DFWHC FOUNDATION

DATA: THE NEW NATURAL RESOURCE

by Theresa Mendoza, Director

#datacansavelives

DFWHC FOUNDATION

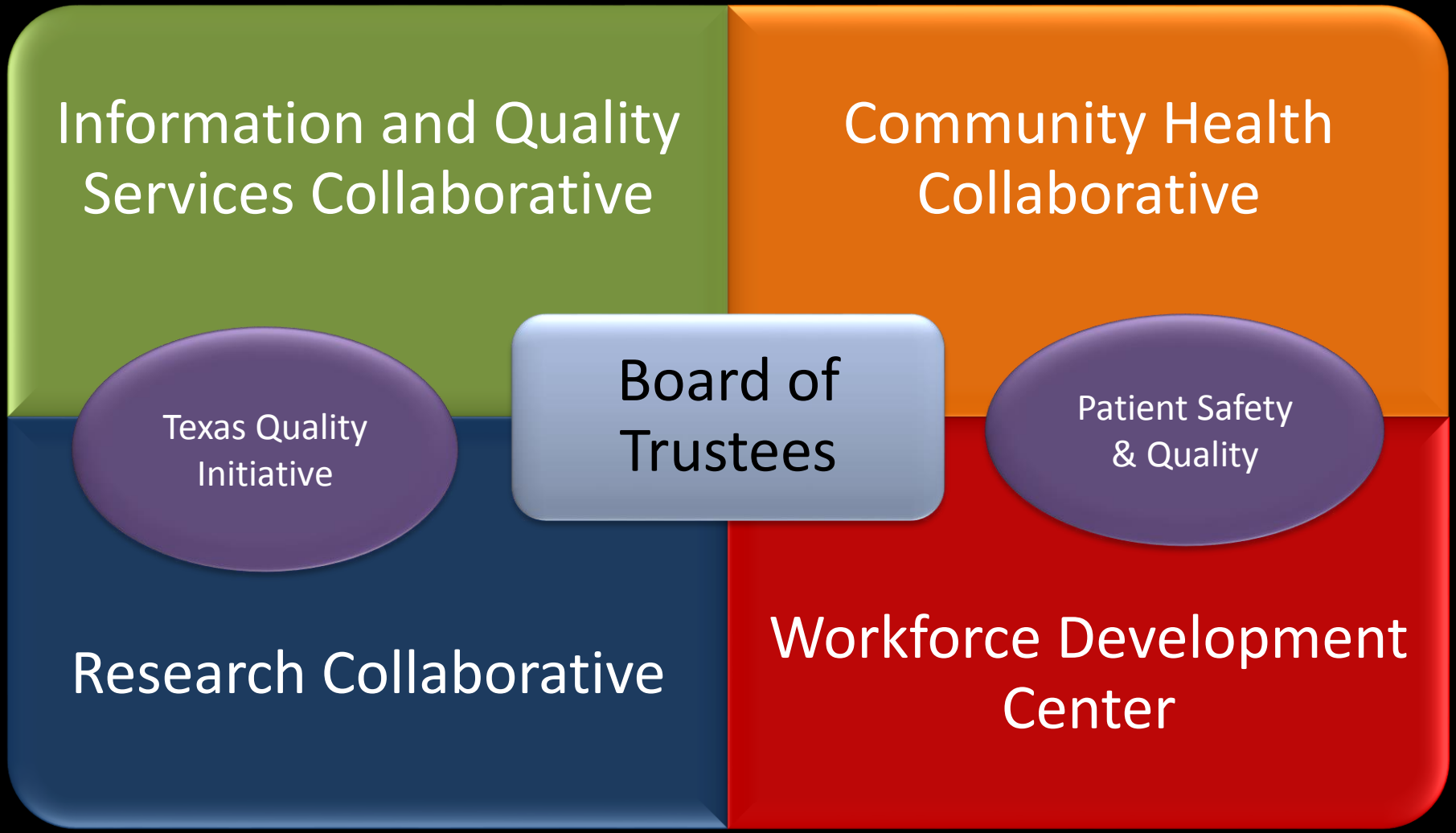
Mission

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

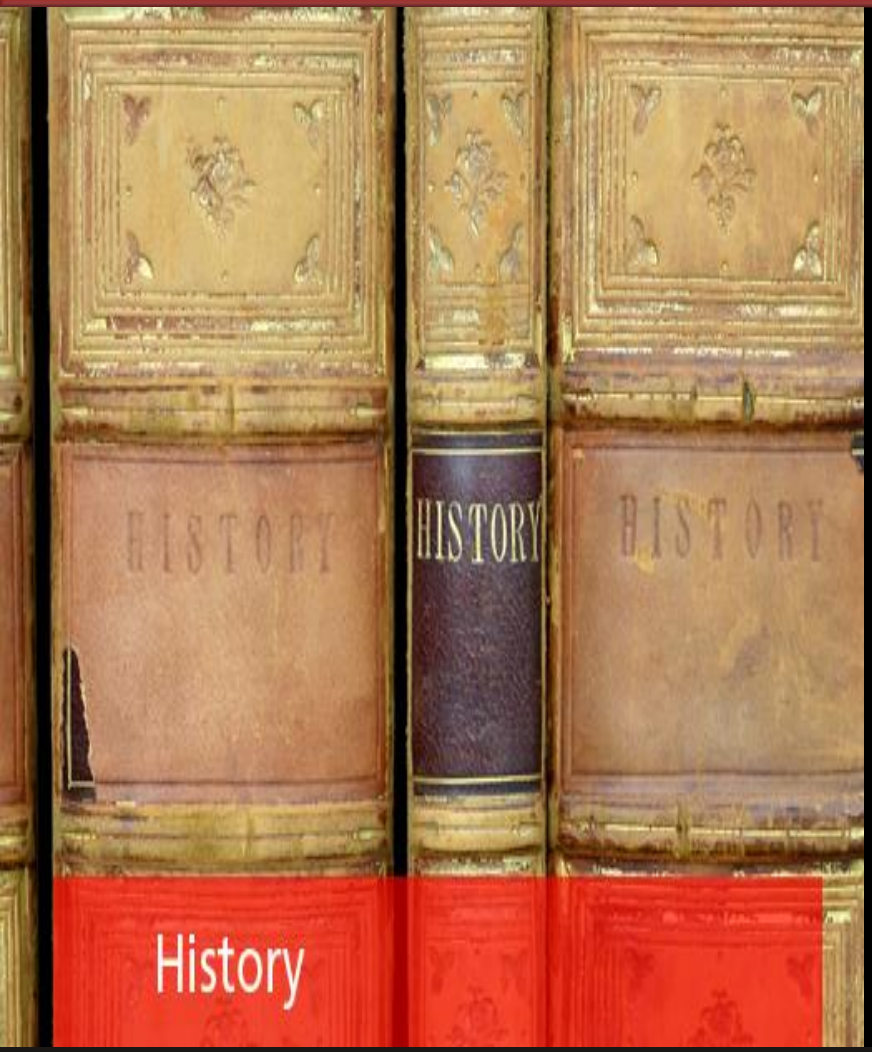
Vision

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

Foundation Structure



Relationship and History



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

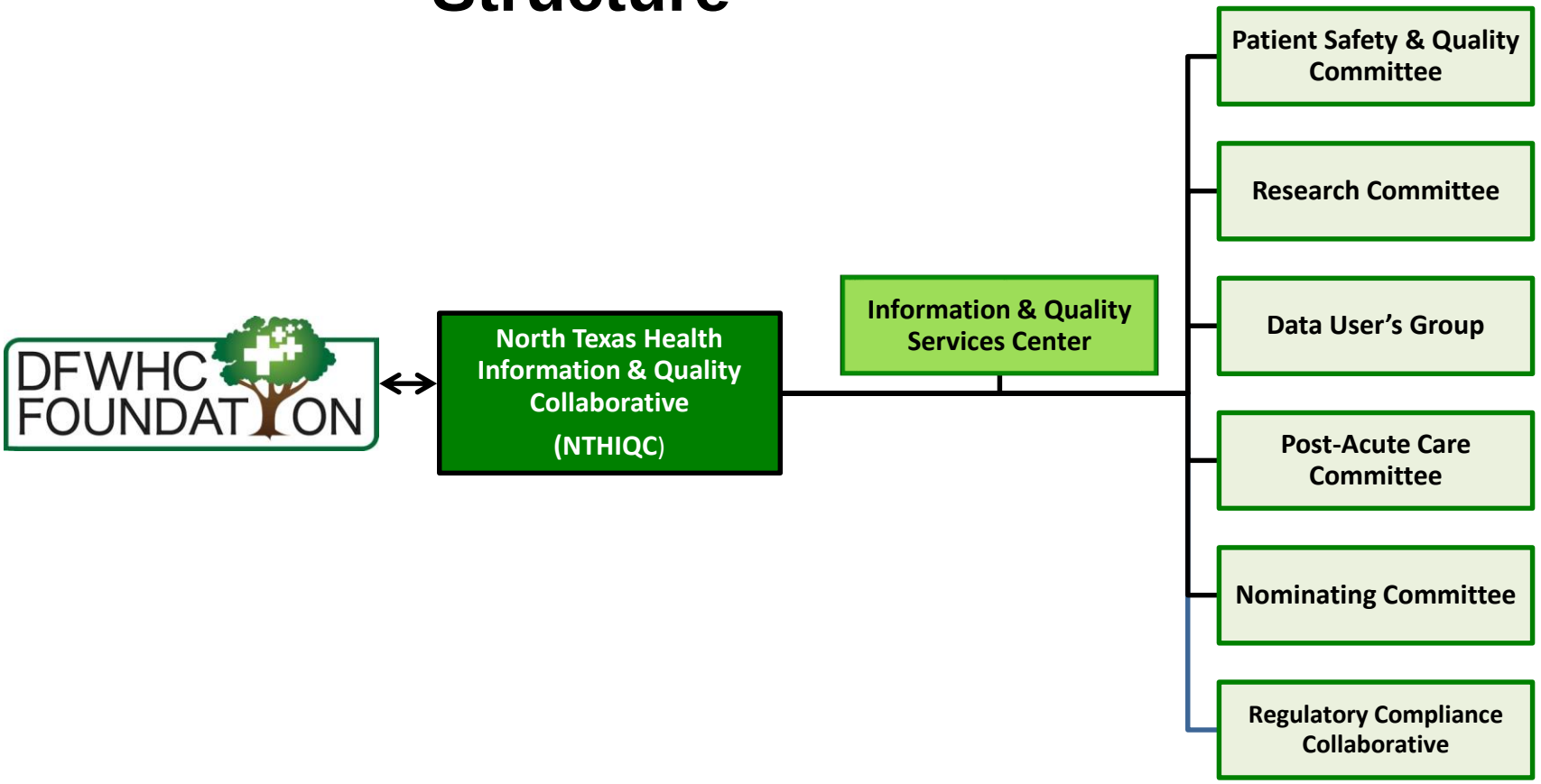
Information & Quality Services Center in existence for 18 years

Services contracts in place with Business Associate Agreements

More than 98 facilities participate

Data submitted to the Texas Healthcare Information Collaborative

NTHIQC Organizational Structure



Objectives

1. Define ‘Big Data’ and the characteristics
2. Discuss the importance of Data Quality.
3. Educate on the data available as a resource through the DFWHC Foundation and how it can be used.

