



**Combining the AHRQ Indicator
Sets to Assess the Health of
Communities:**
*Powerful information for planning
purposes*

Susan McBride, PhD, RN
Dallas-Fort Worth Hospital Council
Data Initiative

DFWHC Data Initiative



- DFWHC is a Trade Association for Member Hospitals
- The Data Initiative is under the Education & Research Foundation in a 501C3 not for profit subsidiary to the Council
- Zero based budget organization
- Strategic Plan designed by member hospitals
- Strategic Plan & Budget recommended by the DI Executive Committee and approved by the Board of Directors

The Current Value



- Clean data for internal and external reporting
- Collaborative data sharing throughout the region to improve the health of the populations served
- Shared data with over 6 years of data in the data warehouse
 - 1999-2004
 - Approximately 3,650,000 million encounters in the DI warehouse to date
 - Matched Birth Certificate & Hospital Discharge Data

Power in collaboration & partnership!

Power in collaboration & partnership



AHRQ Quality Indicators



- Inpatient Quality Indicators
 - Utilized statewide for public domain reporting
 - Utilized regionally in DFW for collaborative efforts on improving patient care and examining inpatient mortality
 - Interest with local public health officials in using the AHRQ output files for planning purposes
- Patient Safety Indicators
 - Utilized regionally in DFW for collaborative efforts on improving patient care & examining patient safety events
 - Interest with local public health officials in using the AHRQ output files for planning purposes
 - Comorbidity groupings are of particular interest to the epidemiologists
- Prevention Quality Indicators
 - Utilized for the DFW regions Community Health Assessments
 - Interest from public health departments in utilizing the indicators for assessment, intervention effectiveness and annual reports



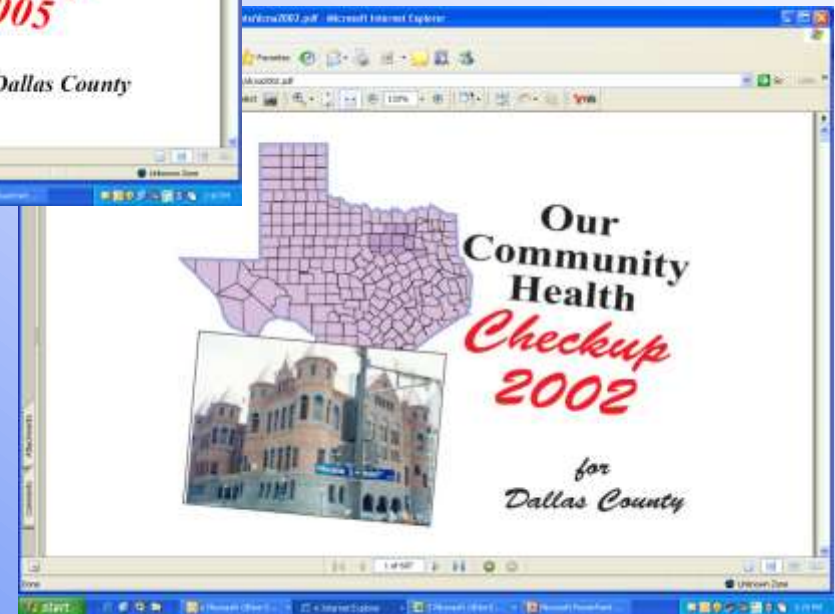
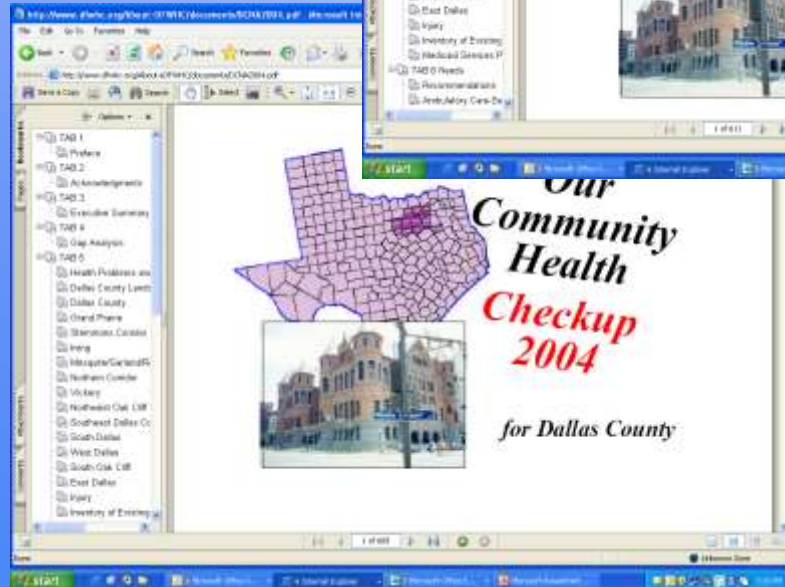
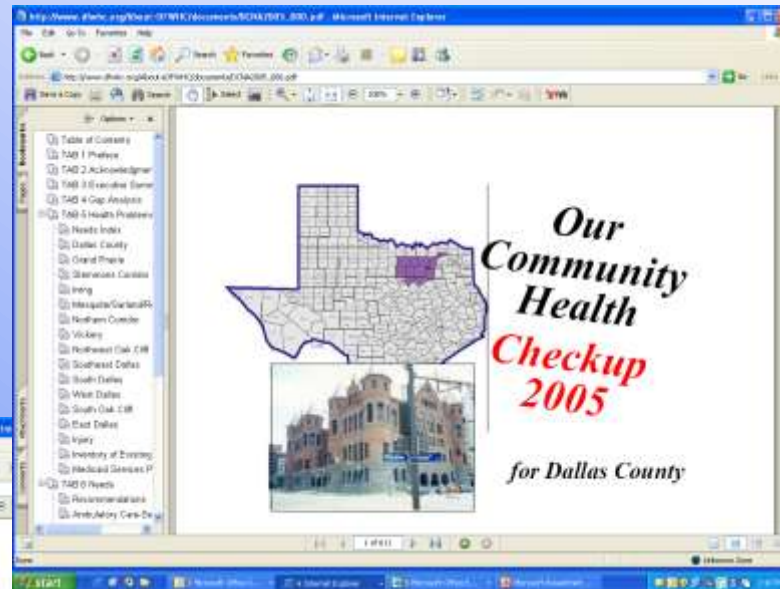
**Improving Patient Care & the
Health of the Communities
Through Use of the AHRQ Indicators
& Collaborative Data Sharing**

A Few Examples of Practical Applications

Prevention Quality Indicators Used in Community Health Assessments



<http://www.dfwhc.org/About+DFWHC/NeedsAssessment.asp>





IQI Rates v 1 - Cognos PowerPlay Web Explorer - Microsoft Internet Explorer

Address: http://app1.dfwhc.org/cognos/cgi-bin/ppdscgi.exe?DC=Q&nia=Run&nid=6542cb56a0f11d8948cd1020b493356&nic=%2FImported%20Reports%2FIQI%20Rates%20v%201%2F532_4823551&nih=18ba

MEASURES

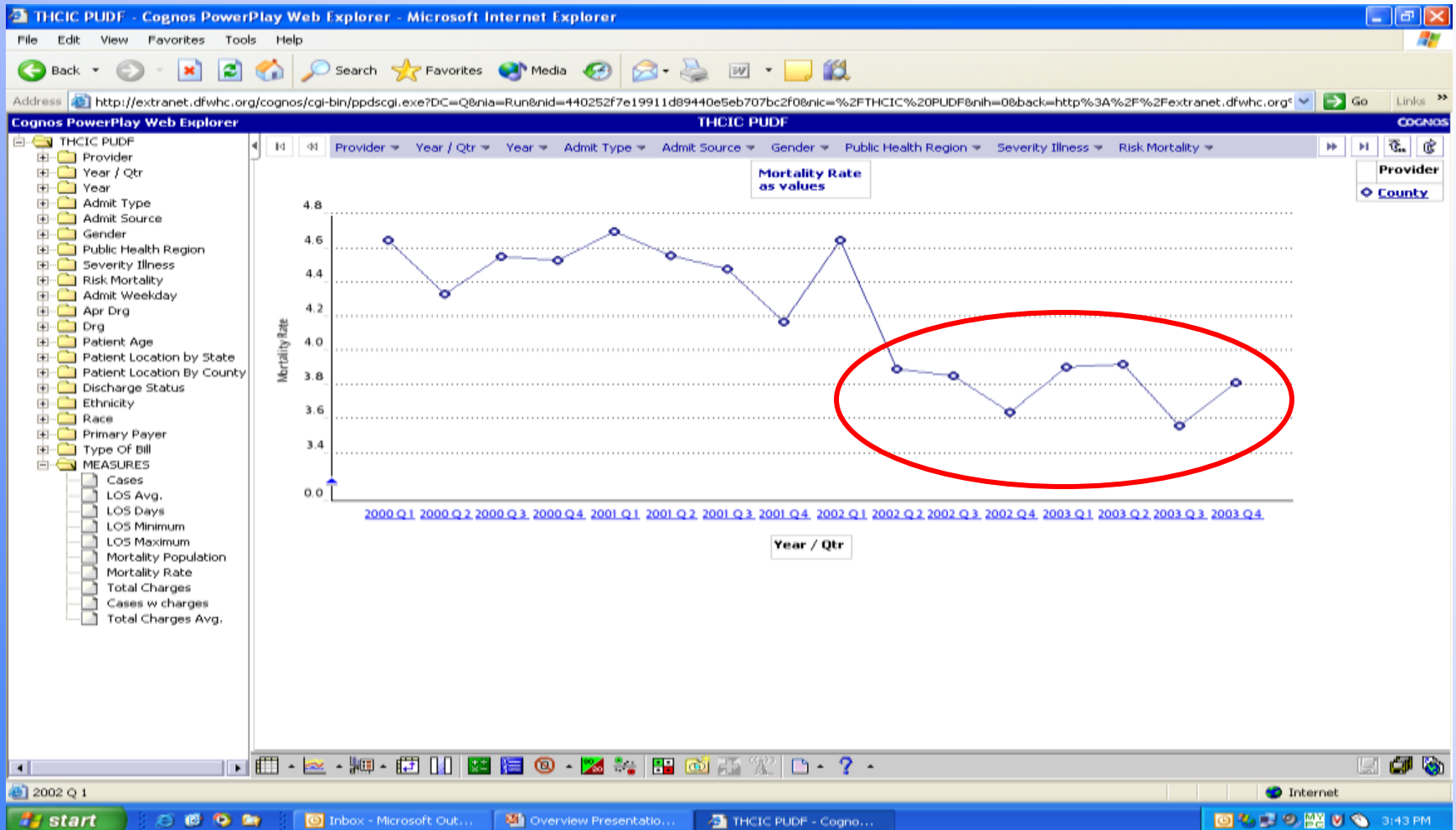
Participating Hospitals Year CABG MEASURES

