SmartIX EMPI – Taking It to the Next Level

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Agenda

- Welcome
- Introduction
- History
- Next Level of MPI - Business Intelligence
- Research and Community Health
- Future Innovation
- Questions
General Introduction to Our Organization

Not-for-profit governed by providers, universities, health industry, community benefit organizations (steering committee chair for NTAHP Regional Health Information Exchange (HIE))

- Information and Quality Services Collaborative
- Community Health Collaborative
- Board of Trustees
- Research Collaborative
- Workforce Development Center
Mission and Vision

**Mission**
To serve as a catalyst for continual improvement in community health and healthcare delivery through education, research, communication, collaboration and coordination.

**Vision**
Act as a trusted community resource to expand knowledge and develop new insight for the continuous improvement of health and healthcare.
WHERE WE STAND NOW.

14 YEARS OF DATA COLLECTED

8 MILLION PATIENTS REPRESENTED

28 MILLION HOSPITAL VISITS

95%

NORTH TEXAS INPATIENT MARKET
DFWHC Foundation Data Assets

**Information & Quality Services Center**
- Inpatient Claims
- Outpatient (Emergency Dept., Observation, Radiology, Gastroenterology) Claims
- Regional Enterprise Master Patient Index (Readmissions)

**Texas Quality Institute**
- Cardiology and Thoracic Surgery Outcomes & Processes
- Clinical Data
- 800 Clinical Data Points per encounter

**Healthy North Texas**
- Community Health Metrics
- Population Measures
- Evidence Based Best Practice Outcome Measures

**Regional Extension Center**
- Customer Relationship Management (Salesforce)

**Healthcare Workforce Center**
- Regional Health Workforce Planning Collaboration
- Hospital Partners
- Workforce Data for Allied Health and Nursing

**Hospital Engagement Network**
- Patient Safety and Quality Measures
- Regional Analyses and All-payer, All-cause Readmission in North Texas

### Inputs
- Hospitals
- Texas Healthcare Information Collection
- Physicians
- Federal Data Sources (CDC, BRFSS, etc.)
- State Data Sources (Texas Dept. Health)
- Providers
- Medicare
- Physicians
- Staff Observations
- Hospitals
- Hospitals

### Characteristics
- 2006 - present
- 80 facilities (hospitals, rehab and psych) spanning 17 counties
- 3.6 million patient encounters
- 8.5 million unique individuals
- Track all-payer, all-cause readmissions in North Texas
- 94% participation of regional cardiac surgery programs participating
- Merging administrative and performance data
- >20,000 heart cases (CABG) cases
- 2001 - present
- Publicly accessible, online data warehouse for 12-county region
- Used to support needs assessment, surveillance, evaluation
- Demographic and meaningful use
- Electronic Health Record status of 1200 primary care physicians
- 42 counties
- Federal Cooperative Agreement to bring physicians to meaningful use
- Five years of historic data
- 45 plus hospitals spanning four major North Texas health systems
- Over 8,000 health employees records
- Strategic workforce planning for Allied Health and Nursing workforce
- Federal contract from Centers for Medicare and Medicaid Services through Centers for Medicare and Medicaid Innovations
- Monitors outcomes of eight adverse health events
History of Regional Enterprise Master Patient Index (REMPI)
Not the Typical Client

FOCUSED ON:

• Data Analytics
• Data Visualization
• Research
• Patient Care & Community Health

• Not a Hospital
• Not as focused on managing duplicate accounts
• Rely heavily on the auto-linking rules
Partnership is Formed

- Wanted to bring more value to collaborative
- RFP for Vendor
  - Criteria was a sophisticated matching algorithm
- Quadramed needed a beta site and willing to do a proof of concept in 2006.
- Started in 2007 as a beta site
- Cooperatively designed initial auto-linking process rules
  - 10 rules defined
- 2009 the Regional Enterprise Master Patient Index (REMPI) is released
Creating Knowledge through Business Intelligence
Business Intelligence

- Quality Metrics – Hospital Engagement Network 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
- Regional Health Information Exchange Support
- Grants/Research
- Compliance and Duplicates
How Much Data Can Be Gained?

Out of System Readmits:
- Out of System: 18%
- MHS Dallas Readmits: 82%
**REMPI Value**

- Provide hospitals with data currently only available to Medicare and private health insurers such as Aetna and United. Seeing the whole episode of care.

- Explore characteristics of those patients who demonstrated more than the average frequency of re-admission pattern.

