



# **STATISTICAL BRIEF #107**

March 2011

## The National Hospital Bill: The Most **Expensive Conditions by Payer,** 2008

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#### Introduction

Hospital care accounted for the largest share of U.S. health care spending (31 percent) in 2008. As health care costs rise and the population ages, policy makers and payers are interested in understanding how hospital resources are spent, who pays, and for what types of services.

This Statistical Brief is an update of recurring Statistical Briefs that provide the latest information on the national inpatient hospital bill (aggregate community hospital charges). Using 2008 data from the Healthcare Cost and Utilization Project (HCUP), this report presents information on the top 20 most expensive conditions and shows how their ranking changed from previous reports on 2004<sup>2</sup> and 2006<sup>3</sup> hospital care. It also describes the distribution of the nation's 2008 hospital bill by primary payer and illustrates the conditions accounting for the largest percentage of each payer's hospital bills. The primary payers examined are Medicare, Medicaid, private insurance, and the uninsured.

Hospital charges, it should be noted, are different from hospital costs. Hospital costs reflect the amount it cost a hospital to provide services during a stay, while charges are the amounts that hospitals bill for a stay. As a result, hospital charges are generally higher than costs and are more than the amount paid by payers because of negotiated discounts (the exception being the uninsured patients, who are expected to pay the full charge by many hospitals). Nonetheless, charges can be a useful benchmark for comparing how expensive different types of hospitalizations are, such as comparisons between types of medical conditions.

## **Highlights**

- In 2008, the national hospital bill totaled nearly \$1.2 trillion for 39.9 million hospital stays.
- One-fifth of the national hospital bill was for treatment of five conditions: mother's pregnancy and delivery, blood infection, coronary artery disease, newborn infants, and osteoarthritis.
- Sixty percent of the national bill for hospital care was billed to two government payers, Medicare (\$534 billion) and Medicaid (\$159 billion), while slightly less than one-third (\$373 billion) was billed to private insurance and about 4 percent (\$48 billion) was billed to the uninsured.
- Circulatory diseases accounted for six of the 20 most expensive conditions billed to Medicare, totaling \$107 billion.
- Of hospital stays billed to Medicaid, the most expensive conditions were related to mother's pregnancy and delivery (\$22 billion) and care of newborn infants (\$19 billion).
- Of hospital stays billed to private insurers, the most expensive conditions were related to mother's pregnancy and delivery (\$30 billion) and care of newborn infants (\$21 billion).
- Among the uninsured, heart attack was the most expensive reason for hospitalization (\$2.4 billion). Three of the top 20 most expensive reasons for hospitalization involved injury (\$2.9 billion).

<sup>&</sup>lt;sup>1</sup> Kimbuende E, et al. U.S. Health Care Costs: Background Brief. The Kaiser Family Foundation. March 2010. http://www.kaiseredu.org/Issue-Modules/US-Health-Care-Costs/Background-

Brief.aspx#How%20is%20the%20U.S.%20health%20care%20dollar%20spent. Accessed March 11, 2011.

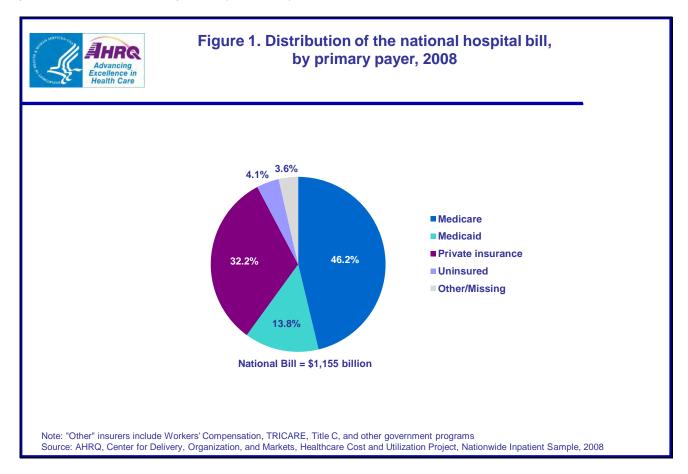
Russo, C. A. and Andrews, R. M. *The National Hospital Bill: The Most Expensive Conditions, by Payer, 2004.* HCUP Statistical Brief #13. September 2006. Agency for Healthcare Research and Quality, Rockville, Md. http://www.hcupus.ahrq.gov/reports/statbriefs/sb13.pdf

Andrews, R.M. The National Hospital Bill: The Most Expensive Conditions by Payer, 2006. HCUP Statistical Brief #59. September 2008. Agency for Healthcare Research and Quality, Rockville, MD, http://www.hcup-us.ahrq.gov/reports/statbriefs/sb59.pdf.

