Sustainable HIE Models for Practices and Rural Hospitals
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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.
Conflict of Interest

• Dr. Dominic Mack, Co-Director of the National Center for Primary Care and an Associate Professor at Morehouse School of Medicine

• Gary Palgon, VP Healthcare Solutions, Liaison Technologies

Has no real or apparent conflicts of interest to report.
Agenda

• Need for Health information Exchange among rural geographies
• Challenges to address market need
• Working model based on partnerships, solutions and technologies
• Q&A
Learning Objectives

• Describe the specific challenges faced in the design of an HIE catered to smaller independent practices and rural hospitals

• Explain the importance of creating business partnerships with organizations that share a common mission to eliminate health disparities and to utilize innovative, cloud-based technologies requiring low upfront investment

• Discuss the value propositions the HIE must offer participants to remain sustainable
Keys To Realizing Value of Health IT

- Cloud-based solution enables low-cost point of entry for participants and access to at-risk populations

- Security of patient information is baseline requirement

- Compliance to Meaningful Use helps funding and provides provider credibility

- Geographical-based coverage enhances longitudinal patient record
Need for Health Information Exchange among rural geographies
Polling Question 1:

Participation in a health information exchange can help smaller independent practices and rural hospitals:

a) Reduce the need to invest in an EHR system
b) Reduce IT staff size
c) Qualify for Meaningful Use incentives
d) Attract more providers to the area
GA-HITEC Supports Georgia Providers & Hospitals

EMR Implementation Resource & Support

• Meaningful Use Assistance - Stages 1-2
• EHR vendor selection
• CMS and MAPIR registration and attestation

Outreach, Education & Training

• Boots on the Ground
• Distance Learning / Web-based training
• Barrier mitigation / Risk Assessment

HIT Infrastructure

• Service Area HIE with GaHIN
• Lab Interface
• HIE outreach and education

Practice Management

• Workflow Assessment/MU GAP Analysis
• PCMH, ACOs
• Improve clinical outcomes

Research

• EHR adoption, Vendor utilization

56 Hospitals
4,000 Providers
$80M Incentive Payouts

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National Center for Primary Care (Morehouse School of Medicine): Providing tools to strengthen the Primary Care System for sustainability toward Health Equity.

- GAHITEC
- GAHC
- TCC- HIT Policy
- TCPI
- PCMH
2013 Medicare Per Capita spending

Source: Medicare Geographic Variation Public Use File (GV PUF) from the Centers for Medicare & Medicaid Services (CMS), February 2015.
An estimated 3.7 million nonelderly adults fall into the coverage gap, most of whom reside in the South.

Distribution By State:
- Other States Not Moving Forward 39%
- TX 26%
- FL 18%
- NC 10%
- GA 8%

Distribution By Geographic Region:
- South 89%
- Midwest 7%
- Northeast 1%
- West 4%

Total = 3.7 Million in the Coverage Gap

NOTES: Excludes legal immigrants who have been in the country for five years or less and immigrants who are undocumented. The poverty level for a family of three in 2015 is $20,090. Totals may not sum to 100% due to rounding. SOURCE: Kaiser Family Foundation analysis based on 2014 Medicaid eligibility levels, updated to reflect state Medicaid expansion decisions as of March 2015, and 2014 Current Population Survey data.
Challenges to address market need
Polling Question 2:

Smaller independent practices and rural hospitals’ providers are more receptive to an HIE that:

a) Limits connections to specific geographic areas
b) Provides a one-size-fits-all solution
c) Relies on the provider’s staff to manage
d) Offers an affordable solution that allows them to meet various program needs
Disparities in Primary Care EHR Adoption Rates

