Geographic Variation in Potentially Preventable Inpatient Stays for Chronic Health Conditions, 2016

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Introduction

Potentially preventable hospitalizations—those inpatient stays that could possibly be avoided through better disease management or outpatient treatment—are common in the United States. In 2017, approximately 12.9 percent of all adult nonobstetric inpatient stays were potentially preventable, and most of these stays involved chronic health conditions such as diabetes, chronic lung disease, and severe heart conditions.[1] Understanding potentially preventable inpatient stays for chronic conditions is important, not only to improve quality of care and reduce healthcare costs but also because these types of stays can limit hospital capacity for nonpreventable stays. Moreover, if hospitalized patients have multiple chronic conditions, the cost and duration of stays increase,[2] further adding to the strain on hospital capacity. In one study, the length of potentially preventable stays for chronic health conditions was approximately 20 percent longer for patients who had two or more chronic conditions than for those who had only one chronic condition.[3] Identifying areas where potentially preventable inpatient stays for chronic conditions are highest can guide local health officials in planning hospital resources and developing disease management and treatment programs.

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief examines State- and substate region-level variation in potentially preventable hospital inpatient stays for chronic health conditions among adults using the 2016 State Inpatient Databases (SID). Statistics are presented for 32 States that, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path of HCUPnet, an online query tool for county and substate region-level statistics.[4] Potentially preventable stays were defined using the Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs), developed to identify hospitalizations for ambulatory care-sensitive conditions.[5] The population rates of potentially preventable inpatient stays among adults for chronic conditions overall and for three specific chronic conditions—chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), and diabetes—are presented for each State. Maps display the variation in rates within substate regions. Data are suppressed for substate regions if they are based on a small number of inpatient stays or hospitals, if they are statistically unstable, or if reporting was incomplete.

