

Appendix I: Tables and Figures

Table 1: 2009 Data Sources

State	Data Organization
AR	Arkansas Department of Health
AZ	Arizona Department of Health Services
CA	Office of Statewide Health Planning & Development
CO	Colorado Hospital Association
CT	Connecticut Hospital Association
FL	Florida Agency for Health Care Administration
GA	Georgia Hospital Association
HI	Hawaii Health Information Corporation
IA	Iowa Hospital Association
IL	Illinois Department of Public Health
IN	Indiana Hospital Association
KS	Kansas Hospital Association
KY	Kentucky Cabinet for Health and Family Services
LA	Louisiana Department of Health and Hospitals
MA	Division of Health Care Finance and Policy
MD	Health Services Cost Review Commission
ME	Maine Health Data Organization
MI	Michigan Health & Hospital Association
MN	Minnesota Hospital Association
MO	Hospital Industry Data Institute
MT	MHA - An Association of Montana Health Care Providers
NC	North Carolina Department of Health and Human Services
NE	Nebraska Hospital Association

State	Data Organization
NH	New Hampshire Department of Health & Human Services
NJ	New Jersey Department of Health & Senior Services
NM	New Mexico Health Policy Commission
NV	Nevada Department of Health and Human Services
NY	New York State Department of Health
OH	Ohio Hospital Association
OK	Oklahoma State Department of Health
OR	Oregon Association of Hospitals and Health Systems
PA	Pennsylvania Health Care Cost Containment Council
RI	Rhode Island Department of Health
SC	South Carolina State Budget & Control Board
SD	South Dakota Association of Healthcare Organizations
TN	Tennessee Hospital Association
TX	Texas Department of State Health Services
UT	Utah Department of Health
VT	Vermont Association of Hospitals and Health Systems
VA	Virginia Health Information
WA	Washington State Department of Health
WI	Wisconsin Department of Health Services
WV	West Virginia Health Care Authority
WY	Wyoming Hospital Association

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Table 2: Number of NIS States, Hospitals, and Discharges, by Year

Calendar Year	States in the Frame	Number of States	Sample Hospitals	Sample Discharges
1988	California, Colorado, Florida, Iowa, Illinois, Massachusetts, New Jersey, and Washington	8	758	5,265,756
1989	Added Arizona, Pennsylvania, and Wisconsin	11	875	6,110,064
1990	No new additions	11	861	6,268,515
1991	No new additions	11	847	6,156,188
1992	No new additions	11	838	6,195,744
1993	Added Connecticut, Kansas, Maryland, New York, Oregon, and South Carolina	17	913	6,538,976
1994	No new additions	17	904	6,385,011
1995	Added Missouri and Tennessee	19	938	6,714,936
1996	No new additions	19	906	6,542,069
1997	Added Georgia, Hawaii, and Utah	22	1012	7,148,420
1998	No new additions	22	984	6,827,350
1999	Added Maine and Virginia	24	984	7,198,929
2000	Added Kentucky, North Carolina, Texas, and West Virginia	28	994	7,450,992
2001	Added Michigan, Minnesota, Nebraska, Rhode Island, and Vermont	33	986	7,452,727
2002	Added Nevada, Ohio, and South Dakota; Dropped Arizona	35	995	7,853,982
2003	Added Arizona, Indiana, and New Hampshire; Dropped Maine	37	994	7,977,728
2004	Added Arkansas; Dropped Pennsylvania	37	1,004	8,004,571
2005	Added Oklahoma; Dropped Virginia	37	1,054	7,995,048
2006	Added Virginia	38	1,045	8,074,825
2007	Added Maine and Wyoming	40	1,044	8,043,415
2008	Added Louisiana and Pennsylvania	42	1,056	8,158,381
2009	Added Montana and New Mexico	44	1,050	7,810,762

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Table 3. Summary of NIS Releases

Data from	Media/Format Options	Structure of Releases
1988-1992 <ul style="list-style-type: none">• 8 States in 1988• 11 States in 1989-1992	On CD-ROM, In ASCII format	5 years of data in a 6-CD set, compressed files Two 10% subsamples of discharges for each year
1993 <ul style="list-style-type: none">• 17 states		
1994 <ul style="list-style-type: none">• 17 states		
1995 <ul style="list-style-type: none">• 19 states		
1996 <ul style="list-style-type: none">• 19 states		1 year of data in a 2-CD set, compressed files
1997 <ul style="list-style-type: none">• 22 states	On CD-ROM, In ASCII format	Two 10% subsamples of discharges for each year
1998 <ul style="list-style-type: none">• 22 states		
1999 <ul style="list-style-type: none">• 24 states		
2000 <ul style="list-style-type: none">• 28 states		
2001 <ul style="list-style-type: none">• 33 states		
2002 <ul style="list-style-type: none">• 35 states		1 year of data in a 2-CD set, compressed files
2003 <ul style="list-style-type: none">• 37 states	On CD-ROM, In ASCII format	Two 10% subsamples of discharges for each year
2004 <ul style="list-style-type: none">• 37 states		A companion file with four different sets of severity measures

Data from	Media/Format Options	Structure of Releases
2005 <ul style="list-style-type: none"> • 37 states 	On CD-ROM, In ASCII format	1 year of data in a 2-CD set, compressed files
2006 <ul style="list-style-type: none"> • 38 states 		A companion file with four different sets of severity measures, and also diagnosis and procedure groups
2007 <ul style="list-style-type: none"> • 40 states 		
2008 <ul style="list-style-type: none"> • 42 states 		
2009 <ul style="list-style-type: none"> • 44 states 	On DVD-ROM In ASCII format	1 year of data on a DVD-ROM, compressed files
		A companion file with four different sets of severity measures, and also diagnosis and procedure groups

Table 4. Summary of NIS Data Sources, Hospitals, and Inpatient Stays, 1988-2009

Year	Data Sources	Number of Hospitals	Number of Discharges in the NIS, Unweighted	Number of Discharges in the NIS, Weighted for National Estimates
1988	CA CO FL IL IA MA NJ WA	759	5,265,756	35,171,448
1989	AZ CA CO FL IL IA MA NJ PA WA WI (Added AZ, PA, WI)	882	6,110,064	35,104,645
1990	AZ CA CO FL IL IA MA NJ PA WA WI (No change)	871	6,268,515	35,215,397
1991	AZ CA CO FL IL IA MA NJ PA WA WI (No change)	859	6,156,188	35,036,492
1992	AZ CA CO FL IL IA MA NJ PA WA WI (No change)	856	6,195,744	35,011,385
1993	AZ CA CO CT FL IL IA KS MD MA NJ NY OR PA SC WA WI (Added CT, KS, MD, NY, OR, SC)	913	6,538,976	34,714,530
1994	AZ CA CO CT FL IL IA KS MD MA NJ NY OR PA SC WA WI (No change)	904	6,385,011	34,622,203
1995	AZ CA CO CT FL IL IA KS MD MA MO NJ NY OR PA SC TN WA WI (Added MO, TN)	938	6,714,935	34,791,998
1996	AZ CA CO CT FL IL IA KS MD MA MO NJ NY OR PA SC TN WA WI (No change)	906	6,542,069	34,874,386
1997	AZ CA CO CT FL GA HI IL IA KS MD MA MO NJ NY OR PA SC TN UT WA WI (Added GA, HI, UT)	1,012	7,148,420	35,408,207
1998	AZ CA CO CT FL GA HI IL IA KS MD MA MO NJ NY OR PA SC TN UT WA WI (No change)	984	6,827,350	34,874,001
1999	AZ CA CO CT FL GA HI IL IA KS MD MA ME MO NJ NY OR PA SC TN UT VA WA WI (Added ME, VA)	984	7,198,929	35,467,673
2000	AZ CA CO CT FL GA HI IL IA KS KY MD MA ME MO NC NJ NY OR PA SC TN TX UT VA WA WI WV (Added KY, NC, TX, WV)	994	7,450,992	36,417,565

