

H. Health Information Technology Plan

INTRODUCTION

The Oklahoma Health Information Technology (HIT) Plan identifies HIT objectives and strategies to support the Oklahoma State Innovation Model (SIM). These objectives and strategies address the deficiencies in electronic health information interoperability and exchange in Oklahoma and support Oklahoma in moving toward value-based purchasing to improve the health of all Oklahomans.

Studies have demonstrated the benefits of HIT in providing better care and improving outcomes. For instance, when healthcare providers have access to complete and accurate information, patients receive better healthcare.¹⁴⁶

In 2005, a team at the RAND Corporation reported that properly implemented and widely adopted HIT would save money and significantly improve healthcare quality.¹⁴⁷ A 2012 national survey of doctors ready to comply with meaningful use revealed that 94 percent of providers reported that their electronic health records (EHRs) makes records readily available at the point of care; 88 percent reported that their EHR produces clinical benefits for the practice; and 75 percent reported that their EHR allows them to deliver better patient care.¹

The drivers for HIT in Oklahoma include national-level initiatives such as:

- Meeting the Triple Aim Initiative
- Compliance with new Medicare payment regulations
- Meeting the CMS goal of moving Medicare payments to value based payment

HIT is also a critical component in meeting the goals of OHIP 2020. Furthermore, OHIP 2020 clearly identifies HIT as one of four core areas of work to support Oklahoma's health system transformation. Section D of the SHSIP describes the goals and objectives that HIT will support.

Through the evaluations completed by numerous Oklahoma SIM contractors and stakeholder input, Oklahoma has determined an optimal approach to support these HIT drivers and achieve the Triple Aim:

1. Partner with and support the existing private, nonprofit Health Information Exchanges (HIE);
2. Develop multiple levels of governance to ensure transparency, balance, and public/private stakeholder input; and
3. Establish technology and infrastructure to support statewide health information technology interoperability and state-level value-based analytics (VBA).

The Oklahoma HIT Plan leverages past experiences, existing public/private resources and relationships, and examples from other states to establish this technology infrastructure for the Oklahoma Model. This plan will serve as the roadmap for an HIT infrastructure to support the next phase of healthcare initiatives.

CURRENT HIT ENVIRONMENT

To identify the changes needed in the Oklahoma HIT environment, it is necessary to evaluate the existing environment. Over the past five years, Oklahoma has made significant strides in improving health information technology: EHR utilization continues to improve, two Health Information Exchanges (HIEs) are thriving in an open-market environment, and the state has made significant decisions to support ongoing improvements through the development of a state-agency HIE and in supporting initiatives to improve the use of HIT. This section will describe the current EHR adoption and utilization, health information exchange, and past state HIT initiatives that have shaped the landscape today.

EHR Adoption and Utilization

Oklahoma's EHR adoption and utilization continues to improve due to the CMS EHR Incentive Program, the efforts of the Oklahoma Regional Extension Center (REC) and other federally-funded initiatives. According to the Healthit.gov April 2015 Health IT Dashboard, 64 percent of Oklahoma physicians, 72 percent of Oklahoma nurse practitioners, 3.2 percent of physician assistants, and 91 percent of eligible and critical access hospitals had demonstrated Meaningful Use of Certified Health IT and/or Adopted, Implemented, or Upgraded any EHR.¹⁴⁸

EHR Incentive Program

As described in Section B, the Medicaid Oklahoma EHR Incentive program provides a financial incentive to assist eligible providers in adopting (acquiring and installing), implementing (training staff, deploying tools, exchanging data), and upgrading (expanding functionality or interoperability) meaningfully use certified EHR technology. The Oklahoma Health Care Authority (OHCA) maintains monthly EHR Incentive Program statistics and provides information about the EHR vendors operating in the state. The following tables detail the number of eligible providers and hospitals and percent of participation with the percent increase from June 2014 to June 2015.

Table 42: SoonerCare (Medicaid) EHR Program

Provider Type	June, 2014			June, 2015			Percent Increase
	Total Eligible *	Total Attested	Percent of Participation **	Total Eligible *	Total Attested	Percent of Participation **	
Eligible Professional	10499	2329	22.18%	11983	2725	22.74%	2.51%
Eligible Hospital	146	105	71.92%	150	108	72.00%	0.11%
* Total Eligible represents the total number of SoonerCare Providers with a qualifying provider type (Physician, Nurse Practitioner, Certified Nurse-Midwife, Dentist, Physician Assistant in a PA led FQHR/RHC, Acute Care and Children's Hospitals).							
** Percent of Participation represents the total number of providers attested versus the total number of providers eligible.							

Table 43: Oklahoma Medicare EHR Program

Provider Type	Total Attested		
	June, 2014	June, 2015	Change
Eligible Professional	2369	2869	500
Eligible Hospital	108	116	8

Source: OHCA Oklahoma EHR Incentive Program August, 2014 and June, 2015

Table 44: Top Ten EHR Vendors in Oklahoma among Eligible Professionals and Eligible Hospitals participating in the Medicaid EHR Incentive Program

Vendor	Count of Providers
GE CENTRICITY	909
RPMS (Indian Health Service System)	410
NEXTGEN	185
E CLINICAL WORKS	183
ALLSCRIPTS	103
PRACTICE FUSION	93
ATHENA	85
EMDS	69
GREENWAY	64
SUCCESS EHS	63

The above EHR vendors are currently certified under the 2014 criteria which would enable providers utilizing these systems to easily interoperate and exchange electronic health records. Those providers that are utilizing a non-2014 certified system may still exchange electronic health records by setting up a one-way or bi-directional transaction through an HIE. Although having a certified EHR is not necessarily required to exchange electronic health records, further analysis will be conducted to identify specific barriers preventing the provider from interoperating and/or exchanging electronic health records.

The Oklahoma Electronic Health Record (EHR) Incentive program, one of the first in the nation, began January 3, 2011. It is funded by the Centers for Medicare and Medicaid Services (CMS). The rate of EHR adoption and utilization in Oklahoma continues to improve due to the EHR Incentive Program, efforts of the Oklahoma Regional Extension Center, and other federally-funded initiatives.

However, growth has been slow. Approximately 112 EHR systems are currently in use in Oklahoma. According to the Oklahoma Health Care Authority (OHCA), the state Medicaid agency, by June 2015, 22.18 percent of professionals and 71.92 percent of hospitals eligible for the EHR program had attested for Meaningful Use (MU) through the Oklahoma SoonerCare (Medicaid) EHR Program. In addition to the slow growth of EHR adoption, the vendor environment is unstable due to changing reporting requirements and the inability of the EHR vendors to meet those requirements. The top 10 EHR vendors

used by eligible professionals and eligible hospitals participating in the Medicaid EHR Incentive Program are currently certified under the 2014 criteria, which would enable providers utilizing these systems to interoperate and exchange electronic health records with ease.

Regional Extension Center

Oklahoma has developed resources to work with providers and hospitals to assist with new technology and improving workflows. The Oklahoma Foundation for Medical Quality (OFMQ) served as the Oklahoma REC beginning in 2011 continuing until April 2016 and has played an integral part in improving EHR utilization. The OFMQ has worked with over 2,000 physicians on projects for over 10 years with a major focus on quality improvement, Meaningful Use (MU) adoption and attestation, Patient Quality Reporting System (PQRS), HIE adoption, EHR workflow, practice workflow, and HIPAA (Health Insurance Portability and Accountability Act)Act)Act)Act). In addition to their role as the REC, OFMQ has served as a contractor for OSDH projects to assist in the optimization of data attestation and extraction processes. The OFMQ will be hosting the first Oklahoma HIT conference in 2016.

Other EHR Support Initiatives

Oklahoma has implemented federally-funded initiatives that have included requirements for HIT and provider support related to EHR utilization and quality reporting. The Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) established 88 Health Homes across 22 organizations to offer holistic care by providers, social services, and behavioral healthcare specialists and all Health Homes are required to have a certified EHR and HIE connectivity and to leverage that connectivity to provide quality and value reporting.

OSDH has received two grants from the Centers for Disease Control and Prevention (CDC): 1305 - State Public Health Actions to Prevent and Control Diabetes, Heart Disease, Obesity and Associate Risk Factors and Promote School Health; and 1422 - State and Public Health Actions to Prevent Obesity, Diabetes, and Heart Disease and Stroke. Both projects require the electronic exchange of health information and clinical quality reporting. Funds from the two CDC grants have been used to provide technical support for eligible providers in terms of EHR contracts, EHR implementation and utilization, workflow analysis, and quality reporting by utilizing the experience of the REC. Providers eligible for MU or Adopt/Implement/Upgrade (AIU) have been assisted with the attestation preparation and methods for extracting data from EHR systems. Future efforts surrounding data extraction of the specified elements for hypertension and HbA1C will be supplemented with:

- Review of provider documentation and tracking regarding Clinical Quality Measures to provide verification of data accuracy and integrity, education about how the measures are populated within the EHR and how to extract them, and appropriate use of measure(s) to improve patient panel management;
- Practice-specific education, either on-site or (when applicable) at the community level, at regional locations or through various other methods such as teleconferences and/or web-based trainings; and
- Access to web-based resources and links.