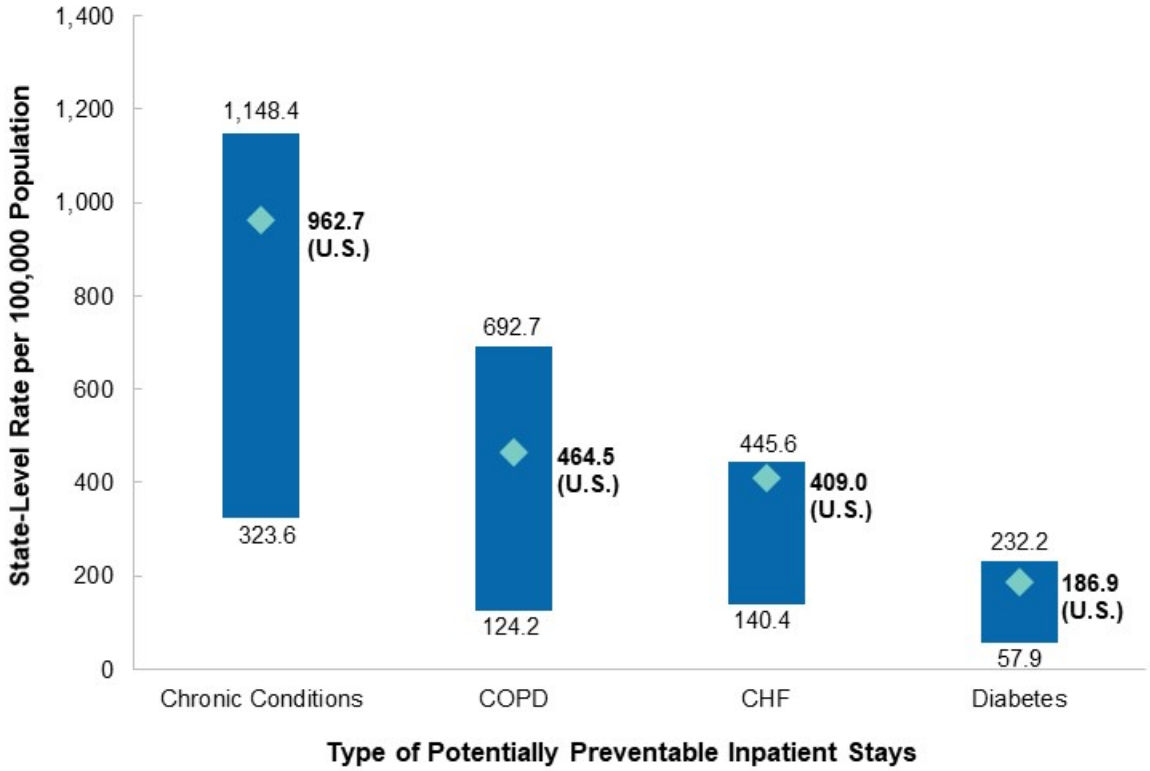
Highlights

- In 2016, the rate of potentially preventable inpatient stays for chronic obstructive pulmonary disease (COPD) varied more across States than did the rate for congestive heart failure (CHF) or diabetes.
- The rate of potentially preventable inpatient stays varied substantially by State:
  - Chronic conditions overall: more than threefold variation from 323.6 to 1,148.4 per 100,000 population
  - COPD: more than fivefold variation from 124.2 to 692.7 per 100,000 population
  - CHF: more than threefold variation from 140.4 to 445.6 per 100,000 population
  - Diabetes: fourfold variation from 57.9 to 232.2 per 100,000 population
- Rates of potentially preventable inpatient stays varied within States and by chronic condition.
  - The highest rates were primarily located in large portions of States throughout the South and in select areas of States in the East. However, some of these same States had other areas with relatively low rates of potentially preventable inpatient stays.
  - The lowest rates were generally observed in the Midwest and West, although areas of a few of these States had high rates for certain potentially preventable inpatient stays.

Findings

State population rates of potentially preventable inpatient stays for chronic conditions, 2016
Figure 1 presents the range across 32 States in rates per 100,000 population of potentially preventable inpatient stays for chronic conditions overall and specifically for chronic obstructive pulmonary disease (COPD), congestive heart failure (CHF), and diabetes. The highest and lowest State-level rates and the U.S. average rate are presented for each of the four types of potentially preventable stays for chronic conditions.

Figure 1. Range in State-level rates of potentially preventable inpatient stays for chronic conditions, 2016



Abbreviations: CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

- **The population rate of potentially preventable inpatient stays for chronic conditions varied more than threefold across States.**

  The rate of potentially preventable inpatient stays for chronic conditions was 962.7 per 100,000 population in the United States in 2016. The rate varied more than threefold across the 32 States included in this Statistical Brief, from 323.6 to 1,148.4. Similar or higher State-level variation was observed in the rate of potentially preventable inpatient stays for three specific chronic conditions: CHF varied more than threefold across the 32 States, diabetes varied fourfold, and COPD varied more than fivefold.

Table 1 presents, for 32 States, the population rate of potentially preventable inpatient stays for chronic conditions overall and specifically for COPD, CHF, and diabetes. States are listed alphabetically with the rate of each of the four types of potentially preventable stays as well as the order from the highest rate to the lowest rate.

Table 1. State-level rates per 100,000 population of potentially preventable inpatient stays for chronic conditions, 2016

State	Chronic conditions		COPD		CHF		Diabetes	
	Rate*	Rank	Rate*	Rank	Rate*	Rank	Rate*	Rank
United States	**962.7**	**-**	**464.5**	**-**	**409.0**	**-**	**186.9**	**-**
Alaska	523.2	27	273.1	20	221.7	27	98.3	28
Arizona	595.2	22	253.7	23	228.5	26	155.5	16
Arkansas	945.8	9	478.8	8	375.8	10	203.0	5
California	677.4	19	265.3	21	318.1	19	145.8	18
Colorado	481.6	28	186.8	29	215.2	28	110.5	27
Delaware	955.7	7	458.0	10	413.1	6	182.2	10
Florida	1,035.5	4	571.2	3	365.4	13	214.0	2
Georgia	955.5	8	423.8	13	431.0	4	181.8	11
Iowa	614.3	21	308.6	19	263.5	23	118.0	24
Kentucky	1,148.4	1	692.7	1	445.6	1	204.3	4
Louisiana	663.4	20	255.9	22	331.3	16	110.9	26
Maryland	884.2	12	420.6	14	379.6	9	171.9	12
Massachusetts	839.3	14	444.4	11	367.5	12	141.6	20
Michigan	1,015.0	5	486.3	4	437.5	2	195.6	6
Minnesota	562.6	24	228.0	26	259.1	24	118.1	23
Mississippi	776.0	16	375.3	16	321.1	18	157.8	14
Montana	410.7	30	178.1	30	175.6	31	97.5	29
Nebraska	479.3	29	237.7	25	195.3	29	97.0	30
Nevada	749.4	17	320.7	18	324.7	17	146.7	17
New Jersey	814.4	15	396.1	15	339.1	15	161.8	13
New Mexico	580.0	23	237.9	24	243.1	25	141.9	19
North Carolina	914.2	11	428.1	12	401.2	8	183.9	8
Oklahoma	930.6	10	484.5	6	368.1	11	187.0	7
Oregon	558.6	26	203.9	27	274.5	22	120.1	22
Pennsylvania	959.8	6	484.6	5	402.5	7	183.3	9
Rhode Island	859.7	13	472.1	9	340.8	14	156.9	15
South Carolina	1,057.5	3	481.7	7	435.0	3	232.2	1
Utah	389.6	31	124.2	32	188.9	30	91.8	31
Washington	560.6	25	196.5	28	282.0	21	115.7	25
West Virginia	1,124.8	2	670.8	2	417.3	5	212.0	3
Wisconsin	701.8	18	322.4	17	312.4	20	137.0	21
Wyoming	323.6	32	170.3	31	140.4	32	57.9	32

