



# H·CUP

HEALTHCARE COST AND UTILIZATION PROJECT

## HCUP Methods Series



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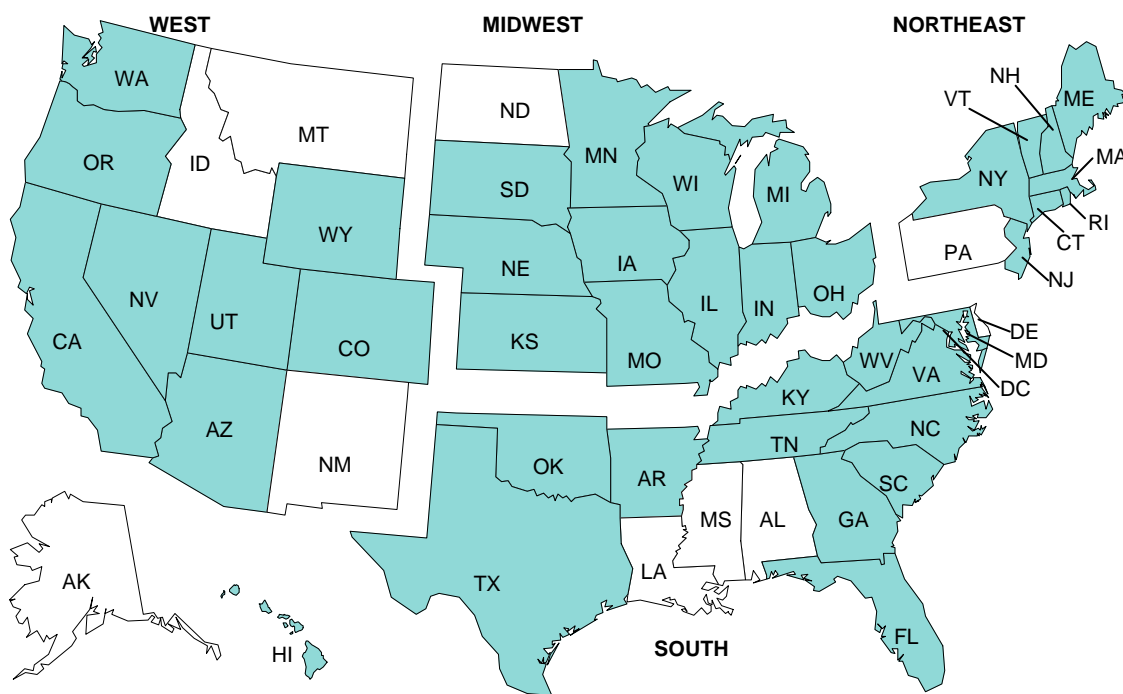
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## INTRODUCTION

This report provides a summary of analyses that compare estimates from the HCUP Nationwide Inpatient Sample (NIS) for 2007 to three related data sources: the American Hospital Association (AHA) Annual Survey Database, the National Hospital Discharge Survey (NHDS) from the National Center for Health Statistics, and the MedPAR inpatient data from the Centers for Medicare and Medicaid Services (CMS). For full information on these databases and complete details on prior years' findings, refer to earlier versions of this report on HCUP-US Website under the heading "NIS Comparison Reports" at <http://www.hcup-us.ahrq.gov/db/nation/nis/nisrelatedreports.jsp>.

As shown in Figure 1 and Table 1, the 2007 NIS is selected from a sampling frame comprising 40 HCUP Partner organizations.

**Figure 1. HCUP State Partners Participating in the NIS, 2007**



The findings in this report are summarized in tables that highlight differences and similarities between the four databases.

- Table 1 compares states representing HCUP Partners in the NIS to those in the hospital universe (the U.S.)
- Tables 2-7 summarize comparisons with the AHA Annual Survey
- Tables 8-13 summarize comparisons with the NHDS
- Tables 14-20 summarize comparisons with MedPAR data

Based on the analyses presented in this report, the NIS appears to provide reliable national estimates when compared with other national data sources along the dimensions of hospital characteristics, numbers of discharges, length of stay, and in-hospital mortality.

Each of the data sources discussed has its strengths and weaknesses, and each may be the preferred choice for different research questions. The NIS offers a large sample that enables study of low incidence disorders and less common procedures; NIS estimates can be calculated for literally thousands of sub-populations that may be of interest to researchers. In addition, NIS hospitals accurately reflect the universe of United States hospitals, particularly the relative mix of large and small hospitals. Therefore, the NIS may be more appropriate when hospital type and size are important considerations.

In contrast, the NHDS and MedPAR both offer data drawn from all 50 states, rather than the more limited sampling frame of the NIS. Where a comprehensive geographic representation is more important than a large sample size, these resources might be preferable. Alternatively, if the question under study applies only to Medicare enrollees, the MedPAR data set might be favored.

Which of the data sources is better? The answer depends on the needs of the researcher. The intended use of the data is the most critical factor in determining which data source will be most valuable. In general, the NIS estimates of data elements essential to health care policy – including in-hospital mortality, inpatient population size, length of stay, and charges – are accurate and precise. It is possible to calculate statistics for large groups ranging from the inpatient population of the United States, as well as for small subsets focusing on specific conditions. The characteristics documented in this report suggest that the NIS produces reliable estimates and that it is a valuable tool for researchers and policy makers alike.

**Table 1. Comparison of States in the NIS with National Demographics, 2007**

	<b>NIS Sampling Frame</b>	<b>United States</b>
Number of States	40	50 plus District of Columbia
Population	269,763,460	301,621,157
Sampling frame for the NIS includes	78% of U.S. community hospitals	100%
	81% of community hospital discharges	100%
	90% of U.S. population	100%
Average population density (persons per square mile)	114.7	84.5
Population density for the least populated states (persons per square mile)	Nebraska (23.1) South Dakota (10.5) Wyoming (5.4)	Montana (6.6) Wyoming (5.4) Alaska (1.2)
Market penetration of Medicare managed care providers	18.4%	19.0%

## Summary of NIS-AHA Comparisons

- NIS hospitals resembled typical hospitals in the AHA universe in most characteristics, although NIS hospitals were more active, had higher and more intensive staffing rates, and more Medicare- and Medicaid-covered patients.
- NIS facilities admitted and discharged more patients, and had larger payrolls compared to hospitals in the AHA universe.
- NIS hospitals tended to offer slightly more high-technology services than the AHA.
- Nearly all NIS discharge estimates closely align with the discharge counts from the AHA Survey. This is not surprising because NIS sampling strata and NIS discharge weights were based on AHA Annual Survey results.
- The AHA-derived sampling weights in the NIS yield discharge counts consistent with the AHA universe by region and for most categories of hospital type. The discharge comparisons by hospital ownership, exhibited no significant differences.
- In contrast, the overall NIS estimated average length of stay was slightly longer than the AHA statistic.
- Rural hospitals was the one category where the weighted NIS hospital count differed from the actual AHA hospital count—the NIS includes relatively fewer small rural hospitals and relatively more large rural hospitals than found in the AHA universe.
- AHA Annual Survey data reflect admission counts. To be consistent with the other datasets used for analysis in this report (i.e., based on discharge counts), we adjusted the AHA Annual Survey admission counts by including admission counts for well newborns.



**Table 2. Number of Hospitals in NIS Frame<sup>1</sup> and AHA Universe, 2007**

	<b>NIS (Weighted)</b>	<b>NIS (Unweighted)</b>	<b>AHA</b>
U.S.	5,099	1,054	5,099
<b>Region</b>			
Northeast	651	134	651
Midwest	1,487	302	1,487
South	2,032	416	2,032
West	929	192	929
<b>Hospital Control</b>			
Public	1,105	228	1,120
Non-Profit	3,003	614	2,918
Proprietary	991	202	1,061
<b>Location / Teaching Status</b>			
Rural	2,050	420	2,050
Small	1,030	209	1,323
Mediums	425	88	401
Large	595	123	326
Urban, non-teaching	2,205	450	2,205
Small	1,014	206	1,032
Medium	554	114	593
Large	637	130	580
Urban, teaching	844	174	844
Small	255	53	245
Medium	256	52	241
Large	333	69	358

Note: Significance tests were not performed because AHA numbers are not sample statistics.

<sup>1</sup>The 2007 frame contains 40 states.

**Table 3. NIS and AHA Comparisons by Facility Services, 2007**

	<b>NIS</b>	<b>AHA</b>
High Tech Index <sup>1</sup> (mean)	2.66	2.58
High Tech Index <sup>1</sup> (median)	2.00	2.00
Neonatal ICUs <sup>2</sup>	18.89%	18.61%
Cardiac Catheterization <sup>2</sup>	27.35%	26.64%
CT Scanners <sup>2</sup>	78.45%	74.87%
MRIs <sup>2</sup>	57.25%	54.83%
Open Heart Surgeries <sup>2</sup>	20.81%	21.58%
Transplant Services <sup>2</sup>	7.25%	7.76%
Intensity Modulated Ray Radiation Therapy <sup>2</sup>	19.93%	18.32%
Extracorporeal Shock Wave Lithotripsy <sup>2</sup>	22.32%	21.89%
PET Scanners <sup>2</sup>	13.52%	13.09%
Pediatric Specialty Hospitals	1.06%	1.70%
Burn Units	3.83%	4.38%
Rehabilitation Units	25.30%	24.64%
Alcohol/Chemical Dependency Services	8.93%	7.13%
Trauma Centers	28.31%	28.97%
Emergency Departments	78.95%	76.28%

Note: Significance tests were not performed because AHA numbers are not sample statistics.

<sup>1</sup>Prior to 2004, the index included Angioplasty services.

<sup>2</sup>High technology service - used in the "High Tech Index."

**Table 4. NIS and AHA Comparisons by Facility Characteristics, 2007**

	<b>NIS Mean</b>	<b>AHA Mean</b>	<b>NIS Median</b>	<b>AHA Median</b>
Hospital Admissions	7,143.42	6,902.30	3,290.00	3,154.00
Hospital Discharges	7,143.42	6,902.30	3,290.00	3,154.00
Hospital Discharges <sup>1</sup>	8,037.53	7,687.40	3,612.00	3,494.00
Average Length of Stay	5.74	5.89	4.31	4.38
Average Length of Stay <sup>1</sup>	5.33	5.49	3.92	4.00
Births	894.11	785.10	310.00	248.00
Percent Medicare Days	54.07	54.51	54.31	55.66
Percent Medicare Discharges	49.16	48.76	47.87	47.95
Percent Medicare Discharges <sup>1</sup>	45.62	45.42	43.38	43.67
Percent Medicaid Days	15.05	14.54	13.15	12.52
Percent Medicaid Discharges	16.18	15.68	15.93	15.08
Percent Medicaid Discharges <sup>1</sup>	14.51	14.15	14.04	13.54
Hospital Beds	149.18	146.11	82.00	80.00
Occupancy Rate	52.34	52.23	54.19	53.73
Inpatient Surgeries	2,014.30	2,040.69	896.00	892.00
FTE <sup>2</sup>	926.88	874.98	405.50	396.00
FTE <sup>2</sup> per Bed	6.06	5.76	5.43	5.22
RN FTE <sup>2</sup> per 1000 Patient Days	3.93	3.52	3.16	3.09
Intern-Resident FTE <sup>2</sup> per 100 Beds	6.77	6.40	0.00	0.00
Intern-Resident FTE <sup>2</sup> per 100 Beds (Teaching Hospitals)	34.81	34.60	11.61	12.08
Total Hospital Expenses	\$122,366,800	\$112,658,940	\$51,407,783	\$45,143,250
Hosp. Expenses per Bed	\$751,718	\$690,442	\$651,770	\$621,871
Total Hospital Payroll	\$49,681,561	\$45,406,010	\$20,051,934	\$18,110,986
Hosp. Payroll per Bed	\$301,262	\$276,596	\$256,525	\$245,781

Note: Significance tests were not performed because AHA numbers are not sample statistics.

