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Utilization of Intensive Care Services, 2011

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Introduction

As health care costs rise, there is increased emphasis on cost-effective care. Hospital stays that involve time in an intensive care unit (ICU) are of particular interest because critical care costs have been rising for decades, reaching 13.4 percent of hospital costs by 2005.[1] From 2002 through 2009, ICU stays rose at three times the rate of general hospital stays without an increase in severity of illness.[2] The reason for higher utilization of ICUs is unclear. Because ICU stays represent a costly segment of health care spending, it is important to understand patterns and variation in ICU utilization.

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents data on ICU utilization by adults in U.S. general medical and surgical hospitals in 2011. For this brief, ICU utilization includes various types of intensive care such as medical, surgical, coronary, pulmonary, psychiatric, burn, and trauma. Hospital stays and aggregate hospital charges are presented for discharges with and without an ICU stay. Conditions and procedures with high and low utilization of ICU services are reported with the percentage of total hospital charges for ICU services. In addition, ICU utilization is compared for conditions and procedures with and without complications or comorbidities. Finally, the types of hospitals with high and low ICU utilization are presented.

This Statistical Brief used the HCUP State Inpatient Databases (SID) in 2011 for 29 States that included revenue center codes identifying ICU and coronary care unit (CCU) care. The analysis considered 16.9 million inpatient stays from 1,882 hospitals. To our knowledge, this is the first study of all-cause ICU utilization in a broad cross-section of U.S. hospitals.

Highlights

- In 2011, 26.9 percent of hospital stays in 29 States involved intensive care unit (ICU) charges, accounting for 47.5 percent of aggregate total hospital charges.
- Common conditions and procedures with high ICU utilization varied across body systems. The highest rate of ICU use (93.3 percent) was for respiratory disease with ventilator support.
- Cardiac conditions accounted for 8 of the 18 conditions and procedures with high ICU utilization. ICU utilization for cardiac conditions ranged from 40.6 percent for stays for chest pain to 70.3 percent for stays for acute myocardial infarction with major complications or comorbidities.
- Hospital stays that involved ICU services were 2.5 times more costly than other hospital stays.
- ICU services were on average three times more likely when patients experienced major complications or comorbidities.
- Greater utilization of ICUs tended to occur in hospitals that were large, private/for profit, located in metropolitan areas, trained medical students, and had a high-level trauma center.