<table>
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<tr>
<th>count</th>
<th>REMPI</th>
<th>Hospital Affected</th>
<th>Top DRG</th>
<th>Avg days between hospitalizations</th>
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<td>Baylor Plano = 5, Medical Center Plano = 2, Methodist Dallas = 2, Presbyterian Dallas = 6, Presbyterian Plano = 6, Richardson Regional = 6, Trinity Medical Center = 7</td>
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All Payer Readmissions - CHF, AMI, PN
Ages 65+ – 2010Q3 to 2011Q2 Data – All Cause 30 Day Readmission

National Rate
AMI 19.8%
CHF 24.8%
PN 18.4%
CMS Readmission Results for CHF, AMI, PN

Ages 65+ – 2010Q3 to 2011Q2 Data – All Cause 30 Day Readmission

National Rate
AMI 19.8%
CHF 24.8%— 2011Q2 Data
PN 18.4%

Of the 303 cases discharged to home from 54 readmitted in 30 Days had a readmit rate of 17.82% While the Regional Readmit Rate was 15.76%
Blending Clinical Data Registry with Hospital Discharge Data for Readmission Analysis

Sum of Clinical Data

30 Day Rate as % of Clinical Data that did not die during encounter

395, 14.01%, 15.56%, 11.31%, 12.31%, 23.18%, 16.00%, 23, 4

USER GROUP 2013 | Capitol Ideas for WHAT’S NEXT IN HEALTHCARE
Death Master Integration

Slide shows people that died within 60 days post discharge by APR DRG and number admitted via the ED.

Total Case Count
190

70+ Age Group

Sum of Clinical Data Registry
Patients with at least 1 case at Facility during Q2 2012 with NYU Primary Care Treatable Flag – Showing any visit over 3 years

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<th>Outpatient ER Visits</th>
<th>Inpatient ER Visits</th>
<th>Unique Hosp count</th>
<th>Preventable</th>
<th>Not Preventable</th>
<th>Primary Care Treatable</th>
<th>Non-Emergent</th>
<th>Injury</th>
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Research and Community Health
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
- Hospital Engagement Network CMS Contractor
Community and Population Health Management Diabetes Example

- 1115 Waiver Analysis
- Patient Migration Analysis
- Form 990 Analysis
- ER Frequent Flyer
Hot Block Analysis in Zip 76119

Analyzing the availability of providers in the hot block areas.

These are a lower income areas. Major highways isolate them from easy access.
76119 Top Ten Diagnoses in 2012

<table>
<thead>
<tr>
<th>Top Ten Diagnosis</th>
<th>Number of Cases</th>
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<tr>
<td>Acute upper respiratory infections of unspecified site</td>
<td>628</td>
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<tr>
<td>Urinary tract infection, site not specified</td>
<td>433</td>
</tr>
<tr>
<td>Chest pain, unspecified</td>
<td>414</td>
</tr>
<tr>
<td>Asthma, unspecified, with (acute) exacerbation</td>
<td>394</td>
</tr>
<tr>
<td>Unspecified otitis media</td>
<td>370</td>
</tr>
<tr>
<td>Abdominal pain, unspecified site</td>
<td>352</td>
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<tr>
<td>Headache</td>
<td>351</td>
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<tr>
<td>Chest pain, other</td>
<td>294</td>
</tr>
<tr>
<td>Other current maternal conditions classifiable elsewhere, antepartum</td>
<td>271</td>
</tr>
<tr>
<td>Acute pharyngitis</td>
<td>270</td>
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</table>

2108 or 11% of all cases had pre-existing diagnosis of diabetes.

<table>
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<th>Payer</th>
<th># Cases</th>
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<td>Insured</td>
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<td>Medicaid</td>
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<td>Medicare</td>
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<td>Uninsured</td>
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FUTURE VISION
ACO Alignment Information

- Physician Patterns
- “Leakage” to non-ACO aligned providers
- Patient Analyses by geography, payer mix, migration, readmission, ER visits and co-morbidities, APR-DRG risk categories
- Combined clinical and claims warehouses and business intelligence across all providers within the continuum of care
- Privacy Issues**
Regional Health Information Exchange Support

- Using REMPI to support HIE Master Patient Index
- HIE Analytics for Regional Exchange of patient information
2013 Launch of Physician Services through the North Texas Regional Extension Center

Pilot:

- Physician Claims Warehouse April-June 2013
- Official Offering August 2013

Combined Regional Physician EHR Analytics – Late 2013
QUESTIONS & Contact Information

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