<sup>1</sup>To be consistent with the other datasets used for analysis in this report, AHA Annual Survey admission counts have been adjusted by including admission counts for well newborns.

<sup>2</sup>Full-time equivalents.

**Table 5. NIS and AHA Comparisons by Region, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
Overall	39,541 (799)	40,023	4.60 (0.03)	4.46**
<b>Region</b>				
Northeast	7,753 (337)	7,753	5.13 (0.08)	5.04
South	9,130 (323)	9,130	4.35 (0.06)	4.26
Midwest	15,273 (594)	15,273	4.62 (0.06)	4.47*
West	7,385 (258)	7,385	4.33 (0.08)	4.06**

\*Significant at  $p < 0.05$ .

\*\*Significant at  $p < 0.01$ .

**Table 6. NIS and AHA Comparisons by Hospital Control, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
Total Public	5,667 (693)	5,542	4.86 (0.16)	4.7
1-99 Beds	1,041 (70)	1,060	3.89 (0.16)	3.79
100-199 Beds	826 (130)	923	4.05 (0.12)	4.23
200-299 Beds	645 (143)	633	4.16 (0.16)	4.28
300-499 Beds	848 (243)	1,241	4.99 (0.28)	4.96
500+ Beds	2,305 (383)	1,683	5.73 (0.27)	5.53
Total Private Non-Profit	28,600 (965)	28,587	4.54 (0.03)	4.40**
1-99 Beds	2,433 (129)	2,617	3.67 (0.07)	3.78
100-199 Beds	4,657 (295)	4,759	4.22 (0.06)	4.10
200-299 Beds	6,202 (482)	5,842	4.46 (0.06)	4.26**
300-499 Beds	9,596 (783)	8,265	4.76 (0.06)	4.42**
500+ Beds	5,710 (939)	7,103	4.91 (0.10)	4.94
Total Proprietary	5,274 (389)	5,411	4.65 (0.09)	4.49
1-99 Beds	936 (98)	1,007	4.64 (0.28)	4.88
100-199 Beds	1,530 (126)	1,622	4.44 (0.15)	4.16
200-299 Beds	1,217 (177)	1,233	4.51 (0.15)	4.41
300-499 Beds	1,138 (225)	1,011	4.91 (0.16)	4.61
500+ Beds	450 (162)	535	5.09 (0.26)	4.70

\*Significant at  $p < 0.05$ .

\*\*Significant at  $p < 0.01$ .

**Table 7. NIS and AHA Comparisons by Location and Teaching Status, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
Rural	5,102 (218)	5,102	3.96 (0.06)	4.06
Small	1,259 (61)	1,300	3.61 (0.12)	3.68
Medium	1,116 (100)	1,316*	3.59 (0.06)	3.78**
Large	2,727 (246)	2,485	4.27 (0.09)	4.40
Urban, Non-teaching	16,417 (456)	16,417	4.45 (0.04)	4.27**
Small	1,923 (137)	1,922	4.33 (0.16)	4.42
Medium	4,661 (254)	4,566	4.27 (0.07)	4.02**
Large	9,831 (478)	9,928	4.56 (0.05)	4.36**
Urban, Teaching	18,021 (618)	18,021	4.92 (0.06)	4.75**
Small	2,802 (322)	2,432	4.48 (0.11)	4.40
Medium	4,886 (609)	4,621	4.95 (0.10)	4.67**
Large	10,332 (966)	10,967	5.03 (0.10)	4.86

\*Significant at  $p < 0.05$ .

\*\*Significant at  $p < 0.01$ .

## Summary of NIS-NHDS Comparisons

- All NIS and NHDS estimates agreed in the overall and regional comparisons.
- Agreements were also observed for most comparisons across hospital, patient, diagnoses, and procedure categories.
- Overall, similarities between the NIS and NHDS were observed for 68% of the discharge comparisons and 97% of the average length of stay (ALOS) comparisons.
- No significant differences were found for in-hospital mortality rates among these region and patient categories, and estimates agreed for 53% of hospital category comparisons.
- Of the NIS-NHDS differences discovered, most occur in diagnosis and procedure groupings.
- New to the NIS Comparison Report are tile charts that provide visual representation of discharge estimates representing the frequency and average total charges for the 25 most common principal diagnoses (Figure 2) and procedures (Figure 3) in the NIS. These figures represent the number of discharges for each CCS category by the size of the rectangle, and the associated magnitude of charges by the color (green = least expensive and orange = most expensive).
- Because of the design of the sampling frame, the NIS may over-represent urban areas. Additionally, the prevalence of higher-density states in the NIS yields data on atypical conditions rarely included in a smaller sample.
- When estimating ALOS and in-hospital mortality for the nation, or within any major categories, NIS rates were consistent with the NHDS data. Because NIS estimates have greater precision, a result of the large sample size, it may be preferred for certain analyses based on relatively uncommon conditions. Furthermore, the NIS contains total hospital charges, while the NHDS does not.
- Reliable estimates from the NIS are possible even for rare conditions. This is not true for the NHDS. Because of the smaller sample size, reliable measures of ALOS and mortality were unavailable from the NHDS for nearly all of the infrequent principal diagnoses in Table 14.

**Table 8. NIS and NHDS Comparisons by Region, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
Overall	39,541 (799)	38,416 (1,751)	4.58 (0.03)	4.67 (0.34)	1.93 (0.02)	1.92 (0.12)
<b>Region</b>						
Northeast	7,753 (337)	8,063 (1,096)	5.11 (0.08)	5.56 <sup>1</sup> (c)	2.13 (0.06)	1.89 <sup>1</sup> (c)
South	9,130 (323)	8,565 (1,017)	4.33 (0.06)	4.14 <sup>1</sup> (c)	1.76 (0.04)	1.99 <sup>1</sup> (c)
Midwest	15,273 (594)	14,187 (786)	4.60 (0.06)	4.77 (0.41)	1.96 (0.05)	1.98 (0.15)
West	7,385 (258)	7,600 (567)	4.31 (0.08)	4.16 <sup>1</sup> (c)	1.89 (0.06)	1.78 (0.18)

\*Significant at p<0.05.

\*\*Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

(c) A valid standard error could not be calculated.



**Table 9. NIS and NHDS Comparisons by Hospital Control, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
Total Public	5,667 (693)	4,364 (202)	4.84 (0.16)	4.94 (0.36)	1.93 (0.07)	1.86 (0.12)
1-99 Beds	1,041 (70)	1,260* (61)	3.86 (0.16)	3.88 (0.29)	2.06 (0.07)	2.05 (0.14)
100-199 Beds	826 (130)	768 (38)	4.03 (0.12)	4.09 (0.31)	1.97 (0.13)	1.60* (0.11)
200-299 Beds	645 (143)	290* (16)	4.14 (0.16)	5.32* (0.44)	1.65 (0.23)	2.78** (0.22)
300-499 Beds	848 (243)	1,208 (58)	4.97 (0.27)	5.67 (0.42)	1.83 (0.13)	2.26* (0.15)
500+ Beds	2,305 (383)	835** (41)	5.71 (0.27)	6.11 (0.46)	1.96 (0.13)	0.93** (0.06)
Total Private Non-Profit	28,600 (965)	29,174 (1,331)	4.53 (0.03)	4.54 (0.33)	1.93 (0.03)	1.99 (0.12)
1-99 Beds	2,433 (129)	5,695** (262)	3.65 (0.07)	3.85 (0.28)	1.97 (0.06)	2.00 (0.13)
100-199 Beds	4,657 (295)	5,314 (245)	4.20 (0.07)	4.26 (0.31)	1.95 (0.06)	1.80 (0.11)
200-299 Beds	6,202 (482)	7,179 (330)	4.44 (0.06)	4.53 (0.33)	1.86 (0.05)	1.98 (0.12)
300-499 Beds	9,596 (783)	6,417** (295)	4.74 (0.06)	4.73 (0.34)	2.01 (0.07)	1.98 (0.12)
500+ Beds	5,710 (939)	4,567 (211)	4.90 (0.10)	5.46 (0.40)	1.81 (0.09)	2.26* (0.14)
Total Proprietary	5,274 (389)	4,877 (225)	4.63 (0.09)	5.25 (0.38)	1.97 (0.06)	1.55** (0.10)
1-99 Beds	936 (98)	1,183* (57)	4.61 (0.28)	6.91** (0.52)	2.13 (0.18)	0.89** (0.06)
100-199 Beds	1,530 (126)	2,284** (107)	4.42 (0.15)	4.78 (0.35)	1.95 (0.12)	1.55* (0.10)
200-299 Beds	1,217 (177)	635** (32)	4.49 (0.15)	4.84 (0.37)	2.01 (0.09)	2.40 (0.17)
300-499 Beds	1,138 (225)	665* (33)	4.90 (0.16)	4.44 (0.34)	1.82 (0.10)	2.04 (0.14)
500+ Beds	450 (162)	108* (7)	5.07 (0.25)	4.52 (0.45)	1.98 (0.24)	0.66** (0.06)

\*Significant at  $p < 0.05$ .

\*\*Significant at  $p < 0.01$ .

**Table 10. NIS and NHDS Comparisons by Patient Characteristics, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
<b>Age Group</b>						
0-15 Years	6,387 (241)	6,391 (294)	3.67 (0.07)	3.92 (0.28)	0.39 (0.02)	0.46 (0.03)
16-44 Years	10,749 (294)	10,408 (477)	3.62 (0.04)	3.68 (0.26)	0.38 (0.01)	0.37 (0.02)
45-64 Years	9,134 (200)	8,753 (402)	4.97 (0.04)	5.11 (0.37)	1.74 (0.03)	1.63 (0.10)
65+ Years	13,229 (273)	12,863 (589)	5.54 (0.04)	5.56 (0.40)	4.07 (0.05)	4.10 (0.26)
<b>Gender</b>						
Female	23,202 (492)	22,478 (1,026)	4.33 (0.03)	4.43 (0.32)	1.64 (0.02)	1.75 (0.11)
Male	16,230 (324)	15,937 (728)	4.95 (0.04)	5.02 (0.36)	2.36 (0.03)	2.17 (0.14)
<b>Race</b>						
White	18,459 (672)	22,620* (1,477)	4.69 (0.03)	4.71 (0.47)	2.22 (0.03)	2.02 (0.18)
Black	4,138 (312)	4,779 (334)	5.22 (0.08)	5.33 (0.59)	1.83 (0.05)	1.97 (0.19)
Other	5,912 (387)	1,508** (207)	4.35 (0.09)	4.54 <sup>1</sup> (c)	1.35 (0.04)	1.51 <sup>1</sup> (c)
Unknown	11,031 (799)	9,507 (1,238)	4.29 (0.06)	4.29 <sup>1</sup> (c)	1.80 (0.05)	1.73 <sup>1</sup> (c)

\*Significant at p<0.05.