## **Findings**

The 2008 national hospital bill by primary payer

The nation's hospitals billed nearly \$1.2 trillion in total charges in 2008 for inpatient hospitalizations. These charges involved 39.9 million hospital stays, but do not include hospital outpatient care, emergency care for patients not admitted to the hospital, or physician fees for the admissions. In 2008, two government payers, Medicare and Medicaid, bore responsibility for 60 percent of the national hospital bill (figure 1). Medicare incurred approximately \$534 billion in total charges in 2008 for 14.9 million hospital stays, representing 46.2 percent of the total national hospital bill. Hospital stays billed to Medicaid totaled \$159 billion, or 13.8 percent of the national bill. Private insurance was billed for 14.1 million hospital stays with total charges of about \$373 billion (32.2 percent of the national hospital bill). Uninsured patients accounted for 4.1 percent (\$48 billion) of the national bill.



#### Most expensive conditions requiring hospitalization

In 2008, over half of the U.S. hospital charges were for the top 20 most expensive conditions, with the top five conditions accounting for over one–fifth of the total charges (table 1). Two of the top five conditions were pregnancy–related: mother's pregnancy and delivery and newborn infants. Hospital stays for pregnancy and delivery resulted in a total hospital bill of \$55 billion, or 4.8 percent of the entire national bill, and was the most expensive condition treated. Hospital stays involving newborn infants accounted for 3.7 percent of the national hospital bill—\$43 billion. Hospital stays for sepsis (blood infection) and coronary artery disease each accounted for approximately 4.1 percent of the total hospital charges (\$48 billion). The ranking of national hospital charges for sepsis rose since 2004 from the ninth most expensive to the second most expensive in 2008. Osteoarthritis was the fifth most expensive condition (\$40 billion) and comprised 3.5 percent of the national hospital bill.

Table 1. Top 20 most expensive conditions treated in U.S. hospitals, 2008

Table	1. Top 20 most expensive condition	s ireated iii 0.5.	iiospitais, 200	<u> </u>		
Rank	Principal diagnosis	Total national hospital bill (millions)	Percentage of national bill	Number of hospital stays (thousands)	Rank 2006	Rank 2004
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1	Mother's pregnancy and delivery	\$55,479	4.8%	4,664	2	2
2	Sepsis	\$47,709	4.1%	791	6	9
3	Coronary artery disease	\$47,563	4.1%	919	1	1
4	Newborn infants	\$42,889	3.7%	4,391	3	3
5	Osteoarthritis	\$40,380	3.5%	911	7	8
6	Acute myocardial infarction (AMI, heart attack)	\$37,949	3.3%	645	4	4
7	Complication of device, implant or graft	\$37,159	3.2%	685	9	7
8	Congestive heart failure	\$34,596	3.0%	1,020	5	5
9	Pneumonia	\$31,654	2.7%	1,156	8	6
10	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$30,773	2.7%	663	11	10
11	Respiratory failure, insufficiency, arrest (adult)	\$28,690	2.5%	435	10	13
12	Acute cerebrovascular disease (stroke)	\$24,849	2.2%	565	13	12
13	Cardiac dysrhythmias	\$24,142	2.1%	798	12	11
14	Complications of surgical procedures or medical care	\$19,402	1.7%	516	14	15
15	Chronic obstructive pulmonary disease and bronchiectasis	\$16,306	1.4%	716	18	19
16	Gall bladder disease	\$15,780	1.4%	480	17	16
17	Rehabilitation care, fitting of prostheses, and adjustment of devices	\$14,854	1.3%	410	15	14
18	Diabetes mellitus with complications	\$14,524	1.3%	520	16	17
19	Hip fracture	\$14,173	1.2%	316	19	18
20	Acute and unspecified renal failure	\$13,675	1.2%	425	22	31
Total f	or top 20 conditions	\$592,545	51.3%	21,026		
Total f	or all hospitalizations	\$1,155,648	100.0%	39,885		

