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THE *OKLAHOMA HEALTH INFORMATION EXCHANGE*

A) OKLAHOMA'S PROGRESS IN HEALTH INFORMATION EXCHANGE

1. Current Status of State HIE

1.1. Current Activities in Health Information Exchange

Electronic Eligibility and Claims Transactions. The Oklahoma Health Care Authority (OHCA) is the State's Medicaid agency and the largest payer in the state. OHCA processes a monthly average of 3.1 million claims, of which 96% are submitted as electronic transactions or entered directly via the Internet. Claims are processed real time and are paid weekly. The following table reflects the average electronic transaction volume for OHCA per month.

Table 1. Electronic Transactions Per Month

Transaction Type	Electronic Data Interchange	Web Direct Data Entry
Eligibility Transactions	1,000,000	300,000
Claim Inquiry	15,000	100,000
Claim Submission	3,168,000	400,000

Electronic Prescribing and Refill. Oklahoma participates in the Surescripts network to connect its providers to pharmacies. E-prescribing is an integral feature of Oklahoma's recommended electronic health records (EHRs) and electronic medical records (EMRs). It is being implemented aggressively with each installation and as vendors make this functionality available at the hospital level. In three years' time, the percent of total prescriptions routed electronically has grown 277%, and the percent of physicians routing e-prescriptions increased from 0.58% in 2006 to 7.44% in 2008.

Electronic Clinical Laboratory Ordering and Results Delivery. Currently, the state has primarily point-to-point interfaces between hospitals, major private lab companies, and physician offices that have EHRs. There are a variety of interfaces that have gone live, some with results only coming into the providers practice uni-directionally; however, there are a few bi-directional interfaces that have gone live and permit clinical orders and receipts. Bi-directional interface is the preferred method for safety and efficiency. Within the hospital setting, lab order and receipt is typically electronic when Computerized

Physician Order Entry (CPOE) is active. Some institutions are also exploring a spoke and hub model to connect interfaces to network hubs and reduce the overhead and maintenance issues associated with point-to-point interfaces.

Electronic Public Health Reporting. The Oklahoma State Department of Health (OSDH) has an informal messaging group in the Information Technology (IT) Service, which is comprised of OSDH IT personnel as well as application specific contractors. This group has made significant advances over the past three years in messaging electronic laboratory reports (ELR) as well as in messaging disease data to the Centers for Disease Control and Prevention (CDC). The group has additionally made progress in the development of data exchange mechanisms for the Oklahoma State Immunization Information System (OSIIS). The group is moving to a messaging infrastructure which is dependable, yet robust, dynamic, and capable of handling a multitude of emerging OSDH messaging needs. This team has established the use of HL7 as a standard, and is committed to conforming to national and international standards as a best practice.

To date, the group has achieved the following:

1. Daily ELR feeds have been established from two major reference laboratories in production and initiated the development of an additional three that are currently under testing and are on track to be in production by the end of 2009. These messages are placed into a production ELR database and are then available for use in our secure web-based disease reporting and investigation application.
2. Weekly disease reports are transmitted from OSDH to CDC. Moreover, a standard HL7 PHIN disease-specific message has been developed, is currently in the testing phase, and is slated for production by the close of 2009.
3. Collaboration with the Indian Health Service (IHS) and a state HIE is ongoing to develop a standard HL7 immunization message from these data systems to the OSDH. Testing of HL7 data import into OSIIS is nearly complete. The next phase aims to complete data export from OSIIS to these systems.

4. Preliminary studies have been conducted on potential information exchange with the Oklahoma University Health Sciences Center (OUHSC) Family Medicine Practice's electronic health record system.
5. A framework has been established for which the OSIIS registry can be linked to OHCA's Early Periodic Screening, Diagnosis, and Treatment (EPSDT) program and lead screening database. The intended outcome of this project is to utilize OSIIS as a mechanism of communication to notify Medicaid providers of children who may be overdue for well child check-ups or blood lead testing.