Abstract: This study evaluates electronic health record (EHR) adoption by primary care providers in Georgia to assess adoption disparities according to practice size and type, payer mix, and community characteristics. Frequency variances of EHR “Go Live” status were estimated. Odds ratios were calculated by univariate and multivariate logistic regression models. Large practices and community health centers (CHCs) were more likely to Go Live (>80% EHR adoption) than rural health clinics and other underserved settings (53%). A significantly lower proportion (68.9%) of Medicaid predominant providers had achieved Go Live status and had a 47% higher risk of not achieving Go Live status than private insurance predominant practices.
FQHCs and HIE Adoption in HHS Region IV

Barriers

• Costs
• Sustainability
• Stakeholder buy-in
• State involvement

Facilitators

• Stakeholder buy-in
• State involvement
HIE challenges in Georgia & Southeast

- Value for providers
- Smaller practices and disparate systems
- Vendor interoperability and support
- Privacy Concerns
- Financial Sustainability
  - NeHC- average profitable HIE has invested 7.1 million in grants and product development

Working model based on partnership, solutions and technologies
Polling Question 3:

What is required for long-term sustainability of an HIE?

a) Low or no startup and implementation capital investments
b) Subscription fee model to lower the overall cost of participation by utilizing innovative cloud-based solutions
c) Providing additional value-add clinical and administrative services
d) All of above
A direct node on the Georgia health information network is known as a Qualified Entity.
State Agencies
- Medicaid/GA Department of Community Health (DCH)
- GA Department of Public Health (DPH)
- GA Division of Families and Children Services (DFCS)
- GA Department of Juvenile Justice (DJJ)
- GA Department of Behavioral Health & Developmental Disabilities (DBHDD)

CMO
- Amerigroup

Hospitals
- Emory Healthcare (Cerner)
- Grady Health System (Epic)
- Children’s Healthcare of Atlanta (Epic)
- Gwinnett Medical Center (Relay)

Regional HIEs
- Georgia Health Connect (GaHC) (Liaison)
- HealtheConnection (Cerner)
- GRACHIE/Chatham HealthLink (Cerner)

Specialty Connection
- Georgia Partnership for Telehealth (Azalea)

National Exchange
- South Carolina Health Information Exchange
- East Tennessee Health Information Network
- Alabama’s One Health Record®

Spring 2015
GaHC is a mission-based service area health information exchange created by The National Center for Primary Care (NCPC) at Morehouse School of Medicine, doing business as GA-HITEC

GA-HITEC Supports 4000 Georgia Eligible Providers & 56 CAH and Regional Hospitals

GaHC is one of the eight service area HIEs that are part of Georgia Health Information Network (GaHIN)
Sustainable Partnerships

Liaison Technologies is a global data management and integration company. It provides innovative solutions to integrate, transform, harmonize, manage and secure critical business data on-premise or in the cloud. Headquartered in Atlanta, Liaison has offices in the Netherlands, Finland, Sweden and the United Kingdom. For more information, visit www.liaison.com.

Quest is the world’s leading provider of diagnostic testing, information and services that patients and doctors need to make better healthcare decisions. Our services range from routine blood tests — such as total cholesterol, Pap testing and white blood cell count — to complex, gene-based and molecular testing.

DrFirst pioneers software solutions and services that provide real-time access to patient data, improve communication and collaboration at the point of care and across the patient’s circle of caregivers, and enhance the doctor’s clinical view of the patient to help drive better health outcomes.

GAHITEC is the ONC designated Regional Extension Center for the state of Georgia. GAHITEC provides technical support to over 4000 providers and 56 critical access and rural hospitals to meet meaningful use. Also serves as the Georgia CMS/DCH REC program for specialist; currently working with CHOA, Georgia CSBs, and community providers.
Georgia Health Connect Advantages

Exchange of Health Data

- Interoperability with GAHIN
- Interoperability with partners
- Lab orders and results
- Clinical Record (CCD)
- Claims Data
- Medication Reconciliation
- Transitions of Care

Helping independent Hospitals & Practices

- Neutrality, Flexibility, Agility
- Secure Exchange of Information
- Decrease Cost for Sustainability
- Aggregating the Data
- Coordination of Care
- Reduce Errors & Redundancy
- Improve Quality of Care
- System built to serve independents
Solution Approach