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2004, 2006, 2008

Most expensive conditions requiring hospitalization, by primary payer

Tables 2 through 5 illustrate the 20 most expensive conditions billed to Medicare, Medicaid, private insurance, and the uninsured in 2008. Some commonalities exist across payers in the conditions that generated high total charges. For all four payer groups, blood infection, coronary artery disease, and acute cerebrovascular disease (stroke) ranked among the top 10, while congestive heart failure, heart attack, pneumonia, and respiratory failure ranked among the top 20 most expensive conditions. Conditions related to a mother's pregnancy and delivery and newborn infants ranked in the top 10 for Medicaid, private insurance, and the uninsured; gall bladder disease and mood disorders were among the top 20 most expensive conditions for these three payers. Diabetes with complications was included in the top 20 for Medicare, Medicaid, and the uninsured. Back pain and complications of surgical procedures or medical care were among the top 20 most expensive conditions billed to Medicare, Medicaid, and private insurance. Osteoarthritis was among the top five most expensive conditions for Medicare and private insurance.

Predictably, given payer differences in demographic mix and service coverage, certain conditions are relatively more prominent in the top rankings of some payer groups than in others. For example, table 2 shows that circulatory diseases comprised six of the top 20 most expensive conditions and accounted for about one-fifth (\$107 billion) of total hospital charges billed to Medicare. Hip fracture ranked 12th for Medicare (\$11 billion), but was not in the top 20 ranking for other payers.

Table 3 illustrates that the most expensive hospital stays billed to Medicaid were related to pregnancy and delivery (\$22 billion) and the care of newborn infants (\$19 billion). These stays accounted for more than one-quarter of the total hospital charges billed to Medicaid. Hospitalizations for schizophrenia (\$2.4 billion), cardiac and circulatory congenital anomalies (\$1.8 billion), and asthma (\$1.6 billion) were among the top 20 most expensive conditions billed to Medicaid, but this was not the case for the other payers. The high ranking for these conditions is related to the types of people generally eligible for Medicaid as their primary payer for hospital care: women of childbearing age (and their children) and persons with disabilities.

The top five most expensive reasons for hospitalization among patients with private insurance included two conditions related to childbirth (mother's pregnancy and newborn infants, totaling \$50 billion) (table 4). Two musculoskeletal conditions—osteoarthritis (\$16 billion) and back pain (\$14 billion) were also among the top five most expensive conditions for private insurers.

Among the uninsured, heart attack was the most expensive reason for hospitalization (table 5). Three of the top 20 most expensive reasons for hospitalization among the uninsured involved injuries. Hospitalizations for intracranial injury, crushing injury or external injury, and fracture of the lower limb, resulted in 2.9 billion of total hospital charges. The top 20 most expensive conditions for the uninsured also included two mental health–related disorders—affective disorders and alcohol–related mental disorders—that totaled \$1.7 billion. Pancreatic disorders ranked 13th for the uninsured, but were not included among the top 20 for other payers.

Table 2. Top 20 most expensive conditions billed to Medicare, 2008

Rank	Principal diagnosis	Total national hospital bill (millions)	Percentage of national bill	Number of hospital stays (thousands)
1	Sepsis	\$30,480	5.7%	535
2	Coronary artery disease	\$25,919	4.8%	495
3	Congestive heart failure	\$24,585	4.6%	759
4	Osteoarthritis	\$21,645	4.0%	490
5	Complication of device, implant or graft	\$21,042	3.9%	389
6	Acute myocardial infarction (AMI, heart attack)	\$20,404	3.8%	362
7	Pneumonia	\$19,565	3.7%	666
8	Respiratory failure, insufficiency, arrest (adult)	\$17,863	3.3%	282
9	Cardiac dysrhythmias	\$15,873	3.0%	515
10	Acute cerebrovascular disease (stroke)	\$13,402	2.5%	356
11	Chronic obstructive pulmonary disease and bronchiectasis	\$11,619	2.2%	502
12	Hip fracture	\$11,447	2.1%	257
13	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$10,957	2.1%	246
14	Rehabilitation care, fitting of prostheses, and adjustment of devices	\$9,545	1.8%	285
15	Acute and unspecified renal failure	\$9,150	1.7%	290
16	Complications of surgical procedures or medical care	\$9,052	1.7%	226
17	Urinary tract infections	\$7,465	1.4%	363
18	Heart valve disorders	\$7,292	1.4%	61
19	Diabetes mellitus with complications	\$7,142	1.3%	222
20	Aspiration pneumonitis, food/vomitus	\$6,884	1.3%	161
Total for top 20 conditions		\$301,332	56.4%	7,464
Total for all hospitalizations		\$534,478	100.0%	14,917

