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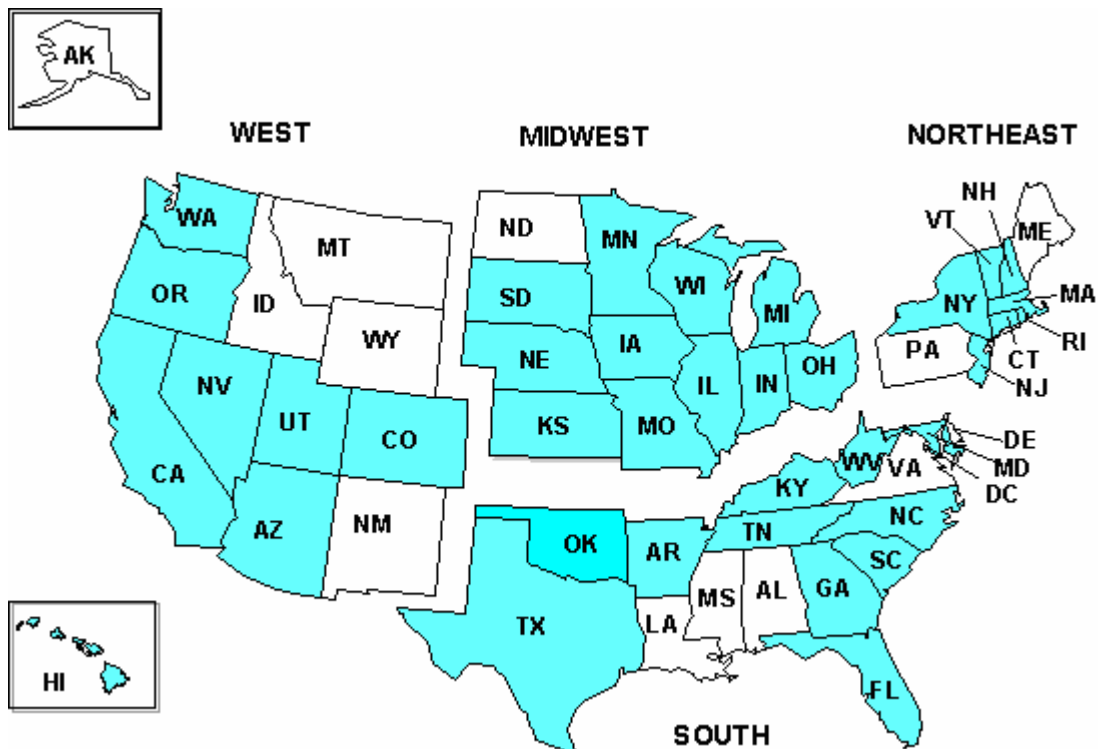
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## Introduction

This report provides a summary of analyses that compare estimates from the HCUP Nationwide Inpatient Sample (NIS) for 2005 to three related data sources: the American Hospital Association (AHA) Annual Survey, 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 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 NIS is drawn from a sampling frame comprising 37 states.

**Figure 1. States Participating in the NIS, 2005**



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

- Table 1 compares states 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 special 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 for the NIS. Where a comprehensive geographic representation is more important than a large sample size, and the question under study requires all age groups, the NHDS might be preferable. In the same situation, if only Medicare clients are of interest, the MedPAR data set might be preferable.

As for which of the data sources discussed is preferable or 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 variables essential to health care policy – including in-hospital mortality, inpatient population size, length of stay, and charges – are accurate and precise. Statistics can be calculated for large groups ranging from the inpatient population of the United States, as well as for small subsets featuring specific conditions. The characteristics documented in this report suggest that the NIS is a valuable tool for researchers and policy makers alike.

**Table 1. Comparison of States in the NIS with the Universe**

	<b>NIS 2005</b>	<b>Universe (U.S.)</b>
<b>Number of States</b>	<b>37</b>	<b>50 plus District of Columbia</b>
<b>Population</b>	<b>255,210,568</b>	<b>295,895,897</b>
<b>Sampling frame for the NIS includes:</b>	<b>78% of U.S. Community Hospitals</b>	<b>100%</b>
	<b>84% of community hospital discharges</b>	<b>100%</b>
	<b>86% of U.S. population</b>	<b>100%</b>
<b>Average population density (persons per square mile)</b>	<b>116.5</b>	<b>30.22</b>
<b>Population density for the least populated states (persons per square mile)</b>	<b>Nevada (21.9) South Dakota (10.3)</b>	<b>Montana (6.4) Wyoming (5.2) Alaska (1.2)</b>
<b>Market penetration of Medicare managed care providers</b>	<b>13.6%</b>	<b>12.1%</b>



## 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, had larger expenditures compared to the AHA universe, and more Medicaid-covered patients. NIS facilities also admitted and discharged more patients and had higher expenditures and larger payrolls than hospitals in the AHA universe. NIS hospitals also tended to offer slightly more high-technology services, as compared with the universe. 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, overall, by region, and for most categories of hospital control and type. The 35 discharge comparisons shown in Table 6, 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.

**Table 2. Number of Hospitals in NIS Frame and Universe, 2005**

	2005 NIS Frame <sup>1</sup> (Weighted)	2005 NIS Frame <sup>1</sup> (Unweighted)	2005 AHA Universe
U.S.	5,146	1,054	5,203
<b>Region</b>			
Northeast	669	138	669
Midwest	1,481	301	1,481
South	2,054	420	2,054
West	942	195	942
<b>Hospital Control</b>			
Public	1,150	238	1,125
Not for-profit	3,006	614	2,953
Proprietary	989	202	1,068
<b>Location / Teaching Status</b>			
Rural	2,056	421	2,056
Small	1,008	205	1,313
Meduim	445	91	408
Large	603	125	335
Urban, non-teaching	2,339	476	2,339
Small	1,069	217	1,081
Meduim	582	119	622
Large	688	140	636
Urban, teaching	751	157	751
Small	216	45	204
Meduim	245	52	228
Large	290	60	319

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

<sup>1</sup>The 2005 frame contains 37 states.

