Dallas – Fort Worth Hospital Council

RHIOs and NHIN: AHRQ's Health Information Technology

Susan McBride, PhD, RN

December 2005

Dallas-Fort Worth Hospital Council, Inc.

250 Decker Drive, Irving, Texas 75062

"The Story" in Texas

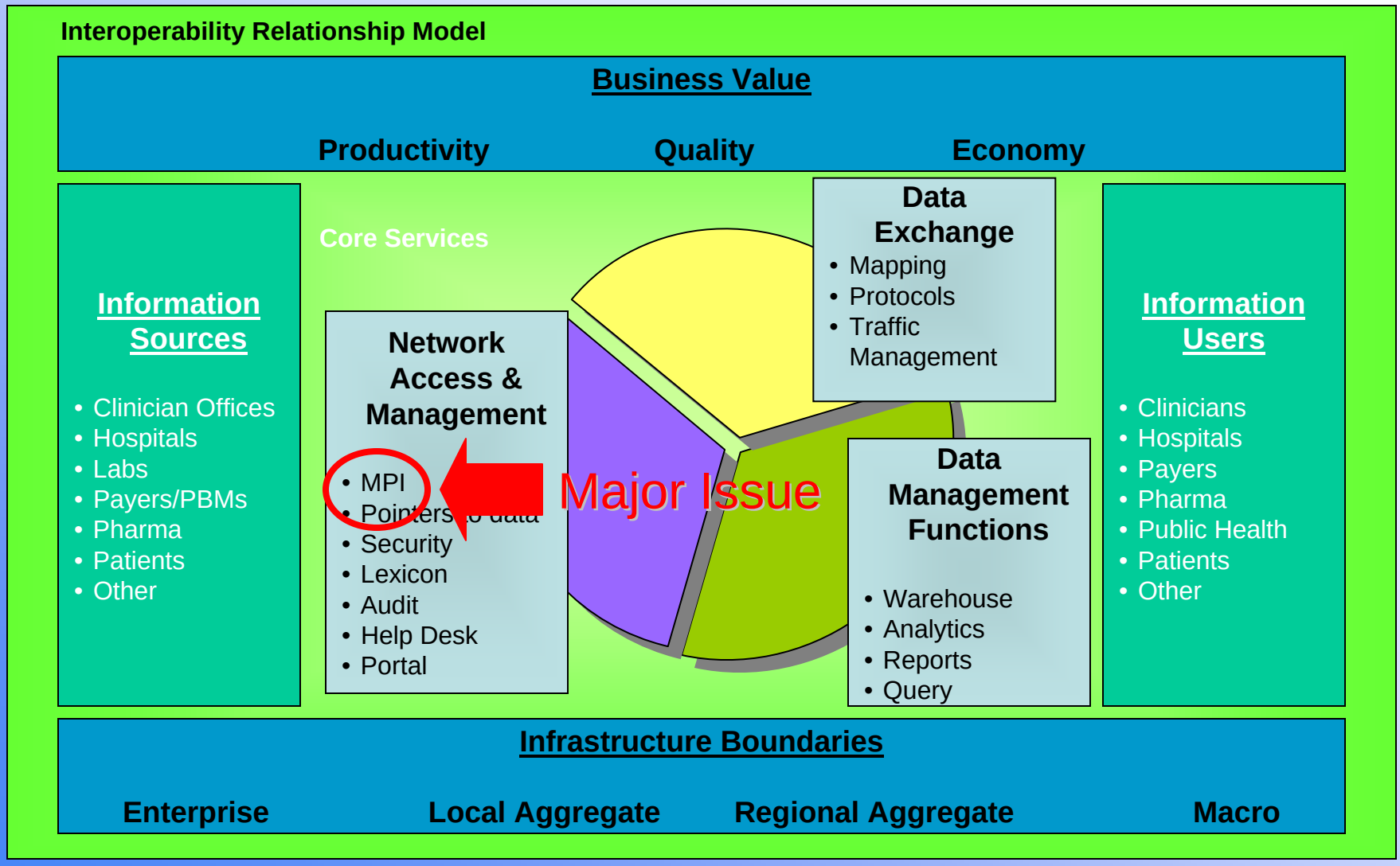
- Activity in Public Health/Disaster Planning arena
  - Houston
  - Dallas-Fort Worth
  - San Antonio
- Activity in Regions to create RHIOs
  - Houston
  - Dallas-Fort Worth
  - Austin

Confusing at best,…

- "Since the RHIO is a new concept, there is no standard definition or single model at this time, but a framework for appropriate functions and organizational models is beginning to emerge."
  Qual-IT United Hospital Fund, 2005

- "Clearly there is widespread interest in regional coordination efforts to support health care IT, but are these communities and organizations prepared to tackle the major issues?"
- *Qual-IT* United Hospital Fund, 2005

What are the issues?



So what are some areas doing to move things forward,….

Dallas-Fort Worth Hospital Council, Inc.
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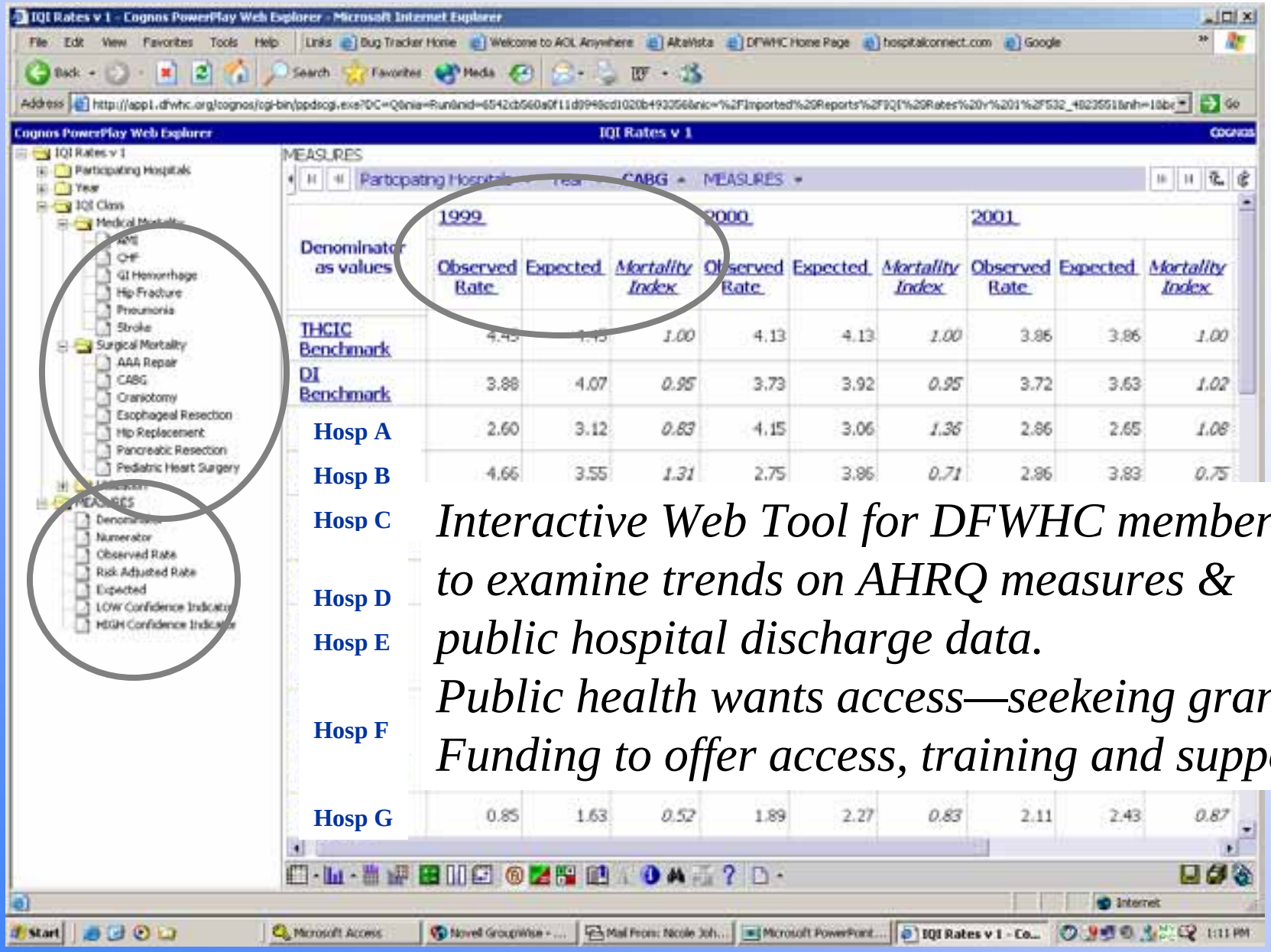
DFW has recognized there is:

Power in collaboration & partnership

Dallas-Fort Worth Hospital Collaborative Efforts

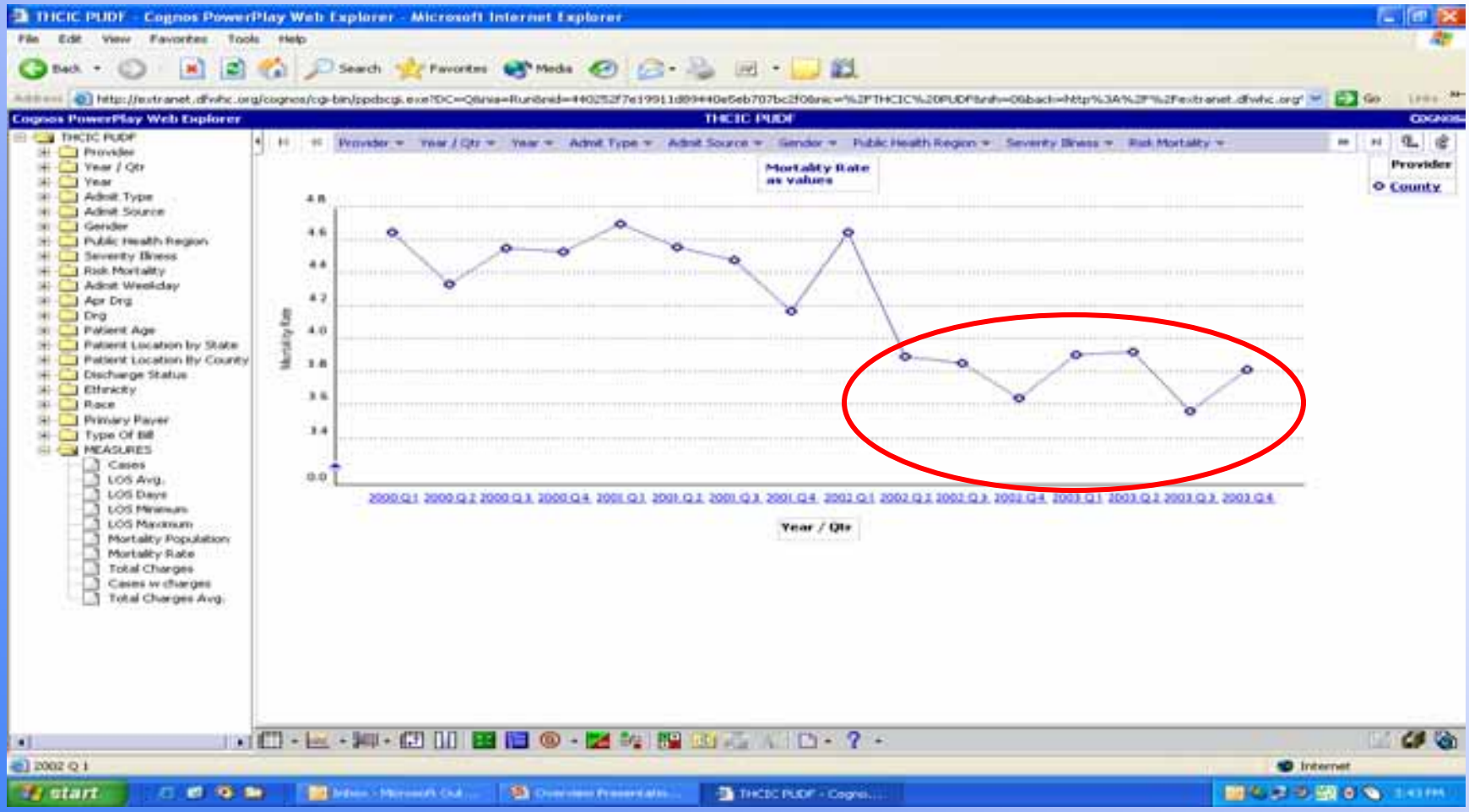
- Data Warehouse with over 6 million inpatient encounters
- Outpatient Data Initiative starts ’06
- CMS Quality Indicators starts in ‘06
- AHRQ Quality Indicators run on all inpatient data and distributed to hospitals & public health (’06)
  - Inpatient Quality Indicators
  - Patient Safety Indicators
  - Prevention Quality Indicators



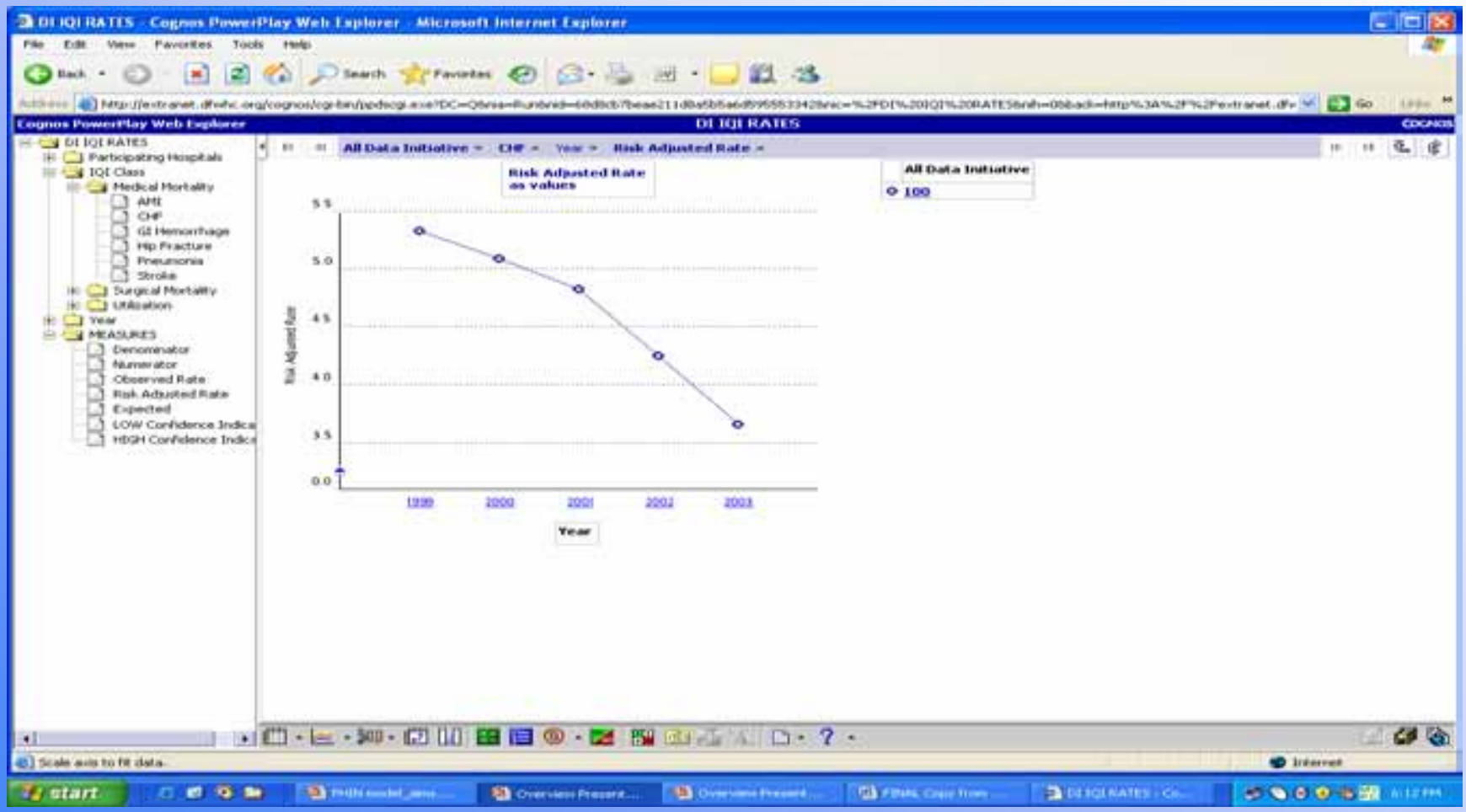
Interactive Web Tool for DFWHC members to examine trends on AHRQ measures & public hospital discharge data.