DFWHC FOUNDATION

PRINT

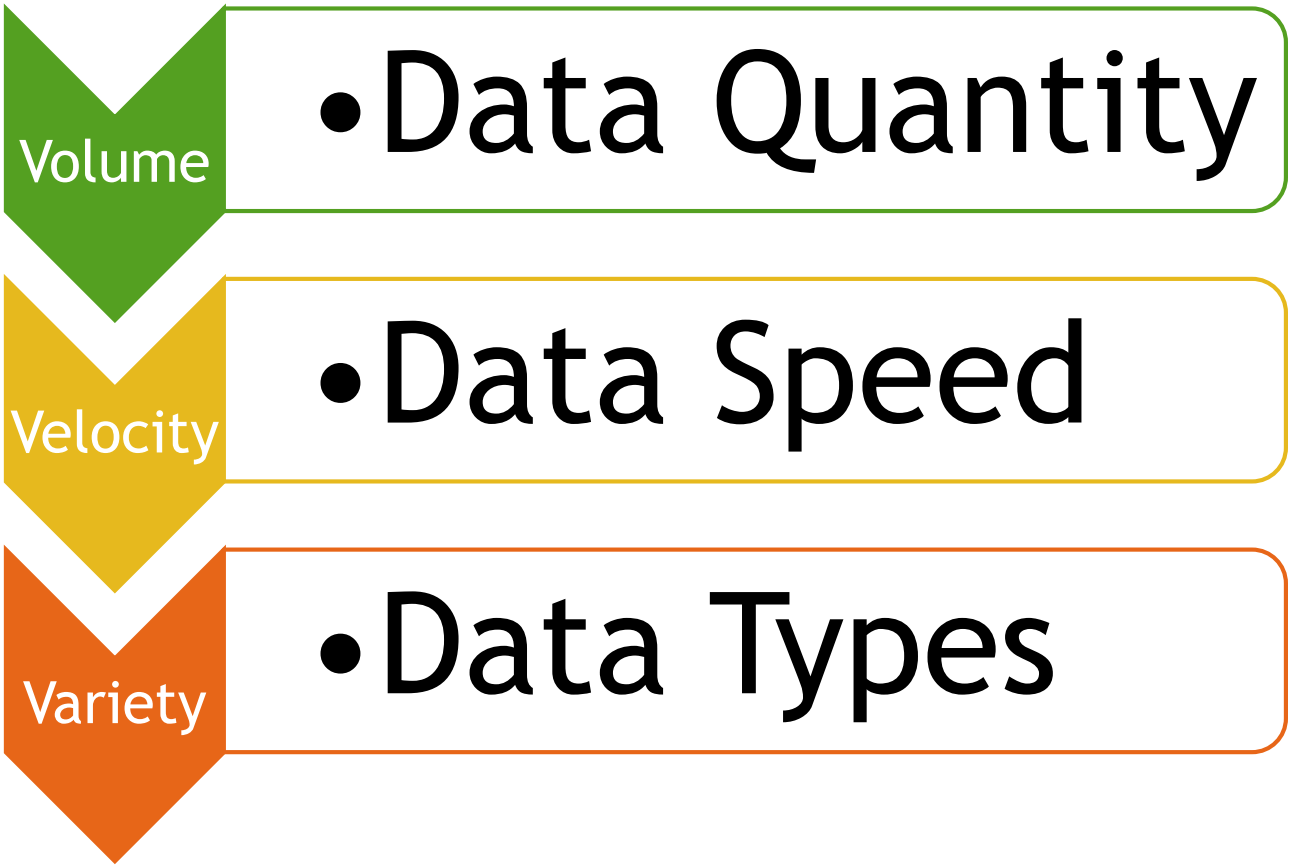
Data is captured everywhere!

- Patient Intake
- Eligibility Determination
- Authorization
- Certification
- Scheduling
- Care/Disease Management
- Medical Records/Coding
- Clinical Documentation
- Billing
- Reimbursement
- Contracts
- Fees
- Payment Reconciliation
- Quality Measures
- Audit
- Case Mix/Population Risk Assessment