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008

Table 3. Top 20 most expensive conditions billed to Medicaid, 2008

Rank	Principal diagnosis	Total national hospital bill (millions)	Percentage of national bill	Number of hospital stays (thousands)
1	Mother's pregnancy and delivery	\$22,038	13.9%	1,903
2	Newborn infants	\$19,428	12.2%	1,790
3	Sepsis	\$5,737	3.6%	73
4	Pneumonia	\$3,907	2.5%	157
5	Complication of device, implant or graft	\$3,872	2.4%	67
6	Respiratory failure, insufficiency, arrest (adult)	\$3,701	2.3%	47
7	Affective disorders (depression and bipolar disorders)	\$3,187	2.0%	210
8	Coronary artery disease	\$2,904	1.8%	58
9	Congestive heart failure	\$2,881	1.8%	73
10	Acute cerebrovascular disease (stroke)	\$2,833	1.8%	39
11	Acute myocardial infarction (AMI, heart attack)	\$2,415	1.5%	35
12	Diabetes mellitus with complications	\$2,413	1.5%	95
13	Schizophrenia and related disorders	\$2,409	1.5%	112
14	Complications of surgical procedures or medical care	\$2,317	1.5%	56
15	Skin and subcutaneous tissue infections	\$1,843	1.2%	106
16	Intracranial injury	\$1,832	1.2%	22
17	Gall bladder disease	\$1,812	1.1%	57
18	Cardiac and circulatory congenital anomalies	\$1,765	1.1%	13
19	Asthma	\$1,617	1.0%	115
20	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$1,590	1.0%	36
	,	·	56.9%	
Total for top 20 conditions  Total for all hospitalizations		\$90,502 \$159,053	100.0%	5,064 7,355

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008

Table 4. Top 20 most expensive conditions billed to private insurance, 2008

	4. Top 20 most expensive condition	Total national hospital bill	Percentage of	Number of hospital stays
Rank	Principal diagnosis	(millions)	national bill	(thousands)
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1	Mother's pregnancy and delivery	\$29,605	7.9%	2,413
2	Newborn infants	\$20,777	5.6%	2,227
3	Osteoarthritis	\$15,946	4.3%	358
4	Coronary artery disease	\$15,778	4.2%	302
5	Back pain (spondylosis, intervertebral disc disorders, other back problems)	\$14,470	3.9%	305
6	Acute myocardial infarction (AMI, heart attack)	\$11,540	3.1%	187
7	Complication of device, implant or graft	\$10,252	2.8%	190
8	Sepsis	\$8,895	2.4%	140
9	Complications of surgical procedures or medical care	\$6,775	1.8%	196
10	Acute cerebrovascular disease (stroke)	\$6,479	1.7%	125
11	Pneumonia	\$6,400	1.7%	257
12	Cardiac dysrhythmias	\$6,066	1.6%	208
13	Gall bladder disease	\$5,813	1.6%	195
14	Congestive heart failure	\$5,516	1.5%	137
15	Respiratory failure, insufficiency, arrest (adult)	\$5,409	1.5%	76
16	Appendicitis	\$4,857	1.3%	189
17	Secondary malignancies	\$4,667	1.3%	90
18	Fracture of lower limb	\$4,294	1.2%	106
19	Other nutritional, endocrine, and metabolic disorders	\$4,185	1.1%	114
20	Nonspecific chest pain	\$4,005	1.1%	257
Total f	or top 20 conditions	\$187,545	51.5%	8,074
Total for all hospitalizations		\$372,635	100.0%	14,108

