Health Information Exchange
The Roadmap to Value Realization

Presented by
Sia Zadeh, Ph.D.
Sandlot Solutions
szadeh@sandlotsolutions.com
Agenda

- What is an HIE?
- HIE – Purpose in Health Care Reform
- Current state of HIEs – a brief survey
- HIE – Lessons Learned
- HIE – Current focus now and the future trend
  - Technology trends and challenges
  - Regulatory trends and Challenges
  - Roadmap to Value Realization
- Concluding remarks
- Q&A
What is Health Information Exchange?

Health Information Exchange (HIE) is the electronic movement of health-related information among organizations according to nationally recognized standards.

Source: U.S. Department of Health and Human Services
The goal of HIE is to facilitate access to and retrieval of clinical data to provide safer, timelier, efficient, effective, equitable, patient-centered care.
Health Information Exchange was intended to address key issues surrounding

- Quality of Care Improvement
- Cost Containment of Health Care
- Health Care Information Accessibility
  - Patients are now an active participant in the process
HIE Promise

- Promoting the secure exchange, use and sharing of patient information
- Reducing the frequency of medical redundancy & errors
- Providing complete record of the patient’s health encounters and interactions
- Improving patient outcomes individually at the clinical level and in aggregate at the public health management level
- Improving care coordination
- Empowering patients to become more involved in monitoring and managing their own health care
HIE Architecture

State Agencies
- Public Health Surveillance and Monitoring
- Vital Statistics
- Medicaid Eligibility and Claims
- Medicaid ePrescribing
- Health-Related Program Admin
- Analytics and Reporting

Remote Registry
- RHIOs HIEs
- PHRs
- Local Health Centers
- Federal Agencies

eHealth Exchange

State Agency HIE
Health System Monitoring HIE
Direct Care HIE

Patients
- Labs
- Providers
- Local HIEs
- Pharma
- Payers

Research Orgs
- Labs
- Pharmacies
- Payer/Providers
- Patients
Types of HIEs

- There are currently three key forms of health information exchange:
  - **Directed Exchange** – ability to send and receive secure information electronically between care providers to support coordinated care
  - **Query-based Exchange** – ability for providers to find and/or request information on a patient from other providers, often used for unplanned care
  - **Consumer Mediated Exchange** – ability for patients to aggregate and control the use of their health information among providers

Source: healthit.gov
Evolution of HIEs

- Community Health Information Networks (80s)
- Nationwide Health Information Network (90s)
- NHIN / RHIO
- NwHIN (2010s)
- NwHIN Exchange / HIEs (2010s)
- eHEALTH Exchange (Current)
In 2010, Health and Human Services (HHS) Secretary Kathleen Sebelius and U.S. Secretary of Labor Hilda Solis announced nearly $400 million in American Recovery and Reinvestment Act (ARRA) Health Information Technology for Economic and Clinical Health (HITECH) awards.

These are part of the stimulus package to be apportioned by states, to help State-Designated Entities (SDEs) build a statewide backbone for Health Information Exchange (HIE).
By 2010, the United States Department of Health and Human Services (HHS) had awarded $385,978,640 in grant awards to help encourage healthcare professionals' participation in Health Information Exchange (HIE) initiatives.

In March 2010, ONC completed the announcement of State Health Information (State HIE) Exchange Cooperative Agreement Program awardees. In total, 56 states, eligible territories, and qualified State Designated Entities (SDE) received awards.
Status of HIEs

• A large number of statewide HIEs have either not got off the ground or have closed
• Several statewide HIEs are still in the early phase
• Few statewide HIEs are operational and successful
• Regional HIEs are generally more successful
ONC HIE Research Reports

- Query-Based Exchange: Key Factors Influencing Success and Failure
- Consumer Engagement in Health Information Exchange
- HIE-Driven Notification & Subscription Services: Market Assessment & Policy Considerations
- Master Data Management within HIE Infrastructures: A Focus on Master Patient Indexing Approaches
- Provider Directories Solutions: Market Assessment & Opportunities Analysis

Source: healthit.gov
HIE – Lessons Learned

- The political winds change over time. State / Federal elections every two years can change the direction and potential use of available funds
- Vendor contracts should be aligned with actual market adoption
- Support and participation from large IDN’s is critical to long term success and sustainability
- In the end, critical mass is important
- Participation by larger health care organizations in the community will create momentum and drive adoption among smaller entities
HIE – Lessons Learned

“[CalRHIO] was to be a public-private entity encompassing healthcare providers, payers, patients, insurers, government agencies, and consumer organizations with two main goals: investment in IT and the secure exchange of information using that technology. Now, four years and many meetings later, the California Regional Health Information Organization says it’s ready to take its show on the road across the state and beyond, if the opportunity arises.”*

Just 10 months after the article referenced above appeared CalRHIO went Belly-up

* Source: Lauer, George. “CalRHIO Says It’s Ready to Go Statewide; Others Have Their Doubts,” California Healthline, March 10, 2009
“In order to become valuable, [HIEs] need to achieve a large distribution of organizations willing to share more than just demographic information for their patients or members. If the majority of hospitals in the trading area are not willing to share data with the HIO, it will be considerably more difficult for it to make a sustainable value proposition. CareSpark and MN HIE both struggled with finalizing sharing agreements with the majority of hospitals in their trading areas.”

