



Building the Next Generation
Health Data and Information
Infrastructure



Mission

Inspire continuous improvement in health and healthcare delivery through collaboration, coordination, education, research and communication.

Vision

Be the trusted “go to” resource to inform collective improvement of health and healthcare outcomes.

Foundation Structure

Information and Quality
Services Collaborative

Community Health
Collaborative

Texas Quality
Initiative

Board of
Trustees

Patient Safety
& Quality

Research Collaborative

Workforce Development
Center

Relationship and History



Non-profit foundation affiliated with
Dallas-Fort Worth Hospital Council

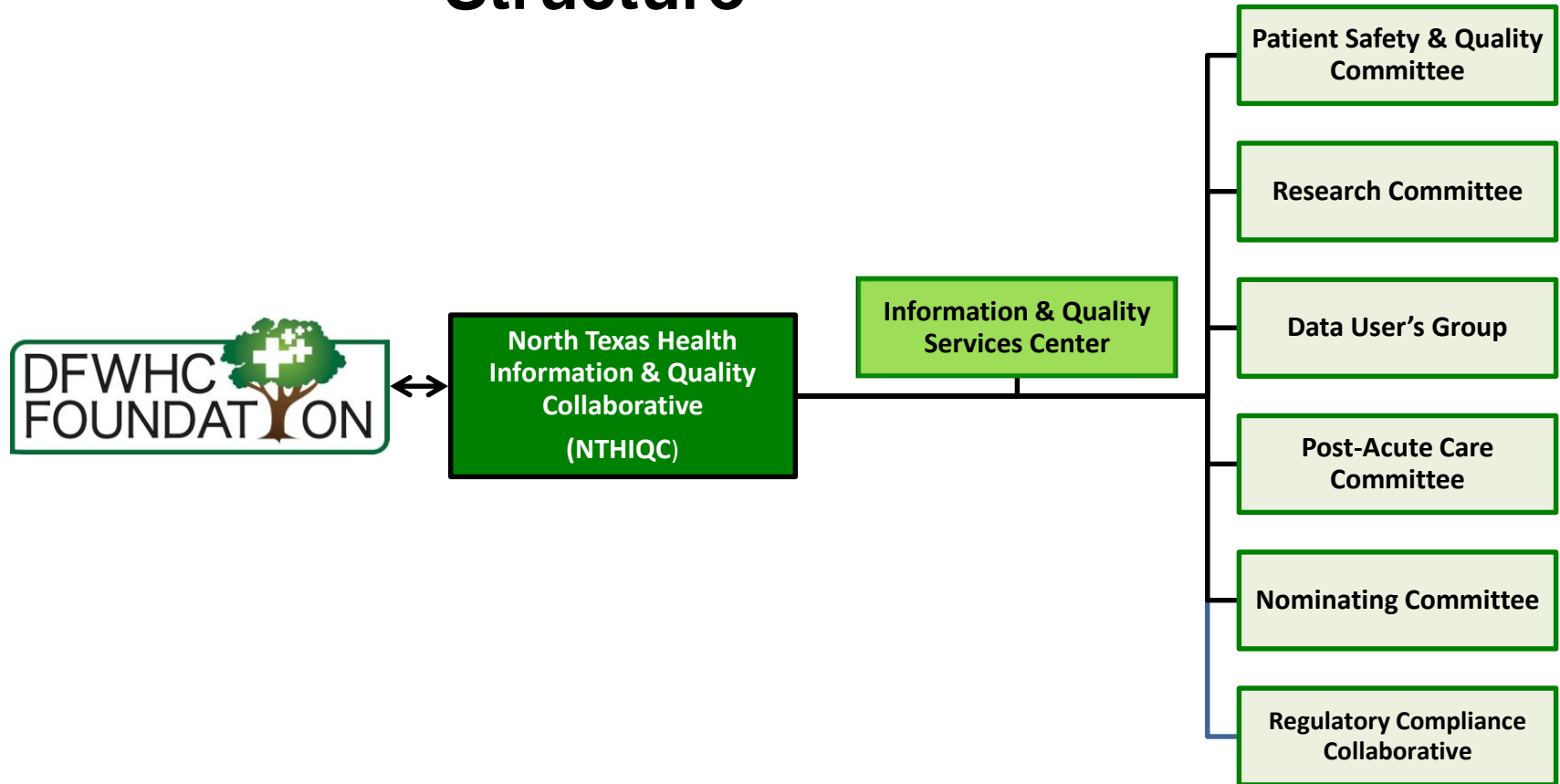
Information & Quality Services Center in
existence for 18 years