\*\*Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

(c) A valid standard error could not be calculated.

**Table 11. NIS and NHDS Comparisons by Principal Payer, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
Medicare	14,381 (294)	13,277 (678)	5.62 (0.04)	5.72 (0.44)	3.56 (0.04)	3.57 (0.25)
Medicaid	7,663 (301)	7,589 (603)	4.33 (0.08)	4.62 <sup>1</sup> (c)	0.80 (0.02)	0.81 (0.09)
Private Insurance	13,719 (459)	13,280 (768)	3.76 (0.03)	3.83 (0.36)	1.00 (0.03)	1.00 (0.08)
Self Pay	2,104 (106)	1,737* (109)	3.89 (0.07)	3.72 (0.39)	1.25 (0.05)	1.39 (0.12)
No Charge	205 (53)	94 (18)	4.91 (0.48)	4.35 <sup>1</sup> (c)	1.21 (0.15)	1.80 <sup>1</sup> (c)
Other	1,383 (92)	2,436* (461)	4.45 (0.10)	4.44 <sup>1</sup> (c)	1.69 (0.12)	1.82 <sup>1</sup> (c)
Missing	41 (16)	0 <sup>1</sup> (a)	4.18 (0.26)	0.00 <sup>1</sup> (a)	1.61 (0.23)	0.00 <sup>1</sup> (a)

\*Significant at p<0.05.

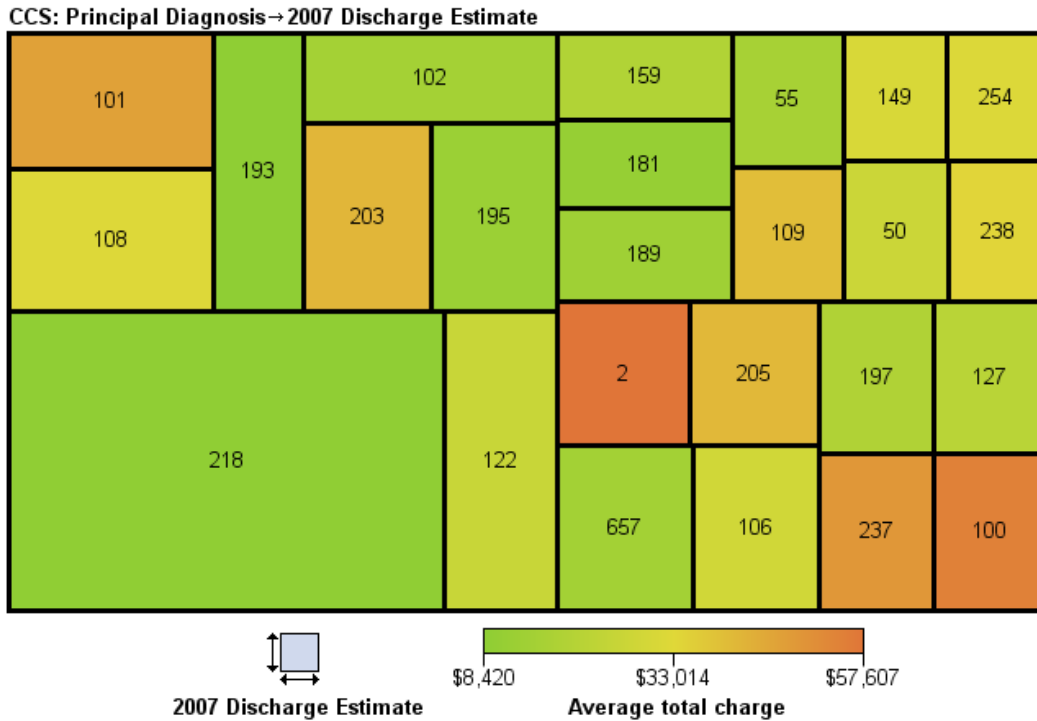
\*\*Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

(a) Because of very small sample size, the NHDS estimate and standard error were unreliable and not reported.

(c) A valid standard error could not be calculated.

**Figure 2. Discharge Estimates for the 25 Most Common Principal Diagnoses, NIS, 2007**



DXCCS	Average Total Charge	Discharge Estimate	Diagnosis
2	\$57,607	134,019	Septicemia (except in labor)
50	\$26,308	101,574	Diabetes mellitus with complications
55	\$15,488	103,450	Fluid and electrolyte disorders
100	\$54,714	122,764	Acute myocardial infarction
101	\$46,842	192,378	Coronary atherosclerosis and other heart disease
102	\$14,854	157,578	Nonspecific chest pain
106	\$27,964	145,474	Cardiac dysrhythmias
108	\$31,730	203,354	Congestive heart failure; nonhypertensive
109	\$39,621	104,005	Acute cerebrovascular disease
122	\$25,652	232,808	Pneumonia (except caused by tuberculosis or sexually transmitted disease)
127	\$20,890	118,110	Chronic obstructive pulmonary disease and bronchiectasis
149	\$30,265	91,077	Biliary tract disease
159	\$18,513	106,450	Urinary tract infections
181	\$10,411	107,026	Other complications of pregnancy
189	\$13,114	114,254	Previous C-section
193	\$8,420	173,297	OB-related trauma to perineum and vulva
195	\$11,946	162,915	Other complications of birth; puerperium affecting management of mother
197	\$18,205	120,667	Skin and subcutaneous tissue infections
203	\$41,518	165,657	Osteoarthritis
205	\$41,140	129,443	Spondylosis; intervertebral disc disorders; other back problems
218	\$8,642	903,719	Liveborn
237	\$49,275	124,544	Complication of device; implant or graft
238	\$33,896	95,530	Complications of surgical procedures or medical care
254	\$31,590	88,039	Rehabilitation care; fitting of prostheses; and adjustment of devices
657	\$14,382	155,154	Mood disorders

**Table 12. NIS and NHDS Comparisons by the 25 Most Common Principal Diagnoses, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
218: Liveborn	4,542 (180)	4,051 (188)	3.35 (0.06)	3.46 (0.25)	0.33 (0.01)	0.41* (0.02)
122: Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	1,171 (21)	1,072 (52)	5.41 (0.04)	5.04 (0.38)	3.52 (0.07)	3.71 (0.25)
108: Congestive heart failure; nonhypertensive	1,024 (23)	1,023 (50)	5.26 (0.04)	5.10 (0.38)	3.31 (0.06)	2.91 (0.20)
101: Coronary atherosclerosis and other heart disease	963 (40)	968 (47)	3.31 (0.04)	3.22 (0.24)	0.51 (0.01)	0.58 (0.04)
193: OB-related trauma to perineum and vulva	867 (48)	-- <sup>1</sup> (a)	2.08 (0.01)	-- <sup>1</sup> (a)	0.00 (0.00)	-- <sup>1</sup> (a)
203: Osteoarthritis	814 (37)	718 (36)	3.52 (0.04)	3.67 (0.28)	0.09 (0.00)	0.06** (0.00)
195: Other complications of birth; puerperium affecting management of mother	810 (33)	71** (5)	2.79 (0.03)	3.92* (0.44)	0.02 (0.00)	0.20** (0.02)
102: Nonspecific chest pain	788 (28)	31** (3)	1.87 (0.01)	1.71 <sup>1</sup> (c)	0.06 (0.00)	0.00 <sup>1</sup> (c)
657: Mood Disorders	774 (44)	1,070** (52)	6.89 (0.18)	7.00 (0.53)	0.03 (0.00)	0.07** (0.00)
106: Cardiac dysrhythmias	731 (19)	807 (40)	3.45 (0.03)	3.56 (0.27)	0.97 (0.03)	1.24** (0.08)
2: Septicemia (except in labor)	675 (17)	596* (30)	9.05 (0.11)	9.32 (0.72)	17.26 (0.25)	18.53 (1.34)
205: Spondylosis; intervertebral disc disorders; other back problems	633 (25)	609 (31)	3.01 (0.04)	3.46 (0.27)	0.15 (0.01)	0.24** (0.01)
100: Acute myocardial infarction	624 (21)	577 (29)	5.03 (0.05)	5.09 (0.40)	6.13 (0.10)	6.68 (0.48)
237: Complication of device; implant or graft	623 (20)	547* (28)	5.99 (0.07)	5.95 (0.46)	1.66 (0.05)	1.73 (0.12)
197: Skin and subcutaneous tissue infections	604 (13)	569 (29)	4.51 (0.03)	4.46 (0.35)	0.35 (0.02)	0.30 (0.02)
127: Chronic obstructive pulmonary disease and bronchiectasis	593 (13)	648 (33)	4.67 (0.04)	4.42 (0.34)	1.79 (0.05)	1.55 (0.11)
189: Previous C-section	561 (23)	-- <sup>1</sup> (a)	2.85 (0.02)	-- <sup>1</sup> (a)	0.00 (0.00)	-- <sup>1</sup> (a)
159: Urinary tract infections	535 (11)	669** (34)	4.38 (0.03)	4.42 (0.34)	0.99 (0.03)	1.23* (0.08)

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
181: Other complications of pregnancy	531 (19)	181** (11)	2.41 (0.01)	2.37 (0.22)	0.03 (0.00)	0.00** (0.00)
109: Acute cerebrovascular disease	527 (13)	486 (25)	6.16 (0.09)	6.26 (0.49)	9.34 (0.19)	9.22 (0.68)
55: Fluid and electrolyte disorders	519 (11)	753** (37)	3.59 (0.03)	3.64 (0.28)	1.63 (0.05)	1.81 (0.12)
50: Diabetes mellitus with complications	510 (11)	500 (26)	5.15 (0.05)	5.62 (0.44)	0.79 (0.03)	0.73 (0.05)
238: Complications of surgical procedures or medical care	481 (12)	478 (25)	6.13 (0.07)	6.25 (0.49)	1.32 (0.04)	0.91** (0.06)
149: Biliary tract disease	454 (10)	419 (22)	4.17 (0.03)	3.96 (0.32)	0.67 (0.02)	0.48** (0.03)
254: Rehabilitation care; fitting of prostheses; and adjustment of devices	438 (29)	397 (21)	12.85 (0.22)	12.88 (1.02)	0.62 (0.06)	0.11** (0.00)

\*Significant at p<0.05.

