Health Information Exchange
Environmental Scan: Key Findings

Prepared for:
Oklahoma State Department of Health
Center for Health Innovation and Effectiveness

Presented by:
Maureen Tressel Lewis
Andrew Naugle
Aaron Schneider

July 15, 2015
Caveats

This presentation was prepared by Milliman, Inc. (Milliman) for the Oklahoma State Department of Health (OSDH) in accordance with the terms and conditions of the contract between OSDH and Milliman.

The subsequent slides are for discussion purposes only. These slides should not be relied upon without benefit of the discussion that accompanied them.

No portion of this slide deck may be provided to any other third party without Milliman’s prior written consent.

In performing this assessment, we relied on data and other information provided by OSDH, from stakeholders interviewed, and from publicly available sources. We have not audited or verified this data and other information. If the underlying data or other information is inaccurate or incomplete, the results of our assessment may likewise be inaccurate or incomplete. This project is not complete; any preliminary conclusions presented here may change significantly based on subsequent discussion and analysis.
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Scope and Approach

- **State Innovation Model (SIM) Grant**
  - The SIM grant was awarded to Oklahoma in December 2014 to provide a state-based solution to Oklahoma’s healthcare challenges. The grant is administered by the Oklahoma State Department of Health (OSDH) with oversight by the Oklahoma State Innovation Model (OSIM) group.
  - OSIM’s goal is to improve health, provide better care, and reduce health expenditures for more than 1.2 million Oklahomans.

- As part of the SIM grant, OSDH engaged Milliman to perform a statewide environmental scan of existing HIEs and develop a proposal to implement a statewide interoperable health information network.
Scope and Approach

- Milliman conducted in-person and telephonic interviews with more than twenty representatives of Oklahoma’s existing health information exchanges, health delivery systems, payers, state agencies, and other key constituencies.
  - The goal of these interviews was to document capabilities for health information exchanges, focused on sharing clinical data, operations, and capabilities within the state.
  - Interviewees were also asked how they exchange and apply clinical information in electronic health record systems (EHRs) and their perspectives on possible approaches for future Oklahoma health information exchange efforts.
- This report presents key findings identified during the interviews and from review of HIE initiatives in Oklahoma and other states.
# Stakeholder Interviews

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Information Exchanges</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MyHealth Access Network</td>
<td>David Kendrick, M.D.</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td></td>
<td>Brian Yeaman, M.D.</td>
<td>Chief Executive Officer</td>
</tr>
<tr>
<td>Coordinated Care Oklahoma</td>
<td>Joanna Walkingstick</td>
<td>Project Manager</td>
</tr>
<tr>
<td></td>
<td>Jason Kirby</td>
<td>Sales Consultant</td>
</tr>
<tr>
<td></td>
<td>Rodolfo Alvarez Del Castillo, M.D.</td>
<td>Chief Medical Officer</td>
</tr>
<tr>
<td></td>
<td>Jonathan Kolarik</td>
<td>Chief Clinical Informatics Officer</td>
</tr>
<tr>
<td>Healthcare Delivery Systems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>St. Anthony's</td>
<td>Kevin Olson</td>
<td>Chief Information Officer</td>
</tr>
<tr>
<td></td>
<td>Ann Paul</td>
<td>Vice President</td>
</tr>
<tr>
<td>St. Johns Health System</td>
<td>Bat Shunatona, M.D.</td>
<td>Medical Director</td>
</tr>
<tr>
<td></td>
<td>Troy Cupps</td>
<td>ACO Operations Director</td>
</tr>
<tr>
<td>Payers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blue Cross Blue Shield of Oklahoma</td>
<td>Joseph Cunningham, M.D.</td>
<td>Chief Medical Officer</td>
</tr>
<tr>
<td>Oklahoma Health Care Authority</td>
<td>Adolph Maren</td>
<td>Director, Electronic Health Operations</td>
</tr>
<tr>
<td></td>
<td>Lisa Gifford</td>
<td>Chief of Business Enterprise Services</td>
</tr>
<tr>
<td>Other Stakeholders</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oklahoma DMHSAS</td>
<td>Tracy Leeper</td>
<td>Decision Support Policy Analyst</td>
</tr>
<tr>
<td></td>
<td>Isaac Lutz</td>
<td>Health Innovation Planning Manager</td>
</tr>
<tr>
<td>Oklahoma State Department of Health</td>
<td>C. Alex Miley</td>
<td>OSIM Project Director</td>
</tr>
<tr>
<td></td>
<td>Becky Moore</td>
<td>Director of Informatics</td>
</tr>
<tr>
<td>Choctaw Nation (CNHSA)</td>
<td>David Wharton</td>
<td>Chief Risk Officer, Health Informaticist</td>
</tr>
<tr>
<td></td>
<td>Ashley Rude</td>
<td>HIT Practice Advisor</td>
</tr>
<tr>
<td>Oklahoma Foundation for Medical</td>
<td>Ashley Wells</td>
<td>HIT Practice Specialist</td>
</tr>
<tr>
<td>Quality</td>
<td>Lindsey Wiley</td>
<td>HIT Manager</td>
</tr>
</tbody>
</table>
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Key Terms Defined

