HEALTHCARE COST AND UTILIZATION PROJECT

Agency for Healthcare Research and Quality

STATISTICAL BRIEF #178

September 2014

Geographic Variation in Potentially Preventable Hospitalizations for Acute and Chronic Conditions, 2005–2011

Celeste M. Torio, Ph.D., M.P.H. and Roxanne M. Andrews, Ph.D.

Highlights

- Rates of potentially preventable hospitalizations for adults declined by 14.0 percent between 2005 and 2011.
- During the period 2005 to 2011, potentially preventable hospitalizations decreased by 20.2 percent for acute conditions but only 9.5 percent for chronic conditions.
- The South had a 17.2 percent higher rate of potentially preventable hospitalizations than the overall national rate in 2005, but their rate declined so that by 2011 they were just 10.5 percent higher than the national rate.
- Rates of potentially preventable hospitalizations were consistently lowest in the West in 2005 and 2011.
- The rate of potentially preventable hospitalizations for acute conditions exhibited a downward trend in all geographic regions between 2005 and 2011 (ranging from a decline of 13.6 percent to 23.8 percent).
- The rate of potentially preventable hospitalizations for chronic conditions in the South fell 16.0 percent between 2005 and 2011.
- In 2005, remote rural areas had a 49.9 percent higher rate of potentially preventable hospitalizations than the urban-rural area with the lowest rate (small metropolitan). This difference grew to 57.2 percent by 2011, despite a decline in the rate for remote rural areas.

Introduction

Potentially preventable hospitalizations are admissions to a hospital for certain acute illnesses or worsening chronic conditions that might have been avoided with the delivery of high-quality outpatient treatment and disease management. They can serve as potential markers of health system efficiency. Lack of access to health care and poor-quality care can lead to increases in these types of hospitalizations.

Access to care and level of quality vary by geographic areas. A study examining trends in potentially preventable hospitalizations from 1980 through 1998 in all four geographic regions of the country found the highest increases in rates of hospitalizations in the Northeast and the lowest increases in the West.[1] Urban and rural areas are each rich in cultural diversity and heterogeneous with respect to population density, economics, and social characteristics. However, compared with urban areas, rural areas tend to have fewer health care organizations and professionals of all types, less choice and competition among them, and broad variation in their availability at the local level.[2] In essence, rural communities continually struggle to sustain viable health care services.

Highlighting geographic variation may serve to narrow disparities in health outcomes and identify strategies for reducing hospitalizations by providing adequate and appropriately targeted resources.[3,4] In fact, reducing preventable hospitalization rates is crucial to controlling health care costs.[3]

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on the characteristics of potentially preventable hospitalizations from 2005 through 2011. The Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators (PQIs) were used to develop estimates of the number of potentially preventable hospitalizations for overall PQIs, acute PQIs, and chronic PQIs from 2005 through 2011. An earlier Statistical Brief

[1] Kozak LJ, Hall MJ, Owings MF. Trends in avoidable hospitalizations, 1980–1998. Health Affairs (Millwood). 2001 Mar-Apr;20(2):225–32.
[2] Institute of Medicine. Quality Through Collaboration: The Future of Rural Health. Washington, DC: National Academy Press, 2005.
[3] Kozak et al., 2001.
[4] Moy E, Chang E, Barrett M. Potentially preventable hospitalizations – United States, 2001-2009. Morbidity and Mortality Weekly Report. 2013;62(3):139–43.

on potentially preventable hospitalizations presented trends from 2005 through 2010 for adults and children.[5] This Statistical Brief is the latest in a series on potentially preventable hospitalizations that have focused on a range of topics that include acute and chronic conditions,[6] individuals who are dually eligible for Medicare and Medicaid,[7] older adults,[8] nationwide frequency and costs,[9] racial and ethnic disparities,[10,11] and trends among adults and children from 1997–2004.[12] (See http://www.hcup-us.ahrq.gov/reports/statbriefs/sb_preventable.jsp for a complete list of Statistical Briefs in this series.)

