

STATISTICAL BRIEF #8

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Conditions Related to Uninsured Hospitalizations, 2003

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Introduction

The number of persons in the United States who have no health insurance has been steadily increasing in this decade.* There is concern about the utilization and costs of hospital care among the uninsured because hospital care may be a last resort for the uninsured who have limited access to other health care services. The resulting burden of payment on the uninsured can be substantial. Additionally, the costs of uncompensated care for this population are often shifted to other insurance programs in the form of higher charges.

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on patterns of hospital utilization among patients whose stays in community hospitals were identified as uninsured. Variations in uninsured hospital stays are illustrated according to condition, and comparisons are made with hospital stays covered by private insurance. All differences between estimates noted in the text are statistically significant at the 0.05 level or better.

Findings

In 2003, there were 1.7 million uninsured hospitalizations in U.S. community hospitals, resulting in a national bill of \$29 billion.

Major reasons for uninsured admissions to the hospital

The most common reasons for hospital admission among the uninsured are shown in figure 1. The most common reason for hospitalization among uninsured patients related to childbirth (pregnancy and delivery among women, and infants being born), which comprised 20.3 percent of all uninsured hospital stays. However, there were considerably more childbirth-related stays among the privately insured, with 34.4 percent of all stays billed to private insurance. Disorders of the circulatory system accounted for 14.4 percent of all uninsured hospitalizations, and this group of conditions was the second most common reason for hospitalization among the uninsured.

* Rhoades, J. A. *The Uninsured in America, 1996–2004: Estimates for the U.S. Civilian Noninstitutionalized Population under Age 65*. Statistical Brief #84. June 2005. Agency for Healthcare Research and Quality, Rockville, Md. <http://www.meps.ahrq.gov/papers/st84/stat84.htm>.

Highlights

- One out of five uninsured hospital stays in 2003 was for the treatment of conditions related to pregnancy, childbirth, and newborn infants.
- Injury accounted for 11.3 percent of all uninsured hospital stays, which was higher than for privately insured stays (6.8 percent). Nearly 11 percent of uninsured hospital stays were for mental health and substance abuse disorders—almost three times the rate for privately insured stays.
- Three of the top 20 specific conditions causing hospitalization among the uninsured pertained to childbirth: newborn infants, trauma due to childbirth, and other maternal complications. Acute injuries and acute infections also ranked among the top 20 conditions.
- Mood disorders, alcohol abuse, and drug abuse accounted for 3 of the top 10 most common reasons for hospitalization among the uninsured.
- Hospitalizations for diabetes and asthma—chronic illnesses that can be controlled on an outpatient basis with adequate primary care—were also common among the uninsured.
- Although only 4.5 percent of all hospital stays were uninsured in 2003, uninsured stays accounted for 22.3 percent of all stays for alcohol abuse, 20.8 percent of stays for drug abuse, and 16.8 percent of stays for poisoning by non-psychotropic drugs and medications.
- Hospital stays for appendicitis, alcohol abuse, and substance abuse were nearly 10 to 30 percent more expensive for the uninsured compared to stays for privately insured patients.

Injury accounted for 11.3 percent of all uninsured stays in 2003. This figure is once again higher than the corresponding figure for privately insured hospitalizations, where injuries accounted for only 6.8 percent of all stays. Among uninsured hospital stays, 10.8 percent were for mental health and substance abuse disorders—three times the rate for privately insured stays. Uninsured hospital stays for skin disorders were two times the rate of privately insured stays.

Conversely, privately insured stays for neoplasms and female genital disorders were nearly twice the rate of uninsured stays for these conditions. Musculoskeletal disorders among the privately insured were more than three times the rate of uninsured hospitalizations.

Most frequent specific conditions causing uninsured hospital stays

Table 1 lists the top 20 specific reasons for hospitalization among the uninsured. These 20 conditions comprised nearly half of all hospital stays for the uninsured in 2003. Three of the top 20 conditions pertained to childbirth: newborn infants, trauma due to childbirth, and other maternal complications. Two conditions were acute injuries—poisoning and fracture of the leg—and two consisted of acute infections—pneumonia and skin infections. One common disorder, appendicitis, was a nondiscretionary condition (i.e., requiring hospitalization and surgical treatment).

Five conditions were related to the cardiovascular system: nonspecific chest pain, coronary atherosclerosis, myocardial infarction, congestive heart failure, and stroke. Three conditions—mood disorders, alcohol abuse, and drug abuse—were related to mental health and substance abuse. Two conditions consisted of chronic illnesses that can be controlled on an outpatient basis with adequate primary care—diabetes and asthma.

