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Hospital Visits in the U.S. for Firearm-Related Injuries, 2009

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Introduction

Firearm injuries make up a relatively small fraction of all injuries in the emergency department (ED), but their role in suicide, homicide, and unintentional injury is significant. In 2008, firearms were estimated to be involved in 18,200 suicides (50 percent of all suicides) and 12,200 homicides (68 percent of all homicides) in the United States. 1 Assault involving a firearm was the eighth leading cause of non-fatal violence-related injury in the United States in 2009. 2

This Statistical Brief presents information from the Healthcare Cost and Utilization Project (HCUP) about hospital visits for firearm-related injuries in 2009. ED visits and inpatient hospital stays are identified using the external cause of injury codes (E Codes). We examine the characteristics of firearm injuries in terms of manner and intent related to patient characteristics such as age, gender, expected payer, and geographic differences. All differences between estimates noted in the text are statistically significant at the 0.05 level or better.

Findings

General findings
In 2009, firearm related injuries were associated with 29,100 inpatient hospitalizations, down from 41,000 such hospitalizations in 1993—a 29 percent decline (figure 1).


The majority of inpatient stays for firearm injury (94 percent, data not shown) enter the hospital through the emergency department. In 2009, there were 76,100 ED visits for firearm-related injuries, slightly lower than the number of such visits in 2008 (figure 2). These visits accounted for less than one percent of all injuries treated in the emergency department.

**Figure 1. Inpatient hospital stays in the U.S. for firearm-related injuries, 1993–2009**

*Stays are identified using the external cause of injury codes which may appear in any diagnosis field on the record.

The majority of inpatient stays for firearm injury (94 percent, data not shown) enter the hospital through the emergency department. In 2009, there were 76,100 ED visits for firearm-related injuries, slightly lower than the number of such visits in 2008 (figure 2). These visits accounted for less than one percent of all injuries treated in the emergency department.

**Figure 2. Emergency department visits in the U.S. for firearm-related injuries, 2006–2009**

*Stays are identified using the external cause of injury codes which may appear in any diagnosis field on the record.

*Emergency department visits involving injury with a firearm by manner/intent*

In 2009, about half of the firearm-related ED visits were the result of an assault (figure 3). Thirty-five percent of ED visits for firearm injuries were for unintentional injuries, while another 5 percent of these visits were for intentional self-inflicted injuries. In 11 percent of ED visits for firearm injury, it was either 1) undetermined whether the injury was accidentally or purposely inflicted or 2) was due to legal intervention
by firearm (approximately one percent of other/undetermined injury with a firearm were due to legal intervention).

**Figure 3. Emergency department visits in the U.S. involving injury with a firearm by manner/intent, 2009**

![Diagram](image_url)

76,100 total visits for firearm-related injury

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2009

Whether a patient was released or admitted to the hospital after being seen in the ED for a firearm injury was related to the manner/intent of the injury (table 1). Most ED visits for unintentional firearm injuries (62.5 percent) were treated in the ED and released, about one-third led to hospital admission, and 3.8 percent resulted in death in the ED. Firearm injuries associated with assault were more likely to lead to hospital admission (53.8 percent) and to death (4.0 percent). The most severe outcomes were associated with self-inflicted firearm injuries: they were significantly more likely to result in death in the ED (19.7 percent) and admission to the hospital (62.5 percent) than either unintentional or assault injuries with firearms. Overall, 5.3 percent of ED visits for firearm injuries led to death in the ED and 43.5 percent led to admission to the hospital.

<table>
<thead>
<tr>
<th>Table 1. Emergency department visits in the U.S. for injury involving a firearm by manner/intent, 2009</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visit involving injury with a firearm (percentage distribution by discharge status)</strong></td>
</tr>
<tr>
<td><strong>Manner/intent</strong></td>
</tr>
<tr>
<td>ED visit in which the patient is treated and released</td>
</tr>
<tr>
<td>ED visit in which patient is admitted to same hospital or transferred to another short-term hospital</td>
</tr>
<tr>
<td>ED visit in which the patient died in the ED</td>
</tr>
<tr>
<td>Other ED visit</td>
</tr>
</tbody>
</table>

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2009

**Characteristics of emergency department visits for injury involving a firearm**

ED visits for firearm injuries were 3 times more likely to occur among individuals ages 18–29 (73.0 visits per 100,000 population) than among individuals in any other age group (11.8 visits per 100,000 population ages 0–17, 25.6 visits per 100,000 population ages 30–49, and 7.9 visits per 100,000 population ages 50+).
population age 50 and over) (table 2). This trend was particularly notable for unintentional firearm related visits and for assault-related visits. Intentional self-inflicted firearm-related visits occurred less frequently among individuals ages 0–17 (0.2 visits per 100,000 population) than among those in other age groups.