**Table 3. NIS Hospitals and AHA Universe Comparisons, 2005**

	<b>NIS (Unweighted)</b>	<b>Universe</b>
High Tech Index <sup>1</sup> (mean)	2.57	2.41
High Tech Index <sup>1</sup> (median)	2.00	2.00
Neonatal ICUs <sup>2</sup> (pct)	16.79	18.20
Cardiac Catheterization <sup>2</sup> (pct)	26.19	25.21
CT Scanners <sup>2</sup> (pct)	78.75	70.96
MRIs <sup>2</sup> (pct)	55.41	50.28
Open Heart Surgeries <sup>2</sup> (pct)	20.49	20.63
Transplant Services <sup>2</sup> (pct)	7.50	7.25
Intensity Modulated Radiation Therapy <sup>2</sup> (pct)	15.84	16.17
Extracorporeal Shock Wave Lithotripsy <sup>2</sup> (pct)	21.35	19.86
PET Scanners <sup>2</sup> (pct)	14.99	12.44
Pediatric Specialty Hospitals (pct)	1.80	1.37
Burn Units (pct)	3.80	3.88
Rehabilitation Units (pct)	23.81	23.93
Alc/Chem Dep Services (pct)	7.59	7.50
Trauma Centers (pct)	27.89	27.50
Emergency Departments (pct)	80.36	73.97

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 Hospitals and AHA Universe Comparisons, 2005**

	<b>NIS Mean (Unweighted)</b>	<b>Universe Mean</b>	<b>NIS Median (Unweighted)</b>	<b>Universe Median</b>
Hospital Admissions	7,004.68	6,790.64	3,386.50	3,178.00
Hospital Discharges	7,004.68	6,790.64	3,386.50	3,178.00
Hospital Discharges <sup>1</sup>	7,828.76	7,558.52	3,759.00	3,483.00
Average Length of Stay	6.14	5.84	4.43	4.41
Average Length of Stay <sup>1</sup>	5.62	5.45	4.05	4.04
Births	824.08	767.88	302.00	232.00
Percent Medicare Days	55.20	55.72	55.20	56.79
Percent Medicare Discharges	49.37	49.13	48.76	48.50
Percent Medicare Discharges <sup>1</sup>	45.84	45.83	43.99	44.07
Percent Medicaid Days	14.73	14.39	12.69	12.42
Percent Medicaid Discharges	15.75	15.60	15.30	14.95
Percent Medicaid Discharges <sup>1</sup>	14.12	14.16	13.75	13.55
Hospital Beds	146.20	144.50	83.50	81.00
Occupancy Rate	53.21	53.12	54.83	55.56
Inpatient Surgeries	1,987.14	1,991.45	898.00	825.00
FTE <sup>2</sup>	846.75	829.46	395.00	381.50
FTE <sup>2</sup> per Bed	5.60	5.56	5.18	5.11
RN FTE <sup>2</sup> per 1000 Patient Days	3.17	3.29	2.96	2.94
Intern-Resident FTE <sup>2</sup> per 100 Beds	5.45	5.92	0.00	0.00
Intern-Resident FTE <sup>2</sup> per 100 Beds (Teaching Hospitals)	30.32	35.73	10.53	13.58
Total Hospital Expenses [dollars]	103,599,162	99,353,450	43,455,064	39,361,147
Hosp. Expenses per Bed [dollars]	628,002	616,550	561,940	560,385
Total Hospital Payroll [dollars]	42,397,469	40,086,698	17,610,999	16,080,243
Hosp. Payroll per Bed [dollars]	254,295	247,186	228,138	221,846

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

<sup>1</sup>Adjusted for well newborns.

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

**Table 5. NIS and AHA Comparisons by Overall, 2005**

	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
<b>Overall</b>	39,163 (765)	39,611	4.65 (0.03)	4.54**
<b>Region</b>				
Northeast	7,753 (333)	7,753	5.27 (0.09)	5.15
South	9,020 (296)	9,020	4.42 (0.06)	4.34
Midwest	14,942 (537)	14,942	4.60 (0.05)	4.56
West	7,447 (311)	7,447	4.35 (0.09)	4.10**

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 6. NIS and AHA Comparisons by Hospital Ownership, 2005**

Hospital Ownership	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
Total Public	5,524 (604)	5,284	4.83 (0.11)	4.74
1-99 Beds	1,130 (64)	1,086	3.92 (0.18)	4.02
100-199 Beds	683 (90)	874*	3.96 (0.14)	4.19
200-299 Beds	573 (136)	671	4.71 (0.15)	4.31*
300-499 Beds	1,405 (223)	1,252	5.29 (0.10)	5.14
500+ Beds	1,730 (368)	1,399	5.44 (0.28)	5.49
Total Private Non-Profit	28,231 (953)	28,546	4.62 (0.04)	4.49**
1-99 Beds	2,878 (162)	2,708	3.78 (0.06)	3.84
100-199 Beds	4,989 (293)	5,023	4.36 (0.06)	4.17**
200-299 Beds	5,682 (490)	5,766	4.66 (0.09)	4.39**
300-499 Beds	8,829 (769)	8,401	4.66 (0.07)	4.47*
500+ Beds	5,851 (836)	6,646	5.17 (0.12)	5.12
Total Proprietary	5,408 (341)	5,333	4.60 (0.09)	4.58
1-99 Beds	934 (91)	1,019	4.95 (0.34)	4.98
100-199 Beds	1,667 (108)	1,693	4.35 (0.16)	4.25
200-299 Beds	1,679 (202)	1,323	4.47 (0.14)	4.43
300-499 Beds	635 (178)	882	4.79 (0.13)	4.90
500+ Beds	491 (90)	415	4.95 (0.23)	4.78

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 7. NIS and AHA Comparisons by Location / Teaching Status, 2005**

Location / Teaching Status	Number of Discharges in Thousands (Standard Error)		Average Length of Stay in Days (Standard Error)	
	NIS	AHA	NIS	AHA
Rural	5,176 (179)	5,176	3.98 (0.06)	4.18**
small	1,291 (55)	1,320	3.64 (0.15)	3.68
medium	1,509 (128)	1,337	3.69 (0.05)	3.97**
large	2,375 (220)	2,518	4.34 (0.08)	4.55*
Urban, Non-teaching	17,899 (431)	17,899	4.56 (0.04)	4.34**
small	2,016 (140)	2,065	4.52 (0.17)	4.49
medium	4,482 (200)	4,867	4.33 (0.08)	4.09**
large	11,401 (395)	10,965	4.65 (0.05)	4.43**
Urban, Teaching	16,088 (605)	16,088	4.96 (0.06)	4.87
small	2,447 (321)	2,136	4.50 (0.14)	4.54
medium	4,652 (530)	4,403	4.86 (0.12)	4.68
large	8,988 (846)	9,547	5.15 (0.09)	5.04

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

## 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, agreement between the NIS and NHDS was observed for 70 percent of the discharge comparisons and 99 percent of the average length of stay (ALOS) comparisons. The degree of consistency for in-hospital mortality rates was also high: no significant differences were found among these region and patient categories, and estimates agreed for 65 percent of hospital category comparisons. Of the NIS-NHDS differences discovered, most occur in diagnosis and procedure groupings.

The NIS provides a large sample size that tends to yield estimates with much smaller standard errors than does a sample such as the NHDS. Without a sample of several million, as provided by the NIS, estimates for less common procedures and diagnoses are unreliable. While the NIS may over-represent urban areas, 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 – the 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.