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008

Table 5. Top 20 most expensive conditions billed to the uninsured, 2008

	5. Top 20 most expensive condition	Total national hospital bill	Percentage of	Number of hospital stays
Rank	Principal diagnosis	(millions)	national bill	(thousands)
1	Acute myocardial infarction (AMI, heart attack)	\$2,379	5.0%	40
2	Mother's pregnancy and delivery	\$1,896	4.0%	180
3	Coronary artery disease	\$1,609	3.4%	36
4	Sepsis	\$1,453	3.0%	24
5	Acute cerebrovascular disease (stroke)	\$1,441	3.0%	30
6	Newborn infants	\$1,261	2.6%	247
7	Gall bladder disease	\$1,177	2.5%	42
8	Skin and subcutaneous tissue infections	\$1,091	2.3%	67
9	Pneumonia	\$1,047	2.2%	47
10	Nonspecific chest pain	\$1,039	2.2%	68
11	Diabetes mellitus with complications	\$1,018	2.1%	52
12	Intracranial injury	\$1,008	2.1%	21
13	Pancreatic disorders (not diabetes)	\$974	2.0%	40
14	Fracture of lower limb	\$967	2.0%	25
15	Appendicitis	\$951	2.0%	36
16	Congestive heart failure	\$942	2.0%	31
17	Crushing injury or internal injury	\$919	1.9%	18
18	Affective disorders (depression and bipolar disorders)	\$883	1.8%	79
19	Alcohol-related disorders	\$848	1.8%	61
20	Respiratory failure, insufficiency, arrest (adult)	\$840	1.8%	16
Total f	or top 20 conditions	\$23,742	49.6%	1,158
Total for all hospitalizations		\$47,914	100.0%	2,126

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2008

#### **Data Source**

The estimates in this Statistical Brief are based upon data from the HCUP 2008 Nationwide Inpatient Sample (NIS). The statistics were generated from HCUPnet, a free, online query system that provides users with immediate access to largest set of publicly available, all-payer national, regional, and Statelevel hospital care databases from HCUP.

#### **Definitions**

Diagnoses, ICD-9-CM, and Clinical Classifications Software (CCS)

The principal diagnosis is that condition established after study to be chiefly responsible for the patient's admission to the hospital. Secondary diagnoses are concomitant conditions that coexist at the time of admission or that develop during the stay.

ICD-9-CM is the International Classification of Diseases, Ninth Revision, Clinical Modification, which assigns numeric codes to diagnoses. There are about 13,600 ICD-9-CM diagnosis codes.

CCS categorizes ICD-9-CM diagnoses into a manageable number of clinically meaningful categories.<sup>4</sup> This "clinical grouper" makes it easier to quickly understand patterns of diagnoses and procedures.

For this report, "Mother's pregnancy and delivery" conditions were defined as CCS categories:

- 177 Spontaneous abortion
- 178 Induced abortion
- 180 Ectopic pregnancy
- 181 Other complications of pregnancy
- 182 Hemorrhage during pregnancy, abruptio placenta, placenta previa
- 183 Hypertension complicating pregnancy, childbirth and the puerperium
- 184 Early or threatened labor
- 185 Prolonged pregnancy
- 186 Diabetes or abnormal glucose tolerance complicating pregnancy, childbirth, or the puerperium
- 187 Malposition, malpresentation
- 188 Fetopelvic disproportion, obstruction
- 189 Previous C-section
- 190 Fetal distress and abnormal forces of labor
- 191 Polyhydramnios and other problems of amniotic cavity
- 192 Umbilical cord complication
- 193 Trauma to perineum and vulva
- 194 Forceps delivery
- 195 Other complications of birth, puerperium affecting management of the mother
- 196 Normal pregnancy and/or delivery

#### "Newborn infants" were defined as CCS categories:

- 218 Liveborn
- 219 Short gestation, low birth weight, and fetal growth retardation
- 220 Intrauterine hypoxia and birth asphyxia
- 221 Respiratory distress syndrome
- 222 Hemolytic jaundice and perinatal jaundice
- 223 Birth trauma
- 224 Other perinatal conditions

#### Types of hospitals included in HCUP

HCUP is based on data from community hospitals, defined as short-term, non-Federal, general and other hospitals, excluding hospital units of other institutions (e.g., prisons). HCUP data include OB-GYN, ENT, orthopedic, cancer, pediatric, public, and academic medical hospitals. Excluded are long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. Please note, a discharge of this nature will be included in the NIS if it occurred in a community hospital.

