HEALTHCARE COST AND UTILIZATION PROJECT

Agency for Healthcare Research and Quality

STATISTICAL BRIEF #77

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Payers of Emergency Department Care, 2006

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Introduction

Every person in the United States presenting to the emergency department (ED), regardless of insurance status, is entitled by law[1] to receive a medical screening exam to determine if they need treatment for an illness or injury within the next 24 hours. Results of this screening can lead to further inpatient care (over 15 percent of ED visits) or treatment in the ED or release with possible follow-up in another care setting (almost 85 percent of all ED visits).

The necessity of this screening was mandated by Congress through the Emergency Medical Treatment and Active Labor Act (EMTALA).[1] The law was intended to prevent hospitals from refusing to treat patients based on their inability to pay for care. While the act is not funded, it is considered a key element of care for the uninsured.

However, there is growing concern that EDs will not be able to sustain care for all persons in the current economic environment. Between 1993 and 2003, there was a 23 percent increase in ED visits and a closure of 425 hospital EDs.[2] In addition, a recent Institute of Medicine (IOM) report[2] notes that EDs have become increasingly overcrowded, overburdened, and under-funded. Yet, little is known about who is paying for ED care, what the charges are for the care, and how to potentially relieve this pressure.

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on the payers of emergency care in 2006. This Brief uses a new database—the Nationwide Emergency Department Sample—available for the first time this year. Differences in ED utilization (including admissions and treat-and-release visits) are described by payer. All differences between estimates noted in the text are statistically significant at the 0.05 level or better.

Highlights

- The majority of ED visits were billed to private insurance (34.6 percent), followed by Medicaid (21.6 percent) and Medicare (20.2 percent). Nearly one in five ED visits served the uninsured (17.7 percent).
- Uninsured ED visits (6.8 percent) were the least likely to result in hospital admission compared with Medicare visits (38.3 percent), visits billed to private insurance (11.2 percent) and Medicaid visits (9.5 percent).
- Relative to the population distribution in the U.S., Medicare was billed for more ED visits resulting in admission, Medicaid was billed for more treat-and-release ED visits, private health insurance was billed for fewer ED visits (regardless of whether they resulted in admission), and uninsured visits accounted for more treat-and-release visits and fewer visits resulting in admission.
- The rate of ED visits among the uninsured (452.1 ED visits per 1,000 persons) was higher than the rate among the insured (367.0 ED visits per 1,000 persons).
- The treat-and-release ED visit rate among the uninsured (421.4 per 1,000 persons) was higher than the rate among the insured (301.3 per 1,000 persons), while the ED visit rate for visits resulting in admission among the insured (65.7 per 1,000 persons) was higher than the rate among the uninsured (30.8 per 1,000 persons).

[1]The Emergency Medical Treatment and Active Labor Act (EMTALA), as established under the Consolidated Omnibus Budget Reconciliation Act (COBRA) of 1985 (42 USC 1395 dd), Section 9121, as amended by the Omnibus Budget Reconciliation Acts (OBRA) of 1987, 1989, and 1990. Rules and regulations published. Federal Register June 22, 1994; 59:32086-32127. Amended September 9, 2003; 68:53221-53264.

[2]Institute of Medicine (IOM). Future of Emergency Care: Hospital-Based Emergency Care at the Breaking Point. Washington, DC: National Academies Press. 2007.

Findings

General findings
In 2006, 120 million visits were made to the emergency department (ED), 15.4 percent of which resulted in hospital admission. Figure 1 shows that the largest percentage (34.6 percent) of ED visits were billed to private insurance, followed by Medicaid (21.6 percent) and Medicare (20.2 percent). Uninsured ED visits accounted for 17.7 percent of all ED visits nationally, nearly as many as were billed to Medicaid or Medicare.

ED visits billed to Medicare had the highest hospital admission rate at 38.3 percent, followed by visits billed to private insurance (11.2 percent) and Medicaid (9.5 percent). Uninsured ED visits had the lowest admission rate at 6.8 percent (figure 1).

