

## Expected Payers and Patient Characteristics of Maternal Emergency Department Care, 2019

### STATISTICAL BRIEF #296

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#### Introduction

Maternal health coverage is an important element of health insurance coverage in the U.S. For example, under the Affordable Care Act pregnancy, maternal, and newborn care comprise essential health benefits that must be covered by all Marketplace plans.<sup>1</sup> Coverage of these services also has implications for access to and quality of care. One study found that pregnant women covered by Medicaid or with no insurance have higher rates of emergency department (ED) visits during pregnancy than pregnant women covered by private insurance.<sup>2</sup> As pregnancy-related complications were the fifth most common reason for ED visits for women aged 15–64 years in 2018,<sup>3</sup> information on ED use among pregnant women by expected payer provides useful information for analysts and policymakers and helps identify areas of focus for quality improvement efforts.

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents statistics on treat-and-release ED visits (i.e., visits that result in discharge from the ED and do not result in admission to the same hospital) for pregnant women<sup>a</sup> aged 12–55 years using weighted estimates from the 2019 Nationwide Emergency Department Sample (NEDS). The distribution of ED visits and aggregate ED costs by primary expected payer is presented overall as well as by patient age group and race and ethnicity. Corresponding statistics for ED visits for nonpregnant women<sup>b</sup> aged 12–55 years are provided for comparison. Because of the large sample size of the NEDS data, small differences can be statistically significant. Thus, only differences greater than or equal to 10 percent are discussed in the text.

<sup>a</sup> ED visits for pregnant women were identified by the presence of a pregnancy-related diagnosis or procedure code on the record. Most ED visits for pregnant women (94.3 percent) were for a pregnancy-related condition; 5.7 percent of visits were for conditions unrelated to pregnancy.

<sup>b</sup> Given that this analysis relies on diagnosis and procedure codes documented on the ED record, some ED visits may have been misclassified as visits for nonpregnant women if a pregnancy was not recorded.

#### Highlights

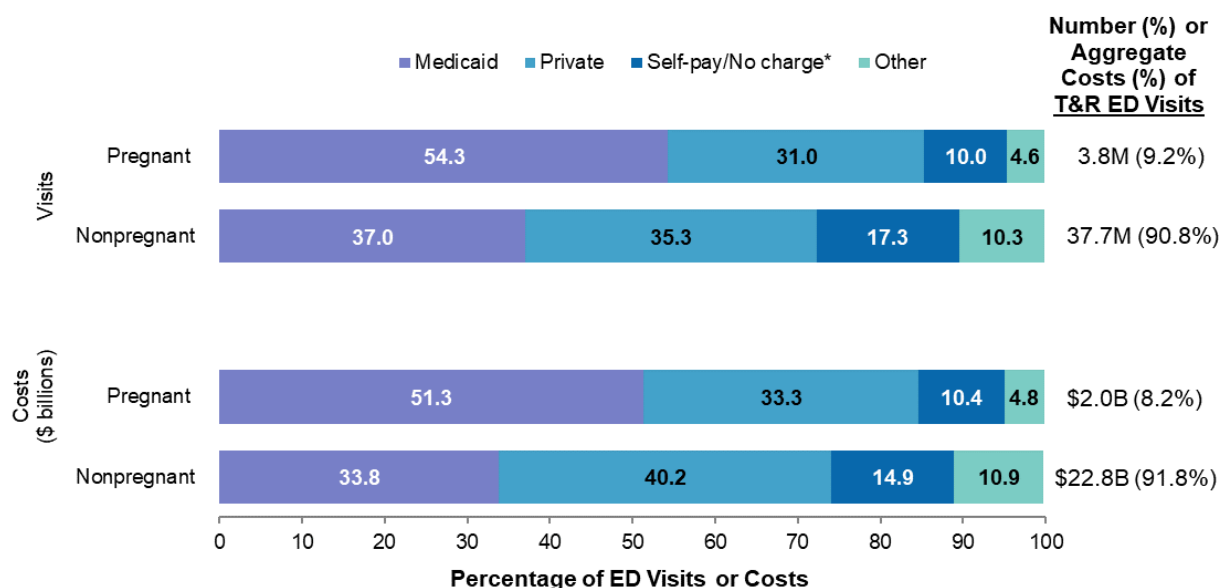
- Medicaid was the primary expected payer for more than half of treat-and-release emergency department (ED) visits and costs for pregnant women versus just over one-third of ED visits and costs for nonpregnant women aged 12–55 years.
- For pregnant women, the proportion of ED visits that were expected to be covered by Medicaid decreased with age, in contrast to the constant proportion of ED visits expected to be self-pay/no charge regardless of age.
- For pregnant women, the proportion of ED visits expected to be covered by Medicaid was highest for Hispanic women and Black non-Hispanic women.
- The proportion of ED visits that were expected to be self-pay/no charge was twice as high for Hispanic pregnant women as for White non-Hispanic pregnant women.
- Black non-Hispanic pregnant girls aged 12–17 years had the highest proportion of ED visits with an expected payer of Medicaid (79 percent vs. 69–71 percent for other pregnant girls in this age group).
- The percentage of ED visits for pregnant women expected to be self-pay/no charge was highest for Hispanic women aged 35–55 years (17 percent).

## Findings

*Distribution of the number and aggregate costs of treat-and-release ED visits for women aged 12–55 years, by primary expected payer, 2019*

Figure 1 presents the distribution of treat-and-release ED visits and associated costs for pregnant and nonpregnant women by primary expected payer.