Services contracts in place with Business
Associate Agreements

More than 98 facilities participate

Data submitted to the Texas Healthcare
Information Collaborative

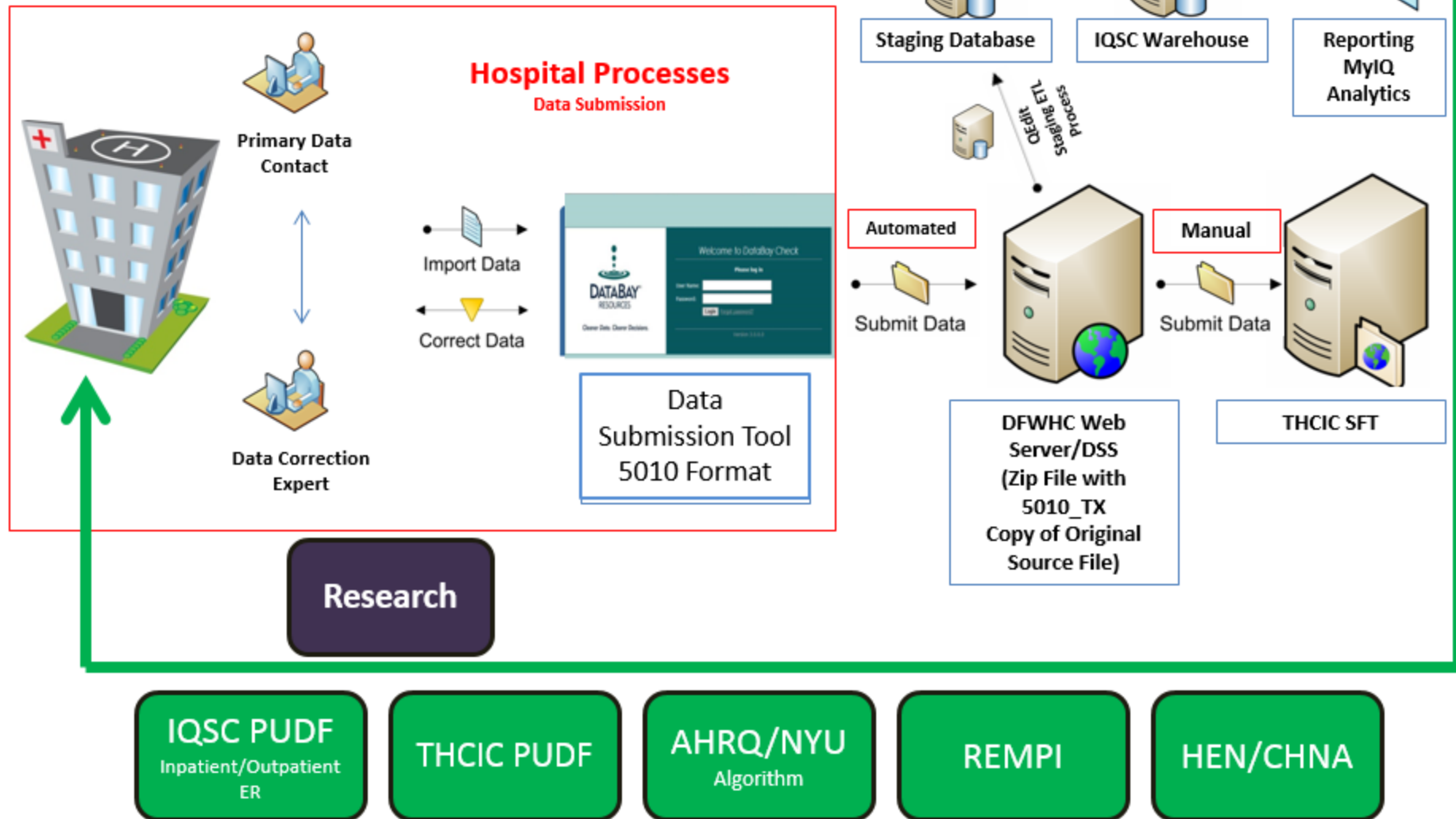
NTHIQC Organizational Structure



Role of the NTHIQC



IQSC Workflow Overview 2017



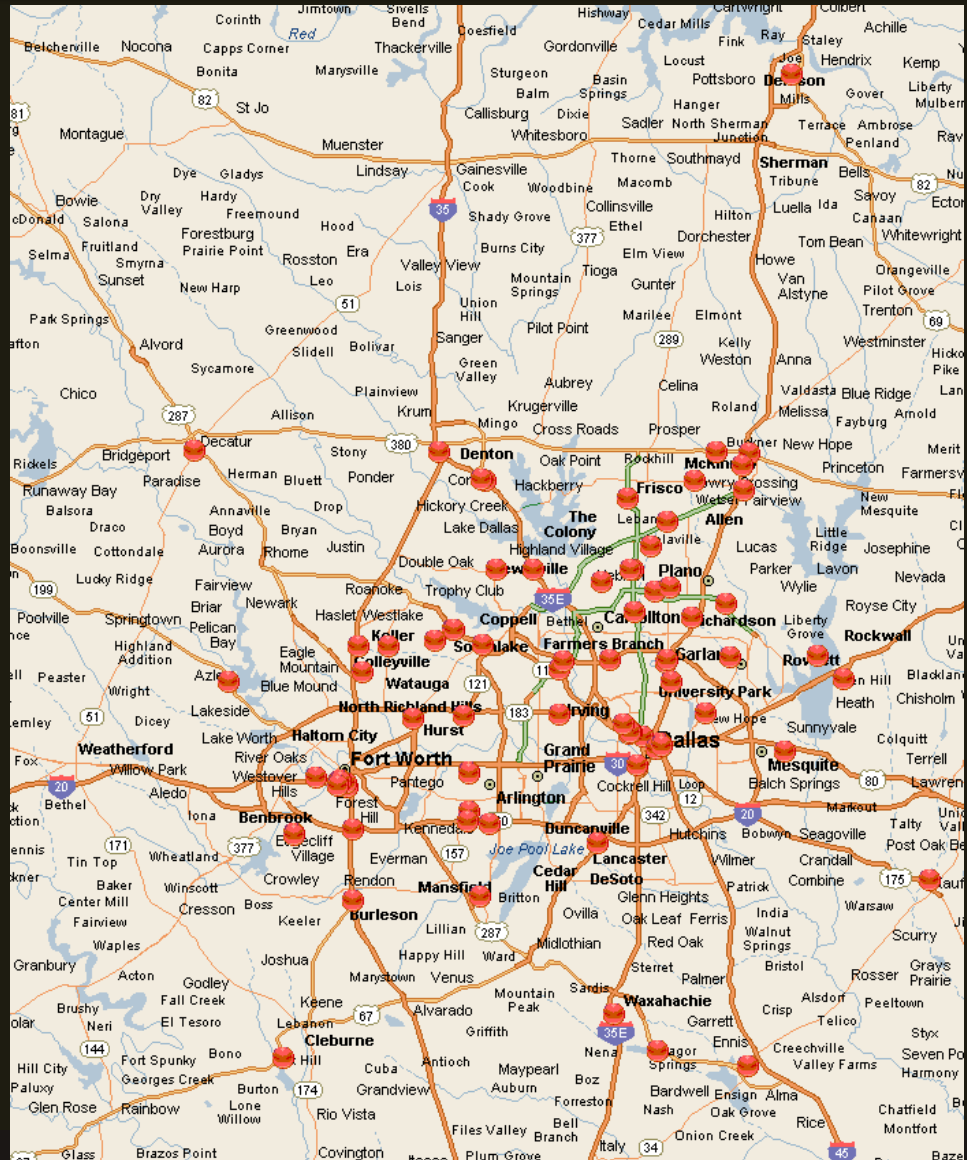


Information

DATA CONTENT AND AVAILABILITY

Contributing Facilities and Patients

- 98 Facilities
- 17 counties



General Description of Information Submitted

- Claims from all participating hospitals
- No “blinding” of any data elements
- All payers - including self-pay patients
- All patient encounters except
 - outpatient lab
 - hospital-based outpatient clinic

A detailed image of a medical claim form, specifically the UB-24 CMS-1450, which is used for submitting claims to Medicare. The form is filled out with various codes and numbers, including patient information, service dates, and charges. It is tilted slightly to the right.

Claims Data is the data from the patients bill

Date of Admit

Patient Name &
Demographics

What was found to be Wrong with the patient – Diagnosis Codes

What was done to treat the patient – Procedure Codes

Cost involved in treatment– Revenue Codes

Who treated the patient– Attending & Operating Physicians

Date of Discharge

Inpatient Claims Information

- North Texas Data from 2003 to Present
- Texas State Data 2004 to Present
- Case level detail
- Diagnosis codes 1-25
- Procedure codes 1-25
- All Charge Data
(Total Charge only in Texas State Data)
- Physician ID and Name
(Not included in Texas State Data)



Outpatient Claims Information

- North Texas Data from 2006 to Present
 - 44 volunteer hospitals 2006 -2009
 - All Facilities beginning Q4 2009
- Case level detail
- Diagnosis codes 1-25
- Procedure codes 1-25
- All Charge Data