For the remaining cycles of both grants, OFMQ will assess healthcare provider skills, knowledge, and attitudes with EHR utilization and determine the level of optimization that can be met over the three year grant period. Project plans include utilization enhancements such as:

- Patient referral management;

- Clinical decision support;
- Patient portal utilization and engagement;
- Population health management reporting and registry functionality;
- Patient reminders and utilization of screening tools to identify high-risk patients;
- Standard treatment protocols or order sets; and
- Direct messaging and use of formulary function for Rx coverage.

The AHRQ-funded Healthy Hearts for Oklahoma (H2O) Project will develop Community Health Information Organizations to work with 300 primary care practices to advance care for cardiovascular disease. The project requires EHR utilization and clinical quality reporting to ensure information is available for care coordination and for evaluating the success of the project.

Under the recently announced Transforming Clinical Practice Initiative award, Oklahoma will be part of the Iowa Healthcare Collaboratives six-state Practice Transformation Networks (PTN), which will help the state to undergo largescale practice transformation. Telligen, the data vendor, will provide consulting support for program management, data analysis and measures and serves quality improvement advisers providing direct technical assistance to practices in all aspects including HIT.

Oklahoma will leverage its private nonprofit HIEs, Coordinated Care Oklahoma and MyHealth Access Network, as well as the state-agency interoperability system, Health-e Oklahoma, to support these initiatives and enable the exchange of health information across EHRs.

Health Information Exchange (HIE)

To evaluate the existing Oklahoma HIE environment, the Oklahoma SIM project contracted with Milliman to deliver an HIE Statewide Environmental Scan. For more information, including the number of lives touched and the technology, the complete Milliman report can be found in Appendix G.

The evaluation included stakeholder interviews and research of HIE initiatives in other states. Oklahoma has two active private nonprofit HIEs, Coordinated Care Oklahoma and MyHealth Access Network, as well as a state-agency HIE under development. The business models of the nonprofit HIEs differ and each has established a client base that supports their respective models with governance that ensures they serve the interests of their customers.

Although the two private-nonprofit HIEs have a robust clientele that extends across and outside Oklahoma, interoperability among them does not exist. This forces providers and hospitals to look to both HIEs to receive complete patient information. In addition, with limited funding and resources, the state continues to struggle with interoperability for eligible professionals and eligible hospitals reporting public health measures resulting in duplicate data entry for immunizations and reportable disease case reports. Achieving statewide interoperability will be a significant improvement in reducing the burden on providers in Oklahoma.

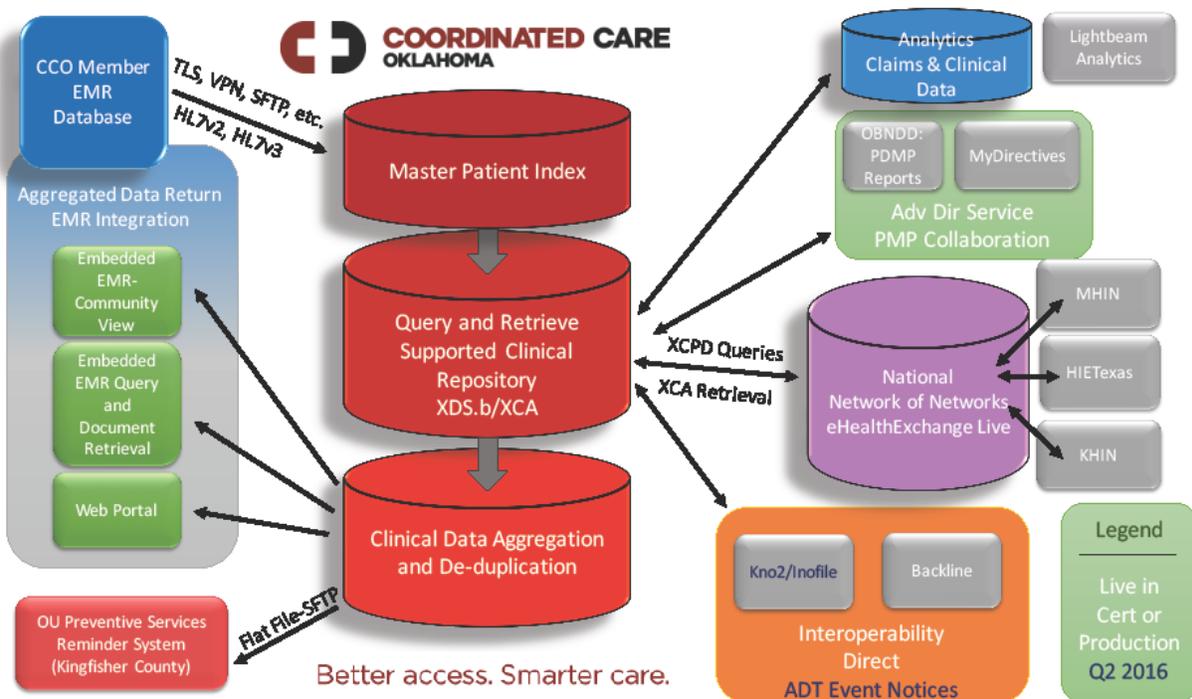
Coordinated Care Oklahoma

Coordinated Care Oklahoma is a non-profit organization that has been in operation in the Norman and Oklahoma City areas since 2014. Coordinated Care Oklahoma is governed by a board of directors comprised of health systems, small provider groups, large provider groups, rural hospitals, post-acute care, and community participants. Coordinated Care Oklahoma is managed by Yeaman and Associates

with Dr. Brian Yeaman serving as Chief Executive Officer (CEO). Coordinated Care Oklahoma’s start-up costs were funded by health systems and provider groups and have been sustained through subscription fees.

Coordinated Care Oklahoma provides tools that support patient transitions of care, presenting a complete medical record on demand at the point and time of care (see Figure 1). Coordinated Care Oklahoma has a hybrid centralized-federated data model. Users access the HIE via a Cerner Corporation technology-based single sign-on or via a web portal. Coordinated Care Oklahoma is developing analytics capabilities for risk stratification and reports for population health management, condition management, Health Effectiveness Data and Information Set (HEDIS) measures, and information on treatment and clinical quality. Coordinated Care Oklahoma also provides a multistate electronic repository for patients’ portable advanced directives.

