Reasons for Being Admitted to the Hospital through the Emergency Department, 2003

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Introduction

In 2003, over 16 million patients entered the hospital through the emergency department—roughly 44 percent of all hospital stays or 55 percent of hospital stays excluding pregnancy and childbirth. Policymakers and health care professionals are concerned about potential overuse and inappropriate use of emergency rooms (EDs). There is also concern that emergency departments care for patients with chronic conditions who may not be receiving adequate outpatient follow-up to control their conditions.

This Statistical Brief presents data from the Healthcare Cost and Utilization Project (HCUP) on the most common reasons in 2003 for all hospitalizations that began in the ED.

Findings

Major reasons for admission to the hospital through the ED

Figure 1 shows the reasons for admission to the hospital through the emergency department, organized by body system, excluding pregnancy and childbirth. Circulatory disorders were the most frequent reason for admission to the hospital through the ED, accounting for 26.3 percent of all admissions through the ED. Respiratory and digestive disorders were the next most common category of conditions, respectively comprising 15.1 percent and 14.1 percent of all admissions through the ED. Injuries constituted 11.4 percent of all hospital admissions through the ED. Three other body systems each accounted for 5–6 percent of all admissions through the ED: mental health and substance abuse disorders (MHSA), endocrine disorders, and genitourinary disorders.

Most frequent specific conditions

Table 1 contains the top 20 specific conditions admitted to the hospital through the ED. These 20 conditions accounted for over half of all admissions through the ED. Pneumonia was the single most common condition admitted to the hospital through the emergency department, with nearly one million hospital admissions or 5.7 percent of all admissions through the ED. This was followed by four conditions related to the heart—congestive heart failure,
chest pain, hardening of the arteries, and heart attack—together accounting for over 15 percent of all admissions through the ED.

Chronic obstructive lung disease ranked sixth, with nearly half a million hospital admissions. This was followed closely by stroke and irregular heartbeat, each with over 400,000 admissions through the ED. Complications of procedures, devices, implants, and grafts ranked as the ninth most common reason for admission through the ED, with over 400,000 cases and included postoperative infections, malfunction of orthopedic devices (e.g., hip replacements that had worn out), and infection of arteriovenous fistulas used for dialysis. Mood disorders were number 10, with nearly 390,000 cases admitted through the ED.

Among the remaining top 20 conditions were asthma and diabetes (both chronic conditions), three infections (urinary, skin, and blood), three gastrointestinal disorders (gallbladder disease, gastrointestinal bleeding, and appendicitis), one injury (hip fracture), and fluid and electrolyte disorders.

Most frequent acute and chronic conditions admitted through the ED

Chronic conditions are illnesses that generally last longer than one year, have some impact on behavior or lifestyle, and for which a patient is under medical care. The top five most frequent chronic and acute conditions admitted through the ED are shown in table 2. While 65–82 percent of cases with the five most frequent acute conditions were admitted through the ED, a large percentage of chronic conditions were admitted through the ED as well. Most notably, 72 percent of cases with congestive heart failure, chronic obstructive lung disease, and asthma—all chronic conditions that should be controlled on an outpatient basis with good primary care—were admitted through the ED. Almost half of mood disorders (depression and bipolar affective disorders) were admitted through the ED.

Data Source

The estimates in this Statistical Brief are based on data from the HCUP 2003 Nationwide Inpatient Sample (NIS).

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.

Principal diagnosis and Clinical Classifications Software (CCS)

The principal diagnosis is that condition established after study to be chiefly responsible for occasioning the admission of the patient to the hospital for care. CCS categorizes patient diagnoses into 260 clinically meaningful categories. This “clinical grouper” makes it easier to quickly understand patterns of diagnoses and procedures. For the purposes of this Statistical Brief, the CCS was used in conjunction with the CCS for Mental Health and Substance Abuse Conditions (CCS-MHSA).

Unit of analysis

The unit of analysis for HCUP data 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.

About the NIS

The HCUP Nationwide Inpatient Sample is a nationwide database of hospital inpatient stays. The NIS is nationally representative of all short-term, non-Federal hospitals. It is sampled from hospitals that comprise 90 percent of all discharges in the United States and includes all patients, regardless of payer. 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
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 Center for Health Information Analysis
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
Oregon Office of Oregon Health Policy and Research and the Office of Oregon Health
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina State Budget and 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 and 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, see the following publications:


Suggested Citation


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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. Reasons for hospitalizations admitted through the emergency department, 2003

Note: All other conditions include nervous system disorders, infections, neoplasms, musculoskeletal disorders, skin disorders, and blood disorders. Admissions for pregnancy, childbirth, and newborns are excluded.