Year	Data Sources	Number of Hospitals	Number of Discharges in the NIS, Unweighted	Number of Discharges in the NIS, Weighted for National Estimates
2001	AZ CA CO CT FL GA HI IL IA KS KY MD MA ME MI MN MO NC NE NJ NY OR PA RI SC TN TX UT VA VT WA WI WV (Added MI, MN, NE, RI, VT)	986	7,452,727	37,187,641
2002	CA CO CT FL GA HI IL IA KS KY MD MA ME MI MN MO NC NE NJ NY NV OH OR PA RI SC SD TN TX UT VA VT WA WI WV (Added NV, OH, SD; AZ data were not available)	995	7,853,982	37,804,021
2003	AZ CA CO CT FL GA HI IL IN IA KS KY MD MA MI MN MO NC NE NH NJ NY NV OH OR PA RI SC SD TN TX UT VA VT WA WI WV (Added AZ, IN, NH; ME data were not available)	994	7,977,728	38,220,659
2004	AR AZ CA CO CT FL GA HI IL IN IA KS KY MD MA MI MN MO NC NE NH NJ NY NV OH OR RI SC SD TN TX UT VA VT WA WI WV (Added AR; PA data were not available)	1,004	8,004,571	38,661,786
2005	AR AZ CA CO CT FL GA HI IL IN IA KS KY MD MA MI MN MO NC NE NH NJ NY NV OH OK OR RI SC SD TN TX UT VT WA WI WV (Added OK; VA data were not available)	1,054	7,995,048	39,163,834
2006	AR AZ CA CO CT FL GA HI IL IN IA KS KY MD MA MI MN MO NC NE NH NJ NY NV OH OK OR RI SC SD TN TX UT VA VT WA WI WV (Added VA)	1,045	8,074,825	39,450,216
2007	AR AZ CA CO CT FL GA HI IL IN IA KS KY MD MA ME MI MN MO NC NE NH NJ NY NV OH OK OR RI SC SD TN TX UT VA VT WA WI WV WY (Added ME and WY)	1,044	8,043,415	39,541,948
2008	AR AZ CA CO CT FL GA HI IL IN IA KS LA KY MD MA ME MI MN MO NC NE NH NJ NY NV OH OK OR PA RI SC SD TN TX UT VA VT WA WI WV WY (Added LA and PA)	1,056	8,158,381	39,885,120

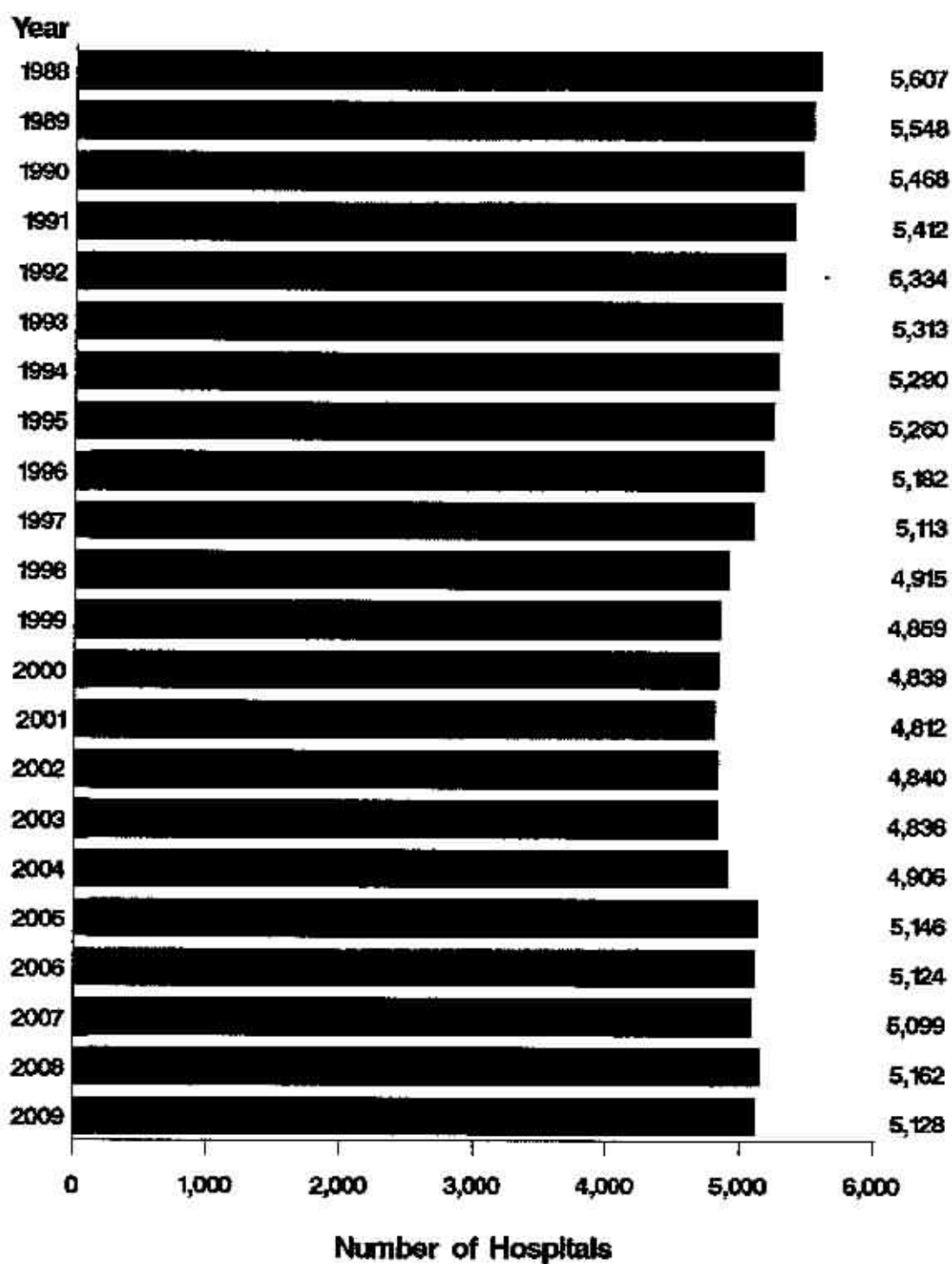
Year	Data Sources	Number of Hospitals	Number of Discharges in the NIS, Unweighted	Number of Discharges in the NIS, Weighted for National Estimates
2009	AR AZ CA CO CT FL GA HI IL IN IA KS LA KY MD MA ME MI MN MO MT NC NE NH NJ NM NY NV OH OK OR PA RI SC SD TN TX UT VA VT WA WI WV WY (Added NM and MT)	1,050	7,810,762	39,434,956

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Table 5. NIS Related Reports and Database Documentation Available on HCUP-US