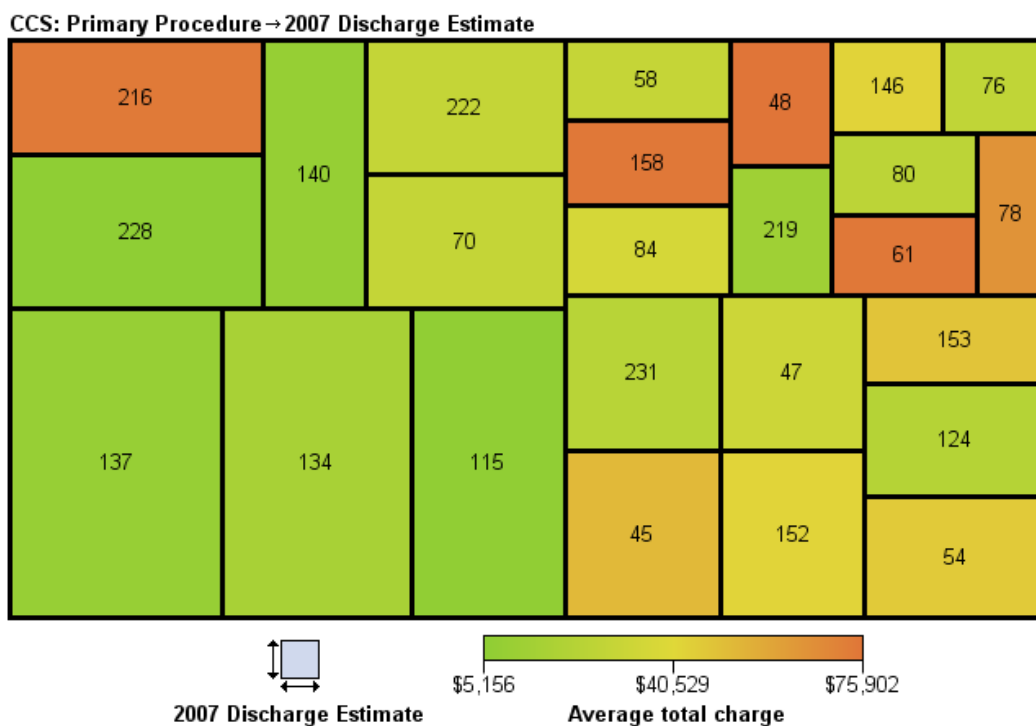
\*\*Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

(a) Because of very small sample size, the NHDS estimate and standard error were unreliable and not reported.

(c) A valid standard error could not be calculated.

**Figure 3. Discharge Estimates for the 25 Most Common Principal Procedures, NIS, 2007**



PRCCS	Average Total Charge	2007 Discharge Estimate	Procedure
45	\$51,812	133,318	Percutaneous transluminal coronary angioplasty (PTCA)
47	\$31,275	115,223	Diagnostic cardiac catheterization; coronary arteriography
48	\$75,902	65,747	Insertion; revision; replacement; removal of cardiac pacemaker or cardioverter/defibrillator
54	\$45,726	111,687	Other vascular catheterization; not heart
58	\$28,277	68,227	Hemodialysis
61	\$74,813	60,432	Other OR procedures on vessels other than head and neck
70	\$27,900	136,794	Upper gastrointestinal endoscopy; biopsy
76	\$26,472	48,963	Colonoscopy and biopsy
78	\$65,266	56,830	Colorectal resection
80	\$24,639	60,270	Appendectomy
84	\$35,414	76,864	Cholecystectomy and common duct exploration
115	\$5,980	242,709	Circumcision
124	\$21,738	104,260	Hysterectomy; abdominal and vaginal
134	\$15,889	298,240	Cesarean section
137	\$8,803	335,883	Other procedures to assist delivery
140	\$8,210	141,680	Repair of current obstetric laceration
146	\$42,567	53,409	Treatment; fracture or dislocation of hip and femur
152	\$42,474	123,019	Arthroplasty knee
153	\$48,035	81,268	Hip replacement; total and partial
158	\$74,954	72,106	Spinal fusion
216	\$74,120	149,183	Respiratory intubation and mechanical ventilation
219	\$12,067	67,587	Alcohol and drug rehabilitation/detoxification
222	\$27,836	136,708	Blood transfusion
228	\$5,156	199,108	Prophylactic vaccinations and inoculations
231	\$23,007	122,996	Other therapeutic procedures

**Table 13. NIS and NHDS Comparisons by the 25 Most Common Principal Procedures, 2007**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
137: Other procedures to assist delivery	1,677 (84)	1,150** (56)	2.15 (0.02)	2.15 (0.16)	0.00 (0.00)	0.00* (0.00)
134: Cesarean section	1,479 (64)	1,336 (64)	3.61 (0.04)	3.49 (0.26)	0.01 (0.00)	0.01 (0.00)
115: Circumcision	1,238 (55)	1,147 (55)	3.03 (0.04)	2.99 (0.22)	0.00 (0.00)	0.07** (0.00)
228: Prophylactic vaccinations and inoculations	1,025 (105)	922 (45)	2.58 (0.04)	2.55 (0.19)	0.02 (0.00)	0.08** (0.00)
216: Respiratory intubation and mechanical ventilation	754 (18)	671* (34)	10.57 (0.18)	9.82 (0.75)	25.18 (0.34)	24.28 (1.74)
140: Repair of current obstetric laceration	708 (41)	770 (38)	2.18 (0.01)	2.19 (0.17)	0.00 (0.00)	0.00 (0.00)
222: Blood transfusion	694 (22)	615* (31)	5.62 (0.05)	5.68 (0.44)	4.18 (0.09)	4.49 (0.32)
70: Upper gastrointestinal endoscopy; biopsy	685 (16)	653 (33)	5.27 (0.04)	5.26 (0.41)	1.24 (0.03)	0.95** (0.06)
45: Percutaneous transluminal coronary angioplasty (PTCA)	668 (36)	557* (28)	2.70 (0.04)	2.72 (0.21)	0.80 (0.03)	0.70 (0.05)
231: Other therapeutic procedures	637 (61)	570 (29)	5.10 (0.12)	5.21 (0.41)	2.62 (0.19)	3.59** (0.26)
152: Arthroplasty knee	605 (26)	554 (28)	3.62 (0.04)	3.54 (0.28)	0.08 (0.00)	0.24** (0.01)
47: Diagnostic cardiac catheterization; coronary arteriography	576 (22)	512 (26)	3.59 (0.04)	3.75 (0.30)	0.81 (0.04)	1.09** (0.08)
54: Other vascular catheterization; not heart	558 (18)	520 (27)	8.89 (0.12)	8.66 (0.67)	6.99 (0.14)	6.72 (0.49)
124: Hysterectomy; abdominal and vaginal	516 (17)	498 (26)	2.58 (0.04)	2.42 (0.19)	0.07 (0.00)	0.05* (0.00)
153: Hip replacement; total and partial	402 (17)	372 (20)	4.64 (0.05)	4.60 (0.37)	0.83 (0.04)	0.74 (0.05)
84: Cholecystectomy and common duct exploration	382 (9)	357 (19)	4.62 (0.04)	4.56 (0.37)	0.65 (0.03)	0.78 (0.06)
158: Spinal fusion	350 (18)	339 (18)	3.91 (0.09)	4.13 (0.34)	0.23 (0.02)	0.09** (0.00)
219: Alcohol and drug rehabilitation/detoxification	346 (35)	336 (18)	5.55 (0.43)	5.05 (0.41)	0.12 (0.02)	0.28** (0.02)
58: Hemodialysis	343 (13)	337 (18)	5.35 (0.09)	5.15 (0.42)	2.69 (0.09)	2.72 (0.21)



	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
48: Insertion; revision; replacement; removal of cardiac pacemaker or cardioverter/defibrillator	329 (13)	273** (15)	4.63 (0.07)	4.77 (0.40)	0.89 (0.04)	1.13* (0.09)
61: Other OR procedures on vessels other than head and neck	305 (10)	260* (15)	8.71 (0.26)	8.81 (0.73)	3.75 (0.12)	3.68 (0.30)
80: Appendectomy	300 (8)	303 (17)	2.74 (0.03)	2.77 (0.23)	0.11 (0.01)	0.21** (0.01)
78: Colorectal resection	287 (7)	250* (14)	9.77 (0.08)	9.43 (0.79)	3.72 (0.10)	2.90** (0.24)
146: Treatment; fracture or dislocation of hip and femur	269 (6)	269 (15)	6.07 (0.07)	5.99 (0.50)	1.60 (0.06)	1.81 (0.14)
76: Colonoscopy and biopsy	246 (5)	226 (13)	5.39 (0.04)	5.16 (0.44)	0.74 (0.04)	0.75 (0.06)

\* Significant at p<0.05.

\*\* Significant at p<0.01.