Table 1: Most frequent specific conditions admitted to the hospital through the emergency department, 2003

<table>
<thead>
<tr>
<th>Rank</th>
<th>Condition (CCS code)</th>
<th>Number of admissions through the ED</th>
<th>Percentage of all cases admitted through the ED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Pneumonia</td>
<td>935,000</td>
<td>5.7</td>
</tr>
<tr>
<td>2</td>
<td>Congestive heart failure</td>
<td>807,000</td>
<td>5.0</td>
</tr>
<tr>
<td>3</td>
<td>Chest pain</td>
<td>702,400</td>
<td>4.3</td>
</tr>
<tr>
<td>4</td>
<td>Hardening of the arteries (coronary atherosclerosis)</td>
<td>521,000</td>
<td>3.2</td>
</tr>
<tr>
<td>5</td>
<td>Heart attack (acute myocardial infarction)</td>
<td>485,900</td>
<td>3.0</td>
</tr>
<tr>
<td>6</td>
<td>Chronic obstructive lung disease</td>
<td>445,200</td>
<td>2.7</td>
</tr>
<tr>
<td>7</td>
<td>Stroke (acute cerebrovascular disease)</td>
<td>436,100</td>
<td>2.7</td>
</tr>
<tr>
<td>8</td>
<td>Irregular heartbeat (cardiac dysrhythmias)</td>
<td>425,800</td>
<td>2.6</td>
</tr>
<tr>
<td>9</td>
<td>Complications of procedures, devices, implants and grafts</td>
<td>412,700</td>
<td>2.5</td>
</tr>
<tr>
<td>10</td>
<td>Mood disorders (depression and bipolar disorder)</td>
<td>387,500</td>
<td>2.4</td>
</tr>
<tr>
<td>11</td>
<td>Fluid and electrolyte disorders (primarily dehydration and fluid overload)</td>
<td>375,900</td>
<td>2.3</td>
</tr>
<tr>
<td>12</td>
<td>Urinary infections</td>
<td>361,300</td>
<td>2.2</td>
</tr>
<tr>
<td>13</td>
<td>Asthma</td>
<td>337,700</td>
<td>2.1</td>
</tr>
<tr>
<td>14</td>
<td>Diabetes mellitus with and without complications</td>
<td>325,800</td>
<td>2.0</td>
</tr>
<tr>
<td>15</td>
<td>Skin infections</td>
<td>291,000</td>
<td>1.8</td>
</tr>
<tr>
<td>16</td>
<td>Infection of blood stream (sepsis)</td>
<td>289,800</td>
<td>1.8</td>
</tr>
<tr>
<td>17</td>
<td>Gallbladder disease</td>
<td>273,900</td>
<td>1.7</td>
</tr>
<tr>
<td>18</td>
<td>Gastrointestinal bleeding</td>
<td>261,000</td>
<td>1.6</td>
</tr>
<tr>
<td>19</td>
<td>Hip fracture</td>
<td>248,200</td>
<td>1.5</td>
</tr>
<tr>
<td>20</td>
<td>Appendicitis</td>
<td>235,700</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td>Total admissions through the ED for the top 20 conditions</td>
<td>8,578,100</td>
<td>52.5</td>
</tr>
</tbody>
</table>

Note: The number of admissions through the ED have been rounded to the nearest hundred.
Table 2. Top five acute and chronic reasons for hospitalizations with at least 20 percent of admissions through the emergency department, 2003

<table>
<thead>
<tr>
<th>Acute conditions</th>
<th>Percentage of this condition admitted through ED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pneumonia</td>
<td>71.2</td>
</tr>
<tr>
<td>Chest pain</td>
<td>81.5</td>
</tr>
<tr>
<td>Heart attack (acute myocardial infarction)</td>
<td>64.7</td>
</tr>
<tr>
<td>Stroke (acute cerebrovascular disease)</td>
<td>77.9</td>
</tr>
<tr>
<td>Urinary infections</td>
<td>74.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Chronic conditions (CCS code)</th>
<th>Percentage of this condition admitted through ED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hardening of the arteries (coronary atherosclerosis)</td>
<td>41.5</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>72.1</td>
</tr>
<tr>
<td>Mood disorders (depression and bipolar disorders)</td>
<td>49.2</td>
</tr>
<tr>
<td>Chronic obstructive lung disease</td>
<td>71.7</td>
</tr>
<tr>
<td>Asthma</td>
<td>72.1</td>
</tr>
</tbody>
</table>