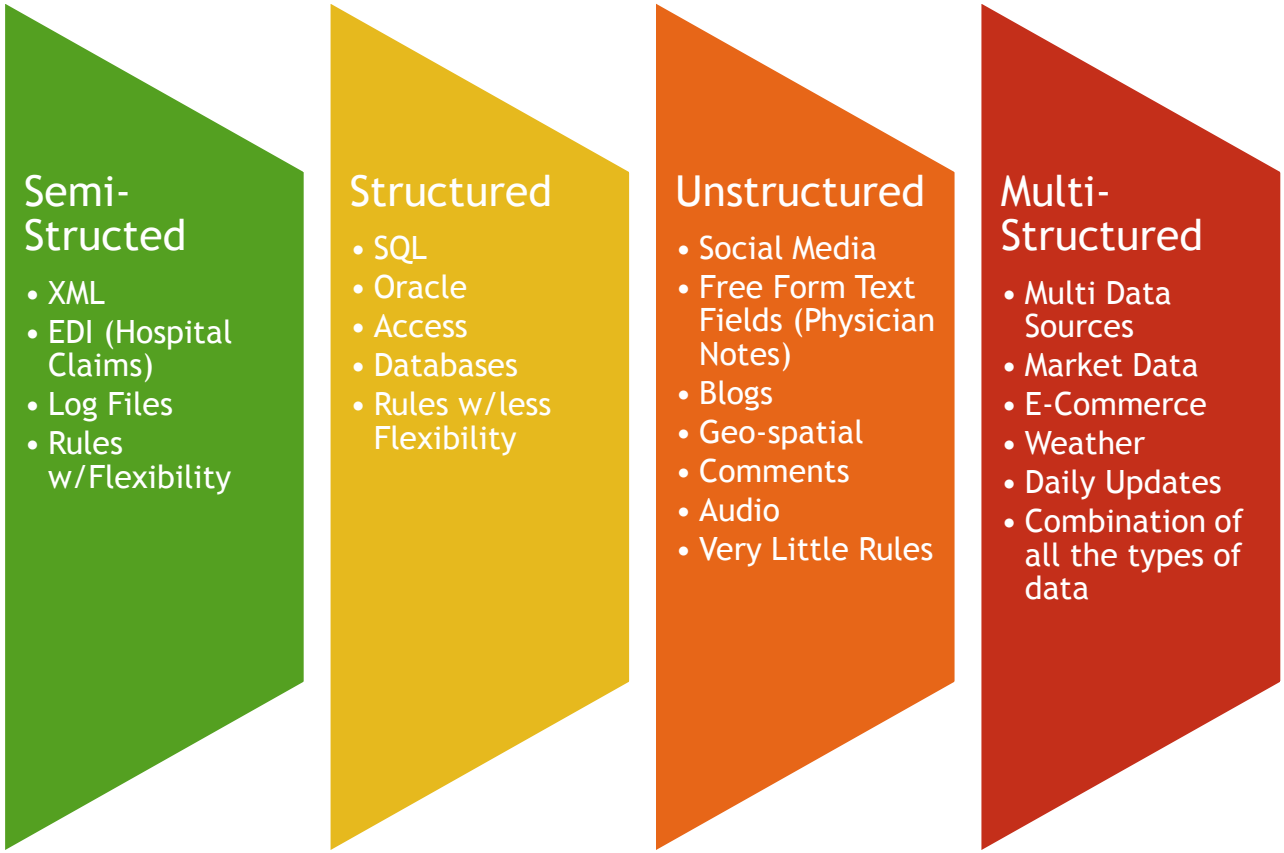
Tsunami of Data Sets

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

Characteristics of Big Data

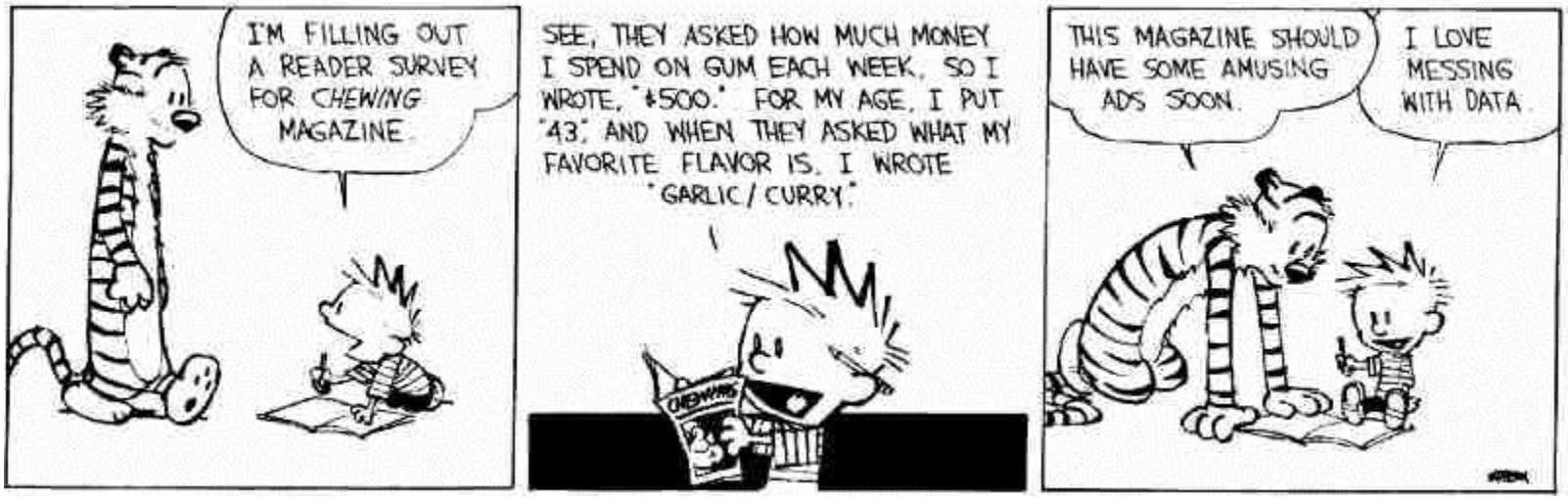


Types of Big Data



WHY?

Data Integrity is Key



The Spinach Myth

Quality Measures

Acute Myocardial Infarction (AMI) Mortality Rate, Without Transfer Cases (IQI 32)

Numerator:

Number of deaths (DISP=20) among cases meeting the inclusion and exclusion rules for the denominator.

Denominator:

All discharges, age 18 years and older, with a principal diagnosis code of AMI.

ICD-9-CM AMI diagnosis codes:

41001	AMI ANTEROLATERAL, INIT	41051	AMI LATERAL NEC, INITIAL
41011	AMI ANTERIOR WALL, INIT	41061	TRUE POST INFARCT, INIT
41021	AMI INFEROLATERAL, INIT	41071	SUBENDO INFARCT, INITIAL
41031	AMI INFEROPOST, INITIAL	41081	AMI NEC, INITIAL
41041	AMI INFERIOR WALL, INIT	41091	AMI NOS, INITIAL

Exclude cases:

- missing discharge disposition (DISP=missing)
- transferring to another short-term hospital (DISP=2)
- missing admission source (SID ASOURCE=missing)
- transferring from another short-term hospital (SID ASOURCE=2)

MS-DRG Options CCs and MCCs

MS-DRG	MDC	TYPE	MS-DRG Title	Weight	Payment Base = $7000	Geometric Mean LOS
177	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS **W MCC**	1.9492	$13,644	6.2
178	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS **W CC**	1.3909	$9,736	5.0
179	04	MED	RESPIRATORY INFECTIONS & INFLAMMATIONS **W/O CC/MCC**	0.9693	$6,785	3.7
193	04	MED	SIMPLE PNEUMONIA & PLEURISY **W MCC**	1.4491	$10,144	4.9
194	04	MED	SIMPLE PNEUMONIA & PLEURISY **W CC**	0.9688	$6,782	3.8
195	04	MED	SIMPLE PNEUMONIA & PLEURISY **W/O CC/MCC**	0.7044	$4,931	2.9

- Diagnosis-Related Group methodology
- CC = Comorbidity/Complication; MCC = Major CC
- Relative weight x base rate = Payment
- If a CMS-designated condition qualifies as a HAC and the POA status is “N” or “U”, then it does not qualify as a CC or MCC

Regional Enterprise Master Patient Index

- Data represents identity, but is not equivalent to identity.