	1999			2000			2001		
Denominator as values	Observed Rate	Expected	Mortality Index	Observed Rate	Expected	Mortality Index	Observed Rate	Expected	Mortality Index
THCIC Benchmark	4.45	1.15	1.00	4.13	4.13	1.00	3.86	3.86	1.00
DI Benchmark	3.88	4.07	0.95	3.73	3.92	0.95	3.72	3.63	1.02
Hosp A	2.60	3.12	0.83	4.15	3.06	1.36	2.86	2.65	1.08
Hosp B	4.66	3.55	1.31	2.75	3.86	0.71	2.86	3.83	0.75
Hosp C									
Hosp D									
Hosp E									
Hosp F									
Hosp G	0.85	1.63	0.52	1.89	2.27	0.83	2.11	2.43	0.87

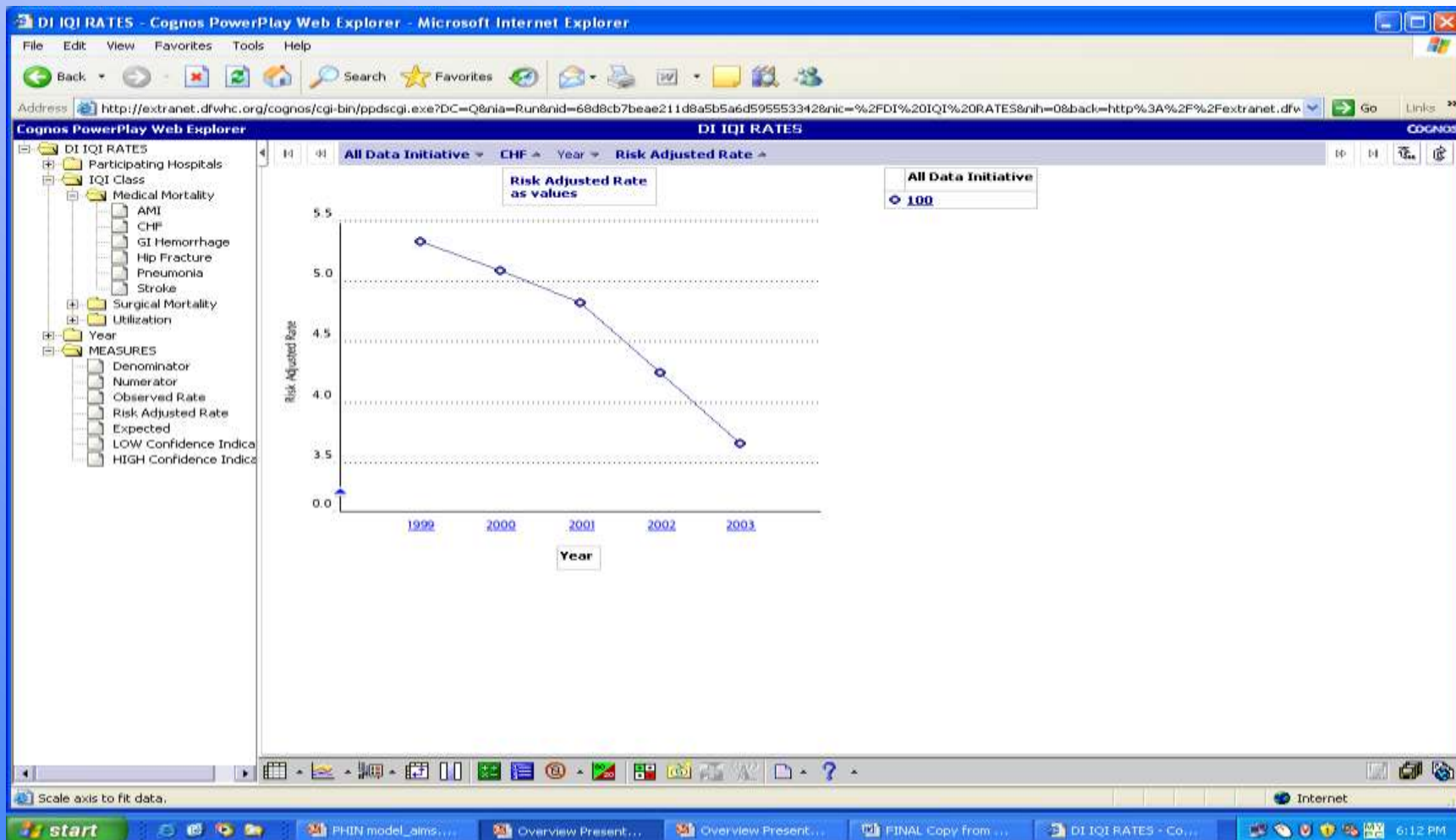
Interactive Web Tool for DFWHC members to examine trends on AHRQ measures & public hospital discharge data.

Public health wants access—seeking grant Funding to offer access, training and support

Congestive Heart Failure Mortality Rates

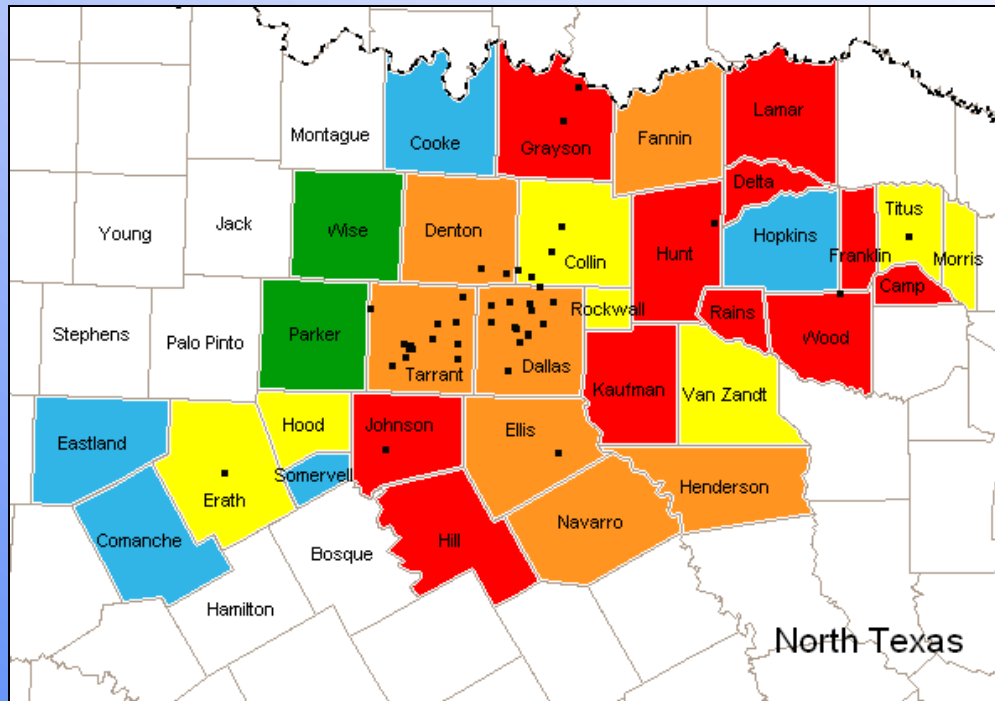


CHF Risk Adjusted Mortality Trends



AHRQ Prevention Quality Indicators

Congestive Heart Failure Admission Rate - 2000



Named counties without shading have a Risk Adjusted rate of zero.

Risk Adjusted Rates per 100,000 Population



■ DI Hospitals

08 Congestive Heart Failure Admission Rate

Congestive heart failure (CHF) can be controlled in an outpatient setting for the most part; however, the disease is a chronic progressive disorder for which some hospitalizations are appropriate.

County	2000		Rates per 100,000 Population			Stat. Sig.
	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	
State of Texas	60,879	14,959,865	406.9	470.2		
BOSQUE	36	13,086	275.1	0.0	(0.0, 0.0)	
CAMP	64	8,578	746.1	608.6	(444.0, 773.2)	o
COLLIN	617	357,255	172.7	376.4	(356.3, 396.5)	+
COMANCHE	37	10,638	347.8	54.6	(10.2, 99.0)	+
COOKE	47	26,342	178.4	82.4	(47.7, 117.1)	+
DALLAS	5,705	1,620,396	352.1	479.7	(469.1, 490.3)	o
DELTA	48	3,997	1,201.0	983.5	(677.6, 1289.4)	-
DENTON	736	315,985	232.9	453.4	(430.0, 476.8)	o
EASTLAND	52	13,855	375.3	80.6	(33.3, 127.9)	+
ELLIS	332	78,059	425.3	482.0	(433.4, 530.6)	o
ERATH	105	24,316	431.8	358.7	(283.6, 433.8)	+
FANNIN	170	23,947	709.9	565.0	(470.1, 659.9)	o
FRANKLIN	56	7,173	780.7	580.6	(404.8, 756.4)	o
GRAYSON	611	82,867	737.3	631.6	(577.7, 685.5)	-
HAMILTON	22	6,340	347.0	0.0	(0.0, 0.0)	
HENDERSON	386	56,268	686.0	547.2	(486.2, 608.2)	-
HILL	221	24,181	913.9	734.0	(626.4, 841.6)	-
HOOD	151	31,504	479.3	362.5	(296.1, 428.9)	+
HOPKINS	36	23,595	152.6	39.3	(14.0, 64.6)	+
HUNT	365	56,718	643.5	616.2	(551.8, 680.6)	-
JACK	4	6,414	62.4	0.0	(0.0, 0.0)	
JOHNSON	511	91,560	558.1	597.6	(547.7, 647.5)	-
KAUFMAN	365	51,311	711.4	730.0	(656.3, 803.7)	-
LAMAR	299	36,064	829.1	707.1	(620.6, 793.6)	-
MONTAGUE	20	14,472	138.2	0.0	(0.0, 0.0)	
MORRIS	53	9,700	546.4	349.8	(232.3, 467.3)	+
NAVARRO	175	32,900	531.9	418.6	(348.8, 488.4)	o
PALO PINTO	22	20,021	109.9	0.0	(0.0, 0.0)	
PARKER	142	64,836	219.0	257.3	(218.3, 296.3)	+
RAINS	52	6,933	750.1	633.8	(447.0, 820.6)	o
ROCKWALL	61	31,548	193.4	288.5	(229.3, 347.7)	+
SOMERVELL	9	4,734	190.1	97.8	(8.8, 186.8)	+
STEPHENS	13	7,201	180.5	0.0	(0.0, 0.0)	
TARRANT	3,364	1,055,074	318.8	438.1	(425.5, 450.7)	+
TITUS	85	19,891	427.3	380.3	(294.8, 465.8)	+
VAN ZANDT	185	36,462	507.4	358.8	(297.4, 420.2)	+
WISE	40	35,620	112.3	134.8	(96.7, 172.9)	+
WOOD	270	28,545	945.9	705.7	(608.6, 802.8)	-
YOUNG	25	13,364	187.1	0.0	(0.0, 0.0)	

Texas Hospital Inpatient Discharge Public Use Data File, FY2000. Texas Health Care Information Council, Austin, Texas. December, 2001.

