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**Surgeries in Hospital-Based Ambulatory Surgery and Hospital Inpatient Settings, 2014**

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Introduction

Ambulatory surgery (AS), or outpatient surgery, is a planned operation for which the patient is not expected to be admitted to the hospital. Comparison of ambulatory surgery with inpatient surgery is essential for understanding utilization patterns for specific surgical procedures, including changing trends and estimates of total surgical volumes. As the number of surgical procedures capable of being safely performed in an ambulatory setting increases, comparisons of ambulatory surgery with inpatient surgery can also be useful in the evaluation of postsurgical complications, hospital cost savings, and patient experience of care surveys.

Self-reported facility estimates from the American Hospital Association suggest that a growing share of all surgeries at community hospitals in the United States are performed in the AS setting (66 percent in 2014, up from 57 percent in 1994), although an ambiguous definition for AS introduces variation across facility volume estimates. Recent reports on specific surgical procedure trends in a subset of States also point to a shift from the inpatient surgical setting to the AS setting. Nationally representative AS estimates for a broad group of surgical procedures do not yet exist.

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents national data on surgeries performed in two hospital settings: hospital inpatient and hospital-based AS settings. The findings in this Statistical Brief represent an update

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and expansion of 2012 statistics previously reported. Procedures performed in freestanding (non-hospital-owned) AS centers were not included because many State AS data sources do not include these types of centers.

The analysis was limited to visits for an invasive surgery commonly performed for therapeutic purposes (i.e., to treat disease or injury); excluded were noninvasive surgeries and surgeries typically used for diagnostic or exploratory purposes (e.g., colonoscopy). The HCUP Surgery Flag software was used to identify invasive, therapeutic surgeries based on a narrow and targeted definition.

This report presents characteristics of outpatient surgery visits and hospital inpatient stays for invasive, therapeutic surgical procedures. All references to surgeries, outpatient surgeries, or ambulatory surgeries refer to this subset of surgeries. We also present the distribution of outpatient surgeries compared with inpatient surgical procedures by payer, body system, and the most common surgical procedures performed in an outpatient setting overall and by payer. In addition, ambulatory and inpatient volume and procedure rates are compared for each procedure. Unless otherwise noted, volumes and rates are based on all-listed procedure codes.

All differences between estimates noted in the text are statistically significant at the .05 level or better.

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6 The narrow surgery definition includes surgical procedures that involve incision, excision, manipulation, or suturing of tissue that penetrates or breaks the skin; typically require use of an operating room; and also require regional anesthesia, general anesthesia, or sedation to control pain.
Findings

Characteristics of invasive, therapeutic surgeries performed in hospital-based ambulatory surgery compared with hospital inpatient settings, 2014

Table 1 presents characteristics of community hospital visits for invasive, therapeutic surgeries performed in the ambulatory (outpatient) surgery setting versus the hospital inpatient setting (admitted to the hospital) in 2014.

Table 1. Characteristics of hospital visits or stays for invasive, therapeutic surgery performed in hospital-based ambulatory and inpatient settings, 2014

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Ambulatory setting</th>
<th>Inpatient setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total visits or stays for surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number, N</td>
<td>9,942,200</td>
<td>7,247,600</td>
</tr>
<tr>
<td>Percent of total visits or stays for surgeries, %</td>
<td>57.8</td>
<td>42.2</td>
</tr>
<tr>
<td>Total surgeries</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number, N</td>
<td>11,493,100</td>
<td>10,303,000</td>
</tr>
<tr>
<td>Percent of total surgeries, %</td>
<td>52.7</td>
<td>47.3</td>
</tr>
<tr>
<td>Number of surgeries per visit or stay, mean</td>
<td>1.2</td>
<td>1.4</td>
</tr>
<tr>
<td>Length of stay, mean, days</td>
<td>0.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Visits or stays by type of community hospital, %</td>
<td></td>
<td></td>
</tr>
<tr>
<td>By hospital bed size</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>53.9</td>
<td>58.3</td>
</tr>
<tr>
<td>Medium</td>
<td>26.1</td>
<td>26.3</td>
</tr>
<tr>
<td>Small</td>
<td>20.0</td>
<td>15.4</td>
</tr>
<tr>
<td>By hospital location, teaching status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>15.2</td>
<td>6.6</td>
</tr>
<tr>
<td>Urban nonteaching</td>
<td>27.1</td>
<td>24.6</td>
</tr>
<tr>
<td>Urban teaching</td>
<td>57.8</td>
<td>68.8</td>
</tr>
<tr>
<td>By control/ownership of hospital</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Federal government</td>
<td>12.0</td>
<td>11.5</td>
</tr>
<tr>
<td>Private not-for-profit</td>
<td>77.2</td>
<td>73.7</td>
</tr>
<tr>
<td>Private for-profit</td>
<td>8.0</td>
<td>14.7</td>
</tr>
</tbody>
</table>

Note: Only invasive, therapeutic surgeries that are performed and reliably reported in the hospital-based ambulatory surgery setting were included.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) and nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates, 2014

- In 2014, 17.2 million ambulatory hospital visits or inpatient stays included an invasive, therapeutic surgery; more than half of these visits occurred in the AS setting.

A total of 17.2 million hospital visits (AS visits or inpatient stays) in the United States included at least one surgery in 2014. Just over half of these visits (57.8 percent) occurred in a hospital-owned AS setting, and the remaining visits (42.2 percent) occurred in the hospital inpatient setting. These visits included nearly 22 million total surgeries, over half of which (52.7 percent) were performed in an outpatient setting. The average number of surgeries performed per visit was slightly higher in the inpatient than in the outpatient setting (1.4 vs. 1.2).

- The majority of ambulatory and inpatient invasive, therapeutic surgeries were performed at large, urban teaching, and private not-for-profit hospitals.