Rates of hospitalization for acute PQIs were based on admissions for dehydration, bacterial pneumonia, and urinary tract infections. Rates of hospitalization for chronic PQIs were based on admissions for diabetes, angina, congestive heart failure, hypertension, asthma, and chronic obstructive pulmonary disease. The rates for potentially preventable hospitalizations are adjusted for age and sex. With respect to geographic characteristics, this Statistical Brief examines geographic region and urban and rural areas using four categories ranging from large metropolitan to remote rural areas. All differences between estimates noted in the text, table, and figures are statistically significant at the 0.05 level or better.

[5] Torio CM, Elixhauser A, Andrews RM. Trends in Potentially Preventable Admissions among Adults and Children, 2005-2010. HCUP Statistical Brief #151. March 2013. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb151.pdf. Accessed July 16, 2014.

[6] Stranges E, Stocks C. Potentially Preventable Hospitalizations for Acute and Chronic Conditions, 2008. HCUP Statistical Brief #99. November 2010. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb99.pdf. Accessed August 12, 2014.

[7] Jiang HJ, Wier LM, Potter DEB, Burgess J. Potentially Preventable Hospitalizations among Medicare-Medicaid Dual Eligibles, 2008. HCUP Statistical Brief #96. September 2010. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb96.pdf. Accessed August 12, 2014.

[8] Stranges E, Friedman B. Potentially Preventable Hospitalization Rates Declined for Older Adults, 2003–2007. HCUP Statistical Brief #83. December 2009. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb83.pdf. Accessed August 12, 2014.

[9] Jiang HJ, Russo CA, Barrett ML. Nationwide Frequency and Costs of Potentially Preventable Hospitalizations, 2006. HCUP Statistical Brief #72. April 2009. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb72.pdf. Accessed August 12, 2014.

[10] Stranges E, Coffey R, Andrews RM. Potentially Preventable Hospitalizations among Hispanic Adults, 2006. HCUP Statistical Brief #61. October 2008. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb61.pdf. Accessed August 12, 2014.

[11] Russo CA, Andrews RM, Coffey RM. Racial and Ethnic Disparities in Potentially Preventable Hospitalizations, 2003. HCUP Statistical Brief #10. July 2006. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb10.pdf. Accessed August 12, 2014.

[12] Russo A, Jiang HJ, Barrett M. Trends in Potentially Preventable Hospitalizations among Adults and Children, 1997-2004. HCUP Statistical Brief #36. August 2007. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb36.pdf. Accessed August 12, 2014.

Findings

Geographic characteristics of potentially preventable hospitalizations, 2005 and 2011
Table 1 reports geographic characteristics of potentially preventable hospitalizations for overall, acute, and chronic conditions in 2005 and 2011.

Table 1. Potentially preventable hospitalizations for overall, acute, and chronic conditions by geographic characteristics, 2005 and 2011

Geographic characteristics	Discharge rates[a] per 100,000 population					
	Overall conditions (PQI 90)		Acute conditions (PQI 91)		Chronic conditions (PQI 92)	
	2005	2011	2005	2011	2005	2011
United States	1,941	1,669[c]	823	657[c]	1,118	1,012[c]
Region						
Northeast	1,869[d]	1,776[d]	762[d]	658[d]	1,107[d]	1,118[d]
Midwest	1,978[d]	1,726[d]	857[d]	705[d]	1,121[d]	1,021[d]
South	2,274[d]	1,845[d]	947[d]	730[d]	1,328[d]	1,115[d]
West[b]	1,406	1,220	635	484	772	736
Location of patient residence						
Large metropolitan	1,904	1,715[d]	784	641	1,120	1,074[d]
Small metropolitan[b]	1,725	1,416	736	566	989	850
Micropolitan	2,252[d]	1,784[d]	980[d]	742[d]	1,272[d]	1,042[d]
Remote rural	2,586[d]	2,227[d]	1,195[d]	1,014[d]	1,391[d]	1,213[d]

[a] Rates are adjusted by age and sex

[b] Reference group

[c] Statistical difference between 2005 and 2011

[d] Statistically significant at p<0.05 compared with the reference group

Abbreviation: PQI, Prevention Quality Indicator

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2005 and 2011

- **Potentially preventable hospitalizations for all three composites declined in the United States from 2005 to 2011.**

  In the United States, potentially preventable hospitalizations accounted for 10.4 percent of all hospitalizations in 2011. For overall conditions, potentially preventable hospitalizations decreased by 14.0 percent from 2005 to 2011. During that same time period, potentially preventable hospitalizations for acute conditions decreased by 20.2 percent, while potentially preventable hospitalizations for chronic conditions decreased by 9.5 percent.