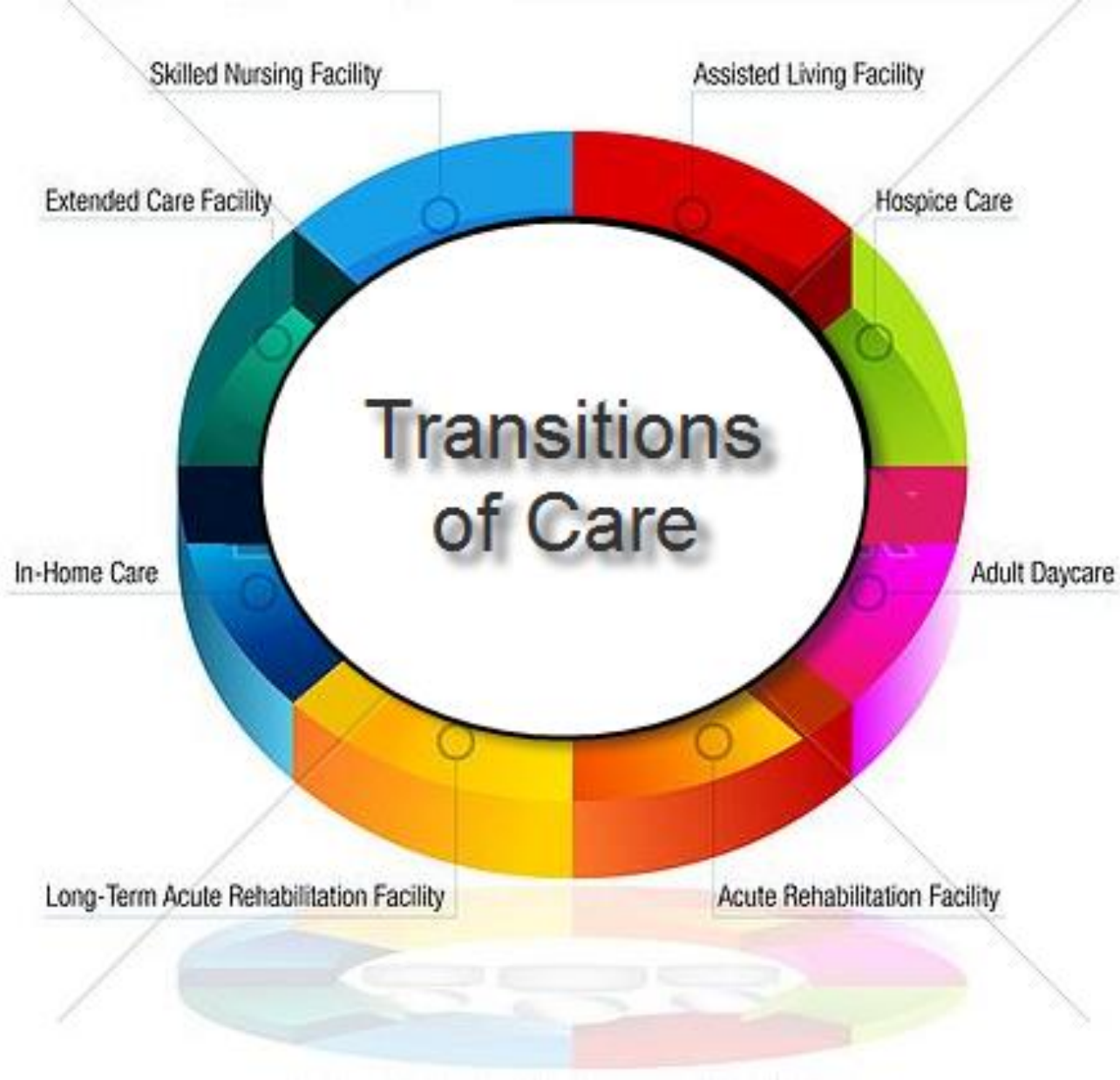


**17 Pioneer Skilled
Nursing Facilities**

**1 Central Location to
view measures**

**Consistent Measures
across facilities**

**Lower Cost for facilities
to produce Data**



REDUCE TOTAL COST OF CARE

- Real time care & utilization mgmt.
- Post acute provider scorecard
- Optimal post acute care pathway
- Automated reports, no manual report creation

»FULLY AUTOMATED | NO DATA ENTRY |
MODULAR | QUICK IMPLEMENTATION

THE IMPACT

85.4%

In-Network
Adherence

25.5%

SNF Utilization
Reduction

23.6%

SNF LOS
Reduction

13.2%

Total Cost of Care
Reduction

RETURN ON INVESTMENT

*BASED ON PAA CLIENT OUTCOMES

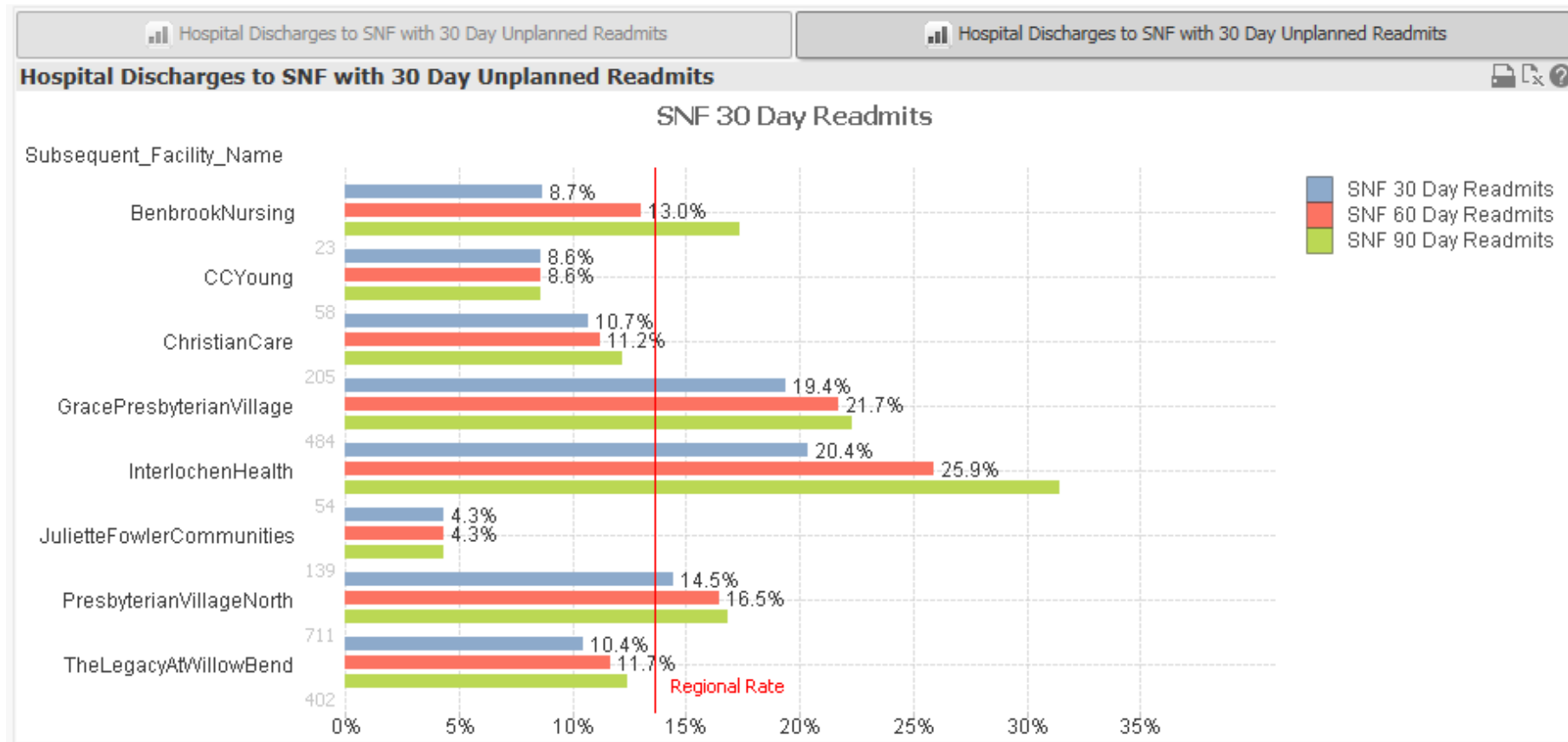
Post Acute Cost Savings:
\$2.2 Million Per Client
(Based on 1000 Discharges to SNF
per Year)

Care Navigator Nurse:
Patient Ratio = 250 per nurse
(vs mkt avg. of 125)

