

The Healthcare Cost and Utilization Project (HCUP)

September 10, 2008

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Healthcare Cost and Utilization Project (HCUP)

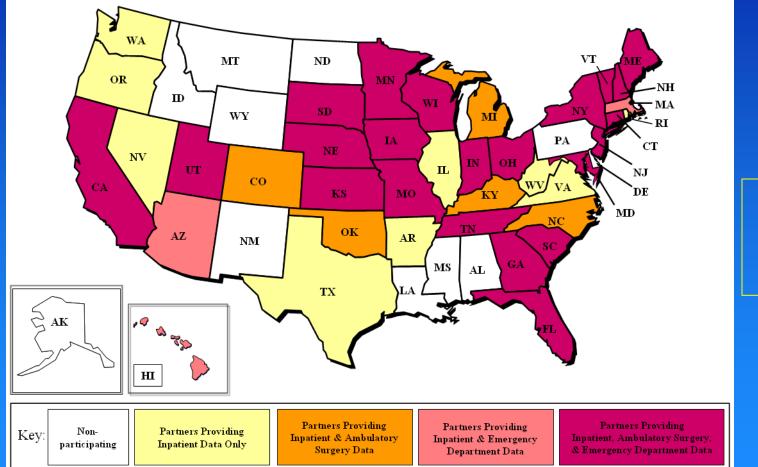


THE LARGEST COLLECTION OF MULTI-YEAR, ALL-PAYER, ENCOUNTER-LEVEL, HEALTH CARE DATA



The HCUP Partnership: A Voluntary Federal-State-Private Sector Collaboration





39 states 90% of all discharges



The Making of HCUP Data



Billing

record

created



AHRQ standardizes data to create uniform HCUP databases Patient enters hospital



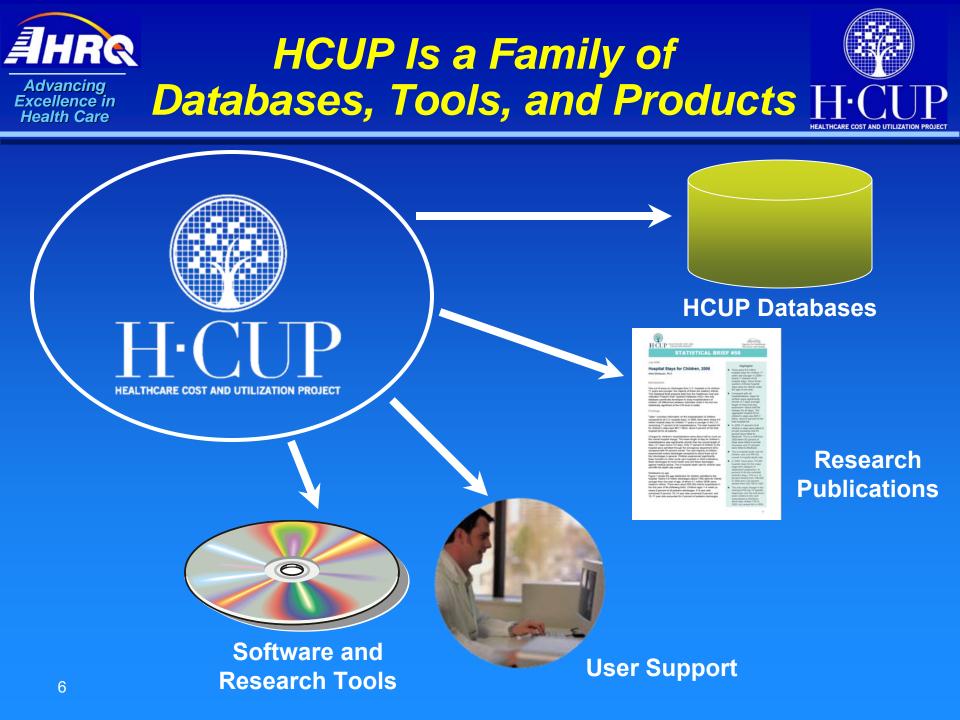
States store data in varying formats Hospital sends billing data and any additional data elements to Data Organizations



What is HCUP? And what is it not?