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

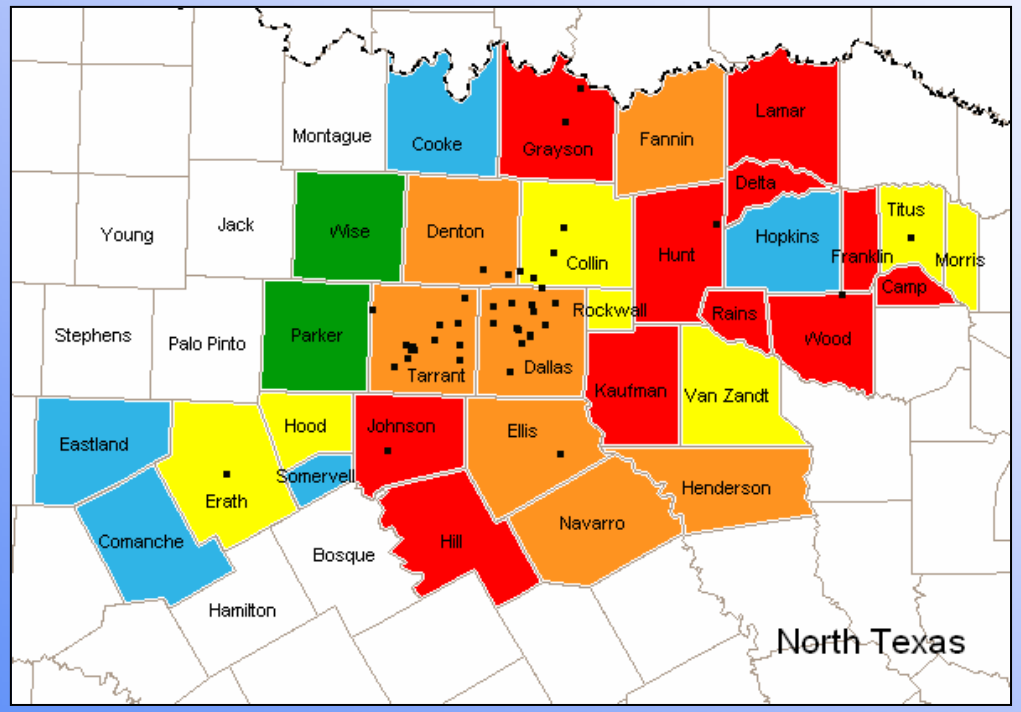
Congestive Heart Failure Mortality Rates



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

- 1 to 117.0
- 117.1 to 283.2
- 283.3 to 399.2
- 399.3 to 565.2
- > 565.2
- 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.

2000			Rates per 100,000 Population			
County	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	Stat. Sig.
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 Date File, FY2000. Texas Health Care Information Council, Austin, Texas. December, 2001.

+ = County's RA rate significantly lower than State RA rate
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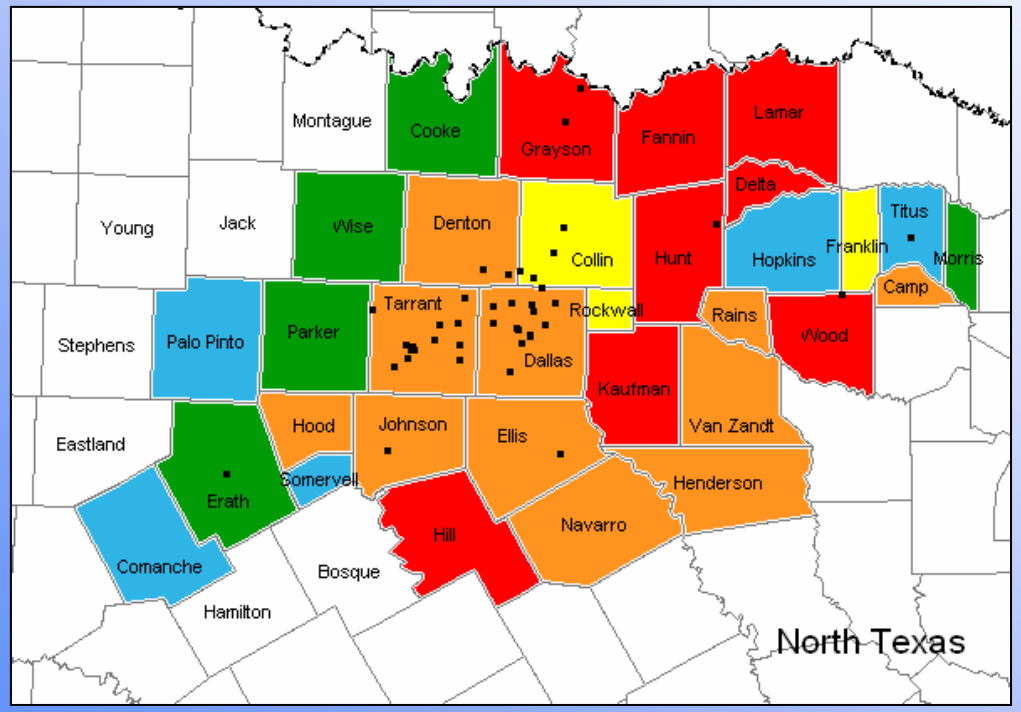
O = No statistical difference

AHRQ Prevention Quality Indicators
Congestive Heart Failure Admission Rate - 2001



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Risk Adjusted Rates per 100,000 Population

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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.

2001			Rates per 100,000 Population			
County	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	Stat. Sig.
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)	

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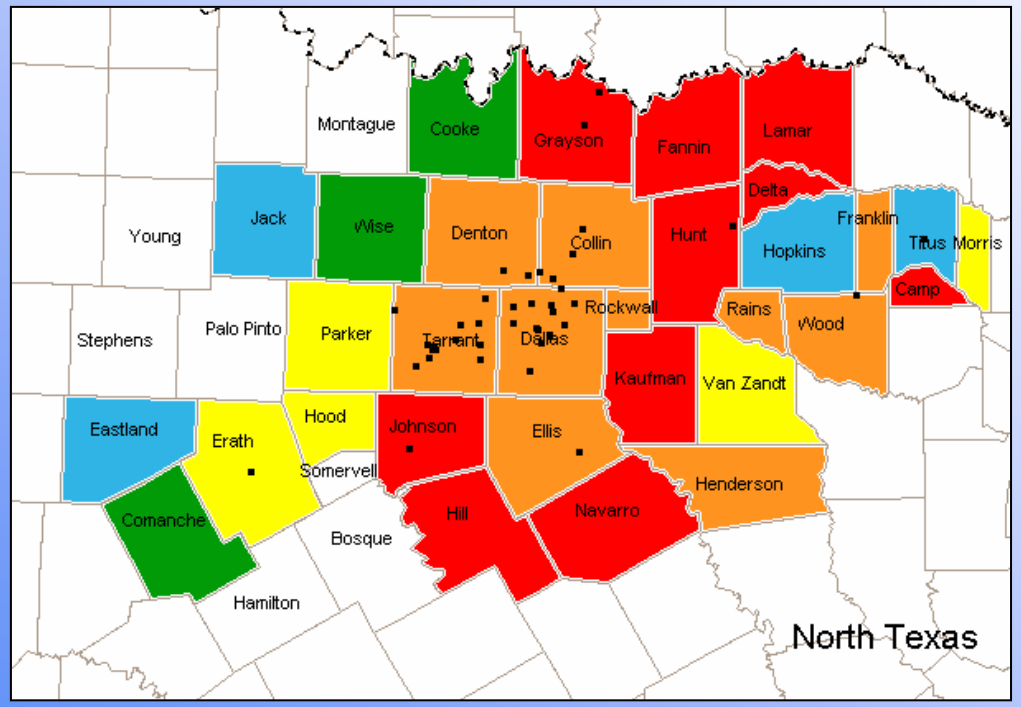
Congestive Heart Failure Admission Rate - 2002



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2002			Rates per 100,000 Population			
County	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	Stat. Sig.
State of Texas	64,436	15,678,989	411.0	504.7		
BOSQUE	19	13,430	141.5	0.0	(0.0, 0.0)	
CAMP	72	8,511	845.9	753.0	(569.3, 936.7)	-
COLLIN	734	407,343	180.2	418.3	(398.5, 438.1)	+
COMANCHE	53	10,189	520.2	238.9	(144.1, 333.7)	+
COOKE	72	27,637	260.5	179.4	(129.5, 229.3)	+
DALLAS	6,317	1,643,801	384.3	542.3	(531.1, 553.5)	-
DELTA	43	4,042	1,063.7	955.5	(655.6, 1255.4)	-
DENTON	747	353,299	211.4	469.3	(446.8, 491.8)	+
EASTLAND	42	13,945	301.2	41.8	(7.9, 75.7)	+
ELLIS	376	85,378	440.4	553.5	(503.7, 603.3)	o
ERATH	94	24,840	378.4	351.0	(277.5, 424.5)	+
FANNIN	189	24,427	773.7	705.1	(600.2, 810.0)	-
FRANKLIN	53	7,503	706.3	541.8	(375.7, 707.9)	o
GRAYSON	552	85,244	647.5	579.4	(528.4, 630.4)	-
HAMILTON	14	6,224	224.9	0.0	(0.0, 0.0)	
HENDERSON	371	57,676	643.2	502.5	(444.8, 560.2)	o
HILL	179	25,148	711.8	567.6	(474.7, 660.5)	o
HOOD	152	34,183	444.7	316.3	(256.8, 375.8)	+
HOPKINS	27	24,081	112.1	18.6	(1.4, 35.8)	+
HUNT	377	58,713	642.1	664.0	(598.3, 729.7)	-
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)	