Abbreviations: CHF, congestive heart failure; COPD, chronic obstructive pulmonary disease

* State-level rates are based on data from all areas of the State, including those with suppressed substate region-level data in subsequent figures.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

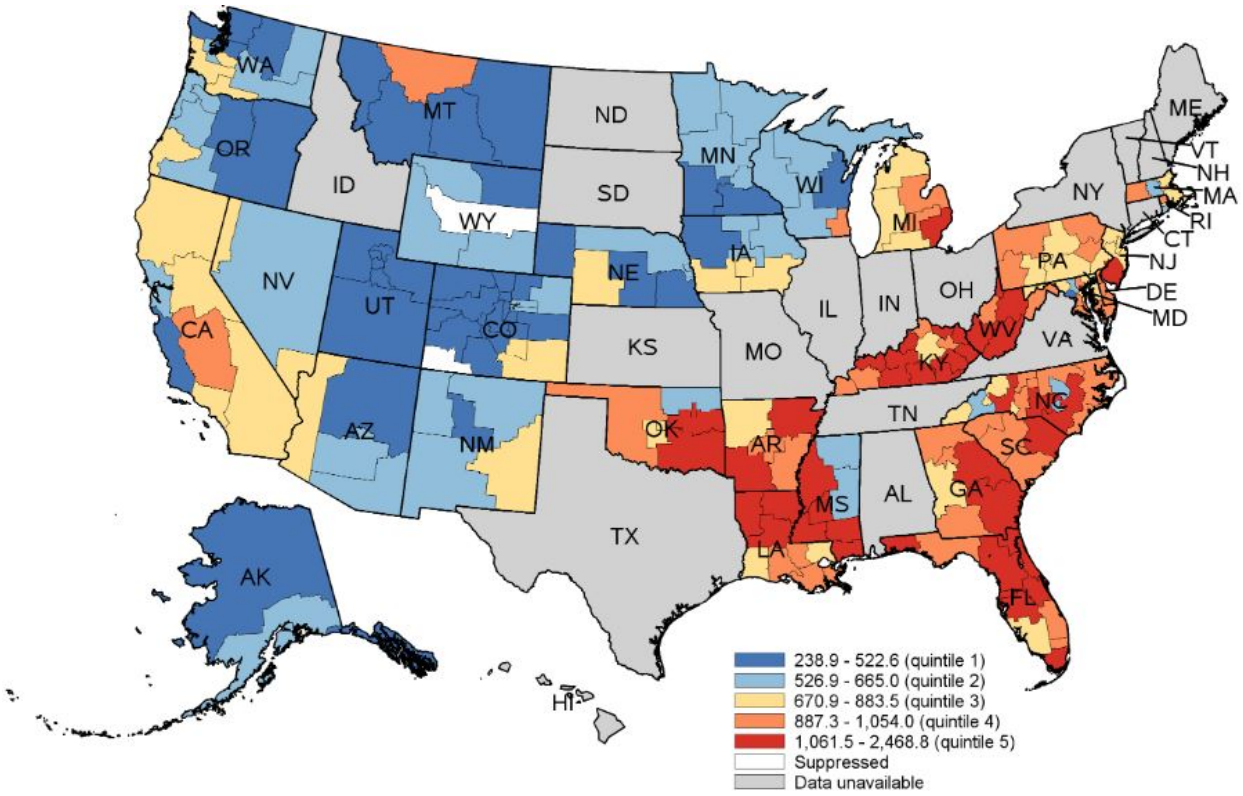
- **The population rate of potentially preventable inpatient stays was highest in Kentucky for chronic conditions overall, COPD, and CHF and lowest in Wyoming for chronic conditions overall, CHF, and diabetes.**

  Kentucky had the highest rate of potentially preventable inpatient stays for chronic conditions overall (1,148.4 per 100,000 population), COPD (692.7), and CHF (445.6) and the fourth highest rate for diabetes (204.3). South Carolina had the highest rate for diabetes (232.2). Wyoming had the lowest rate of potentially preventable inpatient stays for chronic conditions overall (323.6 per 100,000 population), CHF (140.4), and diabetes (57.9) and the second lowest rate for COPD (170.3). Utah had the lowest rate for COPD (124.2).

  States were generally ranked at about the same position across chronic conditions, but there was some variability. For example, Florida had the second highest rate for diabetes and the third highest rate for COPD but the 13th highest rate for CHF.