**Table 14. NIS and NHDS Comparisons by Infrequent Principal Diagnoses, 2007**

	Number of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
1: Tuberculosis	8 (0)	11 (2)	15.66 (1.15)	7.49 <sup>1</sup> (c)	3.38 (0.49)	0.65 <sup>1</sup> (c)
11: Cancer of head and neck	32 (3)	29 (3)	7.67 (0.19)	6.22 <sup>1</sup> (c)	3.77 (0.39)	6.59 <sup>1</sup> (c)
12: Cancer of esophagus	13 (0)	8 <sup>**</sup> (1)	9.44 (0.29)	10.72 <sup>1</sup> (c)	9.54 (0.76)	11.01 <sup>1</sup> (c)
123: Influenza	17 (0)	23 (3)	3.74 (0.10)	4.09 <sup>1</sup> (c)	1.07 (0.20)	0.53 <sup>1</sup> (c)
13: Cancer of stomach	25 (1)	17 (2)	10.55 (0.21)	8.70 <sup>1</sup> (c)	8.27 (0.51)	11.90 <sup>1</sup> (c)
148: Peritonitis and intestinal abscess	27 (0)	37 <sup>1</sup> (3)	7.90 (0.12)	7.96 <sup>1</sup> (c)	4.05 (0.25)	1.77 <sup>1</sup> (c)
15: Cancer of rectum and anus	47 (2)	37 <sup>1</sup> (3)	8.58 (0.11)	7.88 <sup>1</sup> (c)	3.08 (0.21)	3.57 <sup>1</sup> (c)
16: Cancer of liver and intrahepatic bile duct	20 (1)	17 (2)	6.49 (0.17)	7.65 <sup>1</sup> (c)	12.38 (0.93)	15.17 <sup>1</sup> (c)
17: Cancer of pancreas	35 (1)	35 (3)	8.51 (0.14)	8.13 <sup>1</sup> (c)	10.25 (0.48)	9.53 <sup>1</sup> (c)
21: Cancer of bone and connective tissue	17 (2)	11 (2)	7.52 (0.29)	6.02 <sup>1</sup> (c)	3.22 (0.47)	4.67 <sup>1</sup> (c)
227: Spinal cord injury	13 (0)	8 (1)	14.01 (0.61)	11.51 <sup>1</sup> (c)	5.57 (0.45)	4.72 <sup>1</sup> (c)
240: Burns	27 (4)	78 <sup>**</sup> (6)	8.75 (0.51)	6.81 <sup>1</sup> (0.72)	3.17 (0.37)	2.10 (0.23)
243: Poisoning by nonmedicinal substances	19 (0)	18 (2)	3.32 (0.11)	3.63 <sup>1</sup> (c)	1.58 (0.23)	2.13 <sup>1</sup> (c)
25: Cancer of uterus	41 (2)	30 (3)	4.19 (0.10)	4.15 <sup>1</sup> (c)	1.26 (0.14)	1.35 <sup>1</sup> (c)
26: Cancer of cervix	23 (1)	20 (2)	3.55 (0.09)	3.66 <sup>1</sup> (c)	1.60 (0.18)	0.79 <sup>1</sup> (c)
27: Cancer of ovary	25 (1)	25 (3)	6.76 (0.15)	6.00 <sup>1</sup> (c)	4.48 (0.38)	3.97 <sup>1</sup> (c)
30: Cancer of testis	2 (0)	-- <sup>1</sup> (a)	6.31 (0.39)	-- <sup>1</sup> (a)	2.38 (0.79)	-- <sup>1</sup> (a)
32: Cancer of bladder	38 (2)	34 (3)	6.23 (0.18)	5.48 <sup>1</sup> (c)	3.13 (0.22)	1.79 <sup>1</sup> (c)
35: Cancer of brain and nervous system	37 (3)	33 (3)	7.08 (0.19)	7.56 <sup>1</sup> (c)	3.88 (0.30)	5.34 <sup>1</sup> (c)
36: Cancer of thyroid	29 (2)	25 (3)	2.29 (0.07)	1.81 <sup>1</sup> (c)	0.66 (0.10)	0.19 <sup>1</sup> (c)
37: Hodgkin`s disease	5 (0)	7 (1)	11.16 (0.95)	5.06 <sup>1</sup> (c)	4.75 (0.63)	1.95 <sup>1</sup> (c)
39: Leukemias	43 (3)	56 (5)	15.07 (0.72)	10.96 <sup>**</sup> (1.23)	13.52 (0.63)	13.24 (1.69)
60: Acute posthemorrhagic anemia	14 (0)	65 <sup>**</sup> (5)	3.50 (0.08)	8.16 <sup>**</sup> (0.90)	0.93 (0.17)	0.07 <sup>**</sup> (0.00)

	Number of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)	
	NIS	NHDS	NIS	NHDS	NIS	NHDS
76: Meningitis (except that caused by tuberculosis or sexually transmitted disease)	42 (1)	42 (4)	5.03 (0.09)	5.04 <sup>1</sup> (c)	1.45 (0.13)	0.48 <sup>1</sup> (c)
77: Encephalitis (except that caused by tuberculosis or sexually transmitted disease)	9 (0)	10 (1)	9.57 (0.31)	9.54 <sup>1</sup> (c)	3.66 (0.43)	7.55 <sup>1</sup> (c)

\* Significant at p<0.05.

\*\* Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

(a) Because of very small sample size, the NHDS estimate and standard error were unreliable and not reported.

(b) The NHDS estimate was reported but is not considered reliable; the standard error was not reported.

(c) A valid standard error could not be calculated.

## Summary of NIS-MedPAR Comparisons

- With the exception of discharge counts, NIS estimates of Medicare measures were generally consistent with MedPAR statistics.
- NIS discharge estimates were uniformly higher than the MedPAR numbers by approximately 11%, consistent with the omission of most managed care enrollees from the MedPAR. While 19.0% of Medicare patients were enrolled in managed care programs, the MedPAR data contain a very small number of managed care discharges (only 3.16% of 13,306,427 total discharges).
- The NIS provides a large sample of Medicare discharges both in managed care and fee-for-service plans; it would therefore, be the choice of researchers who wished to include all discharges regardless of payment type. Inclusion of Medicare managed care discharges leads to discrepancies in estimated discharge counts, but most other NIS Medicare estimates were similar to MedPAR statistics, particularly with respect to comparisons by hospital characteristics.
- The NIS contains significant numbers of discharges for which race was missing (26 percent). While the NHDS also suffers from this problem (25% of discharges without race), race information is present for nearly all MedPAR discharges.
- New to the NIS Comparison Report are tile charts that provide visual representation of discharge estimates representing the frequency and average total charges for the most frequent diagnosis-related groups (DRG) (Figure 4), principal diagnoses (Figure 5), and procedures (Figure 6) among the Medicare population in the NIS.

Table 15. NIS and MedPAR Comparisons by Region, 2007

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
U.S.	14,381 (293)	12,912**	n/a	n/a	5.63 (0.04)	5.80**	3.56 (0.04)	3.51	\$32,752 (689)	\$32,794
<b>Region</b>										
Northeast	2,939 (148)	2,554**	20.43 (0.89)	19.78	6.29 (0.10)	6.42	4.12 (0.11)	3.85*	\$34,985 (1,947)	\$36,837
South	3,545 (131)	3,503	24.65 (0.82)	27.13**	5.18 (0.06)	5.35**	3.06 (0.07)	3.12	\$25,899 (830)	\$26,705
Midwest	5,620 (195)	5,053**	39.08 (1.02)	39.13	5.65 (0.06)	5.89**	3.48 (0.06)	3.54	\$29,865 (816)	\$30,575
West	2,276 (92)	1,800**	15.82 (0.62)	13.94**	5.45 (0.10)	5.50	3.81 (0.11)	3.75	\$48,668 (2,577)	\$45,135

\*Significant at p<0.05.

\*\*Significant at p<0.01.

**Table 16. NIS and MedPAR Comparisons by Hospital Control, 2007**

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
Total Public	1,817 (170)	1,603	12.63 (1.19)	12.42	5.60 (0.14)	5.54	3.64 (0.09)	3.58	\$26,698 (1,426)	\$27,207
1-99 Beds	485 (29)	431	26.72 (2.03)	26.92	4.68 (0.15)	4.33*	3.43 (0.11)	3.15*	\$12,610 (556)	\$11,773
100-199 Beds	297 (48)	286	16.35 (2.65)	17.86	5.09 (0.15)	5.31	3.95 (0.24)	3.56	\$30,170 (4,707)	\$24,187
200-299 Beds	224 (48)	197	12.35 (2.88)	12.32	5.49 (0.21)	5.64	3.50 (0.36)	3.61	\$25,715 (2,058)	\$30,030*
300-499 Beds	235 (76)	313	12.95 (4.05)	19.57	6.15 (0.36)	6.21	3.60 (0.34)	3.85	\$33,324 (4,052)	\$34,207
500+ Beds	574 (100)	373*	31.61 (4.60)	23.30	6.45 (0.32)	6.49	3.73 (0.17)	3.86	\$34,311 (2,822)	\$39,981*
Total Private Non-Profit	10,480 (336)	9,422**	72.87 (1.47)	72.97	5.59 (0.04)	5.64	3.58 (0.05)	3.49	\$31,741 (847)	\$31,963
1-99 Beds	1,042 (50)	1,026	9.94 (0.53)	10.89	4.68 (0.10)	4.75	3.62 (0.10)	3.22**	\$18,284 (883)	\$17,240
100-199 Beds	1,826 (113)	1,668	17.42 (1.11)	17.70	5.28 (0.07)	5.44*	3.66 (0.10)	3.44*	\$26,601 (1,476)	\$25,949
200-299 Beds	2,346 (196)	1,921*	22.39 (1.89)	20.39	5.53 (0.09)	5.54	3.39 (0.10)	3.53	\$28,973 (1,384)	\$30,404
300-499 Beds	3,517 (305)	2,696**	33.55 (2.79)	28.61	5.79 (0.08)	5.73	3.60 (0.11)	3.47	\$34,709 (1,631)	\$34,766
500+ Beds	1,748 (284)	2,109	16.67 (2.56)	22.38*	6.16 (0.14)	6.21	3.68 (0.15)	3.68	\$42,449 (2,677)	\$41,726

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
Total Proprietary	2,083 (130)	1,885	14.48 (0.91)	14.60	5.88 (0.14)	6.79**	3.38 (0.11)	3.55	\$43,050 (2,040)	\$41,700
1-99 Beds	423 (39)	471	20.31 (1.77)	24.98**	6.38 (0.47)	8.79**	3.68 (0.29)	3.50	\$33,721 (2,210)	\$34,735
100-199 Beds	669 (54)	557*	32.12 (2.42)	29.55	5.63 (0.20)	5.94	3.12 (0.17)	3.41	\$41,829 (3,543)	\$37,664
200-299 Beds	529 (82)	412	25.39 (3.60)	21.89	5.75 (0.26)	6.17	3.36 (0.16)	3.72*	\$41,029 (3,486)	\$44,081
300-499 Beds	368 (67)	294	17.68 (3.29)	15.60	5.80 (0.15)	6.26**	3.37 (0.23)	3.60	\$54,077 (5,466)	\$53,768
500+ Beds	93 (40)	150	4.48 (1.92)	7.95	6.30 (0.25)	6.38	3.97 (0.53)	3.68	\$61,564 (3,157)	\$48,342**

\*Significant at p<0.05.

\*\*Significant at p<0.01.

**Table 17. NIS and MedPAR Comparisons by Hospital Location and Teaching Status, 2007**

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
Rural	2,308 (98)	2,121	16.05 (0.65)	16.42	4.87 (0.07)	4.76	3.56 (0.07)	3.36**	\$17,763 (597)	\$17,334
Small	641 (26)	561**	27.79 (1.49)	26.46	4.25 (0.09)	4.08	3.51 (0.12)	3.10**	\$11,240 (500)	\$10,849
Medium	473 (43)	528	20.51 (2.19)	24.90*	4.59 (0.09)	4.57	3.45 (0.11)	3.33	\$16,582 (705)	\$16,189
Large	1,193 (110)	1,031	51.68 (2.93)	48.63	5.31 (0.11)	5.23	3.63 (0.11)	3.51	\$21,718 (927)	\$21,449
Urban, Non-teaching	6,395 (181)	5,647**	44.47 (1.00)	43.73	5.66 (0.06)	5.94**	3.53 (0.06)	3.51	\$34,099 (999)	\$33,810
Small	801 (52)	792	12.52 (0.82)	14.03	5.95 (0.28)	7.44**	3.74 (0.18)	3.39	\$29,107 (1,476)	\$29,307
Medium	1,891 (98)	1,536**	29.57 (1.59)	27.20	5.45 (0.09)	5.64	3.54 (0.10)	3.49	\$33,464 (1,989)	\$31,119
Large	3,702 (181)	3,318*	57.89 (1.72)	58.75	5.70 (0.07)	5.72	3.48 (0.08)	3.55	\$35,501 (1,427)	\$36,131
Urban, Teaching	5,676 (208)	5,143*	39.47 (1.04)	39.83	5.92 (0.06)	6.07*	3.59 (0.08)	3.58	\$37,376 (1,296)	\$38,055
Small	907 (124)	672	15.99 (2.13)	13.06	5.53 (0.15)	5.92*	3.37 (0.22)	3.44	\$30,418 (2,190)	\$32,867
Medium	1,636 (222)	1,321	28.83 (4.00)	25.69	5.93 (0.11)	6.02	3.74 (0.17)	3.57	\$38,462 (2,873)	\$36,779
Large	3,132 (293)	3,150	55.17 (4.33)	61.24	6.02 (0.11)	6.12	3.58 (0.11)	3.62	\$38,658 (1,713)	\$39,698

\*Significant at p<0.05.