HCUP is	HCUP is not
Discharge database for health care encounters	A survey
All payer, including the uninsured	Specific to a single payer, e.g. Medicare
Hospital, ambulatory surgery, emergency department data	<i>Outpatient visits, pharmacy, laboratory</i>
All hospital discharges	A sample
Accessible multiple ways: raw data, regular reports, on-line	Just another database





HCUP Supports High Impact Health Services, Policy, and Clinical Research







Advancing Excellence in Health Care

HCUP Supports Federal and Non-Federal Initiatives

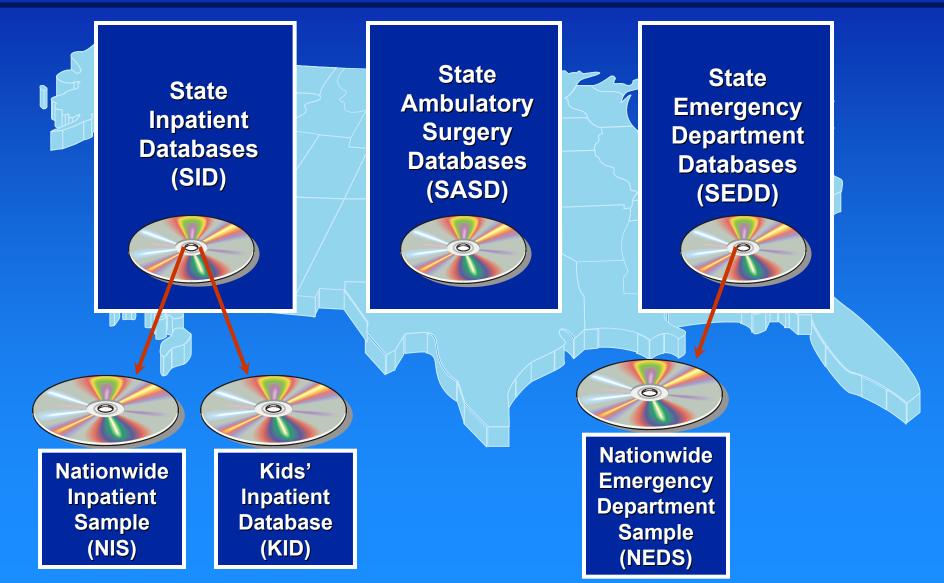






Types of HCUP Databases











Allows state-level analysis of inpatient hospital utilization using one more states in a uniform format





Health Care

11

States Releasing SID through HCUP Central Distributor



1990 – 2006*

- Arizona
- California***
- Colorado
- Florida
- Hawaii
- lowa
- Kentucky
- Maryland
- Massachusetts
- Michigan
- Nebraska
- Nevada Not all states participate in
 - * Not all states participate in all years.
 - ** Special application process.

- New Jersey
- New York
- North Carolina
- Oregon
- Rhode Island
- South Carolina
- Utah
- Vermont
- Washington
- West Virginia
- Wisconsin



The SID Supports Interesting Research Topics



- Enumeration of all hospitals and discharges within market areas or states
- Investigation of questions unique to one state
- Comparison of data from two or more states
- Research of market areas or small area variation analyses
- Identification of state-specific trends in inpatient care utilization, access, charges, and outcomes