Payers of treat-and-release ED visits and ED visits resulting in admission
Figure 2 shows the relative distribution of treat-and-release visits and visits resulting in hospital admission by payer in 2006. About 40 million individuals, 13.6 percent of the U.S. population, were covered by Medicare. Consistent with the population distribution, 14.7 percent of treat-and-release ED visits were billed to Medicare; however a disproportionate share of ED visits resulting in admission were billed to Medicare (50.3 percent).

About 38 million individuals, 12.9 percent of the U.S. population, were covered by Medicaid. Although a larger proportion (23.1 percent) of treat-and-release ED visits were billed to Medicaid, 13.3 percent of ED visits resulting in admission were billed to Medicaid.

About 202 million individuals, 67.9 percent of the U.S. population, were covered by private insurers. However, only 36.3 percent of treat-and-release ED visits and 25.2 percent of ED visits resulting in hospital admission were billed to private insurance.

About 47 million individuals, 15.8 percent of the U.S. population, did not have health insurance coverage. Uninsured cases accounted for 19.5 percent of treat-and-release ED visits and only 7.8 percent of ED visits resulting in hospital admission.

Rates of ED visits overall and among insured and uninsured persons
Much of the variation in payer of ED care can be accounted for by differences in the U.S. population (Figure 3). Overall, the ED visit rate in the population was 404.4 ED visits per 1,000 persons, with a higher rate of treat-and-release visits (342.2 ED visits per 1,000 persons) than a rate of ED visits resulting in admission (62.2 ED visits per 1,000 persons). The rate of ED visits among the uninsured (452.1 ED visits per 1,000 persons) was higher than among insured persons (367.0 ED visits per 1,000 persons).

Among insured persons, the rate of treat-and-release ED visits (301.3 visits per 1,000 persons) was 4.6 times higher than the rate of ED visits resulting in admission (65.7 visits per 1,000 persons). Among uninsured persons, the rate of ED treat-and-release visits (421.4 visits per 1,000 persons) was 13.7 times higher than the rate of ED visits resulting in admission (30.8 visits per 1,000 persons).

Moreover, the treat-and-release ED visit rate among the uninsured (421.4 per 1,000 persons) was 1.4 times higher than the rate among the insured (301.3 per 1,000 persons), while the ED visit rate for visits resulting in admission among the insured (65.7 per 1,000 persons) was 2.1 times higher than the rate among the uninsured (30.8 per 1,000 persons).

Data Source

The estimates in this Statistical Brief are based upon data from the HCUP 2006 Nationwide Emergency Department Sample (NEDS). The statistics can also be generated from HCUPnet, a free, online query system that provides users with immediate access to the largest set of publicly available, all-payer national, regional, and State-level hospital care databases from HCUP. Supplemental sources included data from the Table 8: Annual Estimates of the Population for the United States, Regions, and Divisions: April 1, 2000 to July 1, 2007 (NST-EST2007-01), Population Division, U.S. Census Bureau, Release date: December 27, 2007 (http://www.census.gov/popest/states/tables/NST-EST2007-01.xls) and Current Population Survey Table Creator, U.S. Census Bureau, Housing and Household Economic Statistics Division, 2007. (http://www.census.gov/hhes/www/cpstc/cps_table_creator.html)

Definitions

Treat-and-release ED visits
Treat-and-release ED visits were those ED visits in which patients are treated and released from that ED (i.e., they are not admitted to that specific hospital). While the majority of treat-an-release patients (91.1%) were discharged home, some were transferred to another acute care facility (1.2%), left against medical advice (1.6%), went to another type of long-term or intermediate care facility (nursing home or psychiatric treatment facility) (1.5%), referred to home health care (0.1%) or died (0.2%), or discharged alive but the destination is unknown (4.4%).

ED visits resulting in hospital admission
ED visits resulting in a hospital stay included those patients initially seen in the ED and then admitted to the same hospital.