Quality Reporting Capabilities. Through a number of organizations, Oklahoma is making progress towards enhanced quality reporting capabilities. Current models involve the usage of claims-based data but it is clear this information is limited and attempts to modify quality improvements based on this data have had limited success at a high cost to the delivery of healthcare. Oklahoma has a significant amount of activity reporting Physician Quality Reporting Initiative (PQRI) information and hospital quality measures. As we develop our network of networks model, more complete reports with a variety of data will be compiled at the local network level and submitted to appropriate governing bodies. One of the primary goals of our planning process will be to determine what type of reports with what type of data (identified and de-identified) will be permissible at the local and state network level to allow anticipated quality reporting to meet national requirements such as those endorsed by the Centers for Medicare & Medicaid Services (CMS). This determination will be dependent on the governance model and absolute transparency of reports and intent. On a public health level, the state immunization data are compiled via the OSIIS system, with good penetration in the Medicaid population via public hospitals, but poor penetration into the private offices and hospitals across the state. Enhanced health information exchange will facilitate better data integration and reporting capabilities. The ability to exchange data from private entities through the networks is another goal to improve the quality of the Oklahoma data. Lab reporting is currently done via individual systems from commercial and hospital labs. Physicians access this

information through independent portals, paper or fax. These exchanges are limited because (1) they are only available to physician practices with an EHR; and (2) there is a lack of interfaces to the different lab dictionaries that exist across various hospitals and labs. Lab interfaces to the local networks will be a critical component of the Oklahoma plan.

The Oklahoma Foundation for Medical Quality (OFMQ), Oklahoma's Medicare Quality Improvement Organization, is assisting 60 primary care practices with reporting preventative quality indicator measure data (similar to PQRI) to the Centers for Medicare and Medicaid Services (CMS). Data measures for this project include mammography, colon-rectal cancer screening, and adult immunizations (specifically, influenza and pneumonia). This will be a key component of the model from the local EHR to the local network that will in turn help generate quality reports to reflect the overall public health of Oklahoma. The I/T/U (Indian Health Service, Tribally-operated, Urban Indian health clinics) facilities who volunteer to do so may share their quality data with the statewide HIE network to contribute data for the American Indian populations.

Prescription Fill Status and/or Medication Fill History. This information is dependent on Surescripts, private insurers, and private and commercial pharmacies to share this information. The sharing prescription history is very limited outside of the individual EHRs in current practice. Norman's hub is pilot-connecting ambulatory practices and is exchanging this data from providers' EHRs. Some hospitals doing electronic prescription writing at discharge can contribute data as well. Currently, commercial and local pharmacies and insurers are contributing very little to existing HIEs regarding prescription history in the state. Cash pay and $4 formularies create a large void because these prescription fills are done outside of prescription plans and are not captured or exchanged by the pharmacies or insurance plans.

Describe the Progress and Status of Project Planning and Implementation:

To date SMRTNET has been the primary HIE exchanging the largest amount of data in the state. SMRTNET stands for Secure Medical Records Transfer Network and was funded by an AHRQ grant and established in northeast Oklahoma. Subsequently this model and technology have been adopted by the

Greater Oklahoma City Hospital Council and thirteen hospitals in the metro area. Additionally information from OSIIS, the uninsured clinics, and community health centers have been added. In planning there are six institutions as a part of the Tulsa Hospital Council which will join efforts with a city wide network called Greater Tulsa Health Access Network (GTHAN). In the planning stage is Duncan Hospital. Norman ambulatory practice network is contributing data above and beyond hospital data. A large percentage of the state's hospitals could be active in SMRTNET by the summer of 2010. Currently SMRTNET has 40 million encounter records and 2,300 providers registered to use the system.

The Greater Tulsa Health Access Network (GTHAN) was launched by the mayor of Tulsa as an all inclusive HIE for the city of Tulsa and the greater Tulsa area. This network is in an advanced planning phase, having completed governance, clinical, quality, privacy, financial and technical planning. GTHAN has utilized the SMRTNET planning process with excellent results. GTHAN will be releasing an RFP in the next few weeks to identify the technology that will be used for the basis of this network.

Heartland HealthNet is a health information exchange that allows communication utilizing a master patient index between physicians, hospitals, labs, pharmacies, and payers via a convenient online portal using a single logon, creating fast and accurate access to health records in real time. The information can be accessed through the HealthNet portal or through an inserted link into the clinical electronic medical record. The HealthNet exchange was funded through a HRSA grant and its initial phase is being implemented in four critical access hospitals and Oklahoma State University clinics. The next phase will target Oklahoma State University adjunct physicians and telemedicine sites.