Most AS visits and most hospital inpatient surgical stays occurred in large, urban teaching, and private not-for-profit hospitals. However, compared with inpatient surgeries, outpatient surgeries were more likely to be performed in small hospitals (20.0 vs. 15.4 percent) and less likely to be performed in private for-profit hospitals (8.0 vs. 14.7 percent) and in urban teaching settings (57.8 vs. 68.8 percent).
**Hospital visits or stays with invasive, therapeutic surgeries by payer, 2014**

Figure 1 presents the distribution of hospital visits or stays involving invasive, therapeutic surgeries performed in the ambulatory (outpatient) surgery setting versus the hospital inpatient setting (admitted to the hospital) by expected primary payer in 2014.

**Figure 1. Hospital visits or stays with invasive, therapeutic surgeries by expected primary payer, 2014**

- **Ambulatory setting**
  - Other: 4.3%
  - Uninsured: 2.0%
  - Private insurance: 48.6%
  - Medicaid: 14.0%
  - Medicare: 30.8%

- **Inpatient setting**
  - Other: 3.6%
  - Uninsured: 3.8%
  - Private insurance: 35.3%
  - Medicaid: 13.7%
  - Medicare: 43.4%

Notes: Only invasive, therapeutic surgeries that are performed and reliably reported in the hospital-based ambulatory surgery setting were included. “Other” payer includes Workers’ Compensations, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) and nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates, 2014

- **In 2014, private insurance accounted for the largest proportion of AS visits and Medicare accounted for the largest proportion of inpatient invasive, therapeutic surgeries.**

  Patients with primary private insurance coverage accounted for 48.6 percent of all AS visits in 2014. Medicare was the second most common payer, accounting for 30.8 percent of AS visits, followed by Medicaid with 14.0 percent of visits. Uninsured patients represented 2.0 percent of AS visits in 2014.

  Among surgeries in the inpatient setting, Medicare was the primary expected payer for 43.4 percent of stays, followed by private insurance (35.3 percent) and Medicaid (13.7 percent). Uninsured patients represented 3.8 percent of all inpatient surgical stays in 2014.

**Comparison of invasive, therapeutic surgeries by body system in hospital-based ambulatory surgery versus inpatient settings, 2014**

Figure 2 shows the distribution of invasive, therapeutic surgeries by body system that were performed in the AS and hospital inpatient settings in 2014.
The majority of invasive, therapeutic surgeries on the eye, ear, nose/mouth/pharynx, and skin were performed in an outpatient setting.

Nearly all surgeries performed on the eye occurred in the AS setting (99.7 percent). The outpatient setting also represented at least 80 percent of hospital visits involving surgeries performed on the ear (97.3 percent), nose/mouth/pharynx (91.6 percent), and skin (80.0 percent).

The majority of respiratory invasive, therapeutic surgeries were performed in the inpatient setting.

Compared with the AS setting, more respiratory surgeries were performed in the inpatient setting (58.3 vs. 41.7 percent). In 2014, this was the only body system that had more surgeries performed in the inpatient setting than the AS setting.

The most common ambulatory invasive, therapeutic surgeries performed, 2014

Table 2 lists the 25 most common, invasive, therapeutic clinically grouped surgeries that were performed in the hospital-based ambulatory surgery setting in the United States in 2014, along with the percentage of these types of surgeries that were performed in the ambulatory versus inpatient setting. Surgeries are ranked from most to least common in the AS setting.

A comprehensive list of the distribution between outpatient and inpatient settings for all specific, invasive, therapeutic surgeries by body system is presented in the appendix.
Table 2. The 25 most common ambulatory invasive, therapeutic surgeries performed in community hospitals in the United States, 2014