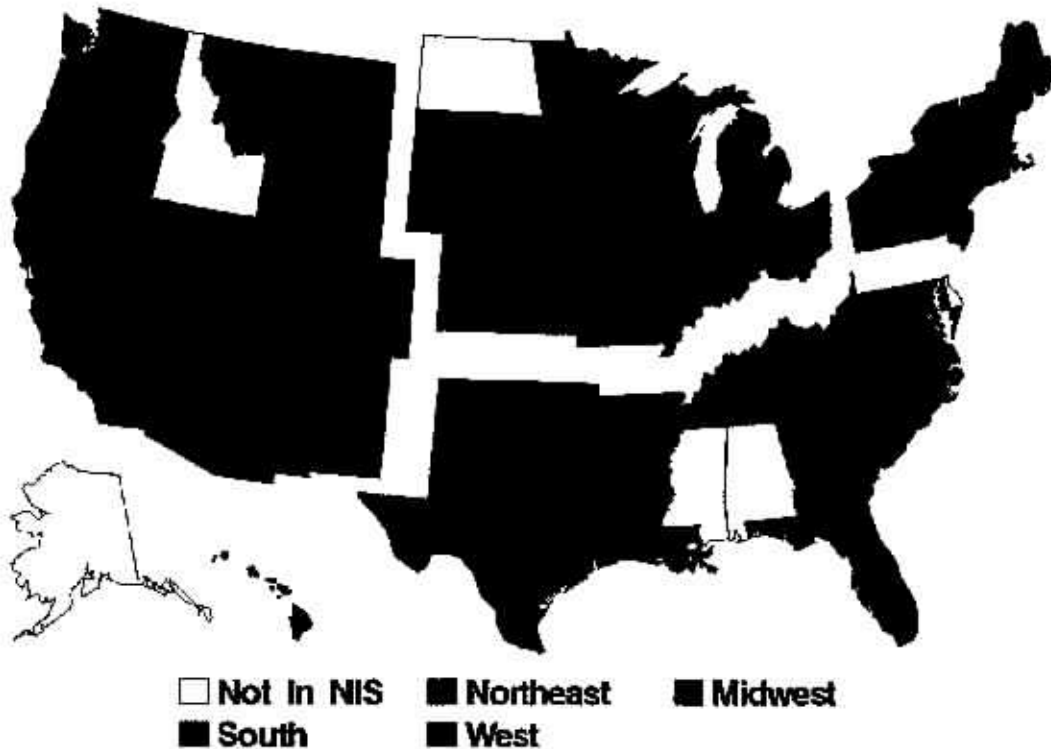
<p>Restrictions on the Use of the NIS</p> <ul style="list-style-type: none"> • Data Use Agreement for the NIS 	<p>Load Programs Programs to load the ASCII data files into statistical software:</p> <ul style="list-style-type: none"> • SAS • SPSS • Stata
<p>Description of the NIS Files</p> <ul style="list-style-type: none"> • Introduction to the NIS, 2009 – <i>this document</i> • HCUP Quality Control Procedures – describes procedures used to assess data quality • File Specifications – details data file names, number of records, record length, and record layout • Sources of NIS Data, NIS Data Elements, and State-Specific Restrictions (<i>included in this document beginning in 2006</i>) – identifies the NIS data sources and restrictions on sampling and the release of data elements 	<p>HCUP Tools: Labels and Formats</p> <ul style="list-style-type: none"> • Overview of Clinical Classifications Software (CCS), a categorization scheme that groups ICD-9-CM diagnosis and procedure codes into mutually exclusive categories • Labels file for CCS categories • Labels file for multiple versions of Diagnosis Related Groups (DRGs) and Major Diagnostic Categories (MDCs) • NIS SAS format library program to create value labels • NIS ICD-9-CM formats to label ICD-9-CM diagnoses and procedures • NIS Severity formats to label severity data elements
<p>Availability of Data Elements</p> <ul style="list-style-type: none"> • Availability of NIS data elements from 1988-2009 	<p>NIS Related Reports Links to HCUP-US page with various NIS related reports such as the following:</p> <ul style="list-style-type: none"> • Design of the Nationwide Inpatient Sample for 1988 to 2005 (<i>included in this document beginning in 2006</i>) • Changes in NIS Sampling and Weighting Strategy for 1998 • Calculating Nationwide Inpatient Sample Variances • Using the HCUP Nationwide Inpatient Sample to Estimate Trends • NIS Comparison Reports (available for years in which the NIS sample changed) • HCUP Data Quality Reports for 1988-2009 • HCUP E-Code Evaluation Report
<p>Description of Data Elements in the NIS</p> <ul style="list-style-type: none"> • Description of Data Elements – details uniform coding and state-specific idiosyncrasies • Summary Statistics – lists means and frequencies on nearly all data elements • NIS Severity Measures – provides detailed documentation on the different types of measures • HCUP Coding Practices – describes how HCUP data elements are coded • HCUP Hospital Identifiers – explains data elements that characterize individual hospitals 	
<p>Corrections to the NIS</p> <ul style="list-style-type: none"> • Information on corrections to the NIS data sets • Link to NIS Trends Weights Files 	<p>HCUP Supplemental Files</p> <ul style="list-style-type: none"> • Cost-to-Charge Ratio files • Hospital Market Structure (HMS) files • NIS Trends Supplemental files
	<p>SAS File Information</p> <ul style="list-style-type: none"> • File Information for all states and years

Figure 1: Hospital Universe, by Year⁴



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Figure 2: NIS States, by Region



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Table 6: All States, by Region

Region	States
1: Northeast	Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont.
2: Midwest	Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, Wisconsin.
3: South	Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, West Virginia.
4: West	Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, Wyoming.

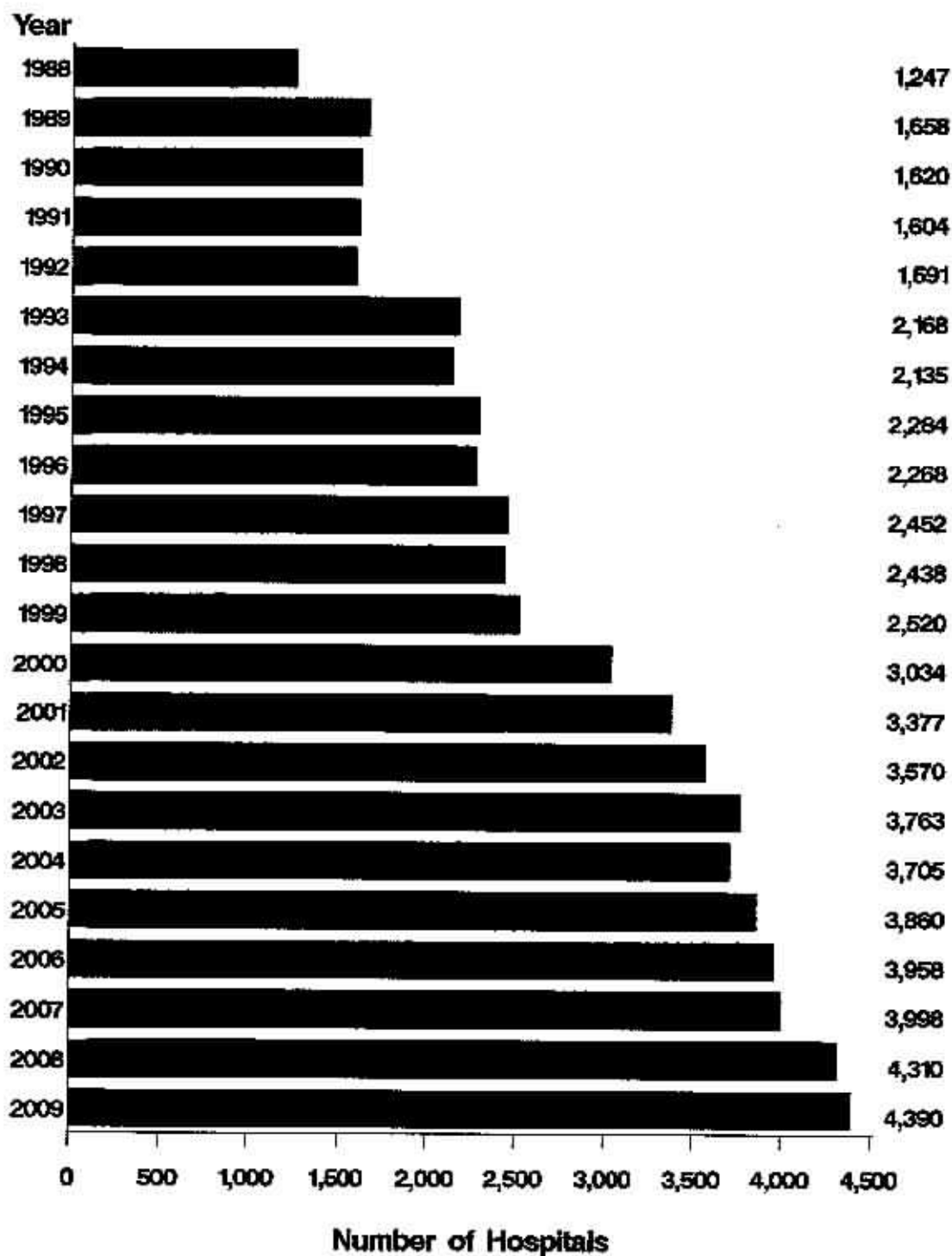
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Table 7: Bed Size Categories, by Region

Location and Teaching Status	Hospital Bed Size		
	Small	Medium	Large
NORTHEAST			
Rural	1-49	50-99	100+
Urban, non-teaching	1-124	125-199	200+
Urban, teaching	1-249	250-424	425+
MIDWEST			
Rural	1-29	30-49	50+
Urban, non-teaching	1-74	75-174	175+
Urban, teaching	1-249	250-374	375+
SOUTH			
Rural	1-39	40-74	75+
Urban, non-teaching	1-99	100-199	200+
Urban, teaching	1-249	250-449	450+
WEST			
Rural	1-24	25-44	45+
Urban, non-teaching	1-99	100-174	175+
Urban, teaching	1-199	200-324	325+

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Figure 3: NIS Hospital Sampling Frame, by Year



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Figure 4: Number of Hospitals in the 2009 Universe, Frame, and Sample for Frame States
Part A: Arkansas – Indiana