\*\*Significant at p<0.01.



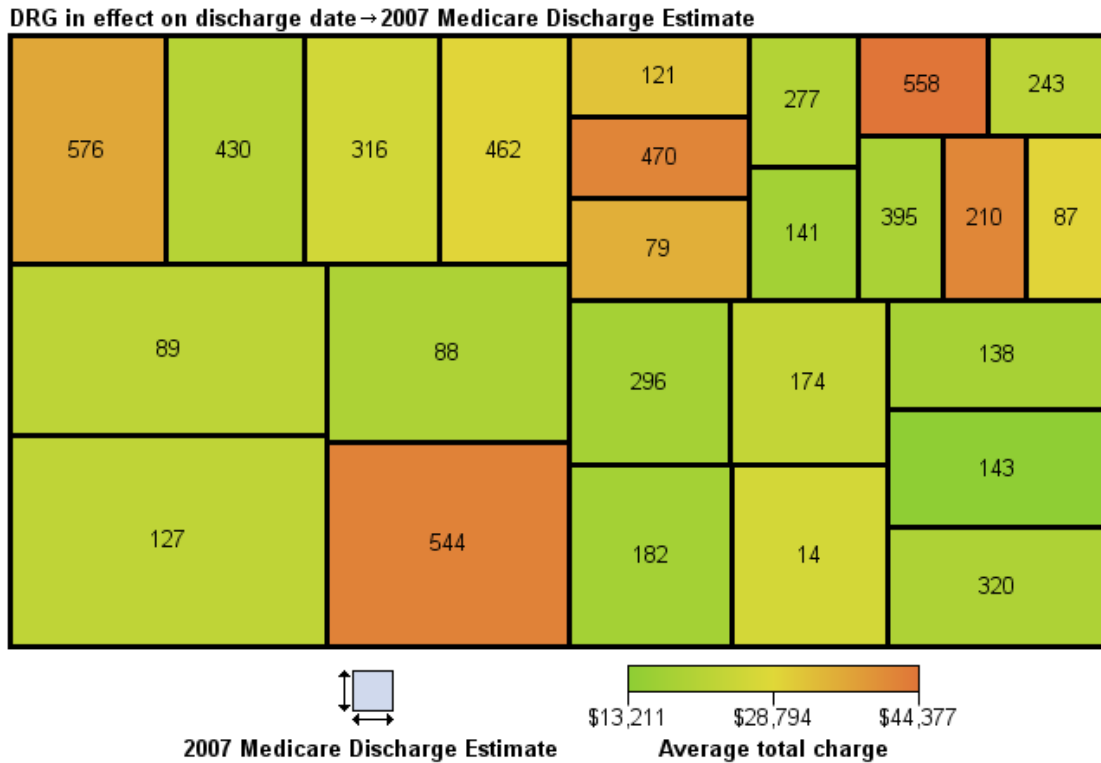
Table 18. NIS and MedPAR Comparisons by Patient Characteristics, 2007

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
<b>Age Group</b>										
0-64 Years	2,601 (67)	2,382**	18.09 (0.35)	18.45	5.92 (0.06)	6.15**	1.83 (0.03)	1.85	\$32,258 (769)	\$32,883
65-74 Years	4,187 (91)	3,788**	29.11 (0.20)	29.34	5.39 (0.03)	5.58**	2.75 (0.03)	2.81	\$35,552 (734)	\$35,938
75-84 Years	4,842 (109)	4,152**	33.67 (0.20)	32.15**	5.67 (0.04)	5.80**	3.92 (0.05)	3.77**	\$33,334 (706)	\$33,136
85+ Years	2,747 (66)	2,588*	19.10 (0.23)	20.04**	5.66 (0.05)	5.79*	5.80 (0.08)	5.66	\$27,925 (692)	\$27,561
<b>Gender</b>										
Female	8,110 (164)	7,244**	56.39 (0.15)	56.10	5.58 (0.04)	5.75**	3.31 (0.04)	3.26	\$30,845 (644)	\$30,816
Male	6,263 (132)	5,667**	43.54 (0.15)	43.89*	5.71 (0.04)	5.86**	3.89 (0.04)	3.83	\$35,218 (754)	\$35,322
<b>Race</b>										
White	8,177 (303)	10,657**	56.86 (1.60)	82.53**	5.59 (0.04)	5.64	3.66 (0.05)	3.53*	\$33,424 (847)	\$31,976
Black	1,258 (98)	1,598**	8.75 (0.66)	12.38**	6.51 (0.10)	6.63	3.47 (0.08)	3.42	\$36,841 (1,700)	\$34,711
Other	1,148 (81)	616**	7.98 (0.56)	4.77**	6.25 (0.11)	6.23	3.69 (0.11)	3.60	\$42,391 (1,628)	\$41,912
Unknown	3,796 (267)	39**	26.40 (1.82)	0.30**	5.25 (0.06)	5.74**	3.34 (0.07)	2.62**	\$27,111 (939)	\$33,533**

\*Significant at p<0.05.

\*\*Significant at p<0.01.

**Figure 4. Medicare Discharge Estimates for the 25 Most Common DRGs in the NIS, 2007**



DRG	Average Total Charge	2007 Discharge Estimate	Diagnosis Related Group
14	\$26,192	45,148	Intracranial Hemorrhage Or Cerebral Infarction
79	\$35,398	29,020	Respiratory Infections & Inflammations Age >17 W CC
87	\$29,518	21,199	Pulmonary Edema & Respiratory Failure
88	\$18,950	68,577	Chronic Obstructive Pulmonary Disease
89	\$21,926	86,190	Simple Pneumonia & Pleurisy Age >17 W CC
121	\$32,258	23,321	Circulatory Disorders W Ami & Major Comp, Discharged Alive
127	\$22,327	107,649	Heart Failure & Shock
138	\$17,766	38,468	Cardiac Arrhythmia & Conduction Disorders W CC
141	\$17,074	23,159	Syncope & Collapse W CC
143	\$13,211	41,297	Chest Pain
174	\$22,999	42,074	G.I. Hemorrhage W CC
182	\$17,261	47,167	Esophagitis, Gastroent & Misc Digest Disorders Age >17 W CC
210	\$41,571	21,838	Hip & Femur Procedures Except Major Joint Age >17 W CC
243	\$21,582	19,201	Medical Back Problems
277	\$20,099	22,857	Cellulitis Age >17 W CC
296	\$17,399	42,492	Nutritional & Misc Metabolic Disorders Age >17 W CC
316	\$25,777	49,522	Renal Failure
320	\$19,051	41,792	Kidney & Urinary Tract Infections Age >17 W CC
395	\$18,425	22,095	Red Blood Cell Disorders Age >17
430	\$20,531	50,969	Psychoses
462	\$29,362	47,805	Rehabilitation
470	\$41,898	23,704	Ungroupable
544	\$42,280	79,353	Major Joint Replacement Or Reattachment Of Lower Extremity
558	\$44,377	20,728	Percutaneous Cardiovascular Proc W Drug-Eluting Stent W/O Maj Cv Dx
576	\$36,618	56,908	Septicemia W/O Mv 96+ Hours Age >17

**Table 19. NIS and MedPAR Comparisons by DRG, 2007**

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
127: Heart Failure & Shock	545 (12)	626**	3.79 (0.05)	4.84**	5.00 (0.03)	5.01	3.41 (0.07)	3.38	\$22,166 (578)	\$21,829
89: Simple Pneumonia & Pleurisy Age >17 w CC	437 (9)	479**	3.04 (0.04)	3.71**	5.30 (0.04)	5.29	3.58 (0.08)	3.57	\$21,714 (512)	\$21,324
544: Major Joint and Limb Reattachments Procedures of Lower Extremity	393 (16)	461**	2.73 (0.09)	3.57**	4.19 (0.03)	4.19	0.54 (0.02)	0.56	\$41,944 (839)	\$41,944
88: Chronic Obstructive Pulmonary Disease	346 (8)	406**	2.40 (0.04)	3.14**	4.67 (0.04)	4.71	1.28 (0.05)	1.22	\$18,762 (432)	\$18,977
576: Septicemia without Mechanical Ventilation 96 + Hours Age >17	287 (8)	335**	1.99 (0.04)	2.59**	7.11 (0.08)	7.11	17.49 (0.29)	17.25	\$36,472 (944)	\$35,613
430: Psychoses	256 (15)	329**	1.78 (0.10)	2.55**	10.50 (0.28)	10.53	0.09 (0.01)	0.08	\$20,613 (732)	\$20,379
316: Renal Failure	251 (6)	275**	1.74 (0.03)	2.13**	5.72 (0.05)	5.85*	5.31 (0.13)	5.31	\$25,551 (605)	\$25,843

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
182: Esophagitis	239 (5)	269**	1.66 (0.02)	2.09**	3.93 (0.03)	3.95	0.77 (0.04)	0.78	\$17,125 (376)	\$17,075
462: Rehabilitation	237 (16)	339**	1.65 (0.11)	2.63**	12.08 (0.17)	13.03**	0.70 (0.07)	0.25**	\$29,202 (1,074)	\$29,673
14: Intracranial hemorrhage and stroke with infarction	228 (5)	271**	1.58 (0.02)	2.10**	5.11 (0.04)	5.36**	9.33 (0.23)	9.10	\$26,126 (644)	\$26,155
296: Nutritional & Misc Metabolic Disorders Age >17 w CC	215 (4)	241**	1.49 (0.02)	1.86**	4.34 (0.03)	4.41	2.82 (0.10)	2.65	\$17,273 (431)	\$17,180
174: G.I. Hemorrhage w CC	212 (5)	243**	1.47 (0.01)	1.88**	4.55 (0.03)	4.58	2.43 (0.07)	2.54	\$22,933 (527)	\$22,557
320: Kidney & Urinary Tract Infections Age >17 w CC	211 (5)	246**	1.47 (0.02)	1.90**	4.78 (0.04)	4.82	1.47 (0.06)	1.49	\$18,971 (570)	\$18,386
143: Chest Pain	208 (7)	225*	1.45 (0.03)	1.74**	2.08 (0.02)	2.08	0.09 (0.01)	0.11	\$13,090 (346)	\$12,733
138: Cardiac Arrhythmia & Conduction Disorders w CC	194 (4)	224**	1.35 (0.01)	1.74**	3.76 (0.03)	3.79	2.02 (0.08)	2.09	\$17,679 (431)	\$17,682