**Table 8. NIS and NHDS Comparisons by Overall, 2005**

	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>Overall</b>						
Overall	39,163 (765)	38,666 (1,763)	4.63 (0.03)	4.62 (0.33)	2.09 (0.04)	1.98 (0.12)
<b>Region</b>						
Northeast	7,753 (333)	7,931 (1,078)	5.26 (0.09)	5.19 <sup>1</sup> (c)	2.45 (0.17)	2.13 <sup>1</sup> (c)
South	9,020 (296)	8,753 (1,039)	4.41 (0.06)	4.09 <sup>1</sup> (c)	1.91 (0.05)	2.01 <sup>1</sup> (c)
Midwest	14,942 (537)	14,335 (795)	4.58 (0.05)	4.74 (0.41)	2.08 (0.05)	1.91 (0.15)
West	7,447 (311)	7,646 (570)	4.33 (0.09)	4.40 <sup>1</sup> (c)	1.94 (0.07)	1.92 (0.20)

\*Significant at a 5 percent level.      \*\*Significant at a 1 percent level.

<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, 2005**

Hospital Control	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	5,524 (604)	4,559 (211)	4.81 (0.11)	4.82 (0.35)	2.05 (0.07)	1.76* (0.11)
1-99 Beds	1,130 (64)	1,235 (59)	3.90 (0.18)	3.64 (0.27)	2.37 (0.08)	1.31** (0.09)
100-199 Beds	683 (90)	850 (42)	3.94 (0.14)	4.15 (0.32)	1.89 (0.14)	1.68 (0.11)
200-299 Beds	573 (136)	377 (20)	4.69 (0.15)	4.50 (0.36)	1.95 (0.22)	1.76 (0.13)
300-499 Beds	1,405 (223)	1,408 (67)	5.27 (0.10)	5.45 (0.41)	1.93 (0.11)	2.27 (0.15)
500+ Beds	1,730 (368)	686** (34)	5.42 (0.28)	6.61* (0.51)	2.03 (0.17)	1.63 (0.11)
Total Private Non-Profit	28,231 (953)	29,351 (1,339)	4.60 (0.04)	4.56 (0.33)	2.09 (0.05)	2.05 (0.13)
1-99 Beds	2,878 (162)	6,626** (305)	3.75 (0.06)	4.02 (0.29)	2.01 (0.06)	1.72* (0.11)
100-199 Beds	4,989 (293)	6,269** (289)	4.34 (0.06)	4.43 (0.32)	2.10 (0.08)	2.01 (0.13)
200-299 Beds	5,682 (490)	6,172 (284)	4.65 (0.09)	4.62 (0.33)	2.25 (0.22)	2.04 (0.13)
300-499 Beds	8,829 (769)	6,380** (294)	4.64 (0.07)	4.75 (0.34)	2.04 (0.07)	2.32 (0.15)
500+ Beds	5,851 (836)	3,902* (181)	5.15 (0.12)	5.27 (0.38)	2.03 (0.10)	2.29 (0.15)
Total Proprietary	5,408 (341)	4,755 (220)	4.58 (0.09)	4.82 (0.35)	2.11 (0.06)	1.74** (0.11)
1-99 Beds	934 (91)	1,014 (49)	4.93 (0.34)	5.24 (0.39)	2.26 (0.20)	1.60** (0.11)
100-199 Beds	1,667 (108)	2,170** (102)	4.33 (0.16)	4.69 (0.34)	2.00 (0.10)	1.57** (0.10)
200-299 Beds	1,679 (202)	945** (46)	4.45 (0.14)	4.68 (0.35)	2.11 (0.09)	2.25 (0.15)
300-499 Beds	635 (178)	625 (32)	4.77 (0.13)	4.78 (0.37)	2.27 (0.18)	1.83 (0.13)
500+ Beds	491 (90)	0 <sup>1</sup> (a)	4.93 (0.23)	0.00 <sup>1</sup> (a)	2.00 (0.14)	0.00 <sup>1</sup> (a)

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

<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.

**Table 10. NIS and NHDS Comparisons by Patient Characteristics, 2005**

	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	6,632 (261)	6,594 (303)	3.68 (0.08)	3.88 (0.28)	0.41 (0.02)	0.43 (0.02)
16-44 Years	10,445 (259)	10,494 (481)	3.61 (0.04)	3.69 (0.27)	0.41 (0.01)	0.36 (0.02)
45-64 Years	8,659 (201)	8,349 (383)	4.93 (0.04)	4.96 (0.36)	1.83 (0.05)	1.77 (0.11)
65+ Years	13,374 (314)	13,228 (605)	5.70 (0.04)	5.51 (0.40)	4.40 (0.07)	4.17 (0.27)
<b>Gender</b>						
Female	22,980 (472)	22,720 (1,037)	4.41 (0.03)	4.39 (0.32)	1.80 (0.04)	1.65 (0.10)
Male	16,052 (310)	15,946 (729)	4.95 (0.03)	4.94 (0.36)	2.51 (0.04)	2.45 (0.15)
<b>Race</b>						
White	19,636 (776)	23,031* (1,504)	4.75 (0.04)	4.63 (0.46)	2.42 (0.05)	2.09 (0.19)
Black	3,395 (219)	4,527** (316)	5.26 (0.08)	5.29 (0.58)	1.93 (0.10)	1.72 (0.17)
Other	5,522 (348)	1,706** (234)	4.33 (0.08)	4.68 <sup>1</sup> (c)	1.42 (0.06)	2.05 <sup>1</sup> (c)
Unknown	10,609 (729)	9,401 (1,224)	4.36 (0.06)	4.26 <sup>1</sup> (c)	1.88 (0.04)	1.84 <sup>1</sup> (c)

\*Significant at a 5 percent level.      \*\*Significant at a 1 percent level.

<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, 2005**

Principal Payer	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	14,556 (337)	13,790 (704)	5.75 (0.04)	5.61 (0.43)	3.89 (0.06)	3.69 (0.26)
Medicaid	7,642 (271)	7,433 (591)	4.33 (0.07)	4.46 <sup>1</sup> (c)	0.85 (0.03)	0.80 (0.09)
Private Insurance	13,684 (421)	13,204 (764)	3.74 (0.03)	3.79 (0.36)	1.01 (0.04)	1.05 (0.08)
Self Pay	1,920 (110)	1,668 (105)	3.87 (0.08)	3.84 (0.40)	1.39 (0.05)	1.18 (0.10)
No Charge	175 (42)	65* (12)	4.35 (0.24)	4.94 <sup>1</sup> (c)	1.21 (0.13)	1.04 <sup>1</sup> (c)
Other	1,135 (59)	2,504** (474)	4.31 (0.08)	4.49 <sup>1</sup> (c)	1.55 (0.12)	1.55 <sup>1</sup> (c)
Missing	10 (3)	0 <sup>1</sup> (a)	3.59 (0.70)	0.00 <sup>1</sup> (a)	1.24 (0.76)	0.00 <sup>1</sup> (a)

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

<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.