Norman Physician Hospital Organization (NPHO) has a high level of adoption of ambulatory EHR's and will have 85 providers live by winter of 2009. A local hub has been created to allow electronic exchange of the Continuity of Care Document (CCD), referrals and lab data. Norman Regional Health System is currently contributing data to SMRTNET and the ambulatory local hub is in the planning phase of interfacing to SMRTNET to contribute even further.

As summarized in the table below, there are a variety of regional health information exchange efforts that are already taking place within Oklahoma.

Table 2. Existing Regional Health Information Exchange Efforts

Regional Network	Providers Covered	Status	Planning Support
Duncan Network	Hospital physician exchange	Planning	SMRTNET
Greater Oklahoma City Hospital Council (GOCHC)	Bordered by Norman, Edmond, Shawnee and Yukon. Includes 13 hospitals and many other provider types	Operational	SMRTNET
Greater Tulsa Health Access Network (GTHAN)	Tulsa area	Planning	SMRTNET
Health Alliance for the Uninsured	16 clinics in the OKC area	Construction	SMRTNET
Heartland Healthnet	5 Hospitals and 20 Clinics	Operational	Internal to Organization
Indian Health Service (IHS) using RPMS	At I/T/U facilities	Live at certain facilities and in planning at others	IHS
Norman Physician Hospital Organization	Norman eClinicalworks providers 3 hospitals, 225 providers planned, 15 Clinics live	Testing/Pilot/Live Planning	NPHO/SMRTNET
Northeast Oklahoma	14 counties	Operational	SMRTNET
Oklahoma City Metro	Bordered by Norman, Edmond, Shawnee and Yukon. Includes hospitals and many other provider types planning to join	Operational	SMRTNET
Oklahoma Primary Care Association	State community health centers	Finalizing planning, awaiting federal funding	SMRTNET
OSMA	Oklahoma State Medical Association physicians	In early planning	SMRTNET
State Agency Network	State agencies	On hold after RFI pending state planning issues	State HIE Planning

Clinical Summary Exchange for Care Coordination and Patient Engagement. Current efforts are around CCD/CCR and HL7. This is a key criterion we are using to emphasize the capabilities of EHRs as part of Certification Commission for Health Information Technology (CCHIT) certification. CCHIT is the most extensive set of requirements to date, but we will continue to evaluate and update our recommendations as criteria for meaningful use continue to be released. Sovereign American Indian governments may establish their own certification standards. State efforts need to be aware of this.

1.2. State Associated Initiatives

On February 13, 2009, both the House and Senate passed the conference version of H.R.1, *The American Recovery and Reinvestment Act of 2009* (ARRA). The primary purposes of the ARRA focus on promoting economic recovery, assisting those most affected by the recession, improving economic efficiency by spurring technological advances in science and health, investing in infrastructure, and stabilizing state and local government budgets. Within Oklahoma, there are ARRA initiatives that will work in parallel with the State Health Information Exchange Cooperative Agreement Program (SHIECAP) to not only enhance the adoption of health information technology (HIT) and facilitate health information exchange (HIE), but also to improve health care quality and leverage stakeholders to achieve these goals.

- ***Broadband.*** Section 6001(b) of the ARRA specifically addresses the availability and access to Broadband technologies. Oklahoma has assembled a workgroup to study key infrastructure issues of broadband adoption and assess needs related to advance the intrastate- and interstate- capacity. It is our intention to integrate as much as feasible the efforts of the Oklahoma Broadband workgroup with the efforts under SHIECAP. Oklahoma, being a large, primarily rural state, will face considerable challenges in implementing SHIECAP objectives in areas with significant shortages of broadband capacity. Our SHIECAP solution is a border-to-border solution within the state. Statewide strategies will be explored to construct incremental broadband capacity.
- ***Current Network Planning.***

  Oklahoma is in the planning stages of creating the ***Oklahoma Health Information Exchange.*** We will use a fair and open procurement process in advancing the state initiatives. During the strategic planning phase, the state will analyze current technology, infrastructure, systems architecture and market place capabilities. Oklahoma believes we can create a cost effective solution through this process. We would like to highlight some of the regional successes in our state that demonstrate that we have the organizational vision to expand upon our successes and

create a statewide solution. We would like to highlight two of those that represent different geographic parts of Oklahoma.