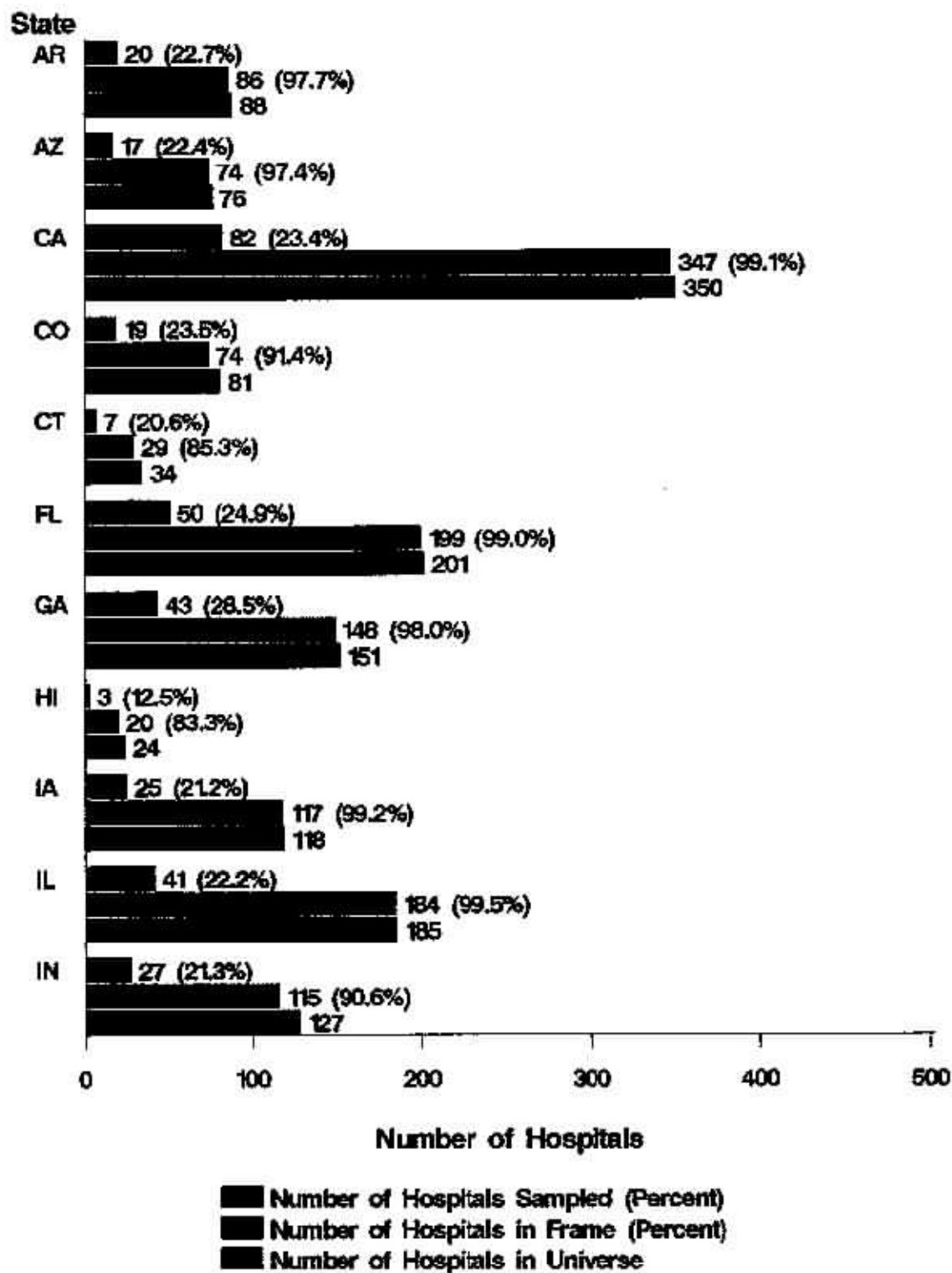


Figure 4: Number of Hospitals in the 2009 Universe, Frame, and Sample for Frame States
Part B: Kansas – North Carolina

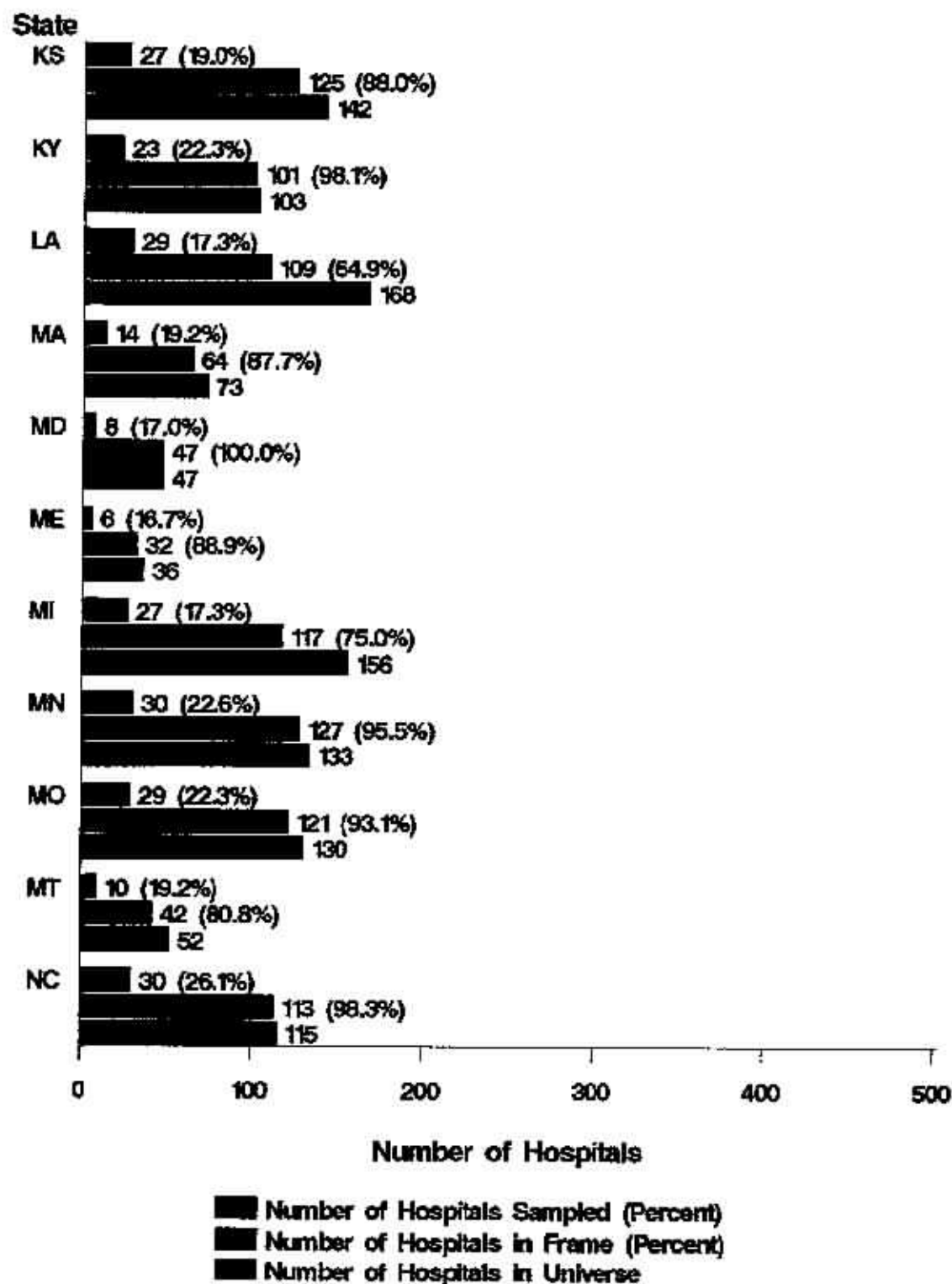


Figure 4: Number of Hospitals in the 2009 Universe, Frame, and Sample for Frame States
Part C: Nebraska – Rhode Island