**Table 12. NIS and NHDS Comparisons by the 25 Most Common Principal Diagnoses, 2005**

Principal Diagnosis	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	4,228 (157)	4,008 (186)	3.17 (0.05)	3.39 (0.25)	0.32 (0.01)	0.40* (0.02)
122: Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	1,355 (28)	1,382 (66)	5.52 (0.04)	5.27 (0.39)	3.98 (0.07)	3.31** (0.22)
101: Coronary atherosclerosis and other heart disease	1,109 (49)	1,110 (54)	3.31 (0.05)	3.30 (0.25)	0.52 (0.01)	0.59 (0.04)
108: Congestive heart failure; nonhypertensive	1,090 (25)	1,113 (54)	5.38 (0.04)	5.09 (0.38)	3.87 (0.07)	3.11** (0.21)
102: Nonspecific chest pain	824 (32)	40** (4)	1.81 (0.01)	1.42 <sup>1</sup> (c)	0.05 (0.00)	0.00 <sup>1</sup> (c)
193: OB-related trauma to perineum and vulva	784 (36)	-- <sup>1</sup> (a)	2.05 (0.01)	-- <sup>1</sup> (a)	0.00 (0.00)	-- <sup>1</sup> (a)
195: Other complications of birth; puerperium affecting management of mother	761 (29)	71** (5)	2.72 (0.02)	3.12 (0.36)	0.02 (0.00)	0.00** (0.00)
203: Osteoarthritis	738 (29)	760 (38)	3.72 (0.03)	3.74 (0.29)	0.10 (0.00)	0.09 (0.00)
106: Cardiac dysrhythmias	696 (19)	758 (38)	3.51 (0.03)	3.30 (0.25)	1.09 (0.03)	0.50** (0.03)
100: Acute myocardial infarction	662 (23)	682 (34)	5.23 (0.06)	5.50 (0.42)	6.81 (0.13)	7.91 (0.56)
205: Spondylosis; intervertebral disc disorders; other back problems	647 (28)	610 (31)	3.06 (0.04)	3.08 (0.24)	0.15 (0.01)	0.11** (0.00)
69: Affective disorders	642 (39)	963** (47)	7.37 (0.17)	7.21 (0.54)	0.03 (0.00)	0.05 (0.00)
127: Chronic obstructive pulmonary disease and bronchiectasis	630 (14)	719* (36)	4.89 (0.04)	4.74 (0.36)	2.04 (0.06)	2.06 (0.14)
237: Complication of device; implant or graft	615 (22)	539* (28)	5.98 (0.07)	5.97 (0.47)	1.77 (0.05)	1.34** (0.09)
197: Skin and subcutaneous tissue infections	582 (13)	566 (29)	4.55 (0.04)	4.66 (0.36)	0.34 (0.01)	0.23** (0.01)

Principal Diagnosis	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
55: Fluid and electrolyte disorders	573 (13)	740** (37)	3.69 (0.03)	3.45 (0.27)	1.93 (0.06)	1.73 (0.12)
2: Septicemia (except in labor)	537 (16)	492 (25)	8.84 (0.10)	8.21 (0.64)	18.28 (0.28)	19.15 (1.42)
159: Urinary tract infections	528 (11)	641** (32)	4.44 (0.04)	4.30 (0.33)	1.22 (0.04)	1.01* (0.07)
109: Acute cerebrovascular disease	526 (13)	528 (27)	6.18 (0.07)	6.34 (0.49)	10.12 (0.16)	10.77 (0.79)
254: Rehabilitation care; fitting of prostheses; and adjustment of devices	516 (33)	495 (26)	12.26 (0.18)	11.56 (0.90)	0.71 (0.09)	0.49* (0.03)
181: Other complications of pregnancy	513 (20)	211** (12)	2.42 (0.01)	2.76 (0.25)	0.03 (0.00)	0.00** (0.00)
50: Diabetes mellitus with complications	491 (11)	486 (25)	5.34 (0.06)	5.20 (0.41)	1.00 (0.03)	0.75** (0.05)
189: Previous C-section	481 (19)	-- <sup>1</sup> (a)	2.85 (0.02)	-- <sup>1</sup> (a)	0.00 (0.00)	-- <sup>1</sup> (a)
238: Complications of surgical procedures or medical care	463 (12)	451 (24)	6.28 (0.06)	5.95 (0.47)	1.39 (0.04)	1.80** (0.13)
149: Biliary tract disease	455 (10)	433 (23)	4.23 (0.03)	4.22 (0.34)	0.73 (0.03)	0.74 (0.05)

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

<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.

**Table 13. NIS and NHDS Comparisons by the 25 Most Common Principal Procedures, 2005**

Principal Procedure	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	1,475 (64)	1,020** (50)	2.12 (0.01)	2.17 (0.16)	0.00 (0.00)	0.00** (0.00)
134: Cesarean section	1,301 (49)	1,255 (60)	3.62 (0.03)	3.49 (0.26)	0.01 (0.00)	0.02** (0.00)
115: Circumcision	1,195 (49)	1,152 (56)	2.99 (0.05)	2.90 (0.22)	0.00 (0.00)	0.03** (0.00)
45: Percutaneous transluminal coronary angioplasty (PTCA)	749 (45)	579** (29)	2.70 (0.04)	2.80 (0.22)	0.75 (0.03)	0.92* (0.06)
70: Upper gastrointestinal endoscopy; biopsy	706 (18)	692 (35)	5.40 (0.03)	5.24 (0.40)	1.40 (0.03)	1.23 (0.08)
140: Repair of current obstetric laceration	694 (41)	829* (41)	2.15 (0.01)	2.11 (0.16)	0.00 (0.00)	0.00 (0.00)
216: Respiratory intubation and mechanical ventilation	667 (15)	634 (32)	10.72 (0.19)	10.34 (0.79)	26.97 (0.41)	24.38 (1.76)
222: Blood transfusion	614 (20)	579 (29)	5.77 (0.05)	5.78 (0.45)	5.04 (0.10)	4.43 (0.32)
47: Diagnostic cardiac catheterization; coronary arteriography	603 (23)	514* (26)	3.60 (0.04)	3.71 (0.29)	0.83 (0.03)	0.53** (0.03)
228: Prophylactic vaccinations and inoculations	570 (58)	587 (30)	2.57 (0.08)	2.59 (0.20)	0.02 (0.01)	0.00 (0.00)
124: Hysterectomy; abdominal and vaginal	567 (18)	552 (28)	2.66 (0.02)	2.74 (0.22)	0.07 (0.00)	0.10* (0.00)
152: Arthroplasty knee	549 (22)	558 (28)	3.81 (0.03)	3.79 (0.30)	0.11 (0.01)	0.06** (0.00)
231: Other therapeutic procedures	512 (37)	578 (29)	5.25 (0.10)	4.80 (0.37)	2.89 (0.20)	2.50 (0.18)
54: Other vascular catheterization; not heart	497 (14)	480 (25)	9.22 (0.11)	9.42 (0.74)	8.31 (0.22)	7.73 (0.57)
84: Cholecystectomy and common duct exploration	388 (10)	346 (19)	4.71 (0.04)	4.45 (0.36)	0.75 (0.03)	0.74 (0.05)
153: Hip replacement; total and partial	381 (14)	369 (20)	4.86 (0.05)	5.03 (0.41)	0.89 (0.04)	1.22** (0.09)
158: Spinal fusion	332 (18)	306 (17)	3.94 (0.08)	4.14 (0.34)	0.24 (0.02)	0.15** (0.01)
48: Insertion; revision; replacement; removal of cardiac pacemaker or	325 (14)	294 (16)	4.76 (0.07)	4.54 (0.38)	0.97 (0.04)	1.00 (0.08)