- **The South had the highest rate of potentially preventable hospitalizations in 2005, but their rate declined so that they were closer to the overall national rate by 2011.**

  Compared with other regions, the South had the highest rates of all types of potentially preventable hospitalizations in 2005 and the highest rates of potentially preventable hospitalizations for overall and acute conditions in 2011. The West consistently had the lowest rates of potentially preventable hospitalizations in 2005 and 2011. Compared with the West, the South was 51.2 percent higher for overall conditions, 49.1 percent higher for acute conditions, and 72.0 percent higher for chronic conditions.

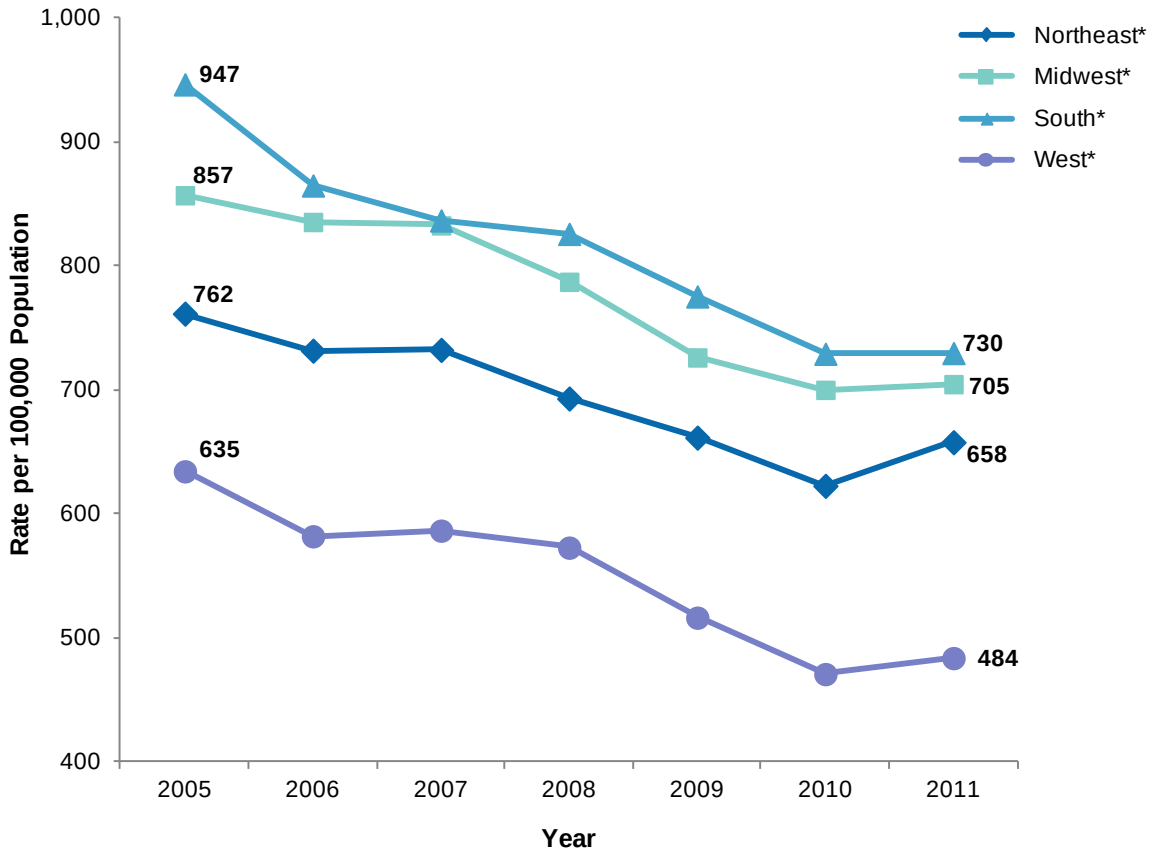
  The South had a 17.2 percent higher rate of potentially preventable hospitalizations than the overall national rate in 2005. By 2011, declines in these hospitalizations in the South resulted in a rate that was just 10.5 percent higher than the national rate.