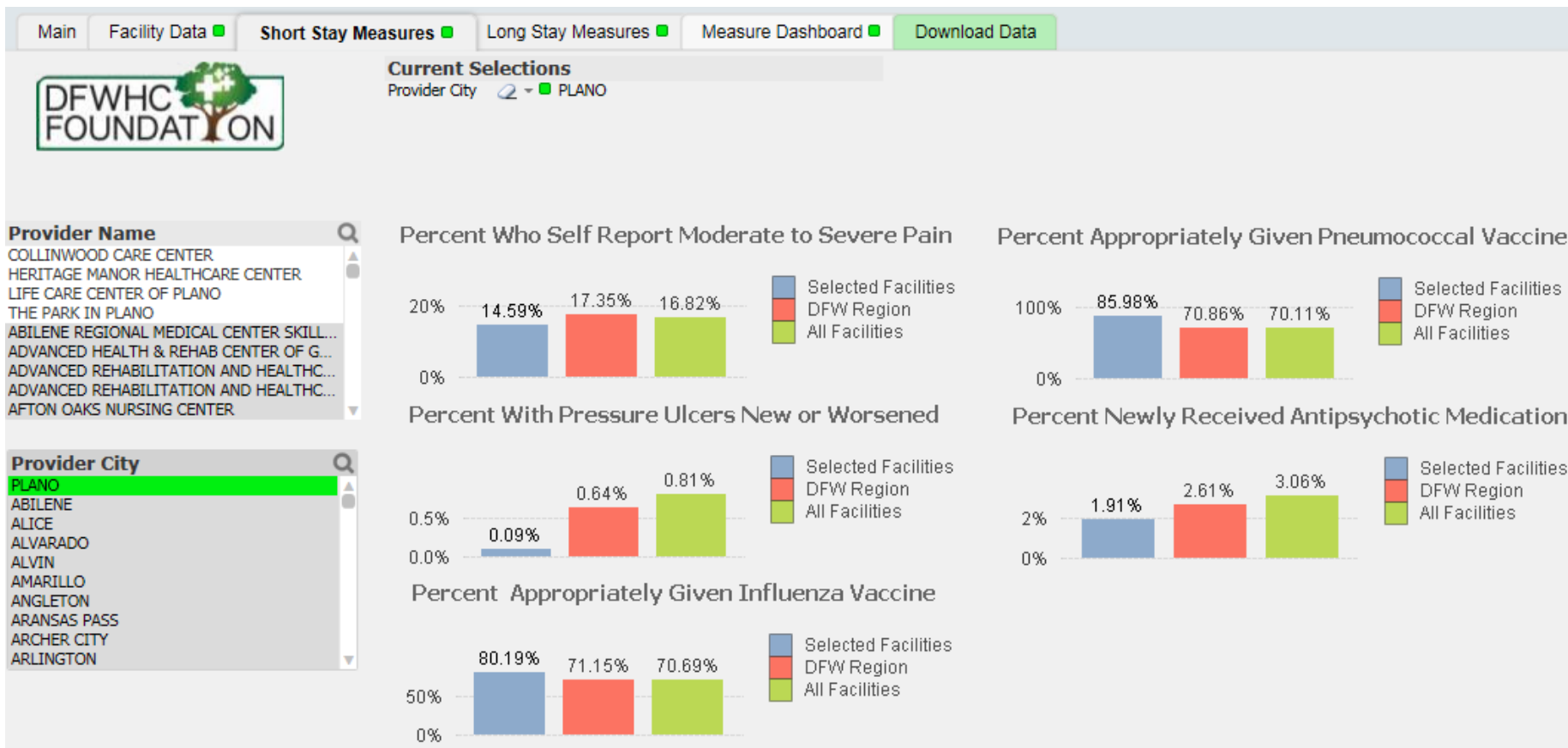
ACTIVE EPISODE PHASES		%	TOTALS	IN NET	OUT NET
1	RTA	11.1 %	1	1	0
	Acute Care	0 %	0	0	0
1	LTAC	22.2 %	2	2	0
1	IRF/Acute Rehab	11.1 %	1	1	0
1	SNF	33.3 %	3	3	0
1	Home Health	22.2 %	2	1	1
	Home	0 %	0	0	0
	Outpatient PT	0 %	0	0	0
	Assisted Living	0 %	0	0	0
	Total	100 %	125		
IN NETWORK LOS					
	RTA	0-2	3-5	6-10	>10
	Acute Care	0	0	0	1
	LTAC	0	0	0	0
	IRF/Acute Rehab	0	0	0	2
	SNF	0	0	0	1
	Home Health	0	0	0	3
		0	0	0	1

SNF		# of Johnson Hospital Patients		%	IN-NETWORK	Quality of Care Performance	Cost Performance
Brainerd		25	15	60%	YES		
Johnson Center		32	14	44%	YES		
Village Center		8	3	38%	NO		
Lake Highlands		11	5	45%	NO		
Abington		5	2	40%	NO		
Terrace		12	5	42%	NO		
Presence Maryhaven		48	20	42%	YES		
Allen Estates		14	6	43%	NO		

SNF Unplanned Readmits by SNF



CMS Short Stay Measures



Regional Enterprise Master Patient Index (REMPI)

- **Probabilistic electronic tool that matches patient encounters across hospitals and systems when applied to the Information and Quality Services Center Data Set**
 - REMPI Number = Medical Record Number (MRN)
 - 1 REMPI Number Per Patient w/Multiple Encounters
- **Benefits**
 - Post Discharge Mortality Analysis (With SSA Death Master)
 - Readmission Analysis (across all Hospitals in the region)
 - ED Frequent Flyer Analysis (across all Hospitals in the region)



Knowledge

USES OF INFORMATION AND BUSINESS INTELLIGENCE TOOLS

State Data Vs. DFWHC Foundation Data

DFWHC Foundation

- Faster
 - Takes 2 months for the data be available in most cases
- More Data
 - ED Data back to 2006
 - Physician Field not blinded
- Approximately 94% of all Inpatient Claims are in the DFWHC Data Warehouse for North Central Texas

THCIC (State Data)

- Bigger Area Covered
 - 99% of all Inpatient Claims
 - All of Texas represented
- The official Data record
 - All facilities are required to certify their data
- Slower
 - Takes about 1 year for the data to become available
- Can be less accurate
 - If an issue is found in the data after certification the State will not change the data
 - Only Partial ED Data

Business Intelligence

- ✓ **Quality Metrics** – Hospital Acquired Condition and AHRQ Measures
- ✓ Improvement of Cardiovascular Services
- ✓ **Readmission Analyses**
- ✓ ER “Frequent Flyer” Reports
- ✓ **Market segment assessments** – by service line, physician and geography
- ✓ Community Health Needs Assessments and Regional Community Health Improvement Reporting
- ✓ Grants/Research
- ✓ Compliance and Duplicates



Hospital Improvement Innovation Network

Hospital Acquired Condition Metrics

Currently available in all-payer claims report

Ventilator-associated pneumonia (VAP)

**based on acute patient days*

Central line associated blood stream infection (CLABSI)

Catheter associated urinary tract infection (CAUTI)

Pressure ulcers

Obstetrical adverse events

Falls

Surgical site infection (SSI)

Venous thromboembolism (VTE)

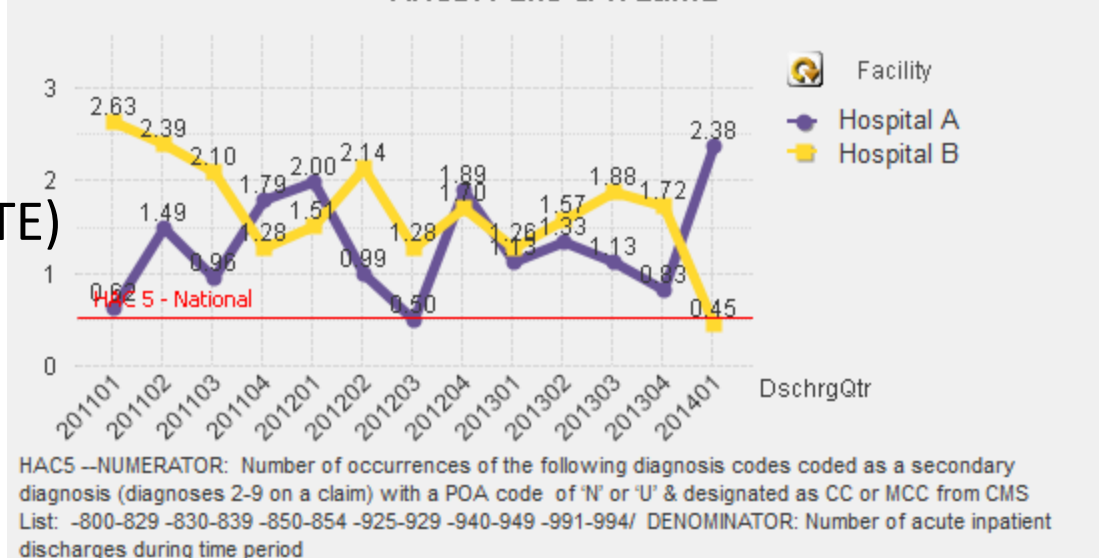
Inpatient Glycemic Control

Readmissions

Clostridium Difficile

Run Chart view -- 2 or more Facilities/Systems

HAC5, Falls & Trauma





WISDOM

Examples of Data Analytics

Easy Access Reporting

Case Level Data

Patient Safety Measures

IQI Rates

PSI Rates

PDI Rates

Market Share Report

Physician Report

HAC Hospitals

HAC Systems

AHRQ Hospital

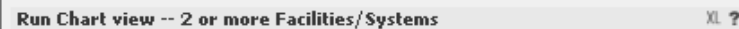
AHRQ System

<<< Select Hospital or System but not both

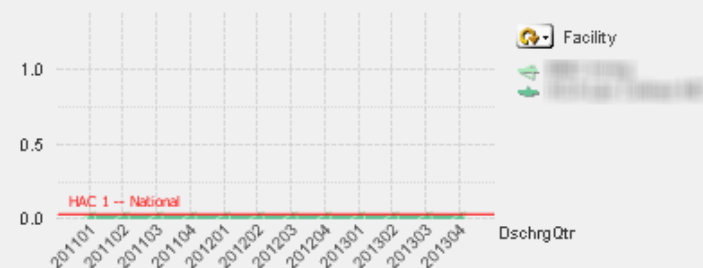
Show Report

Please select "System" or "Hospital" in the Graphs below using the "Circle Arrow" Button