<table>
<thead>
<tr>
<th>All-listed CCS procedures</th>
<th>All AS, %</th>
<th>Surgeries, N=</th>
<th>Surgeries, N per 100,000 population</th>
<th>Surgeries performed in ambulatory setting, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>AS</td>
<td>Inpatient</td>
<td>AS</td>
</tr>
<tr>
<td>Lens and cataract procedures</td>
<td>12.4</td>
<td>1,427,800</td>
<td>1,000</td>
<td>450.1</td>
</tr>
<tr>
<td>Muscle, tendon, and soft tissue OR procedures</td>
<td>6.6</td>
<td>755,600</td>
<td>295,300</td>
<td>238.2</td>
</tr>
<tr>
<td>Incision or fusion of joint, destruction of joint lesion</td>
<td>5.3</td>
<td>607,800</td>
<td>147,800</td>
<td>191.6</td>
</tr>
<tr>
<td>Cholecystectomy and common duct exploration</td>
<td>5.0</td>
<td>577,500</td>
<td>372,600</td>
<td>182.1</td>
</tr>
<tr>
<td>Excision of semilunar cartilage of knee</td>
<td>4.4</td>
<td>509,900</td>
<td>6,900</td>
<td>160.8</td>
</tr>
<tr>
<td>Inguinal and femoral hernia repair</td>
<td>3.8</td>
<td>439,100</td>
<td>38,300</td>
<td>138.4</td>
</tr>
<tr>
<td>Repair of diaphragmatic, incisional, and umbilical hernia</td>
<td>3.3</td>
<td>375,200</td>
<td>239,000</td>
<td>118.3</td>
</tr>
<tr>
<td>Tonsillectomy and/or adenoidectomy</td>
<td>3.2</td>
<td>366,500</td>
<td>16,800</td>
<td>115.6</td>
</tr>
<tr>
<td>Decompression peripheral nerve</td>
<td>2.8</td>
<td>323,500</td>
<td>16,300</td>
<td>102.0</td>
</tr>
<tr>
<td>OR procedures of skin and breast, including plastic procedures on breast</td>
<td>2.8</td>
<td>322,000</td>
<td>88,100</td>
<td>101.5</td>
</tr>
<tr>
<td>Myringotomy</td>
<td>2.7</td>
<td>308,500</td>
<td>8,300</td>
<td>97.3</td>
</tr>
<tr>
<td>Lumpectomy, quadrantectomy of breast</td>
<td>2.6</td>
<td>297,600</td>
<td>8,000</td>
<td>93.8</td>
</tr>
<tr>
<td>Insertion, revision, replacement, removal of cardiac pacemaker or cardioverter/defibrillator</td>
<td>2.4</td>
<td>281,100</td>
<td>245,600</td>
<td>88.6</td>
</tr>
<tr>
<td>Non-fracture, non-arthroplasty OR procedures on the bone</td>
<td>2.4</td>
<td>277,700</td>
<td>139,800</td>
<td>87.5</td>
</tr>
<tr>
<td>Hysterectomy, abdominal and vaginal</td>
<td>2.4</td>
<td>271,200</td>
<td>237,500</td>
<td>85.5</td>
</tr>
<tr>
<td>Partial excision bone</td>
<td>2.2</td>
<td>253,000</td>
<td>358,900</td>
<td>79.8</td>
</tr>
<tr>
<td>Laminectomy, excision intervertebral disc</td>
<td>1.9</td>
<td>222,000</td>
<td>438,300</td>
<td>70.0</td>
</tr>
<tr>
<td>Appendectomy</td>
<td>1.8</td>
<td>208,800</td>
<td>238,800</td>
<td>65.8</td>
</tr>
<tr>
<td>Vascular stents and OR procedures, other than head or neck</td>
<td>1.8</td>
<td>205,400</td>
<td>1,000,500</td>
<td>64.8</td>
</tr>
<tr>
<td>Testicular, prostate, and penile OR procedures</td>
<td>1.6</td>
<td>189,600</td>
<td>22,100</td>
<td>59.8</td>
</tr>
<tr>
<td>Vaginal, vulvar, and female pelvic OR procedures</td>
<td>1.6</td>
<td>187,700</td>
<td>74,500</td>
<td>59.2</td>
</tr>
<tr>
<td>Bunionectomy or repair of toe deformities</td>
<td>1.6</td>
<td>187,200</td>
<td>2,900</td>
<td>59.0</td>
</tr>
<tr>
<td>OR procedures of mouth, nose, and throat, excluding tonsils and teeth</td>
<td>1.6</td>
<td>178,700</td>
<td>76,400</td>
<td>56.3</td>
</tr>
<tr>
<td>Plastic procedures on nose</td>
<td>1.5</td>
<td>169,100</td>
<td>14,600</td>
<td>53.3</td>
</tr>
<tr>
<td>Lymph node biopsies and excisions, bone marrow procedures</td>
<td>1.3</td>
<td>151,100</td>
<td>301,100</td>
<td>47.6</td>
</tr>
</tbody>
</table>

Abbreviations: AS, ambulatory surgery; CCS, Clinical Classifications Software; OR, operating room

Notes: Only invasive, therapeutic surgeries that are performed and reliably reported in the hospital-based ambulatory surgery setting were included. Procedures are based on the Clinical Classifications Software (CCS) and Clinical Classifications Software for Services and Procedures. For more information on the CCS categories, please see the Appendix.

*a The number of discharges was rounded to the nearest 100.

*Based on population estimates from the U.S. Census Bureau

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) and nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates, 2014
Lens and cataract procedures were the most common invasive, therapeutic type of surgery performed in an outpatient setting.

Lens and cataract procedures were the most common type of surgery performed in the AS setting, accounting for 12.4 percent of all outpatient surgeries performed. Nearly all lens and cataract procedures (99.9 percent) were performed in an outpatient setting.

Muscle, tendon, and soft tissue operating room (OR) procedures and incision or fusion of joint, destruction of joint lesion were the second and third most common types of outpatient invasive, therapeutic surgery.

Muscle, tendon, and soft tissue OR procedures (mostly rotator cuff repair and trigger finger surgery) were the second most common type of surgery performed in the AS setting, accounting for 6.6 percent of all outpatient surgeries. Incision or fusion of joint, destruction of joint lesion (mostly knee and shoulder arthroscopies) were ranked third, accounting for 5.3 percent of all outpatient surgeries. The majority of both types of procedures were performed in the outpatient setting (71.9 and 80.4 percent, respectively). Four other musculoskeletal system procedures were also commonly performed in the outpatient setting: excision of semilunar cartilage of knee (4.4 percent), non-fracture, non-arthroplasty OR procedures on the bone (2.4 percent), partial excision bone (2.2 percent), and bunionectomy or repair of toe deformities (1.6 percent).

Operations on the digestive system accounted for 4 of the 25 most common ambulatory invasive, therapeutic surgeries and constituted 13.9 percent of all outpatient surgeries.

Operations on the digestive system accounted for 4 of the 25 most common types of AS and constituted 13.9 percent of all outpatient surgeries: cholecystectomy and common duct exploration (5.0 percent), inguinal and femoral hernia repair (3.8 percent), repair of diaphragmatic, incisional, and umbilical hernia (3.3 percent), and appendectomy (1.8 percent). Approximately 61 percent of all cholecystectomy and all repair of diaphragmatic, incisional, and umbilical hernia surgeries, 92 percent of inguinal and femoral hernia repair surgeries, and 47 percent of appendectomy surgeries were performed in the outpatient setting.

Four of the 25 most common outpatient ambulatory invasive, therapeutic surgeries were performed predominantly on women.

Four of the 25 most common outpatient surgeries were procedures that are performed primarily on women: OR procedures of skin and breast, including plastic procedures on breast (2.8 percent); lumpectomy, quadrantectomy of breast (2.6 percent); hysterectomy, abdominal and vaginal (2.4 percent); and vaginal, vulvar, and female pelvic OR procedures (1.6 percent). The majority of these surgeries were performed in the outpatient setting.
The most common ambulatory invasive, therapeutic surgeries performed by payer, 2014

Table 3 lists the five most common, invasive, therapeutic surgeries that were performed in the hospital-based AS setting by payer in 2014, along with the percentage of these types of surgeries that were performed in the ambulatory versus inpatient setting. Surgeries are ranked from most to least common in the AS setting for patients with expected primary payers of Medicare, Medicaid, private insurance, and uninsured.