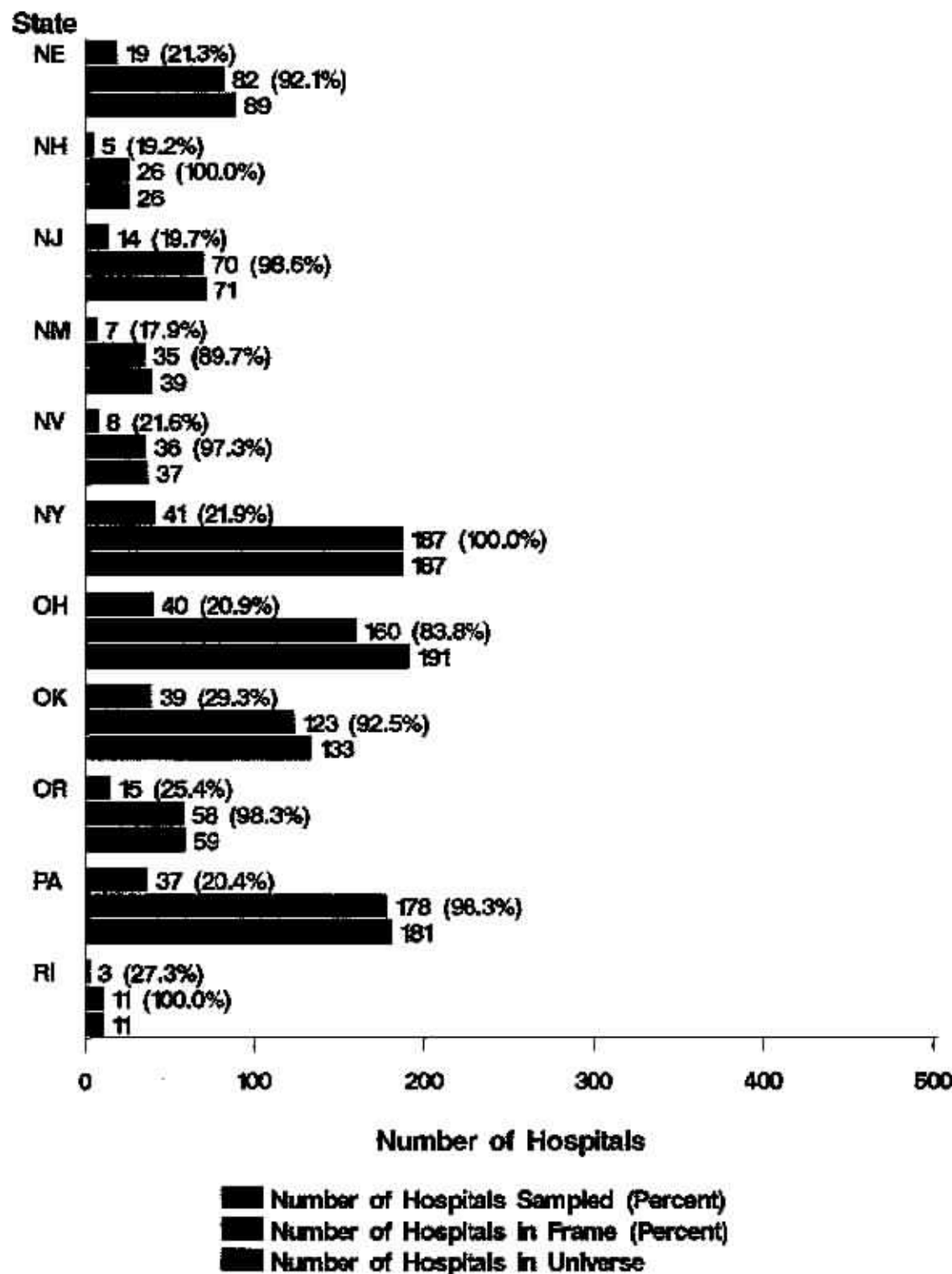
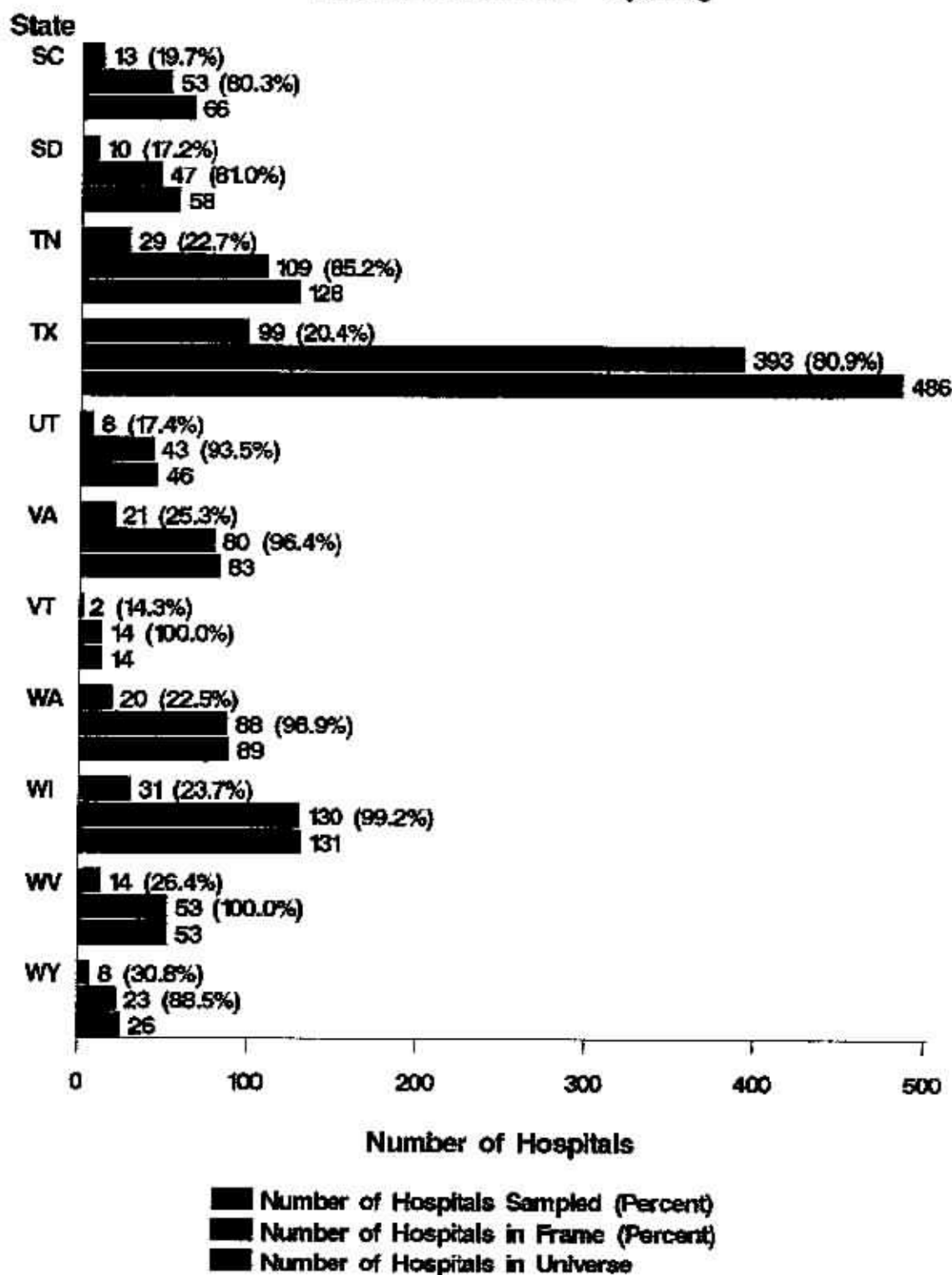


Figure 4: Number of Hospitals In the 2009 Universe, Frame, and Sample for Frame States
Part D: South Carolina – Wyoming



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Table 8: Number of Hospitals and Discharges in 2009 AHA Universe, Frame, and NIS, by State