- **Health Information Exchange**: Is broadly defined as a system designed to pass health information from one party to another. Functionality such as portals, reporting, and analytics may be added to increase the utility of the software.

- **ONC Certification**: Certification indicates that a system conforms to standards for health information technology (HIT) security and functionality as defined by the Office of the National Coordinator for Health Information Technology (ONC). The ONC has not yet published HIE certification standards.
Key Terms Defined

- **Interoperability**: A software system capability to send and receive information to other disparate systems.

- **eHealth Exchange**: eHealth Exchange (also referred to as The Sequoia Project and HealthEWay) is an expanding group of participants sharing health information under a common framework and set of rules. Participants include federal agencies, states, beacon communities, and health systems. eHealth Exchange provides information through secure, trusted, and interoperable health information exchange.
Key Terms Defined

- **Centralized Data Model:** A database system design in which disparate data sets are merged and stored in a shared location. This model is generally thought to be a technical precondition for population health analytics.

- **Federated Data Model:** A system design in which separate databases allow partial and controlled sharing of their data upon request. This model typically trades increased patient and provider privacy for effective aggregate reporting and analytics.
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Current Data Sharing Environment

- Oklahoma healthcare data is exchanged in many ways today
  - Two existing HIEs with some key similarities and differences
    - Coordinated Care Oklahoma (CCO)
    - MyHealth Access Network (MyHealth)
  - OSDH plans to establish a database for exchanging health information between state entities
  - Electronic health record systems (EHRs) enable information sharing between providers if both use the same EHR. This capability is an ONC Stage 2 requirement
  - Efforts are underway to connect various exchanges via a “network of networks” also referred to as eHealth Exchange
- Each effort has a different intended use, partially overlapping data sets, and different business and governance models
## Current HIE Features

<table>
<thead>
<tr>
<th>Feature</th>
<th>Coordinated Care</th>
<th>MyHealth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Structure</td>
<td>501(c)(3)</td>
<td>501(c)(3)</td>
</tr>
<tr>
<td>Major Grants Awarded</td>
<td>None</td>
<td>Beacon Grant</td>
</tr>
<tr>
<td>Membership Costs</td>
<td>Fee and Subscription</td>
<td>Fee and Subscription</td>
</tr>
<tr>
<td>Board Composition</td>
<td>Hospital System Investors</td>
<td>Community and Member Based</td>
</tr>
<tr>
<td>Patient Lives (est.)</td>
<td>4,500,000</td>
<td>4,000,000</td>
</tr>
<tr>
<td>Provider Locations (est.)</td>
<td>455</td>
<td>275</td>
</tr>
<tr>
<td>Data Model</td>
<td>Federated Hybrid</td>
<td>Centralized Hybrid</td>
</tr>
<tr>
<td>Consolidated Clinical Document Architecture</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Population Management Tools</td>
<td>Not at this time</td>
<td>Yes (Pentaho)</td>
</tr>
<tr>
<td>Analytics</td>
<td>Not at this time</td>
<td>Yes (IndiGo)</td>
</tr>
<tr>
<td>Patient Participation Model</td>
<td>Opt-Out</td>
<td>Opt-Out</td>
</tr>
<tr>
<td>ONC Certifications</td>
<td>Advanced Directives</td>
<td>Patient Portal</td>
</tr>
<tr>
<td>Training Model</td>
<td>Train the Trainer</td>
<td>Train the Trainer</td>
</tr>
<tr>
<td>Demographic Data</td>
<td>Yes (centralized)</td>
<td>Yes (centralized)</td>
</tr>
<tr>
<td>Clinical Data</td>
<td>Yes (federated)</td>
<td>Yes (centralized)</td>
</tr>
<tr>
<td>Claims Data</td>
<td>Not at this time</td>
<td>Yes (selected payers)</td>
</tr>
</tbody>
</table>
Coordinated Care Oklahoma