Table 3. The five most common ambulatory invasive, therapeutic surgeries performed in community hospitals in the United States by payer, 2014

<table>
<thead>
<tr>
<th>All-listed CCS procedures</th>
<th>Surgeries, N(^a)</th>
<th>Surgeries performed in ambulatory setting, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AS</td>
<td>Inpatient</td>
</tr>
<tr>
<td><strong>Medicare</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lens and cataract procedures</td>
<td>987,600</td>
<td>400</td>
</tr>
<tr>
<td>Insertion, revision, replacement, removal of cardiac pacemaker or cardioverter/defibrillator</td>
<td>206,700</td>
<td>178,400</td>
</tr>
<tr>
<td>Muscle, tendon, and soft tissue OR procedures</td>
<td>186,800</td>
<td>119,600</td>
</tr>
<tr>
<td>Vascular stents and OR procedures, other than head or neck</td>
<td>136,300</td>
<td>551,800</td>
</tr>
<tr>
<td>Inguinal and femoral hernia repair</td>
<td>131,800</td>
<td>19,600</td>
</tr>
<tr>
<td><strong>Medicaid</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tonsillectomy and/or adenoidectomy</td>
<td>141,500</td>
<td>7,400</td>
</tr>
<tr>
<td>Myringotomy</td>
<td>127,000</td>
<td>3,600</td>
</tr>
<tr>
<td>Cholecystectomy and common duct exploration</td>
<td>108,200</td>
<td>68,600</td>
</tr>
<tr>
<td>Muscle, tendon, and soft tissue OR procedures</td>
<td>83,300</td>
<td>48,600</td>
</tr>
<tr>
<td>Lens and cataract procedures</td>
<td>76,000</td>
<td>300</td>
</tr>
<tr>
<td><strong>Private Insurance</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Muscle, tendon, and soft tissue OR procedures</td>
<td>405,300</td>
<td>91,500</td>
</tr>
<tr>
<td>Incision or fusion of joint, destruction of joint lesion</td>
<td>362,800</td>
<td>51,900</td>
</tr>
<tr>
<td>Cholecystectomy and common duct exploration</td>
<td>328,700</td>
<td>133,900</td>
</tr>
<tr>
<td>Excision of semilunar cartilage of knee</td>
<td>326,200</td>
<td>2,900</td>
</tr>
<tr>
<td>Lens and cataract procedures</td>
<td>324,300</td>
<td>200</td>
</tr>
<tr>
<td><strong>Uninsured</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OR procedures of skin and breast, including plastic procedures on breast</td>
<td>42,300</td>
<td>4,800</td>
</tr>
<tr>
<td>Cholecystectomy and common duct exploration</td>
<td>14,500</td>
<td>31,500</td>
</tr>
<tr>
<td>Lens and cataract procedures</td>
<td>14,800</td>
<td>100</td>
</tr>
<tr>
<td>Appendectomy</td>
<td>13,100</td>
<td>21,100</td>
</tr>
<tr>
<td>Muscle, tendon, and soft tissue OR procedures</td>
<td>11,100</td>
<td>18,100</td>
</tr>
</tbody>
</table>

Abbreviation: AS, ambulatory surgery; CCS, Clinical Classifications Software; OR, operating room

Notes: Only invasive, therapeutic surgeries that are performed and reliably reported in the hospital-based ambulatory surgery setting were included. Procedures are based on the Clinical Classifications Software (CCS) and Clinical Classifications Software for Services and Procedures. For more information on the CCS categories, please see the Appendix.

\(^a\) The number of discharges was rounded to the nearest 100.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) and nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates, 2014
Both lens and cataract procedures and muscle, tendon, and soft tissue OR procedures were among the five most common invasive, therapeutic types of surgery performed in an outpatient setting for all payers.

Lens and cataract procedures were the most common type of surgery performed in the AS setting among Medicare patients in 2014, with 987,600 surgeries. More lens and cataract procedures were performed during AS visits than the other four most-frequently-performed procedure categories for Medicare patients combined. Lens and cataract procedures also were among the five most common types of surgery performed among the other payers.

Muscle, tendon, and soft tissue OR procedures were the most common type of surgery performed in the AS setting for privately insured patients in 2014, with 405,300 surgeries, although they were still common ambulatory surgeries among other payers as well.

Cholecystectomy and common duct exploration surgeries were in the five most common invasive, therapeutic types of surgery performed in an outpatient setting for Medicaid, private insurance, and uninsured.

Cholecystectomy and common duct exploration were common AS procedures for Medicaid (108,200 surgeries), privately insured (328,700 surgeries), and uninsured (14,500 surgeries). The majority of cholecystectomy surgeries were performed in the AS setting among procedures covered by Medicaid and private insurance (61.2 and 71.1 percent, respectively). In contrast, only 32.5 percent of all cholecystectomy surgeries were performed in the AS setting among uninsured individuals.
Appendix. Invasive, therapeutic surgeries, listed by body system, performed in community hospitals in the United States by setting (ambulatory versus inpatient), 2014