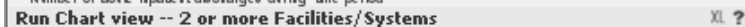
Quality report for with HAC Measures for 2020-2021, 2021-2022, 2022-2023, 2023-2024



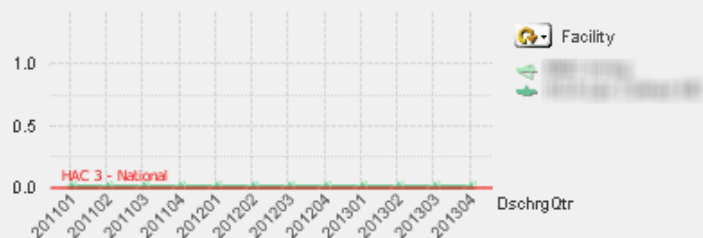
HAC1. Foreign object retained after surgery



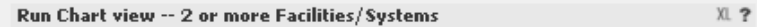
HAC1 — NUMERATOR: Number of occurrences of the following diagnosis codes coded as a secondary diagnosis (diagnoses 2-9 on a claim) with a POA code of 'N' or 'U': 998.4-998.7 / DENOMINATOR: Number of acute inpatient discharges during time period



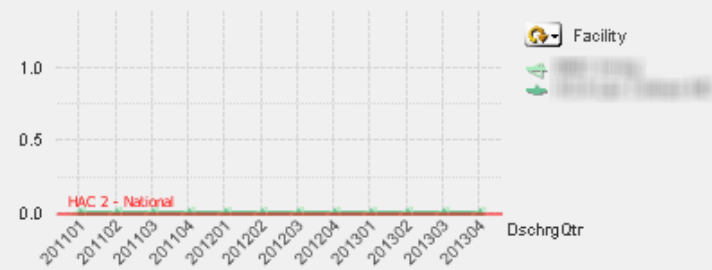
HAC3. Blood Incompatibility



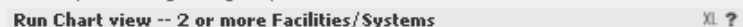
HAC3 — NUMERATOR: Number of occurrences of the following diagnosis codes coded as a secondary diagnosis (diagnoses 2-9 on a claim) with a POA code of 'N' or 'U': -999.6/ DENOMINATOR: Number of acute inpatient discharges during time period



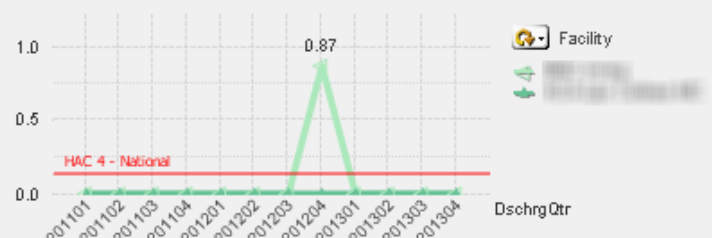
HAC2. Air Embolism



HAC2—NUMERATOR: Number of occurrences of the following diagnosis codes coded as a secondary diagnosis (diagnoses 2-9 on a claim) with a POA code of 'N' or 'U': -999.1 / DENOMINATOR: Number of acute inpatient discharges during time period



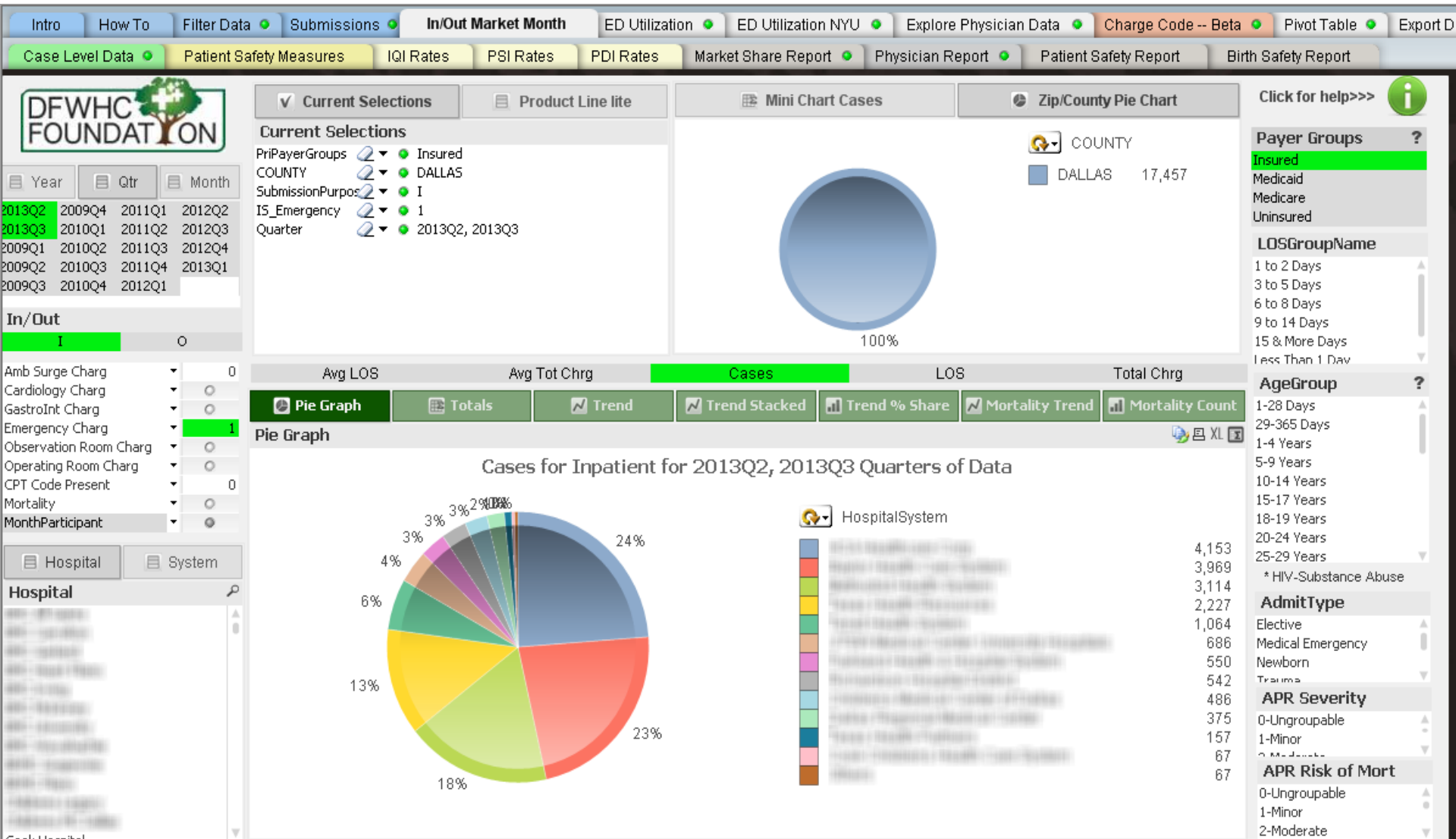
HAC4. Pressure Ulcer Stages III & IV




HAC4—NUMERATOR: Number of occurrences of the following diagnosis codes coded as a secondary diagnosis (diagnoses 2-9 on a claim) with a POA code of 'N' or 'U': 707.23-707.24/ DENOMINATOR: Number of acute inpatient discharges during time period

Easy Customizable Graphs & Charts

Insured Inpatient ED volumes by Hospital System for Dallas County




Easy Raw Data Download








17,457 lines currently selected.