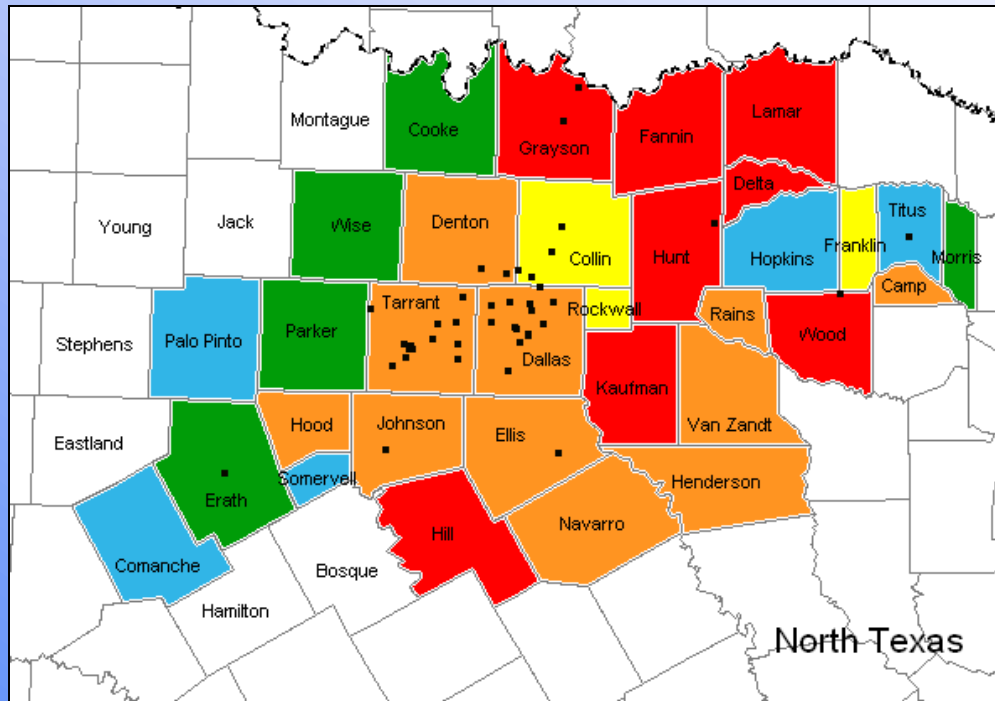
+ = County's RA rate significantly lower than State RA rate

- = County's RA rate significantly higher

O = No statistical difference

AHRQ Prevention Quality Indicators

Congestive Heart Failure Admission Rate - 2001



Risk Adjusted Rates per 100,000 Population



■ DI Hospitals

Named counties without shading have a Risk Adjusted rate of zero.

08 Congestive Heart Failure Admission Rate

Congestive heart failure (CHF) can be controlled in an outpatient setting for the most part; however, the disease is a chronic progressive disorder for which some hospitalizations are appropriate.

County	2001 Rates per 100,000 Population					Stat. Sig.
	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	
State of Texas	63,522	15,229,570	417.1	480.8		
BOSQUE	22	13,338	164.9	0.0	(0.0, 0.0)	
CAMP	49	8,514	575.5	437.3	(297.1, 577.5)	o
COLLIN	687	387,199	177.4	378.7	(359.4, 398.0)	+
COMANCHE	40	10,452	382.7	87.5	(30.8, 144.2)	+
COOKE	62	26,841	231.0	141.8	(96.8, 186.8)	+
DALLAS	5,892	1,636,136	360.1	488.1	(477.4, 498.8)	o
DELTA	31	4,008	773.4	576.6	(342.2, 811.0)	o
DENTON	734	335,935	218.5	438.4	(416.1, 460.7)	+
EASTLAND	38	13,717	277.0	0.0	(0.0, 0.0)	
ELLIS	346	80,840	428.0	487.0	(439.0, 535.0)	o
ERATH	85	24,291	349.9	269.7	(204.5, 334.9)	+
FANNIN	176	24,055	731.7	591.8	(494.9, 688.7)	-
FRANKLIN	39	7,346	530.9	331.8	(200.3, 463.3)	+
GRAYSON	595	84,450	704.6	603.0	(550.8, 655.2)	-
HAMILTON	13	6,188	210.1	0.0	(0.0, 0.0)	
HENDERSON	334	57,161	584.3	451.5	(396.5, 506.5)	o
HILL	193	24,528	786.9	611.0	(513.5, 708.5)	-
HOOD	179	32,775	546.1	429.0	(358.2, 499.8)	o
HOPKINS	38	23,693	160.4	52.8	(23.5, 82.1)	+
HUNT	388	57,385	676.1	654.7	(588.7, 720.7)	-
JACK	8	6,436	124.3	0.0	(0.0, 0.0)	
JOHNSON	494	94,591	522.2	560.7	(513.1, 608.3)	-
KAUFMAN	361	53,869	670.1	695.0	(624.8, 765.2)	-
LAMAR	272	36,085	753.8	633.5	(551.6, 715.4)	-
MONTAGUE	16	14,491	110.4	0.0	(0.0, 0.0)	
MORRIS	31	9,840	315.1	124.5	(54.8, 194.2)	+
NAVARRO	204	33,351	611.7	506.8	(430.6, 583.0)	o
PALO PINTO	29	20,097	144.3	6.7	(0.0, 18.0)	+
PARKER	146	67,286	217.0	255.1	(217.0, 293.2)	+
RAINS	50	7,513	665.6	554.1	(386.2, 722.0)	o
ROCKWALL	82	34,487	237.8	335.7	(274.7, 396.7)	+
SOMERVELL	6	4,908	122.2	17.1	(0.0, 53.7)	+
STEPHENS	9	7,074	127.2	0.0	(0.0, 0.0)	
TARRANT	3,620	1,078,446	335.7	454.6	(441.9, 467.3)	+
TITUS	21	19,818	106.0	60.8	(26.5, 95.1)	+
VAN ZANDT	216	37,362	578.1	435.1	(368.4, 501.8)	o
WISE	36	37,039	97.2	128.7	(92.2, 165.2)	+
WOOD	244	29,120	837.9	599.9	(511.2, 688.6)	-
YOUNG	22	13,219	166.4	0.0	(0.0, 0.0)	

Texas Hospital Inpatient Discharge Public Use Data File, FY2001. Texas Health Care Information Council, Austin, Texas. December, 2002.

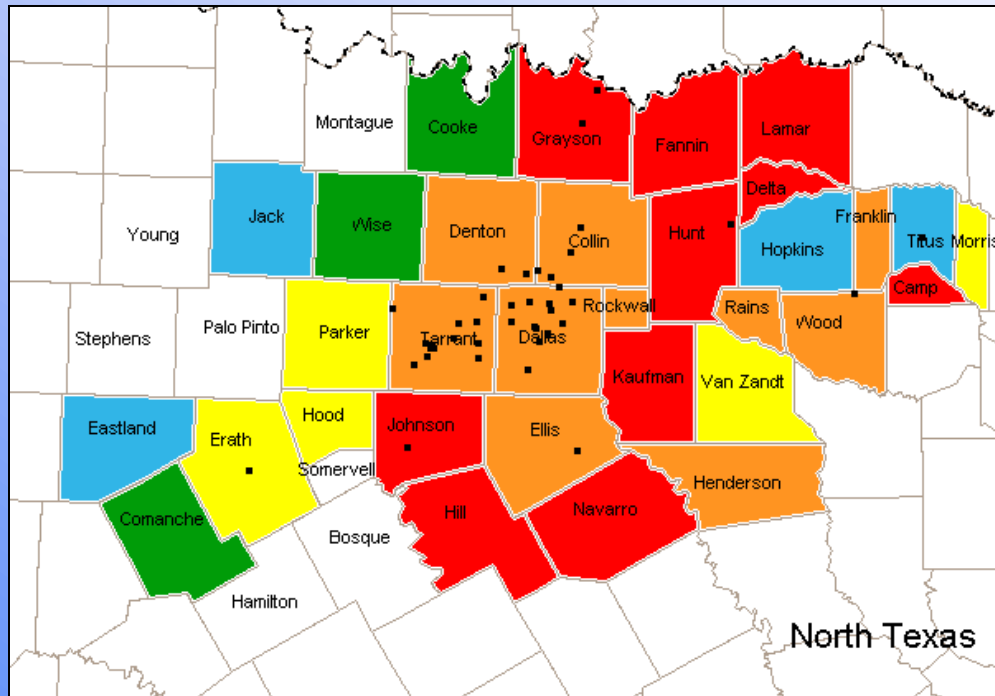
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O = No statistical difference

AHRQ Prevention Quality Indicators

Congestive Heart Failure Admission Rate - 2002



Risk Adjusted Rates per 100,000 Population



■ DI Hospitals

Named counties without shading have a Risk Adjusted rate of zero.

08 Congestive Heart Failure Admission Rate
 Congestive heart failure (CHF) can be controlled in an outpatient setting for the most part; however, the disease is a chronic progressive disorder for which some hospitalizations are appropriate.