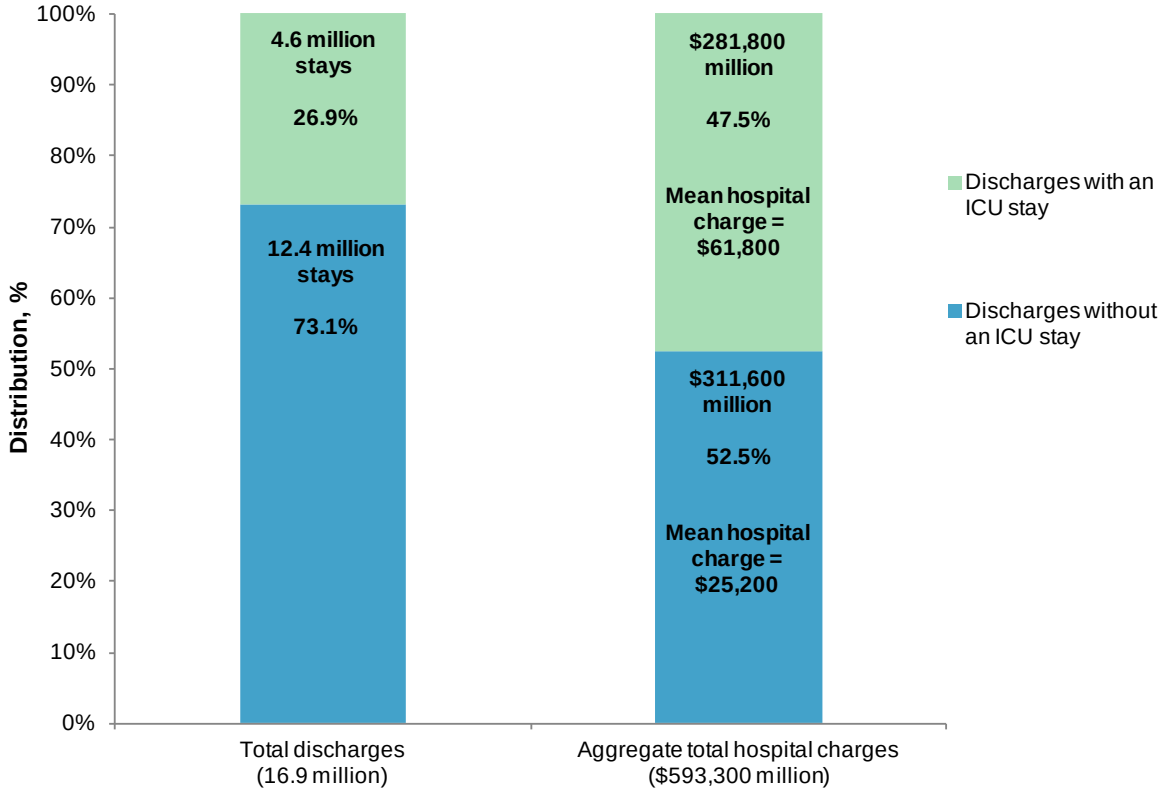
[1] Halpern NA. Can the costs of critical care be controlled? Current Opinions in Critical Care. 2009 Dec;15(6):591–6.
[2] Mullins PM, Goyal M, Pines JM. National growth in intensive care unit admissions from emergency departments in the United States from 2002 to 2009. Academic Emergency Medicine. 2013 May;20(5):479–86.

Findings

Distribution of inpatient stays with and without ICU services, 2011

Figure 1 presents the distribution of adult inpatient stays and aggregate total hospital charges in 2011 for hospitalizations with and without ICU services, across 1,882 hospitals in 29 States. Hospital charges are reported instead of hospital costs because we later compare ICU charges with total hospital charges. Although it is possible to estimate total hospital costs from total hospital charges using the HCUP cost-to-charge ratios,[3] these hospital-wide ratios do not account for variations among service departments. A cost-to-charge ratio for ICU services could differ substantially from the hospital-wide ratio.[4]

Figure 1. Adult hospital stays and aggregate total hospital charges by intensive care unit (ICU) use in 29 States, 2011



Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) from 29 States, 2011

- **Hospital stays that involved ICU services were two and a half times more costly than other hospital stays.**

  Hospital stays with ICU services accounted for just over one-quarter of all discharges (26.9 percent) but nearly one-half of aggregate total hospital charges (47.5 percent). The mean hospital charge was 2.5 times higher for discharges with ICU services than for those without—$61,800 versus $25,200.

[3] More information on the HCUP cost-to-charge ratios is available on the HCUP User Support Web site at http://www.hcup-us.ahrq.gov/db/state/costtocharge.jsp. Accessed November 19, 2014.

[4] The HCUP Methods Series Report #2011-04 discusses different approaches to refining the hospital-wide cost-to-charge ratios. This report is available on the HCUP User Support Web site at http://www.hcup-us.ahrq.gov/reports/methods/methods.jsp. Accessed November 19, 2014.

Common conditions and procedures with high ICU utilization, 2011

Table 1 presents 18 common conditions and procedures that involved high ICU utilization in 2011, sorted by descending percentage of total stays with ICU services. Medicare Severity–Diagnosis Related Groups (MS-DRGs) are used to identify conditions and procedures for hospital billing. MS-DRGs reflect the presence of complications or comorbidities. MS-DRGs selected for Table 1 had a high percentage of stays with ICU utilization (at least 40 percent of stays had ICU services) and at least 40,000 stays with ICU utilization.