ED visits for firearm injuries were nine times higher among males than females across all categories of manner/intent (44.8 visits per 100,000 population for males; 5.2 visits per 100,000 population for females) (table 2). Assault-related visits were 9 times more prevalent among males as among females, visits involving unintentional injury were 7.9 times as common among males as among females, and visits for self-inflicted injury were 5.1 times as common.

Similarly, the rate of ED visits for injuries involving a firearm was 3 times higher among patients residing in low income communities than it was among patients residing in all other communities. Altogether, there were 48.1 ED visits for firearm-related injuries per 100,000 population among people residing in low income areas and 16.0 visits per 100,000 population among people residing in all other areas. Assault-related visits were 3.5 times as common, visits for unintentional injuries were 2.6 times as common, and visits for self-inflicted injury were 1.5 times as common.

Overall, ED visits for firearm-related injuries were more likely to occur among patients residing in a large central metro area than in any other location (33.9 visits per 100,000 population versus 16.1 in large fringe metro areas, 22.4 in medium and small metro areas, and 23.6 in micropolitan and noncore areas). ED visits for unintentional and self-inflicted injuries involving a firearm were more likely to occur in a rural area (12.1 and 2.3 visits per 100,000 population, respectively) than in any other area. Visits related to assault involving a firearm were more likely to occur in an urban area than in any other areas (20.1 visits per 100,000 population).

ED visits for firearm-related injuries were more common in the South than in any other region (34.2 visits per 100,000 population in the South, 23.4 in the Midwest, 18.9 in the West and 14.5 in the Northeast). A person residing in the South was over 2 times more likely to visit the ED for a firearm-related injury than a person residing in the Northeast.

The disparity between the rates of these visits in the South and in other regions of the country was most notable for ED visits for unintentional firearm-related injury. There were 12.5 visits for unintentional injuries per 100,000 population in the South, and just 7.7 visits per 100,000 in the Midwest, 6.4 in the West and 4.6 in the Northeast. The rate of ED visits for injuries related to assault with a firearm was similar in the South (16.6 visits per 100,000 population), Midwest (10.7) and West (9.6). The Northeast had a lower rate of visits for assault-related firearm injuries (7.9 visits per 100,000 population).

ED visits associated with firearm injury and assault were more likely to take place in a trauma center (78.7 percent) than were ED visits for other types of firearm-related injuries (table 2).
Table 2. Characteristics of emergency department visits in the U.S. for injury involving a firearm by manner/intent, 2009

<table>
<thead>
<tr>
<th></th>
<th>Manner/intent</th>
<th></th>
<th></th>
<th></th>
<th>All manner/intent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Unintentional</td>
<td>Intentional self-inflicted</td>
<td>Assault</td>
<td>Other/undetermined</td>
<td></td>
</tr>
<tr>
<td>All visits</td>
<td>26,500</td>
<td>4,100</td>
<td>37,200</td>
<td>8,300</td>
<td>76,000</td>
</tr>
<tr>
<td>Share of firearm-related visits</td>
<td>34.9%</td>
<td>5.4%</td>
<td>48.9%</td>
<td>10.9%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Mean age</td>
<td>31.2</td>
<td>43.3</td>
<td>27.7</td>
<td>29.8</td>
<td>30.0</td>
</tr>
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</table>

Hospital characteristics (percentage distribution)

<table>
<thead>
<tr>
<th>Trauma center</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Not a trauma center</td>
<td>44.5%</td>
<td>29.5%</td>
<td>21.3%</td>
<td>30.5%</td>
</tr>
<tr>
<td>Trauma center</td>
<td>55.5%</td>
<td>70.5%</td>
<td>78.7%</td>
<td>69.5%</td>
</tr>
</tbody>
</table>

Patient characteristics (ED visits per 100,000 population)