**Figure 1. Distribution of treat-and-release ED visits and associated aggregate costs for pregnant and nonpregnant women aged 12–55 years, by primary expected payer, 2019**



Abbreviations: B, billion; ED, emergency department; M, million; T&R, treat-and-release

\*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), 2019

- Medicaid was the primary expected payer for more than half of treat-and-release ED visits and costs for pregnant women, versus just over one-third of ED visits and costs for nonpregnant women.**

In 2019, more than half of ED visits for pregnant women (54.3 percent) were expected to be paid by Medicaid versus 37.0 percent of ED visits for nonpregnant women. Similarly, Medicaid was the expected primary payer for more than half of the costs of ED visits for pregnant women (51.3 percent) versus 33.8 percent of the costs of ED visits for nonpregnant women.

In contrast, payers other than Medicaid accounted for a lower proportion of visits for pregnant women than for nonpregnant women: 31.0 versus 35.3 percent for private insurance, 10.0 versus 17.3 percent for self-pay/no charge, and 4.6 versus 10.3 percent for other payers. A similar pattern held for the costs of ED visits.

Table 1 presents overall and by primary expected payer the total number of visits, mean cost per visit, and aggregate costs for treat-and-release ED visits for pregnant women versus nonpregnant women in 2019.

**Table 1. Number of visits, mean cost, and aggregate costs of treat-and-release ED visits for pregnant and nonpregnant women aged 12–55 years, by primary expected payer, 2019**

Outcome	Primary expected payer				
	Overall	Medicaid	Private	Self-pay/ No charge*	Other
Total number of ED visits					
Pregnant women	3,804,800	2,066,400	1,179,800	378,700	174,600
Nonpregnant women	37,711,500	13,947,500	13,293,700	6,515,300	3,889,200
Mean cost per ED visit, \$					
Pregnant women	540	510	580	560	560
Nonpregnant women	610	550	690	520	640
Aggregate costs of ED visits, \$ million					
Pregnant women	2,000	1,000	700	200	100
Nonpregnant women	22,800	7,700	9,200	3,400	2,500

Abbreviation: ED, emergency department

Notes: Total number of visits and aggregate costs are rounded to the nearest hundred. Mean cost is rounded to the nearest ten.

\* 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), 2019

- **The mean cost per treat-and-release ED visit for pregnant women ranged from \$510 for those with an expected payer of Medicaid to \$580 for those with private insurance.**

The mean cost per ED visit for pregnant women was highest among visits with a primary expected payer of private insurance, other expected payers, and those expected to be self-pay/no charge (\$560 to \$580) and lowest among those with an expected payer of Medicaid (\$510). Among visits for nonpregnant women, the mean cost per ED visit was highest for visits with an expected payer of private insurance and lowest for those expected to be self-pay/no charge (\$690 vs. \$520).

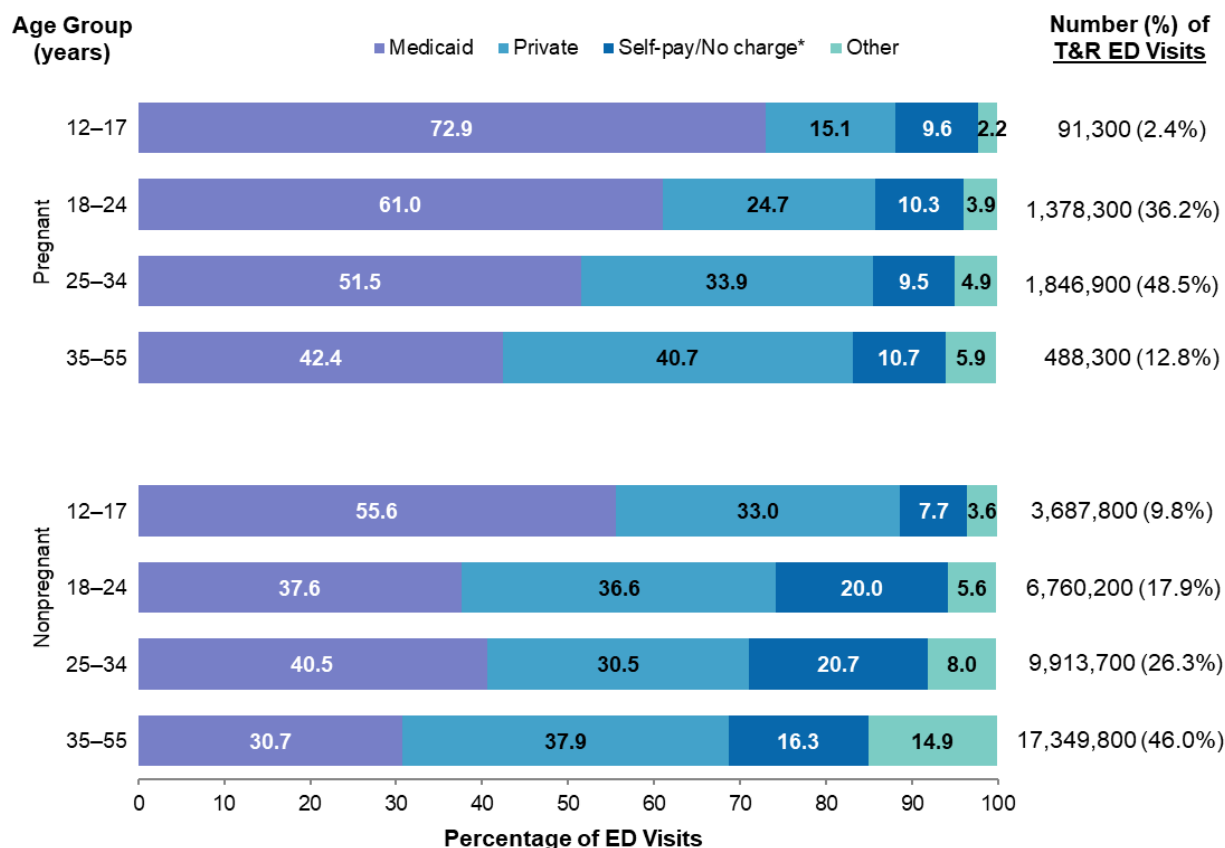
- **The mean cost per treat-and-release ED visit was lower for pregnant versus nonpregnant women among visits with an expected payer of Medicaid, private insurance, or other payers.**