Principal Procedure	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
cardioverter/defibrillator						
133: Episiotomy	308 (18)	326 (18)	2.17 (0.01)	2.17 (0.18)	0.00 (0.00)	0.00 (0.00)
80: Appendectomy	308 (9)	317 (17)	2.88 (0.03)	2.78 (0.23)	0.12 (0.01)	0.08* (0.00)
58: Hemodialysis	303 (10)	258* (15)	5.55 (0.07)	5.49 (0.46)	3.42 (0.10)	3.40 (0.28)
219: Alcohol and drug rehabilitation/detoxification	294 (31)	309 (17)	5.59 (0.47)	5.74 (0.47)	0.11 (0.01)	0.19** (0.01)
78: Colorectal resection	284 (8)	269 (15)	9.99 (0.07)	10.07 (0.83)	3.93 (0.10)	3.90 (0.31)
146: Treatment; fracture or dislocation of hip and femur	276 (6)	260 (15)	6.03 (0.05)	5.93 (0.50)	1.86 (0.06)	2.24 (0.18)
61: Other OR procedures on vessels other than head and neck	272 (9)	238* (14)	8.88 (0.23)	9.09 (0.76)	4.38 (0.13)	3.34** (0.28)

\* Significant at a 5 percent level.

\*\* Significant at a 1 percent level.

<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.

## **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 10 percent, consistent with the omission of most managed care enrollees from the MedPAR. While 13.3 percent of Medicare patients were enrolled in managed care programs, the MedPAR data contain virtually no managed care discharges (only 485 out of 13,544,670 total discharges, or 0.004 percent).

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. For analyses involving charges on all payers, the NIS is the only choice.

The NIS also contains significant numbers of discharges for which race was missing (26 percent). While the NHDS also suffers from this problem (24 percent of discharges without race), race information is present for nearly all MedPAR discharges.



**Table 14. NIS and MedPAR Comparisons by Overall, 2005**

	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>U.S.</b>	14,556 (336)	13,178**	n/a	n/a	5.77 (0.04)	5.90**	3.89 (0.06)	3.74*	\$28,174 (673)	\$28,301
<b>Region</b>										
Northeast	2,936 (154)	2,565*	20.17 (0.94)	19.46	6.61 (0.12)	6.58	4.67 (0.24)	4.17*	\$31,512 (2,069)	\$32,844
South	3,534 (134)	3,572	24.27 (0.86)	27.10**	5.30 (0.06)	5.43*	3.39 (0.07)	3.34	\$21,784 (586)	\$23,063*
Midwest	5,688 (236)	5,255	39.08 (1.18)	39.88	5.75 (0.06)	6.02**	3.81 (0.07)	3.79	\$25,309 (646)	\$26,231
West	2,396 (125)	1,784**	16.46 (0.80)	13.54**	5.48 (0.12)	5.55	3.88 (0.13)	3.77	\$41,283 (2,461)	\$38,351

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 15. NIS and MedPAR Comparisons by Hospital Control, 2005**

Control	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	1,822 (178)	1,563	12.52 (1.22)	11.86	5.57 (0.11)	5.55	3.91 (0.10)	3.77	\$22,320 (1,252)	\$22,408
1-99 Beds	568 (30)	441**	31.19 (2.61)	28.25	4.51 (0.09)	4.29*	3.82 (0.11)	3.44**	\$10,006 (355)	\$10,120
100-199 Beds	245 (39)	294	13.46 (2.35)	18.85*	5.04 (0.13)	5.39**	3.74 (0.17)	3.69	\$18,878 (1,322)	\$18,841
200-299 Beds	164 (48)	213	9.01 (2.63)	13.63	6.30 (0.21)	5.79*	4.40 (0.39)	3.86	\$23,996 (2,024)	\$25,132
300-499 Beds	376 (80)	312	20.66 (4.44)	20.00	6.22 (0.18)	6.34	3.74 (0.28)	4.03	\$32,719 (1,888)	\$31,047
500+ Beds	467 (133)	300	25.64 (5.99)	19.24	6.38 (0.21)	6.57	4.05 (0.19)	4.00	\$30,126 (4,520)	\$33,029
Total Private Non-Profit	10,653 (367)	9,683**	73.18 (1.46)	73.48	5.74 (0.05)	5.75	3.91 (0.08)	3.75	\$27,693 (876)	\$27,703
1-99 Beds	1,271 (69)	1,073**	11.93 (0.71)	11.08	4.74 (0.08)	4.85	3.69 (0.09)	3.45*	\$15,476 (636)	\$14,924
100-199 Beds	2,041 (126)	1,798	19.16 (1.18)	18.57	5.46 (0.08)	5.52	3.92 (0.11)	3.72	\$22,925 (1,382)	\$22,347
200-299 Beds	2,070 (196)	1,941	19.43 (1.92)	20.04	5.87 (0.11)	5.72	4.21 (0.32)	3.77	\$29,935 (1,900)	\$27,334
300-499 Beds	3,244 (304)	2,794	30.45 (2.73)	28.86	5.79 (0.08)	5.83	3.84 (0.11)	3.73	\$28,269 (1,204)	\$29,950
500+ Beds	2,024 (301)	2,075	19.00 (2.56)	21.43	6.44 (0.18)	6.34	3.83 (0.19)	3.93	\$37,078 (3,273)	\$36,272

Control	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	2,080 (120)	1,931	14.29 (0.85)	14.65	6.10 (0.14)	6.96**	3.81 (0.11)	3.68	\$35,750 (1,471)	\$36,070
1-99 Beds	385 (32)	486**	18.50 (1.56)	25.20**	7.35 (0.60)	8.98**	4.19 (0.36)	3.52	\$28,324 (2,249)	\$29,673
100-199 Beds	676 (49)	598	32.50 (2.09)	30.97	5.68 (0.20)	6.18*	3.54 (0.17)	3.64	\$31,606 (1,891)	\$33,108
200-299 Beds	627 (85)	456*	30.14 (3.84)	23.64	5.79 (0.20)	6.21*	3.86 (0.22)	3.88	\$43,115 (3,543)	\$38,915
300-499 Beds	257 (68)	271	12.39 (3.28)	14.03	5.97 (0.18)	6.53**	3.79 (0.22)	3.65	\$40,200 (2,192)	\$46,975**
500+ Beds	134 (40)	118	6.45 (1.91)	6.13	6.26 (0.35)	6.46	3.84 (0.25)	3.87	\$34,759 (3,230)	\$41,393*