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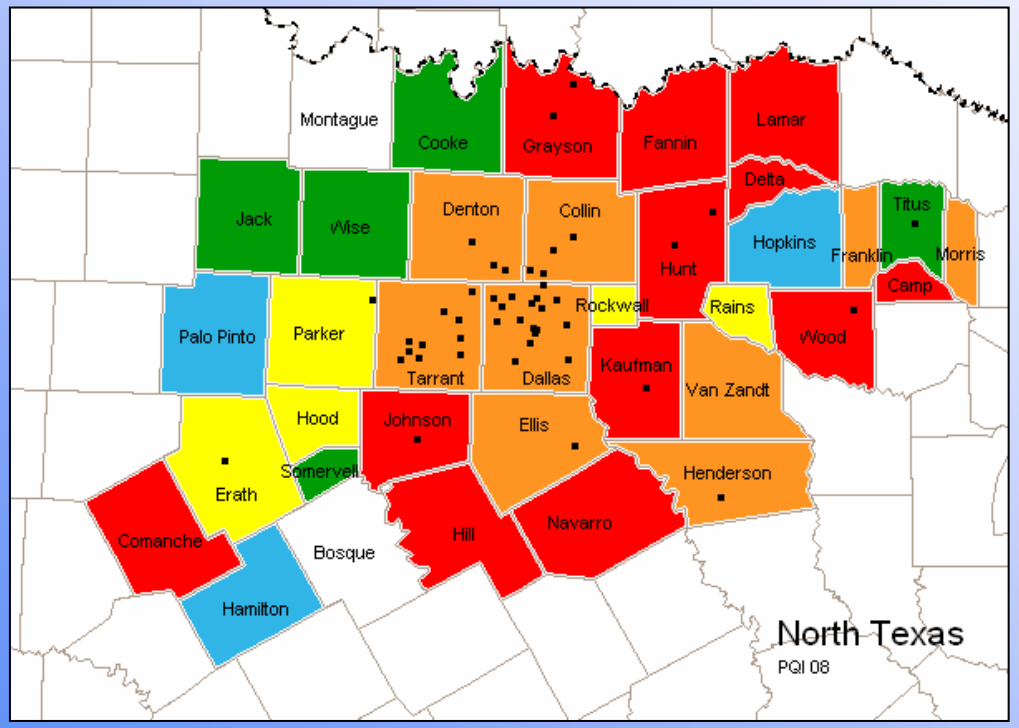
Congestive Heart Failure Admission Rate - 2003



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2003 (PQI 08)			Rates per 100,000 Cases			
County	Numerator (Outcome)	Denominator (Population)	Observed	Risk Adjusted	Confidence Interval (95%)	Stat. Sig.
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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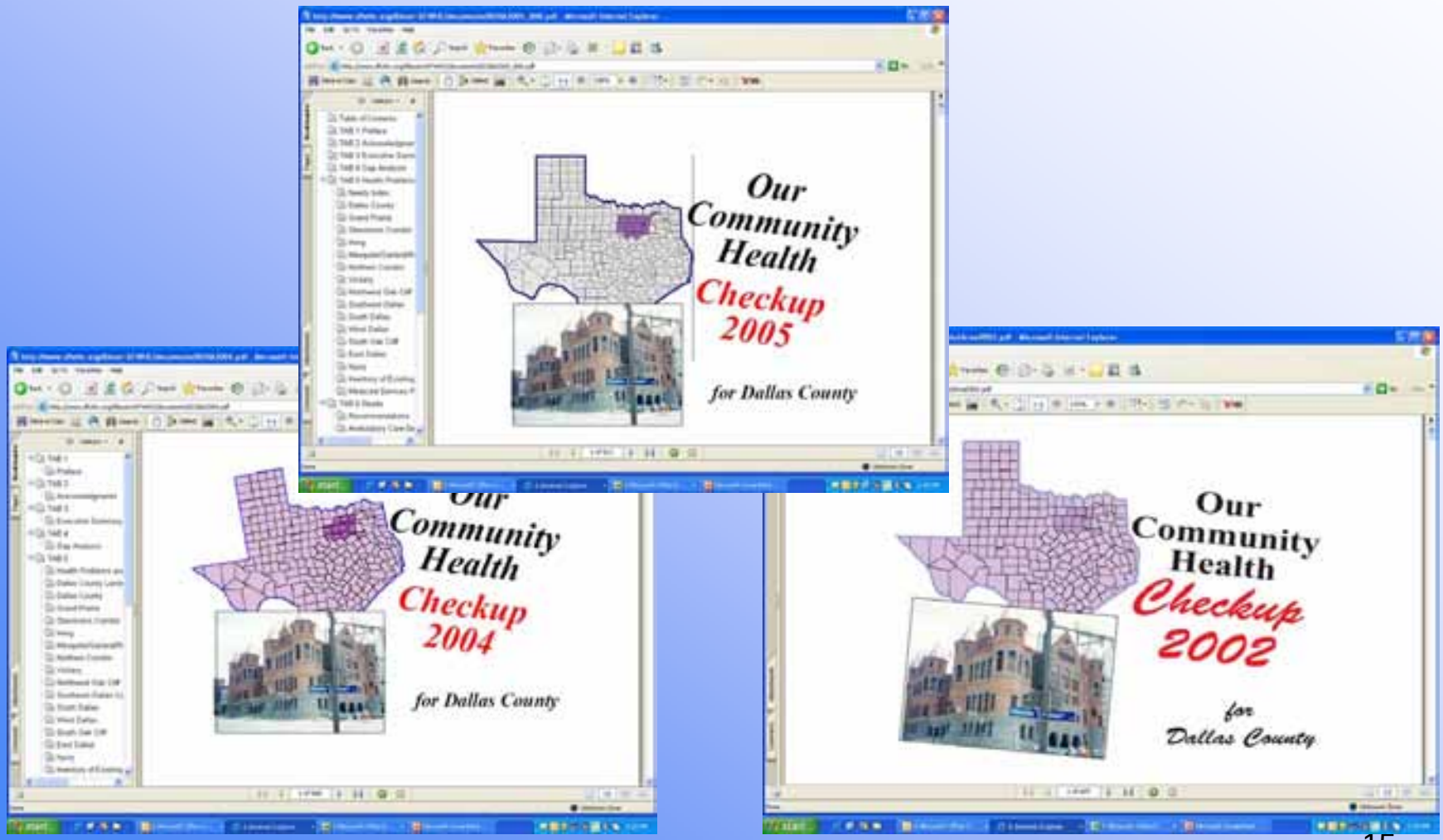
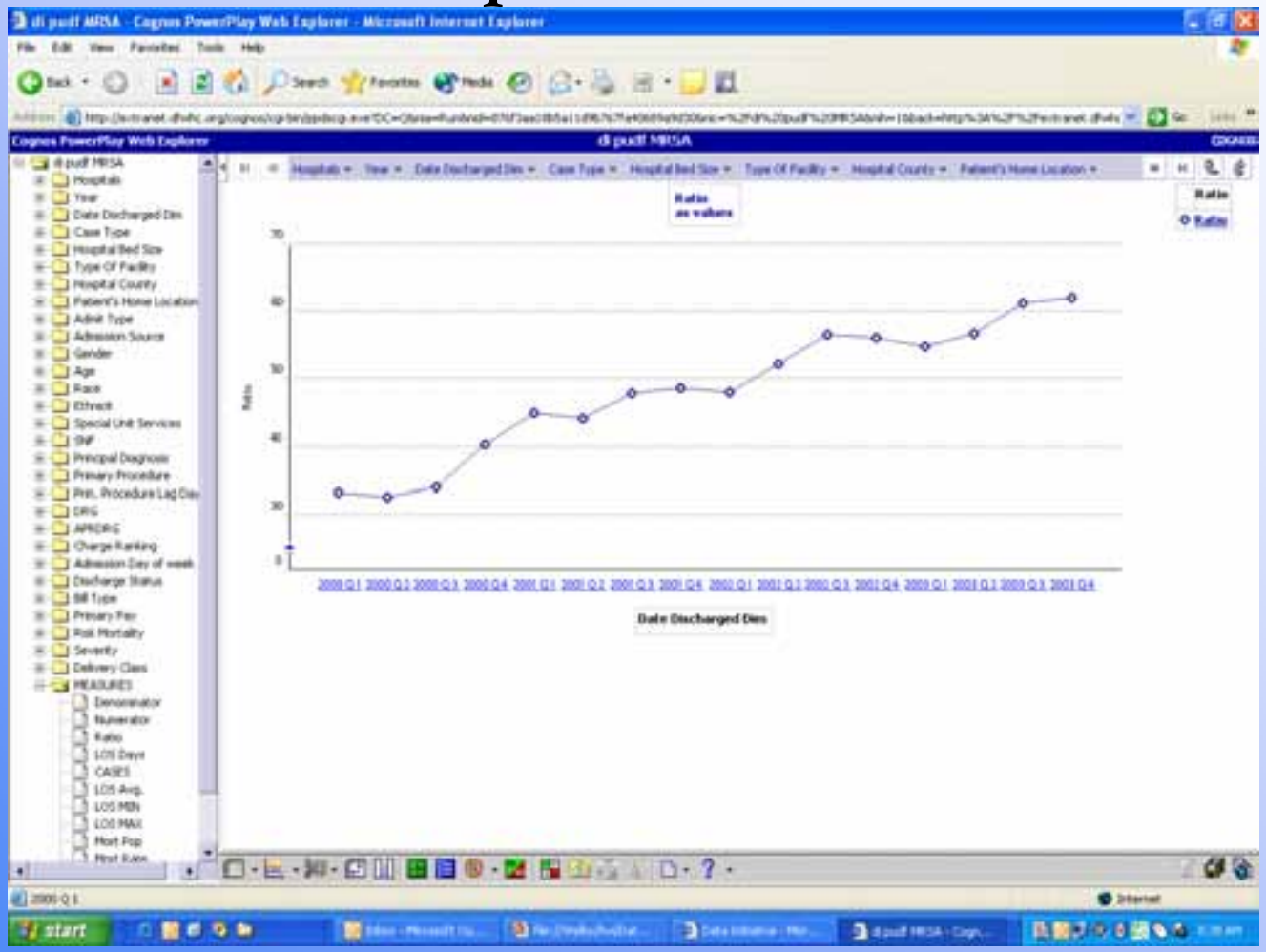
Prevention Quality Indicators Used in Community Health Assessments