Table 1 illustrates that, while only 4.5 percent of all hospital stays were uninsured in 2003, some conditions were disproportionately treated among the uninsured. Uninsured patients accounted for 20.8 percent of stays for alcohol abuse, 22.3 percent of stays for drug abuse, 16.8 percent of stays for poisoning by non-psychotropic drugs and medications, and over 10 percent of stays for both appendicitis and pancreatic disorders.

Differences in hospital charges for specific conditions

The average hospital charges billed to the uninsured for the 20 most common conditions are also displayed in table 1. While the average charge for all uninsured hospitalizations (\$16,800) was similar to the average hospital charge for privately insured stays, differences emerged for certain conditions.

For three common conditions, the average charge for an uninsured hospital stay was significantly higher than for privately insured patients. Compared to privately insured stays (data not shown in table), hospital charges for uninsured stays were 17 percent higher for alcohol abuse (\$9,600 versus \$8,100) and nearly 30 percent higher for drug abuse (\$9,300 versus \$7,200). Hospitalizations for appendicitis were 7 percent higher for the uninsured when compared to stays for privately insured patients (\$18,100 versus \$16,800).

Among the uninsured, the average hospital charge for four conditions was lower as compared to private insurance. The average hospital charge billed to the uninsured for a newborn infant was nearly 27 percent lower than the bill to private insurance (\$4,100 versus \$5,600). Hospital charges for treating coronary atherosclerosis (hardening of the heart arteries) were nearly 13 percent lower for the uninsured when compared to the privately insured (\$30,500 versus \$34,900). Similarly, uninsured hospitalizations for pancreatic disorders (\$18,900 versus \$22,200) and congestive heart failure (\$23,200 versus \$27,200) were 15 percent less expensive than privately insured hospitalizations.

Data Source

The estimates in this Statistical Brief are based upon data from the HCUP 2003 Nationwide Inpatient Sample (NIS). Supplemental sources included data from the U.S. Census Bureau, Population Division, Annual Estimates of the Population for the United States, Regions, and Divisions and U.S. Census Bureau, Current Population Reports, P60-226, Coverage by Type of Health Insurance.

Definitions

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. They exclude long-term care, rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals, but these types of discharges are included if they are from community hospitals.

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.

Charges

Charges represent what the hospital billed for the case. Hospital charges reflect the amount the hospital charged for the entire hospital stay and do not include professional (MD) fees. For the purposes of this Statistical Brief, charges are rounded to the nearest hundred dollars.

Payer

Up to two payers can be coded for a hospital stay in HCUP data. When this occurs, the following hierarchy was used:

- If either payer is listed as Medicaid, payer is "Medicaid."
- For non-Medicaid stays, if either payer is listed as Medicare, payer is "Medicare."
- For stays that are neither Medicaid nor Medicare, if either payer is listed as private insurance, payer is "private insurance."
- For stays that are not Medicaid, Medicare or private insurance, if either payer is some other third party payer, payer is "other," which consists of Worker's Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.
- For stays that have no third party payer and the payer is listed as "self-pay" or "no charge," payer is "uninsured."

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

The principal diagnosis is that condition established after study to be chiefly responsible for the patient's admission to the hospital.

ICD-9-CM is the International Classification of Diseases, Ninth Revision, Clinical Modification, which assigns numeric codes to diagnoses. There are about 12,000 ICD-9-CM diagnosis codes.

CCS categorizes ICD-9-CM diagnoses into 260 clinically meaningful categories. This "clinical grouper" makes it easier to quickly understand patterns of diagnoses and procedures.

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 it includes all patients from each hospital, regardless of payer. It is drawn from a sampling frame that contains hospitals comprising 90 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.

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.

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

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

Arizona Department of Health Services
California Office of Statewide Health Planning & Development
Colorado Health & Hospital Association
Connecticut Integrated Health Information (Chime, Inc.)
Florida Agency for Health Care Administration
Georgia GHA: An Association of Hospitals & Health Systems
Hawaii Health Information Corporation
Illinois Health Care Cost Containment Council and Department of Public Health
Indiana Hospital & Health Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Department for Public Health
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
Nebraska Hospital Association
Nevada Division of Health Care Financing and Policy, Department of Human Resources
New Hampshire Department of Health & Human Services
New Jersey Department of Health & Senior Services
New York State Department of Health
North Carolina Department of Health and Human Services
Ohio Hospital Association
Oregon Office for Oregon Health Policy and Research and 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 & Family Services

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

References

For a detailed description of HCUP and 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

Design of the HCUP Nationwide Inpatient Sample, 2003. Online. June 14, 2005. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/db/nation/nis/reports/NIS_2003_Design_Report.jsp