A Citing DFWHC and 3M Data

Click for help>>> 

Click for POA Codes and Information

In/Out
 Case Level Data Summary w/Month

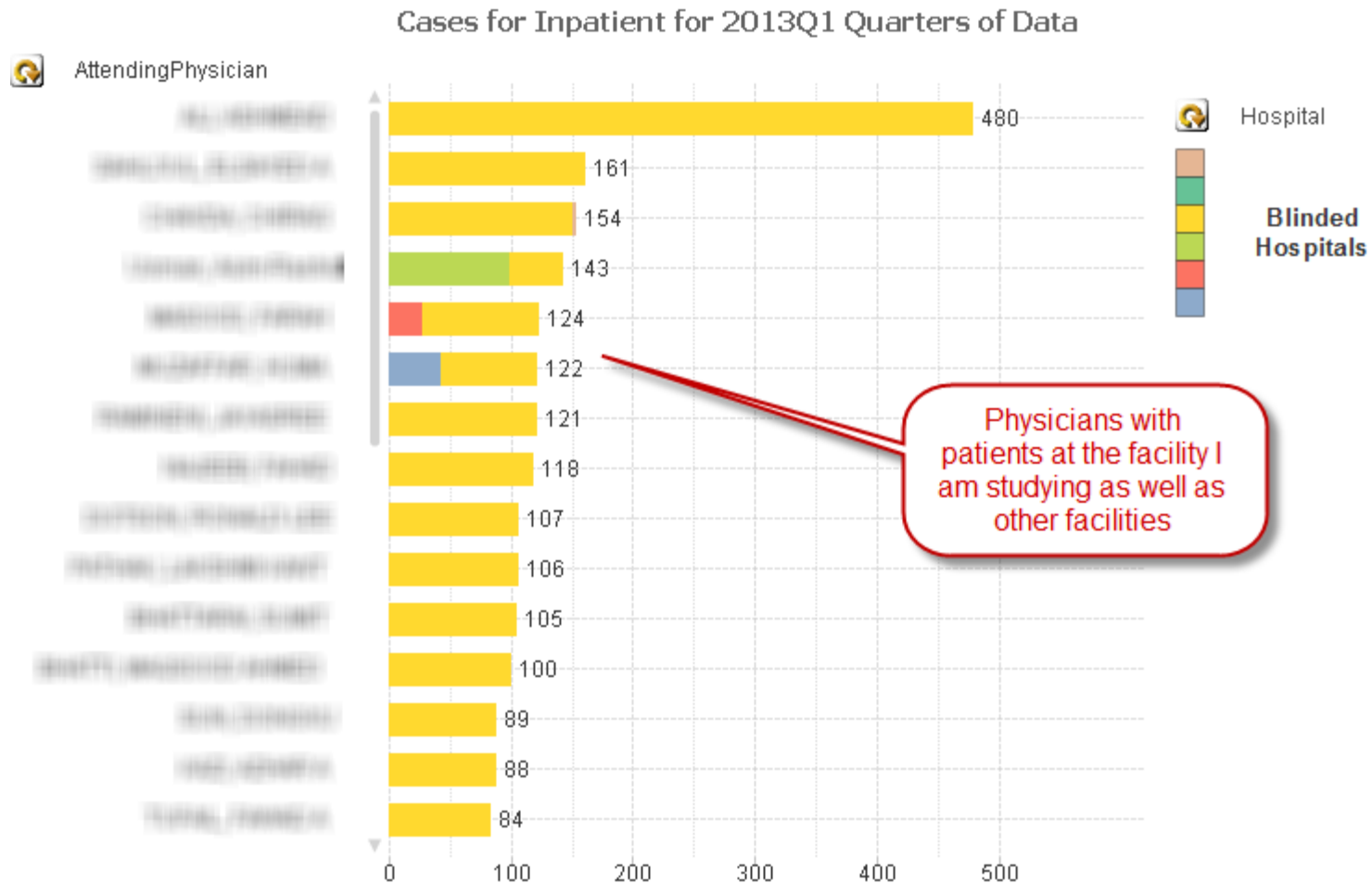
choices
 Current Selections
 Current Selections
 PriPayerGroup  Insured
 COUNTY  DALLAS
 SubmissionPurpose  I
 IS_Emergency  1
 Quarter  2013Q2, 2013Q3

AdmitSource	AgeGroup	SEX	RACE	ETHNICIT	COUNT Y	ZIPCOD E	MS DR G	MS DRG	APR DRG
Personal Physician Referral	25-29 Years	Female	Asian or Pacific Islander	Not Hispanic or Latino	DALLAS	75038	766	766-Cesarean section w/o CC/MCC	540-Cesarean Deliv
Personal Physician Referral	80-84 Years	Female	Black	Not Hispanic or Latino	DALLAS	75134	193	193-Simple pneumonia & pleurisy w MCC	139-Other Pneumoi
Personal Physician Referral	40-44 Years	Female	Black	Not Hispanic or Latino	DALLAS	75180	102	102-Headaches w MCC	054-Migraine & Other He
Personal Physician Referral	40-44 Years	Male	White	Not Hispanic or Latino	DALLAS	75228	282	282-Acute myocardia infarction, discharged alive w/o CC/MCC	190-Acute Myocardial In
Personal Physician Referral	50-54 Years	Male	White	Not Hispanic or Latino	DALLAS	75041	235	235-Coronary bypass w/o cardiac cath w MCC	166-Coronary Bypass w/o Car Percutaneous Cardiac Pr
Personal Physician Referral	60-64 Years	Female	White	Not Hispanic or Latino	DALLAS	75150	438	438-Disorders of pancreas except malignancy w MCC	282-Disorders of Pancreas Exce
Personal Physician Referral	5-9 Years	Male	Other	Hispanic or Latino	DALLAS	75217	641	641-Nutritional & misc metabolic disorders w/o MCC	249-Non-bacterial Gastroenteri Vomiting
Personal Physician Referral	50-54 Years	Male	White	Not Hispanic or Latino	DALLAS	75104	339	339-Appendectomy w complicated principal diag w CC	225-Appendectomr
Personal Physician Referral	*45-64 Years	Blinded Sex	White	Not Hispanic or Latino	DALLAS	XXXXX	552	552-Medical back problems w/o MCC	347-Other Back & Neck Disorder Injuries
Personal Physician Referral	65-69 Years	Male	White	Not Hispanic or Latino	DALLAS	75088	698	698-Other kidney & urinary tract diagnoses w MCC	466-Malfunction, Reaction, Complc Device or Proc

Any Kind of Count by

- Hospital/System
- ZipCode/County
- Diag- Proc Code (with POA)
- MS or APR DRG
- Product Line
- Surgery - ED – Elective – New Born
- Charges – Cases – Length of Stay
- Readmissions
- Post Discharge Mortality