Oklahoma has two successful models operating on regional scales that demonstrate success in planning. Heartland HealthNet is a health information exchange that allows communication utilizing a master patient index between physicians, hospitals, labs, pharmacies, and payers via a convenient online portal using a single logon, creating fast and accurate access to health records in real time. The information can be accessed through the HealthNet portal or through an inserted link into the clinical electronic medical record. The HealthNet exchange was funded through a HRSA grant and its initial phase is being implemented in four critical access hospitals and Oklahoma State University clinics. The next phase will target Oklahoma State University adjunct physicians and telemedicine sites.

Oklahoma has worked for five years using a multi-stakeholder consensus-based planning process in the five domains referenced in the FOA. Work in each of these has resulted in a series of working models in a number of networks that are either operational, thoroughly planned or in construction. This regional success demonstrates that the Secure Medical Records Transfer Network (SMRTNET) planning methods can be used to rapidly advance the planning process, saving significant time and money. This allows the maximum amount of funds to be used for the investment in the concrete operations of a “network of networks” for Oklahoma. This planning process is committed to be as inclusive as possible in the multi-stakeholder planning process. The planning process, which began in 2004, is ongoing as projects are operated, planned or constructed. The stakeholders included representatives of federally recognized American Indian tribes, hospitals, state health department, state and local mental health, community health centers, physicians, Indian Health Service, pharmacy, psychiatry, researchers and others. It is important to note that the process did not just seek individual input from each stakeholder. Representatives from each of these stakeholder areas that are close to patient care worked in groups to develop the working models. Working models from the planning process have been demonstrated in the areas

of governance of a network of networks, patient privacy, a national model data exchange membership agreement that works for all types of legal entities, technology infrastructure, financial sustainability, exchange of data from federally recognized American Indian tribes and Indian Health Service, data sharing between multiple networks, coverage into rural areas, community based electronic health villages, policies to handle reporting of data for quality improvement, immunizations, dispersion of data into private offices using a low cost, public-private partnership models, and compatibility with medical home and health access networks. After the first network went live, the remaining networks have benefitted from the work done to date and governance established via the initial AHRQ study. Current networks have been built around a return on investment that will help with sustainability.

- ***Wellness.*** Oklahoma will apply for funding for the *Communities Putting Prevention to Work* program to improve Oklahoma's health outcomes. The goal of this program is to create healthier communities through sustainable, proven, population-based approaches such as broad-based policy, systems, organizational, and environmental changes in communities and schools. Chronic disease prevention and control in urban and rural communities is also addressed with objectives to increase levels of physical activity, improve nutrition, decrease overweight/obesity prevalence, and reduce smoking.
- ***Regional Extension Centers.*** The HITECH ARRA, Section 3012, authorizes a Health Information Technology Extension Program (Extension Program). By statute, the Extension Program consists of a national Health Information Technology Research Center, and Regional Extension Centers (REC). The Extension program addresses critical, short-term prerequisites to achieving the vision of a transformed health system where every American benefits from secure, interoperable EHRs. The Regional Extension Center in Oklahoma will serve as the essential, recognized resource and innovative expert in health care quality and outcomes improvement. The Regional Extension Center will aid in accelerating the transition of evidence-based research, assist primary care providers in rural populations, and engage and collaborate with healthcare,