Table 1. Common conditions and procedures with the highest proportion of intensive care unit (ICU) utilization in 29 States, 2011

MS-DRG conditions and procedures	Total stays, n	Total stays with ICU services, %	Mean total charges across all stays, $	Total charges attributed to ICU, %*
208 Respiratory system diagnosis with ventilator support less than 96 hours	78,233	93.3	57,200	24.4
280 Acute myocardial infarction, discharged alive with MCC	59,727	70.3	45,000	30.3
64 Intracranial hemorrhage or cerebral infarction with MCC	68,604	64.6	50,000	27.1
247 Percutaneous cardiovascular procedure with drug-eluting stent without MCC	164,846	63.4	58,500	10.3
871 Septicemia or severe sepsis without mechanical ventilation 96+ hours with MCC	304,367	59.0	45,500	24.1
918 Poisoning and toxic effects of drugs without MCC	102,005	57.6	15,100	29.4
189 Pulmonary edema and respiratory failure	101,064	54.1	29,600	25.8
291 Heart failure and shock with MCC	157,978	53.8	36,500	31.5
309 Cardiac arrhythmia and conduction disorders with CC	105,257	53.4	20,200	35.5
310 Cardiac arrhythmia and conduction disorders without CC/MCC	143,023	51.3	14,400	35.2
287 Circulatory disorders except AMI, with cardiac catheterization without MCC	164,103	51.2	32,000	22.9
682 Renal failure with MCC	98,763	47.6	39,100	26.5
65 Intracranial hemorrhage or cerebral infarction with CC	120,449	46.7	31,200	27.6
638 Diabetes with CC	93,340	44.1	19,700	27.4
292 Heart failure and shock with CC	210,406	43.5	24,200	38.2
378 Gastrointestinal hemorrhage with CC	145,492	43.3	24,500	27.2
313 Chest pain	221,490	40.6	15,500	29.5
193 Simple pneumonia and pleurisy with MCC	116,555	40.5	35,200	25.5

* Percentage of total charges attributed to ICU is defined as follows. Within an MS-DRG, we first determined the average total charge for stays with ICU services. Next, for the stays with ICU services, we determined the average charge for the ICU services. If a hospital stay had charges to different types of ICUs, the individual charges were included in the total ICU charge for the stay. The percentage of total charges attributed to ICU is the average charge for ICU services divided by the average total charge for discharges with ICU services.

Abbreviations: MS-DRG, Medicare Severity Diagnosis Related Group; AMI, acute myocardial infarction; CC, complication or comorbidity; MCC, major complication or comorbidity

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) from 29 States, 2011

- **Cardiac, respiratory, and neurologic conditions dominated stays with high ICU utilization.**

Cardiac conditions accounted for 8 of the 18 conditions and procedures with high ICU utilization. ICU use ranged from 40.6 percent of chest pain stays to 70.3 percent of stays for acute myocardial infarction with major complication or comorbidity.

Stays for chest pain—a common symptom of acute myocardial infarction but for cases in which no critical illness is found during the hospital stay—had a high use of ICU services, presumably for telemetry monitoring and further diagnostic testing. Thus patients who do not receive a definitive diagnosis of a life-threatening cardiac condition are sometimes billed for ICU-level services.

Respiratory conditions were at the top and the bottom of the list of high ICU utilization. Stays for respiratory disease with ventilator support less than 96 hours had the highest ICU utilization (93.3 percent), and stays for simple pneumonia with major complication or comorbidity had the lowest ICU utilization (40.5 percent).

ICU utilization for intracranial hemorrhage or cerebral infarction varied depending on the presence of complications or comorbidities. Utilization ranged from 64.6 percent of stays with major complications or comorbidities to 46.7 percent of stays when complications or comorbidities were not major.

- **For conditions with high ICU utilization, ICU charges represented between 10 and 38 percent of total hospital charges for stays with ICU services.**

  Charges for ICU services ranged from a high of 38.2 percent of total hospital charges for heart failure and shock with complication or comorbidity to a low of 10.3 percent of total hospital charges for percutaneous cardiovascular procedure stays with drug-eluting stent without major complication or comorbidity.