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 ED visits are included if they are from community hospitals.

Unit of analysis
The unit of analysis is the ED visit, not a person or patient. This means that a person who visits the ED multiple times in one year will be counted each time as a separate ED visit.

Payer
Payer is the primary expected payer for the ED visit. 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.
- 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."

Of special note, patients covered by the State Children's Health Insurance Program (SCHIP) may be included under Medicaid, private insurance or other insurance, depending on the structure of the state program. Because most state data do not identify SCHIP patients specifically, it is not possible to present this information separately.

When more than one payer is listed for a hospital discharge, the first-listed payer is used. In addition, to improve comparability, ED visits billed to "other types of insurance" (5.5 percent of ED visits) were omitted from the analysis.

Population rates
Population rates are calculated using the number of ED visits as the numerator and population estimates as the denominator. The number of ED visits is obtained from the HCUP 2006 Nationwide Emergency Department Sample (NEDS), while population estimates are obtained from Current Population Survey (CPS) Table Creator, U.S. Census Bureau. Rates are only an approximate estimate of the utilization in the population. The rates do not take into account multiple visits per person in the numerator.

Because HCUP "payer" and CPS "insurance" are inherently different concepts, there will never be an exact match between the two. At a minimum, we were able to derive population rates for the insured and uninsured population (with the exclusion of "other types of insurance").[3]

[3]Barrett M, Coffey R, Levit K, Nagamine M, Hunter K. Population Denominator Data for Use with the HCUP Databases (Updated). HCUP Methods Series Report #2008-07. Online November 25, 2008. http://www.hcup-us.ahrq.gov/reports/2008_07.pdf

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 (asterisk indicates states that contribute emergency department data for treat-and-release patients):

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*
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 Department of Health and Human Services
New Hampshire Department of Health & Human Services*
New Jersey Department of Health and Senior Services*
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
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 and **Utah** Office of Health Care Statistics*
Vermont Association of Hospitals and Health Systems*
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health and Family Services*
Wyoming Hospital Association

About the NEDS

The HCUP Nationwide Emergency Department Sample (NEDS) is a nationwide database of hospital-based ED visits. The NEDS is nationally representative of all community hospital-based emergency departments (i.e., short-term, non-Federal, non-rehabilitation hospital-based emergency departments). The NEDS is a 20% stratified sample of hospital-based EDs and includes records on all patients,

regardless of payer. The NEDS contains information on 26 million records (unweighted) on ED visits at over 950 hospitals. The vast size of the NEDS allows the study of topics at both the national and regional levels for specific subgroups of patients. The NEDS is scheduled to be produced annually, beginning with the 2006 data year.

About HCUPnet

HCUPnet is an online query system that offers instant access to the largest set of all-payer health care databases that are publicly available. HCUPnet has an easy step-by-step query system, allowing for tables and graphs to be generated on national and regional statistics, as well as trends for community hospitals in the U.S. HCUPnet generates statistics using data from HCUP's Nationwide Inpatient Sample (NIS), the Kids' Inpatient Database (KID), the Nationwide Emergency Department Sample (NEDS), the State Inpatient Databases (SID) and the State Emergency Department Databases (SEDD).

For More Information

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

For additional HCUP statistics, visit HCUPnet, our interactive query 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 2006*, located at http://www.hcup-us.ahrq.gov/reports.jsp.

For a detailed description of HCUP, more information on the design of the NEDS, 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* 2002;5(3):143–51.