- **Remote rural areas had a 49.9 percent higher rate of potentially preventable hospitalizations than the urban-rural area with the lowest rate (small metropolitan) in 2005, and this difference grew to 57.2 percent higher by 2011.**

  In 2005, remote rural areas had the highest rates of all types of potentially preventable hospitalizations compared with small metropolitan areas (49.9 percent higher for overall conditions, 62.4 percent higher for acute conditions, and 40.6 percent higher for chronic conditions). This pattern also held true in 2011: remote rural areas had the highest rates for all conditions compared with small metropolitan areas (57.2 percent higher for overall conditions, 79.2 percent higher for acute conditions, and 42.7 percent higher for chronic conditions).

Rates of hospitalizations for potentially preventable conditions by region, 2005–2011
Figures 1 and 2 portray trends in the rates of potentially preventable hospitalizations for acute conditions (Figure 1) and chronic conditions (Figure 2) by region for 2005 through 2011.

Figure 1. Rates of potentially preventable hospitalizations for acute conditions by region, 2005–2011



* The difference in rates between 2005 and 2011 is statistically significant at p<0.05. Rates are per 100,000 population.

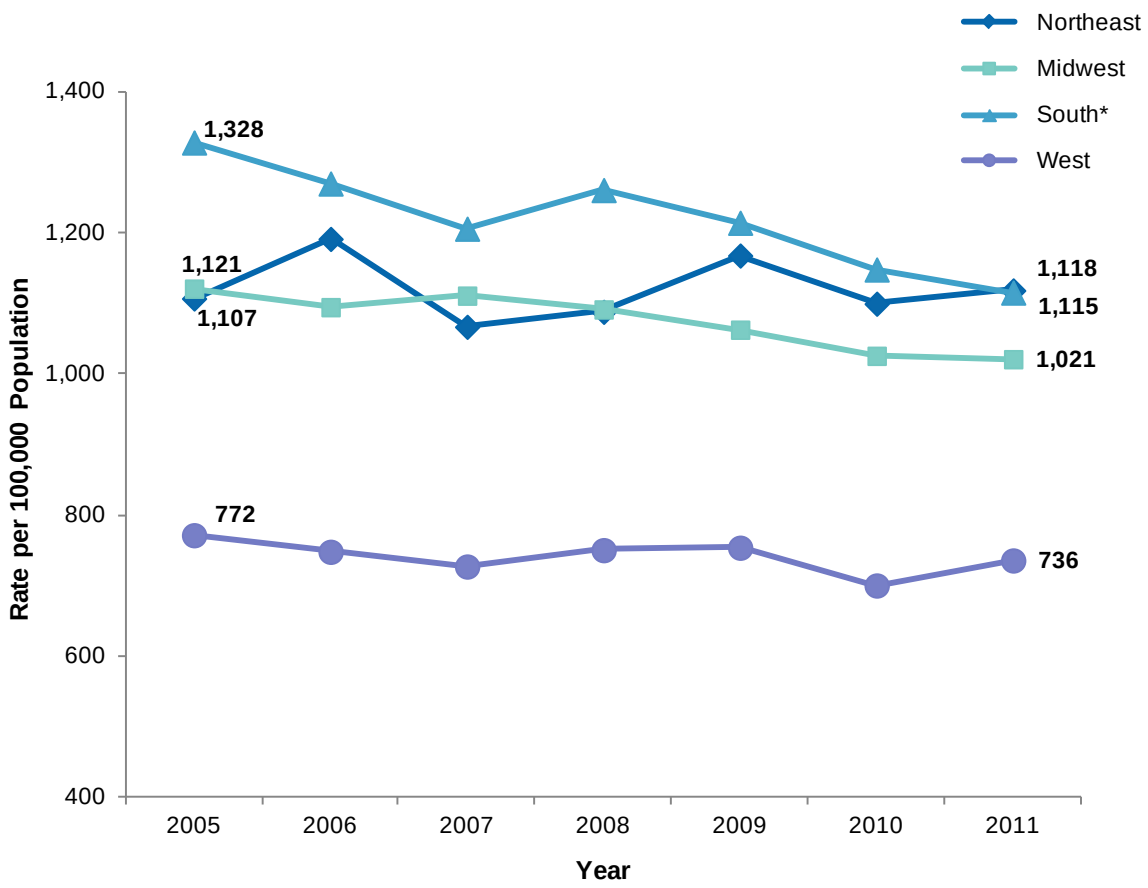
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2005 through 2011