#### 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.

<sup>&</sup>lt;sup>4</sup> Kimbuende E, et al. U.S. Health Care Costs: Background Brief. The Kaiser Family Foundation. March 2010. http://www.kaiseredu.org/lssue-Modules/US-Health-Care-Costs/Background-Brief.aspx#How%20is%20the%20U.S.%20health%20care%20dollar%20spent. Accessed March 11, 2011.

#### Charges

Charges represent what the hospital billed for the discharge. Hospital charges reflect the amount the hospital charged for the entire hospital stay and do not include professional (physician) fees. For this Statistical Brief, when a hospital record is missing charge information, a value is imputed by calculating the mean charge for all discharges with the same diagnosis—related group (DRG) with non-missing charges. Fewer than 2 percent of hospital records in the 2008 NIS have missing charge data. For the purposes of this Statistical Brief, charges are rounded to the nearest million dollars.

### Payer

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

- Medicare includes fee-for-service and managed care Medicare patients.
- Medicaid includes fee-for-service and managed care Medicaid patients. Patients covered by the State Children's Health Insurance Program (SCHIP) may be included here. Because most state data do not identify SCHIP patients specifically, it is not possible to present this information separately.
- Private insurance includes Blue Cross, commercial carriers, and private HMOs and PPOs.
- Other includes Worker's Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.
- Uninsured includes an insurance status of "self-pay" and "no charge."

When more than one payer is listed for a hospital discharge, the first-listed payer is used.

#### **About HCUP**

HCUP is a family of powerful health care databases, software tools, and products for advancing research. Sponsored by the Agency for Healthcare Research and Quality (AHRQ), HCUP includes the largest all-payer encounter-level collection of longitudinal health care data (inpatient, ambulatory surgery, and emergency department) in the United States, beginning in 1988. HCUP is a Federal-State-Industry Partnership that brings together the data collection efforts of many organizations—such as State data organizations, hospital associations, private data organizations, and the Federal government—to create a national information resource.

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

**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 Division of Health Care Finance and Policy

Michigan Health & Hospital Association

Minnesota Hospital Association

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 and Senior Services New Mexico Health Policy Commission New York State Department of Health North Carolina Department of Health and Human Services **Ohio** Hospital Association **Oklahoma** State Department of Health **Oregon** Association of Hospitals and Health Systems Pennsylvania Health Care Cost Containment Council Rhode Island Department of Health South Carolina State Budget & Control Board 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 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, non-rehabilitation 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 about 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 www.hcup-us.ahrq.gov.

For additional HCUP statistics, visit HCUPnet, our interactive guery system, at www.hcup.ahrq.gov.

For information on other hospitalizations in the U.S., download HCUP Facts and Figures: Statistics on Hospital-based Care in the United States in 2008, located at http://www.hcup-us.ahrq.gov/reports.jsp.

For previous Statistical Briefs on the national hospital bill, see:

Andrews, R.M. *The National Hospital Bill: The Most Expensive Conditions by Payer, 2006.* HCUP Statistical Brief #59. September 2008. Agency for Healthcare Research and Quality, Rockville, MD, <a href="http://www.hcup-us.ahrq.gov/reports/statbriefs/sb59.pdf">http://www.hcup-us.ahrq.gov/reports/statbriefs/sb59.pdf</a>

Andrews, R.M. and Elixhauser A. *The National Hospital Bill: Growth Trends and 2005 Update on the Most Expensive Conditions by Payer.* HCUP Statistical Brief #42. December 2007. Agency for Healthcare Research and Quality, Rockville, MD. <a href="http://www.hcup-us.ahrq.gov/reports/statbriefs/sb42.pdf">http://www.hcup-us.ahrq.gov/reports/statbriefs/sb42.pdf</a>

Russo, C.A. and Andrews, R.M. *The National Hospital Bill: The Most Expensive Conditions, by Payer, 2004.* HCUP Statistical Brief #13. September 2006. Agency for Healthcare Research and Quality, Rockville, Md. http://www.hcup-us.ahrq.gov/reports/statbriefs/sb13.pdf

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

Steiner, C., Elixhauser, A., Schnaier, J. The Healthcare Cost and Utilization Project: An Overview. *Effective Clinical Practice* 5(3):143–51, 2002.

Introduction to the HCUP Nationwide Inpatient Sample, 2008. Online. May 2010. U.S. Agency for Healthcare Research and Quality. http://hcup-us.ahrg.gov/db/nation/nis/NIS 2008 INTRODUCTION.pdf

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

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