Hot spots of substate region-level potentially preventable inpatient stays for chronic conditions, 2016
Figures 2–5 display maps of substate region-level rates per 100,000 population of potentially preventable inpatient stays for chronic conditions in 2016 for the 32 States included in this Statistical Brief. For each type of stay, rates were categorized into quintiles after ranking all substate regions in the 32 States with data that were not suppressed. Substate regions with rates in the highest quintile (top 20 percent) for each type of stay were considered hot spots. Statistics are presented in separate maps for potentially preventable inpatient stays for chronic conditions overall (Figure 2), COPD (Figure 3), CHF (Figure 4), and diabetes (Figure 5).

Figure 2. Substate region-level rates per 100,000 population of potentially preventable inpatient stays for chronic conditions overall, 2016



Notes: Substate region-level data are unavailable for States in grey. For Delaware, county-level rates were used because substate region-level data are unavailable.

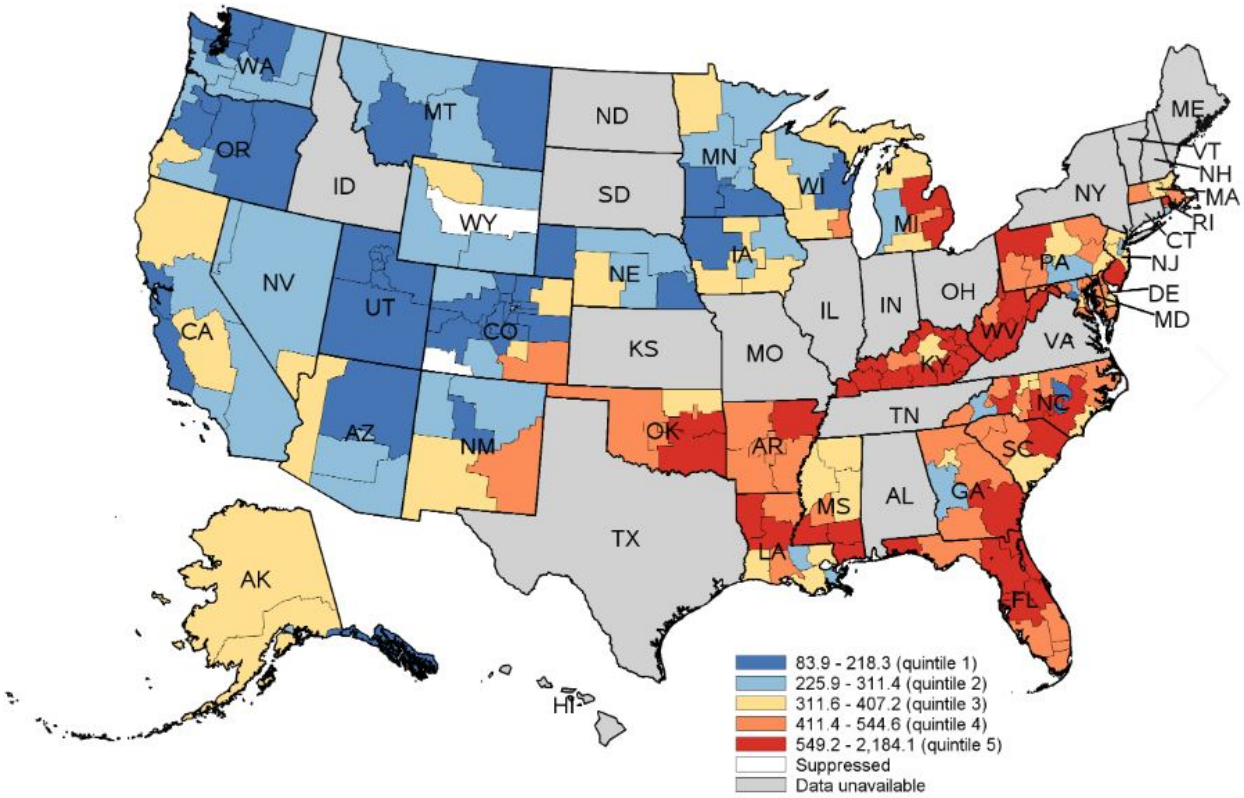
Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

- **Hot spots of potentially preventable inpatient stays for chronic conditions included large portions of States located primarily in the South.**

  Hot spots of potentially preventable inpatient stays for chronic conditions included large portions of States in the southeast and southcentral United States: Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, South Carolina, and West Virginia. In addition, isolated hot spots occurred in southeast Michigan, southern New Jersey, and select areas in southeast Pennsylvania and southcentral Maryland. For some States with notable hot spots, there were other areas with low rates (e.g., northeast Oklahoma, northeast Mississippi, and portions of North Carolina).

  The rate of potentially preventable inpatient stays for chronic conditions was generally low to moderate in California, Montana, and Wisconsin, but rates were higher (in the fourth quintile) in central California, northern Montana, and southeast Wisconsin.

Figure 3. Substate region-level rates per 100,000 population of potentially preventable inpatient stays for chronic obstructive pulmonary disease, 2016



Notes: Substate region-level data are unavailable for States in grey. For Delaware, county-level rates were used because substate region-level data are unavailable.