Physician Data

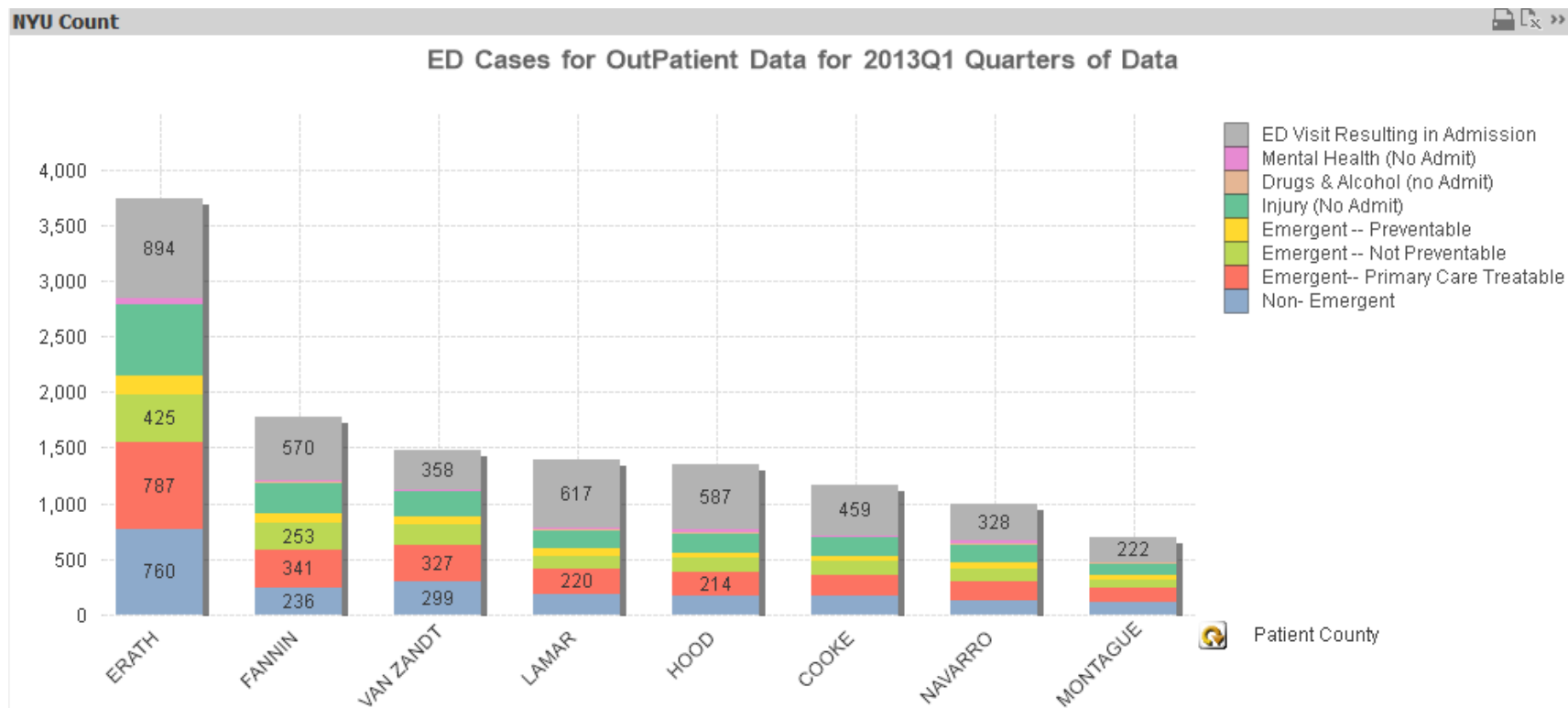


Enhanced Data

- Regional EMPI (REMPI)
- Social Security Death Master File
- NYU ED Utilization
- NPI Database
- NPI Physician Specialty Database
- 3M Groupers
- Case Level (HEN) Quality Algorithm Flags
- Case level AHRQ Flags

NYU Algorithm– Non-Emergent Encounters

- Emergent/Primary Care Treatable - Based on information in the record, treatment was required within 12 hours, but care could have been provided effectively and safely in a primary care setting. The complaint did not require continuous observation, and no procedures were performed or resources used that are not available in a primary care setting (e.g., CAT scan or certain lab tests);
- Non-emergent - The patient's initial complaint, presenting symptoms, vital signs, medical history, and age indicated that immediate medical care was not required within 12 hours;



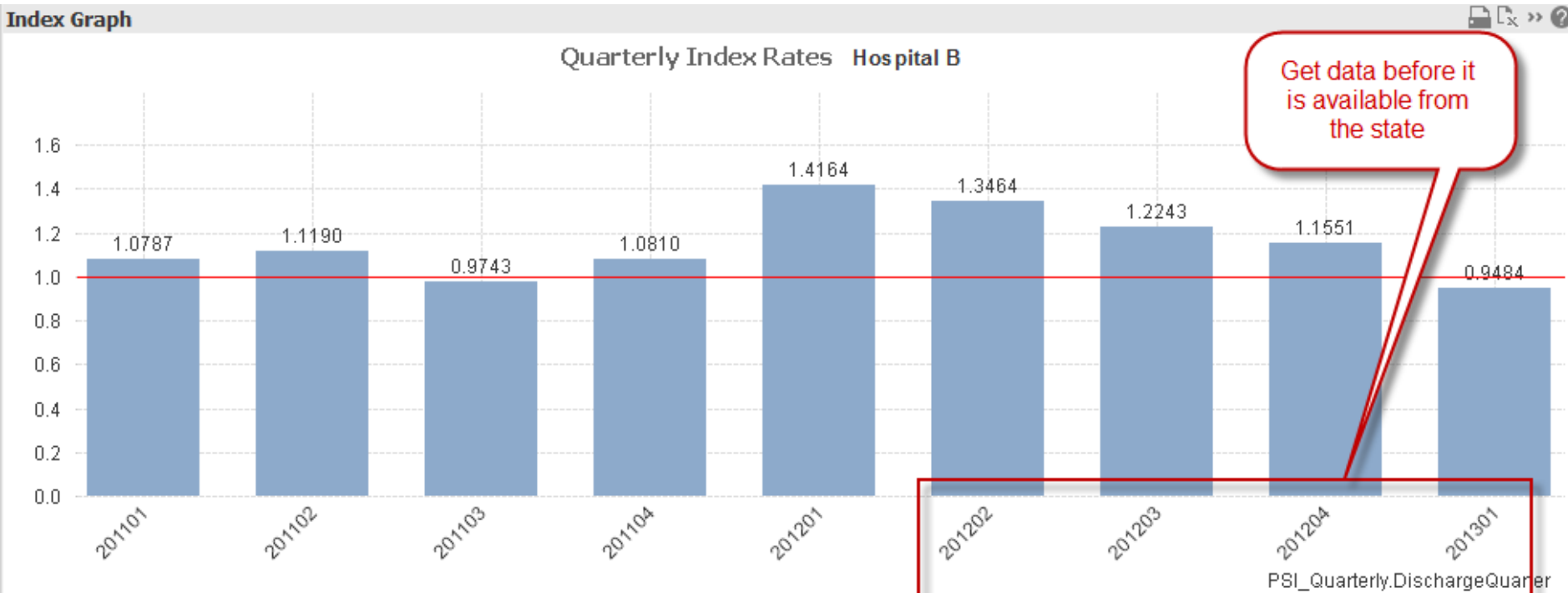
Algorithms to Measure Quality

- AHRQ – PSI, PDI, IQI
- Hospital Acquired Conditions
- HEN Birth and Delivery Stats
- CMS 30 Day Readmission

AHRQ Quality Data

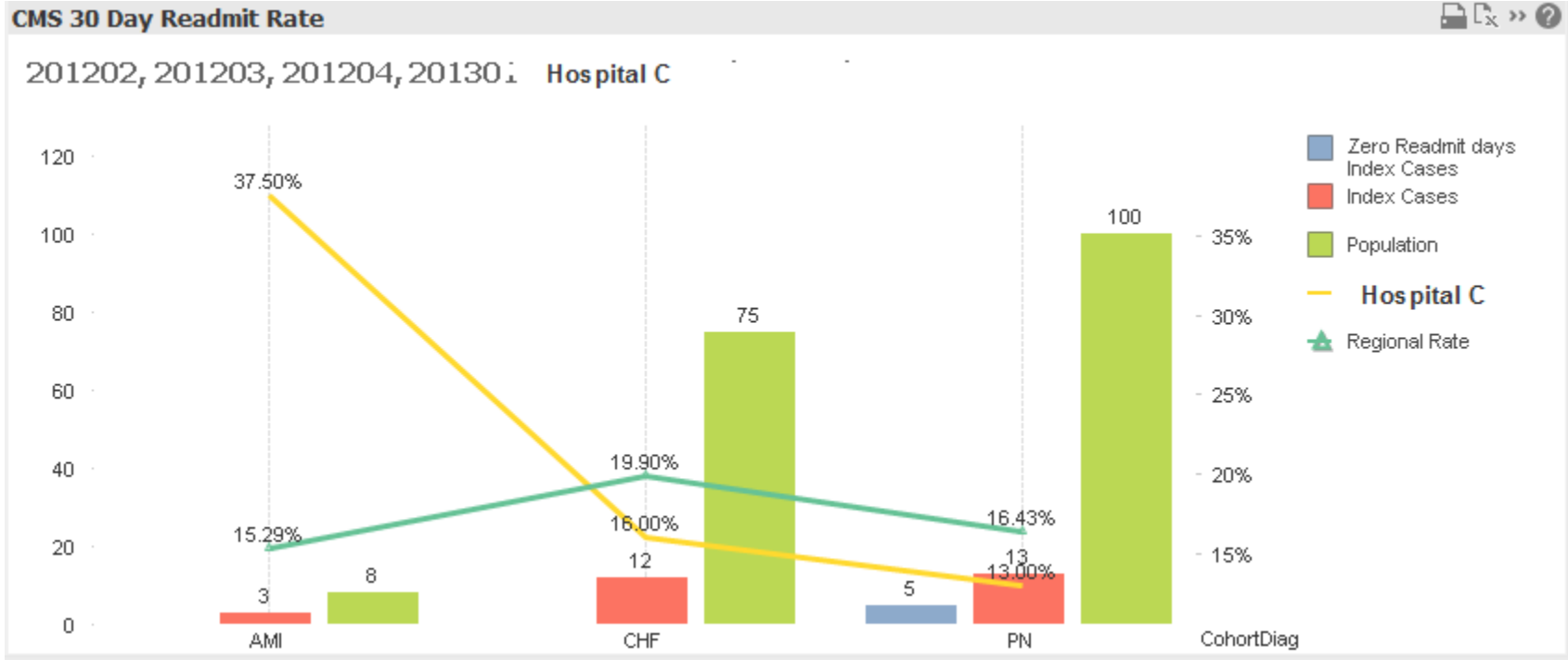
PSI – Death among Surgical Inpatients w/Complications