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
79: Respiratory Infections & Inflammations Age >17 w CC	146 (4)	168**	1.01 (0.02)	1.30**	8.07 (0.10)	8.13	10.18 (0.23)	10.02	\$35,040 (976)	\$35,147
121: Circulatory Disorders w AMI & Major Comp	119 (3)	134**	0.83 (0.01)	1.04**	5.81 (0.05)	5.88	0.00 (0.00)	0.00 <sup>1</sup>	\$32,147 (830)	\$31,929
141: Syncope & Collapse w CC	117 (3)	131**	0.81 (0.01)	1.01**	3.30 (0.03)	3.29	0.40 (0.04)	0.39	\$16,966 (462)	\$16,640
470: Ungroupable	116 (5)	0**	0.80 (0.03)	0.00**	3.90 (0.04)	2.50**	0.21 (0.03)	0.00**	\$41,572 (858)	\$8,887**
277: Cellulitis Age >17 w CC	115 (2)	133**	0.80 (0.01)	1.03**	5.39 (0.05)	5.45	0.78 (0.06)	0.77	\$19,919 (543)	\$19,602
395: Red Blood Cell Disorders Age >17	112 (2)	121**	0.77 (0.01)	0.94**	3.92 (0.04)	4.04*	1.02 (0.07)	1.21*	\$18,314 (465)	\$18,196
210: Hip & Femur Procedures Except Major Joint Age >17 w CC	110 (3)	130**	0.76 (0.01)	1.01**	6.43 (0.05)	6.45	2.11 (0.10)	2.32*	\$41,365 (951)	\$41,359
87: Pulmonary Edema & Respiratory Failure	106 (4)	124**	0.73 (0.02)	0.96**	6.32 (0.09)	6.74**	12.06 (0.33)	11.90	\$29,204 (741)	\$30,927*

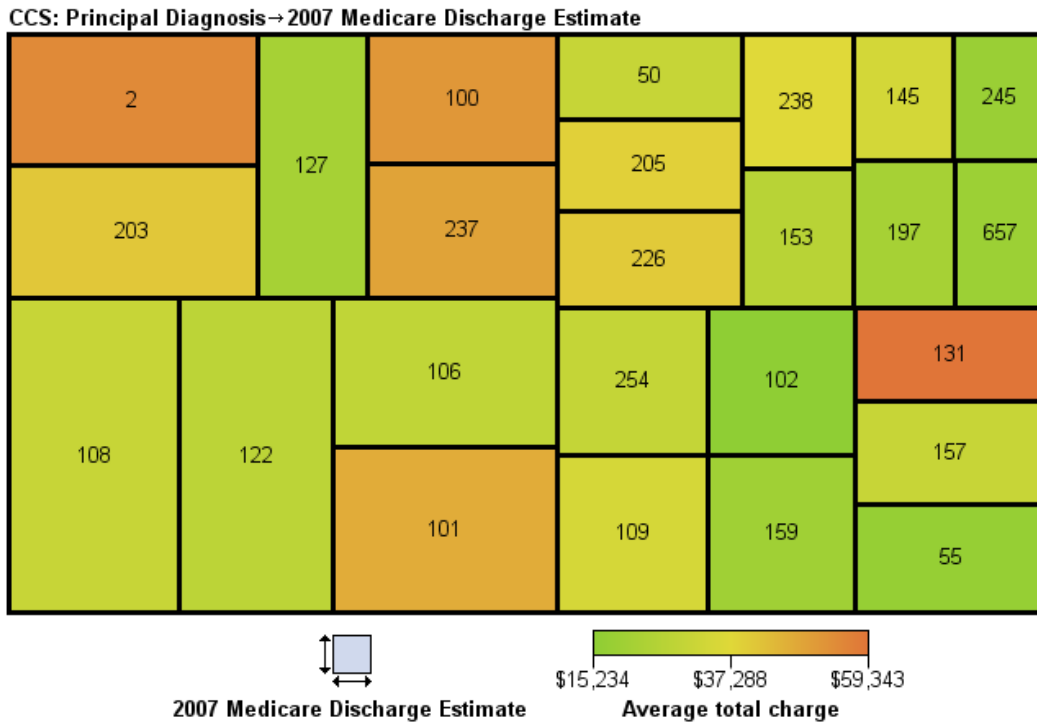
	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
558: Percutaneous Cardiovascular Proc w Drug-Eluting Stent w/o Maj CV DX	103 (6)	119*	0.71 (0.03)	0.92**	1.82 (0.02)	1.72**	0.02 (0.01)	0.03	\$44,151 (1,367)	\$45,973
243: Medical Back Problems	97 (2)	105**	0.67 (0.01)	0.81**	4.39 (0.03)	4.59**	0.89 (0.06)	0.95	\$21,393 (483)	\$17,633**

\*Significant at p<0.05.

\*\*Significant at p<0.01.

<sup>1</sup>A significance test was not performed because a valid standard error was not available.

**Figure 5. Medicare Discharge Estimates for the 25 Most Common Principal Diagnoses, NIS, 2007**



DXCCS	Average Total Charge	Discharge Estimate	Diagnosis
2	\$54,674	92,040	Septicemia (except in labor)
50	\$30,027	43,896	Diabetes mellitus with complications
55	\$17,226	58,477	Fluid and electrolyte disorders
100	\$51,813	68,970	Acute myocardial infarction
101	\$47,310	104,923	Coronary atherosclerosis and other heart disease
102	\$15,234	61,307	Nonspecific chest pain
106	\$28,403	94,166	Cardiac dysrhythmias
108	\$30,243	151,515	Congestive heart failure; nonhypertensive
109	\$33,930	66,674	Acute cerebrovascular disease
122	\$27,211	135,971	Pneumonia (except that caused by tuberculosis or sexually transmitted disease)
127	\$21,307	82,497	Chronic obstructive pulmonary disease and bronchiectasis
131	\$59,343	50,812	Respiratory failure; insufficiency; arrest (adult)
145	\$33,651	35,749	Intestinal obstruction without hernia
153	\$26,240	43,634	Gastrointestinal hemorrhage
157	\$30,200	55,163	Acute and unspecified renal failure
159	\$19,828	65,265	Urinary tract infections
197	\$21,361	42,144	Skin and subcutaneous tissue infections
203	\$41,329	92,374	Osteoarthritis
205	\$39,171	47,449	Spondylosis; intervertebral disc disorders; other back problems
226	\$40,596	50,139	Fracture of neck of femur (hip)
237	\$49,244	72,281	Complication of device; implant or graft
238	\$37,049	42,381	Complications of surgical procedures or medical care
245	\$18,216	33,047	Syncope
254	\$29,436	62,734	Rehabilitation care; fitting of prostheses; and adjustment of devices
657	\$18,755	37,655	Mood disorders

**Table 20. NIS and MedPAR Comparisons by the 25 Most Common Principal Diagnoses, 2007**

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
108: Congestive heart failure; nonhypertensive	764 (17)	677**	5.31 (0.06)	5.24	5.31 (0.04)	5.39	3.55 (0.06)	3.62	\$30,103 (801)	\$30,279
122: Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	687 (13)	597**	4.78 (0.06)	4.62*	5.96 (0.05)	5.98	4.78 (0.09)	4.70	\$26,983 (706)	\$26,446
101: Coronary atherosclerosis and other heart disease	525 (23)	481	3.65 (0.13)	3.72	3.55 (0.04)	3.59	0.71 (0.02)	0.73	\$47,057 (1,329)	\$47,671
106: Cardiac dysrhythmias	473 (13)	423**	3.29 (0.04)	3.27	3.75 (0.03)	3.78	1.20 (0.04)	1.23	\$28,348 (635)	\$28,510
2: Septicemia (except in labor)	463 (13)	402**	3.22 (0.07)	3.12	8.98 (0.13)	8.94	18.85 (0.29)	18.72	\$54,700 (1,631)	\$53,188
203: Osteoarthritis	454 (20)	413*	3.16 (0.12)	3.20	3.67 (0.03)	3.72	0.12 (0.01)	0.12	\$40,983 (837)	\$40,234
127: Chronic obstructive pulmonary disease and bronchiectasis	414 (9)	366**	2.88 (0.04)	2.83	4.89 (0.04)	4.94	1.98 (0.06)	1.92	\$21,125 (497)	\$21,180
237: Complication of device; implant or graft	362 (11)	340	2.51 (0.05)	2.63*	6.20 (0.07)	6.24	2.01 (0.06)	2.09	\$49,066 (1,351)	\$48,870



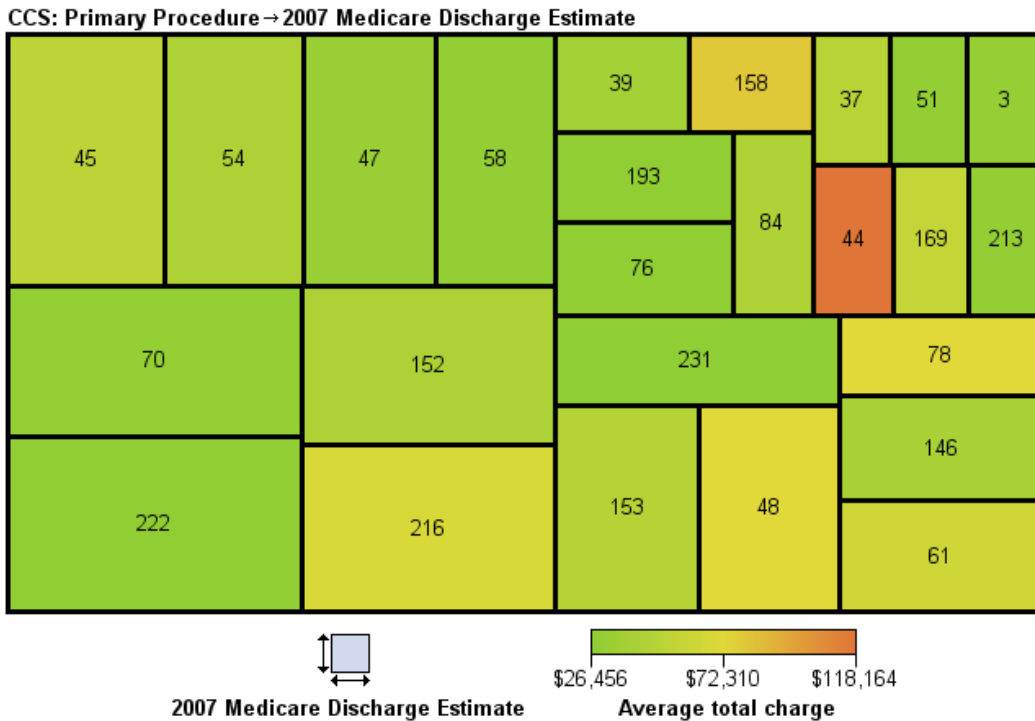
	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
100: Acute myocardial infarction	351 (11)	314**	2.44 (0.05)	2.43	5.63 (0.05)	5.68	8.39 (0.14)	8.36	\$51,614 (1,379)	\$52,361
109: Acute cerebrovascular disease	337 (8)	306**	2.34 (0.03)	2.37	5.79 (0.06)	5.99**	9.67 (0.23)	9.51	\$33,928 (1,012)	\$33,516
159: Urinary tract infections	330 (7)	293**	2.29 (0.03)	2.27	4.82 (0.04)	4.83	1.37 (0.05)	1.37	\$19,753 (576)	\$18,882
254: Rehabilitation care; fitting of prostheses; and adjustment of devices	311 (21)	343	2.16 (0.14)	2.66**	12.24 (0.17)	13.09**	0.73 (0.07)	0.26**	\$29,304 (1,135)	\$30,029
102: Nonspecific chest pain	308 (10)	266**	2.14 (0.05)	2.06	2.18 (0.02)	2.19	0.11 (0.01)	0.12	\$15,099 (375)	\$14,737
55: Fluid and electrolyte disorders	294 (6)	263**	2.05 (0.02)	2.04	4.10 (0.03)	4.13	2.13 (0.07)	2.20	\$17,109 (436)	\$16,703
157: Acute and unspecified renal failure	279 (7)	239**	1.94 (0.03)	1.85*	6.41 (0.06)	6.49	5.76 (0.13)	5.81	\$29,990 (791)	\$29,816
131: Respiratory failure; insufficiency; arrest (adult)	254 (7)	230**	1.76 (0.04)	1.78	9.37 (0.18)	10.17**	18.65 (0.34)	18.70	\$58,948 (1,818)	\$61,588
226: Fracture of neck of femur (hip)	252 (6)	226**	1.75 (0.02)	1.75	6.17 (0.05)	6.28*	2.81 (0.08)	2.84	\$40,384 (865)	\$39,481
205: Spondylosis; intervertebral disc disorders; other back problems	234 (8)	224	1.62 (0.04)	1.73*	3.69 (0.04)	3.73	0.29 (0.02)	0.29	\$38,799 (1,047)	\$37,743