HIE – Ongoing Challenges

● Technical View – Sharing of data is complicated:
  ➢ Medical records are voluminous and complex
  ➢ Patient privacy - regulations vary by state
  ➢ Security of patient information -- access controls in a mobile and disparate environment
  ➢ Interoperability standards are still evolving
  ➢ Patient Identification without a national standard
HIE – Ongoing Challenges

Business View – in search of a sustainable model:

- Paradigm shift – Competitors must be willing to share certain patient medical information with one another
  - Focus moves from *who* controls the patient data to *how* a larger pool of available patient data can be used to better treat the patient

- Initial Funding to launch HIE start-up activities
  - HITECH and other mechanisms served as good ‘seed’ money, but do not cover full implementation costs

- Business Sustainability is the ultimate challenge
  - Products / services must provide a clear value proposition for participants
  - Approach will vary by community (no cook-book recipe)
HIE Tomorrow?

- Deliver greater value to the health care community by enabling interoperability at all levels:
  - **Foundational** — interoperability allows data exchange
  - **Structural** — intermediate level that defines the structure or format of data exchange
  - **Semantic** - provides interoperability at the highest level

- Enable connectivity for Accountable Care Organizations (ACOs)
- Enable connectivity between ‘Patient Centered Medical Home’ and ACOs
- Provide patients / consumers access to aggregated personal health records
Enabling Better Health

Population Management & Quality Reporting
Enabling Better Health
Enabling Better Care

- Non Disruptive
- Intelligent data at the point-of-care
- EMR agnostic
- Workflow enabled
Enabling Better Care

Focusing on the Patient

• Coordinated Care
• Task Oriented
• Priority Groups
• Workflow Orchestration
• Care Pathways
• Patient Engagement
• Risk Assessments
• Care Team assignment
### Challenges facing ACOs

- At risk population
- Shared Savings
- Shared Risk

#### Quality Measures - Lowered Costs

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<th>Measure</th>
<th>2011 Rate CY2010</th>
<th>2012 Rate CY2011</th>
<th>2013 Rate CY2012</th>
<th>2013 YTD</th>
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<tr>
<td>Breast Cancer Screening (BCS)</td>
<td>79.41%</td>
<td>81.33%</td>
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<td>Colorectal Cancer Screening (COL)</td>
<td>40.38%</td>
<td>78.35%</td>
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<td>Diabetes LDL-C Screening</td>
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<td>Glaucoma Screening (GSO)</td>
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<td>Annual Flu Vaccine</td>
<td>75%</td>
<td>71%</td>
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<td>Adult BMI Assessment (ABA)</td>
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<td>Diabetes Eye Exam</td>
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<td>Diabetes Nephropathy</td>
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<td>96.11%</td>
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<td>Diabetes HbA1c Poor Control &gt;9%</td>
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<td>Diabetes LDL-C Control &lt;100mg/dL</td>
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<td>Plan All-Cause Readmissions (PCR)</td>
<td>14.90%</td>
<td>13.33%</td>
<td>12.50%</td>
<td>9.38%</td>
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</table>

**COLOR CODING OF STAR RATINGS**

- 3-STAR
- 4-STAR
- 5-STAR
Where eHealth Exchanges / HIEs Need to Go

Everyone talks about a Big Data Strategy, but how do you incorporate it into your business practice?

- Clinical Integration Network
- Focusing on Claims and Clinical data that are already driving new data modeling for:
  - Quality Measures
  - ATNA logging
  - Predictive Modeling
  - Reduction in costs: Repeat ER patients, High-Risk Patients
- Collaborative Big Data Workbench: Bring your un-scrubbed data to the table
What is a Clinically Integrated Network?

A Clinically Integrated Network brings together the hospital, physicians and other healthcare providers who deliver services focused on quality, performance, efficiency and value to the patient:

- Coordinating the continuum of care across affiliated caregivers, including employed, contracted and partnered community physicians
- Implementing evidence-based clinical protocols to enhance patient outcomes
- Establishing a meaningful set of quality measures to review clinical care and improve clinical performance
- Achieving efficiencies in the delivery of care
- Partnering with payors to develop contracts that drive definable clinical improvement and add value to patients.
From 1st Generation HIE to next generation Clinical Exchange and Interoperability

1st Generation
Store and transmit clinical and financial information
- Collect data across providers
- Eliminate duplicative and out-of-date clinical information
- Streamline information sharing across care continuum
- Improve patient safety and outcomes while decreasing cost and care

2nd Generation
Add Claims to data to ID trends in utilization, cost, and intensity of care
- Addition of payer claims data from first generation solution
- Support Population-based metrics and health management

3rd Generation
- Prescriptive (vs. reactive) based on clinical and claims data and population metrics
- Real-time support derived from patient-specific data and population-derived insights

4th Generation
- Population-based health IT Infrastructure that combines clinical, administrative and financial data
- Interoperable HER to provide real-time, complete clinical records at the point-of-care
- Longitudinal, bi-directional sharing
- Integrated, risk-based health solutions

Solutions for Clinical Interoperability, Bi-directional CCDs, HIE and Population Health
Concluding Remarks

- eHealth exchanges / HIEs are essential to the success of eHealth and health care reform
- eHealth Exchanges / HIEs need to enable ‘Clinical Integration Network’ – collecting, aggregating, and bringing actionable data / info into the existing workflow environment, at the point of care.
Q & A

szadeh@sandlotsolutions.com
650-207-3159