prevention/. Accessed August 10, 2020.

About Statistical Briefs

Healthcare Cost and Utilization Project (HCUP) Statistical Briefs provide basic descriptive statistics on a variety of topics using HCUP administrative healthcare data. Topics include hospital inpatient, ambulatory surgery, and emergency department use and costs, quality of care, access to care, medical conditions, procedures, and patient populations, among other topics. The reports are intended to generate hypotheses that can be further explored in other research; the reports are not designed to answer in-depth research questions using multivariate methods.

Data Source

The estimates in this Statistical Brief are based upon data from the HCUP 2017 Nationwide Emergency Department Sample (NEDS) and from the HCUP 2017 State Inpatient Databases (SID) and State Emergency Department Databases (SEDD) from the 37 States and the District of Columbia that provided both types of data for HCUP in 2017: Arizona, Arkansas, California, Colorado, Connecticut, District of Columbia, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maine, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Wisconsin, and Wyoming. Historical data were drawn from the 2008, 2010, 2012, 2014, and 2016 NEDS.

Supplemental sources included population denominator data for use with HCUP databases, derived from information available from Claritas, a vendor that produces population estimates and projections based on data from the U.S. Census Bureau.[°]

Definitions

Diagnoses, ICD-9-CM, and ICD-10-CM

For emergency department (ED) visits that are treated and released, the *first-listed diagnosis* represents the condition, symptom, or problem identified in the medical record to be chiefly responsible for the ED services provided. In cases where the first-listed diagnosis is a symptom or problem, a diagnosis has not been established (confirmed) by the provider. For ED visits that result in an inpatient admission, the first-listed diagnosis is the *principal diagnosis*, the condition established after study to be chiefly responsible for the patient's admission to the hospital. *Secondary diagnoses* are conditions that coexist at the time of the ED visit or inpatient admission, that require or affect patient care treatment received or management, or that develop during the inpatient stay. *All-listed diagnoses* include the first-listed (principal) diagnosis plus the 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.

[°] Claritas. Claritas Demographic Profile by ZIP Code. <https://claritas360.claritas.com/mybestsegments/>. Accessed February 3, 2020.

ICD-10-CM is the International Classification of Diseases, Tenth Revision, Clinical Modification. In October 2015, ICD-10-CM replaced the ICD-9-CM diagnosis coding system for most inpatient and outpatient medical encounters. There are over 70,000 ICD-10-CM diagnosis codes.

Case definition

Suicidal ideation or suicide attempt was defined as any ED visit (treat-and-release or admitted to the same hospital) with any-listed diagnosis code of:

- ICD-9-CM: V62.84, Suicidal ideation (effective through September 30, 2015)^d
- ICD-10-CM: R45.851, Suicidal ideations (effective beginning October 1, 2015) and T14.91, Suicide attempt (effective October 1, 2015 through September 30, 2019)

Types of hospitals included in the HCUP Nationwide Emergency Department Sample

The Nationwide Emergency Department Sample (NEDS) is based on ED data from community acute care hospitals, which are defined as short-term, non-Federal, general, and other specialty hospitals available to the public. Included among community hospitals are pediatric institutions and hospitals that are part of academic medical centers. Excluded are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. Hospitals included in the NEDS have EDs, and no more than 90 percent of their ED visits result in admission.

Types of hospitals included in HCUP State Inpatient Databases

This analysis used State Inpatient Databases (SID) limited to 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). Community hospitals include obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical center hospitals. Excluded for this analysis are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. However, if a patient received long-term care, rehabilitation, or treatment for a psychiatric or chemical dependency condition in a community hospital, the discharge record for that stay was included in the analysis.

Types of hospitals included in HCUP State Emergency Department Databases

This analysis used State Emergency Department Databases (SEDD) limited to data from community hospitals with a hospital-owned emergency department. Community hospitals are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). Community hospitals include specialty, pediatric, public, and academic medical center hospitals. Excluded for this analysis are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals.

Unit of analysis

The unit of analysis is the ED visit, 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 visit in the ED.

Population rates

Rates of ED visits per 100,000 population were calculated using ED visit totals in the numerator and Claritas^e estimates of the corresponding U.S. population (e.g. the population for a specific age group) in the denominator. Individual patients seen in the ED multiple times are counted more than once in the numerator.

$$\text{Population rate of ED visits} = \left(\frac{\text{number of ED visits among patients in group}}{\text{number of U.S. residents in group}} \right) \times 100,000$$

^d There are no separate codes for suicide attempt under the ICD-9-CM coding system.

^e Claritas. Claritas Demographic Profile by ZIP Code. <https://claritas360.claritas.com/mybestsegments/>. Accessed February 3, 2020.

Percentage difference

Percentage differences between groups were calculated using the following formula:

$$\text{Percentage difference} = \left(\frac{|\text{Group 1 value} - \text{Group 2 value}|}{(\text{Group 1 Value} + \text{Group 2 value}) / 2} \right) \times 100$$

Location of patients' residence

Place of residence is based on the urban-rural classification scheme for U.S. counties developed by the National Center for Health Statistics (NCHS) and based on the Office of Management and Budget (OMB) definition of a metropolitan service area as including a city and a population of at least 50,000 residents. For this Statistical Brief, we collapsed the NCHS categories into the following categories:

- Large Metropolitan: counties in a metropolitan area with 1 million or more residents
- Small/Medium Metropolitan: counties in a metropolitan area of 50,000–999,999
- Rural: counties in a nonmetropolitan area

Expected payer

To make coding uniform across all HCUP data sources, the primary expected payer for the ED visit combines detailed categories into general groups:

- Medicare: includes fee-for-service and managed care Medicare
- Medicaid: includes fee-for-service and managed care Medicaid
- Private insurance: includes commercial nongovernmental payers, regardless of the type of plan (e.g., private health maintenance organizations [HMOs], preferred provider organizations [PPOs])
- Self-pay/No charge: includes self-pay, no charge, charity, and no expected payment
- Other payers: includes other Federal and local government programs (e.g., TRICARE, CHAMPVA, Indian Health Service, Black Lung, Title V) and Workers' Compensation

Prior to 2017, ED visits that were expected to be billed to the State Children's Health Insurance Program (SCHIP) may be classified as Medicaid or Other, depending on the structure of the State program. Because most State data do not identify SCHIP as a separate expected payer, it is not possible to present this information separately. For 2017, ED visits that were expected to be billed to SCHIP are included under Medicaid.