Name: Hexom, Baby Girl
Sex: F
DOB: 03/11/1981
SSN: None

Name: Hexom, Liz
Sex: F
DOB: 03/11/1981
SSN: 218-92-4649

Name: Barton, Elizabeth H
Sex: F
DOB: 03/11/1981
SSN: 218-92-4694

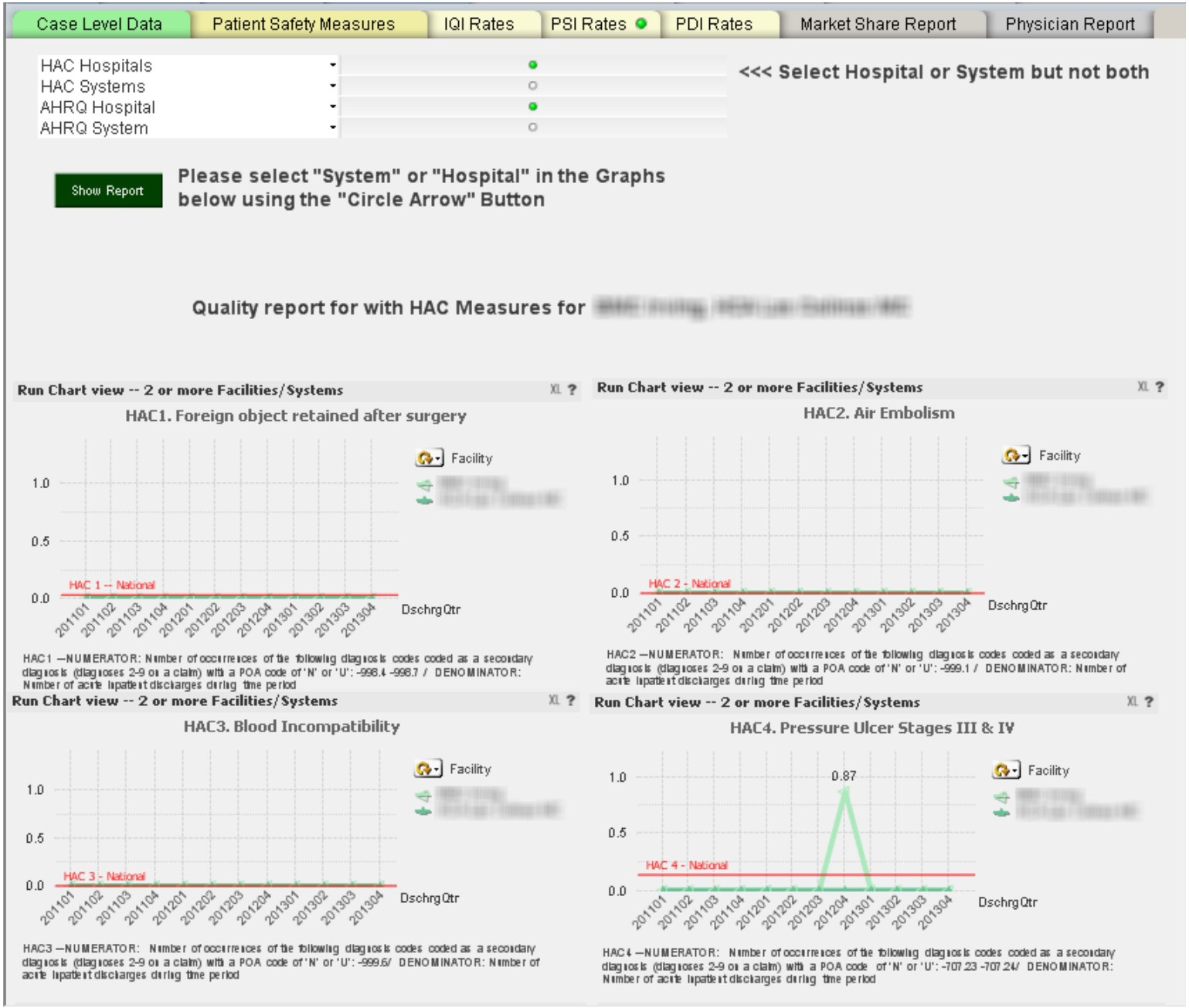
IQSC Data Integrity Goals

- Reduce Costly Data Errors
- Save Time and Precious Resources
- Provide a data analysis tool that assist hospitals in performing audits that identifies format and data error
- Provide reports that are easy to use in identifying data issues
- Provide Physician reports for validation as required by Texas legislation
- Provide a data quality measurement
- Have good patient demographic information for matching
- Ability to map in multiple formats and map out the required state reporting format
- Allow for simple data submission
- Give personal customer support in meeting data requirements