  This analysis was limited to those stays with ICU services. For the majority of conditions and procedures with high ICU utilization in Table 1, more than one-quarter of total hospital charges (25–38 percent) were attributable to ICU services when the stay involved ICU care.

Common conditions and procedures with low ICU utilization, 2011

Table 2 presents 15 common conditions and procedures that involved low ICU utilization in 2011, sorted by descending percentage of total stays with ICU services. MS-DRGs selected for Table 2 had a low percentage of stays with ICU utilization (fewer than 20 percent of stays had ICU services) and at least 100,000 total stays. Although for Table 1 we used the criterion of 40,000 hospital stays with ICU services, when looking at conditions with low ICU utilization we had to limit the criteria to 100,000 stays, regardless of ICU services, to display a similar number of MS-DRGs.

Table 2. Common conditions and procedures with the lowest proportion of intensive care unit (ICU) utilization in 29 States, 2011

MS-DRG conditions and procedures	Total stays, n	Total stays with ICU services, %	Mean total charges across all stays, $	Total charges attributed to ICU, %*
812 Red blood cell disorders without MCC	133,993	18.1	20,000	28.5
195 Simple pneumonia and pleurisy without CC/MCC	105,814	16.5	16,700	29.2
897 Alcohol/drug abuse or dependence without rehabilitation therapy without MCC	192,061	14.6	12,900	34.9
690 Kidney and urinary tract infections without MCC	214,639	13.3	18,500	30.6
392 Esophagitis, gastroenteritis and miscellaneous digestive disorders without MCC	401,640	12.2	18,100	28.0
460 Spinal fusion except cervical without MCC	100,991	12.2	88,800	6.6
781 Other antepartum diagnoses with medical complications	103,717	8.4	14,100	33.6
603 Cellulitis without MCC	245,131	6.2	18,000	30.6
470 Major joint replacement or reattachment of lower extremity without MCC	486,438	4.6	47,300	11.1
885 Psychoses	553,699	4.3	21,400	54.5
765 Cesarean section with CC/MCC	250,747	4.3	21,900	21.9
774 Vaginal delivery with complicating diagnoses	178,943	2.4	12,900	26.4
743 Uterine and adnexa procedures for nonmalignancy without CC/MCC	159,195	1.1	23,900	14.7
766 Cesarean section without CC/MCC	437,150	0.9	16,400	21.3
775 Vaginal delivery without complicating diagnoses	1,117,329	0.8	10,100	29.3

* Percentage of total charges attributed to ICU is defined as follows. Within an MS-DRG, we first determined the average total charge for stays with ICU services. Next, for the stays with ICU services in the MS-DRG, we determined the average charge for those ICU services. If a hospital stay had charges to different types of ICUs, the individual charges were included in the total ICU charge. The percentage of total charges attributed to ICU is the average charge for ICU services divided by the average total charge for discharges with ICU services.

Abbreviations: MS-DRG, Medicare Severity Diagnosis Related Group; CC, complication or comorbidity; MCC, major complication or comorbidity

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) from 29 States, 2011

- **Birth-related stays tended to have the lowest rates of ICU utilization.**

  Five of the 15 common conditions with low ICU utilization involved childbirth. About 8 percent of stays for other antepartum diagnoses with medical complications involved ICU services. Less than 1 percent of stays for vaginal deliveries without complicating diagnoses involved ICU services, and the percentage of ICU utilization increased to 2.4 percent with complicating diagnoses.

- **Two mental health and substance abuse conditions appeared on the list of stays with low ICU use.**

  Nearly 15 percent of hospital stays for alcohol and substance abuse without complication or comorbidity involved an ICU stay, and 4.3 percent of stays for psychosis had ICU charges.