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

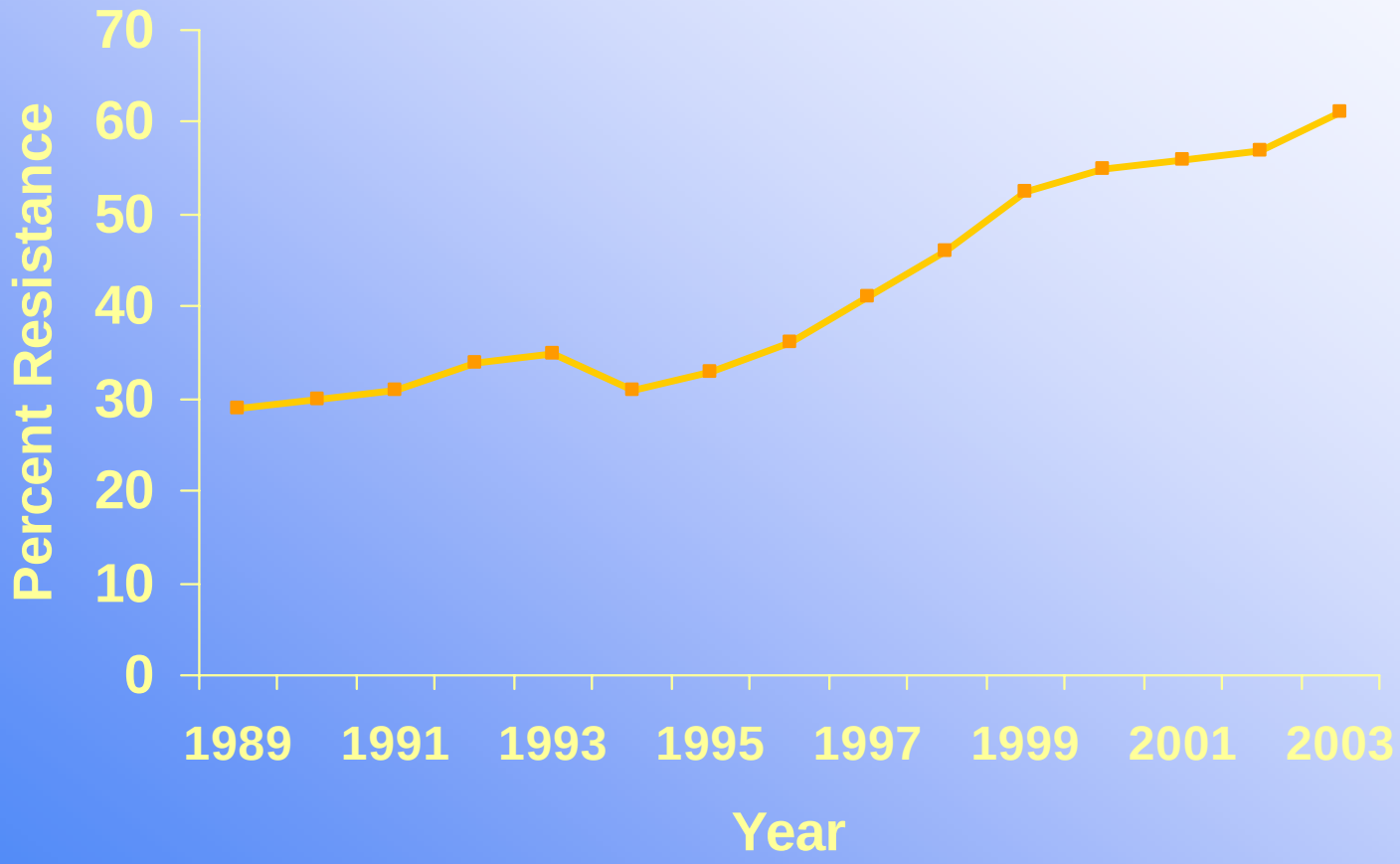


New Project Focus: MRSA in North Texas

DFWHC North Texas MRSA to Staph Ratio
Inpatient Admissions



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

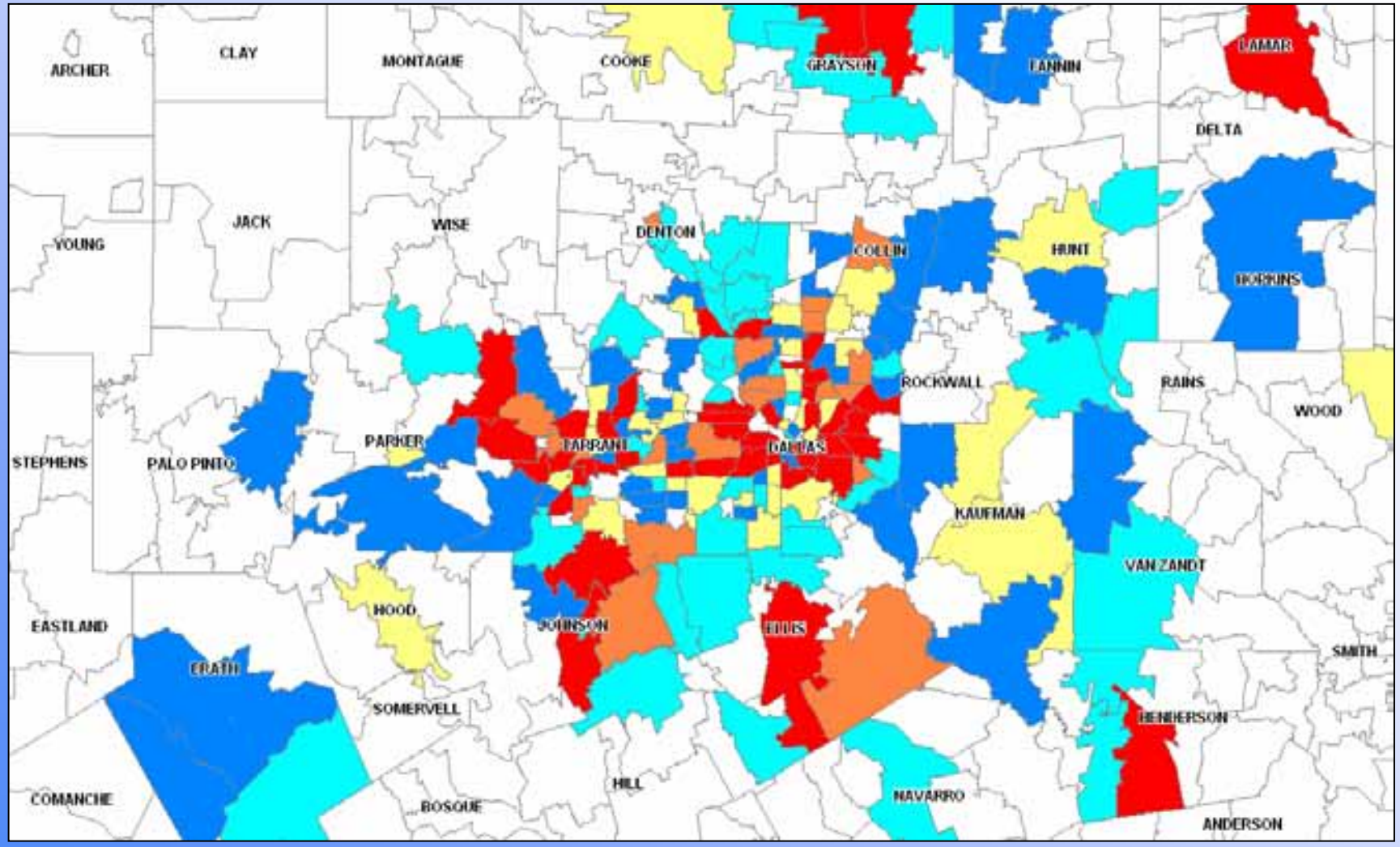
Geo-map Trending of the MRSA Infections in Hospital Discharge Data

Dallas-Fort Worth Hospital Council, Inc.