Figure 40: Coordinated Care Oklahoma Technology Stack

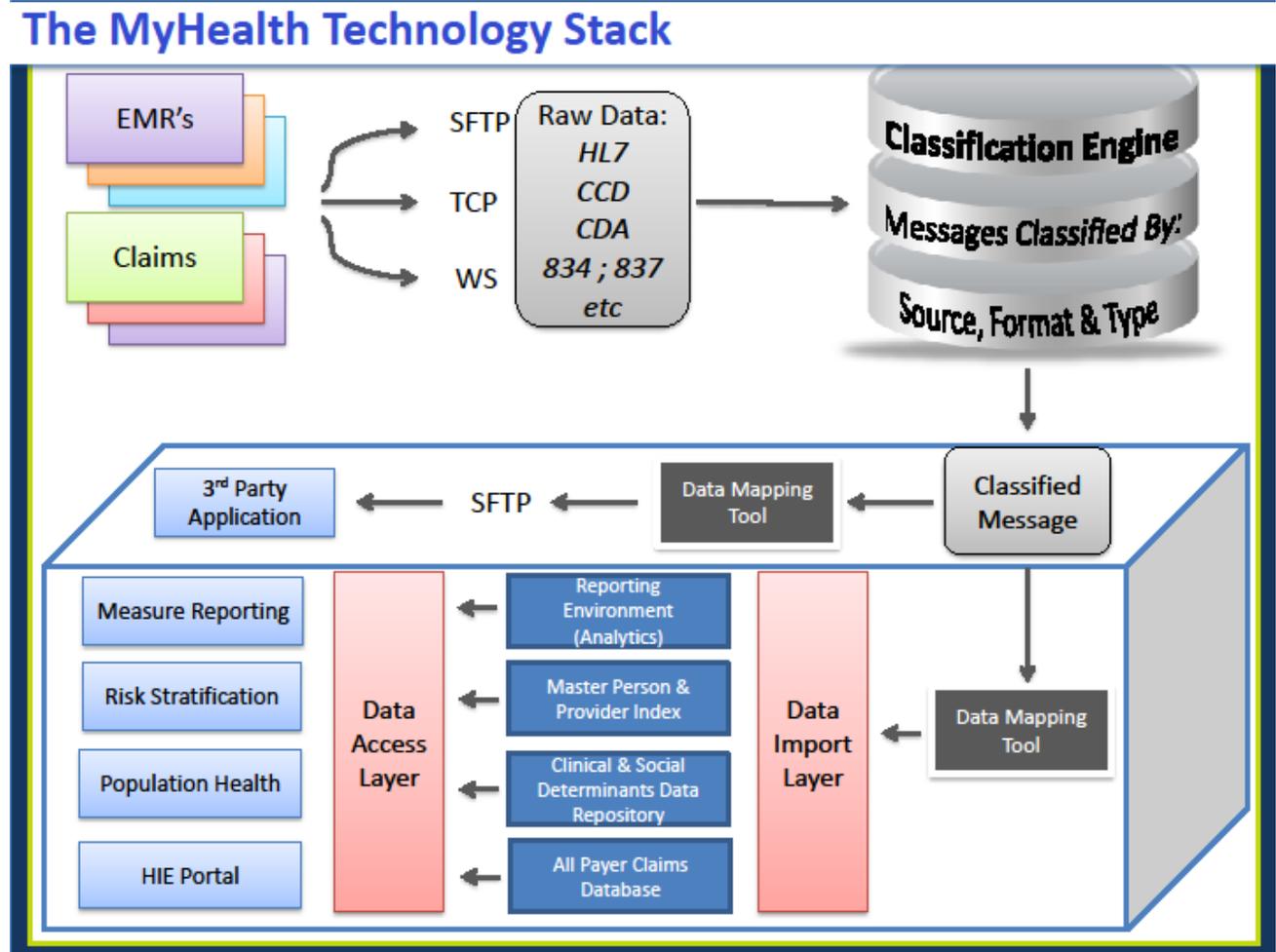


MyHealth Access Network

MyHealth Access Network (MyHealth) is a nonprofit organization that has been in operation since 2009. MyHealth collects patient information to create opportunities for early intervention with at-risk patients, to assist in treating decisions during the patient visit and to enable population management programs through analytics and reporting tools. MyHealth is governed by a board of directors consisting of 20 members from health systems, tribal organizations, patients, universities, private payers, clinicians, representatives from the community, and public and allied health organizations. Dr. David Kendrick is the organization’s CEO. MyHealth received funds through an Office of the National Coordinator for Health Information Technology (ONC) Beacon Community grant in 2010 to invest in infrastructure and technology. MyHealth is sustained through membership fees.

MyHealth supports care coordination through a consolidated Continuity of Care Document that summarizes and presents relevant point-of-care information. Authorized users may access patient data on-demand via the HIE by logging into a web portal from their EHR using single sign-on. As a participant in the Comprehensive Primary Care (CPC) Initiative, MyHealth is expanding their HIE data model to include claims data for value-based assessment of care. See the figure below for the MyHealth technology stack.

Figure 41: MyHealth Access Network Technology Stack



Health-e Oklahoma

Health-e Oklahoma is the Oklahoma Health and Human Services (HHS) interoperability system currently under development. In 2014, the Oklahoma HHS cabinet created the Deliver Interoperable Components Utilizing Shared Services (DISCUSS) committee with the mission to share technology resources among the HHS agencies. One of the first identified shared resources was to create the Health-e Oklahoma interoperability system. The purposes of Health-e Oklahoma are to share data within and across state health agencies, enable the consumption of health information from the two nonprofit HIEs, and support non-HIE participating providers submitting public health data. See Figure 43 for the Health-e Oklahoma HIE technology stack. Health-e Oklahoma is governed by the DISCUSS Committee and is managed by

the State HIE Director with support from the OSDH’s Informatics Division and the Office of Management and Enterprise Services Information Services (OMES-IS) Division.

Health-e Oklahoma will initially receive public health data from 18 OSDH data systems, behavioral health data from ODMHSAS, and Medicaid claims data from OHCA with the potential to receive additional data from the Oklahoma Department of Human Services (DHS), Department of Rehabilitation (DRS) Services, and the Employee Group Insurance Division (EGID).

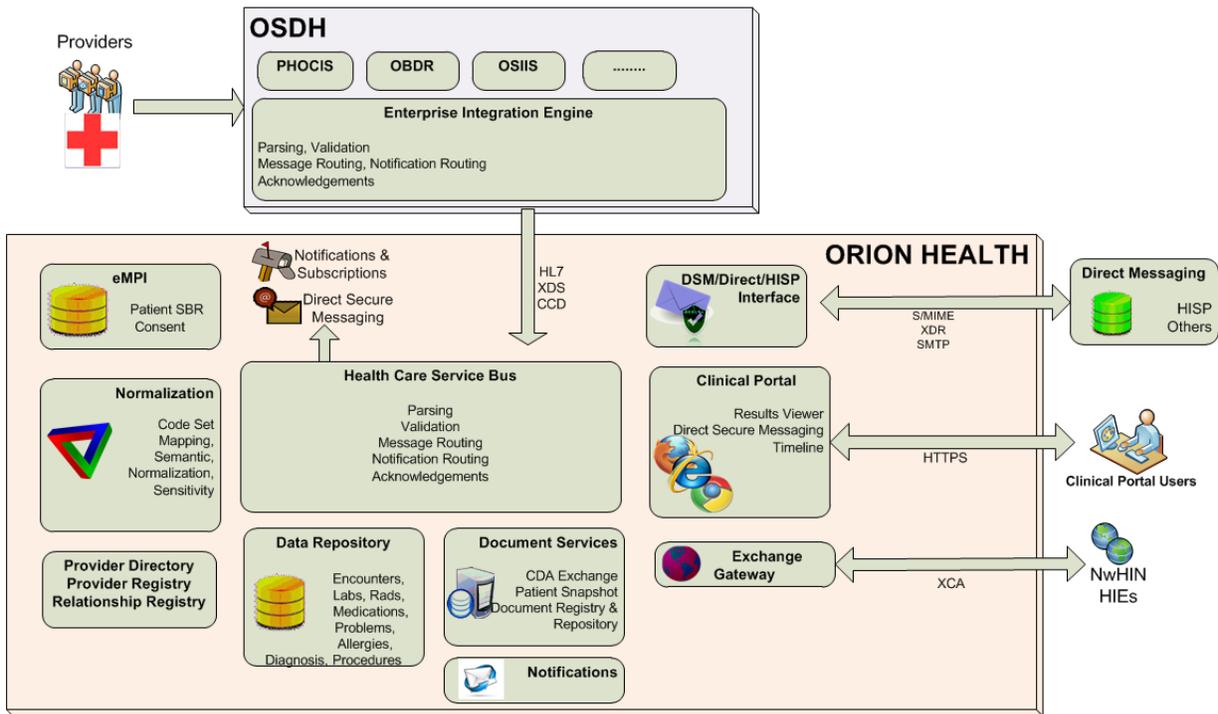
Health-e Oklahoma will provide numerous benefits related to public health data and state-level analytics. Included in the 18 OSDH data systems are the services data provided at the 86 county health department clinics located in 69 of the 77 Oklahoma counties. Table 4 contains the types of services and the unduplicated count of clients served in state fiscal year (SFY) 2014. Due to the lack of Certified Electronic Health Record Technology (CEHRT) within the county health departments, OSDH is unable to electronically exchange standardized data with other healthcare providers. Currently, paper records, encrypted thumb drives and other portable media are used to exchange information.

Table 45: Unduplicated Clients for OSDH Programs for SFY 2014

Program	Client Count
Adult Services	17,975
Child Health Services	22,803
Home Visitation Services	3,394
Dental Services	425
Early Intervention Services	7,744
Family Planning	55,473
Child Guidance	5,400
Immunization	208,582
Maternity	200
Sexually Transmitted Disease	25,775
Breast and Cervical Cancer Screening	8
Tuberculosis	8,750

In addition to exchanging treatment data through Health-e Oklahoma, the OSDH immunization information system will have the ability to receive standard immunization records submitted for meaningful use purposes and respond to queries returning immunization records and schedules. Additional use cases will be developed for newborn blood and hearing screening, lead reporting, birth defects reporting, and case reporting for reportable diseases. The implementation of Health-e Oklahoma provides Oklahoma state agencies with the ability to exchange data in a standardized, timely, and efficient format that has not been previously possible. This also provides state agencies with the ability to exchange data with other HIEs thereby reducing the reporting burdens on providers

Figure 42: Health-e Oklahoma Technology Stack



Past HIT initiatives

Recognition of the need for statewide interoperability is not new, however. In 2010, Senate Bill 1373 created the Oklahoma Health Information Exchange Trust (OHIET) to support State Health Information Exchange Cooperative Agreement Program (SHIECAP) to achieve statewide interoperability. The purpose of OHIET was to foster and encourage the development and meaningful use of EHR technology throughout Oklahoma followed by ensuring complete coverage of the state by health information exchange through secure and appropriate transmission of electronic health information.