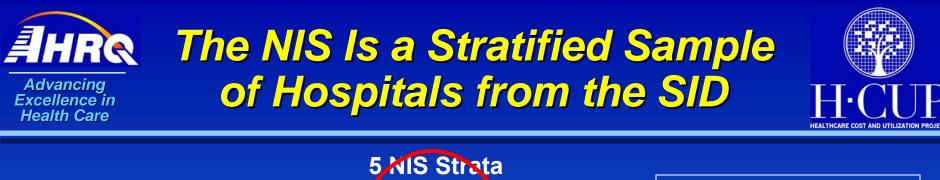


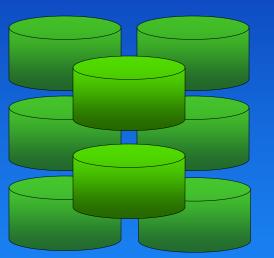


Allows national and regional studies of inpatient hospital utilization *

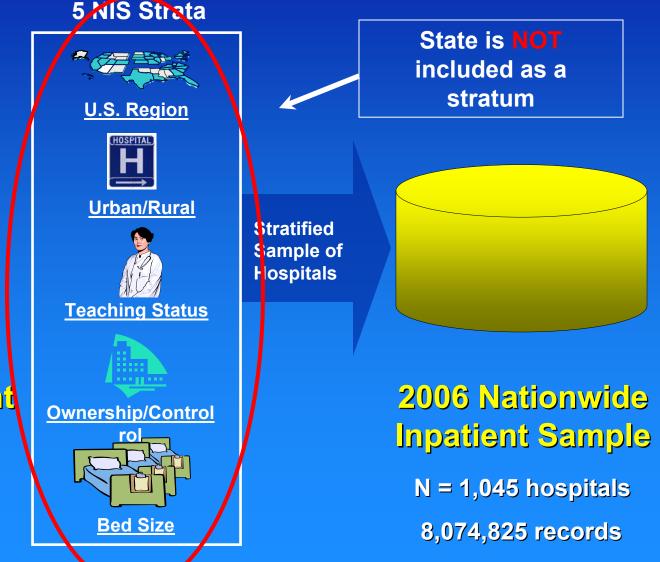


* Not recommended for state-level analyses





2006 State Inpatient Databases N = 3,958 hospitals 132,114,909 records





Excellence in Health Care

Statewide Data Systems **Participating in NIS**



Doto Voor	# of	States
Data Year	States	States
1988	8	CA, CO, FL, IA, IL, MA, NJ, WA
1989-1992	11	+ AZ, PA, WI
1993-1994	17	+ CT, KS, MD, NY, OR, SC
1995-1996	19	+ MO, TN
1997-1998	22	+ HI, UT, GA
1999	24	+ ME, VA
2000	28	+ KY, NC, TX, WV
2001	33	+ MI*, MN, NE, RI, VT
2002	35	+ NV, OH, SD [AZ not available]
2003	37	+ AZ, IN, NH [ME not available]
2004	37	+ AR [PA not available]
2005	37	+OK [VA not available]
2006	38	+VA
15		



The NIS Can Be Used to Study Many Topics



Use of and charges for hospital services
 Medical practice variation
 Medical treatment effectiveness
 Quality of care and patient safety
 Impact of health policy changes
 Diffusion of medical technology





Purpose of the KID

Allows national and regional studies of inpatient hospital utilization and charges for children and adolescents

Designed for study of rare pediatric conditions



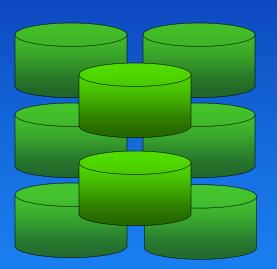


Health Care

The KID Is a Stratified Sample of Discharges from the SID



3 Strata



2006 State Inpatient Databases

N = x Pediatric Discharges from x Hospitals

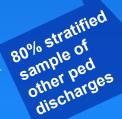


Uncomplicated Births



Complicated Births Births

Pediatric Non-Births 10% stratified sample of uncomplicated births



2006 Kids' Inpatient Database

N = x

Pediatric Discharges from x Hospitals



Key Differences Between the 1997, 2000, 2003, and 2006 KID



	<u>1997</u>	<u>2000</u>	<u>2003</u>	<u>2006</u>
# HCUP states	22	27	36	38
# Hospitals	2,521	2,784	3,438	3,739
# Unweighted records	1.9 million	2.5 million	3.0 million	3.1 million
# Weighted discharges	6.7 million	7.3 million	7.4 million	7.6 million
Age inclusion criteria	≤ 18 years	<mark>≤ 20 years</mark>	≤ 20 years	≤ 20 years



What Is the Source for the SASD?



Ambulatory surgery data:

Designated hospital beds; separate facilities with hospital affiliation included

Some data from free-standing centers

Data organizations provides data to HCUPcollection varies by state

HCUP collects and standardizes data to create SASD



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States with HCUP Ambulatory Surgery Databases



- California**
- Colorado*
- **Connecticut**
- Florida*
- **Georgia**
- Indiana
- <mark>_</mark> ∣owa*
- Kansas
- Kentucky*
- Maine
- Maryland*
- Michigan*
- Minnesota
- Missouri

- Nebraska*
- New Hampshire
- New Jersey*
- New York*
- North Carolina*
- Ohio
- Oklahoma
- South Carolina*
- South Dakota
- Tennessee
- <mark>⊥</mark> Utah*
- Vermont*
- Wisconsin*
- *Data available through the HCUP Central Distributor
- ** Special application process.
- 21 Note: Not all states participate in all years.



What is the Source for the SEDD?



Emergency department data: uniform billing data (UB-92), plus additional data elements, from hospital-affiliated emergency department sites

Data organization provides data to HCUP

HCUP collects and standardizes data to create SEDD



Excellence in Health Care The SEDD Can Provide a More Complete Picture of Care



The SID and the SEDD can be combined to get a full picture of care that began in the ED





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States with HCUP Emergency Department Databases



- Arizona*
- California*
- **Connecticut**
- Florida*
- Georgia
- 🗕 Hawali*
- Indiana
- <mark>_ l</mark>owa*
- Kansas
- Maine
- Maryland*
- Massachusetts*
- Minnesota

- Missouri
- Nebraska*
- New Hampshire
- New Jersey*
- New York
- Ohio
- South Carolina*
- South Dakota
- **Tennessee**
- Utah*
- Vermont*
- Wisconsin*

*Data available through the HCUP Central Distributor

- ** Special application process.
- ²⁴ Note: Not all states participate in all years.