- **Data Model:** Allows three types of connection
  - Centralized connection hosted by Cerner including demographic information and clinical records
  - Centralized connection hosted by Cerner for demographic information and a federated clinical record
  - Fully federated connection

- **Access:** Access is via single sign on (SSO) and the portal consolidates information from disparate sources into a shared view

- **Data Elements:** Inpatient, pharmacy, long term acute care, primary and specialty physician, ancillary, laboratory, and advanced directives
MyHealth Access Network

- **Data Model:** Allows three types of connection
  - Centralized connection that shares demographic data and clinical records
  - Centralized connection hosted by MyHealth for demographic information and a federated clinical record
  - “View only” connection that allows access to demographic data and clinical records

- **Access:** Access is via single sign on (SSO) and the portal consolidates information from disparate sources into a shared view

- **Data Elements:** Inpatient, outpatient, and specialty physician patient records, and some claims data
Oklahoma state agencies’ numerous data systems are unable to share data.

OSDH is leading an initiative to develop a shared-service database to enable information coordination between state agencies and county health departments.
- Orion was recently selected as the vendor.
- Implementation will take approximately two years.

Capability will simplify reporting for healthcare organizations by enabling a single data submission to a central location.

Data Elements (planned): Discharge, immunization, death records, disease registries, and Medicaid data.
Other Data Sharing Initiatives

- Different installations of EHRs are beginning to communicate
  - For example, two clinics using Epic can view each other’s patient records
  - Consolidated patient information views are not yet available so each clinic’s health record for a patient must be viewed independently

- An active initiative to connect both HIEs to a “network of networks” would allow federated data sharing across HIEs
  - EHealthExchange enables on-demand clinical information sharing
  - Providers must currently join both HIEs and incur the costs for each to access complete patient information
  - Both HIEs have reached agreement to contribute data to eHealthExchange
  - OSDH applied for an ONC grant that will fund interoperability between the HIEs
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Reasons to Share Data

- During interviews, participants expressed varied motivations for exchanging healthcare information
  - Improving continuity of care between transitions
  - Creating longitudinal patient views for
    - Point-of-care decision making
    - Reducing readmission rates
    - Preventing duplicate testing
    - Population management
  - Standardizing pay-for-performance quality programs
Data Sharing Concerns

- Relatively few concerns were raised during the interviews
  - Oklahoma acts as an opt-out model for patient permissions meaning that most organizations share data unless a patient specifically asks to have his/her information excluded
  - Technical and HIPAA security infrastructure was perceived as adequate
  - Participating organizations in the individual data sharing efforts appear to trust the organization and how data is used and shared

- Concerns regarding the cost to join an HIE and ongoing use fees were articulated by stakeholders representing smaller and/or rural provider groups
  - Costs include both fees from the HIE and from EHR vendors
National Data Sharing Experiences

- Concerns expressed in other states implementing HIEs include
  - HIPAA compliance
  - Belief that patients should “opt-in”
  - Lack of trust in partnering organizations
  - Anti-trust concerns (particularly when data is used to make contracting or purchasing decisions)

- Similar questions may emerge in Oklahoma as a statewide data sharing effort becomes more visible to Oklahomans
Governance Considerations

- Governance refers to the process for developing the guidelines and rules for oversight and management of an organization or function.

- Interviewees who are active participants in one of the HIEs considered governance and stance on information privacy and safeguards as much as the HIE’s technical capabilities.