For this Statistical Brief, when more than one payer is listed for a hospital discharge, the first-listed payer is used. ED visits with an expected primary payer of Medicare were reported separately for patients aged <65 years and those aged 65+ years.

Discharge status

Discharge status reflects the disposition of the patient at discharge from the ED and includes the following categories: routine (to home or to home health care); admitted as an inpatient to the same hospital; transfer to another short-term hospital; other transfers (including skilled nursing facility, intermediate care, and another type of facility such as a nursing home); against medical advice (AMA); died in the hospital or ED; and discharged alive, destination unknown.

About HCUP

The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of healthcare 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 healthcare 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 healthcare 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 Department of Health and Social Services	Nevada Department of Health and Human Services
Alaska State Hospital and Nursing Home Association	New Hampshire Department of Health & Human Services
Arizona Department of Health Services	New Jersey Department of Health
Arkansas Department of Health	New Mexico Department of Health
California Office of Statewide Health Planning and Development	New York State Department of Health
Colorado Hospital Association	North Carolina Department of Health and Human Services
Connecticut Hospital Association	North Dakota (data provided by the Minnesota Hospital Association)
Delaware Division of Public Health	Ohio Hospital Association
District of Columbia Hospital Association	Oklahoma State Department of Health
Florida Agency for Health Care Administration	Oregon Association of Hospitals and Health Systems
Georgia Hospital Association	Oregon Office of Health Analytics
Hawaii Lailima Data Alliance	Pennsylvania Health Care Cost Containment Council
Hawaii University of Hawai'i at Hilo	Rhode Island Department of Health
Illinois Department of Public Health	South Carolina Revenue and Fiscal Affairs Office
Indiana Hospital Association	South Dakota Association of Healthcare Organizations
Iowa Hospital Association	Tennessee Hospital Association
Kansas Hospital Association	Texas Department of State Health Services
Kentucky Cabinet for Health and Family Services	Utah Department of Health
Louisiana Department of Health	Vermont Association of Hospitals and Health Systems
Maine Health Data Organization	Virginia Health Information
Maryland Health Services Cost Review Commission	Washington State Department of Health
Massachusetts Center for Health Information and Analysis	West Virginia Department of Health and Human Resources, West Virginia Health Care Authority
Michigan Health & Hospital Association	Wisconsin Department of Health Services
Minnesota Hospital Association	Wyoming Hospital Association
Mississippi State Department of Health	
Missouri Hospital Industry Data Institute	
Montana Hospital Association	
Nebraska Hospital Association	

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., patients who were treated in the ED and then released from the ED, or patients who were transferred 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 decision making 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. The unweighted sample size for the 2008 NEDS is 28,447,148 (weighted, this represents 124,945,264 ED visits). The unweighted sample size for the 2017 NEDS is 33,506,645 (weighted, this represents 144,814,803 ED visits).

About the SID

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the participating HCUP States, translated into a uniform format to facilitate multistate comparisons and analyses. Together, the SID encompass more than 95 percent of all U.S. community hospital discharges. The SID can be used to investigate questions unique to one State, to compare data from two or more States, to conduct market-area variation analyses, and to identify State-specific trends in inpatient care utilization, access, charges, and outcomes.

About the SEDD

The HCUP State Emergency Department Databases (SEDD) include information from hospital-owned emergency departments (EDs) from data organizations participating in HCUP, translated into a uniform format to facilitate multistate comparisons and analyses. The SEDD capture the universe of records on ED visits in participating HCUP States that do not result in an admission to the same hospital (i.e., patients who are treated in the ED and then discharged, transferred to another hospital, left against medical advice, or died). The SEDD contain a core set of clinical and nonclinical information on all patients, including individuals covered by Medicare, Medicaid, or private insurance, as well as those whose stays were not expected to be covered by insurance. The SEDD can be used to investigate questions unique to one State, to compare data from two or more States, to conduct market-area variation analyses, and to identify State-specific trends in injury surveillance, emerging infections, and other conditions treated in the ED.

For More Information

For other information on mental and substance use disorders, including suicidal ideation, refer to the HCUP Statistical Briefs located at www.hcup-us.ahrq.gov/reports/statbriefs/sb_mhsa.jsp.

For additional HCUP statistics, visit:

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

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

For a detailed description of HCUP and more information on the design of the Nationwide Emergency Department Sample (NEDS), State Inpatient Databases (SID), and State Emergency Department Databases (SEDD), 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 December 2019. www.hcup-us.ahrq.gov/nedsoverview.jsp. Accessed February 3, 2020.

Agency for Healthcare Research and Quality. Overview of the State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated November 2019. www.hcup-us.ahrq.gov/sidoverview.jsp. Accessed February 3, 2020.

Agency for Healthcare Research and Quality. Overview of the State Emergency Department Databases (SEDD). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated January 2020. www.hcup-us.ahrq.gov/seddoverview.jsp. Accessed February 3, 2020.

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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 healthcare 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 email us at hcup@ahrq.gov or send a letter to the address below:

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