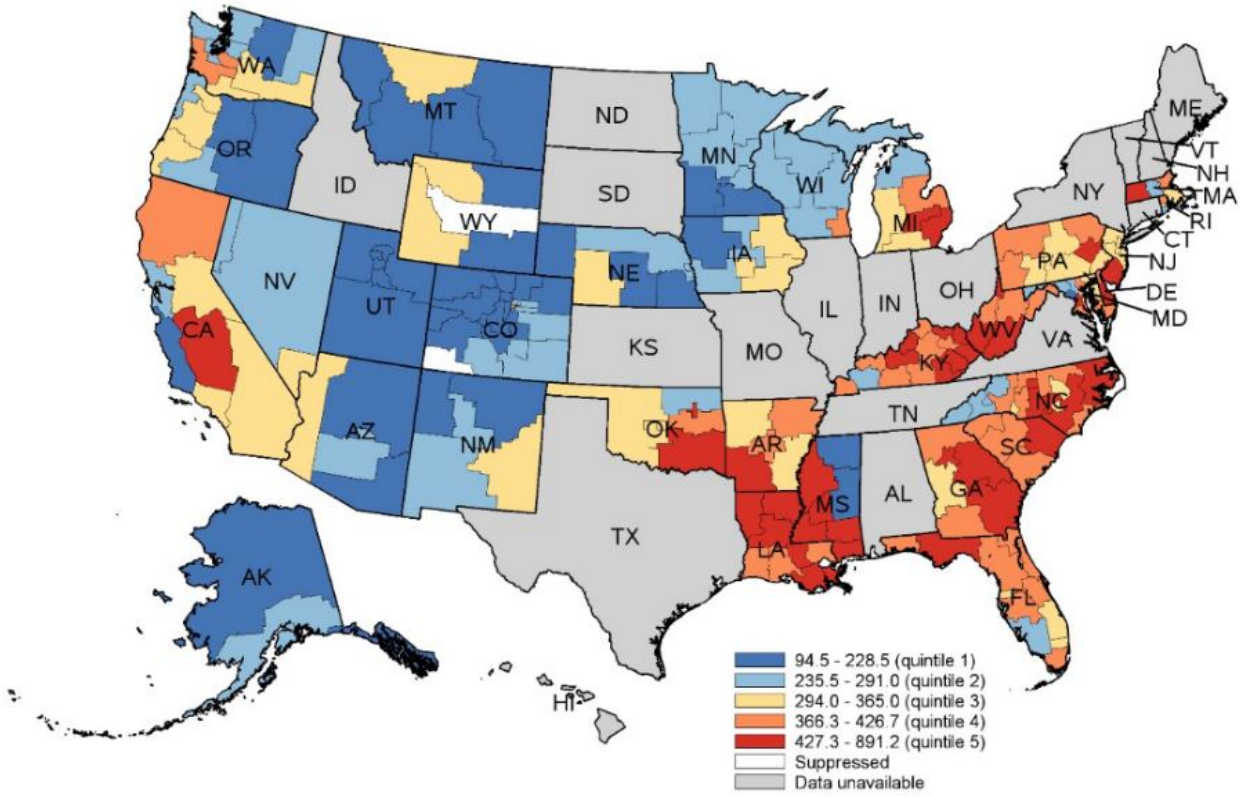
Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

- **Hot spots of potentially preventable inpatient stays for COPD included the majority of West Virginia, Kentucky, and Florida.**

  Hot spots of potentially preventable inpatient stays for COPD included most of West Virginia, Kentucky, and Florida, as well as portions of other States in the South: Arkansas, Georgia, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, and South Carolina. Hot spots also occurred in eastern Michigan and portions of States in the Northeast: southern New Jersey, northwest and southeast Pennsylvania, and northern Rhode Island.

  Regions of several other States that otherwise had low to moderate rates of potentially preventable inpatient stays for COPD had areas with higher rates (in the fourth quintile), specifically southeast Colorado, New Mexico, and Wisconsin, as well as western and southeast Massachusetts and northern Delaware.

Figure 4. Substate region-level rates per 100,000 population of potentially preventable inpatient stays for congestive heart failure, 2016



Notes: Substate region-level data are unavailable for States in grey. For Delaware, county-level rates were used because substate region-level data are unavailable.