<table>
<thead>
<tr>
<th>All-listed procedures (CCS number and description)</th>
<th>Surgeries, N¹</th>
<th>Surgeries, N per 100,000 population b</th>
<th>Surgeries performed in ambulatory setting, %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AS</td>
<td>Inpatient</td>
<td>AS</td>
</tr>
<tr>
<td><strong>Operations on the nervous system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3: Laminectomy, excision intervertebral disc</td>
<td>222,000</td>
<td>438,300</td>
<td>70.0</td>
</tr>
<tr>
<td>6: Decompression peripheral nerve procedures</td>
<td>323,500</td>
<td>16,300</td>
<td>102.0</td>
</tr>
<tr>
<td>9: Other OR therapeutic nervous system procedures</td>
<td>81,900</td>
<td>191,100</td>
<td>25.8</td>
</tr>
<tr>
<td><strong>Operations on the endocrine system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10: Thyroidectomy, partial or complete</td>
<td>101,000</td>
<td>29,700</td>
<td>31.8</td>
</tr>
<tr>
<td>12: Other therapeutic endocrine procedures</td>
<td>39,600</td>
<td>38,500</td>
<td>12.5</td>
</tr>
<tr>
<td><strong>Operations on the eye</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13: Corneal transplant</td>
<td>29,200</td>
<td>300</td>
<td>9.2</td>
</tr>
<tr>
<td>15: Lens and cataract procedures</td>
<td>1,427,800</td>
<td>1,000</td>
<td>450.1</td>
</tr>
<tr>
<td>16: Repair of retinal tear, detachment</td>
<td>106,300</td>
<td>1,000</td>
<td>33.5</td>
</tr>
<tr>
<td>21: Other extraocular muscle and orbit therapeutic procedures</td>
<td>68,100</td>
<td>6,200</td>
<td>21.5</td>
</tr>
<tr>
<td><strong>Operations on the ear</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>22: Tympanoplasty</td>
<td>27,100</td>
<td>700</td>
<td>8.5</td>
</tr>
<tr>
<td>23: Meningotomy</td>
<td>308,500</td>
<td>8,300</td>
<td>97.3</td>
</tr>
<tr>
<td>24: Mastoidectomy</td>
<td>17,100</td>
<td>2,500</td>
<td>5.4</td>
</tr>
<tr>
<td>26: Other therapeutic ear procedures</td>
<td>29,400</td>
<td>15,600</td>
<td>9.3</td>
</tr>
<tr>
<td><strong>Operations on the nose, mouth, and pharynx</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28: Plastic procedures on nose</td>
<td>169,100</td>
<td>14,600</td>
<td>53.3</td>
</tr>
<tr>
<td>30: Tonsillectomy and/or adenoidectomy</td>
<td>366,500</td>
<td>16,800</td>
<td>115.6</td>
</tr>
<tr>
<td>33: Other OR therapeutic procedures on nose, mouth, nose, and throat</td>
<td>178,700</td>
<td>76,400</td>
<td>56.3</td>
</tr>
<tr>
<td><strong>Operations on the respiratory system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42: Other OR therapeutic procedures on respiratory system and mediastinum</td>
<td>38,200</td>
<td>104,300</td>
<td>12.0</td>
</tr>
<tr>
<td><strong>Operations on the cardiovascular system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48: Insertion, revision, replacement, removal of cardiac pacemaker or cardioverter/defibrillator</td>
<td>281,100</td>
<td>245,600</td>
<td>88.6</td>
</tr>
<tr>
<td>53: Vascose vein stripping, lower limb</td>
<td>29,000</td>
<td>500</td>
<td>9.1</td>
</tr>
<tr>
<td>57: Creation, revision and removal of arteriovenous fistula or vessel-to-vessel cannula for dialysis</td>
<td>150,500</td>
<td>38,400</td>
<td>47.4</td>
</tr>
<tr>
<td>61: Other OR procedures on vessels other than head and neck (vascular stents and OR procedures, other than head or neck)</td>
<td>205,400</td>
<td>1,000,500</td>
<td>64.8</td>
</tr>
<tr>
<td>63: Other non-OR therapeutic cardiovascular procedures</td>
<td>34,900</td>
<td>689,600</td>
<td>11.0</td>
</tr>
<tr>
<td><strong>Operations on the hemic and lymphatic system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67: Other therapeutic procedures, hemic and lymphatic system (lymph node biopsies and excisions, bone marrow procedures)</td>
<td>151,100</td>
<td>301,100</td>
<td>47.6</td>
</tr>
<tr>
<td><strong>Operations on the digestive system</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>78: Colorectal resection</td>
<td>7,500</td>
<td>302,500</td>
<td>2.4</td>
</tr>
<tr>
<td>80: Appendectomy</td>
<td>208,800</td>
<td>238,800</td>
<td>65.8</td>
</tr>
<tr>
<td>All-listed procedures (CCS number and description)</td>
<td>Surgeries, N&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Surgeries, N per 100,000 population&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Surgeries performed in ambulatory setting, %</td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>------------------------</td>
<td>---------------------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Waypoint: All-listed procedures (CCS number and description)</td>
<td>AS</td>
<td>Inpatient</td>
<td>AS</td>
</tr>
<tr>
<td>84: Cholecystectomy and common duct exploration</td>
<td>577,500</td>
<td>372,600</td>
<td>182.1</td>
</tr>
<tr>
<td>85: Inguinal and femoral hernia repair</td>
<td>439,100</td>
<td>38,300</td>
<td>138.4</td>
</tr>
<tr>
<td>86: Other hernia repair (repair of diaphragmatic, incisional, and umbilical hernia)</td>
<td>375,200</td>
<td>239,000</td>
<td>118.3</td>
</tr>
<tr>
<td>87: Laparoscopy (GI only)</td>
<td>113,500</td>
<td>57,700</td>
<td>35.8</td>
</tr>
<tr>
<td>88: Other hernia repair (repair of diaphragmatic, incisional, and umbilical hernia)</td>
<td>7,800</td>
<td>159,100</td>
<td>2.5</td>
</tr>
<tr>
<td>89: Other OR gastrointestinal therapeutic procedures</td>
<td>54,400</td>
<td>266,500</td>
<td>17.1</td>
</tr>
<tr>
<td>90: Other OR gastrointestinal therapeutic procedures</td>
<td>33,500</td>
<td>230,300</td>
<td>10.6</td>
</tr>
<tr>