- ***Indian Health Service (IHS) and Sovereign Tribal Governments.*** Oklahoma has the second largest American Indian/Alaska Native (AI/AN) population in the country with 38 federally recognized tribes. Oklahoma tribal health information exchange is a national model for interoperability for many Native American tribes. This allows I/T/U facilities the capacity to connect to the Indian Health Service. The Cherokee Nation has a live interface between the Resource and Patient Management System (RPMS) and SMRTNET. The national strategy for connectivity between I/T/U healthcare facilities and the statewide HIE efforts is to connect to the 56 SHIECAP efforts through the National Health Information Network (NHIN). Therefore, Oklahoma's plans will accommodate this approach and will also allow for connection into the statewide HIE network. Throughout this process, the Indian Health Service and American Indian Tribes have stressed the need to follow all necessary protocols, including data ownership, in coordination with the IHS and American Indian Tribes when examining AI/AN data.
- ***Medicaid Incentive and Loan Programs.*** ARRA section 4201 establishes a program for payment to providers who adopt EHR and demonstrate meaningful use. This incentive program is to be used to purchase certified EHR technology and supporting services. ARRA section 3014 includes appropriated funds to support a loan program designed to aid providers with the adoption of EHR systems and to spur HIE at the state, regional, and local level in Oklahoma. These efforts will aid

- ***Comparative Effectiveness Research (CER).*** Oklahoma is interested in the funding available for comparative effectiveness research. Comparative effectiveness research (CER) compares treatments and strategies to improve health. This information is essential for clinicians and patients to decide on the best treatment. SHIECAP would enable Oklahoma to conduct and support CER of clinical outcomes, effectiveness, and appropriateness of care. It could also encourage the development and use of clinical registries, clinical data networks, and other forms of electronic health data that can be used to generate or obtain outcomes data.
- ***Workforce Development.*** The ARRA provides funds to several existing workforce development programs administered by the U.S. Department of Labor, including programs authorized by the Workforce Investment Act. Successful training programs funded through this Solicitation for Grant Application (SGA) will prepare participants for employment within the health care sector or other high growth and emerging industries. Oklahoma's key areas of focus/funding for this request includes: student and faculty scholarships, a web-based student management portal, nurse residency programs, and regional stimulation alliances. A learning management system infrastructure is included in the focus. The learning management system will provide courses on leadership and management and to promote ongoing professional development, especially in the rural areas. This opportunity includes HealthExplore (Career Awareness) Clubs for 500 Middle School Students in 20 underserved (high percentage of free or reduced lunches) and diverse schools in Oklahoma. The primary connection to HIT is a data repository to better project supply/demand needs for Oklahoma's health care workforce. Through the training programs, new and existing health care providers will learn the necessary skills to effectively use and operate EHR systems and to use the ***Oklahoma Health Information Exchange***. Many OKHIE members

st century, to increase job satisfaction and retention of current health care workers, and to improve the awareness among youth and adults of the health care career opportunities.

2. Progress and Status of Project Planning and Implementation

The State of Oklahoma does not have an existing Strategic or Operational Plan to address the vision, goals, objectives, and strategies for addressing statewide HIE development. The state has formed a workgroup, the ***Oklahoma Health Information Exchange*** (OKHIE), to discuss and develop a plan for drafting these documents. OKHIE is comprised of key HIT partners and stakeholders from across the state, with representation from government, public health, hospitals, employers, providers, payers, and consumers. OKHIE's plan for developing these documents is described in the section below, Proposed Project Summary. A list of the members of OKHIE is provided in Table 3 and resumes are included in Appendix 1.

Table 3. Stakeholders and Representatives

Organization	Representative	Title	Stakeholder Representation
Absentee Shawnee Tribe	Tom Anderson	Strategic Planning Developer	Providers, Consumers
Chickasaw Nation	Tracy Jones	Director of Business & Medical Records	Providers, Consumers
Choctaw Nation	Danny Leader	Chief Information Officer	Providers, Consumers
Creek Nation	Robert Coffey	Chief Information Officer	Providers, Consumers
Greater Oklahoma City Hospital Council	Brian Yeaman, MD	Medical Director	Hospitals, Providers
Health Alliance for the Uninsured	Joe Denney, RN, MCSE	Data Systems Analyst	Consumers
Health Alliance for the Uninsured	Pam Cross, MPH	Executive Director	Consumers
Oklahoma Academy of Family Physicians	Sam Blackstock, CAE	Executive Vice President	Providers
Oklahoma Academy of Family Physicians	Paul Preslar, DO, MBA	President, Oklahoma Academy of Family Physicians	Providers
Oklahoma City Area Indian	CDR Amy Rubin, PharmD	Clinical Applications	Consumers, Providers,