Overall, the mean cost was \$610 per ED visit for nonpregnant women, compared with \$540 per visit for pregnant women. This pattern of lower mean costs per ED visit for pregnant compared with nonpregnant women held for those with a primary expected payer of private insurance and other expected payers. However, among ED visits for which the expected payment source was Medicaid or self-pay/no charge, the mean cost per visit was similar for pregnant and nonpregnant women.

*Distribution of treat-and-release ED visits for women aged 12–55 years, by primary expected payer and patient characteristic, 2019*

Figure 2 presents the distribution of treat-and-release ED visits for pregnant and nonpregnant women by primary expected payer and patient age group in 2019.

**Figure 2. Distribution of treat-and-release ED visits for pregnant and nonpregnant women aged 12–55 years, by primary expected payer and patient age group, 2019**



Abbreviations: ED, emergency department; T&R, treat-and-release

Notes: Number of treat-and-release ED visits is rounded to the nearest hundred. Percentages are based on unrounded estimates.

\* 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), 2019

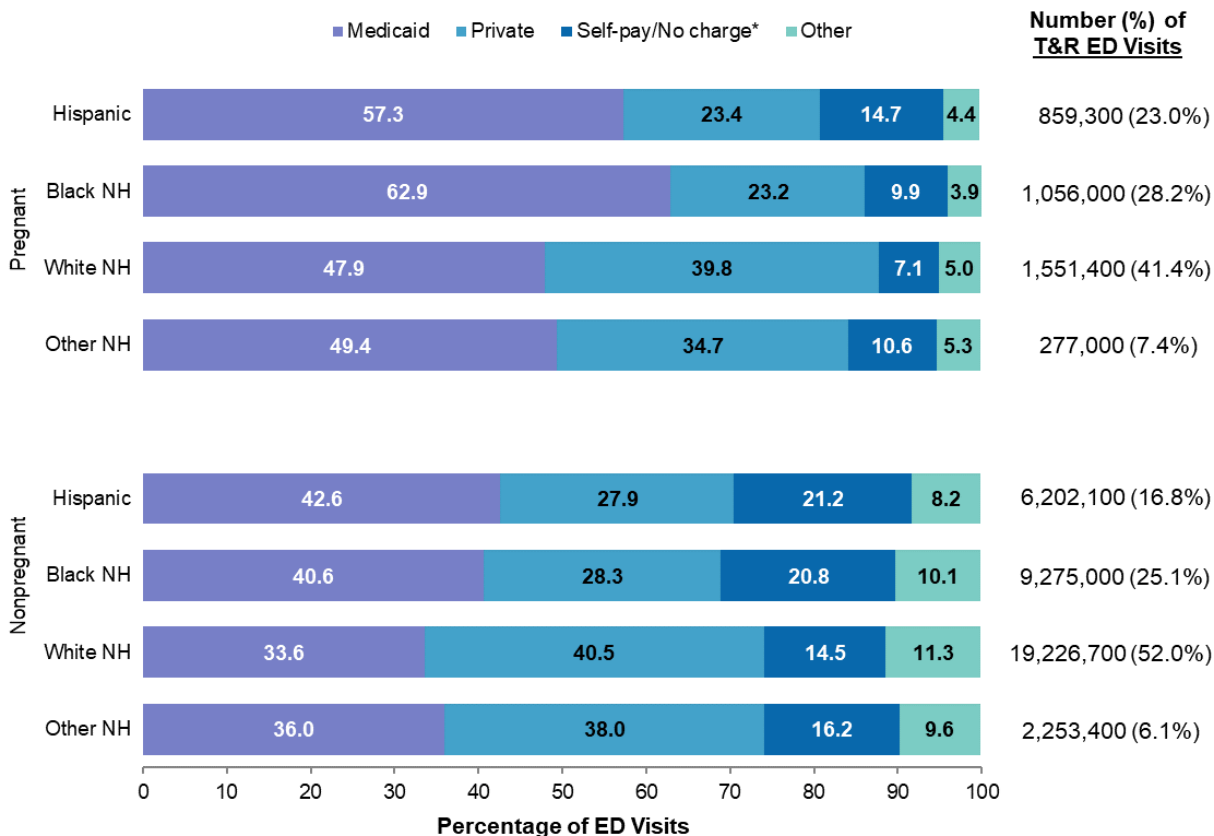
- **For pregnant women, the proportion of treat-and-release ED visits that were expected to be covered by Medicaid decreased with age, in contrast to the constant proportion of ED visits expected to be self-pay/no charge.**

Among treat-and-release ED visits for pregnant women, Medicaid was the most common expected payer, but the proportion decreased with age, from 72.9 percent of ED visits for those aged 12–17 years to 42.4 percent for those aged 35–55 years. Approximately 10 percent of ED visits for pregnant women, regardless of age, had a primary expected payer of self-pay/no charge.

Among ED visits for nonpregnant women, Medicaid was a more common expected payer for visits for 12–17-year-olds than for older age groups (56 vs. 31–41 percent). In contrast, self-pay/no charge was a less common expected payer among ED visits for nonpregnant girls under 18 years than for older age groups (8 vs. 16–21 percent).