- **Two common operations had low ICU utilization.**

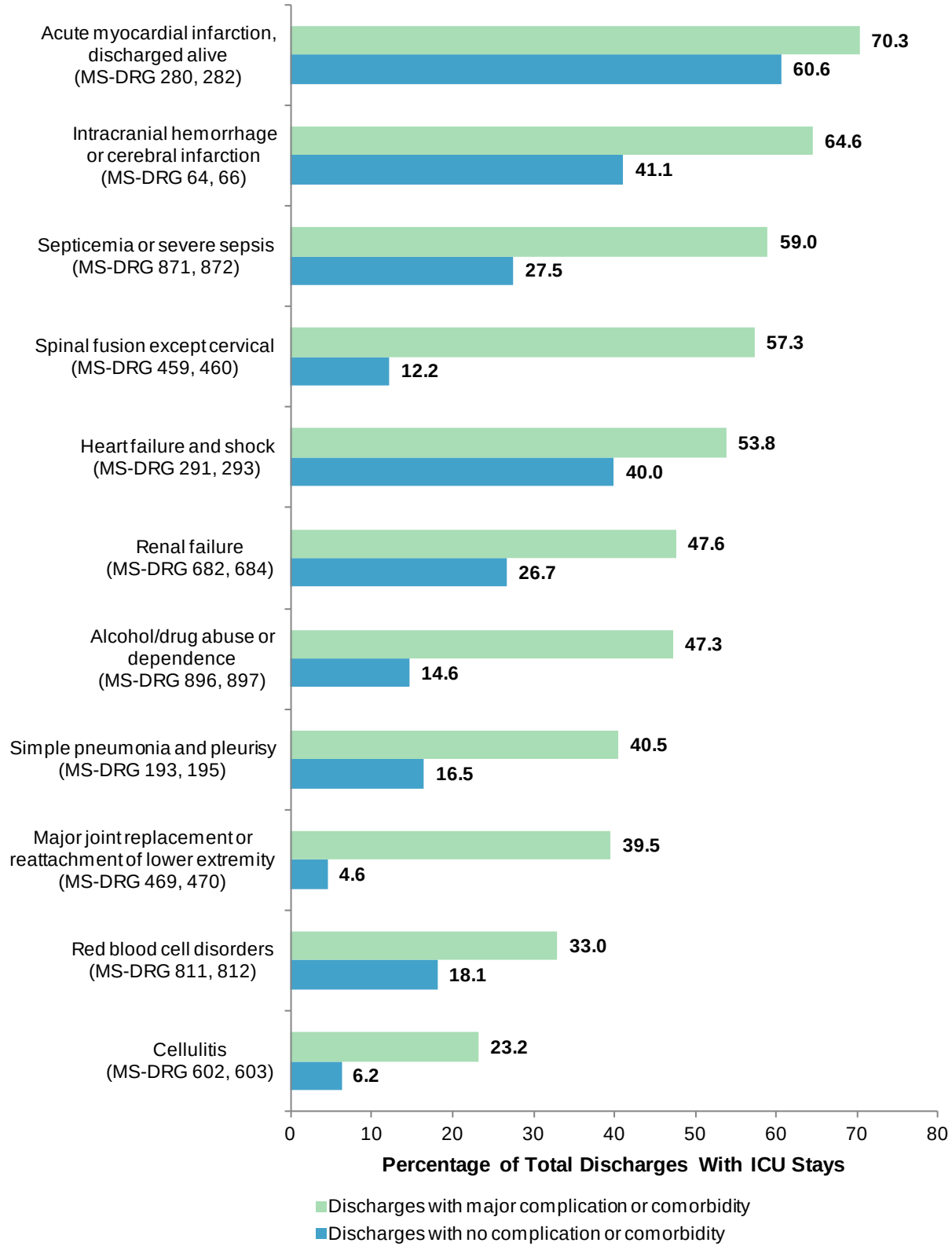
  Twelve percent of spinal fusion except cervical without major complication or comorbidity involved an ICU stay, and nearly 5 percent of stays for major joint replacement or reattachment of lower extremity without major complication or comorbidity had ICU charges.