HRe Some Interesting Ways to Use the SEDD for Research



- Injury surveillance
- Trends in ED use
- Correlations between ED use and environmental events
- Emerging infectious diseases
- Occurrence of non-fatal, preventable illness
- ED visits and re-visits for some states

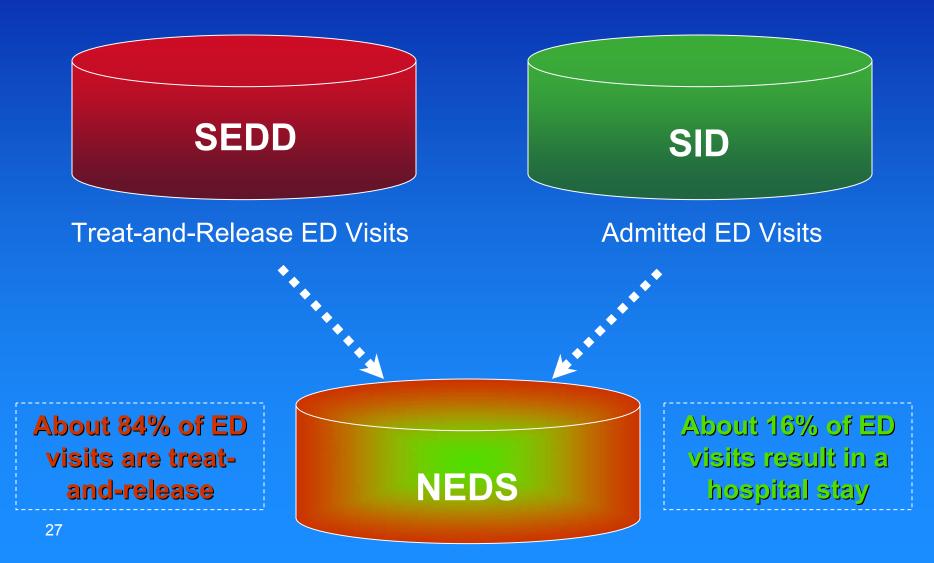
Coming Soon...

Nationwide Emergency Department Sample (NEDS)









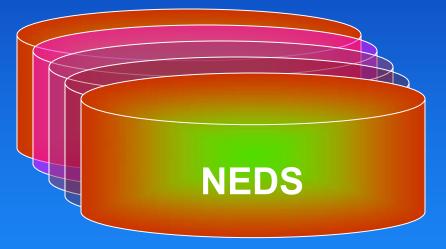




NEDS Benchmarks Well

Comparable to other ED sources

- Consistent in terms of total ED visits
- Higher percent of inpatient admissions with ED source
- Larger amount of diagnostic and procedure information available
- Similar for injury rates





Administrative Data Have Benefits and Limitations



Benefits

Limitations

- Large sample size
- Uniformity of coding
- Routine, regular collection
- Ease of access
- All-payer
- Available at local, state, regional, national level

- Differences in coding across hospitals
- No data on individuals outside of hospital system
- May not show complete episode of care
- May not include all hospitals
- Lack revenue information
- Sparse clinical details

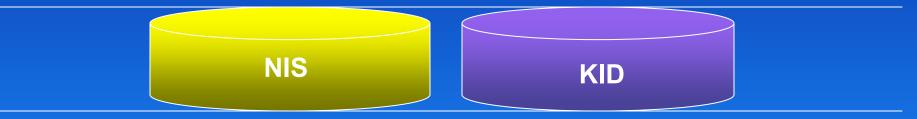




Pricing Information

National Databases (NIS, KID)

- \$200 per data year (from CY2000 forward)
- \$20 student price



State Databases (SID, SASD, SEDD)

- \$20 - \$3,000 per data year (varies by state)





HCUP Statistical Briefs

Agency for Healthcare

Highlights

In 2005, the national hospital bill



Advancing Excellence in Health Care



Research and Quality **STATISTICAL BRIEF #42**

dollars

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December 2007

The National Hospital Bill: Growth Trends and 2005 Update on the N Expensive Conditions by Payer

Roxanne M. Andrews, Ph.D. and Anne Elixhauser, Ph.D.

Introduction

As health care costs rise and the population ages, policy are concerned with the growing burden of hospital-based care and expenses to governments, consumers, and insi Statistical Brief presents data from the Healthcare Cost a Utilization Project (HCUP) on the national inpatient hospi (aggregate community hospital charges) in 2005 and anr trends for 1997 through 2005.

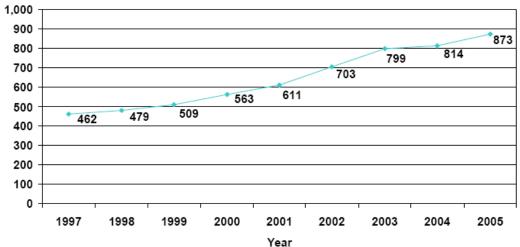
This report provides information on the top 20 most expe conditions and the growth in the national bill for each of t conditions between 1997 and 2005. This report also desi Billions (distribution of the nation's 2005 bill by primary payer and the conditions accounting for the largest percentage of e payer's hospital bills. The primary payers examined are I Medicaid, private insurance, and the uninsured.