OHIET identified six major activities to fulfill its purpose:

- Develop a process to certify HIE organizations to ensure high quality health information services;
- Develop and operationalize grant programs that enhance an overall state strategy to assist providers in meeting MU requirements;
- Work to ensure cooperation and coordination at a high quality level in a ‘network of networks’ philosophy;
- Identify and shepherd policy and statutory changes to insure on-going, appropriate and secure health information exchange;
- Coordinate activities of the various entities established for information exchange; and
- Evaluate and monitor activities related to the OHIET Operational Plan.

OHIET expended the SHIECAP funds through a three-level voucher program to support eligible professionals and eligible hospitals in rural locations. The vouchers supported recipients in activities related to sending and receiving standard messages, connecting to an HIE, and implementing workflow enhancements.

An ONC Challenge Grant was awarded in 2011 as a sub-recipient under OHIET. Working through the Oklahoma-based healthcare professional services firm, Yeaman and Associates, OHIET used the Challenge Grant to conduct a pilot program aimed at facilitating care coordination between five long-term and post-acute care (LTPAC) facilities and the Norman Regional Health System. Through a combination of elements, the LTPAC pilot sites observed reductions in returns to the emergency department within 24 hours of discharge and in hospital readmissions within 30 days of discharge.

Following the conclusion of the SHIECAP, OHIET was eliminated through Senate Bill 516, effective January 1, 2016. Unfortunately, OHIET was unable to achieve statewide interoperability before it was eliminated.

Current HIT Governances

Governance for HIT in Oklahoma occurs at various levels. Each of the HIEs has a governance structure. However, with the elimination of OHIET, there is no state-level governance of HIT activities operating within the Oklahoma borders. The two nonprofit HIEs each have a Board of Directors responsible for governing their operations. Coordinated Care of Oklahoma's board is comprised of health systems, small provider groups, large provider groups, rural hospitals, post-acute care, and community participants. Coordinated Care Oklahoma has entered into an agreement with Yeaman and Associates, where Dr. Brian Yeaman serves as CEO, to provide organizational support, legal counsel, operations, finance and project management, and general oversight of the HIE. My Health's board is comprised of participants from health systems, tribal organizations, patients, universities, private payers, clinicians, community representatives, public and allied health organizations, and one individual appointed by the governor.

Health-e Oklahoma, the HHS interoperability system, has established governance through the HHS DISCUSS committee via the HHS DISCUSS Data Subcommittee. The DISCUSS committee is responsible for identifying and championing shared interoperability services efforts to support Oklahoma's health and human services agencies. The DISCUSS committee is chaired by the Deputy Secretary of Health and Human Services and includes five additional voting members from the largest HHS agencies: OSDH, OHCA, DHS, ODMHSAS, and DRS. The State Chief Information Officer (CIO), CIO for Health and Director for Enterprise Data Driven Services, and CIO for Human Services and Director of Technology Strategy provide guidance and subject matter expertise to support the DISCUSS committee. In addition to other shared-services identified by DISCUSS, the members agreed to create Health-e Oklahoma, the shared HHS interoperability system, to facilitate the sharing of the state's data across agencies and to link disparate systems. The DISCUSS Data Subcommittee consists of representatives from the DISCUSS agencies and Office of Management and Enterprise Services Information Services Division (OMES-ISD), is chaired by the OHCA Data Governance Director, and is responsible for establishing standard practices related to data shared among the HHS agencies. A Health-e Oklahoma stakeholder workgroup provides direct input into the design of the system and has representation from all data systems participating in the system.

There have been a number of attempts to achieve state-level HIT governance. Besides OHIET, the 2009 Senate Bill 757 created the Health Information Infrastructure Advisory Board (HIIAB) to support the OHCA in developing a strategy for adoption and use of electronic medical records and health information technologies that was consistent with emerging national standards and promotes interoperability of health information systems. In 2013, the OHCA ceased the development of a state-agency HIE. HIIAB stopped

all activities in 2014. Senate Bill 516, effective November 1, 2015, established OHIET and limited its authority until January 1, 2016.

Although there have been a number of attempts to achieve state-level governance of HIT activities, and specifically, interoperability between the various HIEs operating in the state, this has not been achieved. To address the lack of state-level governance, Mr. Bo Reese, the State Chief Information Officer, was recently appointed by Governor Mary Fallon as the State HIT Coordinator. A State HIE Director was recruited in October 2015 to support Mr. Reese and implement future initiatives. The State HIT Coordinator and State HIE Director co-Chair the SIM HIT Workgroup. They will continue to lead the workgroup in HIT-related initiatives and developing HIT governance for the Oklahoma Model.

DRIVERS FOR HIT

The drivers for improved health information technology (HIT) occur in all levels of the healthcare, from primary care to specialty care and behavioral health. HIT is a vital component of optimal healthcare delivery. Patient-centered and patient-driven care must rely on HIT to improve traditional healthcare systems, expand the concept of healthcare through new services and tools, and give patients the ability to contribute to their care. Transitions of care among care teams rely on interoperability to provide a complete view of the patient's health issues. This requires complete, accurate and timely information. HIT offers opportunities to monitor the overall health of a population and reduce healthcare costs. HIT enables providers and payer the ability to manage and deliver efficient care to patients and is vital to new payment methodologies being pursued both at a state and national level.

HIT OBJECTIVES

The HIT objectives included in this plan will support the OHIP 2020 HIT goals and the Oklahoma SIM goals and objectives. The 2015-2019 Oklahoma Health Improvement Plan (OHIP) established the HIT Workgroup. As a domain within the OHIP Access to Services the HIT workgroup aims to create a robust interoperable IT ecosystem to improve the health of all Oklahomans. The HIT workgroup developed the following goals and tactics to achieve their five-year vision: "Within the next five years, the Health IT workgroup will develop an interoperable ecosystem capable of supporting the delivery of better health, better care at lower costs by ensuring availability and enabling the use of appropriate health data, promoting patient, families and caregivers engagement with their own health data, goals of care and plans, and fostering health innovation in Oklahoma."

Oklahoma SIM HIT Goals and Objectives

The following Oklahoma SIM HIT goals and objectives represent an intersection of the OHIP 2020 goals and tactics and additional objectives to support the Oklahoma Model. The HIT objectives are categorized into two separate goals and are addressed throughout the plan as two systems to support each of goals.

Goal 1: Establish a statewide health information exchange.

Objectives:

- Define and establish state-level governance to ensure transparency, inclusion, balance across participants, and authority over state-level health information exchange activities, and to advise the State HIT Coordinator.
- Review existing legislation; define and establish new legislation as needed to protect patient privacy and to improve health through the use of HIT and to protect patient privacy.
- Establish policies to address standards-based on interoperability across provider-based and HIE-based patient portals to allow patient's access and input into their health information.
- Identify and develop staff resources to support HIT including management, compliance, risk management, evaluation and technical support.
- Increase adoption and utilization of certified EHR technology.
- Increase adoption and utilization of HIEs.
- Establish and/or adopt metrics for EHR and HIE utilization, connectivity and performance
- Identify technology needs to support standards-based interoperability and the integration of data including retention, aggregation, and analysis and reporting.
- Facilitate statewide and cross-jurisdictional exchange of health information through HIE participation with the eHealth Exchange.
- Facilitate statewide exchange and consolidation of health information through a Health Information Network (HIN).

Goal 2: Develop a state-level solution for integrated clinical, claims, and social determinants of health data to support a value-based analytics (VBA) system.

Objectives:

- Define and establish a state-level governance structure to ensure transparency, inclusion, and authority over the VBA system.
- Review existing legislation; define and establish new legislation as needed to support the VBA system.
- Establish a state data analytics system to support the VBA. The state data analytics system is to include data collection, data management, quality assessment and improvement, analyses, reporting, dissemination and ongoing quality improvement.
- Identify and develop staff resources to support the VBA system including staff and budget management, compliance, risk management, evaluation and technical support.