<table>
<thead>
<tr>
<th>Age group</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>0–17</td>
<td>4.4</td>
<td>0.2</td>
<td>6.0</td>
<td>1.2</td>
</tr>
<tr>
<td>18–29</td>
<td>23.3</td>
<td>1.9</td>
<td>39.7</td>
<td>8.2</td>
</tr>
<tr>
<td>30–49</td>
<td>9.1</td>
<td>1.7</td>
<td>12.0</td>
<td>2.9</td>
</tr>
<tr>
<td>50+</td>
<td>3.5</td>
<td>1.6</td>
<td>2.1</td>
<td>0.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gender</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>15.5</td>
<td>2.2</td>
<td>22.2</td>
<td>5.0</td>
</tr>
<tr>
<td>Female</td>
<td>2.0</td>
<td>0.4</td>
<td>2.3</td>
<td>0.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Median household income for patient’s ZIP Code of residence</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low income (lowest income quartile)</td>
<td>15.5</td>
<td>1.7</td>
<td>25.4</td>
<td>5.5</td>
</tr>
<tr>
<td>Not low income</td>
<td>6.1</td>
<td>1.1</td>
<td>7.2</td>
<td>1.6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient residence</th>
<th></th>
<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Large central metro</td>
<td>8.7</td>
<td>0.8</td>
<td>20.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Large fringe metro (suburbs)</td>
<td>5.6</td>
<td>0.9</td>
<td>8.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Medium and small metro</td>
<td>8.8</td>
<td>1.6</td>
<td>9.7</td>
<td>2.3</td>
</tr>
<tr>
<td>Micropolitan and noncore (rural)</td>
<td>12.1</td>
<td>2.3</td>
<td>7.1</td>
<td>2.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Northeast</td>
<td>4.6</td>
<td>0.7</td>
<td>7.9</td>
<td>1.4</td>
</tr>
<tr>
<td>Midwest</td>
<td>7.7</td>
<td>1.5</td>
<td>10.7</td>
<td>3.6</td>
</tr>
<tr>
<td>South</td>
<td>12.5</td>
<td>1.8</td>
<td>16.6</td>
<td>3.4</td>
</tr>
<tr>
<td>West</td>
<td>6.4</td>
<td>0.9</td>
<td>9.6</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2009
Emergency department visits in the U.S. for firearm-related injury by payer

Approximately two-fifths (39 percent) of ED visits for unintentional injury involving a firearm were uninsured, while 27 percent were billed to private insurance. Medicaid was billed for just 18 percent of these visits. ED visits for injuries related to assault with a firearm were most frequently uninsured (44 percent), while 25 percent were billed to Medicaid and 17 percent were billed to private insurance. In contrast, private insurance was the payer most frequently billed for ED visits for self-inflicted injuries involving firearms (31 percent). About 31 percent of self-inflicted firearms injuries in the ED were uninsured, 23 percent were billed to other payers including state and local governments, TRICARE and CHAMPUS, and the remainder (11 percent) were billed to Medicaid.

Most frequent first-listed diagnosis in firearm-related ED visits

The most frequent first-listed diagnoses for firearm-related ED visits were open wounds of extremities (43.0 percent for unintentional injuries, 7.0 percent for self-inflicted injuries, 27.0 percent for assault-related injuries, and 31.0 percent for other/undetermined injuries). Open wounds of head, neck, and trunk were seen in 22.0 percent of other/undetermined firearm-related ED visits, and 19.0 percent of self-inflicted and assault-related visits. Visits that reported crushing injury or internal injury were seen in 22.0 percent of assault-related firearm ED visits. Other common injuries included fractures and intracranial injuries.
<table>
<thead>
<tr>
<th>Principal CCS diagnosis</th>
<th>Unintentional</th>
<th>Intentional self-inflicted</th>
<th>Assault</th>
<th>Other/undetermined</th>
</tr>
</thead>
<tbody>
<tr>
<td>All firearm-related ED visits</td>
<td>26,500</td>
<td>4,100</td>
<td>37,300</td>
<td>8,300</td>
</tr>
<tr>
<td>(percentage share)</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Open wounds of extremities</td>
<td>11,420</td>
<td>270</td>
<td>9,980</td>
<td>2,590</td>
</tr>
<tr>
<td></td>
<td>43%</td>
<td>7%</td>
<td>27%</td>
<td>31%</td>
</tr>
<tr>
<td>Open wounds of head, neck, and trunk</td>
<td>4,190</td>
<td>780</td>
<td>7,210</td>
<td>1,790</td>
</tr>
<tr>
<td></td>
<td>16%</td>
<td>19%</td>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>Crushing injury or internal injury</td>
<td>1,720</td>
<td>620</td>
<td>7,810</td>
<td>890</td>
</tr>
<tr>
<td></td>
<td>6%</td>
<td>15%</td>
<td>21%</td>
<td>11%</td>
</tr>
<tr>
<td>Fracture of lower limb</td>
<td>2,030</td>
<td>60</td>
<td>3,010</td>
<td>420</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>1%</td>
<td>8%</td>
<td>5%</td>
</tr>
<tr>
<td>Fracture of upper limb</td>
<td>2,170</td>
<td>80</td>
<td>2,460</td>
<td>450</td>
</tr>
<tr>
<td></td>
<td>8%</td>
<td>2%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>Intracranial injury</td>
<td>480</td>
<td>1,450</td>
<td>1,340</td>
<td>380</td>
</tr>
<tr>
<td></td>
<td>2%</td>
<td>35%</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>Superficial injury; contusion</td>
<td>930</td>
<td>--</td>
<td>930</td>
<td>460</td>
</tr>
<tr>
<td></td>
<td>4%</td>
<td>--</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Skull and face fractures</td>
<td>310</td>
<td>190</td>
<td>900</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>5%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Cardiac arrest and ventricular fibrillation</td>
<td>170</td>
<td>40</td>
<td>290</td>
<td>150</td>
</tr>
<tr>
<td></td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
</tbody>
</table>