- **The rate of potentially preventable hospitalizations for acute conditions declined in all regions.**

  The West consistently had the lowest rate of potentially preventable hospitalizations for acute conditions. Moreover, this region had the largest decline between 2005 and 2011 (from 635 discharges per 100,000 population to 484 discharges per 100,000 population)—a decrease of 23.8 percent. The South consistently had the highest hospitalization rate; however, this region also had a large decline, dropping from 947 discharges per 100,000 population in 2005 to 730 discharges per 100,000 population in 2011—a decrease of 22.9 percent.

  The ranking of the hospitalization rate for acute conditions by region remained relatively stable. The South consistently had the highest rate of potentially preventable hospitalizations, followed by the Midwest, Northeast, and West.

Figure 2. Rates of potentially preventable hospitalizations for chronic conditions by region, 2005–2011



* The difference in rates between 2005 and 2011 is statistically significant at p<0.05. Rates are per 100,000 population.

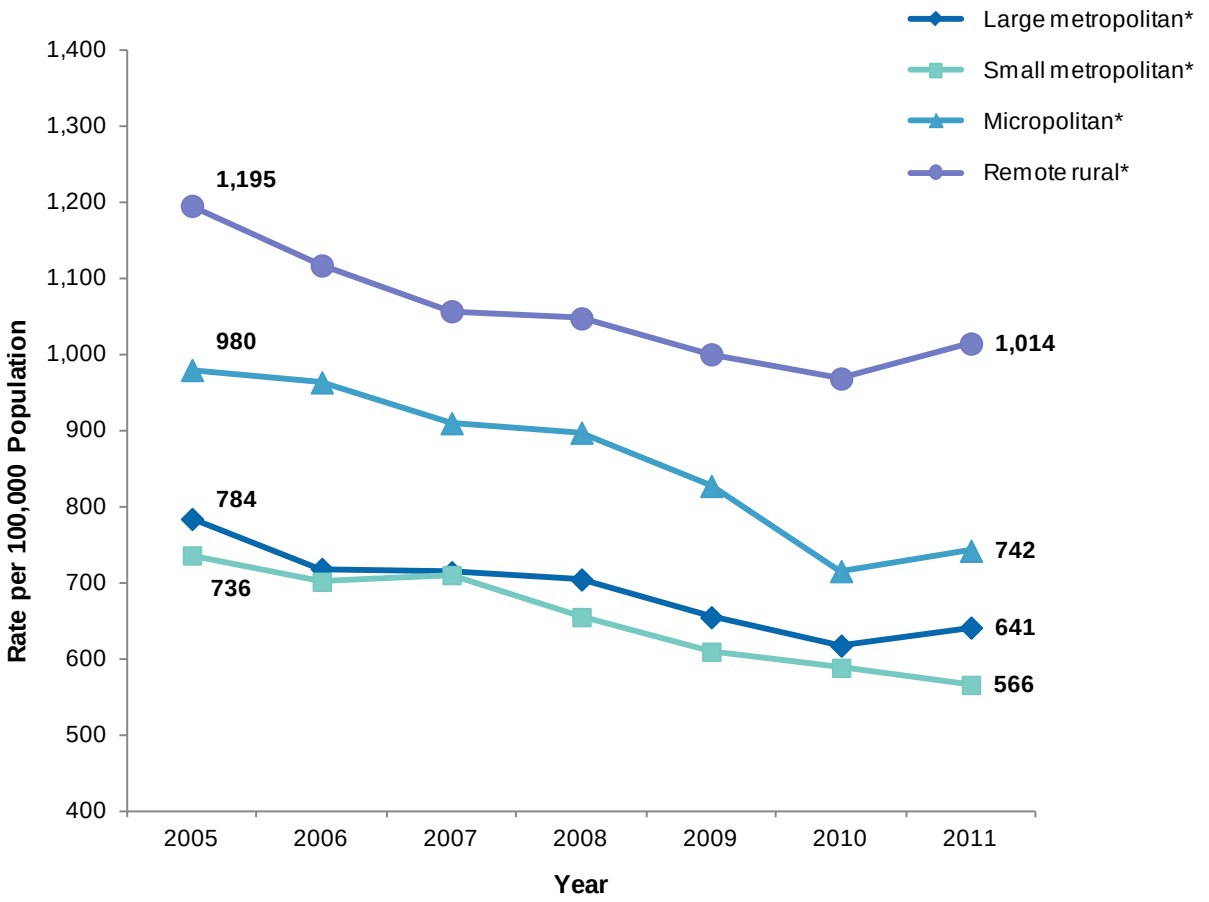
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2005 through 2011