Introduction to the HCUP Nationwide Emergency Department Sample, 2006. Online. June 19, 2009. U.S. Agency for Healthcare Research and Quality.
http://www.hcup-us.ahrq.gov/db/nation/neds/NEDS_2006_Introductionv4.pdf

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

Barrett M, Coffey R, Levit K, Nagamine M, Hunter K. *Population Denominator Data for Use with the HCUP Databases (Updated)*. HCUP Methods Series Report #2008-07. Online November 25, 2008.
http://www.hcup-us.ahrq.gov/reports/2008_07.pdf

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http://www.hcup-us.ahrq.gov/reports/statbriefs/sb77.pdf

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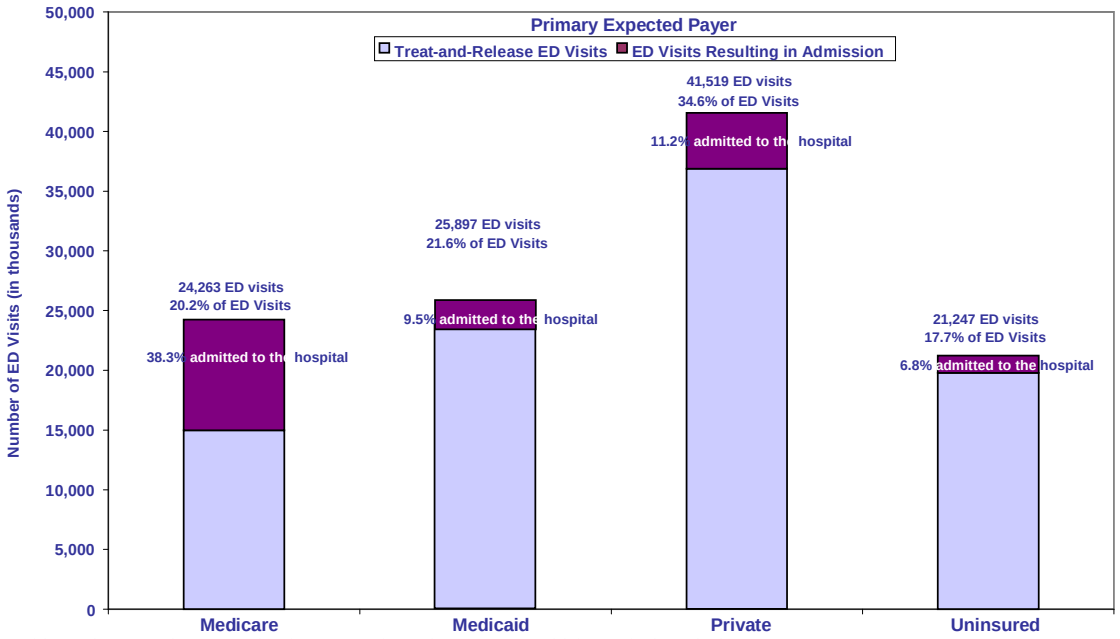
AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, 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:

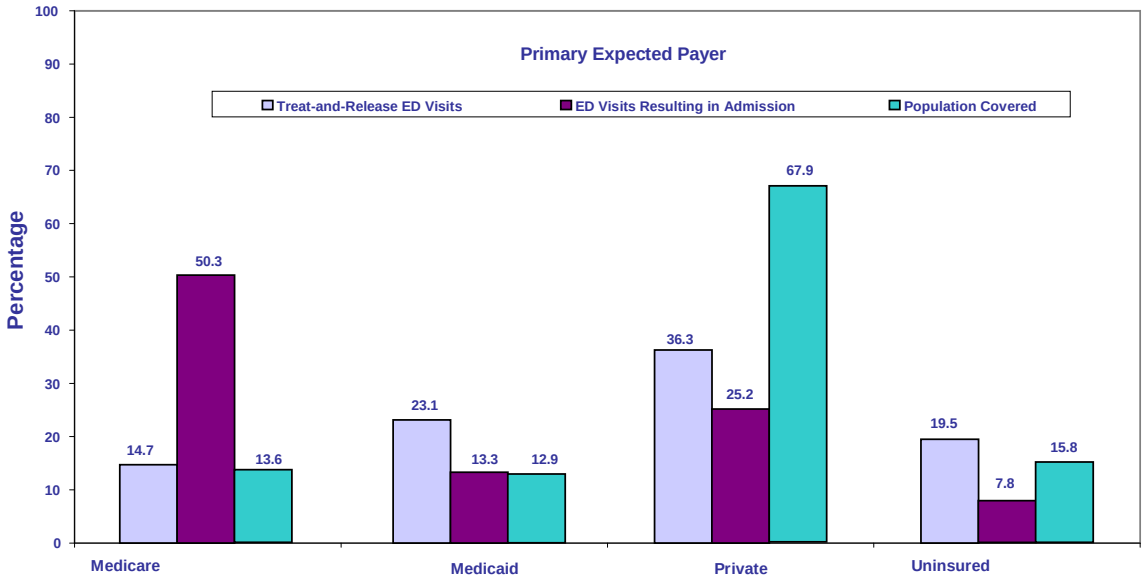
Irene Fraser, Ph.D., Director
Center for Delivery, Organization, and Markets
Agency for Healthcare Research and Quality
540 Gaither Road
Rockville, MD 20850