County	2002 Numerator (Outcome)	Denominator (Population)	Rates per 100,000 Population			Stat. Sig.
			Observed	Risk Adjusted	Confidence Interval (95%)	
State of Texas	64,436	15,678,989	411.0	504.7	(0.0, 0.0)	
BOSQUE	19	13,430	141.5	0.0	(569.3, 936.7)	-
CAMP	72	8,511	845.9	753.0	(144.1, 333.7)	+
COLLIN	734	407,343	180.2	418.3	(129.5, 229.3)	+
COMANCHE	53	10,189	520.2	238.9	(531.1, 553.5)	-
COOKE	72	27,637	260.5	179.4	(655.6, 1255.4)	-
DALLAS	6,317	1,643,801	384.3	542.3	(446.8, 491.8)	+
DELTA	43	4,042	1,063.7	955.5	(7.9, 75.7)	+
DENTON	747	353,299	211.4	469.3	(503.7, 603.3)	o
EASTLAND	42	13,945	301.2	41.8	(277.5, 424.5)	+
ELLIS	376	85,378	440.4	553.5	(600.2, 810.0)	-
ERATH	94	24,840	378.4	351.0	(375.7, 707.9)	o
FANNIN	189	24,427	773.7	705.1	(528.4, 630.4)	-
FRANKLIN	53	7,503	706.3	541.8	(0.0, 0.0)	
GRAYSON	552	85,244	647.5	579.4	(444.8, 560.2)	o
HAMILTON	14	6,224	224.9	0.0	(474.7, 660.5)	o
HENDERSON	371	57,676	643.2	502.5	(256.8, 375.8)	+
HILL	179	25,148	711.8	567.6	(598.3, 729.7)	-
HOOD	152	34,183	444.7	316.3	(1.4, 35.8)	+
HOPKINS	27	24,081	112.1	18.6	(59.3, 72.9)	-
HUNT	377	58,713	642.1	664.0	(217.5, 442.3)	+
JACK	12	6,865	174.8	101.4	(26.1, 176.7)	+
JOHNSON	536	98,667	543.2	641.1	(591.3, 690.9)	-
KAUFMAN	370	56,241	657.9	746.0	(674.9, 817.1)	-
LAMAR	274	36,376	753.2	639.0	(557.1, 720.9)	-
MONTAGUE	24	14,659	163.7	0.0	(0.0, 0.0)	
MORRIS	48	9,993	480.3	329.9	(217.5, 442.3)	+
NAVARRO	211	34,083	619.1	571.7	(491.7, 651.7)	o
PALO PINTO	14	20,341	68.8	0.0	(0.0, 0.0)	
PARKER	196	70,020	279.9	352.3	(308.4, 396.2)	+
RAINS	47	7,891	595.6	551.9	(388.4, 715.4)	o
ROCKWALL	101	36,507	276.7	412.1	(346.4, 477.8)	+
SOMERVELL	3	5,302	56.6	0.0	(0.0, 0.0)	
STEPHENS	12	7,187	167.0	0.0	(0.0, 0.0)	
TARRANT	3,682	1,099,370	334.9	482.2	(469.3, 495.1)	+
TITUS	25	19,781	126.4	101.8	(57.4, 146.2)	+
VAN ZANDT	196	37,894	517.2	395.3	(332.1, 458.5)	+
WISE	30	38,498	77.9	149.7	(111.1, 188.3)	+
WOOD	225	29,859	753.5	542.5	(459.2, 625.8)	o
YOUNG	9	13,408	67.1	0.0	(0.0, 0.0)	

Texas Hospital Inpatient Discharge Public Use Data File, FY2002. Texas Health Care Information Council, Austin, Texas. December, 2003.

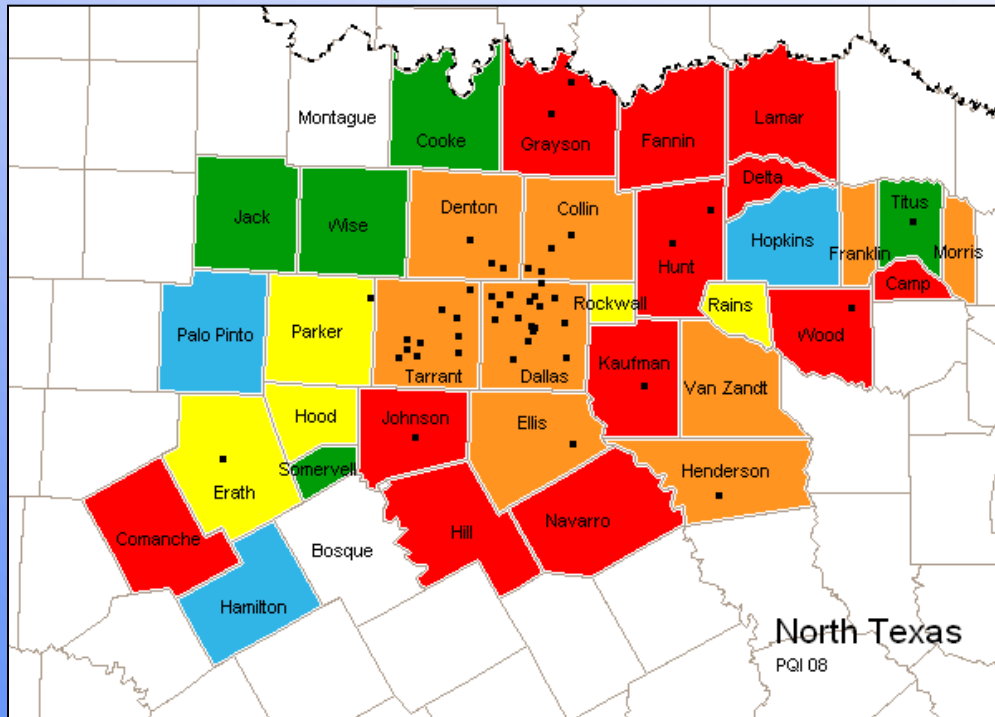
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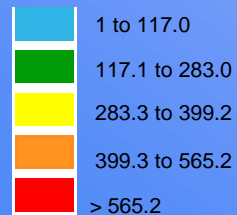
O = No statistical difference

AHRQ Prevention Quality Indicators

Congestive Heart Failure Admission Rate - 2003



Risk Adjusted Rates per 100,000 Population



■ DI Hospitals

Named counties without shading have a Risk Adjusted rate of zero.

08 Congestive Heart Failure Admission Rate
 Congestive heart failure (CHF) can be controlled in an outpatient setting for the most part; however, the disease is a chronic progressive disorder for which some hospitalizations are appropriate.

County	2003 (PQI 08) Numerator (Outcome)	Denominator (Population)	Rates per 100,000 Cases			Stat. Sig.
			Observed	Risk Adjusted	Confidence Interval (95%)	
State of Texas	66,822	15,882,253	420.7	504.5		
BOSQUE	21	13,486	155.7	0.0	(0.0, 0.0)	
CAMP	80	8,567	933.8	860.3	(664.7, 1055.9)	-
COLLIN	911	429,184	212.3	410.7	(391.6, 429.8)	+
COMANCHE	117	10,233	1,143.3	954.4	(766.0, 1142.8)	-
COOKE	60	28,036	214.0	142.7	(98.5, 186.9)	+
DALLAS	6,412	1,631,345	393.0	527.8	(516.7, 538.9)	-
DELTA	32	4,172	767.1	622.7	(384.0, 861.4)	o
DENTON	876	369,935	236.8	456.8	(435.1, 478.5)	+
EASTLAND	26	14,031	185.3	0.0	(0.0, 0.0)	
ELLIS	367	88,785	413.4	518.2	(471.0, 565.4)	o
ERATH	97	24,993	388.1	376.7	(300.8, 452.6)	+
FANNIN	171	25,024	683.3	610.2	(513.7, 706.7)	-
FRANKLIN	48	7,616	630.3	505.7	(346.4, 665.0)	o
GRAYSON	568	86,204	658.9	612.4	(560.3, 664.5)	-
HAMILTON	19	6,241	304.4	23.7	(0.0, 61.9)	+
HENDERSON	386	58,796	656.5	560.5	(500.2, 620.8)	o
HILL	220	25,615	858.9	776.5	(669.0, 884.0)	-
HOOD	149	34,883	427.1	330.1	(269.9, 390.3)	+
HOPKINS	37	24,315	152.2	84.1	(47.7, 120.5)	+
HUNT	362	59,959	603.7	630.8	(567.4, 694.2)	-
JACK	12	6,916	173.5	135.9	(49.1, 222.7)	+
JOHNSON	564	100,860	559.2	664.9	(614.7, 715.1)	-
KAUFMAN	390	59,401	656.6	750.8	(681.4, 820.2)	-
LAMAR	260	36,763	707.2	619.4	(539.2, 699.6)	-
MONTAGUE	21	14,900	140.9	0.0	(0.0, 0.0)	
MORRIS	64	10,014	639.1	507.3	(368.2, 646.4)	o
NAVARRO	216	34,415	627.6	596.6	(515.2, 678.0)	-
PALO PINTO	22	20,368	108.0	2.9	(0.0, 10.3)	+
PARKER	210	72,541	289.5	361.6	(317.9, 405.3)	+
RAINS	38	8,472	448.5	396.8	(262.9, 530.7)	o
ROCKWALL	106	39,433	268.8	394.3	(332.4, 456.2)	+
SOMERVELL	9	5,416	166.2	139.0	(39.8, 238.2)	+
STEPHENS	6	7,147	84.0	0.0	(0.0, 0.0)	
TARRANT	3,688	1,118,382	329.8	456.1	(443.6, 468.6)	+
TITUS	40	19,796	202.1	198.5	(136.5, 260.5)	+
VAN ZANDT	209	38,329	545.3	458.6	(391.0, 526.2)	o
WISE	58	39,967	145.1	209.0	(164.2, 253.8)	+
WOOD	235	30,845	761.9	599.1	(513.0, 685.2)	-
YOUNG	15	13,604	110.3	0.0	(0.0, 0.0)	