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 16. NIS and MedPAR Comparisons by Hospital Type, 2005**

Hospital Type	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	2,433 (84)	2,208**	16.71 (0.61)	16.75	4.88 (0.06)	4.81	3.90 (0.07)	3.59**	\$14,619 (494)	\$14,865
small	669 (26)	555**	27.49 (1.33)	25.13	4.18 (0.07)	3.99*	3.70 (0.10)	3.27**	\$9,584 (327)	\$9,371
medium	680 (59)	565	27.95 (2.65)	25.61	4.63 (0.07)	4.61	3.81 (0.10)	3.53**	\$13,854 (468)	\$13,922
large	1,084 (101)	1,087	44.55 (3.07)	49.25	5.46 (0.10)	5.33	4.07 (0.12)	3.78*	\$18,204 (955)	\$18,159
Urban, Non-teaching	7,130 (200)	6,297**	48.98 (1.15)	47.78	5.85 (0.06)	6.10**	3.96 (0.10)	3.75	\$29,763 (809)	\$29,376
small	832 (52)	854	11.67 (0.75)	13.56*	6.33 (0.29)	7.59**	3.98 (0.19)	3.61	\$23,598 (1,271)	\$24,911
medium	1,791 (87)	1,672	25.12 (1.22)	26.55	5.56 (0.09)	5.83**	3.89 (0.11)	3.74	\$27,148 (1,459)	\$26,926
large	4,506 (187)	3,770**	63.20 (1.31)	59.87*	5.88 (0.07)	5.88	3.98 (0.16)	3.79	\$31,960 (1,143)	\$31,474
Urban, Teaching	4,992 (257)	4,673	34.29 (1.26)	35.46	6.08 (0.08)	6.16	3.80 (0.10)	3.80	\$32,661 (1,562)	\$33,201
small	746 (116)	567	14.94 (2.31)	12.14	5.57 (0.18)	6.00*	3.49 (0.25)	3.55	\$28,781 (3,689)	\$29,985
medium	1,430 (191)	1,248	28.64 (3.98)	26.71	5.89 (0.14)	6.02	4.07 (0.18)	3.78	\$27,304 (1,574)	\$30,391*
large	2,816 (295)	2,857	56.40 (4.26)	61.14	6.32 (0.13)	6.25	3.73 (0.13)	3.86	\$36,143 (2,377)	\$35,068

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 17. NIS and MedPAR Comparisons by Patient Characteristics, 2005**

	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	2,397 (63)	2,329	16.47 (0.30)	17.67**	6.08 (0.06)	6.21*	1.98 (0.04)	1.94	\$27,228 (664)	\$28,174
65-74 Years	4,243 (103)	3,885**	29.15 (0.17)	29.48	5.47 (0.04)	5.66**	2.96 (0.06)	2.93	\$30,396 (698)	\$30,802
75-84 Years	5,145 (129)	4,429**	35.35 (0.19)	33.61**	5.81 (0.04)	5.93*	4.21 (0.07)	4.01**	\$28,897 (720)	\$28,678
85+ Years	2,765 (70)	2,533**	18.99 (0.21)	19.22	5.88 (0.05)	5.95	6.41 (0.10)	6.16*	\$24,259 (711)	\$23,930
<b>Gender</b>										
Female	8,266 (188)	7,422**	56.79 (0.15)	56.32**	5.74 (0.04)	5.88**	3.62 (0.06)	3.49*	\$26,492 (628)	\$26,574
Male	6,279 (150)	5,756**	43.14 (0.15)	43.67**	5.81 (0.04)	5.93**	4.26 (0.06)	4.06**	\$30,389 (748)	\$30,532
<b>Race</b>										
White	8,681 (347)	10,902**	59.64 (1.67)	82.72**	5.79 (0.05)	5.75	4.06 (0.07)	3.76**	\$29,337 (830)	\$27,606*
Black	1,007 (66)	1,616**	6.92 (0.43)	12.26**	6.67 (0.12)	6.79	3.74 (0.14)	3.68	\$30,997 (1,357)	\$30,085
Other	1,056 (78)	610**	7.25 (0.52)	4.63**	6.41 (0.13)	6.34	3.98 (0.14)	3.67*	\$38,341 (1,607)	\$36,028
Unknown	3,810 (273)	48**	26.17 (1.87)	0.37**	5.32 (0.06)	5.79**	3.53 (0.07)	2.79**	\$22,109 (711)	\$28,136**

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 18. NIS and MedPAR Comparisons by DRG, 2005**

DRG	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	769 (18)	679**	5.28 (0.05)	5.15*	5.05 (0.03)	5.09	3.92 (0.07)	3.81	\$19,563 (518)	\$19,276
89: Simple pneumonia & pleurisy age >17 w/CC	664 (15)	577**	4.56 (0.05)	4.38**	5.47 (0.04)	5.50	4.24 (0.09)	4.15	\$19,059 (449)	\$18,874
88: Chronic obstructive pulmonary disease	498 (11)	444**	3.42 (0.05)	3.37	4.84 (0.04)	4.91	1.46 (0.05)	1.41	\$16,692 (409)	\$16,638
209: Major joint & limb reattachment procedures of lower extremity	415 (16)	368**	2.85 (0.08)	2.79	4.43 (0.04)	4.43	0.58 (0.02)	0.59	\$37,165 (799)	\$37,022
462: Rehabilitation	373 (25)	309*	2.56 (0.17)	2.34	11.79 (0.15)	12.38**	0.86 (0.11)	0.28**	\$24,806 (860)	\$26,771*
182: Esophagitis	350 (8)	310**	2.40 (0.02)	2.35	4.49 (0.03)	4.49	1.47 (0.05)	1.34*	\$16,513 (428)	\$16,158
416: Septicemia age >17	337 (11)	300**	2.31 (0.05)	2.28	7.57 (0.08)	7.55	20.47 (0.32)	19.59**	\$35,507 (1,133)	\$33,879
430: Psychoses	332 (21)	339	2.28 (0.14)	2.57*	10.48 (0.26)	10.54	0.08 (0.01)	0.08	\$18,275 (769)	\$18,108
14: Specific cerebrovascular disorders except TIA	319 (8)	298*	2.19 (0.02)	2.26**	5.32 (0.05)	6.13**	10.18 (0.19)	9.63**	\$22,872 (584)	\$23,188