Figure 3 presents the distribution of treat-and-release ED visits for pregnant women versus nonpregnant women by primary expected payer and patient race and ethnicity in 2019.

**Figure 3. Distribution of treat-and-release ED visits for pregnant and nonpregnant women aged 12–55 years, by primary expected payer and patient race and ethnicity, 2019**



Abbreviations: ED, emergency department; NH, non-Hispanic; T&R, treat-and-release

Notes: Number of treat-and-release ED visits is rounded to the nearest hundred. Percentages are based on unrounded estimates.

\* 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), 2019

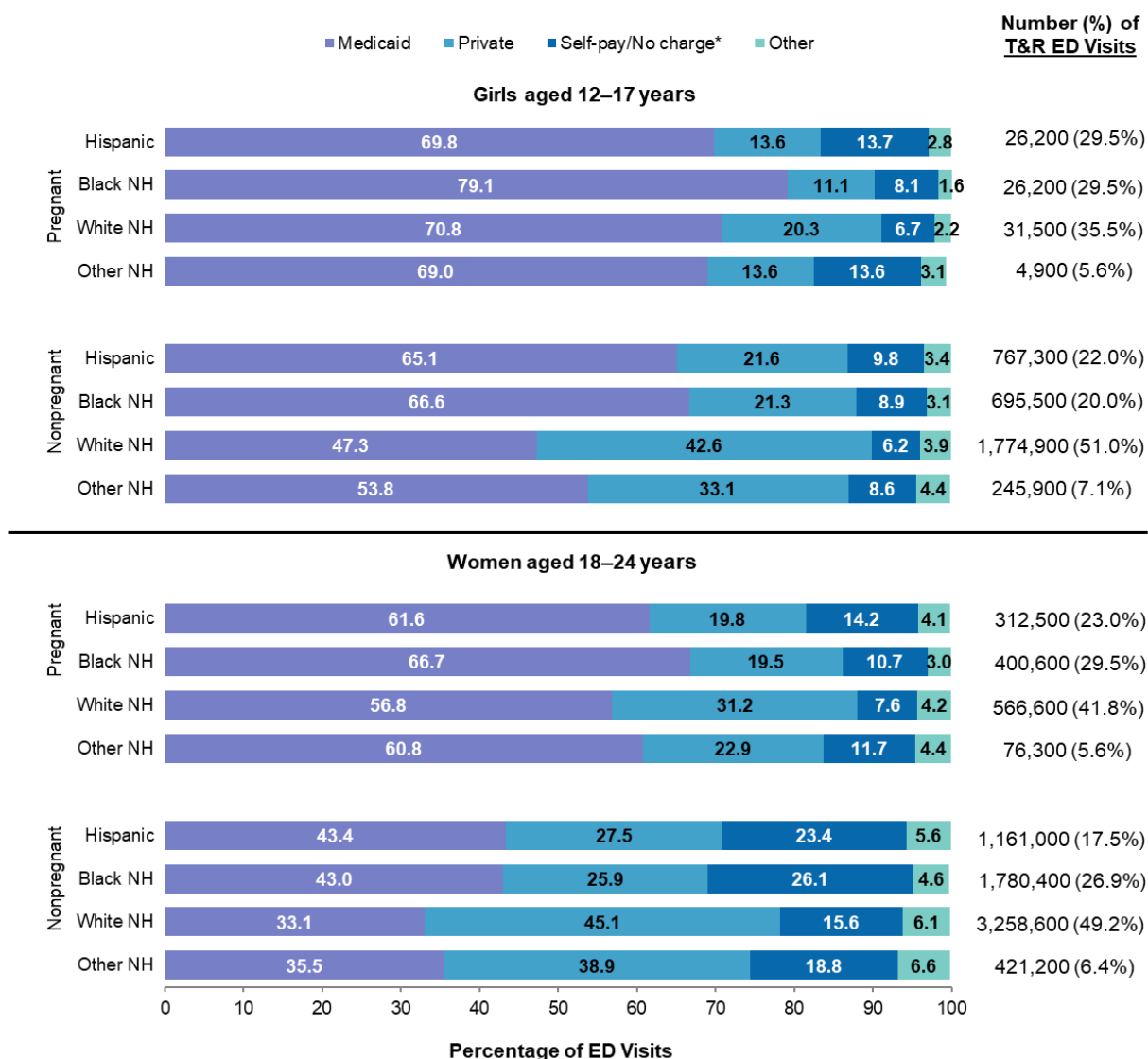
- **For pregnant women, the proportion of treat-and-release ED visits expected to be covered by Medicaid was highest for Hispanic women and Black non-Hispanic women.**

Among treat-and-release ED visits for pregnant women, Medicaid accounted for a higher proportion of visits for Hispanic women and Black non-Hispanic (NH) women compared with those for White NH women and other NH race/ethnicity women (57–63 vs. 48–49 percent). The proportion of ED visits expected to be self-pay/no charge was twice as high for Hispanic women (14.7 percent) as for White NH women (7.1 percent).

Among ED visits for nonpregnant women, Medicaid accounted for a higher proportion of visits for Hispanic women and Black NH women compared with those for White NH women and women of other NH race/ethnicity (41–43 vs. 34–36 percent). This pattern also held for visits expected to be self-pay/no charge: 21 percent for Hispanic women and Black NH women compared with 15–16 percent for White NH women and other NH race/ethnicity women.