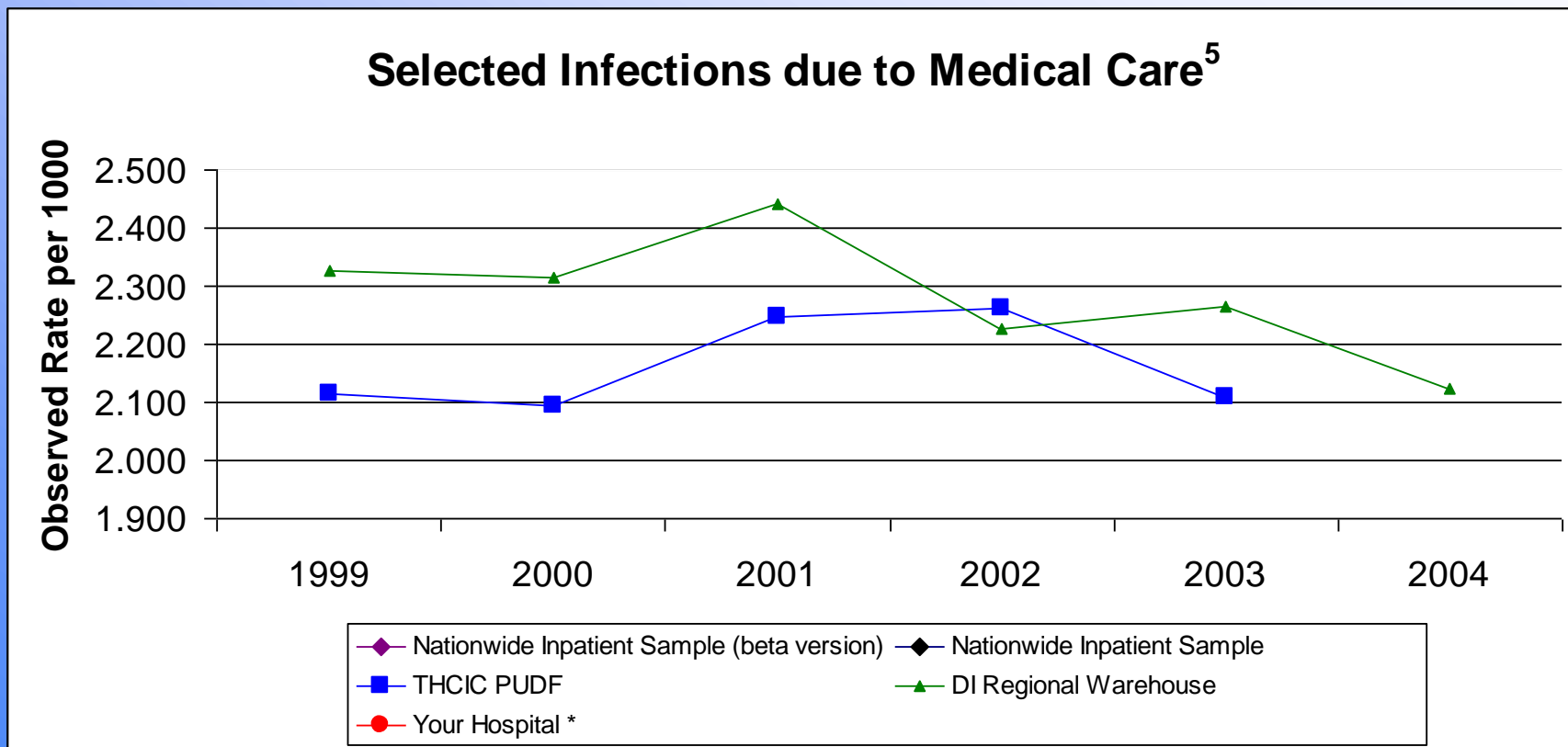
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+ = County's RA rate significantly lower than State RA rate

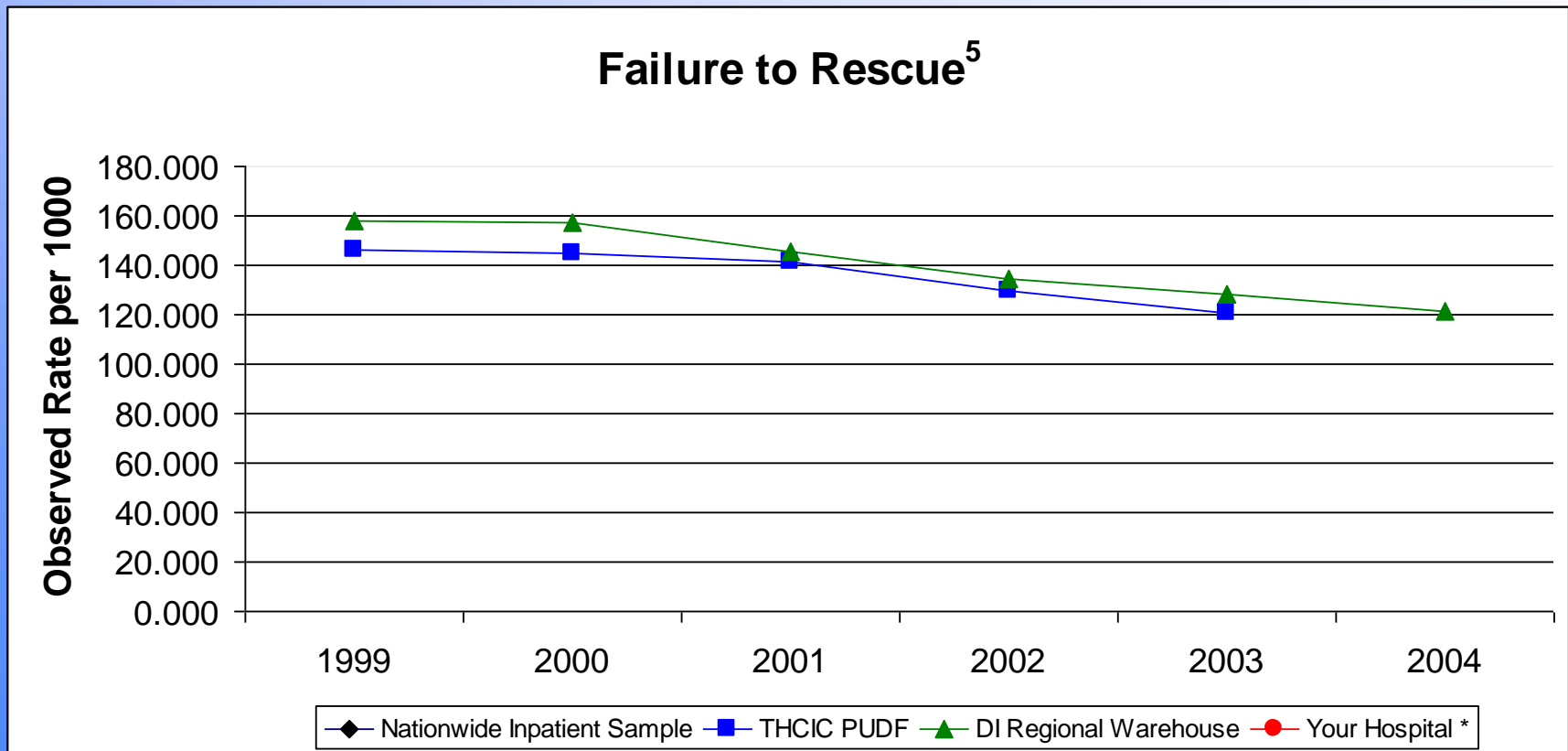
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O = No statistical difference