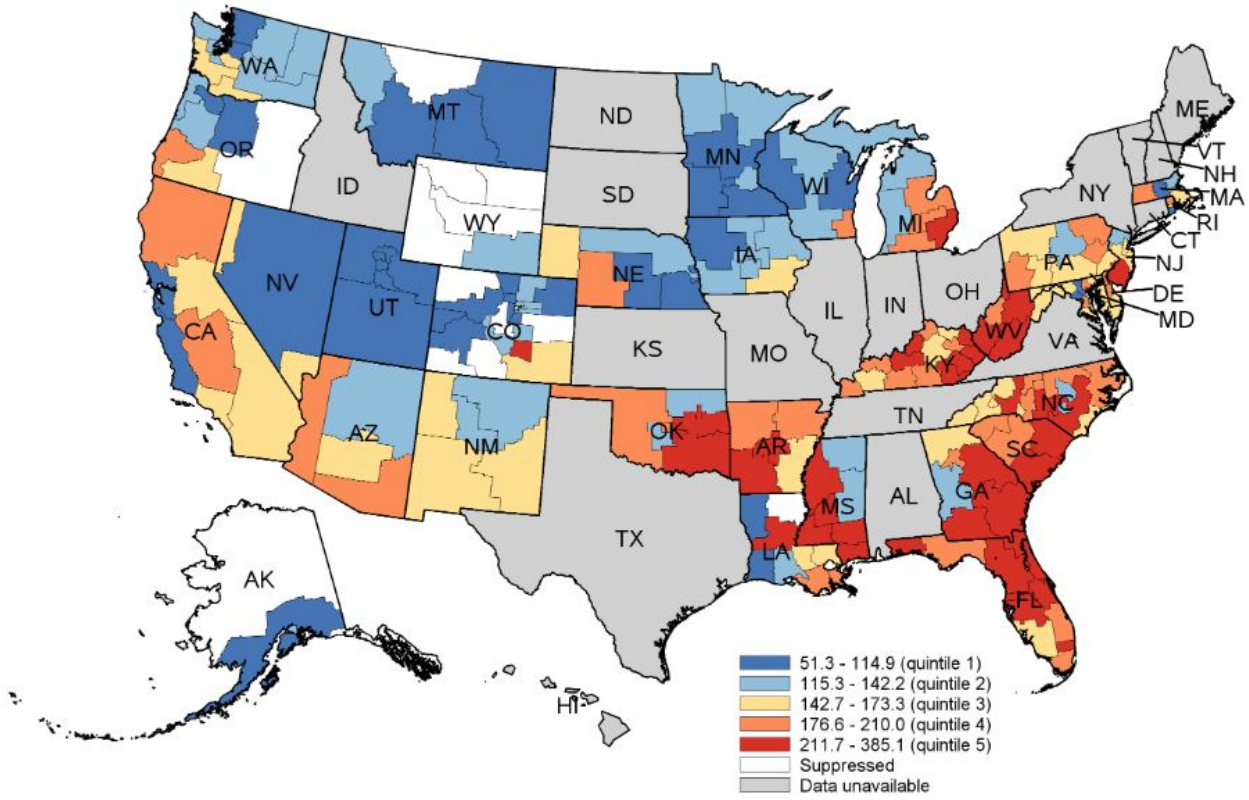
Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

- **Hot spots of potentially preventable inpatient stays for CHF included central California, southeast Michigan, the majority of Louisiana, and portions of most States in the South and the Northeast.**

  Hot spots of potentially preventable inpatient stays for CHF included central California, southeast Michigan, most of Louisiana, and portions of States in the South (Arkansas, Delaware, Florida, Georgia, Kentucky, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, and West Virginia) and the Northeast (Massachusetts, New Jersey, and Pennsylvania). For some States with notable hot spots, there were other areas with low rates (e.g., western California and northeast Mississippi).

  The rate of potentially preventable inpatient stays for CHF was generally low to moderate in Washington and Wisconsin, but there were higher rates (in the fourth quintile) in southwest Washington and southeast Wisconsin.

Figure 5. Substate region-level rates per 100,000 population of potentially preventable inpatient stays for diabetes, 2016



Notes: Substate region-level data are unavailable for States in grey. For Delaware, county-level rates were used because substate region-level data are unavailable.

Source: Agency for Healthcare Research and Quality (AHRQ), Healthcare Cost and Utilization Project (HCUP), 2016 State Inpatient Databases (SID) for 32 States, which, at the time this Statistical Brief was written, had released 2016 quality indicator data through the Community-Level Statistics path on HCUPnet, an online query tool

- **Hot spots of potentially preventable inpatient stays for diabetes included large portions of Florida, Georgia, Mississippi, South Carolina, and West Virginia.**

  Hot spots of potentially preventable inpatient stays for diabetes included large portions of Florida, Georgia, Mississippi, South Carolina, and West Virginia, as well as portions of other States in the South: Arkansas, Kentucky, Louisiana, Maryland, North Carolina, and Oklahoma. Hot spots also occurred in central Colorado, southeast Michigan, southern New Jersey, and southeast Pennsylvania. For some States with notable hot spots, there were other areas with low rates (e.g., northwest and southwest Louisiana, northeast Mississippi, and central and northeast Oklahoma).

  The rate of potentially preventable inpatient stays for diabetes varied substantially by substate region, from low rates (first or second quintile) to high rates (fourth quintile) in Arizona, California, Massachusetts, Nebraska, Oregon, Rhode Island, and Wisconsin.