Figures 4 and 5 present the distribution of treat-and-release ED visits for pregnant women versus nonpregnant women aged 12–24 years (Figure 4) and aged 25–55 years (Figure 5) by primary expected payer and select patient characteristics. Figure 4 shows the distribution of ED visits for women aged 12–24 years by primary expected payer, patient age group, and patient race and ethnicity in 2019.

**Figure 4. Distribution of treat-and-release ED visits for pregnant and nonpregnant women aged 12–24 years, by primary expected payer, patient age group, and patient race and ethnicity, 2019**



Abbreviations: ED, emergency department; NH, non-Hispanic; T&R, treat-and-release

Notes: Total number of visits is rounded to the nearest hundred. Percentages are based on unrounded estimates.

\* 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), 2019

- **Among treat-and-release ED visits for pregnant girls aged 12–17 years, those for Black non-Hispanic girls had the highest proportion of ED visits with an expected payer of Medicaid.**

Treat-and-release ED visits for Black NH pregnant girls were more likely to have an expected payer of Medicaid (79 percent vs. 69–71 percent of ED visits for other pregnant girls in this age group) and less likely to have an expected payer of private insurance (11 percent, compared with 14 percent for Hispanic girls and other NH race/ethnicity girls and 20 percent for White NH girls).

Among ED visits for pregnant girls, those for Hispanic girls and other NH race/ethnicity girls were twice as likely to have an expected payer of self-pay/no charge compared with those for White NH and Black NH girls (14 vs. 7–8 percent).

- **Among treat-and-release ED visits for pregnant young adult women aged 18–24 years, visits for White non-Hispanic women had the highest proportion with an expected payer of private insurance, whereas those for Hispanic women had the highest proportion expected to be self-pay/no charge.**

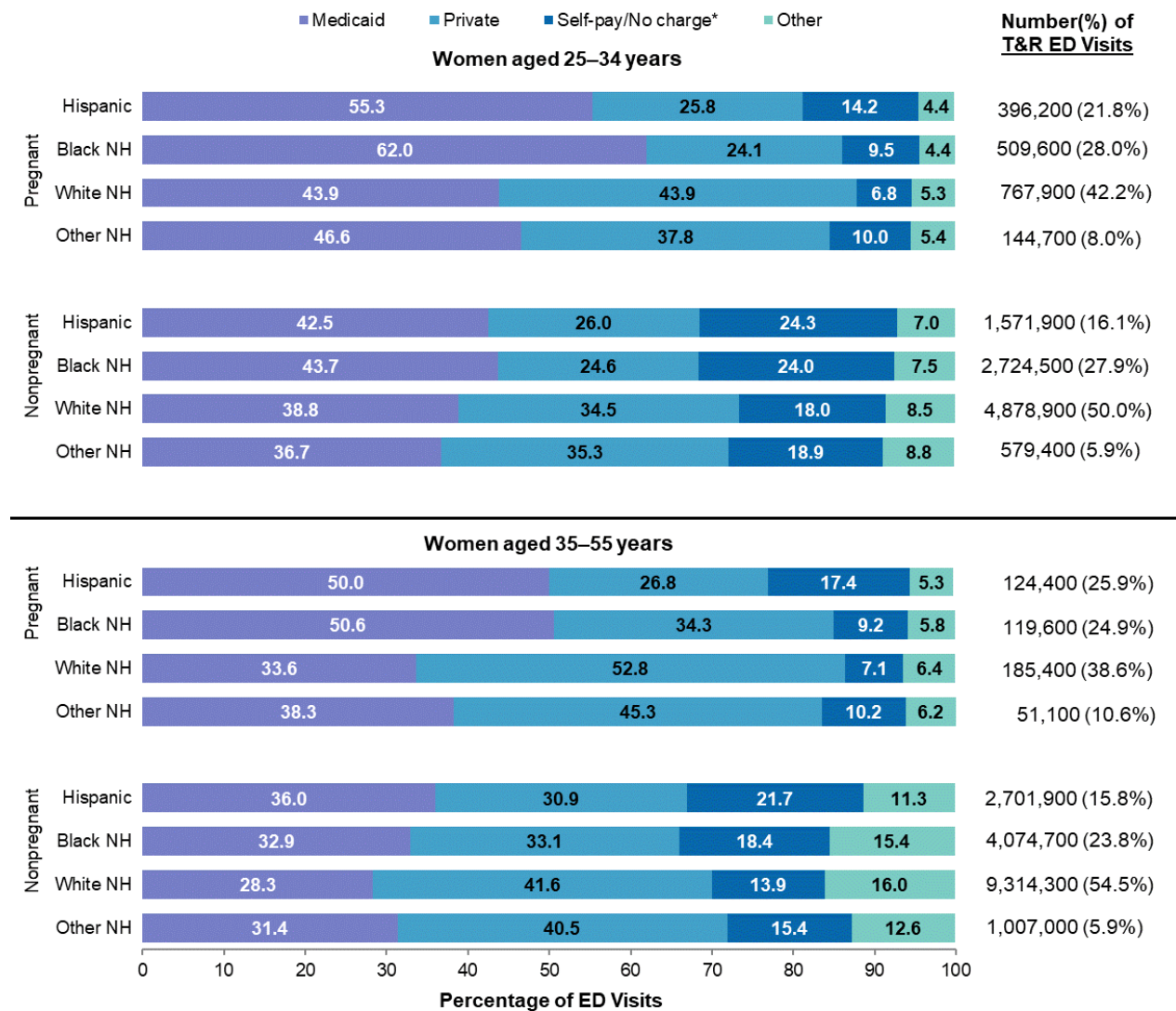
Among ED visits for pregnant young adult women aged 18–24 years:

- Private insurance was the primary expected payer for a higher proportion of visits for White NH women compared with visits for women of other races and ethnicities (31 vs. 20–23 percent).
- A higher proportion of visits for Hispanic women were expected to be self-pay/no charge compared with visits for women of other races and ethnicities (14 vs. 8–12 percent).
- Medicaid was the primary expected payer for a higher proportion of visits for Black NH women compared with visits for White NH women (67 vs. 57 percent).