250 Decker Drive, Irving, Texas 75062

Patient Admissions w/Staph, by ZIP

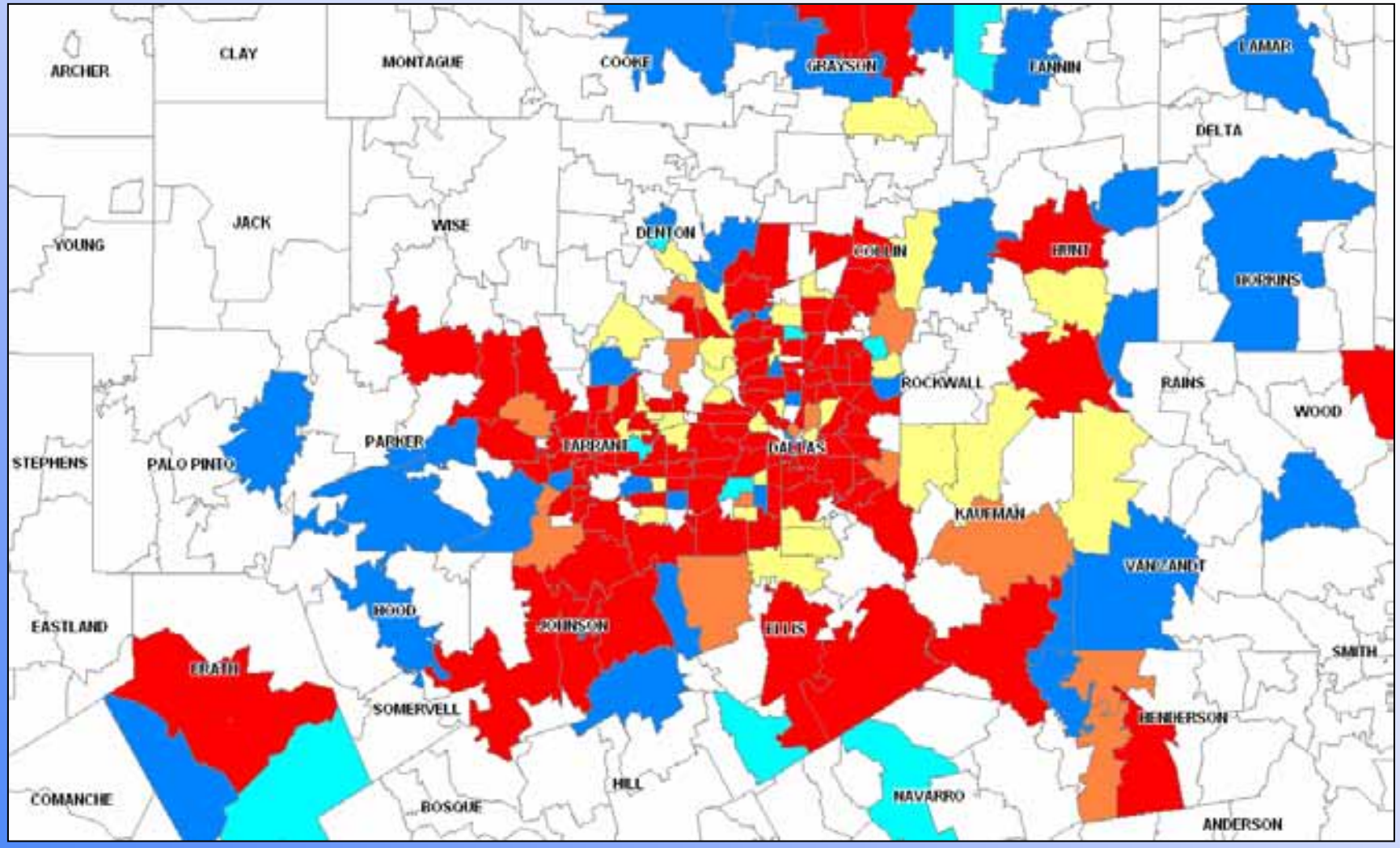
2000



1 to 6
7 to 11
11 to 16
16 to 19
19+

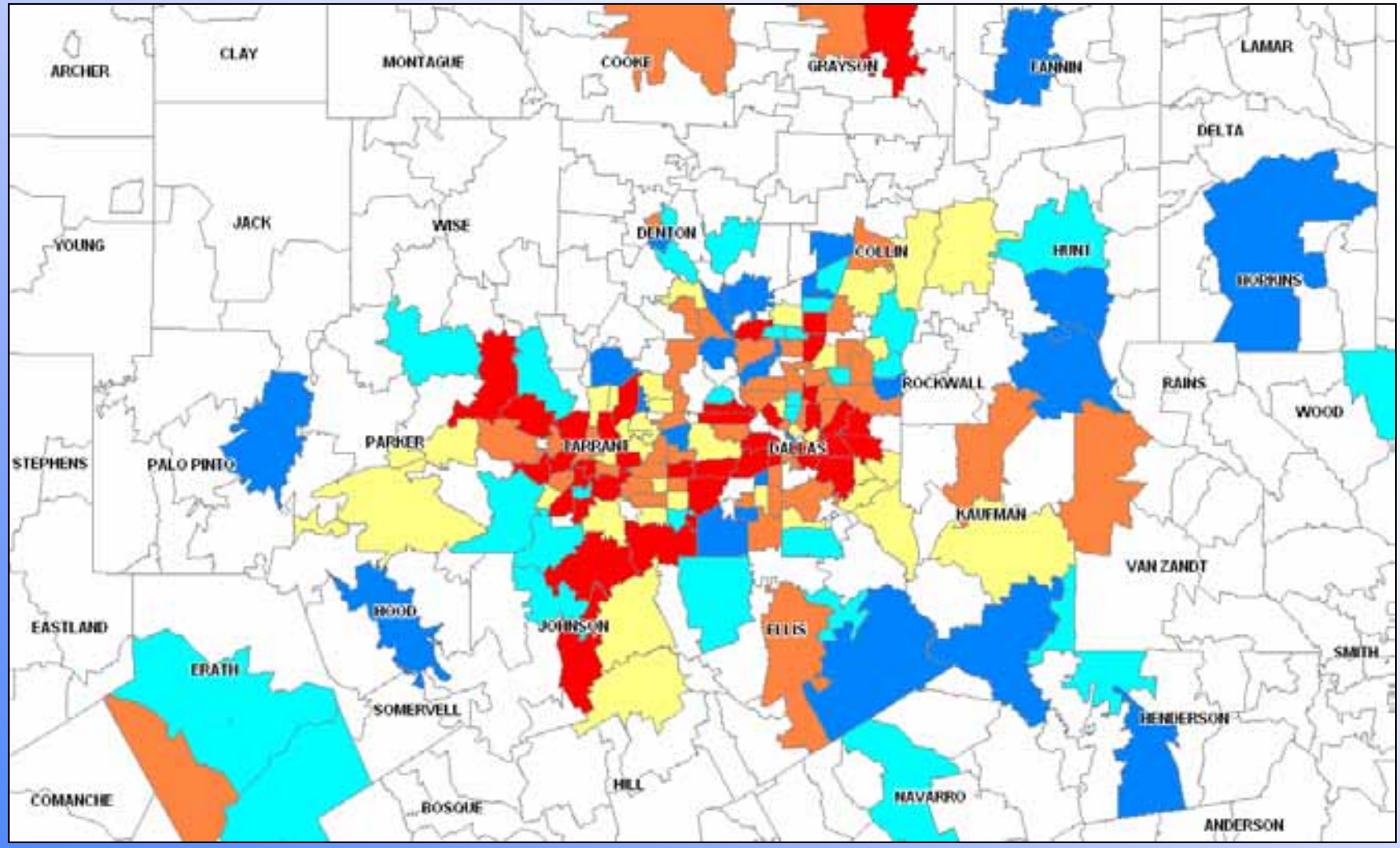
Patient Admissions w/Staph, by ZIP

2003



Patient Admissions w/MRSA, by ZIP

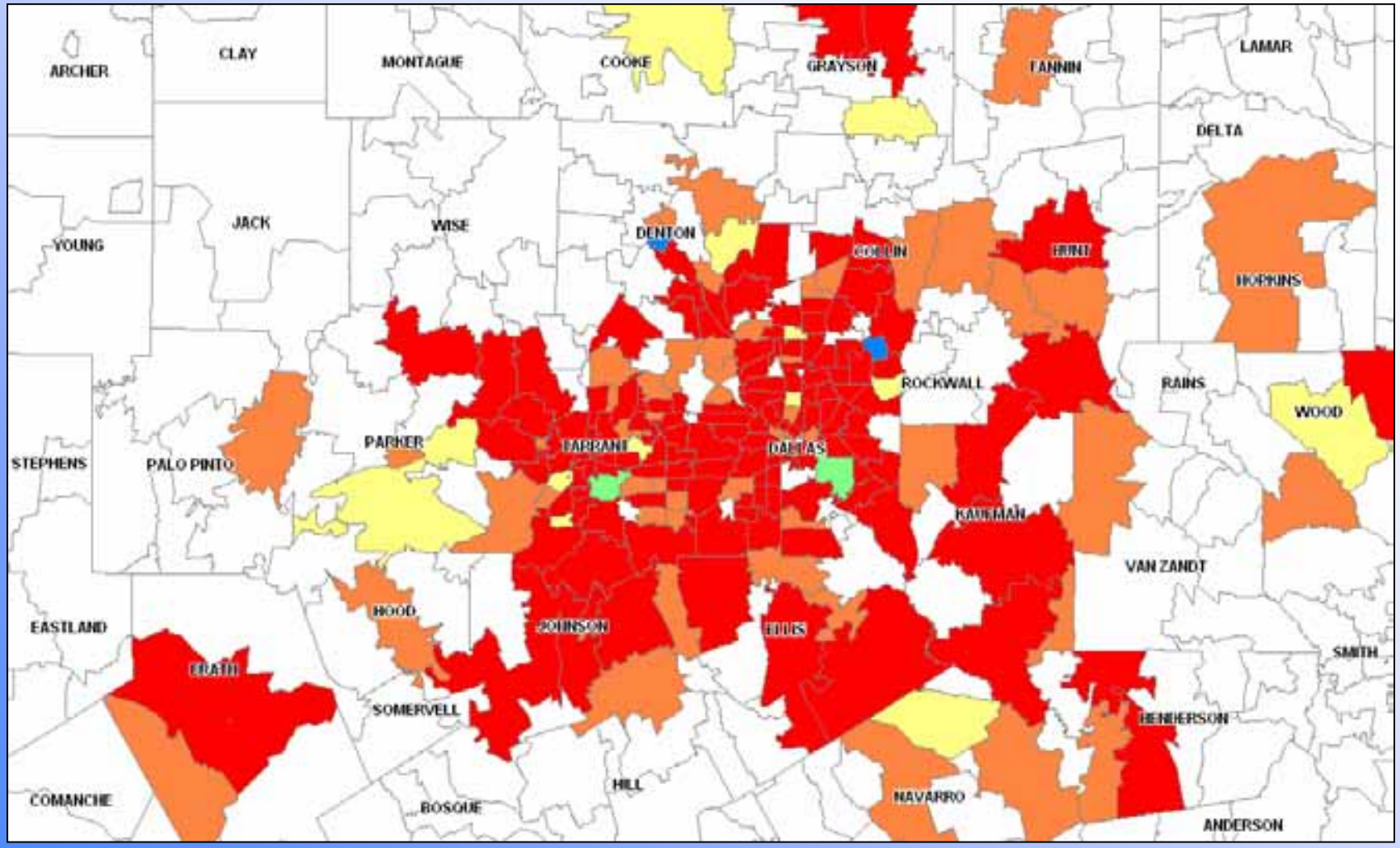
2000



0 to 1
1 to 2
2 to 4
4 to 8
8 to 24

Patient Admissions w/MRSA, by ZIP

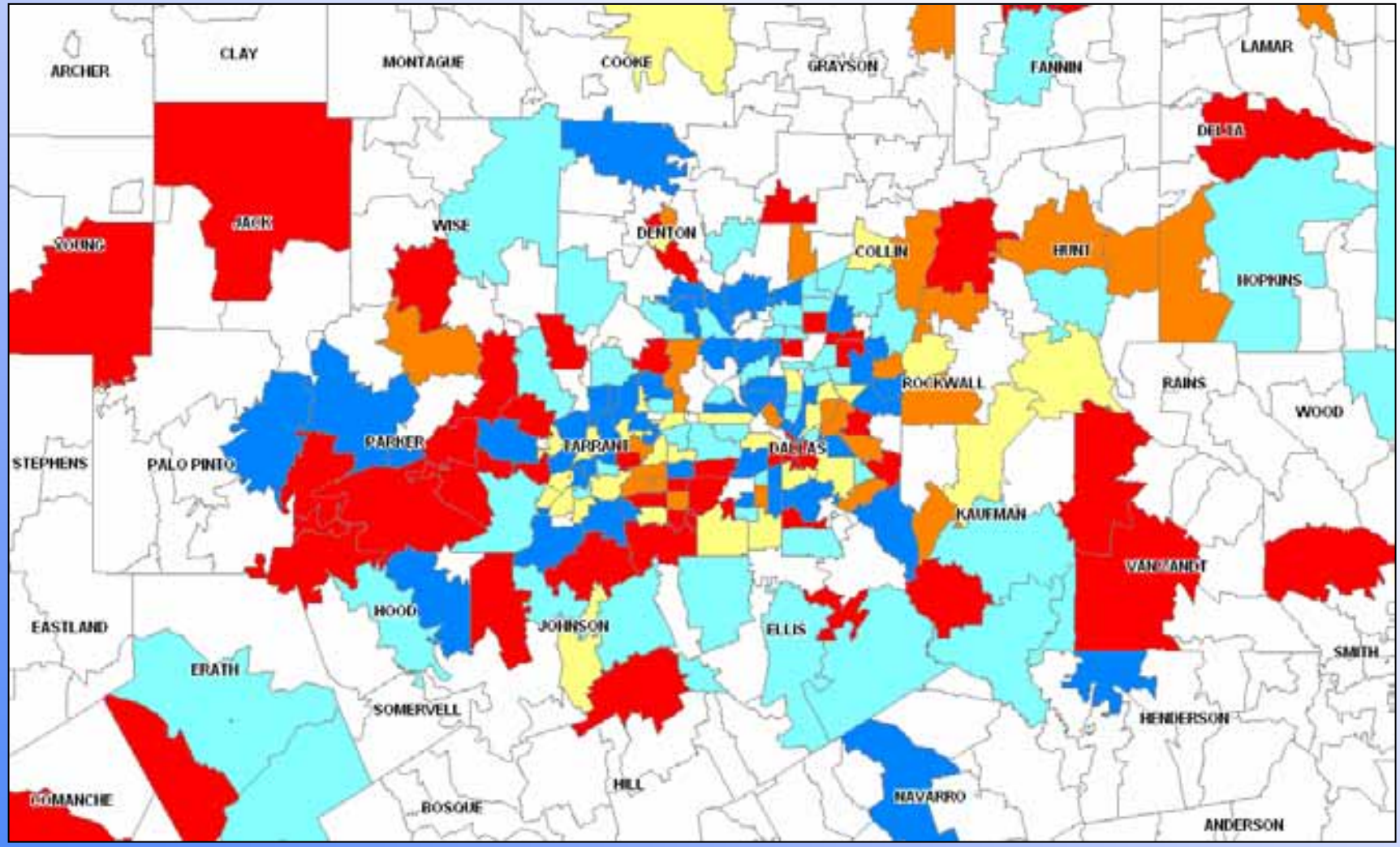
2003



- 0 to 1
- 1 to 2
- 2 to 4
- 4 to 8
- 8 to 24

Patient Admissions MRSA/Staph Ratio, by ZIP

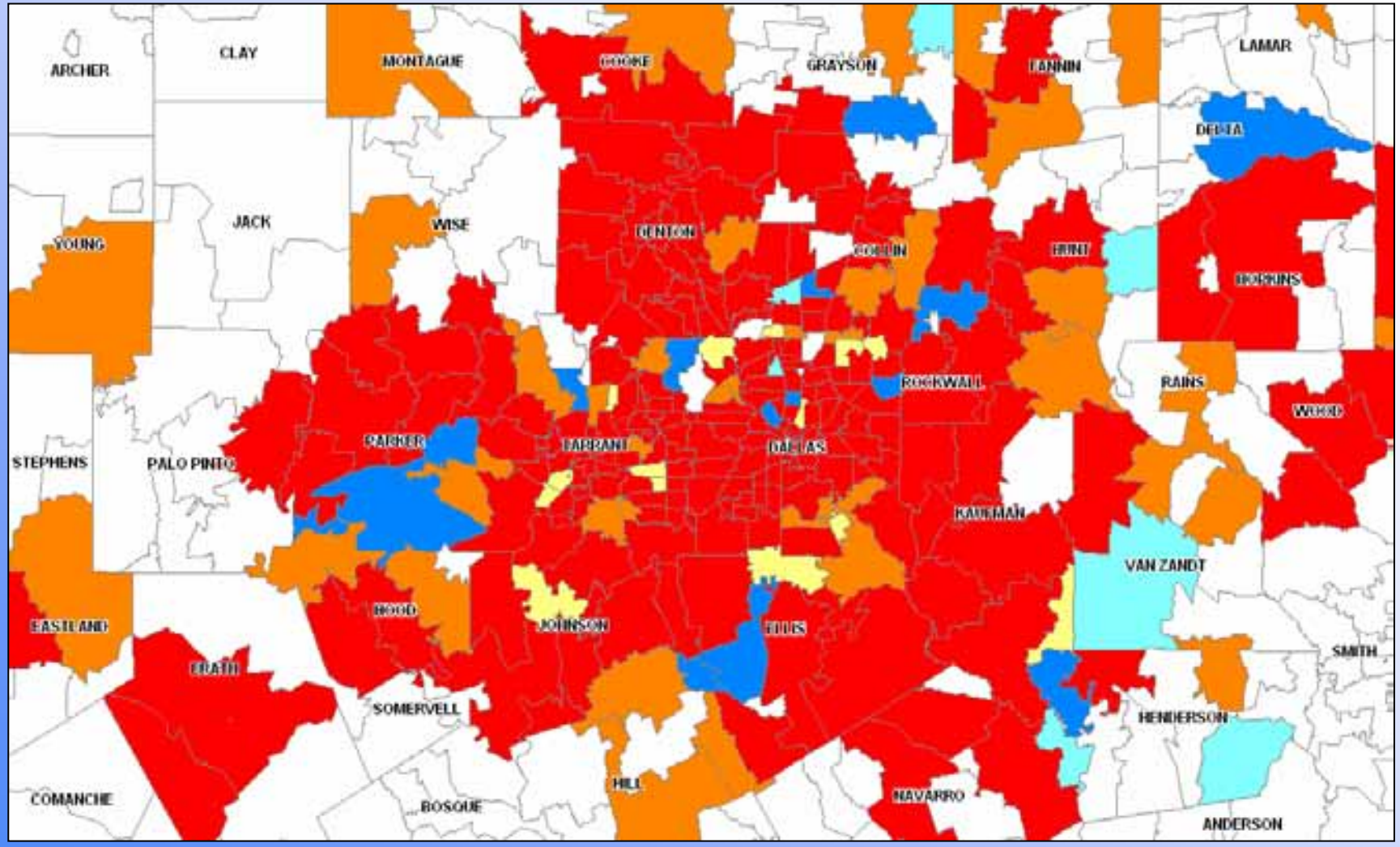
2000



0 to 0.27
0.27 to 0.38
0.38 to 0.47
0.47 to 0.50
0.50 to 1.00

Patient Admissions MRSA/Staph Ratio, by ZIP

2003



- 0 to 0.27
- 0.27 to 0.38
- 0.38 to 0.47
- 0.47 to 0.50
- 0.50 to 1.00

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

But,…all this is retrospective data and not “real-time” data feeds needed for RHIO & PHIN activity

Regional Activity on Public Health/Disaster Planning

- Designated Advanced Practice Center
- Syndromic Surveillance Data for 32 hospitals in the North Texas Area; 10 additional in process
- RODS and RedBat analysis every 2 hours

Limited Data Set

- Date and time of registration
- Patient's age (birth date)
- Patient's gender
- Patient's chief complaint