References

[1] McDermott KW, Jiang HJ. Characteristics and Costs of Potentially Preventable Inpatient Stays, 2017. HCUP Statistical Brief #259. June 2020. Agency for Healthcare Research and Quality, Rockville, MD. www.hcup-us.ahrq.gov/reports/statbriefs/sb259-Potentially-Preventable-Hospitalizations-2017.pdf. Accessed June 18, 2020.
[2] Steiner CA, Friedman B. Hospital utilization, costs, and mortality for adults with multiple chronic conditions, Nationwide Inpatient Sample, 2009 [erratum appears in Preventing Chronic Disease. 2013;10. www.cdc.gov/pcd/issues/2013/12_0292e.htm]. Preventing Chronic Disease. 2013;10:120292.
[3] Skinner HG, Coffey R, Jones J, Heslin KC, Moy E. The effects of multiple chronic conditions on hospitalization costs and utilization for ambulatory care sensitive conditions in the United States: a nationally representative cross-section study. BMC Health Services Research. 2016;16:77.
[4] Agency for Healthcare Research and Quality. HCUPnet website. www.hcupnet.ahrq.gov/. Accessed May 21, 2020.
[5] Agency for Healthcare Research and Quality. Prevention Quality Indicators version 2019.01. www.qualityindicators.ahrq.gov/Modules/pqi_resources.aspx. Accessed May 21, 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 2016 State Inpatient Databases (SID). National estimates were generated from an analysis file that was derived from the SID. This file was weighted to provide national estimates calculated with the same methodology as the Nationwide Inpatient Sample (NIS) in 2011 and prior years.[a] This is the same file used for the Agency for Healthcare Research and Quality (AHRQ) National Healthcare Quality and Disparities Report. All statistics reported in this Statistical Brief were generated from the Community-Level Statistics path of HCUPnet, a free, online query system that provides users with *immediate access* to the largest set of publicly available, all-payer national, regional, State-, and county-level hospital care databases from HCUP.[b] The statistics are based on the patient county of residence and not the location of hospitals. Contiguous counties within States are grouped to form substate regions. Regions are created from definitions provided by the HCUP Partner, if available, or by a regionalization scheme developed by the Substance Abuse and Mental Health Services Administration.[c] The following States were included in this Statistical Brief: Alaska, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Iowa, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Montana, Nebraska, Nevada, New Jersey, New Mexico, North Carolina, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, Utah, Washington, West Virginia, Wisconsin, and Wyoming. For Delaware, estimates were not available by substate region so estimates for the State's three counties were used instead.

Data were suppressed if the reporting region contained fewer than two hospitals, contained fewer than 11 discharges, had a relative standard error (standard error divided by weighted estimate) greater than 0.30 or equal to 0, or was missing 2 percent or more of total discharges in the HCUP SID when compared with

[a] Houchens R, Ross D, Elixhauser A, Jiang J. Nationwide Inpatient Sample (NIS) Redesign Final Report. HCUP Methods Series Report #2017-03. April 4, 2014. U.S. Agency for Healthcare Research and Quality. www.hcup-us.ahrq.gov/reports/methods/2014-04.pdf. Accessed August 12, 2020.
[b] Agency for Healthcare Research and Quality. HCUPnet website. www.hcupnet.ahrq.gov/. Accessed May 21, 2020.
[c] Substance Abuse and Mental Health Services Administration. 2010-2012 National Survey on Drug Use and Health Substate Region Definitions. www.samhsa.gov/data/sites/default/files/substate2k12-RegionDefs/NSDUHsubstateRegionDefs2012.htm. Accessed July 24, 2020.

the Medicare Hospital Service Area File (HSAF).[d] The Medicare HSAF contains the number of Medicare inpatient hospital fee-for-service claims annually. Greater than 98 percent of inpatient stays in the HSAF had to be from hospitals in the SID or the data for a given region was suppressed. These rules were designed to protect patient and hospital identities, to reduce the influence of small regions with unstable rates on the results, and to ensure that HCUP data include most hospitalizations in an area. Counties were excluded from substate region estimates if their inclusion would have resulted in the suppression of the entire region for incomplete data.

For more information on methods used by Community-Level Statistics, please see www.hcupnet.ahrq.gov/downloadables/Methods-Community-Statistics-04-02-18.pdf.

Definitions

Prevention Quality Indicators
The Prevention Quality Indicators (PQIs) are a component of the AHRQ Quality Indicators (QIs). The QIs are a set of algorithms that may be applied to hospital administrative data to quantify quality issues among inpatient populations. PQIs assess hospital admissions for 10 ambulatory care-sensitive conditions that evidence suggests may be avoided, in part, through timely and high-quality ambulatory care. These conditions are identified by principal diagnosis except for lower-extremity amputation among patients with diabetes. PQIs are adjusted for age and sex. Version 2019.01 of the PQI software also includes four composite measures assessing potentially avoidable hospitalizations overall and separately for chronic conditions, diabetes-specific conditions, and acute conditions.