IQI, PSI, PQI and PDI also available



Where Bar is above 1 the hospital did worse then expected
State Average data also available in separate graph as it becomes available

Readmission Quality Data



Hospital	Cohort	Zero Days Index Readmit	CMS Index	Average Total Charges Index Cases	Average LOS Index Cases	CMS Population	Average Total Charges Pop Cases	Average LOS Pop Cases	CMS Rate	Out of System Index Count	Out of System %	In System Index Count	In System %
Total		5	28	\$26,406	5	183	\$24,127	5	15%	5	18%	23	82%
Hospital C	PN	5	13	\$24,943	5	100	\$24,843	5	13%	3	23%	10	77%
	AMI	0	3	\$29,247	5	8	\$25,240	5	38%	0	0%	3	100%
	CHF	0	12	\$27,280	5	75	\$23,054	5	16%	2	17%	10	83%



Taking Data to the Next Level

Population Health, Research,
Physician Analytics

Tsunami of Data Sets



- ▶ DFWHC Foundation Hospital Discharge Data
- ▶ DFW TQI STS Registry
- ▶ Data.gov & Healthdata.gov
- ▶ Healthcare Cost & Utilization Project (HCUP)
- ▶ MHEALTH Data
- ▶ Post-Acute Care Data (MDS File)
- ▶ Electronic Health Records
- ▶ Census Data
- ▶ Death or Birth Certificate Data
- ▶ Surveys
- ▶ Experian Consumer Demographics Data
- ▶ Labor Statistics Data
- ▶ Payer Data

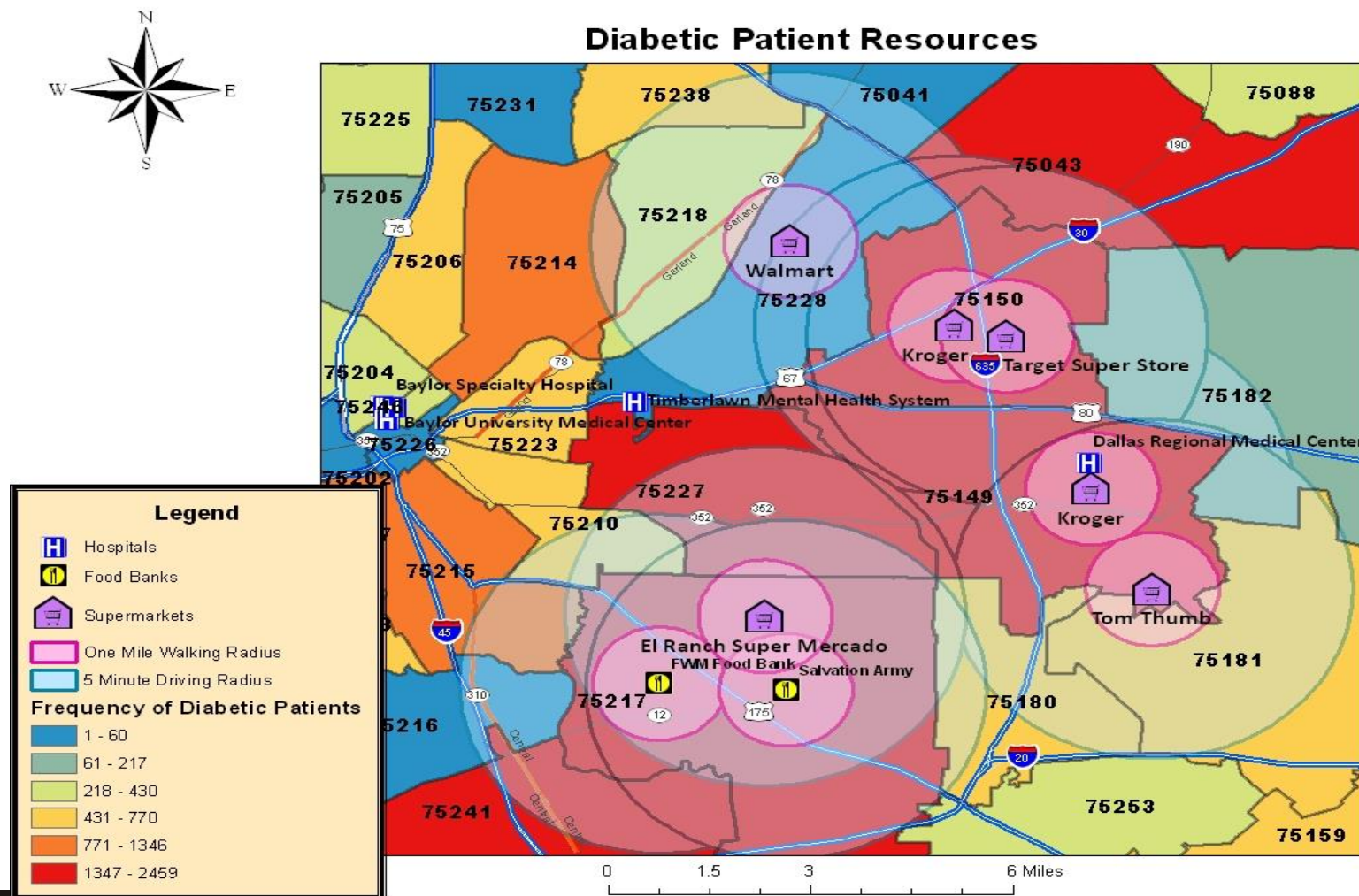
and many
More...

Examples: Community and Population Health Management

- Uses Now and Contemplated
 - Diabetes
 - Congestive Heart Failure
 - Patient Migration
 - Emergency Room Analysis
 - Form 990 Analyses
 - 1115 Waiver Metrics

Community and Population Health Management

Diabetes Example



www.healthyntexas.org

HEALTHY NORTH TEXAS

HOME

EXPLORE DATA

SEE HOW WE
COMPARE

LOCATE RESOURCES &
FUNDING

LEARN MORE



View Community Indicators

Generate a Report

Learn More about Community
Health Collaborative

Use the CHNA Guide

Healthy North Texas is a web-based source of community health and population data. We invite planners, policy makers, and community members to use the site as a tool for community assessment, strategic planning, identifying best practice for improvement, collaboration and advocacy.

Indicator Data by County

* please select * ▼

Demographic Data by County

* please select * ▼

Topic Centers

* please select * ▼

Grants and Research – Partial List

- Cardiac Research- UTSW Heart Study
- VTE – Baylor and Sanofi Aventis
- Injury Prevention Center and Genesis – Domestic Abuse and Child Endangerment
- Breastfeeding Initiative in the Workplace
- Abdominal Aortic Aneurysms Registry – Baylor Research Institute
- Tarrant County United Way Aging Study
- EPA and ER Admission Study – Emory and Georgia Tech
- Readmission Studies (multiple with local partners)
- Trauma studies – Parkland/UTSW
- Cardiovascular Surgery Research (3 projects) – Baylor Research Institute
- Multiple submitted studies through UNTHSC
- Cardiac Studies

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**Dallas-Fort Worth Hospital Council
Education and Research Foundation**