- **The rate of potentially preventable hospitalizations for chronic conditions remained relatively stable except in the South, which saw a significant decline.**

  Compared with the rate of potentially preventable hospitalizations for acute conditions (Figure 1), the hospitalization rate for chronic conditions (Figure 2) in all regions remained relatively stable, with one exception. In the South, the rate decreased from 1,328 discharges per 100,000 population in 2005 to 1,115 per 100,000 population in 2011—a decrease of 16.0 percent. Despite this decrease, the South continued to have a very high hospitalization rate compared with the Midwest and West.

Rates of potentially preventable hospitalizations by location of patient residence, 2005–2011
Figures 3 and 4 present trends in the rates of potentially preventable hospitalizations for acute conditions (Figure 3) and chronic conditions (Figure 4) by location of patient residence for 2005 through 2011.

Figure 3. Rates of potentially preventable hospitalizations for acute conditions by location of patient residence, 2005–2011



* The difference in rates between 2005 and 2011 is statistically significant at p<0.05. Rates are per 100,000 population.

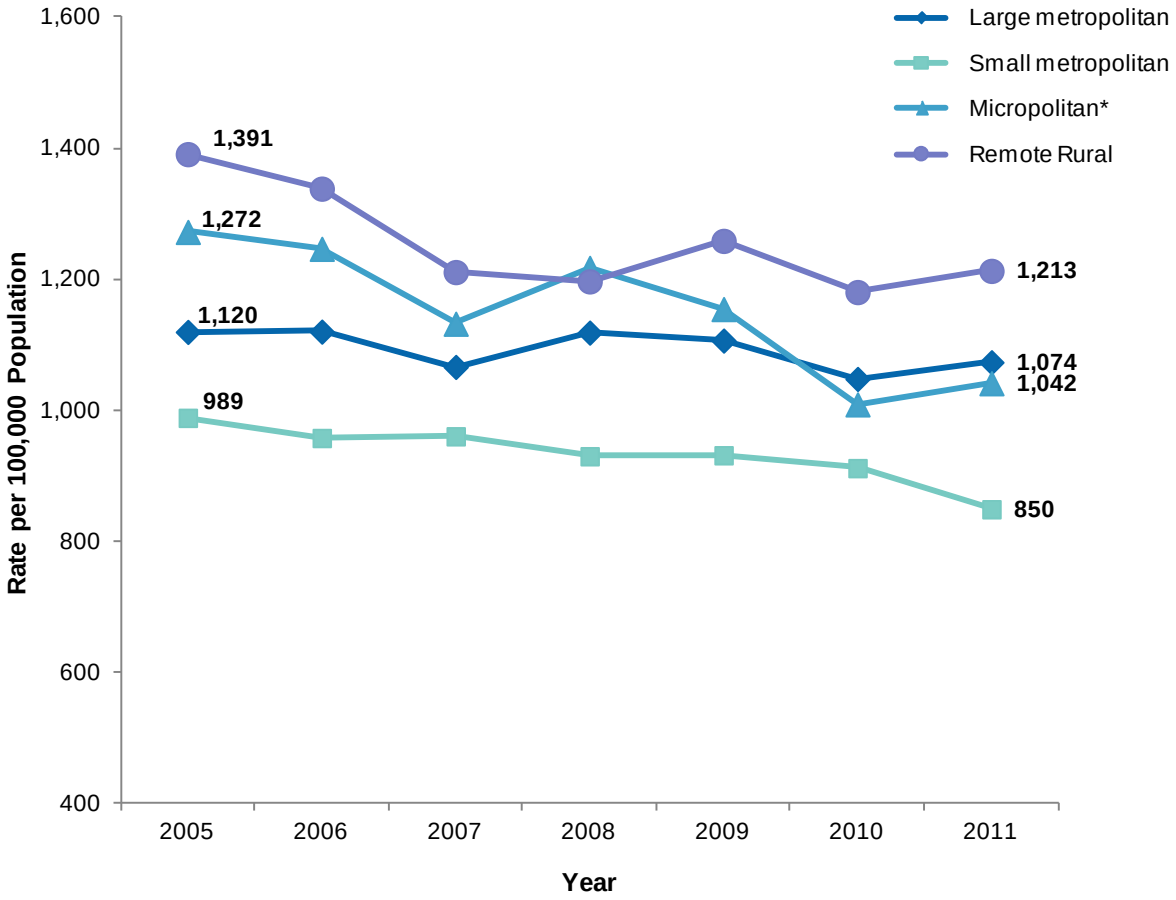
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2005 through 2011