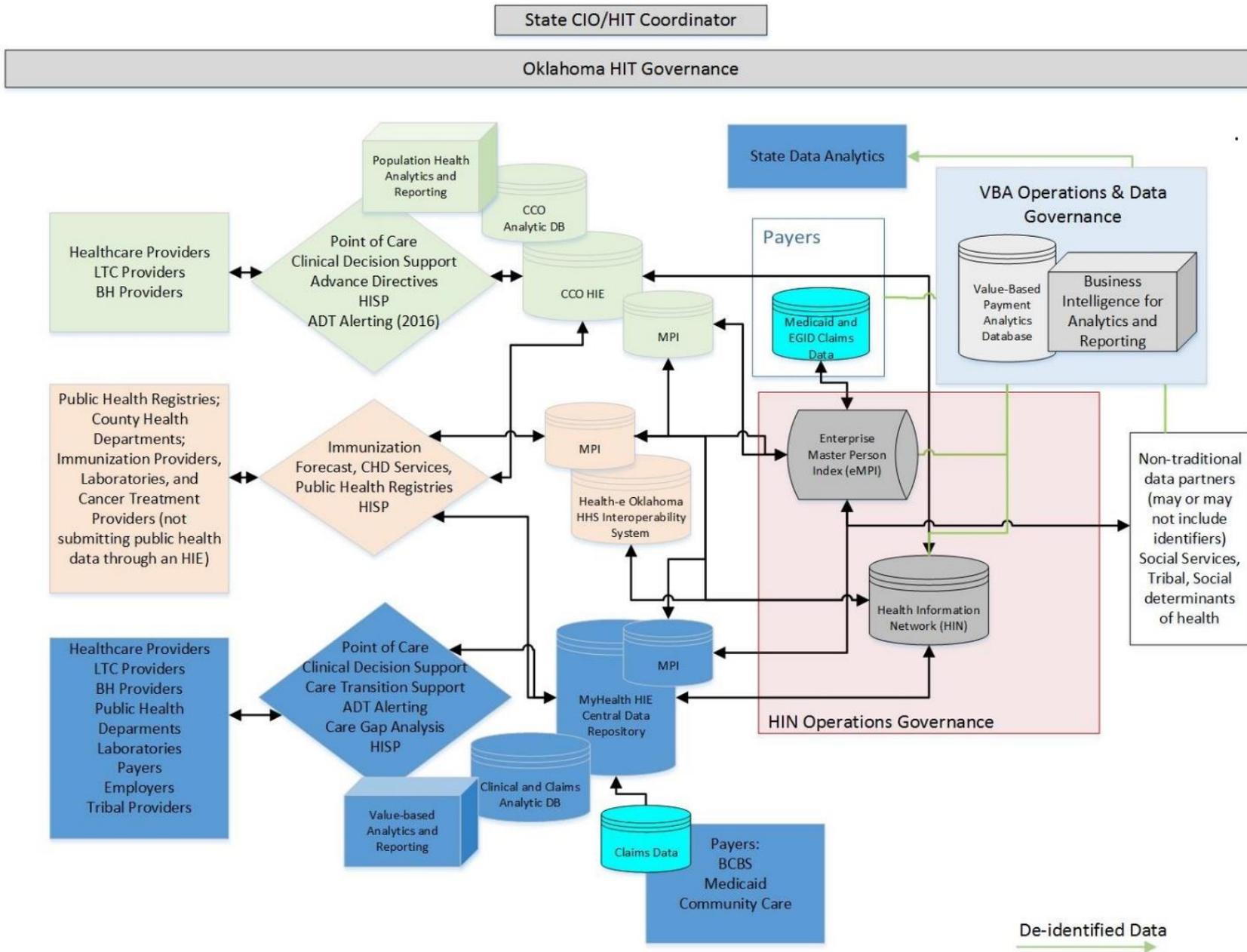
These goals and objectives are critical for the success of the Oklahoma SIM model. Without interoperability and a VBA system, the participants will not have the necessary information to support the model. The systems, in conjunction with the HIEs, will provide data to support the SIM model participation and model performance metrics as identified in the Round 2 Reporting Metrics Guidance. Through the stakeholder engagement process in developing this plan, the Oklahoma SIM project identified a critical component for success: the availability of electronic information to support provider and program decisions, support transitions of care, identify gaps in community resources, and encourage

patient engagement. All providers participating in Oklahoma SIM programs will be required to utilize data from an HIE participating in statewide interoperability.

The proposed Oklahoma HIT design (see the figure below) is a conceptual framework that incorporates the existing HIEs and new state-agency HIE to meet the statewide interoperability needs, support the value-based payment model, and leverage existing resources. Public health data will be exchanged with the nonprofit HIES to the greatest extent possible to reduce connectivity burdens on providers and support the HIEs. Through the state-agency HIE, county health departments (CHDs) will have the unique opportunity to exchange electronic data with private providers. Each HIE will exchange data through the HIN using the Master Patient and Provider Index (MPI) under the Health Information Network (HIN) governance. Clinical data will be matched with Medicaid and EGID claims data and other patient-centric data through the HIN MPI to enable the linking of needed information in order to support the value-based payment model.

Patient engagement is a critical component of the HIT plan and objectives. Patients will be included in governance to provide input into the design and implementation of the systems and to assist in developing standards related to data sharing. In addition, patients will help determine when and where their healthcare data should be available to ensure they have the necessary information to engage in their healthcare decisions and to communicate necessary information to their providers.

Figure 43: Proposed Oklahoma HIT Design



MEETING THE HIT OBJECTIVES

This section will review how each of the below areas will be leveraged or erected to support the above frame and meet the HIT objectives set out for the state of Oklahoma.

EHR Adoption and Utilization

Unfortunately, many areas for improvement exist for certified EHR technology (CEHRT) adoption and utilization in Oklahoma. Information gaps exist regarding where CEHRT is implemented. The Oklahoma HIT environment is fragmented and incomplete. The percentage of provider organizations using CEHRT is unknown. Among Oklahoma's physicians, nurse practitioners, and physician assistants, over 40 percent are reported to have not demonstrated Meaningful Use of Certified HIT and/or Adopted, Implemented, or Upgraded any EHR (HIT Dashboard). That estimate does not represent the number of Medicaid and/or Medicare organizations and does not include organizations that do not serve Medicaid and/or Medicare recipients.

Although there have been many initiatives across Oklahoma to expand CEHRT use, with 22.74 percent participation of eligible professionals and 72 percent participation of eligible hospitals for the Medicaid EHR Incentive Program at the end of June 2015 (Table 1), there remains a significant need to support further expansion of CEHRT adoption and utilization across the state. The HIT Workgroup will develop tasks to identify and implement methods for working with providers and CEHRT vendors to promote CEHRT adoption and utilization across all Oklahoma healthcare providers including those not eligible for the EHR incentive funds. The task domains will include contractual support, funding, training, and on-going on-site support. The HIT Workgroup will continue to collaborate with initiatives including the OSDH chronic disease projects, the AHRQ-funded Healthy Hearts Oklahoma project, the ODMHSAS Health Home project and the newly awarded PTN initiative with Telligen.

Health Information Exchanges

Oklahoma's two nonprofit HIEs are robust and continuously improving and expanding services available to their participating providers. Although their business models differ, both HIEs have prioritized point of care and clinical decision support. Each HIE has developed additional services to meet the needs of their customers. MyHealth has established a referral service, Doc2Doc, and Coordinated Care.

Oklahoma has recently implemented an Advance Directive service. These HIEs cover a large geographic area across the state. However, neither covers the entire state. Therefore, as previously noted, the two HIEs are not interoperable. The OSDH is implementing Health-e Oklahoma to fill some of the information gaps related to public health services and reporting but there continues to be a critical need for statewide interoperability to improve the health of all Oklahoma citizens.

Statewide Interoperability

Two options exist for establishing statewide standards-based interoperability: the federal health information exchange network, eHealth Exchange, and the establishment of an Oklahoma Health Information Network (HIN). Each of the options has benefits and limitations. It will ultimately be the responsibility of a governing board to determine the best solution(s) for Oklahoma.

eHealth Exchange

The eHealth Exchange is operated by The Sequoia Project, previously Healthway, a nonprofit organization that supports interoperability and HIE initiatives. The eHealth Exchange is a rapidly growing network of exchange partners who securely share clinical information via the web using a standardized approach. Currently, 110 participants are active in eHealth Exchange, including the Oklahoma HIE, Coordinated Care Oklahoma; HIEs from four border states including the Colorado Regional Health Information Organization (CORHIO), Kansas Health Information Network (KHIN), New Mexico Health Information Collaborative (NMHIC), and Texas Health Services Authority (HITTexas) four federal agencies are participating, including Department of Defense, Veteran's Affairs, Centers for Medicare and Medicaid Services, and Social Security Administration. Participation in the eHealth Exchange will support interoperability across all participants and provide critical information at the point of care for Oklahoma citizens receiving care in Oklahoma and for those receiving care in surrounding four surrounding states. It is expected that Oklahoma SIM HIEs will be required to participate with eHealth Exchange to improve health information exchange across the state and with other eHealth Exchange participants.