- **ICU charges represented 7–55 percent of total hospital charges for stays with ICU services for conditions and procedures with low ICU utilization.**

  Charges for ICU services ranged from a high of 54.5 percent of total hospital charges for hospitalizations for psychoses that involved ICU services to only 6.6 percent of total hospital charges for stays with a spinal fusion procedure that had ICU services. For the majority of conditions and procedures with low ICU utilization, more than one-quarter of total hospital charges (26–55 percent) were for ICU services when the stay involved ICU care.

Differences in ICU use in the presence or absence of complications or comorbidities, 2011
Figure 2 shows selected conditions and procedures from Tables 1 and 2 with a related MS-DRG that varied by the presence or absence of complications or comorbidities. Conditions from Table 1 with major complications or comorbidities are displayed next to the same condition with no complication or comorbidity. Similarly, conditions from Table 2 with no complication or comorbidity are displayed next to the same condition with major complications or comorbidities.

Figure 2. Intensive care unit (ICU) utilization for related conditions and procedures in the presence or absence of complications or comorbidities in 29 States, 2011



Abbreviations: MS-DRG, Medicare Severity Diagnosis Related Group

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) from 29 States, 2011

- **The presence of a major complication or comorbidity was associated with greater use of ICU services.**

  On average, ICU use was three times more likely with the presence of major complications or comorbidities for these conditions. This ranged from a negligible increase for acute myocardial infarction with major complication or comorbidity (16 percent increase) to nearly nine times higher (a 900 percent increase) for major joint replacement with major complication or comorbidity. Even for more severe conditions such as stroke (intracranial hemorrhage or cerebral infarction), septicemia, and renal failure, the difference in rate of ICU utilization was 57–115 percent higher when a major complication or comorbidity was present.

Characteristics of hospitals by level of ICU utilization, 2011

Table 3 presents the characteristics of hospitals that have low, medium, and high ICU utilization. Hospitals are grouped into three categories on the basis of percentage of all stays with ICU services. In the bottom quartile of hospitals—those with the lowest rates of ICU stays—less than 12.8 percent of stays included ICU services. In the top quartile of hospitals—those with the highest rates of ICU stays—more than 34.8 percent of stays had ICU services. The two middle quartiles were combined into one reporting group.

Table 3. Characteristics of hospitals by level of intensive care unit (ICU) use in 29 States, 2011

Hospital characteristic	Bottom quartile of hospitals, ICU use <12.8%		Middle half of hospitals, ICU use 12.8–34.8%		Top quartile of hospitals, ICU use >34.8%	
	n	Row %	n	Row %	n	Row %
All hospitals	470	25.0	942	50.1	470	25.0
Number of beds						
Small	205	38.1*	228	42.4	105	19.5
Medium	130	21.9	307	51.7	157	26.4
Large	135	18.0	407	54.3	208	27.7*
Location						
Large metropolitan area	161	23.1	295	42.4	240	34.5*
Small metropolitan area	96	18.0	297	55.8*	139	26.1
Micropolitan area	95	25.0	221	58.2*	64	16.8
Not metropolitan or micropolitan (rural)	118	43.1*	129	47.1	27	9.9
Ownership						
Government (public)	94	33.6*	141	50.4	45	16.1
Private, not-for-profit	337	25.5	651	49.2	334	25.3
Private, for-profit	39	13.9	150	53.6	91	32.5*
Type of hospital						
Teaching	88	17.9	262	53.4	141	28.7*
Critical access hospital	130	54.9*	85	35.9	22	9.3
Trauma designation						
Level I (highest level of services)	17	13.7	60	48.4	47	37.9*
Level II	18	10.8	98	59.0*	50	30.1*
Level III	65	24.8	152	58.0*	45	17.2
Nontrauma centers (includes Levels IV and V trauma centers)	370	27.8*	632	47.5	328	24.7

Note: n represents the number of hospitals that fit the category in the row and had the percentage range of ICU cases in the column.