<td>91: Other OR therapeutic procedures of urinary tract</td>
<td>28,300</td>
<td>0</td>
<td>10.2</td>
</tr>
<tr>
<td>Operations on the urinary system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>100: Endoscopy and endoscopic biopsy of the urinary tract</td>
<td>16,200</td>
<td>161,100</td>
<td>5.1</td>
</tr>
<tr>
<td>101: Transurethral excision, drainage, or removal urinary obstruction</td>
<td>4,300</td>
<td>104,300</td>
<td>1.4</td>
</tr>
<tr>
<td>106: Genitourinary incontinence procedures</td>
<td>90,400</td>
<td>24,100</td>
<td>28.5</td>
</tr>
<tr>
<td>109: Procedures on the urethra</td>
<td>23,600</td>
<td>28,800</td>
<td>7.4</td>
</tr>
<tr>
<td>112: Other OR therapeutic procedures of urinary tract</td>
<td>90,400</td>
<td>24,100</td>
<td>28.5</td>
</tr>
<tr>
<td>Operations on the male genital system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>113: Transurethral resection of prostate (TURP)</td>
<td>56,000</td>
<td>29,100</td>
<td>17.7</td>
</tr>
<tr>
<td>114: Open prostatectomy</td>
<td>3,400</td>
<td>61,600</td>
<td>1.1</td>
</tr>
<tr>
<td>118: Other OR therapeutic procedures, male genital (testicular, prostate, and penile OR procedures)</td>
<td>189,600</td>
<td>22,100</td>
<td>59.8</td>
</tr>
<tr>
<td>Operations on the female genital system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>119: Oophorectomy, unilateral and bilateral</td>
<td>99,800</td>
<td>182,400</td>
<td>31.4</td>
</tr>
<tr>
<td>121: Ligation or occlusion of fallopian tubes</td>
<td>103,800</td>
<td>254,500</td>
<td>32.7</td>
</tr>
<tr>
<td>124: Hysterectomy, abdominal and vaginal</td>
<td>271,200</td>
<td>237,500</td>
<td>85.5</td>
</tr>
<tr>
<td>125: Other excision of cervix and uterus</td>
<td>15,900</td>
<td>38,100</td>
<td>5.0</td>
</tr>
<tr>
<td>129: Repair of cystocele and rectocele, obliteration of vaginal vault</td>
<td>67,400</td>
<td>30,000</td>
<td>21.3</td>
</tr>
<tr>
<td>132: Other OR therapeutic procedures, female organs (vaginal, vulvar, and female pelvic OR procedures)</td>
<td>187,700</td>
<td>74,500</td>
<td>59.2</td>
</tr>
<tr>
<td>Operations on the musculoskeletal system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>142: Partial excision bone</td>
<td>253,000</td>
<td>358,900</td>
<td>79.8</td>
</tr>
<tr>
<td>143: Bunioectomy or repair of toe deformities</td>
<td>187,200</td>
<td>2,900</td>
<td>59.0</td>
</tr>
<tr>
<td>144: Treatment, facial fracture or dislocation</td>
<td>53,600</td>
<td>27,200</td>
<td>16.9</td>
</tr>
<tr>
<td>145: Treatment, fracture or dislocation of radius and ulna</td>
<td>119,800</td>
<td>60,100</td>
<td>37.8</td>
</tr>
<tr>
<td>147: Treatment, fracture or dislocation of lower extremity (other than hip or femur)</td>
<td>142,200</td>
<td>196,600</td>
<td>44.8</td>
</tr>
<tr>
<td>148: Other fracture and dislocation procedure</td>
<td>110,000</td>
<td>167,600</td>
<td>34.7</td>
</tr>
<tr>
<td>149: Arthroscopy</td>
<td>97,100</td>
<td>9,600</td>
<td>30.6</td>
</tr>
<tr>
<td>150: Division of joint capsule, ligament or cartilage</td>
<td>69,300</td>
<td>14,300</td>
<td>21.8</td>
</tr>
<tr>
<td>All-listed procedures (CCS number and description)</td>
<td>Surgeries, N&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Surgeries, N per 100,000 population&lt;sup&gt;b&lt;/sup&gt;</td>
<td>Surgeries performed in ambulatory setting, %&lt;sup&gt;c&lt;/sup&gt;</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>-------------------------</td>
<td>--------------------------------</td>
<td>-----------------------------------</td>
</tr>
<tr>
<td></td>
<td>AS</td>
<td>Inpatient</td>
<td>AS</td>
</tr>
<tr>
<td>151: Excision of semilunar cartilage of knee</td>
<td>509,900</td>
<td>6,900</td>
<td>160.8</td>
</tr>
<tr>
<td>152: Arthroplasty knee</td>
<td>36,500</td>
<td>753,000</td>
<td>11.5</td>
</tr>
<tr>
<td>153: Hip replacement, total and partial</td>
<td>22,900</td>
<td>523,100</td>
<td>7.2</td>
</tr>
<tr>
<td>154: Arthroplasty other than hip or knee</td>
<td>50,300</td>
<td>104,500</td>
<td>15.8</td>
</tr>
<tr>
<td>157: Amputation of lower extremity</td>
<td>34,500</td>
<td>146,600</td>
<td>10.9</td>
</tr>
<tr>
<td>158: Spinal fusion</td>
<td>37,100</td>
<td>463,800</td>
<td>11.7</td>
</tr>
<tr>
<td>160: Other therapeutic procedures on muscles and tendons (muscle, tendon, and soft tissue OR procedures)</td>
<td>755,600</td>
<td>295,300</td>
<td>238.2</td>
</tr>
<tr>
<td>161: Other OR therapeutic procedures on bone (non-fracture, non-arthroplasty OR procedures on the bone)</td>
<td>277,700</td>
<td>139,800</td>
<td>87.5</td>
</tr>
<tr>
<td>162: Other OR therapeutic procedures on joints (incision or fusion of joint, destruction of joint lesion)</td>
<td>607,800</td>
<td>147,800</td>
<td>191.6</td>
</tr>
<tr>
<td>164: Other OR therapeutic procedures on musculoskeletal system</td>
<td>37,600</td>
<td>45,700</td>
<td>11.9</td>
</tr>
<tr>
<td>Operations on the integumentary (skin) system</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>166: Lumpectomy, quadrantectomy of breast</td>
<td>297,600</td>
<td>8,000</td>
<td>93.8</td>
</tr>
<tr>
<td>167: Mastectomy</td>
<td>60,900</td>
<td>42,600</td>
<td>19.2</td>
</tr>
<tr>
<td>174: Other non-OR therapeutic procedures on skin and breast</td>
<td>16,900</td>
<td>223,400</td>
<td>5.3</td>
</tr>
<tr>
<td>175: Other OR therapeutic procedures on skin and breast (OR procedures of skin and breast, including plastic procedures on breast)</td>
<td>322,000</td>
<td>88,100</td>
<td>101.5</td>
</tr>
</tbody>
</table>