PSI: Selected Infections due to Medical Care



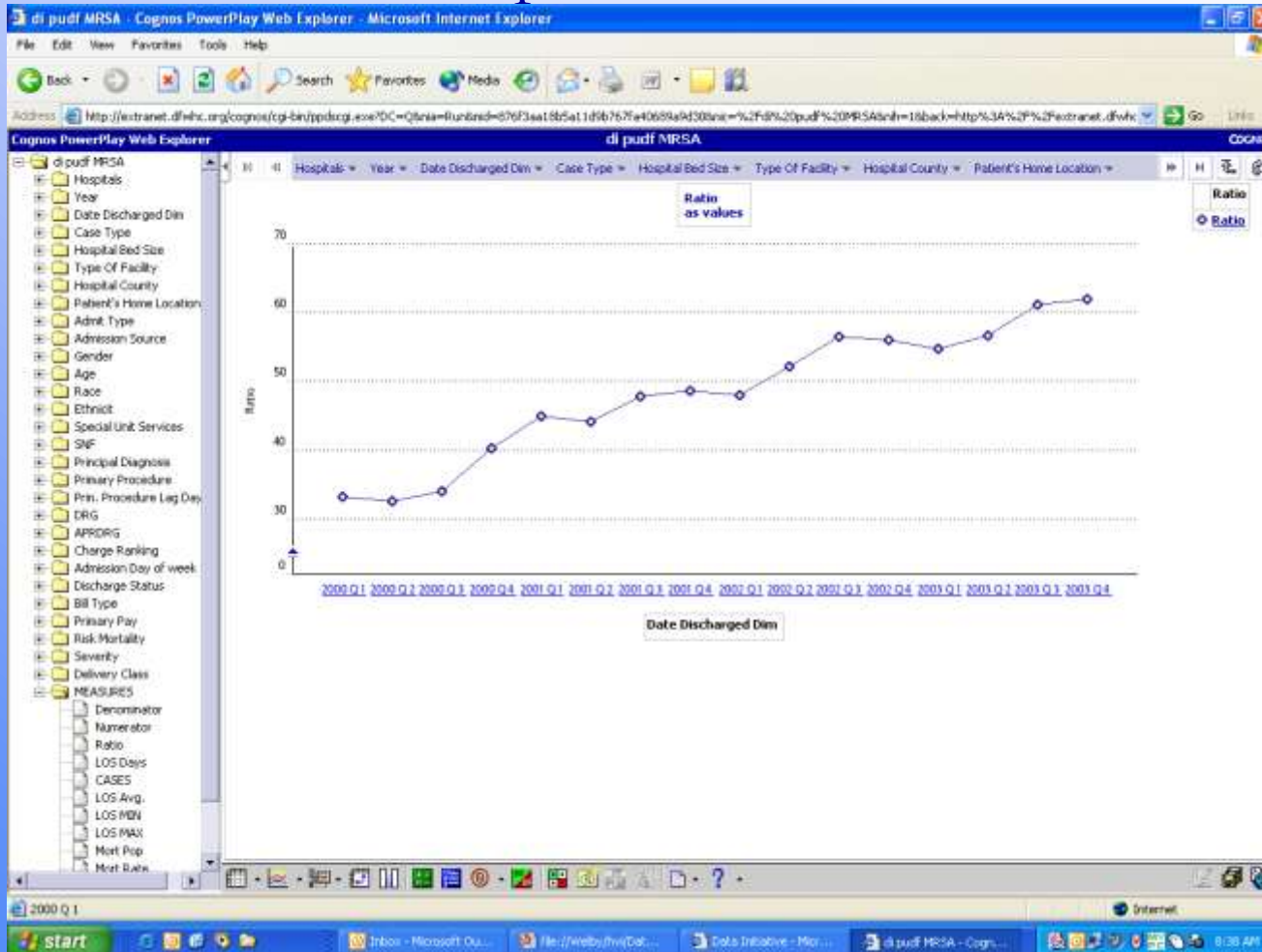
PSI: Failure to Rescue





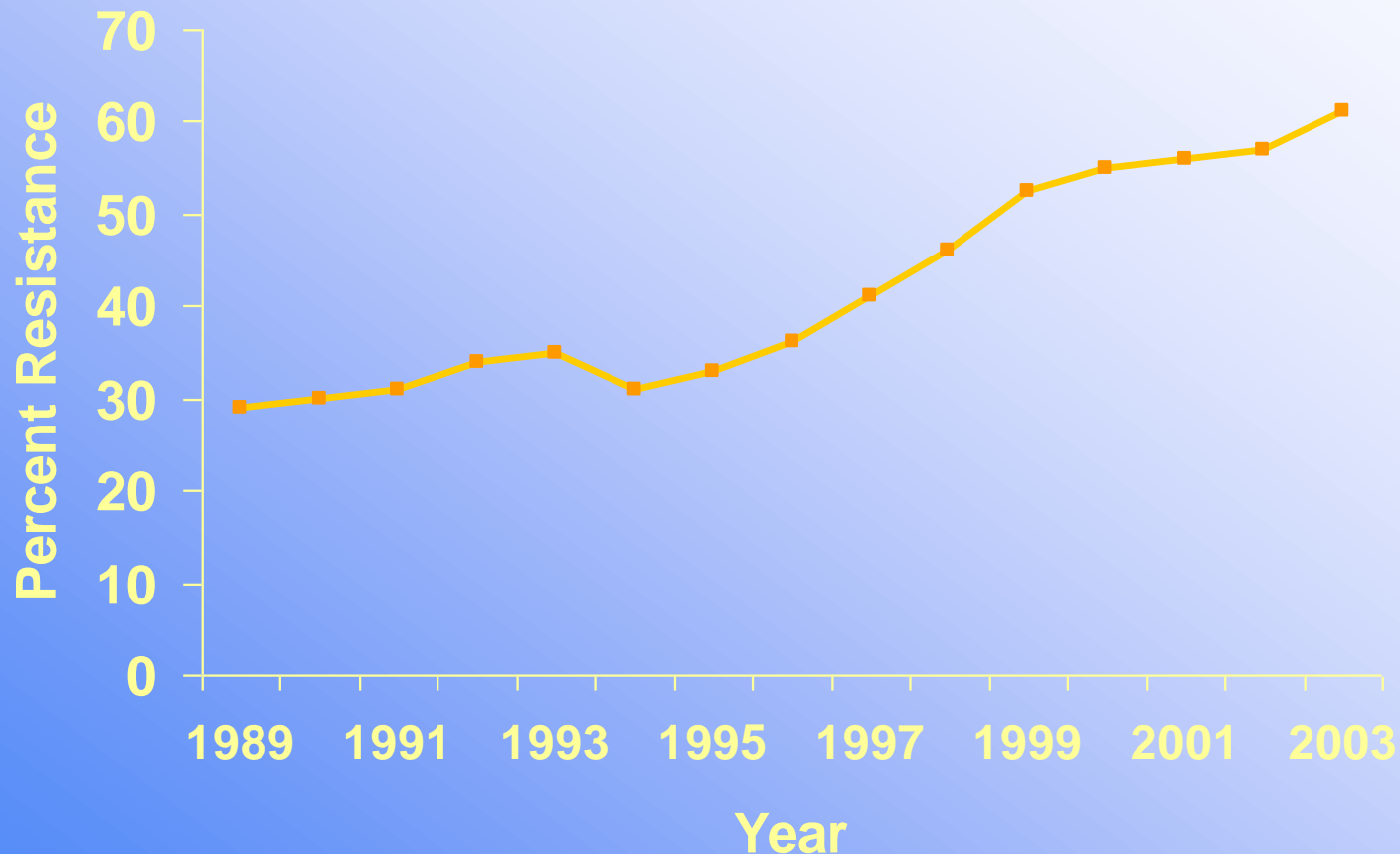
**New Project Focus:
MRSA in North Texas
Potential CDC Funding for the
Project**

DFWHC North Texas MRSA to Staph Ratios Inpatient Admissions



Dallas-Fort Worth Hospital Council, Inc.
250 Decker Drive, Irving, Texas 75062
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Proportion of *S. aureus* Nosocomial Infections Resistant to Oxacillin (MRSA) Among Intensive Care Unit Patients, 1989-2003*