Figure 1. Number and Percentage of ED Visits by Payer, 2006



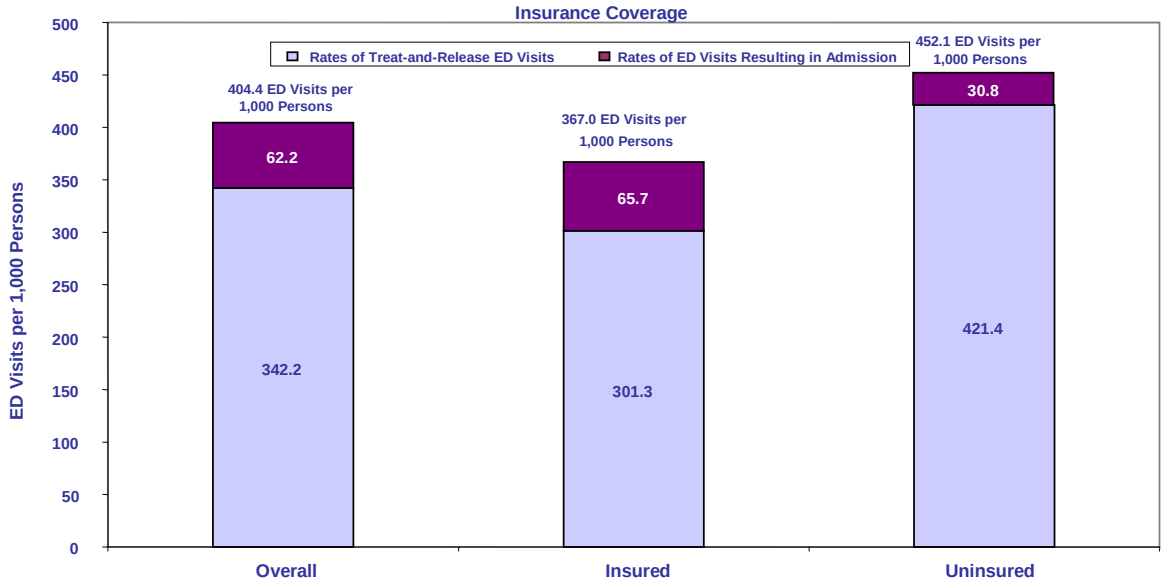
* ED visits for other types of insurance as the primary expected payer (5.5 percent of ED visits) are omitted from the figure.
Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Database, 2006

Figure 2. Distribution Across Payers of Treat-and-Release ED Visits and ED Visits Resulting in Admission, by Payer, 2006



* ED visits for other types of insurance as the primary expected payer (5.5 percent of ED visits) are omitted from the figure.
Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Database, 2006

Figure 3. Overall, Insured and Uninsured ED Utilization Rate, 2006



* ED visits for other types of insurance as the primary expected payer (5.5 percent of ED visits) are omitted from the figure.
Source: Agency for Healthcare Research and Quality, Center for Delivery, Organization and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Database, 2006