EXCHANGE

Transform

HARNESS

Analytics, Registries, Quality Reporting, and Patient Engagement

Community Patient Record
- Analytics ready repository
- Patient matching
- Format reconciliation

Information Exchange
- Lab/Radiology orders and results
- Clinical Documents – medical summary, discharge summary, operative note, consultation note, procedure note and others
## Georgia Health Connect Offerings

<table>
<thead>
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<th>Feature</th>
<th>Description</th>
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| **Patient Data Repository and Community Patient Record** | HIE Platform services that promote the integration of participants into a common integration network. Includes the following:  
- Data Normalization,  
- Patient Data Repository,  
- Security, Access and Authorization,  
- Messaging Interfaces,  
- Community Patient Record web application that allows the user to view patient record including encounters, medications, allergies, procedures, problems, observations, and other documents. |
<p>| <strong>Integration with Georgia Health Information Network (GaHIN)</strong> | Configure IHE PIX and XDS.b profiles in HDM and integrate with GaHIN as producer and consumer of the data according to GaHIN specification.                                                                 |
| <strong>Practice/Hospital onboarding</strong>             | Connectivity between GaHC and practices/hospitals and implement the Consolidated-Clinical Document Architecture (C-CDA) interface between HDM and practices/hospitals EHR. <strong>(May require vendor interface – extra fees not included)</strong> |
| <strong>Performance Quality Dashboard</strong>            | Harmonization of data from HIE platform and integration and syndication to analytics platform. Prepackaged dashboard that help providers monitor summary quality measure reports on the provider’s patient population and participate in different initiatives. |
| <strong>Electronic Lab and Radiology Orders and Results</strong> | Electronic lab and radiology orders and results provided as option                                                                                                                                               |
| <strong>Direct Messaging Service</strong>                 | Direct Messaging will be implemented by GaHIN.                                                                                                                                                                  |</p>
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<th>Offerings</th>
<th>Description</th>
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<td>Medication Reconciliation</td>
<td>Medication history solution to improve medication reconciliation workflows for hospitals, long-term care facilities and other acute care environments.</td>
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<td>Syndromic Surveillance Reporting Routing and Connectivity</td>
<td>Provides tools &amp; services necessary to route syndromic surveillance reporting from one EHR database to Georgia public health through GaHIN gateway. This is just routing only and excludes any EHR vendor interface fees.</td>
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<tr>
<td>Public Health Gateway-eLab Routing and Connectivity</td>
<td>Provides tools &amp; services necessary to route lab or radiology results from one EHR database to Georgia public health through GaHIN gateway. This is just routing and excludes any EHR vendor interface fees.</td>
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<tr>
<td>Bidirectional Immunization (GRITS) Routing and Connectivity</td>
<td>Provides tools &amp; services necessary to route immunization information to/from one EHR database to/from Georgia Immunization Registry via GaHIN. This provides connectivity and mapping required for the practice’s EHR. Excludes any EHR vendor interface fees.</td>
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<tr>
<td>eHealth Exchange Service</td>
<td>Provides tools &amp; services necessary to share patient information with other HIEs across state lines using eHealth Exchange Service (Nationwide Network).</td>
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STEPS: Satisfaction

Meets unique needs of providers who want an HIE that:

- Enables collaboration with other providers in spite of geographic differences;
- Fits a rural provider’s more limited budget;
- Improves patient care and satisfaction through access to a longitudinal record;
- Adds value to existing EHR systems by providing access to data and analytical tools previously unavailable;
- Supports clinical decision-making and population health management initiatives.
STEPS: Treatment/Clinical

Provides access to complete overview of patient’s medical history:

- Better informs clinical decisions for improved patient outcomes
- Ensures care continuity as patients move from primary to acute to post-acute care
- Uploads information from other sources such as statewide immunization databases or lab results directly into EHR for clinician’s easy access
- Creates complete longitudinal record, regardless of geographic location of providers
STEPS: Patient Engagement & Population Management