Business Intelligence

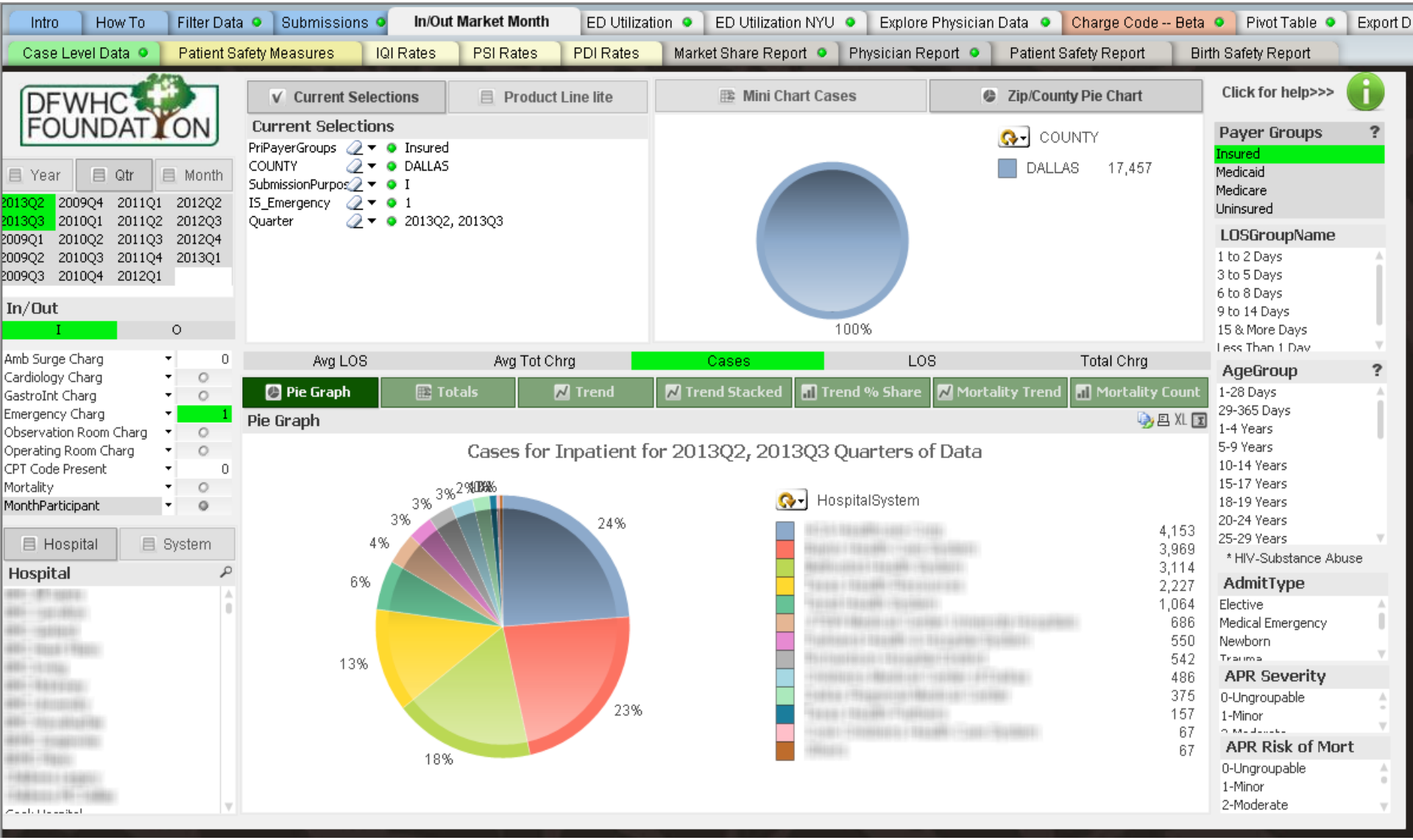
- ✓ **Quality Metrics** – Hospital Acquired Condition and AHRQ Measures
- ✓ Improvement of Cardiovascular Services
- ✓ **Readmission Analyses**
- ✓ ER "Frequent Flyer" Reports
- ✓ **Market segment assessments** – by service line, physician and geography
- ✓ Community Health Needs Assessments and Regional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