- **The rate of potentially preventable hospitalizations for acute conditions was highest in remote rural areas, but rates in all residential areas exhibited a downward trend.**

  The ranking of hospitalization rate for acute conditions by location of patient residence remained relatively stable. Remote rural areas consistently had the highest rate of potentially preventable hospitalizations, followed by micropolitan areas, large metropolitan areas, and small metropolitan areas.

  The largest decrease in the hospitalization rate for acute conditions was in micropolitan areas and small metropolitan areas between 2005 and 2011. The discharge rate for micropolitan areas decreased from 980 discharges per 100,000 population in 2005 to 742 discharges per 100,000 population in 2011—a decrease of 24.3 percent. Similarly, the discharge rate for small metropolitan areas decreased from 736 discharges per 100,000 population in 2005 to 566 discharges per 100,000 population in 2011—a decrease of 23.1 percent.

Figure 4. Rates of potentially preventable hospitalizations for chronic conditions by location of patient residence, 2005–2011



* The difference in rates between 2005 and 2011 is statistically significant at p<0.05. Rates are per 100,000 population.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), Nationwide Inpatient Sample (NIS), 2005 through 2011

- **Micropolitan areas showed a significant decline in the rate of potentially preventable hospitalizations for chronic conditions.**

  The rate in micropolitan areas decreased from 1,272 discharges per 100,000 population in 2005 to 1,042 discharges per 100,000 population in 2011—a decrease of 18.1 percent.

Data Source

The estimates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample (NIS) for 2005 through 2011. Supplemental sources included population denominator data for use with HCUP databases.[13]

Definitions

Types of hospitals included in HCUP
HCUP is based on data from community hospitals, which are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). HCUP data include obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical hospitals. Excluded are long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. However, if a patient received long-term care, rehabilitation, or treatment for psychiatric or chemical dependency conditions in a community hospital, the discharge record for that stay will be included in the Nationwide Inpatient Sample (NIS).

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 one year will be counted each time as a separate "discharge" from the hospital.

Location of patients' residence
Place of residence is based on a simplified adaptation of the 2003 version of the Urban Influence Codes (UIC). The 12 categories of the UIC are combined into four broader categories that differentiate between large and small metropolitan, micropolitan, and a non-urban residual (termed "remote rural" in this Statistical Brief). The four categories have the following definitions:

- Large Metropolitan: includes metropolitan areas with 1 million or more residents
- Small Metropolitan: includes counties of metropolitan areas with less than 1 million
- Micropolitan: includes nonmetropolitan counties (i.e., counties with no town greater than 50,000 residents)
- Remote Rural: not metropolitan or micropolitan

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

Prevention Quality Indicators
The Prevention Quality Indicators (PQIs; version 4.5), a component of the AHRQ Quality Indicators (QIs), are a set of measures that can be used with hospital inpatient discharge data to identify access to and quality of care for "ambulatory care-sensitive conditions." These are conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease. PQI rates can also be affected by other factors such as disease prevalence. The PQIs are adjusted for age and sex.