Findings

The 2005 national hospital bill and changes since 1997 The nation's hospitals billed nearly \$875 billion in total cl 2005 for inpatient hospitalizations. These charges involve million hospital stays, but do not include hospital outpatie



Figure 1. Growth in the national bill for hospital care, 1997-2005*



* Adjusted for economy-wide inflation to 2005 dollars.

Source: AHRQ, Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project, Nationwide Inpatient Sample

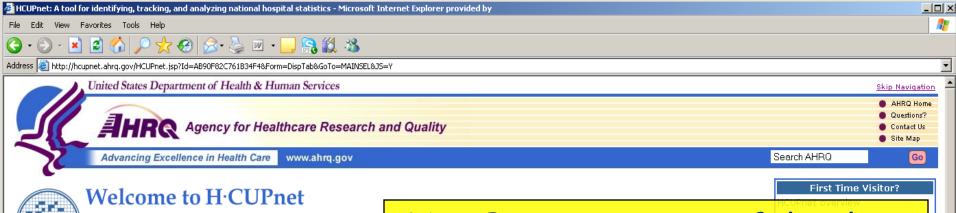


Other Statistical Briefs Include:



- Hospital stays related to depression
- Trends in risk-adjusted mortality
- Trends in preventable hospitalizations
- Infections with Clostridium difficile
- Childbirth-related stays
- Adverse drug events
- Admissions for traumatic brain injury
- Bariatric surgery utilization and outcomes
- Circumcisions

. . .



HCUPnet is a free, on-line query system based on data from health statistics and information on hospital inpatient and e

Begin your query here -

Statistics on Hospital Stays

National Statistics on All Stays

Create your own statistics for national and regional estimates on hospital u for all patients from the HCUP Nationwide Inpatient Sample (NIS). Overview the Nationwide Inpatient Sample (NIS)

(National Statistics on Mental Health Hospitalization

HCUPnet provides national information on hospital stays based on the Nationwide Inpatient Sample.

Create your own statistics on emergency department visits for participating States from the HCUP State Emergency Department Databases (SEDD) and the SID.

Overview of the State Emergency Department Databases (SEDD)

Hospitals Like Mine (Beta Version)

(Statistics on U.S. Hospitals)

Create your own statistics on various types of hospitals that resemble the hospital you visit or the hospital you study - What types of patients are

HCUPnet is a powerful online query tool that gives you free, instant access to healthcare statistics.

National and State Statistics on Hospital Stays by Payer -Medicare, Medicaid, Private, Uninsured

rested in hospital stays billed to a specific payer? Create your own istics for a payer, alone or compared to other payers from the NIS, and SID.

k National or State Statistics

dy-to-use tables on commonly requested information from the HCUP onwide Inpatient Sample (NIS), the HCUP Kids' Inpatient Database (), or the HCUP State Inpatient Databases (SID).

State Statistics

Ready-to-use tables on commonly requested information from the SEDD and SID.

- 2005 nationwide data now available.
- Information on use of Emergency Departments from selected States.



More information on HCUP data, tools, and reports

What is HCUP?

Brief description - what is HCUP? Want to purchase data to do your own analysis? The statistics in HCUPnet would

not be possible without statewide data collection projects that provide data to HCUP.

HCUPnet is based on aggregate statistics tables to speed up data transfer and protect individual records, so not all possible queries can be addressed. If a query is not possible,

Internet

H·CUPnet			>> Me
			>> W
Information on stays in hospitals for p	articipating States from the HCUP State	Inpatient Databases (SID)	>> H0
HCUPnet Home	Lay or researcher	Select type of query	Select state