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
50: Diabetes mellitus with complications	221 (5)	195**	1.54 (0.02)	1.51	5.95 (0.07)	6.16**	1.30 (0.05)	1.30	\$29,763 (791)	\$30,621
153: Gastrointestinal hemorrhage	219 (5)	192**	1.52 (0.01)	1.49	4.82 (0.04)	4.79	3.42 (0.09)	3.38	\$26,148 (614)	\$25,196
238: Complications of surgical procedures or medical care	213 (5)	192**	1.48 (0.02)	1.48	6.87 (0.09)	7.13**	2.06 (0.07)	2.12	\$36,841 (1,055)	\$37,112
197: Skin and subcutaneous tissue infections	212 (4)	188**	1.47 (0.01)	1.46	5.45 (0.05)	5.49	0.72 (0.04)	0.70	\$21,164 (542)	\$20,422
657: Mood Disorders	189 (10)	188	1.31 (0.07)	1.46	9.15 (0.23)	9.25	0.09 (0.01)	0.07	\$18,833 (680)	\$18,378
145: Intestinal obstruction without hernia	179 (4)	159**	1.24 (0.01)	1.23	6.62 (0.05)	6.69	3.66 (0.11)	3.66	\$33,424 (706)	\$33,153
245: Syncope	166 (5)	142**	1.16 (0.02)	1.10	3.04 (0.03)	3.03	0.31 (0.03)	0.33	\$18,141 (514)	\$17,510

\*Significant at p<0.05.

\*\*Significant at p<0.01.

**Figure 6. Medicare Discharge Estimates for the 25 Most Common Principal Procedures, NIS, 2007**



PRCS	Average Total Charge	2007 Discharge Estimate	Label
3	\$29,596	16,875	Laminectomy; excision intervertebral disc
37	\$48,679	17,099	Diagnostic bronchoscopy and biopsy of bronchus
39	\$38,281	22,188	Incision of pleura; thoracentesis; chest drainage
44	\$118,164	20,227	Coronary artery bypass graft (CABG)
45	\$51,499	66,848	Percutaneous transluminal coronary angioplasty (PTCA)
47	\$32,807	56,162	Diagnostic cardiac catheterization; coronary arteriography
48	\$71,967	48,558	Insertion; revision; replacement; removal of cardiac pacemaker or cardioverter/defibrillator
51	\$28,640	16,964	Endarterectomy; vessel of head and neck
54	\$43,968	58,937	Other vascular catheterization; not heart
58	\$28,181	50,699	Hemodialysis
61	\$62,243	38,245	Other OR procedures on vessels other than head and neck
70	\$29,265	74,896	Upper gastrointestinal endoscopy; biopsy
76	\$27,776	27,487	Colonoscopy and biopsy
78	\$71,850	27,871	Colorectal resection
84	\$44,194	24,934	Cholecystectomy and common duct exploration
146	\$40,344	36,555	Treatment; fracture or dislocation of hip and femur
152	\$42,873	68,431	Arthroplasty knee
153	\$48,276	49,979	Hip replacement; total and partial
158	\$80,053	20,601	Spinal fusion
169	\$55,958	18,993	Debridement of wound; infection or burn
193	\$27,096	26,970	Diagnostic ultrasound of heart (echocardiogram)
213	\$28,718	18,822	Physical therapy exercises; manipulation; and other procedures
216	\$67,319	71,602	Respiratory intubation and mechanical ventilation
222	\$27,574	86,521	Blood transfusion
231	\$26,456	43,363	Other therapeutic procedures

**Table 21. NIS and MedPAR Comparisons by the 25 Most Common Principal Procedures, 2007**

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
222: Blood transfusion	441 (14)	374**	3.06 (0.08)	2.89*	5.85 (0.06)	5.96	4.71 (0.11)	4.87	\$27,265 (689)	\$27,013
70: Upper gastrointestinal endoscopy; biopsy	375 (9)	338**	2.61 (0.04)	2.62	5.77 (0.04)	5.82	1.62 (0.05)	1.55	\$29,163 (682)	\$28,145
216: Respiratory intubation and mechanical ventilation	362 (9)	314**	2.52 (0.04)	2.43	9.28 (0.12)	9.71**	33.57 (0.40)	34.26	\$66,824 (1,970)	\$67,606
152: Arthroplasty knee	336 (15)	305*	2.34 (0.09)	2.36	3.76 (0.04)	3.75	0.12 (0.01)	0.12	\$42,523 (874)	\$42,269
45: Percutaneous transluminal coronary angioplasty (PTCA)	334 (19)	321	2.32 (0.11)	2.49	2.93 (0.04)	2.96	1.16 (0.05)	1.14	\$51,215 (1,534)	\$51,412
54: Other vascular catheterization; not heart	294 (10)	273*	2.04 (0.05)	2.11	8.78 (0.10)	8.88	9.57 (0.20)	9.77	\$43,592 (1,041)	\$42,802
47: Diagnostic cardiac catheterization; coronary arteriography	281 (11)	257	1.95 (0.06)	1.99	4.06 (0.04)	4.07	1.16 (0.06)	1.25	\$32,631 (817)	\$32,111
58: Hemodialysis	254 (8)	234*	1.77 (0.05)	1.81	5.48 (0.06)	5.63*	2.91 (0.09)	2.96	\$28,031 (813)	\$27,913
153: Hip replacement; total and partial	248 (9)	221**	1.72 (0.05)	1.71	5.10 (0.04)	5.11	1.21 (0.06)	1.23	\$47,985 (1,089)	\$46,906
48: Insertion; revision; replacement; removal of cardiac pacemaker or cardioverter/defibrillator	243 (10)	216*	1.69 (0.05)	1.67	4.65 (0.07)	4.79	1.01 (0.05)	1.08	\$71,938 (1,720)	\$73,147
231: Other therapeutic procedures	226 (27)	166*	1.57 (0.18)	1.29	5.59 (0.17)	5.77	5.36 (0.31)	5.61	\$26,270 (1,387)	\$26,545
61: Other OR procedures on vessels other than head and neck	192 (7)	174*	1.33 (0.03)	1.35	7.14 (0.15)	7.22	3.65 (0.15)	3.78	\$62,148 (1,663)	\$62,231

	Number of Discharges in Thousands (Standard Error)		Percentage of Discharges (Standard Error)		Average Length of Stay in Days (Standard Error)		In-Hospital Mortality Rate Percent (Standard Error)		Average Total Hospital charge (Standard Error)	
	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR	NIS	MedPAR
146: Treatment; fracture or dislocation of hip and femur	184 (4)	164**	1.28 (0.02)	1.27	6.14 (0.05)	6.17	1.95 (0.08)	2.12*	\$40,187 (898)	\$39,672
78: Colorectal resection	140 (4)	123**	0.97 (0.01)	0.95	10.76 (0.09)	10.91	5.78 (0.16)	6.03	\$71,303 (1,534)	\$71,806
76: Colonoscopy and biopsy	138 (3)	122**	0.96 (0.01)	0.94	5.85 (0.05)	5.89	1.06 (0.06)	1.08	\$27,685 (707)	\$26,816
193: Diagnostic ultrasound of heart (echocardiogram)	137 (15)	125	0.95 (0.10)	0.97	5.14 (0.09)	5.14	2.18 (0.13)	2.11	\$26,920 (1,547)	\$25,190
84: Cholecystectomy and common duct exploration	124 (3)	114**	0.86 (0.01)	0.88	6.23 (0.06)	6.28	1.56 (0.08)	1.55	\$43,840 (943)	\$43,333
39: Incision of pleura; thoracentesis; chest drainage	111 (2)	99**	0.77 (0.01)	0.77	7.86 (0.07)	7.93	7.02 (0.19)	6.90	\$38,050 (991)	\$37,726
44: Coronary artery bypass graft (CABG)	102 (6)	97	0.70 (0.03)	0.75	10.19 (0.14)	10.06	2.67 (0.12)	2.73	117,412 (3,762)	115,644
158: Spinal fusion	100 (5)	103	0.70 (0.03)	0.80**	4.63 (0.10)	4.61	0.49 (0.05)	0.52	\$79,688 (2,419)	\$76,626
169: Debridement of wound; infection or burn	95 (2)	90	0.66 (0.01)	0.70*	11.75 (0.29)	12.28	3.86 (0.20)	4.15	\$55,523 (2,032)	\$56,069
213: Physical therapy exercises; manipulation; and other procedures	93 (12)	82	0.65 (0.08)	0.63	11.35 (0.51)	11.67	0.88 (0.16)	0.47*	\$28,505 (2,080)	\$33,237*
37: Diagnostic bronchoscopy and biopsy of bronchus	85 (3)	79	0.59 (0.01)	0.61	8.98 (0.11)	8.98	5.34 (0.21)	5.39	\$48,471 (1,524)	\$47,726
51: Endarterectomy; vessel of head and neck	84 (3)	71**	0.58 (0.02)	0.55	2.60 (0.06)	2.65	0.40 (0.04)	0.35	\$28,678 (871)	\$28,046
3: Laminectomy; excision intervertebral disc	82 (4)	77	0.57 (0.02)	0.59	3.33 (0.07)	3.28	0.33 (0.05)	0.28	\$29,741 (1,090)	\$28,353

\*Significant at p<0.05.

\*\*Significant at p<0.01.

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