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/CalculatingNIS_Variences_200106092005.pdf

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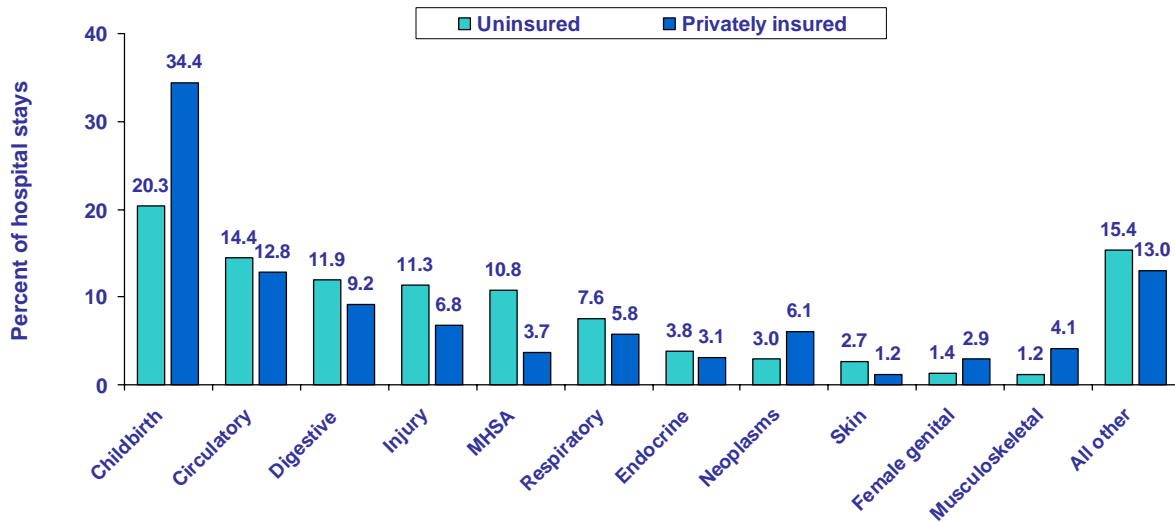
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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using 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 hcp@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
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Rockville, MD 20850



Figure 1. Major reasons for hospitalizations among the uninsured and privately insured, 2003*



*Based on principal diagnosis.

Note: MHSA includes mental health and substance abuse disorders. All other disorders include infections, neurological disorders, eye disorders, blood disorders, urinary disorders, cognitive anomalies, and male genital disorders.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2003.

Table 1. Most frequent conditions causing hospitalization among the uninsured, 2003

Rank	Principal diagnosis	Number of uninsured hospitalizations	Percentage of stays for this condition that are uninsured	Average hospital charge billed to the uninsured for this condition
	All uninsured	1,725,400	4.5%	\$16,800
1	Newborn infant	188,700	4.6%	\$4,100 †
2	Nonspecific chest pain	61,800	7.2%	\$11,100
3	Mood disorders (depression and bipolar disorder)	56,500	7.9%	\$10,900
4	Alcohol abuse	43,600	20.8%	\$9,600 *
5	Pneumonia	43,300	3.3%	\$17,800
6	Skin and subcutaneous tissue infections	42,300	9.1%	\$13,200
7	Drug abuse	39,300	22.3%	\$9,300 *
8	Diabetes mellitus with complications	36,700	7.6%	\$16,100
9	Coronary atherosclerosis (hardening of the heart arteries)	36,600	2.9%	\$30,500 †
10	Acute myocardial infarction (heart attack)	33,200	4.4%	\$42,400
11	Asthma	31,800	6.8%	\$10,100
12	Appendicitis	31,300	10.6%	\$18,100 *
13	Pancreatic disorders (primarily pancreatitis) other than diabetes	30,100	10.8%	\$18,900 †
14	Gall bladder disease	29,000	6.3%	\$19,900
15	Congestive heart failure	25,100	2.2%	\$23,200 †
16	Trauma to perineum and vulva due to childbirth	24,700	3.3%	\$6,500
17	Fracture of leg	24,000	8.7%	\$28,600
18	Poisoning by non-psychotropic medications and drugs	23,000	16.8%	\$12,000
19	Other maternal complications of birth and period after childbirth (puerperium)	21,700	3.0%	\$9,100
20	Acute cerebrovascular disease (stroke)	21,000	3.8%	\$38,400
Total uninsured for the top 20 conditions		844,300 (48.9%)		

*Average charges are significantly higher for uninsured stays compared to privately insured stays, $p < 0.05$.

†Average charges are significantly lower for uninsured stays compared to privately insured stays, $p < 0.05$.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample, 2003.