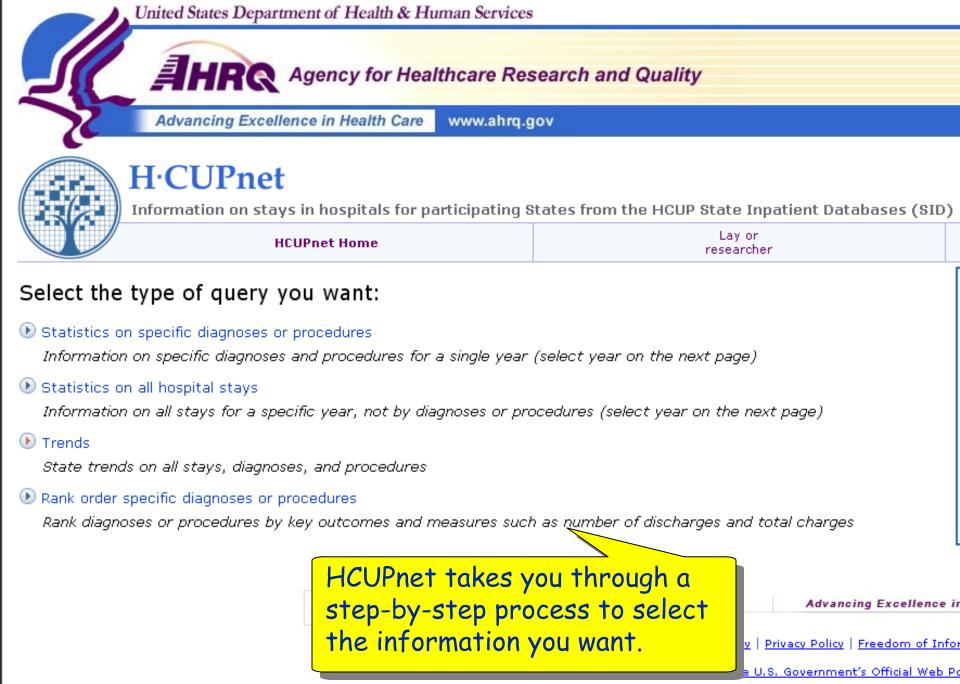
Select State and year:

State	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997		
Arizona	€	∢	€	€	€	€	∢	∢	€	€	Link to	State Web site
Arkansas	lacksquare	lacksquare	\mathbf{b}								Link to	State Web site
California	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	Link to	State Web site
Colorado	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	lacksquare	\triangleright	Link to	State Web site
Florida	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	lacksquare	\mathbf{b}	Link to	State Web site
Hawaii	\mathbf{b}	\mathbf{b}	\triangleright	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	Link to	State Web site
Iowa	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\bigcirc	\mathbf{b}	\mathbf{b}	Link to	State Web site
Kansas	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	Link to	State Web site
Kentucky	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Maine				\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Maryland	\mathbf{b}	\mathbf{b}									Link to	State Web site
Massachusetts		\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	Link to	State Web site
Michigan	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Minnesota	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Missouri	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Nebraska	lacksquare	lacksquare	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}					Link to	State Web site
Nevada	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}						Link to	State Web site
New Hampshire	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}							Link to	
New Jersey	lacksquare	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}	Link to	an
New York	lacksquare	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\bigcirc	\mathbf{b}	\mathbf{b}	Link to	
North Carolina	lacksquare	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}				Link to	data
Oklahoma	\mathbf{b}	\mathbf{b}									Link to	state
Oregon	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	Link to	Siure
Rhode Island	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}						Link to	Inpa
South Carolina	\mathbf{b}	\mathbf{b}	lacksquare	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	lacksquare	\mathbf{b}	Link to	znpa
Utah	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\mathbf{b}	\triangleright	\mathbf{b}	Link to	State Web site
Vermont	\mathbf{b}	\mathbf{b}	lacksquare	lacksquare	\triangleright	\mathbf{b}					Link to	State Web site
Washington	lacksquare	\mathbf{b}	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}	lacksquare	\bigcirc	\mathbf{b}	\mathbf{b}	Link to	State Web site
West Virginia	lacksquare	lacksquare	\mathbf{b}	lacksquare	\mathbf{b}	\mathbf{b}					Link to	State Web site
Wisconsin	∢	∢	∢	€	∢	∢					Link to :	State Web site

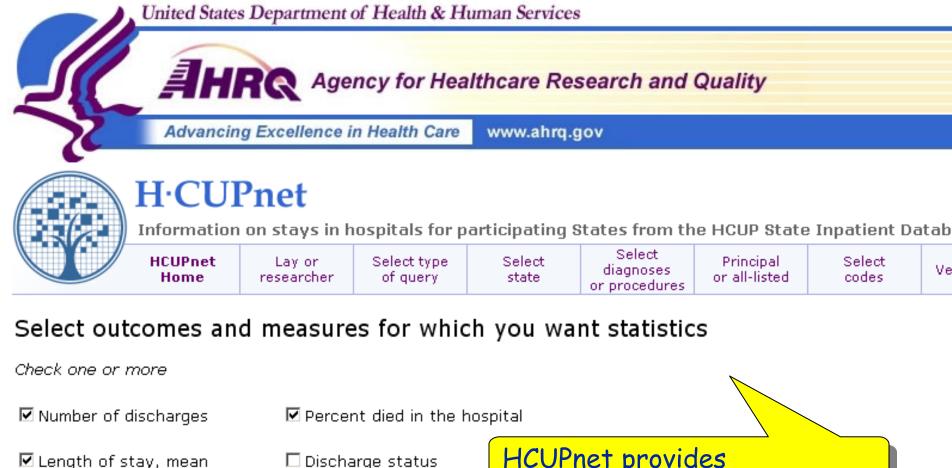
Information

Statistics are based on hospitals that me definition of "community hospital" -- non short-term, general and other specialty h including public hospitals and academic n centers. Excluded are federal, rehabilitat psychiatric hospitals, as well as alcoholis dependency treatment facilities.