*Source: NNIS System, data for 2003 are incomplete

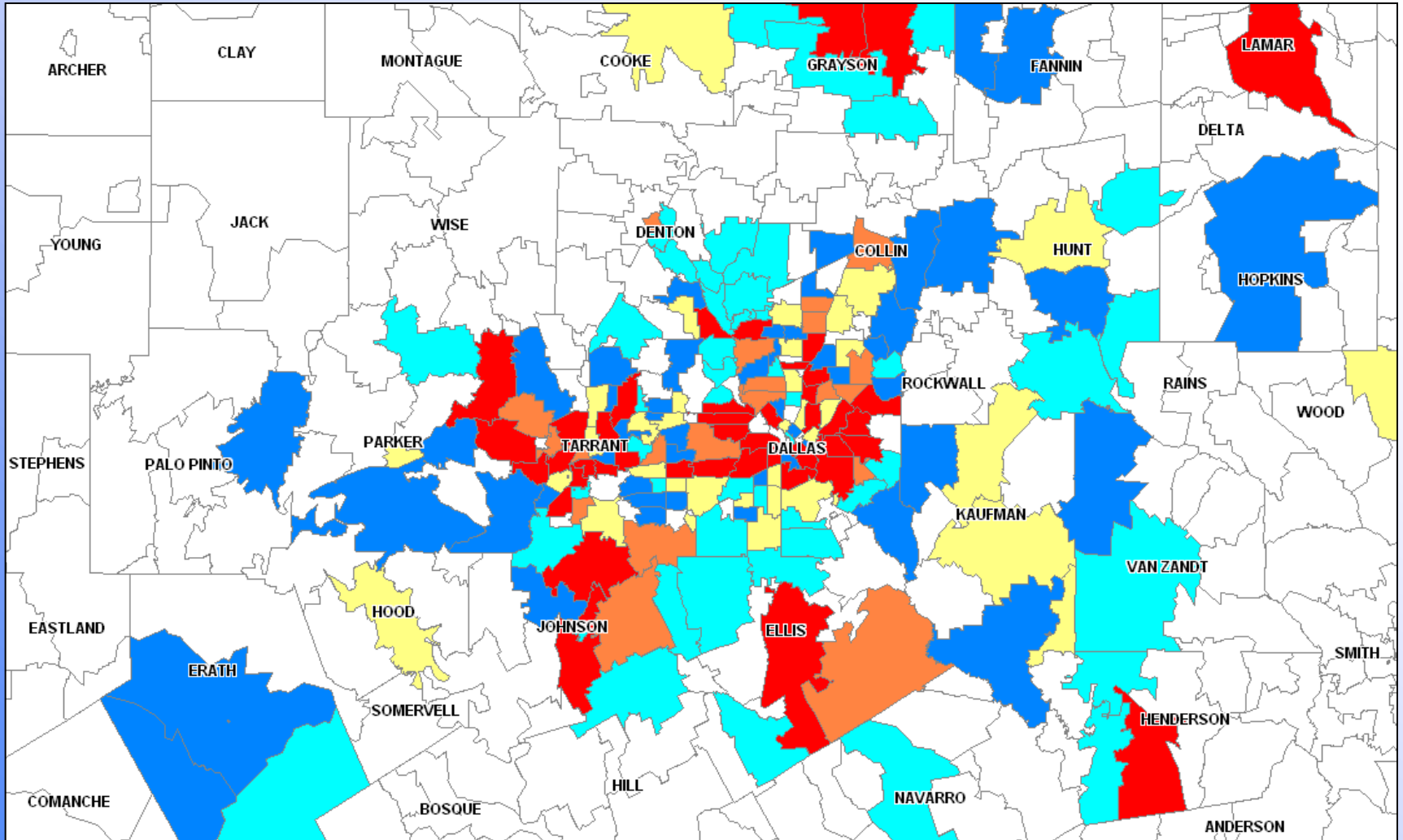


Geo-map Trending of the MRSA Infections in Hospital Discharge Data

Dallas-Fort Worth Hospital Council, Inc.
250 Decker Drive, Irving, Texas 75062

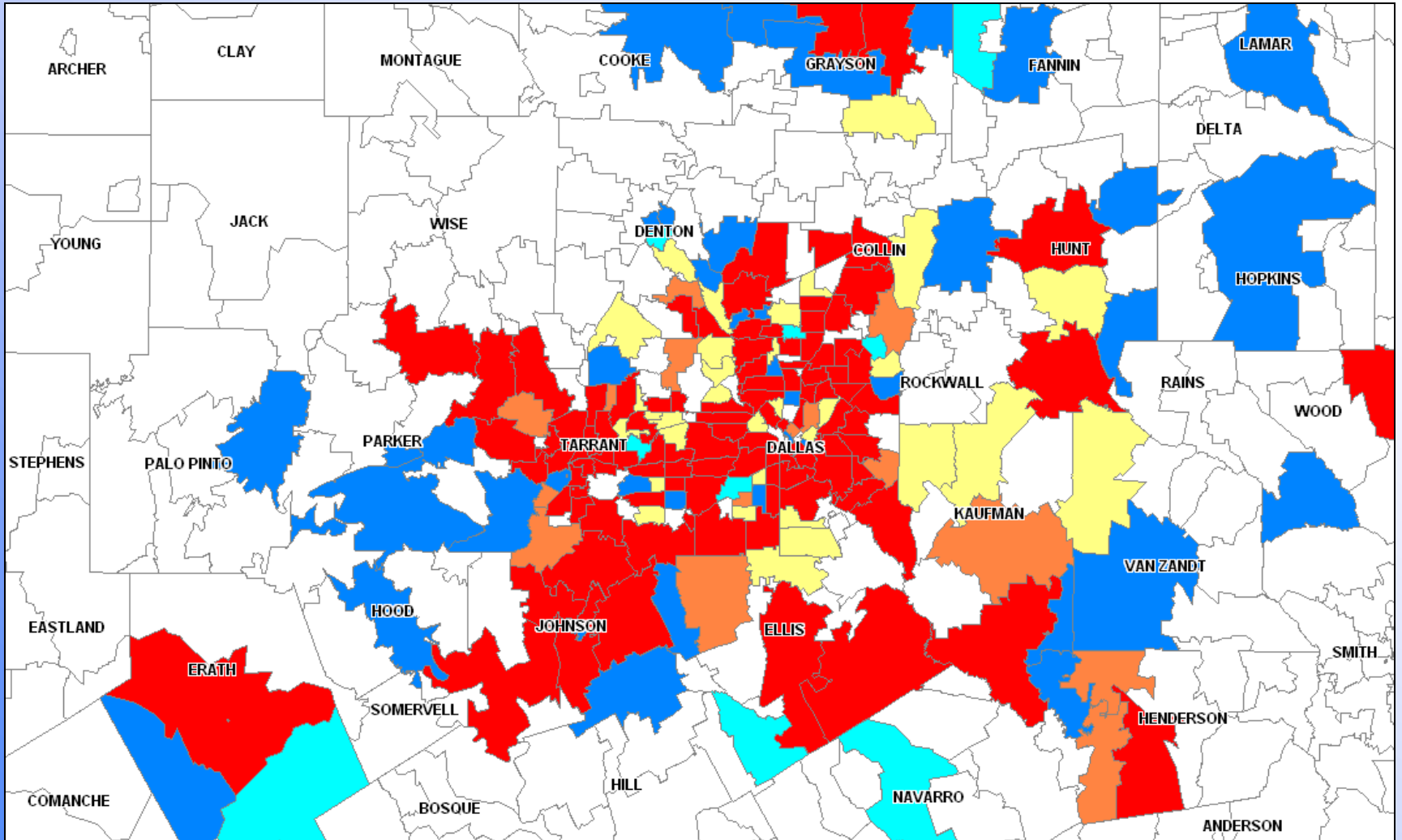
Patient Admissions w/Staph, by ZIP

2000



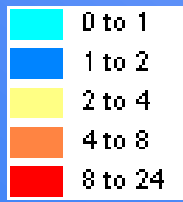
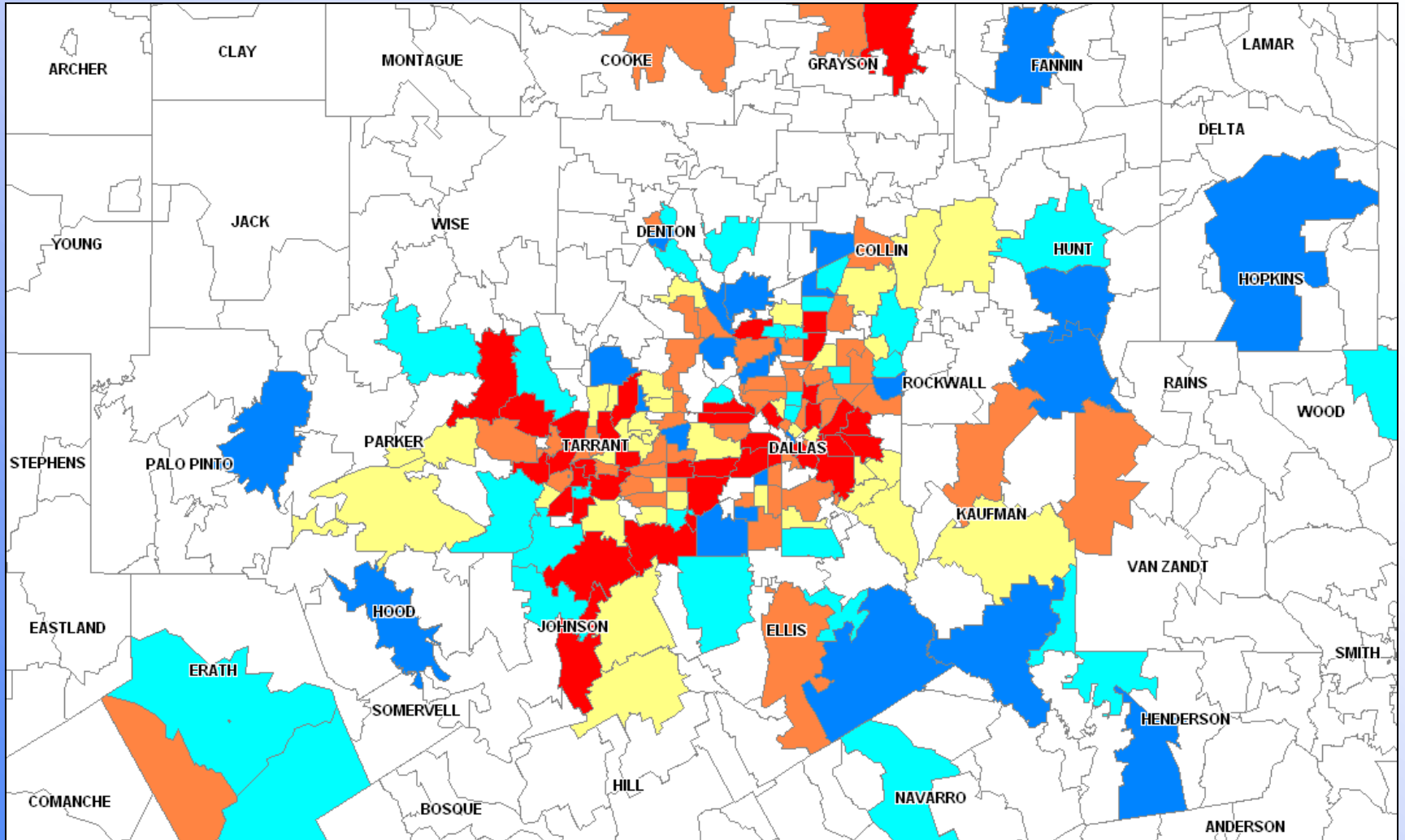
Patient Admissions w/Staph, by ZIP

2003



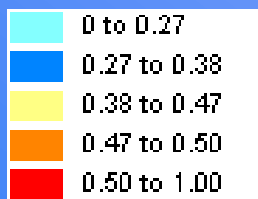
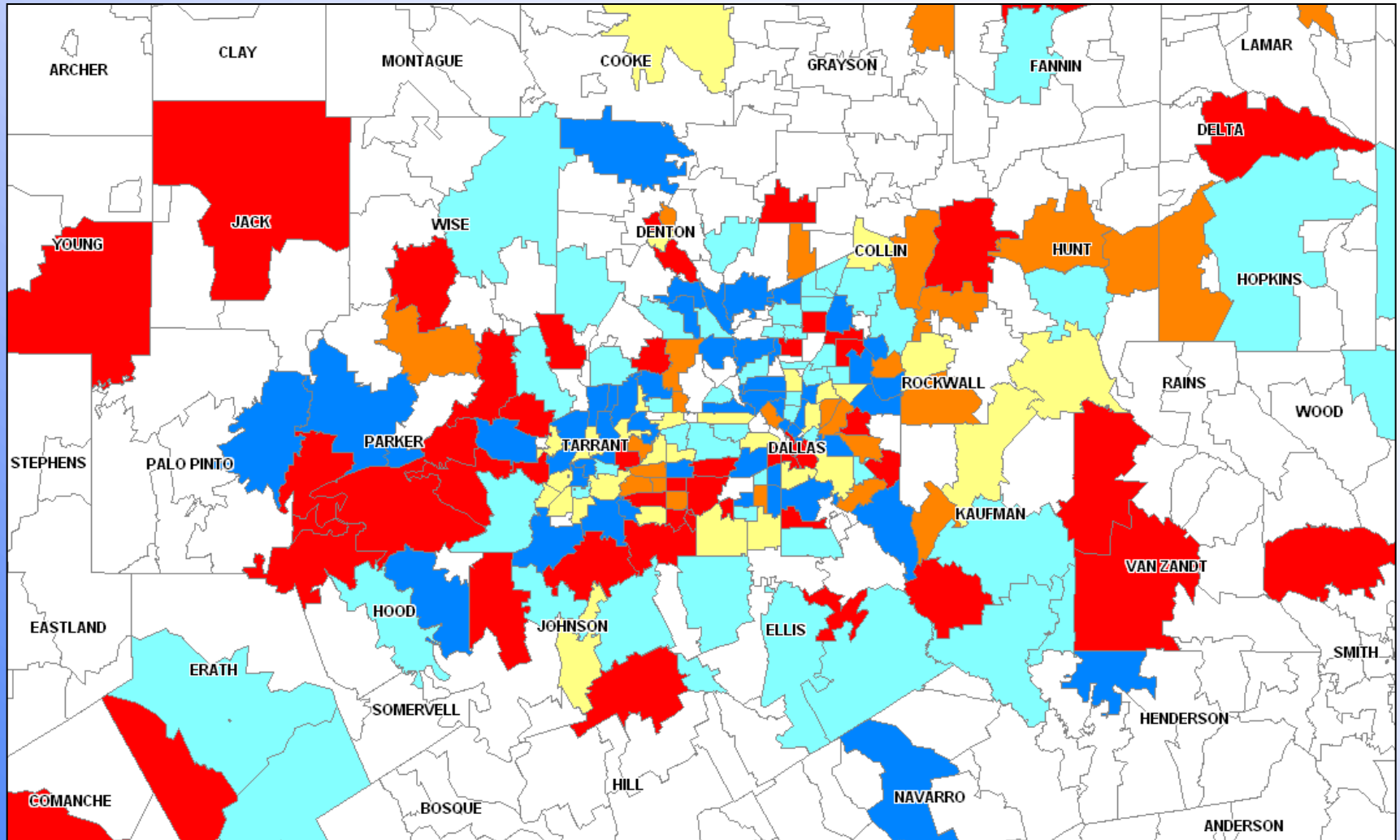
Patient Admissions w/MRSA, by ZIP