As noted in Milliman's Statewide Environmental Scan Findings (Appendix G), there are limitations to eHealth Exchange for value-based payment models. Healthcare data shared across eHealth Exchange will be limited to point-of-care clinical information as the federated connection inhibits use of analytics or aggregation of information for reporting purposes. To address those limitations, Oklahoma could establish a HIN to support statewide interoperability of critical systems and the value-based payment and analytics system.

Health Information Network

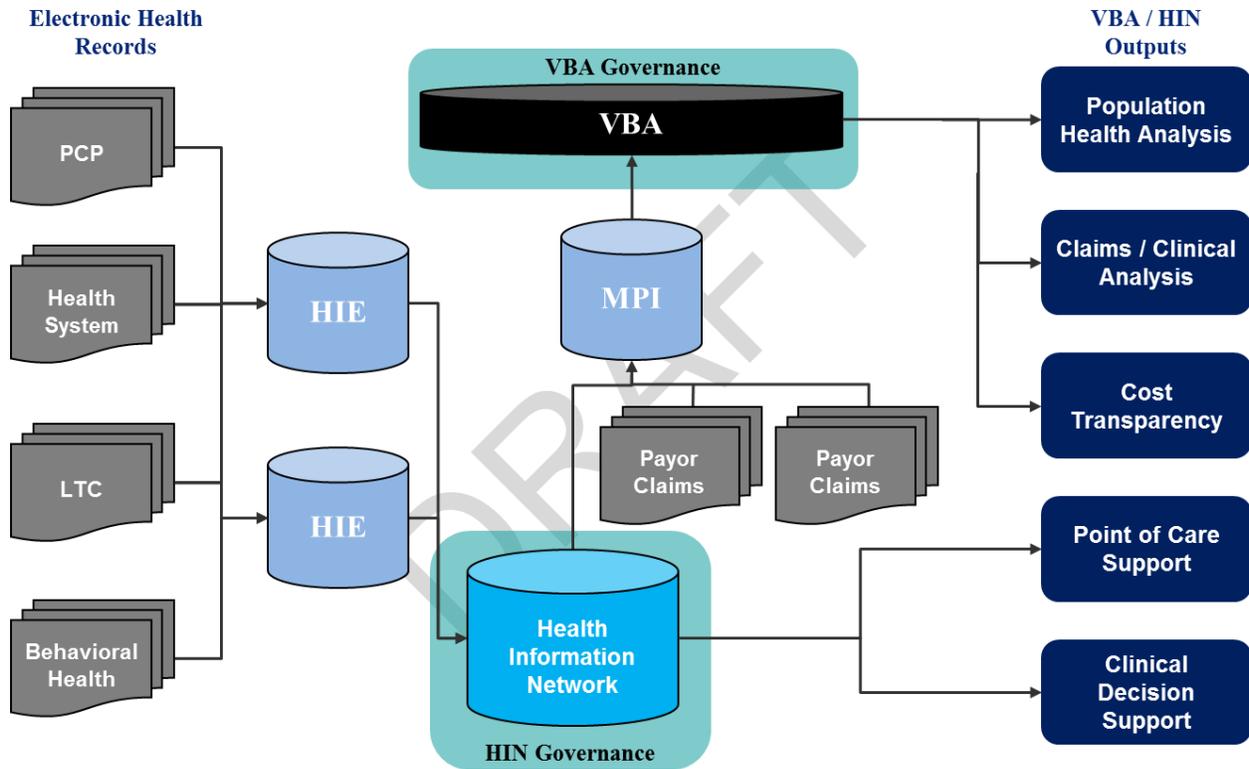
The Oklahoma HIN will be similar to eHealth Exchange through a common set of standards, legal agreements, and governance. To prevent additional burdens on the Oklahoma HIEs, the Oklahoma HIN will deviate as little as possible from eHealth Exchange standards and policies. To support value-based analytics, the Oklahoma HIN will differ in terms of the data model. Data from all Oklahoma HIN participants would be centralized to provide the ability to link with claims data and other data identified to support the Oklahoma value-based payment model. The Oklahoma HIN will include a privacy and security layer with consent management, a Master Patient Index to identify providers and patients, a provider directory, a notification system for ADT alerts, and solutions for data extraction, data transport, and load. In addition, it will develop and implement to developing data retention policies to support the value-based payment model analytics. The Oklahoma HIN governing board will determine the best way to enable electronic clinical quality measure (eCQM) reporting for providers submitting data through HIEs.

Regardless of the solution to support statewide HIE interoperability, statewide HIE interoperability is critical to the improvement of healthcare, health, and cost reduction in Oklahoma. In addition, the clinical data exchanged across the state would feed into the VBA system to provide clinical information important to quality and outcome measures that cannot be obtained from claims or public health data.

Value-Based Analytic System

The VBA system will consist of platforms that include a structured database for storing integrated data and a business intelligence solution. The VBA database will contain integrated clinical, claims, public health, and social determinants health data. To protect the privacy of the plan participants, the data contained within the database will be de-identified following assignment of an encrypted unique identifier using an MPI included in the HIN. The unique identifier will then be used to link clinical, claims, and other data determined to be critical to support the value-based payment model.

Figure 44: Value-Based Analytics System



Data Sources

Clinical data will be obtained from the HIEs via the Oklahoma HIN and from non-HIE participants including, but not limited to, tribal health services, long-term care services, and behavioral health services. Claims data for state-purchased healthcare will be obtained from the Medicaid Managed Information System (MMIS) and the Oklahoma Office of Management and Enterprise Services, Employees Group Insurance Department (EGID). As the system expands, additional private-payer claims data, state-funded behavioral health data, and prescription and social determinants of health data will be added to support the analytics required to better inform activities to support the Oklahoma SIM value-based payment model and the Triple Aim.

Business Intelligence

Business intelligence (BI) is a technology-driven process for analyzing data and presenting actionable information. The BI encompasses a variety of tools, applications, and methodologies that will enable the Oklahoma SIM analytics team to:

- Collect data from internal and external sources;
- Prepare it for analysis;

- Develop and run queries against the data; and
- Create reports, dashboards and data visualizations to make the analytical results available to Oklahoma SIM stakeholders.

With the inclusion of clinical, behavioral health, claims, and social determinants of health data in the VBA system, there will be significant opportunities for analyses to measure episodes of care, population health outcomes, social determinants of health (e.g., education, employment, income, and access to services), and performance and quality metrics; and to conduct risk-adjustments using multiple regression methods. The VBA will be used to monitor and report clinical, population health, and quality measures across providers, payers, employers, and patients. As noted in Milliman’s Oklahoma Value-Based Analytics Roadmap (Appendix H), questions related to screenings and test results, impact of demographics such as education and employment on treatment compliance and outcomes, provider performance, interventions and innovations related to outcomes will be available.

Reporting will be available through dashboards, standard reports, and user-defined queries. Standard reports will include, but are not limited to, characteristics of patients receiving care coordination services by provider and payer and characteristics of patients by outcomes.

HIT Metrics

HIT metrics will be established through the governance of the HIN and the VBA. The HIT metrics will include measures for performance, security, and quality. In addition, measures and benchmarks will be developed to ensure the goals and objectives have been met and maintained, and to support the measures identified for the value-based payment model including state-level clinical quality and model adherence measures. The Quality Measures Committee will also ensure that data sources and data measurement are standardized across payers and providers by recommending to the State Governing Body valid sources and methods for aligning those measures.

CRITICAL FACTORS AND STRATEGIES FOR SUCCESS

HIT Governance

A body of governance for the technology and data needed to support the Oklahoma Model will establish standards and consistency to protect the privacy of Oklahoma citizens. The HIT Plan governance model will ensure that decisions are made and authority is exercised with inclusiveness and accountability for all partners. This will in turn establish transparency and trust. The HIT Plan governance model will also incorporate governance over the Oklahoma HIN and VBA. The governance bodies will have authority over planning, designing, purchasing, implementing, and ongoing operations of all HIT components.