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Emergency Department Sample, 2009
Data Source


Definitions

*Diagnoses, ICD-9-CM, E-codes, 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 14,000 ICD-9-CM diagnosis codes.

The External Cause of Injury Codes (commonly referred to as E-codes) supplement the ICD-9-CM diagnosis codes. These codes designate the cause of injury. Multiple E-codes may be present on a single hospital record.

CCS categorizes ICD-9-CM diagnoses into a manageable number of clinically meaningful categories.\(^3\) This "clinical grouper" makes it easier to quickly understand patterns of diagnoses and procedures.

*Case definition*

The E-codes defining injuries involving a firearm by manner/intent include codes in the following ranges:\(^4\)

- Unintentional: E922.0-.3,.8,.9
- Intentional self-inflicted: E955.0-.4
- Assault: E965.0-4, E979.4
- Undetermined: E985.0-.4
- Other (injury due to legal intervention by firearms): E970

*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 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 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.

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Costs and charges
Total hospital charges were converted to costs using HCUP Cost-to-Charge Ratios based on hospital accounting reports from the Centers for Medicare & Medicaid Services (CMS).\textsuperscript{5} Costs will reflect the actual expenses incurred in the production of hospital services, such as wages, supplies, and utility costs; while charges represent the amount a hospital billed for the case. For each hospital, a hospital-wide cost-to-charge ratio is used. Hospital charges reflect the amount the hospital billed for the entire hospital stay and do not include professional (physician) fees. For the purposes of this Statistical Brief, costs are reported to the nearest hundred.

Urban-rural location
Urban-rural location is one of six categories as defined by the National Center for Health Statistics:

- Large Central Metropolitan: includes metropolitan areas with a population of 1 million or greater
- Large Fringe Metropolitan: includes counties of metropolitan areas with a population of 1 million or greater
- Medium and Small Metropolitan: includes areas of 50,000 to 999,999 residents
- Micropolitan and Noncore: includes nonmetropolitan counties (i.e., counties with no town greater than 50,000 residents).

Median community-level income
Median community-level income is the median household income of the patient’s ZIP Code of residence. The cut-offs for the quartile designation are determined using ZIP Code demographic data obtained from Claritas. The income quartile is missing for homeless and foreign patients.

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 Workers’ 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.

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

- 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

Discharge status
Discharge status indicates the disposition of the patient at discharge from the hospital, and includes the following six categories: routine (to home); transfer to another short-term hospital; other transfers (including skilled nursing facility, intermediate care, and another type of facility such as a nursing home); home health care; against medical advice (AMA); or died in the hospital.

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:

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 Division of Health Care Finance and Policy
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
Ohio Hospital Association
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 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, 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 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.

About the NEDS

The HCUP Nationwide Emergency Department Database (NEDS) is a unique and powerful database that yields national estimates of emergency department (ED) visits. The NEDS was constructed using records from both the HCUP State Emergency Department Databases (SEDD) and the State Inpatient Databases (SID). The SEDD capture information on ED visits that do not result in an admission (i.e., treat-and-release visits and transfers to another hospital); the SID contain information on patients initially seen in the emergency room and then admitted to the same hospital. The NEDS was created to enable analyses of ED utilization patterns and support public health professionals, administrators, policymakers, and clinicians in their decisionmaking regarding this critical source of care. The NEDS is produced annually beginning in 2006.

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 www.hcup.ahrq.gov.


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:


Suggested Citation


Acknowledgments

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