- National experience suggests that agreeing upon or legislating what information is shared and when and to whom it is accessible are key determinants for the utility of an exchange or network of exchanges.
Provider Environment

- Oklahoma City and Tulsa have established, mature healthcare delivery systems that invest in HIT
  - Some providers are also investing in internal analytic capabilities for population management

- Many providers and critical access hospitals in rural Oklahoma are affiliating with/being acquired by larger care delivery groups
  - Aggregation can help these providers afford HIE connections which can cost thousands of dollars, plus ongoing subscription fees

- Oklahoma’s Native health systems use a mix of EHRs
  - Nations operate independent health services which are not interoperable with one another
  - Indian Health Services (IHS) is building a data warehouse to enable some data sharing
Payer Environment

- Oklahoma has a relatively consolidated payer market
  - Approximately 70% of commercial lives are covered by three organizations Blue Cross and Blue Shield of Oklahoma (BCBSOK), United, or Aetna

- Payers within Oklahoma are interested in HIEs to support population health management
  - Using a “trusted 3rd party” for measurement
  - Tracking continuity of care across their network

- Payer organizations typically have internal analytics capabilities
Table of Contents

- Project Overview
- Health Information Exchange Terms
- Active Data Sharing Efforts
- Current Environment
- Statewide Interoperable Health Information Network Options
Environmental Summary

- Stakeholders throughout the state are aware of the benefits of healthcare data sharing and interested in participating in the process of expanding access to healthcare information.
- Oklahoma has two free market-driven healthcare information exchange initiatives.
- These initiatives are driven by similar goals, improving patient health, but have different visions of how to achieve that outcome.
- There is some overlap in capability between HIEs.
- To maximize utility from shared data, networks need to be able to communicate to pass information throughout the state.
Statewide Health Information Network

- Oklahoma wishes to develop a statewide interoperable health information network
- Options to achieve this goal include

<table>
<thead>
<tr>
<th>Option 1</th>
<th>Option 2</th>
<th>Option 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Network of Exchanges”</td>
<td>Select an Existing HIE</td>
<td>State Sponsored HIE</td>
</tr>
<tr>
<td>Least robust statewide capability</td>
<td>Adoption of existing capability</td>
<td>Ability to customize statewide capability</td>
</tr>
<tr>
<td>Moderate response to market needs; maximum stakeholder input</td>
<td>Responsive to market needs; moderate stakeholder input</td>
<td>Slow response to market needs; limited stakeholder input</td>
</tr>
<tr>
<td>Moderate time to market</td>
<td>Shortest time to market</td>
<td>Longest time to market</td>
</tr>
</tbody>
</table>
Option 1: “Network of Exchanges”

- Oklahoma’s free market is moving toward a federated network of exchanges
  - A federated network would enable sharing of core clinical and demographic data for point-of-care use
  - This approach does not disrupt existing initiatives

- Considerations
  - Population health analytics would be limited to members of certain HIEs and the analytics would not include federated connections
  - Connections will be established on uncertain timeframes and are voluntary
  - Rural and independent providers may be unable to afford membership costs to multiple exchanges
Option 2: Select an Existing HIE

- Select an existing HIE as the statewide information network
  - HIEs are most valuable when the number of participants are maximized
  - Oklahoma gets the benefit of a pre-built and standard HIE experience across the state
  - No time is required to build a new solution, capability, or wait for voluntary participation to a network of exchanges

- Considerations
  - Rural and independent providers may require subsidy to afford membership costs of even a single HIE
  - Disrupts free market process for the benefits of uniformity and speed
Option 3: State Sponsored HIE

- Oklahoma may choose to invest in a state sponsored HIE
  - One option may be to broaden the scope of the existing OSDH shared services effort
  - Constructing an HIE would enable the State of Oklahoma to provide a uniform experience and functionality to the State’s standards
  - Oklahoma gets the benefit of a pre-built and standard HIE experience across the state

- Considerations
  - Creating an HIE is a long, complicated process which would delay information access across the state
  - Participants may let membership to private HIEs lapse
  - Ownership and maintenance of the HIE may be more complex