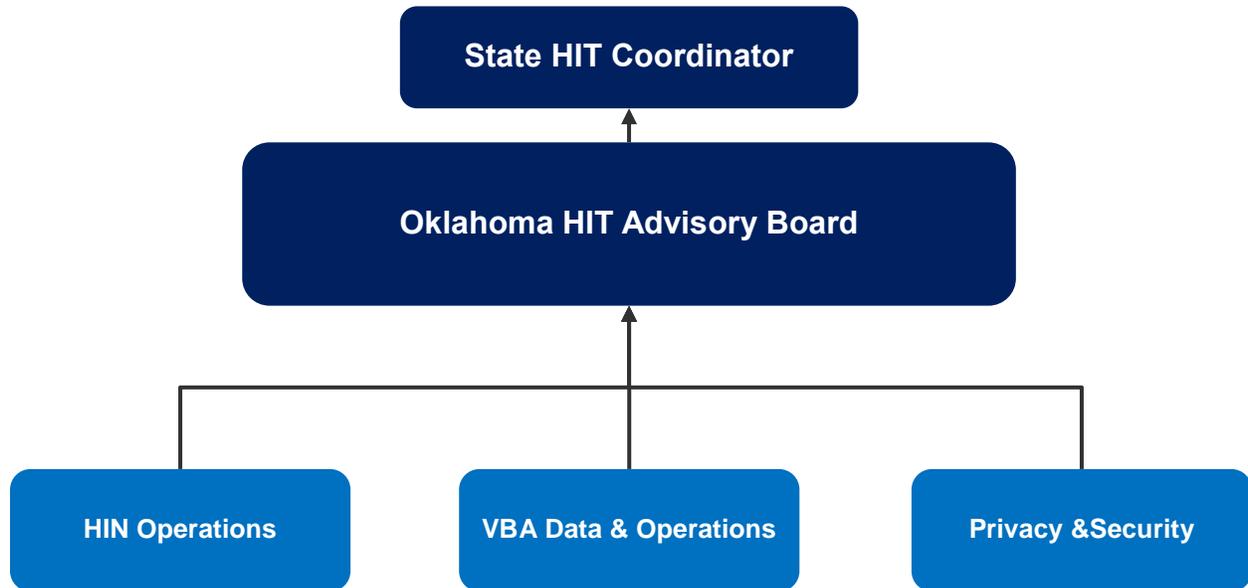
Three states are similar to Oklahoma in terms of population characteristics, economics, and politics were evaluated to identify existing HIT structures and governance models: Arkansas, Kansas, and Texas. Additionally, the New York eHealth Collaborative policy and governance structure was evaluated due to its success and similarity to the proposed Oklahoma governance model. These governance models are detailed in Appendix I.

Oklahoma is proposing a multi-tiered governance structure due to the distinction between the Oklahoma HIN and the VBA systems. Differences exist in the types and levels of data contained within each system and proposed uses of the two systems. Therefore, the proposed governance model includes three governing bodies:

1. HIN Governance Committee;
2. VBA Governance Committee, and an
3. Overarching HIT Oversight Board.

The HIT Oversight Board will be responsible for advising the State HIT Coordinator and will be supported by OMES-ISD. Figure 5 shows the multiple layers of governance included in the plan.

Figure 45: Proposed Oklahoma HIT Governance Structure



Oklahoma HIN Governance

To establish state-level authority over the Oklahoma HIN and requirements for participating HIEs, an Oklahoma HIN Governance Committee will be created. The committee will consist of public and private stakeholders including providers and organizations submitting data, users of the data, and patient representatives. Membership will include representatives from a mix of rural and small providers and Native American tribes. The HIN Governance Committee will be responsible for establishing a vision for health information exchange in Oklahoma, determining the purpose and use of the HIN, and defining and publishing use cases to describe the manner in which users interact with the system.

Healthy Oklahoma 2020 established the HIT Workgroup. As a domain within the OHIP Access to Services – Infrastructure area, the Health IT workgroup aims to create a robust interoperable IT ecosystem to improve the health of all Oklahomans. Although not an official governing body, the HIT Workgroup provides guidance and direction for all HIT activities and as such developed the aforementioned goals and tactics to improve statewide health information exchange shown in Table 4. Table 5 contains the members of the HIT workgroup and shows representation from many of the same organizations that would be included in the HIN Governance Committee.

Table 46: HIT Workgroup Members

Workgroup Member	Title/Organization
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Chair: Bo Reese	State Chief Information Officer/State HIT Coordinator Office of Management and Enterprise Services, Information Services Division
Vice-Chair: Rebecca Moore	State HIE Director Office of Management and Enterprise Services, Information Services Division
Dr. Rodolfo Alvarez del Castillo	Chief Medical Officer Yeaman & Associates
Erika Anderson	Humana
Jesse Anderson	Sr. Clinical Applications Coordinator Chickasaw Nation
Mario Cruz	Chief Information Officer, Oklahoma Foundation for Medical Quality
Dr. Paul Darden	Chief, General and Community Pediatrics, University of Oklahoma College of Medicine
Lisa Gifford	Chief Information Officer, Oklahoma Health Care Authority
Dr. David Kendrick	Chief Executive Officer MyHealth Access Network
Tracy Leeper	Policy Analyst Oklahoma Department of Mental Health and Substance Abuse Services
Patsy Leisering	Director of IT – Health Agencies Office of Management and Enterprise Services
Cynthia Scheideman-Miller	Executive Director Heartland Telehealth Resource Center
David Thompson	Senior VP and COO Global Health
David Wharton	Health Services Program Manager Choctaw Nation
Lindsey Wiley	Health Information Technology Manager Oklahoma Foundation for Medical Quality
Dr. Brian Yeaman	Chief Executive Officer Yeaman & Associate

Oklahoma VBA Governance

The VBA will operate under a separate governance body due to the inclusion of additional data and the need to establish oversight over analytics and reporting. There will be overlap between the HIN and VBA

governance committees due to the inclusion of clinical data. Unlike the HIN membership, the VBA Governance Committee will include representatives from health plans and care-coordination organizations. With input from the VBA Governance Committee, the committee chairperson will be responsible for establishing a vision for the Oklahoma Model VBA system, determining the purpose and use of the system, and defining and publishing use cases to describe the manner in which users will interact with the system, thereby defining the system's required capabilities. To assist in the development of the design, the VBA Governance Committee will seek guidance from experts in developing multi-payer claims database systems and in value-based model evaluation.

One alternative to establishing a new governing body is the Health Care Information Advisory Committee. The Oklahoma Health Care Information System Act, 63 O.S. § 1-115, established the Oklahoma Health Care Information System responsible for the development and operation of a method for collecting, processing and disseminating healthcare data, including but not limited to quality, expenditure and utilization data. The Health Care Information Advisory Committee, 63 O.S. § 1-122, was established to advise and assist the Division of Health Care Information with determinations related to data elements to be collected, reporting requirements, and the release and dissemination of information to the public. The membership of the advisory committee is appointed by the State Commissioner of Health. The membership shall include but is not limited to the Administrator of OHCA, or a designee and the presidents, or their designees, of the following organizations:

- The Oklahoma State Chamber of Commerce;
- The Oklahoma Hospital Association;
- The Oklahoma State Medical Association;
- The Oklahoma Osteopathic Association;
- The Oklahoma AFL-CIO;
- A statewide healthcare consumer coalition;
- The Association of Oklahoma Life Insurance Companies;
- The Oklahoma Health Care Authority;
- The Oklahoma Pharmaceutical Association;
- The Oklahoma Dental Association;
- The Oklahoma State Chiropractic Association;
- The Oklahoma Optometric Association;
- The Oklahoma Physical Therapy Association;
- The Oklahoma Podiatric Medical Association;
- The Oklahoma Psychological Association; and
- The Oklahoma Association of Home Care.