* Values are at least 10.0% higher than the row percentage for all hospitals within the group of hospitals (i.e., at least 10% higher than 25.0% for hospitals in the bottom quartile, at least 10% higher than 50.1% for hospitals in the middle two quartiles, and at least 10% higher than 25.0% for hospitals in the top quartile).

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) from 29 States, 2011

- **ICU utilization varied by key hospital characteristics.**

  Higher ICU utilization was common in large hospitals, hospitals located in large metropolitan areas, private/for-profit hospitals, teaching hospitals, and Level I or II trauma centers.

  Lower ICU utilization was common in small hospitals, hospitals located in rural areas (not metropolitan or micropolitan), publicly owned hospitals, hospitals with critical access designation, and nontrauma centers. Many of these characteristics overlap; for example, many critical access hospitals are in rural areas, rural hospitals are usually small, and most small hospitals have nontrauma center status.

Data Source

The estimates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) 2011 State Inpatient Databases (SID). A total of 29 States had the necessary data elements for identifying intensive care unit (ICU) use (Uniform Billing revenue center codes) and reported associated revenue center charges.

Definitions

Medicare Severity–Diagnosis Related Groups (MS-DRGs)
MS-DRGs constitute a patient classification system that categorizes patients into groups that are clinically coherent and homogeneous with respect to resource use. MS-DRGs group patients according to diagnosis, type of treatment (procedures), age, and other relevant criteria. MS-DRGs are sensitive to whether the stay involved complications or comorbidities. Each hospital stay has one assigned MS-DRG, which may be medical or surgical.

Intensive care units (ICUs)
Revenue centers are administrative units found in hospital accounting systems. They roughly correspond to types of care provided. When hospitals submit bills to insurance companies, revenue centers in which care occurred are represented by codes. The codes are four-digit numbers in the Uniform Billing system used by hospitals in the United States. For this study, stays with ICU services were identified by the presence of any of the Uniform Billing revenue center codes defined in Table 4.

Table 4. Revenue center codes used to identify provision of ICU services during the hospital stay

Revenue center code	Description of revenue center code
0200	General classification for intensive care unit (ICU)
0201	Surgical ICU
0202	Medical ICU
0203	Pediatric ICU
0204	Psychiatric ICU
0206	Intermediate ICU
0207	Burn care
0208	Trauma care
0209	Other intensive care
0210	General classification cardiac care unit (CCU)
0211	Myocardial infarction care
0212	Pulmonary care
0213	Heart transplant
0214	Intermediate CCU
0219	Other coronary care

Both a conceptual understanding of these different types of critical care units and results of empirical analyses suggest that they should be combined into a single ICU category. Cardiac care units (CCUs) are similar to ICUs but specialize in treating patients with heart disease. Cardiac hospitalizations were often coded as having ICU services, and noncardiac hospitalizations were reported as having CCU services. Accordingly, this Statistical Brief includes CCUs in the ICU category. Similarly, the definition of ICU in this Statistical Brief considers intermediate-care ICUs and CCUs as regular ICUs because not all hospitals distinguish between intermediate and other forms of intensive care.

Hospitals reporting ICU use
To ensure that the hospitals in the analysis had an ICU, a CCU, or both, data in the HCUP SID were linked to data in the American Hospital Association (AHA) Annual Survey of Hospitals. The AHA survey was used to determine the following hospital characteristics:

- Medical/surgical ICU beds
- Cardiac ICU beds
- Burn ICU beds
- Other special care beds
- Other ICU beds
- Service for medical/surgical ICU
- Service for cardiac ICU
- Service for burn ICU
- Service for other special unit
- Service for other ICU
- Full-time employees (FTEs) for cardiac intensivists (intensive care specialists)
- FTEs for medical/surgical intensivists
- FTEs for other intensivists
- Number of intensivists that provide care

If the hospital had any of the above services, then it was considered to have evidence of an ICU. About 76 percent of the hospitals reported to AHA that they provide ICU services, 14 percent reported no ICU services, and 10 percent were missing AHA data. In the 29 sample States, 1,882 hospitals (85 percent) reported ICU services to the AHA *and* provided revenue codes and charges in the SID. Together these hospitals reported a total of 16.9 million adult inpatient stays in the SID.