Abbreviations: AS, ambulatory surgery; CCS, Clinical Classifications Software; OR, operating room; GI, gastrointestinal

Notes: Only invasive, therapeutic surgeries that are performed and reliably reported in the hospital-based ambulatory surgery setting were included. Procedures are based on the Clinical Classifications Software (CCS) and the CCS for Services and Procedures. Statistics are based on the “narrow” definition of the HCUP Surgery Flag software.

<sup>a</sup> The number of discharges was rounded to the nearest 100.

<sup>b</sup> Based on population estimates from the U.S. Census Bureau

<sup>c</sup> The gastric bypass and volume reduction CCS category (244) does not exist in the ICD-9-CM categorization. Inpatient gastric bypass and volume reductions are included in alternative categories, such as CCS 94, Other upper GI Therapeutic procedures.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), National Inpatient Sample (NIS) and nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates, 2014
Data Source

The estimates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) 2014 National Inpatient Sample (NIS) and 2014 nationwide ambulatory surgery analytic file created from the State Ambulatory Surgery and Services Databases (SASD), weighted for national estimates. This report evaluates both inpatient and outpatient surgery data. SASD from 22 States were used to create the nationwide ambulatory surgery analytic file: California, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Dakota, and Texas. The ambulatory surgery analytic file included 2.0 million unweighted discharges.

The study population in the ambulatory surgery analytic file includes discharges with invasive, therapeutic surgeries from community, nonrehabilitation hospitals with a service type of either general acute care or children’s hospital. Weights for national estimates were developed using stratification on hospital characteristics (census region, bed size, location/teaching status, ownership). Supplemental sources included population denominator data for use with HCUP databases, derived from information available from the Bureau of the Census.  

Definitions


All-listed procedures include all procedures performed during the hospital stay, whether for definitive treatment or for diagnostic or exploratory purposes. The first-listed procedure is the procedure that is listed first on the discharge record. Inpatient data define this as the principal procedure—the procedure that is performed for definitive treatment rather than for diagnostic or exploratory purposes (i.e., the procedure that was necessary to take care of a complication).

Procedures on inpatient hospitalization records are coded using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM); procedures on ambulatory surgery and services records can be coded using either ICD-9-CM or the CPT.

ICD-9-CM and CPT both assign numeric codes to procedures; ICD-9-CM is limited to procedures in the inpatient setting. There are approximately 4,000 ICD-9-CM procedure codes and 9,600 CPT procedure codes.

CCS categorizes ICD-9-CM procedure codes into a manageable number of clinically meaningful categories. This clinical grouper makes it easier to quickly understand patterns of procedure use. When CPT was used on ambulatory surgery records, the CCS for Services and Procedures was used to classify procedures into groupings comparable to the CCS.

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**Case definition**
For this report, the case definition was based on criteria developed with 2012 ambulatory surgery data and validated against other datasets. To facilitate comparisons across years, the same CCS procedure categories that were selected for inclusion in 2012 were used to create a 2014 nationwide ambulatory surgery analytic file. For this report, records from the SASD meeting the following criteria were included in the nationwide ambulatory surgery analytic file:

- The HCUP Surgery Flag software\(^{10}\) was used to identify procedures that are classified as a surgery based on a narrow definition (surgery flag value = NARROW). Records with one or more narrow surgery procedures were retained. All procedures that did not meet the narrow surgery definition were dropped from the record.
- A CCS procedure category was included if—
  - The total SASD procedure count across all available States in the CCS category was greater than 4,000
  - At least 25 percent of outpatient procedures in the CCS category were performed in the hospital outpatient setting (as opposed to ambulatory surgery centers, office, and other outpatient settings)
  - There was no evidence of substantial underreporting by hospitals (CCS categories for dental services, wound debridement, and skin graft were excluded based on this criteria)
- A SASD facility was included if—
  - It was identified as a community, nonrehabilitation hospital with a service type of either general acute care or children’s hospital
  - The ratio of SASD surgery visits for Medicare fee-for-service patients to Medicare Standard Analytic File surgeries for the facility was within the range of \([0.8, 1.2]\)
  - The facility provided CPT codes for the preponderance of outpatient surgery visits
  - The facility had at least 100 ambulatory surgery visits in 2014

For this report, records from the NIS meeting the following criteria were included:

- The HCUP Surgery Flag software\(^{11}\) was used to identify procedures that are classified as a surgery based on a narrow definition (surgery flag value = NARROW). Records with one or more narrow surgery procedures were retained. All procedures that did not meet the narrow surgery definition were dropped from the record.
- A CCS procedure category was included if it met the above definition for inclusion of ambulatory surgery procedures.

Therefore, the implied hierarchy of surgeries can be considered as follows:

- All surgeries
  - Narrow surgeries
    - Selected narrow surgeries (based on the above criteria)
  - Outpatient surgeries
    - Outpatient surgeries in hospitals or hospital-owned AS facilities

**Types of hospitals included in the HCUP National Inpatient Sample**
The National Inpatient Sample (NIS) is based on data from community hospitals, which are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). The NIS includes obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical hospitals. Excluded are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. Beginning in 2012, long-term acute care hospitals are also excluded. However, if a patient received long-term care, rehabilitation, or treatment for a psychiatric or chemical dependency condition in a community hospital, the discharge record for that stay will be included in the NIS.