Easy Access Reporting

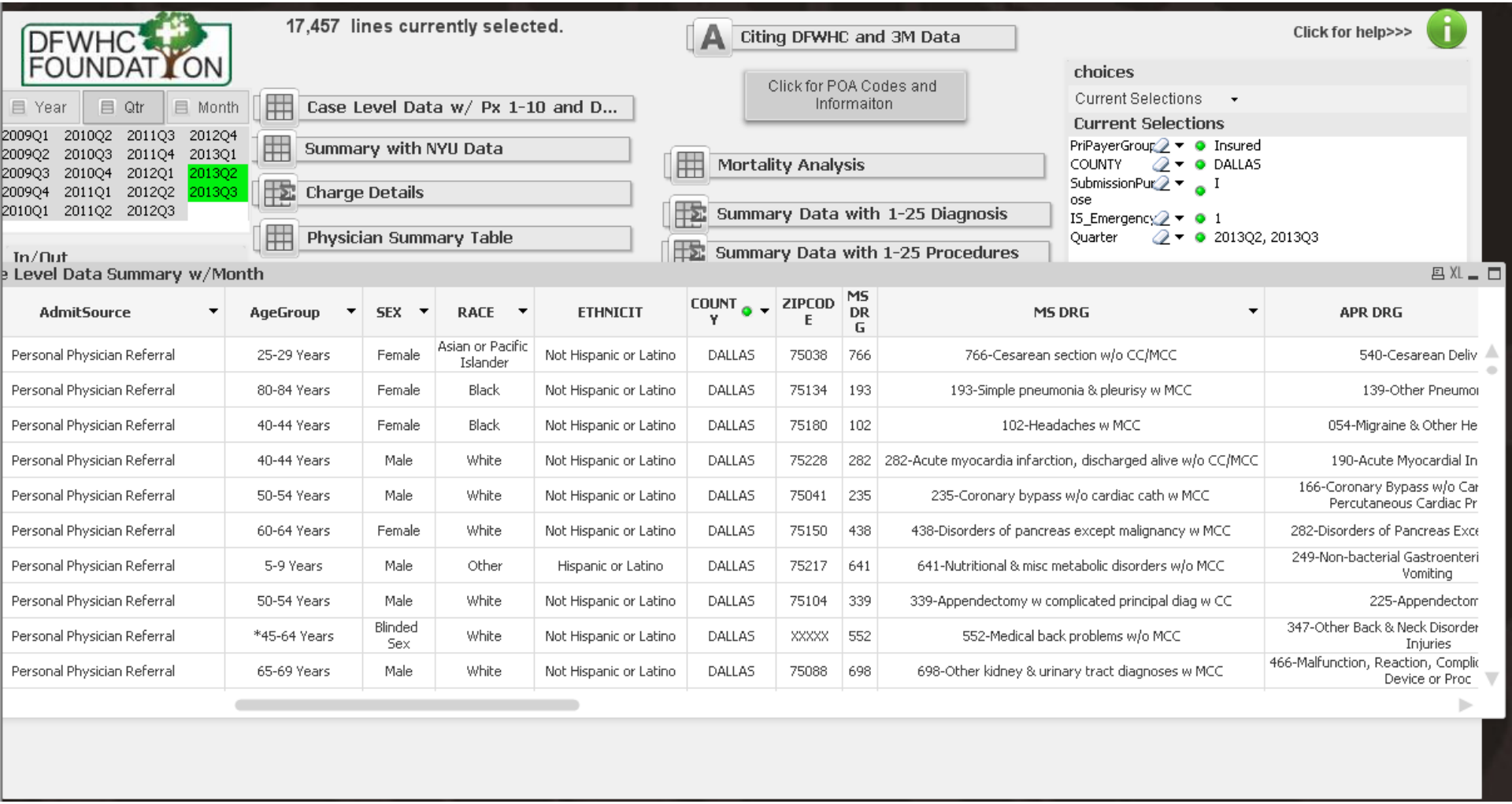


Easy Customizable Graphs & Charts

Insured Inpatient ED volumes by Hospital System for Dallas County



Easy Raw Data Download

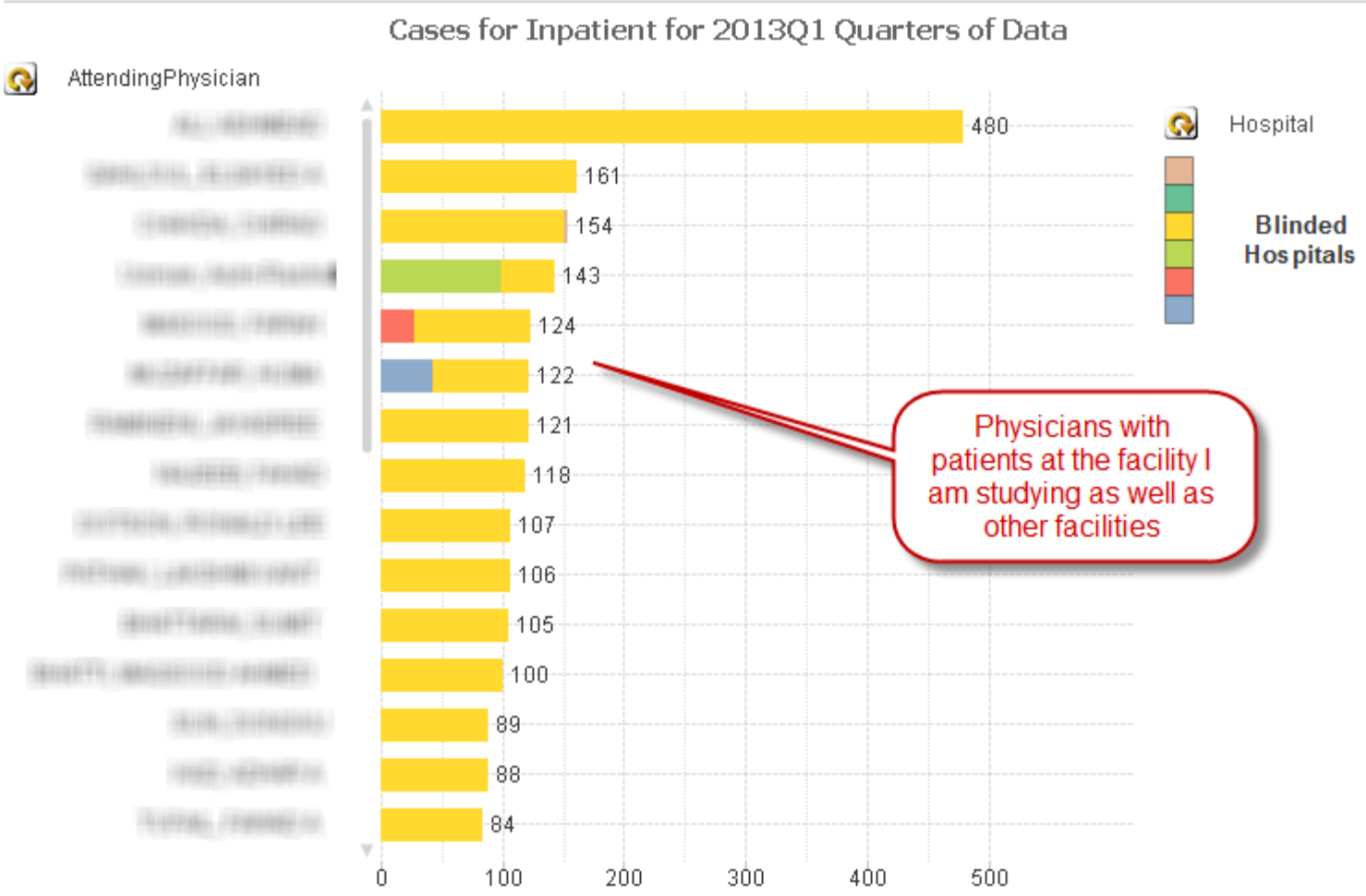


AdmitSource	AgeGroup	SEX	RACE	ETHNICIT	COUNTY	ZIPCODE	MS DRG	MS DRG	APR DRG
Personal Physician Referral	25-29 Years	Female	Asian or Pacific Islander	Not Hispanic or Latino	DALLAS	75038	766	766-Cesarean section w/o CC/MCC	540-Cesarean Deliv
Personal Physician Referral	80-84 Years	Female	Black	Not Hispanic or Latino	DALLAS	75134	193	193-Simple pneumonia & pleurisy w MCC	139-Other Pneumor
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-Appendectom
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, Complic 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



