An Overview
Data Analytics & IT Infrastructure Challenges Using Community Data

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August 2, 2012
HealthBridge Background

- One of the nation’s largest, most advanced and successful health information exchanges (HIE)
- Provides HIE connectivity for Greater Cincinnati tri-state area and five other HIEs – including Greater Dayton
- **Connection Statistics**
  - Participants: 50 hospitals, 7500 physicians, 800 practices
  - Delivers 3-6 million clinical messages **per month**
  - More than 60 million messages **annually**
  - Clinical information for 3+ million unique patients
Electronic Tool Challenges for Community Research:

- EHR
- Hospital and lab data
- Claims vs. Clinical
- New national protocols, standards, data sharing
- Attributing a patient to protocol analysis and interventions
Environmental Scan

- Large investment in electronic tools through Stimulus and ACA
- More movement in the last two years than previous 10
- 30% of primary care physicians attesting to MU in region by May, 2012, estimate 70% by year end
- Electronic investment includes:
  - Regional Extension Centers
  - NwHIN Collaborative
  - Beacon program
  - Hospital MU payments
  - Physician MU payments
  - PQRS and other reporting initiatives
  - State HIE’s
  - Creation of NwHIN standards and Data Use Agreements (DURSA)
CPC Program – Value Based Pricing Example

- Seven regions selected
- Through CMMI – Different rules apply
- Started with Ohio only and added KY
- 75 locations – Applications due in last Friday
- Looking for balance of rural, urban, employed, independent
- Starting with a 18 of ACO measures
- Looking for primary care only – (OB, FQHC’s, specialists, ACO’s not eligible)
- Year 1 & 2 average of $20 PMPM
- Years 3 & 4 average of $15 PMPM
- Medicare, Medicaid, 8 commercials also provide a PMPM
- Shared cost savings in years 3 and 4
- Can spread if successful
- Estimate 50% increase in funding for Primary Care
EHR Challenges

- Meaningful use – Excellent start on prioritizing
- Extracting data – technical triggers not industry standard yet
- Continuity of Care Document – Good start like HL7 but much variation still exists
- Misuse of EHR
  - Key data in comments field
  - Non-standard nomenclature
  - Most assume 90% compliance; closer to 20%
  - Protocol based medicine in other EHR’s not normalized
HIS Challenges

- Epic to Epic not normalized data
- Care Everywhere excellent tool for care but not designed for research or P4P standardization; Pull vs. Push
- Much more standardized level of data
- Still variation even within LOINC codes
Comparative Effectiveness Research

- Claims and Clinical data in different worlds
- Extensive tools for each side
- Very little yet for combining the two to measure Triple Aim
- Health Reform and Value Based pricing may make this more difficult
  - Data becomes the value for both plans and health systems
  - All participants want to do the right thing but need to protect “the value”
  - Holding risk and performing will yield significant financial benefits (in CPC, 50% of saving split between plans and health systems)
National Standards

- Evolution not an Event
- Excellent convergence between ACO, CPC, HEDIS, MU etc.
- LOINC, SNOMED helpful but not perfect in design and execution
- Data transport work:
  - NwConnect – query response capability – robust standards
  - NwDirect – Secure email – contents of “mail not standardized
  - HL7 – still standard version 2.X most deployed
  - HL7 Version 3.0 (xml) not in wide use
- CCD – good start but not interoperable yet in large scale manner
Attribution Methodologies

1) Direct Assignment
   - Provider is ASSIGNED as the PCP

2) Based upon Primary Care Core (PCC) Services
   - E & M Coding in claims
   - Provider with the highest Activity count is the PCP
   - If there is a tie, Provider with the highest Cost is the PCP
   - If there is a tie, Provider with the most recent date of service is the PCP

3) Most Recent PCP
   - Provider who was last identified as a Primary Care Provider in the claim record
Infrastructure Components Necessary for Research Using Community Data

• **Translation Tool**
  - Semantic Data Normalization

• **Master Patient and Provider Index**
  - Community Master Patient Index
  - Patient & Provider Identification

• **Clinical and Claims Repository**
  - Data Warehouse & Clinical Analytics
  - Covers 16 of the 18 CPC Measures

• **OPTUMInsight’s Symmetry**
  - Data Analytic Engines
  - Patient Attribution Methodologies

Helps data speak the same language

Match patients across data sets accurately

Combines big data sets – both clinical and claims

Patient Attribution, Risk Assignment, & Cost Aggregation
Infrastructure Components

- Provider & Payer Data
- Translation
- Master Patient & Provider Index
- Claims and Clinical data warehouse
- CPC Required Measures
- Custom Analytics & Reports
- Claims Analysis Tools (Optum Symmetry)
- Optional Applications
  - Impact Pro Patient
  - Claims Analytics & Reports
  - Impact Intelligence Provider Claims Analytics & Reports
- Top half of screen is a source catalog of lab test codes & descriptions
- Bottom half of screen are candidate LOINC codes for the term highlighted on the top (blue row)
Medical Neighborhood Tracking – Who is Involved in This Patient’s Care?

- ROBERT POTTER
  - EID: 868 (Person)
  - Visiting Nursing Assoc.
  - Primary Care Physician
  - Specialty Provider
  - Spouse
  - Ohio Heart Health...
    - EID: 5416 (Provider)
  - MARIE SMITH...
    - EID: 5419 (Person)

- David Kay MD...
  - EID: 5600 (Provider)
• Multiple attribution methods could be simultaneously used and tracked in the MPI
• The Patient/Provider attribution is also time-bound with beginning and ending effective dates
Clinical and Claims Repository

CPC Measure NQF #59

Diabetes Mellitus: Ha1c Poor Control (>9%) Summary
Clinical and Claims Repository
CPC Measure NQF #59
Diabetes Mellitus: HbA1c Poor Control (>9%) Summary
Questions and Discussion