... and it gives access to data from participating states from HCUP's State Inpatient Databases.



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🗆 Length of stay, median

🗹 Hospital charges, mean 🗖 Hospital charges, median

>> Next >>

🗆 Discharge status

 Percent admitted from emergency department Percent admitted from another hospital Percent admitted from long term care facility

HCUPnet provides information on:

- numbers of discharges
- hospital LOS and charges
- discharge status
- how patients were admitted

	United States Dep	partment of Health &	& Human Services				
Advancing Excellence in Health Care www.ahrg.gov							
C	Advancing Exc	interior in rioutin o	ure mining.ge				
	H·CUPn Information on s		for participating S	tates from the H	CUP State Inpatient	t Databas	
	HCUPnet Home	Lay or researcher	Select type of query	Select state	Select diagnoses or procedures	Princi or all-li	

Select patient and hospital characteristics

- Check one or more
- All patients in all hospitals
- 🗆 Patient age, in categories
- 🗖 Gender
- □ Payer (insurance status)
- □ Location of patient's residence (rural/urban)
- 🗆 Race/ethnicity
- □ Hospital ownership (public, for-profit, not-for-profit)?
- Hospital teaching status (teaching vs. not)?
- Hospital location (metropolitan vs. non-metropolitan)?
- Hospital bedsize (small vs. medium vs. large)?

Are you interested in particular patient groups? Specific hospital characteristics?

>> Next >>

2006 National statistics - all-listed

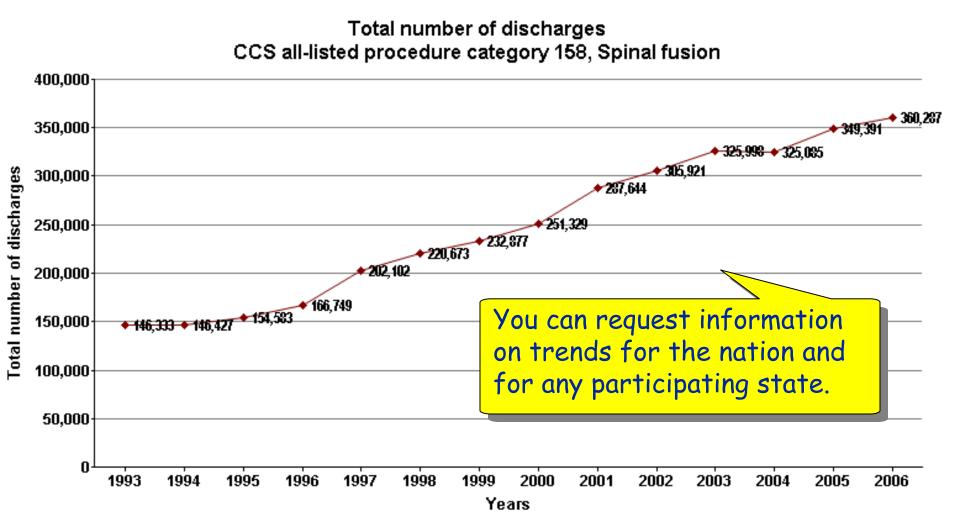
You have chosen all-listed procedures. The only possible measure for all-listed procedures is the number of discharges who received the procedures you selected. If you want to see statistics on length of stay or charges, go back and select "principal procedure."

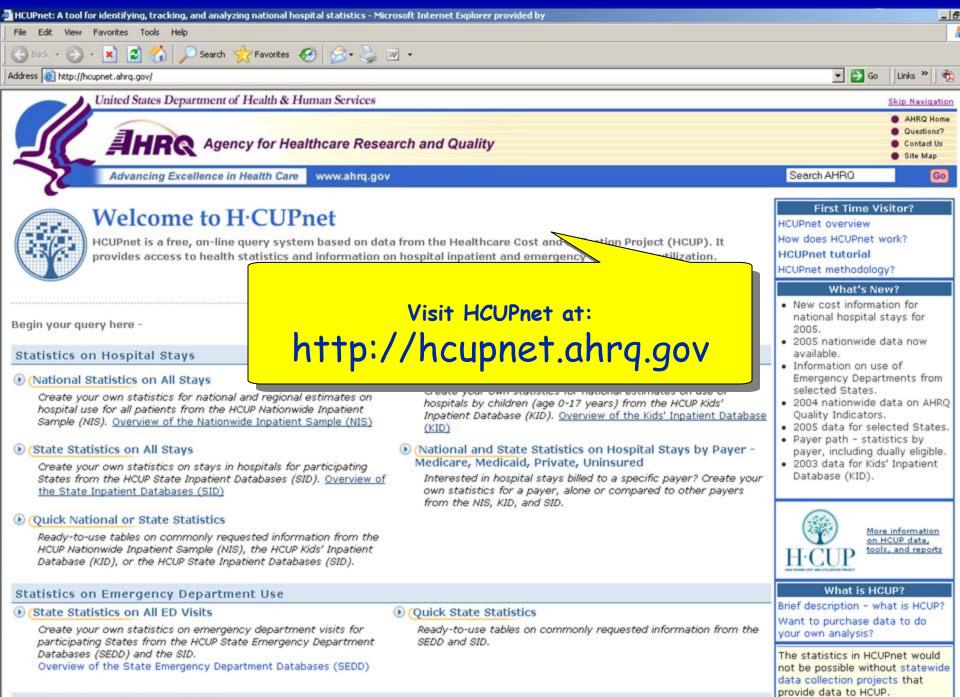
Patient and hospital characteristics for CCS all-listed procedure category 158 Spinal fusion