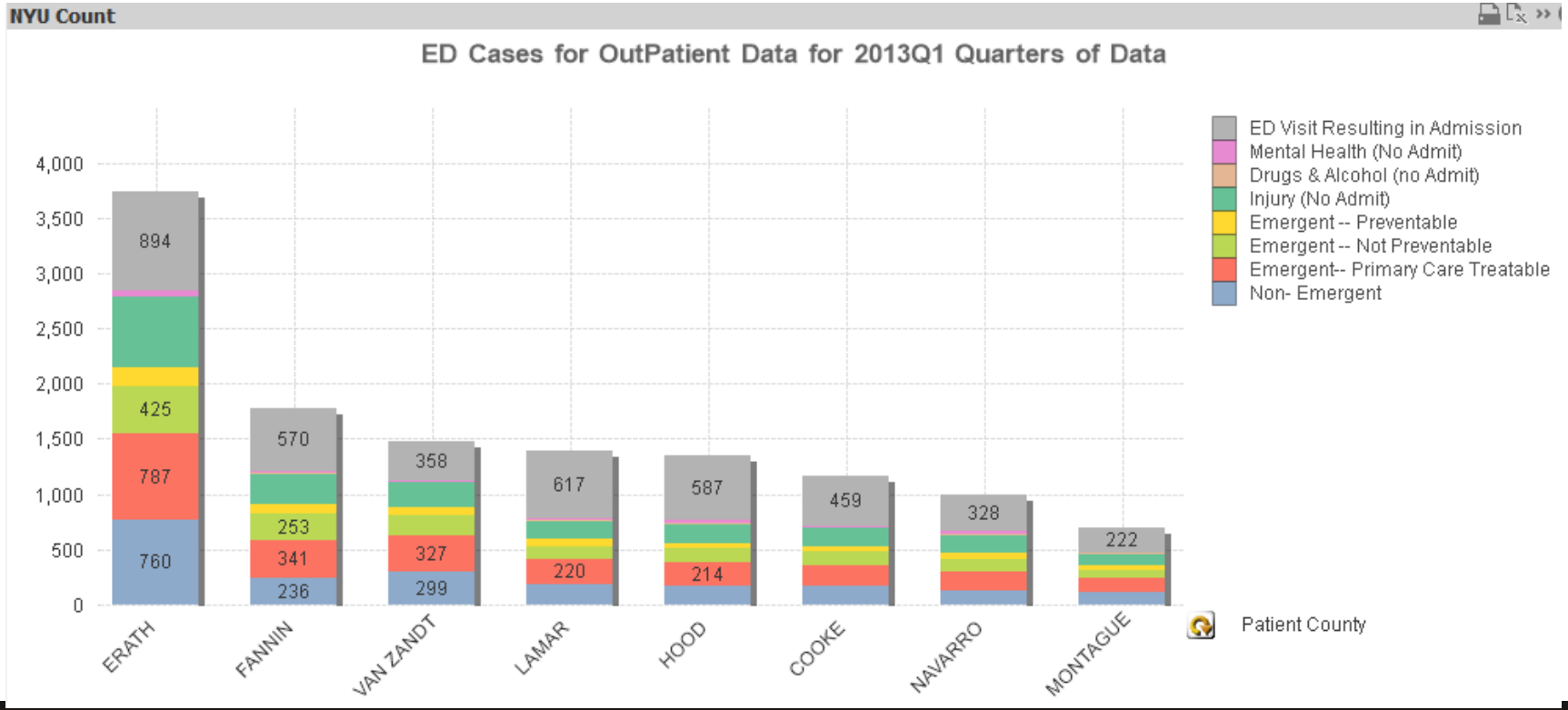
Enhanced Data

- 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

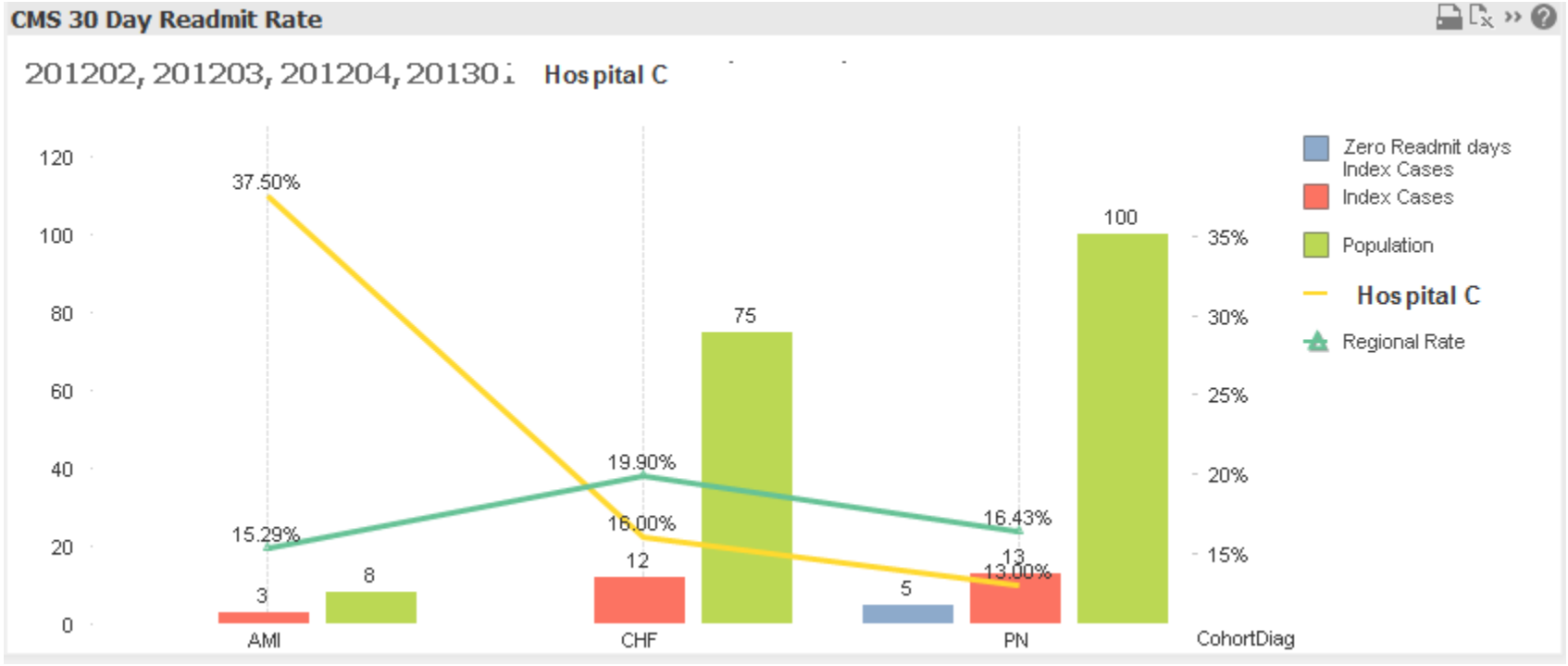
NYU Algorithm– Non-Emergent Encounters

•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;



Readmission Quality Data



Hospital	CohortDiag	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%

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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