2000



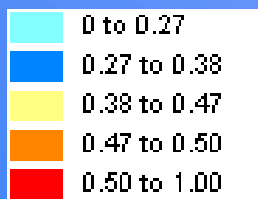
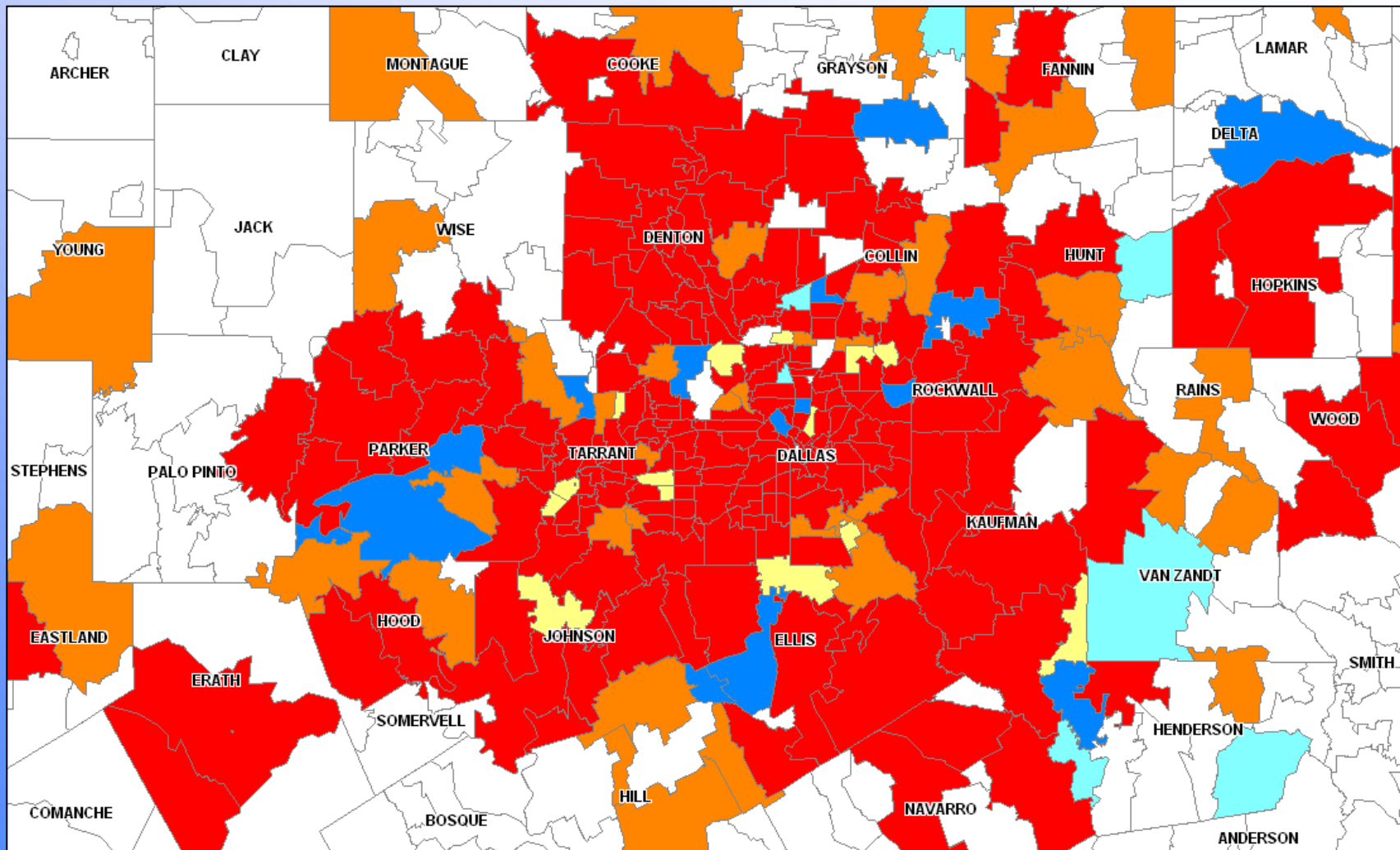
Patient Admissions MRSA/Staph Ratio, by ZIP

2000

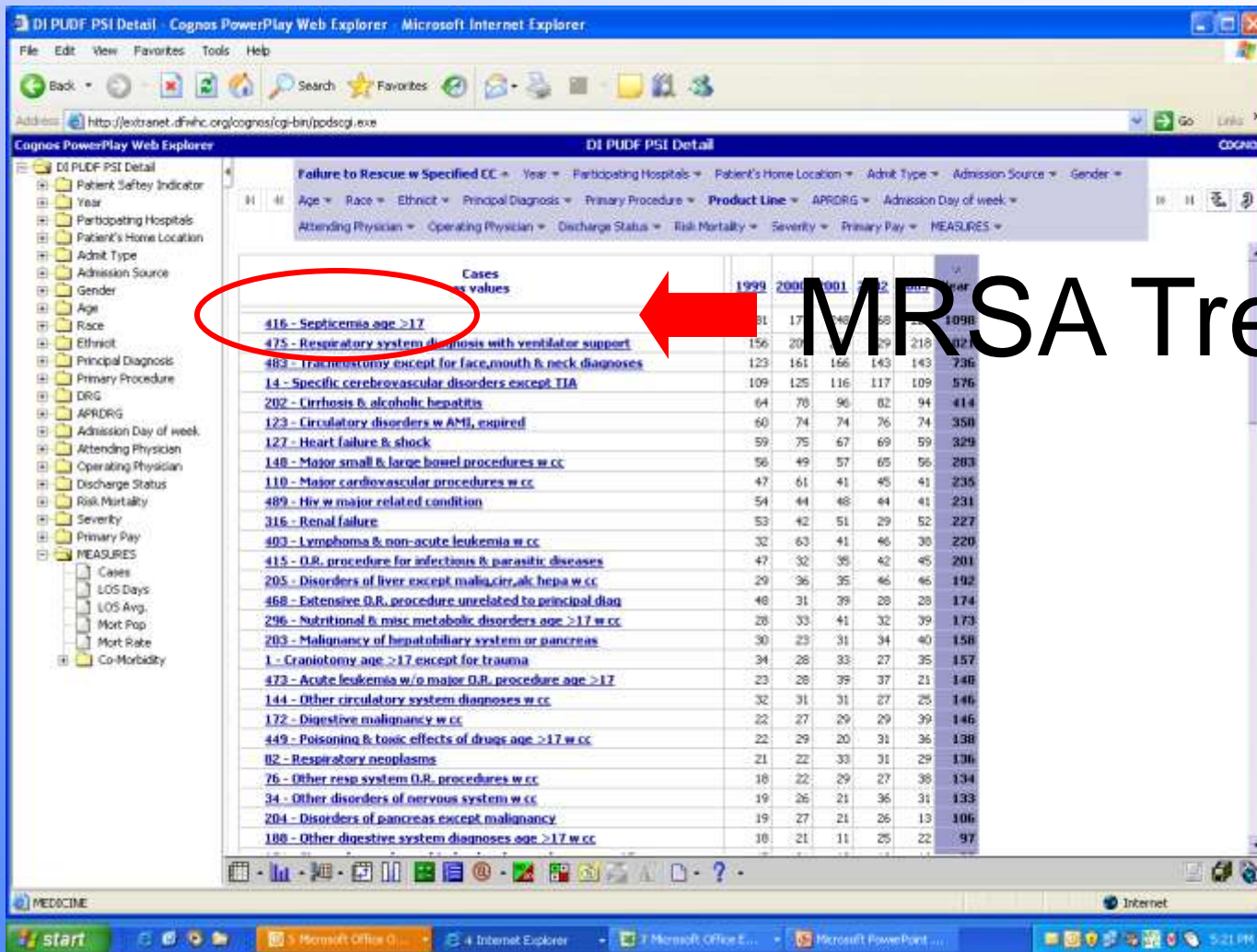


Patient Admissions MRSA/Staph Ratio, by ZIP

2003



PSI Detailed File on Failure to Rescue



MRSA Trends ?

PSI Detailed File on Selected Infections due to Medical Care



DI PUDF PSI Detail - Cognos PowerPlay Web Explorer - Microsoft Internet Explorer

Address: http://extranet.dfwhc.org/cognos/cgi-bin/ppdsqci.exe

DI PUDF PSI Detail

Selected Infections due to Medical Care

Gender Age Race Ethnicity Principal Diagnosis Primary Procedure Product Line APRDRG Admission Day of week

Attending Physician Operating Physician Discharge Status Risk Mortality Severity Primary Pay MEASURES

Cases as values	1999	2000	2001	2002	2003	Year
416 - Septicemia age >17	95	74	87	393		
462 - Rehabilitation	48	35	24	27	161	
148 - Major small & large bowel procedures w cc	25	27	33	26	30	141
395 - Red blood cell disorders age >17	21	22	27	27	39	136
127 - Heart failure & shock	22	24	25	27	37	135
475 - Respiratory system diagnosis with ventilator support	20	21	23	33	34	131
470 - Other vascular procedures w cc	20	26	25	20	21	112
204 - Disorders of pancreas except malignancy	22	15	32	16	24	109
316 - Renal failure	15	26	14	28	24	107
468 - Extensive O.R. procedure unrelated to principal diag	17	22	20	28	17	104
315 - Other kidney & urinary tract O.R. procedures	8	22	15	12	26	83
182 - Esophagitis, gastroent & misc digest disorders age >17 w cc	17	7	25	12	21	82
1 - Craniotomy age >17 except for trauma	15	12	19	17	16	79
120 - Other circulatory system O.R. procedures	7	13	24	13	18	75
144 - Other circulatory system diagnoses w cc	20	13	10	7	20	70
110 - Major cardiovascular procedures w cc	14	15	15	12	11	67
107 - Coronary bypass w cardiac cath	11	12	14	10	11	58
296 - Nutritional & misc metabolic disorders age >17 w cc	14	10	9	14	11	58
121 - Circulatory disorders w AMI & major comp, discharged	13	8	10	12	12	55
174 - G.I. hemorrhage w cc	12	10	10	10	13	55
14 - Specific cerebrovascular disorders except TIA	9	10	12	10	14	55
79 - Respiratory infections & inflammations age >17 w cc	11	12	9	13	10	55
89 - Simple pneumonia & pleurisy age >17 w cc	10	14	17	7	5	53
294 - Diabetes age >35	8	11	12	7	10	48
18 - Cranial & peripheral nerve disorders w cc	12	8	8	13	7	48

MRSA Trends ?

79 - Respiratory infections & inflammations age >17 w cc

Next Steps for the region



- Use the indicators at the regional level to examine overall performance and health trends
- Partner with Dept of State Health Services, Local Public Health and Schools of Public Health to better utilize the measures to improve the health of the populations served
- Find funding to distribute data sharing capability to public health and the state
- Pursue ambulatory data project
- Support Texas efforts for public reporting of hospital infection rates such that the state generates value for consumers and providers
- Develop community interventions to address health concerns
 - MRSA trends
 - Indigent care access to care & funding issues



Discussion and Questions

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