DRG	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
174: G.I. hemorrhage w/CC	299 (7)	262**	2.05 (0.02)	1.98**	4.62 (0.03)	4.64	2.84 (0.07)	2.80	\$19,872 (478)	\$19,348
296: Nutritional & misc metabolic disorders age >17 w/CC	279 (6)	249**	1.92 (0.02)	1.89	4.64 (0.04)	4.63	3.22 (0.10)	3.25	\$15,507 (392)	\$15,273
143: Chest pain	277 (9)	238**	1.90 (0.04)	1.81*	2.03 (0.02)	2.08*	0.10 (0.01)	0.11	\$11,001 (267)	\$10,905
320: Kidney & urinary tract infections age >17 w/CC	270 (6)	235**	1.85 (0.02)	1.78*	4.99 (0.05)	5.00	1.90 (0.07)	1.85	\$16,409 (427)	\$16,143
138: Cardiac arrhythmia & conduction disorders w/CC	242 (6)	212**	1.66 (0.01)	1.61**	3.85 (0.03)	3.88	2.41 (0.08)	2.44	\$15,804 (406)	\$15,547
316: Renal failure	238 (8)	215**	1.64 (0.03)	1.63	6.24 (0.05)	6.23	7.03 (0.17)	6.87	\$24,078 (632)	\$23,728
79: Respiratory infections & inflammations age >17 w/CC	193 (6)	166**	1.33 (0.02)	1.26**	8.24 (0.09)	8.29	11.14 (0.24)	10.93	\$30,713 (929)	\$30,096
527	192 (13)	179	1.32 (0.07)	1.36	2.23 (0.04)	2.17	0.27 (0.02)	0.25	\$44,942 (1,525)	\$43,506
121: Circulatory disorders w/ ami & major comp	172 (5)	147**	1.18 (0.02)	1.11**	6.08 (0.06)	6.07	0.00 (0.00)	0.00 <sup>1</sup>	\$29,246 (844)	\$28,746

DRG	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
148: Major small & large bowel procedures w/CC	148 (4)	132**	1.02 (0.01)	1.00	11.87 (0.08)	11.82	6.96 (0.17)	7.03	\$64,851 (1,647)	\$63,968
210: Hip & femur procedures except major joint age >17 w/CC	148 (4)	127**	1.02 (0.01)	0.96**	6.59 (0.05)	6.58	2.68 (0.09)	2.63	\$35,532 (836)	\$34,758
475: Respiratory system diagnosis with ventilator support	145 (4)	134*	1.00 (0.01)	1.02	11.54 (0.24)	12.26**	33.03 (0.44)	32.79	\$70,242 (1,905)	\$72,598
141: Syncope & collapse w/CC	143 (4)	126**	0.98 (0.01)	0.95	3.39 (0.04)	3.40	0.38 (0.03)	0.42	\$14,780 (401)	\$14,508
277: Cellulitis age >17 w/CC	140 (3)	124**	0.96 (0.01)	0.94	5.53 (0.05)	5.53	0.80 (0.05)	0.80	\$17,345 (490)	\$16,841
395: Red blood cell disorders age >17	136 (3)	118**	0.93 (0.01)	0.90*	4.14 (0.05)	4.23	1.35 (0.07)	1.36	\$16,144 (447)	\$16,478
524	124 (3)	109**	0.85 (0.01)	0.83	3.09 (0.03)	3.10	0.20 (0.03)	0.19	\$14,277 (363)	\$13,961

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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



**Table 19. NIS and MedPAR Comparisons by Principal Diagnosis, 2005**

Principal Diagnosis	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	840 (21)	745**	5.77 (0.05)	5.65*	5.44 (0.04)	5.48	4.18 (0.08)	4.06	\$26,918 (779)	\$27,444
122: Pneumonia (except that caused by tuberculosis or sexually transmitted disease)	815 (18)	708**	5.60 (0.06)	5.37**	6.10 (0.05)	6.14	5.41 (0.09)	5.31	\$23,141 (575)	\$23,098
101: Coronary atherosclerosis and other heart disease	617 (28)	580	4.24 (0.14)	4.40	3.61 (0.05)	3.63	0.72 (0.03)	0.77	\$42,519 (1,304)	\$41,265
106: Cardiac dysrhythmias	460 (13)	411**	3.16 (0.04)	3.12	3.85 (0.03)	3.85	1.36 (0.04)	1.34	\$25,423 (681)	\$25,502
127: Chronic obstructive pulmonary disease and bronchiectasis	452 (10)	404**	3.10 (0.05)	3.06	5.07 (0.04)	5.15	2.24 (0.06)	2.19	\$18,545 (466)	\$18,554
203: Osteoarthritis	438 (17)	415	3.01 (0.09)	3.15	3.84 (0.03)	4.20**	0.15 (0.01)	0.14	\$34,993 (737)	\$39,380**

Principal Diagnosis	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	391 (13)	346**	2.68 (0.06)	2.63	5.89 (0.06)	5.89	9.27 (0.16)	9.21	\$46,896 (1,338)
254: Rehabilitation care; fitting of prostheses; and adjustment of devices	377 (25)	313*	2.59 (0.17)	2.37	11.86 (0.15)	12.46**	0.86 (0.11)	0.28**	\$25,117 (873)	\$27,125*
2: Septicemia (except in labor)	375 (12)	335**	2.57 (0.06)	2.54	8.77 (0.12)	8.77	20.25 (0.32)	19.39**	\$44,216 (1,439)	\$42,983
109: Acute cerebrovascular disease	354 (9)	332*	2.43 (0.03)	2.52**	5.93 (0.06)	6.69**	10.41 (0.19)	9.90**	\$28,206 (810)	\$28,259
237: Complication of device; implant or graft	351 (12)	336	2.41 (0.05)	2.54*	6.14 (0.07)	6.20	2.21 (0.07)	2.15	\$41,238 (1,192)	\$42,565
159: Urinary tract infections	323 (7)	281**	2.22 (0.03)	2.13**	4.99 (0.05)	5.02	1.75 (0.06)	1.72	\$16,813 (448)	\$16,679
102: Nonspecific chest pain	322 (10)	283**	2.21 (0.04)	2.15	2.16 (0.02)	2.19	0.12 (0.01)	0.11	\$12,613 (297)	\$12,583
55: Fluid and electrolyte disorders	307 (6)	273**	2.11 (0.02)	2.07	4.43 (0.03)	4.41	2.80 (0.09)	2.81	\$15,191 (378)	\$15,022
226: Fracture of neck of femur (hip)	268 (7)	238**	1.84 (0.02)	1.80	6.30 (0.05)	6.81**	3.00 (0.08)	2.92	\$33,962 (730)	\$35,866**