Figure 5 presents the distribution of treat-and-release ED visits for pregnant women versus nonpregnant women aged 25–55 years by primary expected payer, patient age group, and patient race and ethnicity in 2019.

**Figure 5. Distribution of treat-and-release ED visits for pregnant and nonpregnant women aged 25–55 years, by primary expected payer, patient age group, and patient race and ethnicity, 2019**



Abbreviations: ED, emergency department; NH, non-Hispanic; T&R, treat-and-release

Notes: Total number of visits is rounded to the nearest hundred. Percentages are based on unrounded estimates.

\* 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), 2019



- **Treat-and-release ED visits for Black non-Hispanic women aged 25–34 years were more likely to have an expected payer of Medicaid than ED visits for other pregnant women in this age group.**

Among ED visits for pregnant women aged 25–34 years, Medicaid was the primary expected payer for a higher proportion of visits for Black NH women compared with visits for other women (62 percent vs. 55 percent of visits for Hispanic women and 44–47 percent of visits for White NH women and other NH race/ethnicity women). Self-pay/no charge was the expected payer for a higher proportion of ED visits for Hispanic women in this age group compared with visits for women of other races and ethnicities (14 percent vs. 7–10 percent).

- **Medicaid was the primary expected payer for half of treat-and-release ED visits for Hispanic and Black non-Hispanic pregnant women aged 35–55 years, whereas private insurance was the expected payer for approximately half of ED visits for White non-Hispanic women in this age group.**

Among ED visits for pregnant women aged 35–55 years, those for Hispanic and Black NH women were more likely to have an expected payer of Medicaid compared with those for White NH women and other NH race/ethnicity women (50–51 vs. 34–38 percent). The proportion of ED visits with an expected payer of private insurance was highest for White NH women (52.8 percent), followed by other NH race/ethnicity women (45.3 percent), Black NH women (34.3 percent), and Hispanic women (26.8 percent).

- **Seventeen percent of treat-and-release ED visits for Hispanic pregnant women aged 35–55 years were expected to be self-pay/no charge.**

Among ED visits for pregnant women aged 35–55 years, those for Hispanic women were more likely to have an expected payer self-pay/no charge compared with those for other women in this age group (17 percent vs. 7–10 percent). This was the highest proportion of self-pay/no charge across all age and race and ethnicity groups among ED visits for pregnant women.

## References

<sup>1</sup> HealthCare.gov. What Marketplace Health Insurance Plans Cover. [www.healthcare.gov/coverage/what-marketplace-plans-cover/](https://www.healthcare.gov/coverage/what-marketplace-plans-cover/). Accessed November 19, 2021.

<sup>2</sup> Taylor YJ, Liu TL, Howell EA. Insurance differences in preventive care use and adverse birth outcomes among pregnant women in a Medicaid nonexpansion State: a retrospective cohort study. *Journal of Women's Health*. 2020;29(1):29–37.

<sup>3</sup> Centers for Disease Control and Prevention. National Hospital Ambulatory Medical Care Survey: 2018 Emergency Department Summary Tables. [www.cdc.gov/nchs/data/nhamcs/web\\_tables/2018-ed-web-tables-508.pdf](https://www.cdc.gov/nchs/data/nhamcs/web_tables/2018-ed-web-tables-508.pdf). Accessed December 14, 2021.

## 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 2019 HCUP Nationwide Emergency Department Sample (NEDS). See more information about the NEDS in the “About the NEDS” section below.

## Definitions

*Diagnoses, ICD-10-CM, Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses*  
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. *Secondary diagnoses* are conditions that coexist at the time of the ED visit, that require or affect patient care treatment received or management. *All-listed diagnoses* include the first-listed diagnosis plus the secondary conditions.

Diagnoses are coded in ICD-10-CM, the International Classification of Diseases, Tenth Revision, Clinical Modification. There are over 70,000 ICD-10-CM diagnosis codes.

The CCSR aggregates ICD-10-CM diagnosis codes into a manageable number of clinically meaningful categories.<sup>c</sup> The CCSR is intended to be used analytically to examine patterns of healthcare in terms of cost, utilization, and outcomes; rank utilization by diagnoses; and risk-adjust by clinical condition. The CCSR capitalizes on the specificity of the ICD-10-CM coding scheme and allows ICD-10-CM codes to be classified in more than one category. Approximately 10 percent of diagnosis codes are associated with more than one CCSR category because the diagnosis code documents either multiple conditions or a condition along with a common symptom or manifestation. ICD-10-CM coding definitions for each CCSR category presented in this Statistical Brief can be found in the *CCSR reference file*, available at [www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccs\\_refined.jsp#download](https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/ccs_refined.jsp#download). For this Statistical Brief, v2021.2 of the CCSR was used.

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<sup>c</sup> Agency for Healthcare Research and Quality. Clinical Classifications Software Refined (CCSR) for ICD-10-CM Diagnoses. Healthcare Cost and Utilization Project (HCUP). Agency for Healthcare Research and Quality. Updated February 2022. [www.hcup-us.ahrq.gov/toolssoftware/ccsr/dxccsr.jsp](https://www.hcup-us.ahrq.gov/toolssoftware/ccsr/dxccsr.jsp). Accessed March 9, 2022.