Types of hospitals included in HCUP State Inpatient Databases
This analysis used State Inpatient Databases (SID) limited to 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). Community hospitals include obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical hospitals. This analysis was further limited to general medical/surgical hospitals. This excluded specialty hospitals and long-term care facilities such as 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 general medical/surgical hospital, the discharge record for that stay was included in the analysis.

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 1 year will be counted each time as a separate discharge from the hospital.

Charges
Hospital charges reflect the amount the hospital billed for the entire hospital stay and do not include professional (physician) fees. Charges usually exceed what the hospital receives in payment for its services. ICU charges are calculated by summing the charges reported across all ICU revenue centers. For the purposes of this Statistical Brief, charges are reported to the nearest hundred.

We chose to report charges because the HCUP cost-to-charge ratio is a hospital-wide adjustment that does not account for differences across charge centers. The cost-to-charge ratio for the ICU would certainly be different than for other charge centers, and applying a hospital-wide ratio would not reflect those differences.

Hospital characteristics
The following hospital characteristics were obtained from the American Hospital Association (AHA) Annual Survey of Hospitals: bed size, ownership, and status as a teaching or critical access hospital. The actual bed size for the hospital was categorized as small, medium, or large on the basis of differences across census region, urban location, and teaching status. The categorization of small, medium, and large is consistent with the grouping used for the HCUP National (Nationwide) Inpatient Sample (NIS). A teaching hospital is defined as having a residency program approved by the American Medical Association, being a member of the Council of Teaching Hospitals, or having a ratio of full-time equivalent interns and residents to beds of 0.25 or higher. This definition is also consistent with the NIS. Hospital location is determined by the 2003 version of the Urban Influence Codes (UIC) designation for the county of the hospital. Large metropolitan areas are metropolitan areas with at least 1 million residents; small metropolitan areas are metropolitan areas of less than 1 million residents. More precise definitions of these categories, and the complex definitions of micropolitan and rural areas, can be found on the Web site of the Economic Research Service, U.S. Department of Agriculture (currently http://www.ers.usda.gov/data-products/urban-influence-codes.aspx). Trauma designation for trauma centers treating adults and children were identified through the Trauma Information Exchange Program (TIEP) database, a national inventory of trauma centers in the United States.

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 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 Center for Health Information and Analysis
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
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 Health Policy and Research
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 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 SID

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the participating HCUP States, translated into a uniform format to facilitate multistate comparisons and analyses. Together, the SID encompass more than 95 percent of all U.S. community hospital discharges. The SID can be used to investigate questions unique to one State, to compare data from two or more States, to conduct market-area variation analyses, and to identify State-specific trends in inpatient care utilization, access, charges, and outcomes.

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 http://hcupnet.ahrq.gov/.

For information on other hospitalizations in the United States, refer to the following HCUP Statistical Briefs located at http://www.hcup-us.ahrq.gov/reports/statbriefs/statbriefs.jsp:

- Statistical Brief #180, Overview of Hospital Stays in the United States, 2012
- Statistical Brief #181, Costs for Hospital Stays in the United States, 2012
- Statistical Brief #162, Most Frequent Conditions in U.S. Hospitals, 2011
- Statistical Brief #165, Most Frequent Procedures Performed in U.S. Hospitals, 2011

For a detailed description of HCUP and more information on the design of the State Inpatient Databases (SID), please refer to the following database documentation:

Agency for Healthcare Research and Quality. Overview of the State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated September 2014. http://www.hcup-us.ahrq.gov/sidoverview.jsp. Accessed September 11, 2014.

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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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