Principal Diagnosis	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
205: Spondylosis; intervertebral disc disorders; other back problems	231 (8)	225	1.58 (0.04)	1.70**	3.90 (0.05)	4.11**	0.34 (0.02)	0.32	\$30,371 (1,142)	\$29,821
131: Respiratory failure; insufficiency; arrest (adult)	221 (8)	212	1.52 (0.04)	1.61*	10.31 (0.26)	10.98*	21.87 (0.40)	21.09	\$56,286 (1,680)	\$58,673
50: Diabetes mellitus with complications	213 (5)	195**	1.46 (0.02)	1.48	6.32 (0.08)	6.36	1.67 (0.07)	1.54	\$26,784 (823)	\$26,826
153: Gastrointestinal hemorrhage	212 (5)	186**	1.45 (0.01)	1.41**	4.84 (0.03)	4.87	3.88 (0.10)	3.88	\$22,295 (529)	\$21,892
157: Acute and unspecified renal failure	205 (7)	182**	1.40 (0.03)	1.38	7.01 (0.07)	6.99	7.79 (0.20)	7.56	\$28,408 (850)	\$27,968
238: Complications of surgical procedures or medical care	201 (5)	189*	1.38 (0.02)	1.43*	7.13 (0.10)	7.31	2.27 (0.08)	2.36	\$31,750 (867)	\$32,005
197: Skin and subcutaneous tissue infections	200 (4)	178**	1.37 (0.01)	1.35	5.56 (0.05)	5.61	0.71 (0.04)	0.73	\$18,009 (503)	\$17,721
69: Affective disorders	176 (11)	179	1.21 (0.07)	1.36*	9.62 (0.23)	9.59	0.09 (0.01)	0.09	\$17,554 (855)	\$16,902

Principal Diagnosis	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
	145: Intestinal obstruction without hernia	175 (4)	155**	1.20 (0.01)	1.18	6.71 (0.05)	6.77	3.82 (0.11)	4.01	\$28,552 (719)
149: Biliary tract disease	171 (4)	151**	1.17 (0.01)	1.14*	5.45 (0.04)	5.43	1.56 (0.07)	1.55	\$30,373 (700)	\$29,641

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

**Table 20. NIS and MedPAR Comparisons by Principal Procedure, 2005**

Principal Procedure	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
70: Upper gastrointestinal endoscopy; biopsy	403 (11)	359**	2.77 (0.04)	2.72	5.89 (0.04)	5.97	1.81 (0.05)	1.84	\$25,076 (684)	\$24,495
222: Blood transfusion	396 (13)	322**	2.72 (0.08)	2.44**	5.99 (0.06)	6.05	5.72 (0.12)	5.67	\$23,109 (646)	\$23,384
45: Percutaneous transluminal coronary angioplasty (PTCA)	388 (24)	364	2.66 (0.13)	2.76	3.00 (0.04)	2.96	1.07 (0.05)	1.09	\$49,533 (1,599)	\$46,535
152: Arthroplasty knee	321 (13)	292*	2.20 (0.07)	2.22	3.94 (0.03)	3.95	0.17 (0.01)	0.16	\$36,581 (803)	\$40,840**
216: Respiratory intubation and mechanical ventilation	315 (8)	287**	2.16 (0.03)	2.17	9.51 (0.16)	9.90*	37.20 (0.40)	36.69	\$58,491 (1,670)	\$59,717
47: Diagnostic cardiac catheterization; coronary arteriography	300 (12)	283	2.06 (0.05)	2.15	4.12 (0.05)	4.12	1.21 (0.05)	1.28	\$28,151 (734)	\$27,760
54: Other vascular catheterization; not heart	255 (8)	240	1.75 (0.03)	1.82	9.38 (0.11)	9.25	11.75 (0.29)	11.36	\$38,695 (914)	\$38,369
153: Hip replacement; total and partial	250 (8)	219**	1.72 (0.04)	1.66	5.26 (0.05)	5.26	1.24 (0.05)	1.27	\$40,638 (911)	\$50,218**
48: Insertion; revision; replacement; removal of cardiac pacemaker or cardioverter/defibrillator	247 (11)	232	1.69 (0.05)	1.76	4.83 (0.08)	4.75	1.09 (0.05)	1.14	\$64,078 (1,725)	\$66,065

Principal Procedure	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
58: Hemodialysis	232 (7)	218	1.59 (0.04)	1.65	5.64 (0.07)	5.73	3.73 (0.12)	3.50	\$24,563 (774)	\$24,356
146: Treatment; fracture or dislocation of hip and femur	192 (5)	163**	1.31 (0.02)	1.24**	6.21 (0.05)	6.24	2.37 (0.07)	2.34	\$33,483 (783)	\$33,013
231: Other therapeutic procedures	188 (19)	158	1.29 (0.13)	1.20	5.85 (0.14)	5.69	6.21 (0.37)	5.63	\$23,738 (1,705)	\$22,484
61: Other OR procedures on vessels other than head and neck	170 (6)	166	1.17 (0.03)	1.26**	7.63 (0.14)	7.36	4.52 (0.17)	4.26	\$54,556 (1,640)	\$53,398
76: Colonoscopy and biopsy	157 (4)	138**	1.07 (0.01)	1.04	5.94 (0.05)	6.01	1.32 (0.06)	1.29	\$23,486 (613)	\$23,117
78: Colorectal resection	145 (4)	128**	0.99 (0.01)	0.97	10.97 (0.08)	10.98	6.06 (0.16)	6.22	\$61,693 (1,566)	\$61,351
84: Cholecystectomy and common duct exploration	134 (3)	119**	0.92 (0.01)	0.90	6.38 (0.06)	6.37	1.75 (0.08)	1.76	\$37,772 (859)	\$36,877
193: Diagnostic ultrasound of heart (echocardiogram)	124 (12)	115	0.85 (0.08)	0.87	5.45 (0.15)	5.37	2.39 (0.15)	2.26	\$23,476 (1,569)	\$22,222
213: Physical therapy exercises; manipulation; and other procedures	122 (16)	101	0.84 (0.11)	0.77	11.24 (0.44)	11.70	0.96 (0.14)	0.63*	\$24,961 (1,418)	\$28,377*
44: Coronary artery bypass graft (CABG)	120 (8)	115	0.82 (0.04)	0.87	10.33 (0.13)	9.99*	3.00 (0.14)	3.11	104,295 (3,723)	\$98,670

Principal Procedure	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
39: Incision of pleura; thoracentesis; chest drainage	107 (3)	95**	0.74 (0.01)	0.72	8.07 (0.07)	8.12	7.09 (0.20)	7.44	\$33,113 (977)	\$32,546
169: Debridement of wound; infection or burn	107 (2)	100*	0.73 (0.01)	0.76	12.14 (0.31)	12.44	4.37 (0.18)	4.40	\$47,356 (1,448)	\$48,716
37: Diagnostic bronchoscopy and biopsy of bronchus	88 (3)	82	0.60 (0.01)	0.62	9.31 (0.10)	9.22	6.24 (0.23)	5.95	\$43,465 (1,501)	\$41,532
158: Spinal fusion	88 (5)	88	0.60 (0.03)	0.67*	4.80 (0.10)	4.77	0.58 (0.06)	0.57	\$65,063 (2,591)	\$63,077
3: Laminectomy; excision intervertebral disc	87 (4)	84	0.59 (0.02)	0.64	3.41 (0.07)	3.37	0.27 (0.04)	0.34	\$24,621 (1,120)	\$23,875
51: Endarterectomy; vessel of head and neck	85 (3)	78	0.59 (0.01)	0.59	2.79 (0.06)	2.78	0.37 (0.05)	0.40	\$24,234 (697)	\$24,327

\*Significant at a 5 percent level.

\*\*Significant at a 1 percent level.

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

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