*Procedures, Healthcare Common Procedure Coding System (HCPCS)/Current Procedural Terminology (CPT®), Clinical Classifications Software for Services and Procedures (CCS-Services and Procedures)* All-listed procedures include all procedures performed during the hospital stay, whether for definitive treatment or for diagnostic or exploratory purposes. The *first-listed procedure* is the procedure that is listed first on the discharge record.

ED procedures on an outpatient record are coded in HCPCS Level I (CPT) and Level II procedure codes. There are approximately 17,700 total procedure codes.

The CCS-Services and Procedures provides a method for classifying CPT and HCPCS Level II codes into clinically meaningful procedure categories.<sup>d</sup> More than 10,000 CPT codes and 7,000 HCPCS Level II codes are collapsed into over 240 categories that may be more useful for presenting descriptive statistics than are individual CPT or HCPCS Level II codes.

#### *Case definition*

For this report, ED visits for pregnant women were defined as visits with either any-listed diagnosis related to a maternal condition (see CCSR diagnosis categories in Table 2) or any-listed procedure code related to treatment for a maternal condition (see CCS-Services and Procedures categories in Table 3).

**Table 2. Maternal diagnoses identified by CCSR for ICD-10-CM diagnoses**

<b>CCSR category</b>	<b>CCSR category description</b>
PRG001	Antenatal screening
PRG002	Gestational weeks
PRG003	Spontaneous abortion and complications of spontaneous abortion
PRG004	Induced abortion and complications of termination of pregnancy
PRG005	Ectopic pregnancy and complications of ectopic pregnancy
PRG006	Molar pregnancy and other abnormal products of conception
PRG007	Complications following ectopic and/or molar pregnancy
PRG008	Supervision of high-risk pregnancy
PRG009	Early, first or unspecified trimester hemorrhage
PRG010	Hemorrhage after first trimester
PRG011	Early or threatened labor
PRG012	Multiple gestation
PRG013	Maternal care related to fetal conditions
PRG014	Polyhydramnios and other problems of amniotic cavity
PRG015	Obstetric history affecting care in pregnancy
PRG016	Previous C-section
PRG017	Maternal care for abnormality of pelvic organs
PRG018	Maternal care related to disorders of the placenta and placental implantation
PRG019	Diabetes or abnormal glucose tolerance complicating pregnancy; childbirth; or the puerperium
PRG020	Hypertension and hypertensive-related conditions complicating pregnancy; childbirth; and the puerperium
PRG021	Maternal intrauterine infection
PRG022	Prolonged pregnancy
PRG023	Complications specified during childbirth
PRG024	Malposition, disproportion or other labor complications

<sup>d</sup> Agency for Healthcare Research and Quality. Clinical Classifications Software (CCS) for Services and Procedures. Healthcare Cost and Utilization Project (HCUP). Last modified May 26, 2021. [www.hcup-us.ahrq.gov/toolssoftware/ccs\\_svcsproc/ccssvcproc.jsp](http://www.hcup-us.ahrq.gov/toolssoftware/ccs_svcsproc/ccssvcproc.jsp). Accessed April 29, 2022.

<b>CCSR category</b>	<b>CCSR category description</b>
PRG025	Anesthesia complications during pregnancy
PRG026	OB-related trauma to perineum and vulva
PRG027	Complications specified during the puerperium
PRG028	Other specified complications in pregnancy
PRG029	Uncomplicated pregnancy, delivery or puerperium
PRG030	Maternal outcome of delivery

Abbreviations: CCSR, Clinical Classifications Software Refined; ICD-10-CM, International Classification of Diseases, Tenth Revision, Clinical Modification; OB, obstetric

**Table 3. Maternal procedures identified by CCS-Services and Procedures**

<b>CCS category</b>	<b>CCS category description</b>
122	Removal of ectopic pregnancy
126	Abortion (termination of pregnancy)
127	Dilatation and curettage (D&C), aspiration after delivery or abortion
134	Cesarean section
135	Forceps, vacuum, and breech delivery
137	Other procedures to assist delivery
138	Diagnostic amniocentesis
139	Fetal monitoring
140	Repair of current obstetric laceration
141	Other therapeutic obstetrical procedures including antepartum and postpartum care

Abbreviation: CCS-Services and Procedures, Clinical Classifications Software for Services and Procedures

*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.

*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.

*Costs and charges*

Total ED charges were converted to costs using the HCUP Cost-to-Charge Ratios for ED Files, which are based on hospital accounting reports from the Centers for Medicare & Medicaid Services (CMS).<sup>e</sup> Costs reflect the actual expenses incurred in the production of hospital services, such as wages, supplies, and utility costs; charges represent the amount a hospital billed for the case. For each hospital, a cost-to-charge ratio constructed specifically for the hospital ED is used. Hospital charges reflect the amount the hospital billed for the entire ED visit and do not include professional (physician) fees.

Total charges were not available on all NEDS records. For ED visits that did not result in admission (the focus of this Statistical Brief), 1 percent of records were missing ED charges; thus, ED costs could not be

<sup>e</sup> Agency for Healthcare Research and Quality. Cost-to-Charge Ratios for Emergency Department Files. Healthcare Cost and Utilization Project (HCUP). Agency for Healthcare Research and Quality. Updated December 2021. [www.hcup-us.ahrq.gov/db/ccr/ed-ccr/ed-ccr.jsp](http://www.hcup-us.ahrq.gov/db/ccr/ed-ccr/ed-ccr.jsp). Accessed March 9, 2022.

estimated for these visits. For this Statistical Brief, the methodology used to estimate aggregate costs was analogous to what is recommended to estimate aggregate charges in the *Introduction to the HCUP NEDS* documentation.<sup>f</sup> Aggregate costs were estimated as the product of the number of visits and average cost per visit.