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\(^{11}\) Ibid.
Types of hospitals included in HCUP State Ambulatory Surgery and Services Databases
This analysis used State Ambulatory Surgery and Services Databases (SASD) limited to data from hospital-owned ambulatory surgery facilities. Although some SASD include data from facilities not owned by a hospital, those facilities were excluded from this analysis. The designation of a facility as hospital-owned is specific to its financial relationship with a hospital that provides inpatient care and is not related to its physical location. Ambulatory surgery performed in hospital-owned facilities may be performed within the hospital, in a facility attached to the hospital, or in a facility physically separated from the hospital. The analysis was further limited to ambulatory surgeries performed at facilities owned by community hospitals. Community hospitals are defined as short-term, non-Federal, general, and other specialty hospitals, excluding hospital units of other institutions (e.g., prisons). We limited the analysis to community hospitals with at least 100 ambulatory surgery visits per year.

Unit of analysis
The unit of analysis is the ambulatory surgery visit or 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 1 year will be counted each time as a separate discharge from the hospital.

Hospital location
The classification of whether a hospital is in a metropolitan area (urban) or nonmetropolitan area (rural) is defined from the American Hospital Association (AHA) Annual Survey, using the 1993 U.S. Office of Management and Budget definition.

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

- Medicare: includes patients covered by fee-for-service and managed care Medicare
- Medicaid: includes patients covered by fee-for-service and managed care Medicaid
- Private Insurance: includes Blue Cross, commercial carriers, and private health maintenance organizations (HMOs) and preferred provider organizations (PPOs)
- Uninsured: includes an insurance status of self-pay and no charge
- Other: includes Workers’ Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs

Hospital stays billed to the State Children’s Health Insurance Program (SCHIP) may be classified as Medicaid, Private Insurance, or Other, depending on the structure of the State program. Because most State data do not identify patients in SCHIP specifically, it is not possible to present this information separately.

For this Statistical Brief, when more than one payer is listed for a hospital discharge, the first-listed payer is used.

About HCUP
The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). HCUP databases bring together the data collection efforts of State data organizations, hospital associations, and private data organizations (HCUP Partners) and the Federal government to create a national information resource of encounter-level health care data. HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs, and outcomes of treatments at the national, State, and local market levels.

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:
Alaska Department of Health and Social Services
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
District of Columbia 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
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association
Mississippi State Department of Health
Missouri Hospital Industry Data Institute
Montana Hospital Association
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
North Dakota (data provided by the Minnesota Hospital Association)
Ohio Hospital Association
Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Office of Health Analytics
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
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 Statistical Briefs

HCUP Statistical Briefs are descriptive summary reports presenting statistics on hospital inpatient, ambulatory surgery, and emergency department use and costs, quality of care, access to care, medical conditions, procedures, patient populations, and other topics. The reports use HCUP administrative health care data.

About the NIS

The HCUP National Inpatient Sample (NIS) is a national database of hospital inpatient stays. The NIS is nationally representative of all community hospitals (i.e., short-term, non-Federal, nonrehabilitation hospitals). The NIS includes all payers. It is drawn from a sampling frame that contains hospitals comprising more than 95 percent of all discharges in the United States. The vast size of the NIS allows the study of topics at the national and regional levels for specific subgroups of patients. In addition, NIS data are standardized across years to facilitate ease of use. Over time, the sampling frame for the NIS has changed; thus, the number of States contributing to the NIS varies from year to year. The NIS is intended for national estimates only; no State-level estimates can be produced.

The 2012 NIS was redesigned to optimize national estimates. The redesign incorporates two critical changes:

- Revisions to the sample design—starting with 2012, the NIS is now a sample of discharge records from all HCUP-participating hospitals, rather than a sample of hospitals from which all discharges were retained (as is the case for NIS years before 2012).
- Revisions to how hospitals are defined—the NIS now uses the definition of hospitals and discharges supplied by the statewide data organizations that contribute to HCUP, rather than the definitions used by the American Hospital Association (AHA) Annual Survey of Hospitals.

The new sampling strategy is expected to result in more precise estimates than those that resulted from the previous NIS design by reducing sampling error: for many estimates, confidence intervals under the new design are about half the length of confidence intervals under the previous design. The change in sample design for 2012 necessitates recomputation of prior years’ NIS data to enable analysis of trends that uses the same definitions of discharges and hospitals.

About the SASD

The HCUP State Ambulatory Surgery and Services Databases (SASD) include encounter-level data for ambulatory surgeries and may also include various types of outpatient services such as observation stays, lithotripsy, radiation therapy, imaging, chemotherapy, and labor and delivery. The specific types of ambulatory surgery and outpatient services included in each SASD vary by State and data year. All SASD include data from hospital-owned ambulatory surgery facilities. In addition, some States include data from facilities not owned by a hospital. The designation of a facility as hospital-owned is specific to its financial relationship with a hospital that provides inpatient care and is not related to its physical location. Hospital-owned ambulatory surgery and other outpatient care facilities may be contained within the hospital, physically attached to the hospital, or located in a different geographic area. In order to provide information that is comparable across all States, analysis was restricted to hospital-owned ambulatory surgery.

For More Information

For other information on procedures and treatments, including procedures in the ambulatory surgery setting, refer to the HCUP Statistical Briefs located at www.hcup-us.ahrq.gov/reports/statbriefs/sb_procedures.jsp.

For additional HCUP statistics, visit:
• HCUP Fast Stats at www.hcup-us.ahrq.gov/faststats/landing.jsp for easy access to the latest HCUP-based statistics for health information topics
• HCUPnet, HCUP’s interactive query system, at www.hcupnet.ahrq.gov/

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

For a detailed description of HCUP and more information on the design of the National (Nationwide) Inpatient Sample (NIS) and State Ambulatory Surgery and Services Databases (SASD), please refer to the following database documentation:


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:

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