Privacy and Security - Oklahoma HIT Oversight Board

The Oklahoma HIT Advisory Board will be responsible for advising the State HIT Coordinator. The board will be supported by the State HIE Director. The Board will develop and adopt policies for recommendation to OMES-ISD regarding:

- Policies and procedures for protecting the confidentiality of the personal and health information of Oklahoma citizens regarding their healthcare information;
- Standards related to health information exchange and security;
- Evaluation and selection of technology to support statewide interoperability;
- Internal procedures for adoption of policies that assure compliance with federal and state regulations;
- Planning and monitoring investments to maintain sustainability of HIT systems

Organizational Capacity

The State HIE Director, under the supervision of the State HIT Coordinator and HHS Deputy Secretary of Health and Human Services, will provide leadership and management support for the HIN Governance Committee. The State HIE Director, with assistance from the OSDH Center for Health Innovation and Effectiveness, Planning Manager for the Office of Health Innovation Planning, will provide support through meeting facilitation, document management, pursuit of funding opportunities, and outreach to garner membership and additional resources. The VBA Governance will be supported by the Health Care Information Division Director in collaboration with assistance from the OSDH Center for Health Innovation and Effectiveness, Planning Manager. The Office of Health Innovation Planning will provide support through meeting facilitation, document management, pursuit of funding opportunities, and outreach to garner membership and additional resources. The HIT Oversight Board will be supported by the State HIE Director with assistance from OMES-ISD. The State HIE Director will be responsible for meeting facilitation, document management, staff management, and pursuit of funding opportunities

Project Management

Project Management will be required for all aspects of governance and during all phases of the project. Project managers will assist in the development of tasks, assignment of responsibilities, and be responsible for maintaining adherence to commitments and timelines. Project managers skilled in agile methodology, project lifecycles, and system lifecycles will be included from the beginning of the projects. They will be responsible for developing regular status reports, risk and mitigation plans, and communication plans. The project managers will be responsible for ensuring that each team member is accountable and will escalate issues when they arise.

Leveraging Shared Solutions

The HHS DISCUSS Committee is committed to identifying and leveraging shared solutions when a need is identified. As part of the governance structure, the DISCUSS Committee will make recommendations related to state solutions that could be leveraged as part of the HIT plan. To ensure transparency, all procurement will meet requirements under the Oklahoma Central Purchasing Act. Therefore, shared solutions will be evaluated under the same rigorous processes and must meet the same criteria as other potential solutions identified during the planning and design phases of the HIN and VBA projects.

Leveraging Existing Health Information Exchanges

Existing HIEs will be leveraged in terms of both knowledge and exchange of data. Both HIEs have highly skilled and experienced staff members who have offered to provide guidance and technical assistance in the design and implementation of the systems and data management, quality and reporting. The HIEs will support the HIN through data submissions and will partner with the state to support their participating providers in public health reporting. The HIEs are represented on HIT Workgroup and have input into the HIT plan.

Timelines

The timelines for all HIT activities will be developed to support the Oklahoma SIM timeline. The HIT timelines will be developed through agile project management methodology following the development of user stories which will include time-oriented SIM objectives. To monitor the activities and adherence to the timelines, tasks will be assigned and daily status reports will be produced by the project manager and provided to the project leadership.

Policy

Policies for HIT will be established by the governance bodies of the HIN, VBA, and privacy and security committee. The policies will provide guidelines under which the systems will operate and will establish rules for each layer including privacy and security, consent management, identify management, data extraction, data management, data aggregation, data quality and provenance, analytics, notifications and reporting.

The Oklahoma SIM project will pursue policy levers such as grants and incentives to enable success of the model. Oklahoma will pursue CMS funding through an HIE Advance Planning Document and ONC funding through interoperability grants. Oklahoma will also seek legislative support to establish the HIT Oversight Board. Oklahoma will continue to support existing HIE networks and focus on statewide interoperability and adoption of standards-based HIT interoperability with a focus on protecting the privacy of Oklahoma citizens.

SIM Alignment with Existing HIT Efforts

The Oklahoma SIM activities closely align with existing HIT efforts that support EHR and HIE adoption and utilization and data collection and reporting. As previously described, Oklahoma has received federally-funded grants that include HIT requirements, private health plans are requiring HIE participation, and the legislature has established regulations for collecting and disseminating data.

For claims and clinical data reporting, the Oklahoma Model aligns directly with the Oklahoma Health Care Information System Act, 63 O.S. § 1-115, which establishes the policies to support the VBA including collecting, processing and disseminating clinical and claims information. Under the Health Care Information System Act, the Oklahoma Health Care Information System is responsible for the development and operation of a method for collecting, processing and disseminating healthcare data including, but not limited to, quality, expenditure and utilization data.

Transparency

The establishment of the public/private HIN and VBA Governance Committees in collaboration with the public/private collaborations through the OHIP Steering Committee and OHIP HIT Workgroup will provide all stakeholders the opportunity to be informed of any decisions related to the Oklahoma SIM

project. In addition, all procurement activities will be required to meet the state purchasing requirements as defined by the Oklahoma Central Purchasing Act (74 O. S. §85.1, et seq.).

Patient Engagement and Shared-Decision Making

Patient engagement will be done through the inclusion of patients in the governance committees. Both the HIN and VBA governance committees will include clinical and behavioral health patient representatives and a mix of public and private representation. The final decisions regarding the information to be shared, design of the systems, the process for de-identifying data, access to the system, and management of the systems will be shared across all stakeholder groups.

Infrastructure

Existing program and technical infrastructure will be utilized where available. During the design phase, as needs are identified, additional infrastructure will be established to support HIT activities in terms of technology for the HIN and VBA; technical assistance related to EHRs, HIEs, and clinical quality reporting; and staff resources to support governance, technology, and data management, analytics and reporting.

Technology

Statewide interoperability will be achieved through the eHealth Exchange and Oklahoma HIN. The HIN will include an MPI and database to store health information. Analytics and reporting will be achieved through the VBA which will include a data warehouse and BI solution. The specifications of the technology stack for the HIN and VBA will be determined during the requirements and design phases of the project.

A timeline for the HIT activities will be developed to coincide with the timeline for the SIM initiatives. It will be critical to ensure the technology and infrastructure is established and tested prior to implementation of SIM activities.

Technical Assistance

The need for technical assistance will be determined at the initiation of the project and re-evaluated periodically. Potential technical assistance will provide direct support to organizations in the selection of and contracting with EHR vendors, to providers to better utilize their EHRs for patient management and in developing eCQMs and reporting to the Physician Quality Reporting System (PQRS), and to organizations in understanding and utilizing HIEs.

Staff Resources

As aforementioned, the State HIE Director will lead the Oklahoma HIN and VBA and develop a staffing plan to support all activities. Staff responsibilities will include project management, compliance, and technological support including design, development, implementation, and maintenance of the system. General administrative support will be provided by OMES-ISD.

The OSDH Health Care Information Division in the Center for Health Statistics was established under the Oklahoma Health Care Information System Act. The Health Care Information Division has staff experienced in collecting and evaluating vital statistics, inpatient discharges, outpatient and ambulatory surgery procedures, and survey data. A VBA evaluation team will be established within the Division and will partner with the Oklahoma SIM management team to determine the types of analytics needed to support the care coordination model and to inform the development of policies.

Project Management will be required at the beginning of the both the HIN and VBA projects to assist in the development of tasks, assignment of responsibilities, and to maintain adherence to commitments, budget and timelines. Project managers skilled in agile methodology, project lifecycles, and system lifecycles will be included from the beginning of the projects and will be responsible for developing regular status reports, risk and mitigation plans, and communication plans.

Funding

Initial seed funding will be obtained through grants, CMS HIE Advance Planning Documents, Medicaid waivers, and private contributors. On-going maintenance will be funded with a to-be-determined percentage hold out from the capitated payment or by charging the plans fees designated for HIT maintenance. All of the Oklahoma Model governing groups will be responsible for identifying and pursuing funding to support Oklahoma's innovation activities.

CONCLUSION

Through the evaluations completed by Milliman and public input, Oklahoma has determined the best approach to success is to partner with and support the existing private, non-profit HIEs; develop multiple tiers of governance to ensure transparency, balance, and public/private input; and establish technology and infrastructure to support statewide interoperability and state-level value-based analytics.

The Oklahoma HIT Plan leverages past experiences, existing public/private resources and relationships, and examples from others states to establish a technology infrastructure to support the drivers for the Oklahoma SIM. Lessons learned from the SHIECAP and OHIET will be considered with both governance and infrastructure. The plan incorporates the two existing HIEs, Coordinated Care Oklahoma and MyHealth, as critical and required components to the model, to support the goal that providers have access to their patient's comprehensive medical information, and to provide patients with options for accessing their healthcare information through patient portals. Existing partnerships through OHIP, the Tribal Public Health Advisory Council, SIM and DISCUSS provide a strong foundation for collaboration and transparency. As the governance is defined and established those relationships will help guide the final outcome.

Oklahoma believes that supporting the multiple HIEs as shown in Kansas, Texas, and New York provides the necessary environment for providers to have a choice based on their priorities and establishes the network-of-networks as originally planned through the SHIECAP. The network-of-networks enables necessary redundancies for statewide sustainability and scalability as requirements change and new approaches to healthcare are established. Oklahoma looks forward to the next phase in healthcare initiatives and will develop an HIT infrastructure to support those initiatives.