			Standard errors		
		Total number of discharges	Total r	number of discharges	
All discharges		360,287 (100.00%)		19,445	
	<1	*		*	
	1-17	9,337 (2.59%)		1,498	
	18-44	96,914 (26.90%)	,	5,695	
	45-64	173,644 (48.20%)	,	9,783	
	65-84	77,643 (21.55%)	,	4,258	
	85+	2,662 (0.74%)		198	
	Missing	*		*	
Sex	Male	165,112 (45.83%)		8,764	
	Female	194,984 (54.12%)		10,794	
	Missing	*		*	
Payer	Medicare	97,189 (26.98%)		5,356	
	Medicaid	20,500 (5.69%)	,	1,467	
	Private insurance	195,340 (54.22%)	,	11,973	
	Uninsured	5,818 (1.61%)	,	508	
	Other	40,904 (11.35%)			
	Missing	*		You get you	ir results instantly.
Median income for zipcode	Low (\$0-35,999)	78,200 (21.70%)			
	Not low (\$36,000+)	273,823 (76.00%)		HCUPnet is	bacad an
	Missing	8,264 (2.29%)		FICUPIIEI IS	Duseu un
Patient residence	Large metro	152,011 (42.19%)	,	nonrenater	l statistics to speed
	Small metro	129,402 (35.92%)	,		
	Non-metro	77,925 (21.63%)	,	data transf	fer and protect
	Missing	948 (0.26%)	,		· · · · · · · · · · · · · · · · · · ·
Owner	Government	34,156 (9.48%)	,	patient con	fidentiality.
	Private, not-for-profit	277,176 (76.93%)		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
	Private, for-profit	48,955 (13.59%)			
Teaching status	Nonteaching	146,713 (40.72%)		10,010	
	Topobing	212 E21 (E0 2604)		16.290	

National statistics - all-listed

HCUPnet provides trend information for the 14 year period: 1993-2006





AHRQ Quality Indicators (QIs)

O COT OLIVER TABLES

HCUPnet is based on aggregate



Excellence in Health Care

New Interactive On-line HCUP Overview Course Available





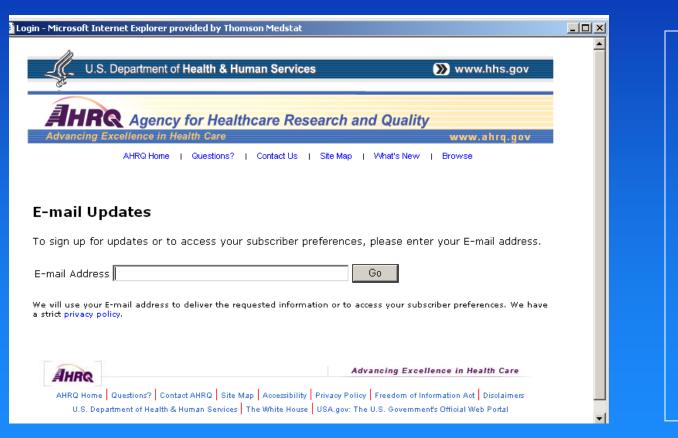
http://www.hcup-us.ahrq.gov/overviewcourse.jsp



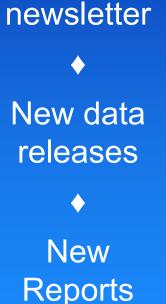
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Join the HCUP Email List





http://www.ahrq.gov/data/hcup/hcuplist.htm



HCUP



Using HCUP Technical Assistance





Active Technical Assistance

- Responds to inquiries about
 HCUP data, products, and tools
- Collects user feedback and suggestions for improvement

E-mail: <u>hcup@ahrq.qov</u> Phone: (866) 290-HCUP