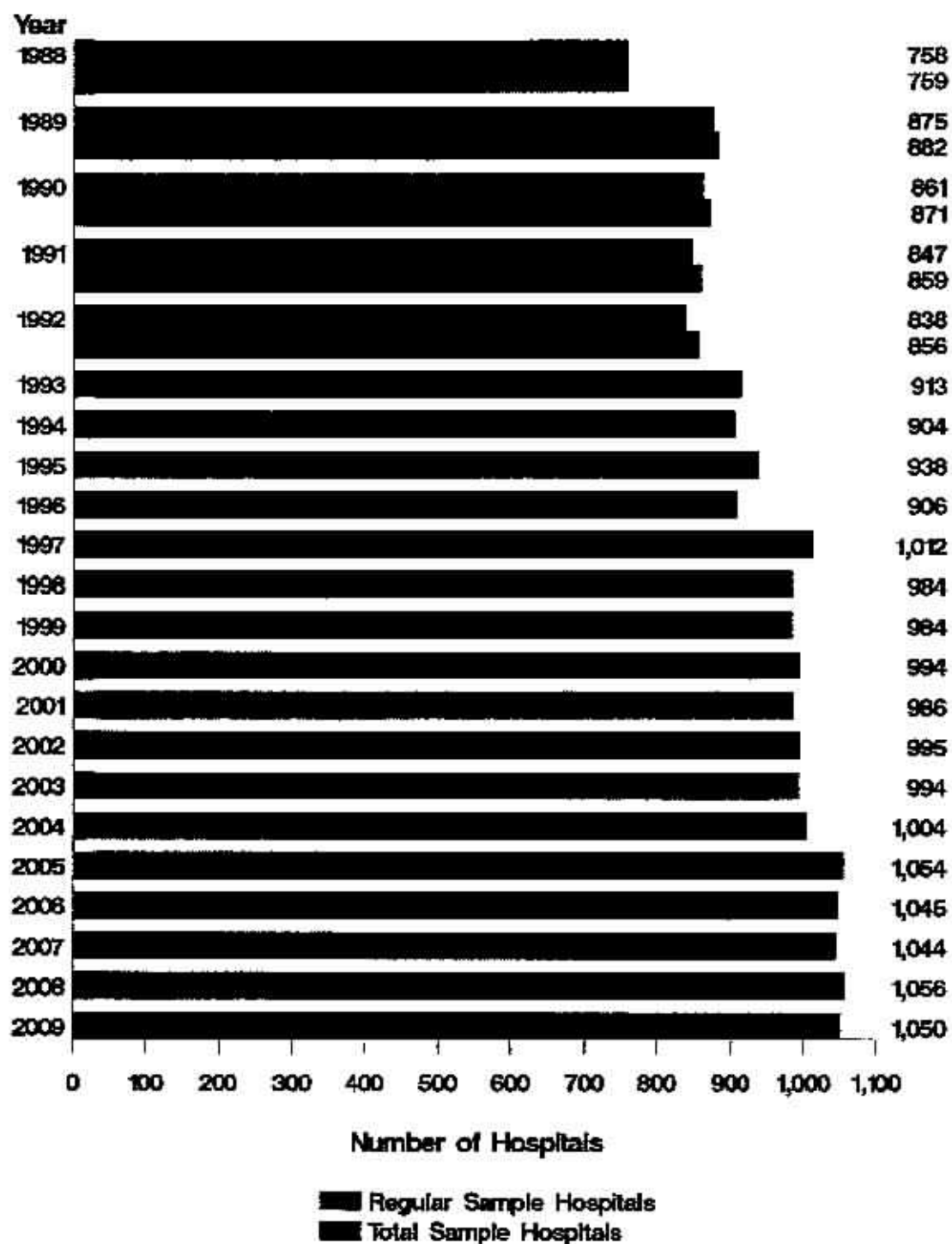
Number of Hospitals and Discharges in 2009 AHA Universe, Frame, and NIS, by State							
State	AHA		Frame		NIS		Weighted Discharges
	Hospitals	Discharges	Hospitals	Discharges	Hospitals	Discharges	
Non-NIS States	334	1,770,421	0	0	0	0	0
Arizona	76	807,765	74	778,259	17	140,894	685,556
Arkansas	88	418,197	86	397,989	20	82,524	428,744
California	350	3,951,394	347	3,858,856	82	901,279	4,325,433
Colorado	81	508,064	74	484,707	19	156,401	728,694
Connecticut	34	445,506	29	428,021	7	98,266	526,881
Florida	201	2,638,379	199	2,549,132	50	670,080	3,390,281
Georgia	151	1,086,555	148	1,058,371	43	269,146	1,344,582
Hawaii	24	118,206	20	94,532	3	6,712	35,134
Illinois	185	1,699,263	184	1,630,925	41	364,160	1,856,905
Indiana	127	825,609	115	786,089	27	188,850	954,454
Iowa	118	388,287	117	348,142	25	64,231	318,532
Kansas	142	364,391	125	331,520	27	64,830	319,477
Kentucky	103	636,294	101	623,309	23	146,772	747,019
Louisiana	168	737,376	109	580,777	28	107,695	546,237
Maine	36	160,419	32	78,601	6	12,472	65,883
Maryland	47	776,403	47	767,921	8	148,423	749,834
Massachusetts	73	879,945	64	844,948	14	133,087	704,454
Michigan	156	1,327,020	117	933,986	27	178,485	888,910
Minnesota	133	687,926	127	565,150	30	121,238	601,893
Missouri	130	902,346	121	881,185	29	198,586	1,007,689
Montana	52	111,473	42	102,050	10	23,754	128,417
Nebraska	89	235,584	82	164,802	19	45,187	224,389
Nevada	37	296,058	36	293,531	8	69,276	361,382
New Hampshire	26	133,136	26	127,211	5	41,564	187,847
New Jersey	71	1,175,760	70	1,110,425	14	226,033	1,203,081
New Mexico	39	211,386	35	163,062	7	20,469	93,764
New York	187	2,749,912	187	2,598,322	41	540,878	2,924,354
North Carolina	115	1,147,716	113	1,114,952	30	300,636	1,514,419
Ohio	191	1,663,083	160	1,611,394	40	425,216	2,116,207
Oklahoma	133	514,346	123	463,488	39	153,430	753,767

Number of Hospitals and Discharges in 2009 AHA Universe, Frame, and NIS, by State

State	AHA		Frame		NIS		Weighted Discharges
	Hospitals	Discharges	Hospitals	Discharges	Hospitals	Discharges	
Oregon	59	391,238	58	374,261	15	103,204	506,581
Pennsylvania	181	1,923,806	178	1,851,202	37	359,292	1,883,556
Rhode Island	11	138,576	11	136,323	3	28,303	148,482
South Carolina	66	577,150	53	460,132	13	88,263	449,046
South Dakota	58	114,916	47	76,900	10	10,238	48,682
Tennessee	128	915,433	109	812,682	29	163,242	816,271
Texas	486	3,078,618	393	2,784,103	99	592,091	2,983,644
Utah	46	279,129	43	265,093	8	30,613	137,045
Vermont	14	56,378	14	53,535	2	3,516	18,900
Virginia	83	878,520	80	845,142	21	230,905	1,143,213
Washington	89	682,327	88	846,178	20	107,166	536,700
West Virginia	53	291,280	53	283,023	14	53,488	279,243
Wisconsin	131	679,421	130	626,284	31	127,838	652,114
Wyoming	26	58,944	23	32,884	8	12,029	97,252
Total	5,128	39,434,956	4,380	35,019,429	1,050	7,810,762	39,434,956

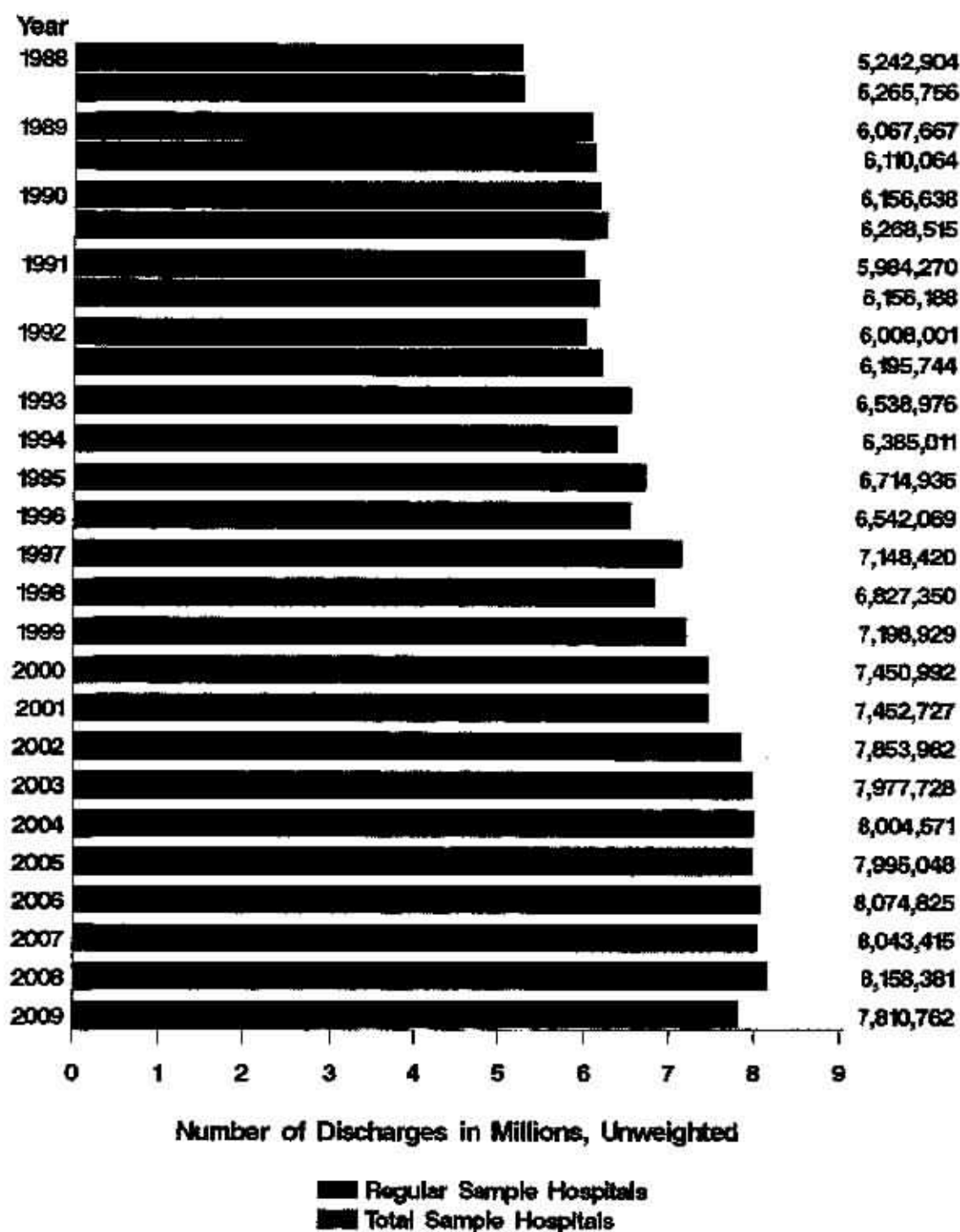
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Figure 5: Number of Hospitals Sampled, by Year