[13] Barrett M, Lopez-Gonzalez L, Coffey R, Levit K. Population Denominator Data for use with the HCUP Databases (Updated with 2012 Population data). HCUP Methods Series Report #2013-01. Online. March 8, 2013. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/2013_01.pdf. Accessed June 4, 2014.

Further information on the AHRQ QIs, including documentation and free software downloads, is available at http://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 Coffey et al., 2012.[14]

About HCUP

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

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

Alaska State Hospital and Nursing Home Association
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Colorado Hospital Association
Connecticut Hospital Association
Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Louisiana Department of Health and Hospitals
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association
Mississippi Department of Health
Missouri Hospital Industry Data Institute
Montana MHA - An Association of Montana Health Care Providers
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New Mexico Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association

[14] Coffey R, Barrett M, Houchens R, Moy E, Andrews R, Coenen N. Methods Applying AHRQ Quality Indicators to Healthcare Cost and Utilization Project (HCUP) Data for the Eleventh (2013) National Healthcare Quality Report (NHQR) and National Healthcare Disparities Report (NHDR). HCUP Methods Series Report #2012-03. Online. November 12, 2012. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/2012_03.pdf. Accessed June 4, 2014.

Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Health Policy and Research
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

About Statistical Briefs

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

About the NIS

The HCUP Nationwide Inpatient Sample (NIS) is a nationwide database of hospital inpatient stays. The NIS is nationally representative of all community hospitals (i.e., short-term, non-Federal, nonrehabilitation hospitals). The NIS is a sample of hospitals and includes all patients from each hospital, regardless of payer. It is drawn from a sampling frame that contains hospitals comprising more than 95 percent of all discharges in the United States. The vast size of the NIS allows the study of topics at both the national and regional levels for specific subgroups of patients. In addition, NIS data are standardized across years to facilitate ease of use.

For More Information

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

For additional HCUP statistics, visit HCUPnet, our interactive query system, at http://hcupnet.ahrq.gov/.

For information on other hospitalizations in the United States, refer to the following HCUP Statistical Briefs located at http://www.hcup-us.ahrq.gov/reports/statbriefs/statbriefs.jsp:

- Statistical Brief #166, Overview of Hospital Stays in the United States, 2011
- Statistical Brief #168, Costs for Hospital Stays in the United States, 2011
- Statistical Brief #162, Most Frequent Conditions in U.S. Hospitals, 2011
- Statistical Brief #165, Most Frequent Procedures Performed in U.S. Hospitals, 2011

For a detailed description of HCUP, more information on the design of the Nationwide Inpatient Sample (NIS), and methods to calculate estimates, please refer to the following publications:

Introduction to the HCUP Nationwide Inpatient Sample, 2009. Online. May 2011. U.S. Agency for Healthcare Research and Quality. http://hcup-us.ahrq.gov/db/nation/nis/NIS_2009_INTRODUCTION.pdf. Accessed June 4, 2014.

Houchens R, Elixhauser A. Final Report on Calculating Nationwide Inpatient Sample (NIS) Variances, 2001. HCUP Methods Series Report #2003-2. Online. June 2005 (revised June 6, 2005). U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/CalculatingNISVariances200106092005.pdf. Accessed June 4, 2014.

Suggested Citation

Torio CM (AHRQ), Andrews RM (AHRQ). Geographic Variation in Potentially Preventable Hospitalizations for Acute and Chronic Conditions, 2005–2011. HCUP Statistical Brief #178. September 2014. Agency for Healthcare Research and Quality, Rockville, MD. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb178-Preventable-Hospitalizations-by-Region.pdf.

* * *

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

Irene Fraser, Ph.D., Director
Center for Delivery, Organization, and Markets
Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850