Access to patient’s longitudinal medical record through the HIE enables provider to:

• Seek health equity through better access for rural and underserved communities
• Follow-up to ensure patients comply with instructions for optimum outcomes
• Identify and avoid potential negative medication interactions
• Evaluate patients for recurrence of conditions treated by other providers
• Obtain information from all practices and hospitals connected to state-wide HIE and Medicare and State immunization data
Because value-based care focuses on controlling costs and improving outcomes, GA-HITEC HIE saves in these ways:

• Access to patient’s longitudinal medical record reduces duplicate tests and therapies

• Improved ability to produce mandated quality and cost reports - access to harmonized data from all sources enables automation of reports

• Dashboards that monitor care at high-levels with ability to drill down to detailed information enable identification of clinical and financial outliers, speeding response to potential risks

• Credible, holistic data available for developing best practices for quality outcomes

• Lower cost for technology
Healthcare Data Pool Silos

- Payers
- Clinical and Translational Science
- Provider Organizations
- Life Sciences

Shared Contextual Data

- Claims Data
- Provider Clinical Data
- Patient-Generated Data
- Life Sciences Data
Data Challenges

• Integration is difficult
  – With many different partners
  – Point to point connections
  – Using different protocols and formats
  – Multiple consumers of data with different needs / demands

• Standardization is challenging
  – There is no “standard” – When you've seen one, you've seen one
  – Many “generational” versions of so-called “standards” to maintain
  – Many different terminologies to determine data context
  – Capturing the necessary data in EHRs and other systems

• Overall very expensive to integrate, aggregate and harmonize
  – High EHR vendor interface fees (Data Blocking)
  – Cost of hardware, software and staff to manage data
HIE as a Service

Clinical Data

Provider Organizations
Clinical Data
Financial Data

State HIE

Clinical Data Viewer

Reporting and Analytics

Source: Georgia Health Connect © 2016
Different Types of Cloud-based Solutions

Source: NIST SP 500-292 - NIST Cloud Computing Reference Architecture
Cloud: Delivering faster time to value

- Reduced ‘time to results’ by eliminating need to stand-up operations
- Pay-as-you-go, eliminates CAPEX
- Accelerated access to new capabilities via shared platform investment
- Tailored solution AND benefits of multi-tenant platform
- Robust compliance: SOC 2, HIPAA, PCI DSS, Title 21 CFR Part 11

75% of customers report that service availability improved after moving to the cloud[^1]
94% of businesses say their security has improved since adopting cloud applications[^1]

[^1]: CloudTweaks, 2015
Technical Requirements – 100k feet

• Streamlined data sharing between ambulatory, acute care, and post-acute care settings. Provider web portal to view aggregated longitudinal patient data

• Connection to a variety of data sources such as EHRs, administrative and billing systems with support for patient and provider matching

• Patient data repository with real-time access through IHE XDS.b document registry and repository profiles

• Support all messaging standards HL7 v2 and v3, ASC X12 HIPAA-adopted, HL7 CDA, UN/EDIFACT, and many others

• Secure transfer and storage of data
Data Subscribers

Health Data Management Platform

Lab and Radiology

Labs
Radiology & Imaging

Ambulatory

Acute

Integration Platform

Health Data Management Platform

Patient and Provider Index Services
Healthcare Terminology Services

Map / Transform / Format

Patient Health Data Model
Target Data Model

Big Data Repository

Community Patient Record Portal
Analytical Systems
GAHIN & Other HIEs
EHR Applications

Source: Georgia Health Connect and Liaison Technologies © 2016
Benefits Were Realized for the Value of Health IT

• Better access in rural & urban underserved populations
• Affordable technology for smaller practices
• Cloud-based integrative platform for quality reporting
• Improved patient safety, error reduction & clinic outcomes
• Improved provider/patient engagement and satisfaction

http://www.himss.org/ValueSuite
Questions

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