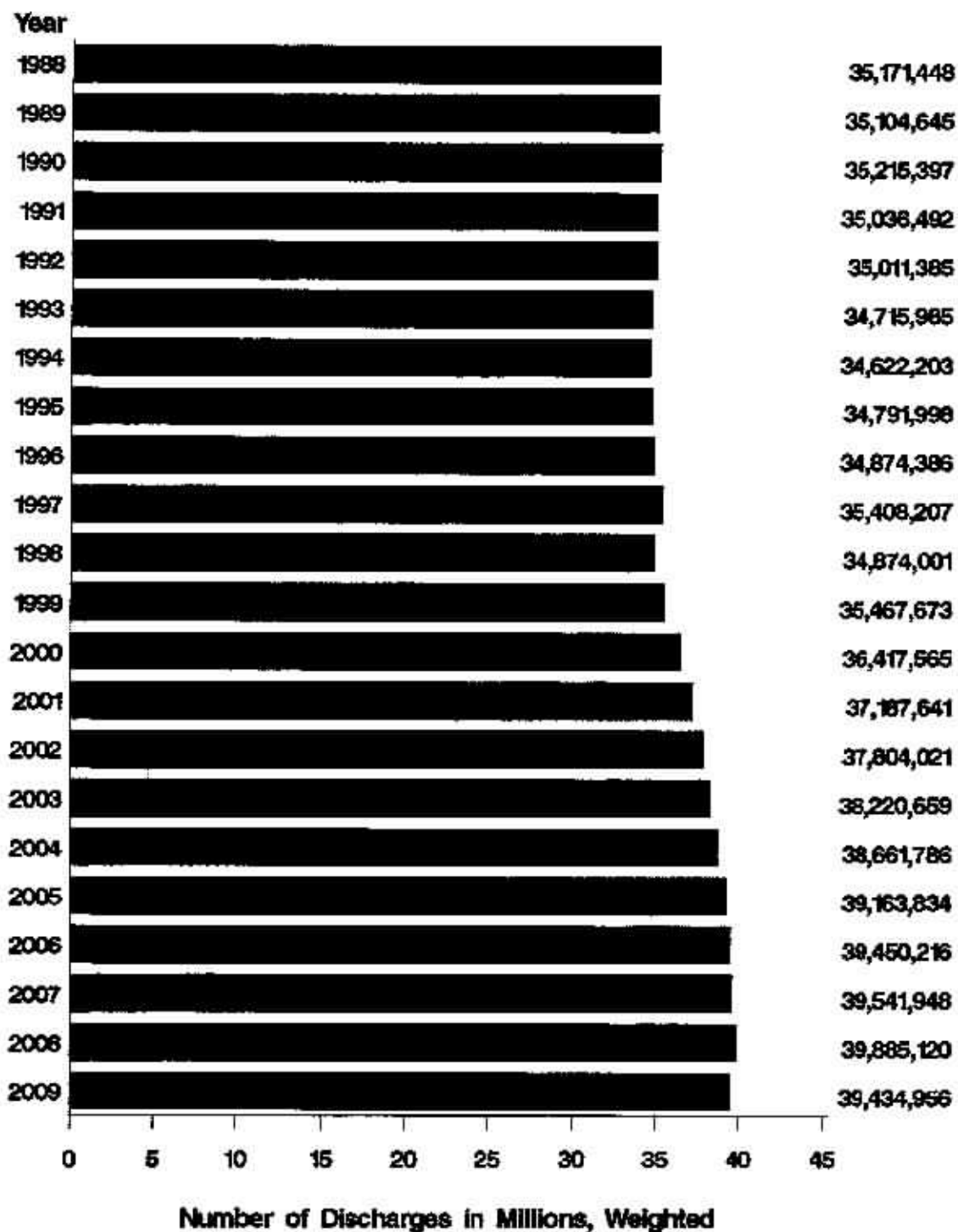
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Figure 6: Number of NIS Discharges, Unweighted, by Year



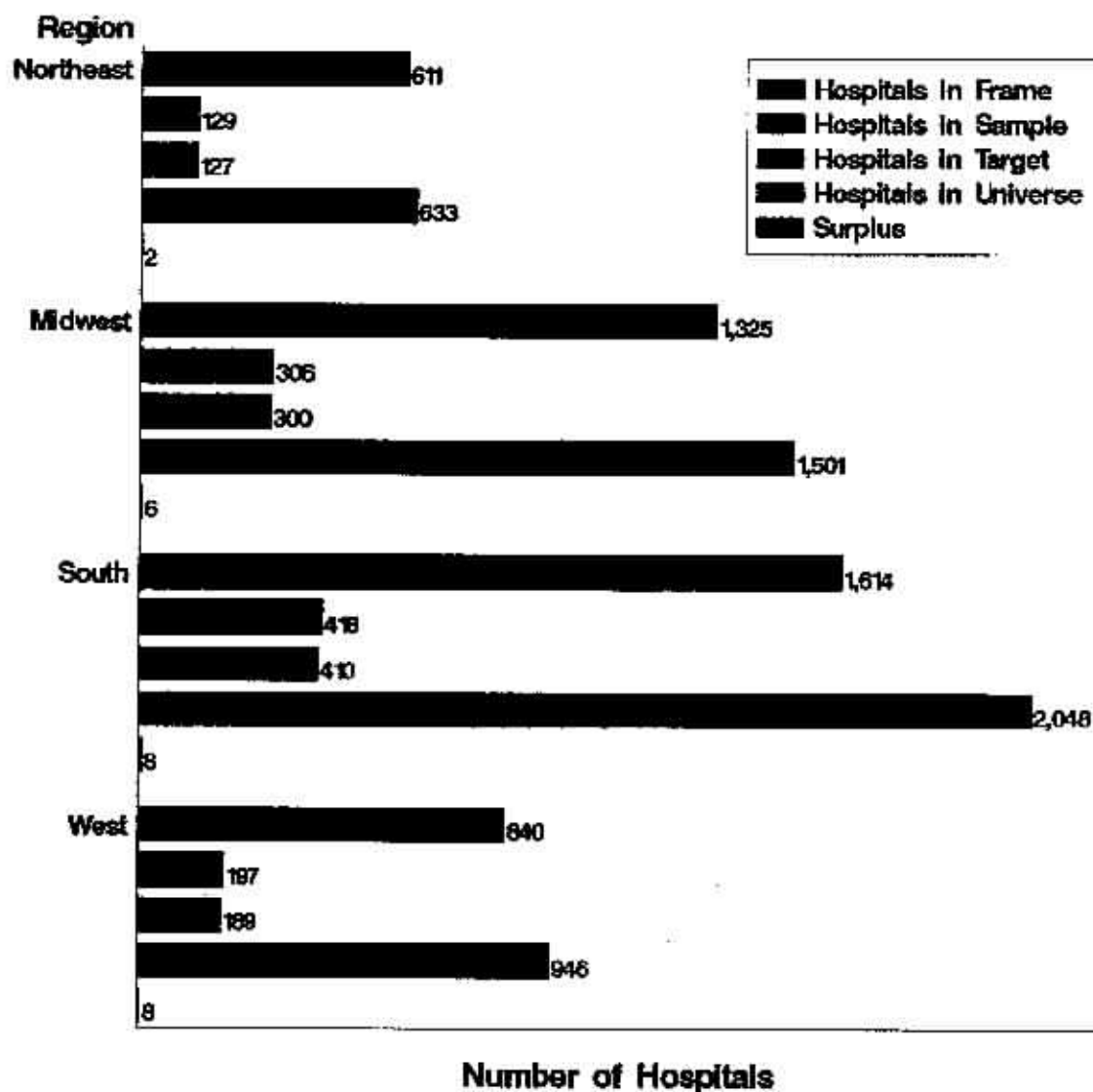
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Figure 7: Number of NIS Discharges, Weighted, by Year