The following PQIs for adults were included in this Statistical Brief:

- Chronic conditions[e]: PQI 92 (chronic composite PQI admission rate, per 100,000 population aged 18 years and older)
- Chronic obstructive pulmonary disease (COPD): PQI 5 (COPD admission rate, per 100,000 population aged 40 years and older)
- Congestive heart failure (CHF): PQI 8 (CHF admission rate, per 100,000 population aged 18 years and older)
- Diabetes[f]: sum of rates from three individual diabetes PQIs, defined by mutually exclusive principal diagnoses:
    - PQI 1 (diabetes short-term complications admission rate, per 100,000 population aged 18 years and older)
    - PQI 3 (diabetes long-term complications admission rate, per 100,000 population aged 18 years and older)
    - PQI 14 (uncontrolled diabetes without complications admission rate, per 100,000 population aged 18 years and older)

Further information on the AHRQ QIs, including documentation and free software downloads, is available at www.qualityindicators.ahrq.gov/. Additional information on how the QI software was applied to the HCUP data for the statistics reported in this Statistical Brief is available in Barrett et al., 2017.[g]

[d] Centers for Medicare & Medicaid Services. Hospital Service Area File. July 7, 2020. www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/Hospital-Service-Area-File/index.html. Accessed August 6, 2020.
[e] The chronic adult prevention quality indicator composite, PQI 92, is based on the nine AHRQ PQIs for angina, asthma, chronic obstructive pulmonary disease, congestive heart failure, long- and short-term diabetes, uncontrolled diabetes without complications, lower-extremity amputation for diabetes, and hypertension.
[f] Note that the diabetes measure used in this Statistical Brief (the sum of rates from PQIs 1, 3, and 14) is not equivalent to PQI 93 (diabetes composite, per 100,000 population), which also includes unduplicated discharges meeting the criteria for PQI 16 (lower extremity amputation for diabetes admission rate, per 100,000 population). PQI 93 was not available in the Community-Level Statistics path on HCUPnet in 2016. However, the diabetes measure used in this Statistical Brief and PQI 93 should be similar because the rates for PQI 16 are generally relatively low (U.S. average of 26.8 per 100,000 population in 2016), and some discharges included in PQI 16 already may be counted under one of the other three diabetes PQIs.
[g] Barrett M, Coffey R, Houchens R, Heslin K, Moles E, Coenen N. Methods Applying AHRQ Quality Indicators to Healthcare Cost and Utilization Project (HCUP) Data for the 2017 National Healthcare Quality and Disparities Report (QDR). HCUP Methods Series Report #2018-01. May 11, 2018. Rockville, MD: Agency for Healthcare Research and Quality. www.hcup-us.ahrq.gov/reports/methods/2018-01.pdf. Accessed February 3, 2020.

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.

Unit of analysis
The unit of analysis is the hospital discharge (i.e., the hospital stay), not a person or patient. This means that a person who is admitted to the hospital multiple times in 1 year will be counted each time as a separate discharge from the hospital.

Region
Region is one of the four regions defined by the U.S. Census Bureau:

- Northeast: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania
- Midwest: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas
- South: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas
- West: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, California, Alaska, and Hawaii

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
Alaska State Hospital and Nursing Home Association
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Colorado Hospital Association
Connecticut Hospital Association
Delaware Division of Public Health
District of Columbia Hospital Association
Florida Agency for Health Care Administration
Georgia 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

Hawaii Laulima Data Alliance
Hawaii University of Hawai'i at Hilo
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
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 State Department of Health
Missouri Hospital Industry Data Institute
Montana Hospital Association
Nebraska Hospital Association
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 Department of Health and Human Resources, West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

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 HCUPnet

HCUPnet (www.hcupnet.ahrq.gov/) is an online query system that offers instant access to the largest set of all-payer healthcare databases that are publicly available. HCUPnet has an easy step-by-step query system that creates tables and graphs of national and regional statistics as well as data trends for community hospitals in the United States. HCUPnet generates statistics using data from HCUP's National (Nationwide) Inpatient Sample (NIS), the Kids' Inpatient Database (KID), the Nationwide Emergency Department Sample (NEDS), the Nationwide Readmissions Database (NRD), the State Inpatient Databases (SID), and the State Emergency Department Databases (SEDD).

For More Information

For other information on potentially preventable hospitalizations, refer to the HCUP Statistical Briefs located at www.hcup-us.ahrq.gov/reports/statbriefs/sb_preventable.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 State Inpatient Databases (SID), please refer to the following database documentation:

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.

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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 e-mail us at hcup@ahrq.gov or send a letter to the address below:

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