- Patient's home zip code
- Patient's work zip code (if available)
- Hospital identifier
- All elements are HIPAA-complaint
- Data gathered in software-neutral manner

Discussions to tie it all together

- What does that achieve
  - Robust reporting capability
  - Ties clinical activity with public health activity
  - Investment in hardware/software and technical expertise is consolidated
- Challenges
  - Political issues
  - Turf
  - “My data”
  - HIPAA
  - MPI
  - $$$ who pays for it all,….

RHIO Discussions in DFW
Texas Healthcare Task Force Technical Council

Regional Health Information Organization

Technical Design Approach

Based on May 26, 2005 Meeting

Purpose

- Primary: Provide a community master person index
  - Identification of healthcare consumer a prerequisite for receiving products and services
  - Must support a wide range of identifiers
  - Work in both a central and distributed environment
- Secondary: support goals and objectives as defined by THTF Steering Committee in response to stakeholders
  - Financial
  - Clinical
    - Broad
    - Medication/prescription oriented
  - Regulatory
  - Combination of the above

Design Guidelines

- Operate in neutral environment (“Switzerland”)
- Based on clear, unambiguous policies about data control
  - Vocabulary
  - Ownership and control of data
- Must be
  - Scalable
    - Horizontal
    - Vertical
  - Based on industry standards, using “off the shelf” components
    - Connectivity (communications)
    - Interoperability (data)
    - Web (access)
  - Reliable
  - Responsive
  - Secure
  - Independent of clinical or financial application
  - Relatively simple to implement and operate without adverse impact on existing operations
  - Compliant with HIPAA and COPPA (Children’s Online Privacy Protection Act) regulations

Patient Participation

- Patient must be engaged
  - Excited about benefits
  - Educated about concerns
    - Privacy notices
    - Consent forms
  - Involved in integrity
  - Able to opt-out/out-in (default to be determined)
- Data model must evolve
  - Minimum data set must be established
    - Demographics
    - Those clinical items that don’t change, for example,
      - Allergies and reactions
      - Blood type
  - Others as determined by goals and objectives

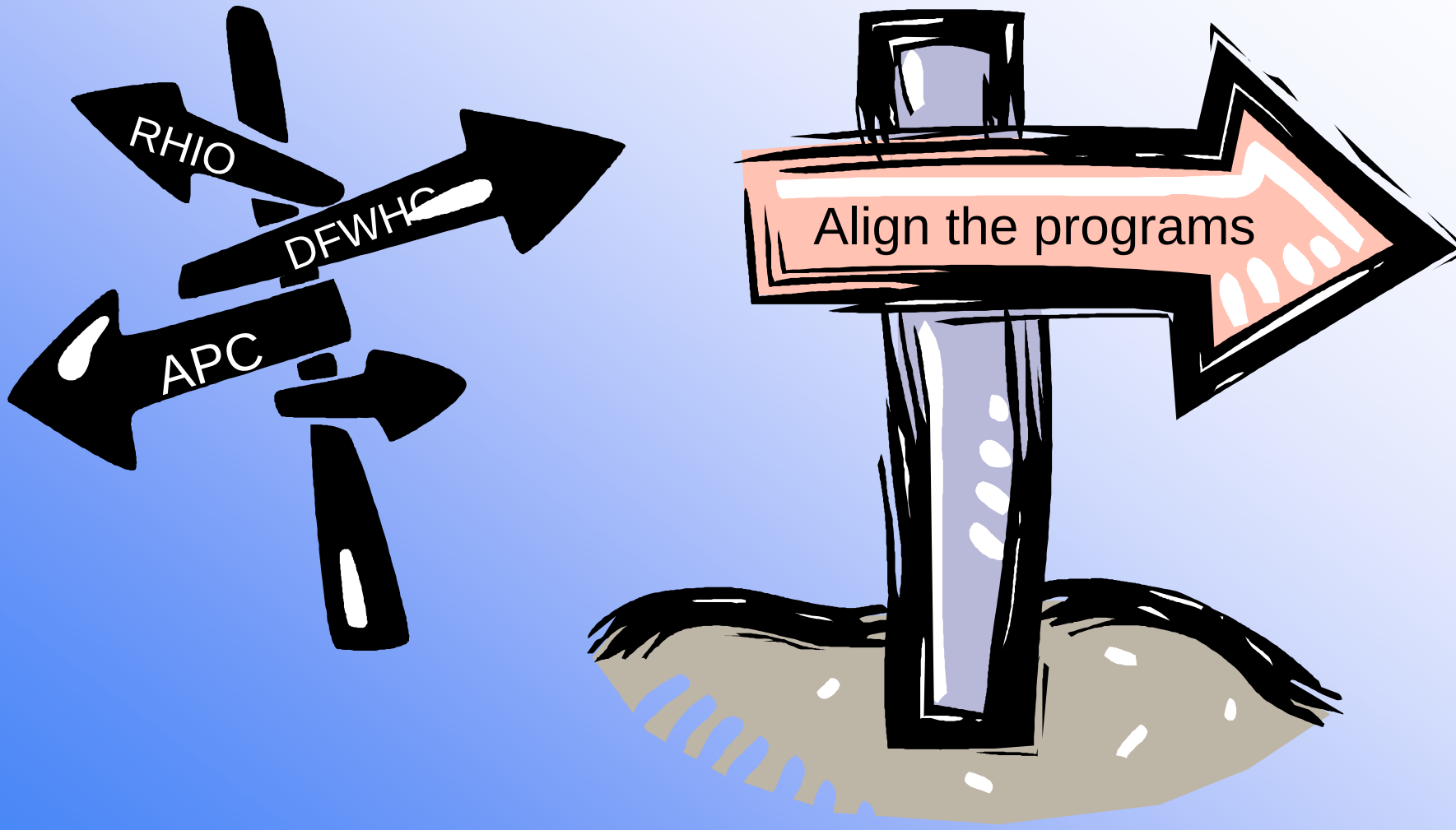
Next Steps

- Feasibility study
- Planning and formation phase
- Implementation
- Operations

Demonstration of Webportal Analytic Capability in DFW

AHRQ Quality Indicators in action,…

What is it going to take to make it work?



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