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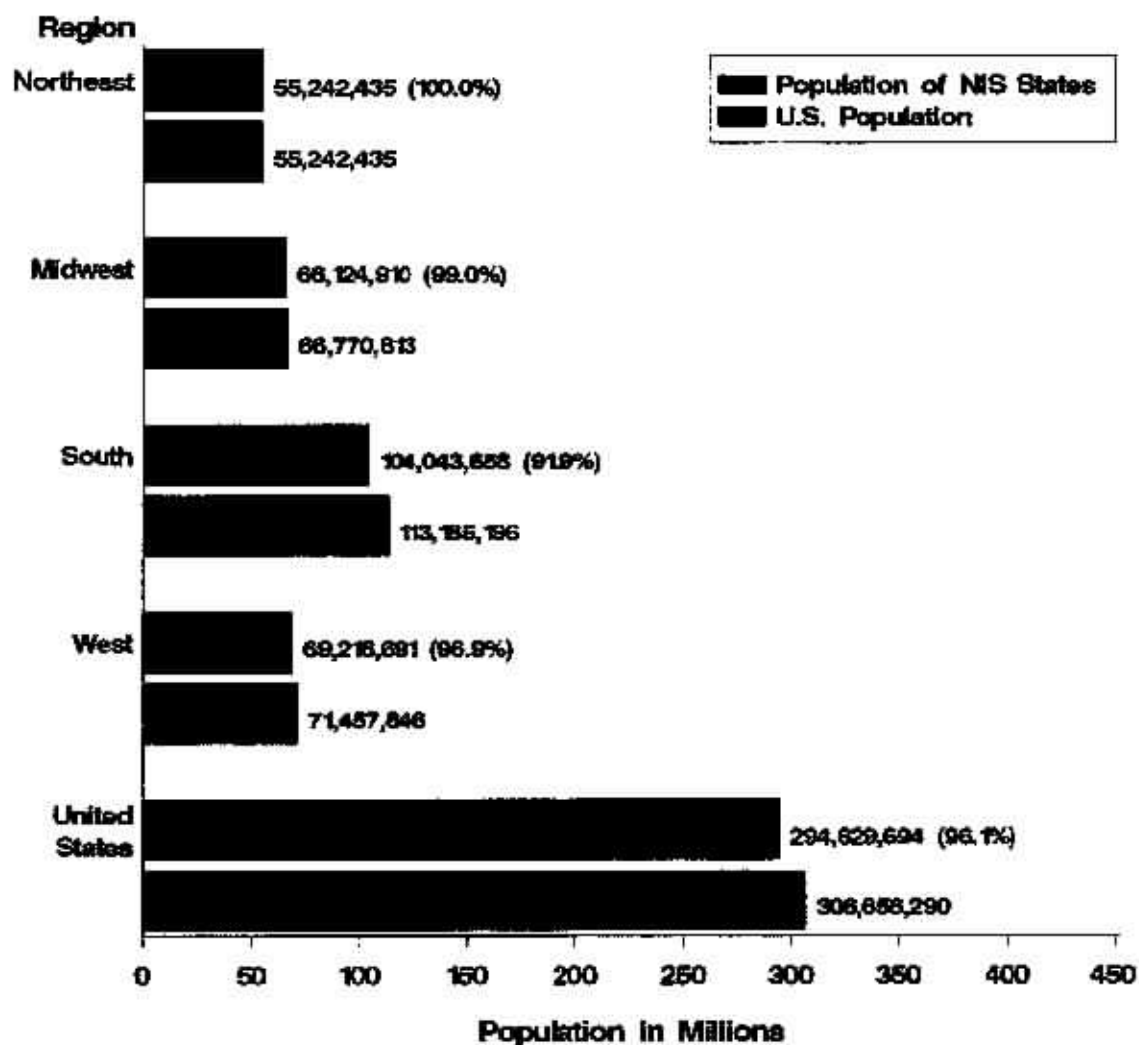
Figure 8: Number of Hospitals in the 2009 Universe, Frame, Sample, Target, and Surplus¹, by Region



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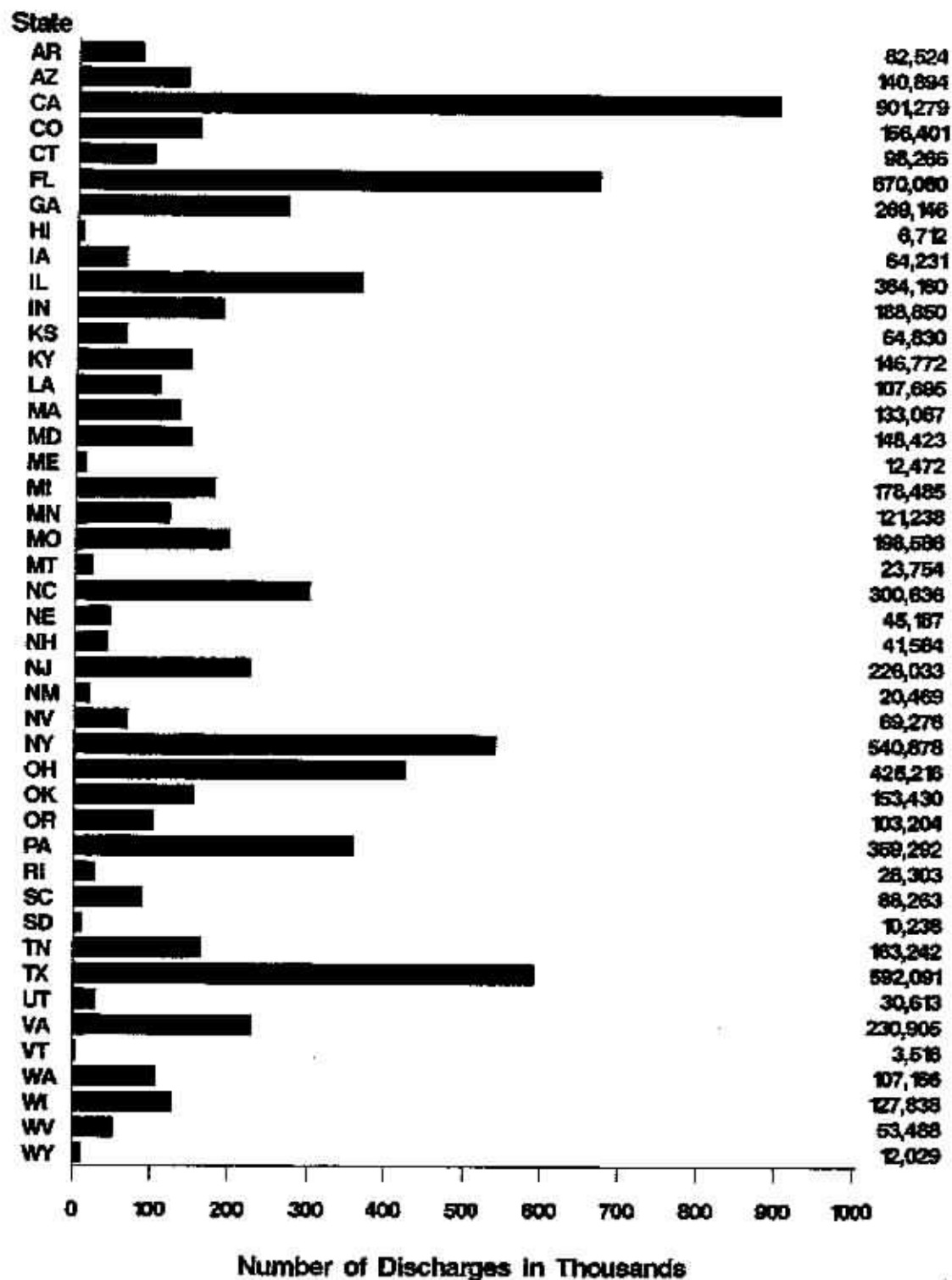
¹ The surplus is the difference between the actual number of hospitals sampled and the sample target.

Figure 9: Percentage of U.S. Population in the 2009 NIS States, by Region
 Calculated using the estimated U.S. population on July 1, 2009.⁵



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Figure 10: Number of Discharges In the 2009 NIS, by State



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