#### *How HCUP estimates of costs differ from National Health Expenditure Accounts*

There are a number of differences between the costs cited in this Statistical Brief and spending as measured in the National Health Expenditure Accounts (NHEA), which are produced annually by CMS.<sup>g</sup> The largest source of difference comes from the HCUP coverage of ED treatment only in contrast to the NHEA inclusion of inpatient and other outpatient costs associated with other hospital-based outpatient clinics and departments as well. The outpatient portion of hospitals' activities has been growing steadily and may exceed half of all hospital revenue in recent years. On the basis of the American Hospital Association Annual Survey, 2018 outpatient gross revenues (or charges) were about 49 percent of total hospital gross revenues.<sup>h</sup>

Smaller sources of differences come from the inclusion in the NHEA of hospitals that are excluded from HCUP. These include Federal hospitals (Department of Defense, Veterans Administration, Indian Health Service, and Department of Justice [prison] hospitals) as well as psychiatric, substance abuse, and long-term care hospitals. A third source of difference lies in the HCUP reliance on billed charges from hospitals to payers, adjusted to provide estimates of costs using hospital-wide cost-to-charge ratios, in contrast to the NHEA measurement of spending or revenue. HCUP costs estimate the amount of money required to produce hospital services, including expenses for wages, salaries, and benefits paid to staff as well as utilities, maintenance, and other similar expenses required to run a hospital. NHEA spending or revenue measures the amount of income received by the hospital for treatment and other services provided, including payments by insurers, patients, or government programs. The difference between revenues and costs includes profit for for-profit hospitals or surpluses for nonprofit hospitals.

#### *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:

- 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 Medicare (fee-for-service and managed care) and other Federal and local government programs (e.g., TRICARE, CHAMPVA, Indian Health Service, Black Lung, Title V) and Workers' Compensation

ED visits that were expected to be billed to the State Children's Health Insurance Program (SCHIP) are included under Medicaid.

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

#### *Reporting of race and ethnicity*

Data on Hispanic ethnicity are collected differently among the States and also can differ from the census methodology of collecting information on race (White, Black, Asian/Pacific Islander, American Indian/Alaska Native, Other [including mixed race]) separately from ethnicity (Hispanic, non-Hispanic). State data organizations often collect Hispanic ethnicity as one of several categories that include race. Therefore, for multistate analyses, HCUP creates the combined categorization of race and ethnicity for

<sup>f</sup> Agency for Healthcare Research and Quality. HCUP Nationwide Emergency Department Sample (NEDS) Database Documentation. Healthcare Cost and Utilization Project (HCUP). Agency for Healthcare Research and Quality. Updated September 21, 2021. [www.hcup-us.ahrq.gov/db/nation/neds/nedsdbdocumentation.jsp](http://www.hcup-us.ahrq.gov/db/nation/neds/nedsdbdocumentation.jsp). Accessed March 7, 2022.

<sup>g</sup> For additional information about the NHEA, see Centers for Medicare & Medicaid Services (CMS). National Health Expenditure Data. CMS website. Updated December 17, 2019. [www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html?redirect=/NationalHealthExpendData/](http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/index.html?redirect=/NationalHealthExpendData/). Accessed March 9, 2021.

<sup>h</sup> American Hospital Association. TrendWatch Chartbook, 2020. Table 4.2. Distribution of Inpatient vs. Outpatient Revenues, 1995–2018. [www.aha.org/system/files/media/file/2020/10/TrendwatchChartbook-2020-Appendix.pdf](http://www.aha.org/system/files/media/file/2020/10/TrendwatchChartbook-2020-Appendix.pdf). Accessed March 9, 2021.

data from States that report ethnicity separately. When a State data organization collects Hispanic ethnicity separately from race, HCUP uses Hispanic ethnicity to override any other race category to create a Hispanic category for the uniformly coded race and ethnicity data element, while also retaining the original race and ethnicity data. This Statistical Brief reports race and ethnicity for the following categories: Hispanic, non-Hispanic White, non-Hispanic Black, and non-Hispanic Other (including Asian/Pacific Islander and American Indian/Alaska Native).

## 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:

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

## About the NEDS

The HCUP Nationwide Emergency Department Sample (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 2019 NEDS is 33,147,251 (weighted, this represents 143,432,284 ED visits). Of these weighted visits, 20,373,534 (14.2 percent) were admitted to the same hospital.

## For More Information

For other information on pregnancy and childbirth, refer to the HCUP Statistical Briefs located at [www.hcup-us.ahrq.gov/reports/statbriefs/sb\\_pregnancy.jsp](http://www.hcup-us.ahrq.gov/reports/statbriefs/sb_pregnancy.jsp).

For additional HCUP statistics, visit:

- HCUP Fast Stats at [www.hcup-us.ahrq.gov/faststats/landing.jsp](http://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/](http://www.hcupnet.ahrq.gov/)
- HCUP Summary Trend Tables at [www.hcup-us.ahrq.gov/reports/trendtables/summarytrendtables.jsp](http://www.hcup-us.ahrq.gov/reports/trendtables/summarytrendtables.jsp) for monthly information on hospital utilization

For more information about HCUP, visit [www.hcup-us.ahrq.gov/](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 October 2021. [www.hcup-us.ahrq.gov/nedsoverview.jsp](http://www.hcup-us.ahrq.gov/nedsoverview.jsp). Accessed March 9, 2022.

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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](mailto:hcup@ahrq.gov) or send a letter to the address below:

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