Organization	Representative	Title	Stakeholder Representation
Health Service		Coordinator	Hospitals
Oklahoma City Area Inter-Tribal Health Board	Diddy Nelson	Executive Director	Consumers
Oklahoma Department of Mental Health and Substance Abuse Services	Tracy Leeper, MA	Information Technology Policy Analyst	Public Health
Oklahoma Department of Mental Health and Substance Abuse Services	Terri White, MSW	Secretary of Health Commissioner of Mental Health and Substance Abuse Services	Consumers, Providers, Government
Oklahoma Foundation for Medical Quality	Phillip Smith, MHA	Quality Improvement Specialist	Providers, Consumers
Oklahoma Health Care Authority	John Calabro, MBA	Chief Information Officer	Consumers, Government, Payers
Oklahoma Hospital Association	Craig W. Jones, FACHE	President	Hospitals
Oklahoma Hospital Association	Richard Snyder, FHFMA	Vice President, Finance & Information Services	Hospitals
Oklahoma Nurses Association	Jane Nelson, CAE	Executive Director	Providers
Oklahoma Office of Rural Health	Val Schott, MPH	Director, OSU Rural Health Policy & Advocacy Director, Oklahoma Office of Rural Health	Government, Hospitals
Oklahoma Osteopathic Association	Lynette C. McLain	Executive Director	Providers
Oklahoma Primary Care Association	Jim Crawford	Information Exchange Specialist President, Oklahoma Healthcare Information Management Systems Society	Providers, Hospitals
Oklahoma Primary Care Association	Brent Wilborn	Director of Public Policy	Providers
Oklahoma State Department of Health	Robn Green, MPH	HIPAA Privacy Officer Vice Chair, Oklahoma Health Information Security and Privacy Council	Public Health
Oklahoma State Department of Health	Yvonne Myers	Chief, Federal Funds Development	Public Health
Oklahoma State Department of Health	Patsy Leisering, MBA	Chief, Information Technology	Public Health
Oklahoma State Medical Association	Melissa Johnson	Director of Healthcare Policy	Providers
Oklahoma State Medical Association	Kent King, MD	President, Oklahoma State Medical Association	Providers
Oklahoma State Medical Association	William Oehlert, MD	Past President, Oklahoma State	Providers

Organization	Representative	Title	Stakeholder Representation
		Medical Association	
Oklahoma State University Center for Health Sciences	Jason Bray, MBA, MHA	Chief Medical Officer	Providers, Hospitals
Oklahoma State University Center for Health Sciences	Jeff Hackler, JD, MBA	Director of Rural Grants & Research	Providers
Oklahoma University College of Public Health	Ann Chou, PHD	Assistant Professor, Health Administration and Policy	Researcher
Greater Tulsa Health Access Network (GTHAN) – University of Oklahoma at Tulsa	David Kendrick, MD, MPH	Coordinator, GTHAN, Assistant Provost Strategic Planning	Existing HIE, Provider and University Researcher
University of Oklahoma Health Sciences Center	Robert Roswell, MD	Senior Associate Dean and Professor of Medicine, University of Oklahoma College of Medicine Chairman, Oklahoma Health Information Security and Privacy Council	Employers, Providers

B) PROPOSED PROJECT SUMMARY

1. Strategic and Operational Plans as a State without Existing Plans at Time of Application

There are already several mature health information exchange efforts in Oklahoma (See Table 2, Existing Regional HIE Effort). Thus, our project will emphasize existing HIE efforts and develop new local networks through our planned Regional Extension Center, which was recently selected as one of the first group of regional extension center programs that might be funded. The development of local networks will be encouraged in logical regions where patients receive a significant percentage of their healthcare. These areas of overlap intensity are where HIE is most cost-effectively implemented. An important focus of the state level effort is to ensure that as local networks develop, they grow to cover 100% of the patients in Oklahoma. As this network of networks evolves, we will collaborate to connect local networks to a larger network hub or backbone to allow the transfer of data across the state. Long term planning will emphasize quality reporting and financial sustainability.

Our SHIECAP project will consist of three phases: Planning, Implementation, and Steady-state operations. We began the planning phase of this project in July, 2009, with the formation of the OKHIE Oversight Workgroup, and we are pleased that funds are being made available to support our efforts to achieve HIE for all Oklahomans. The OKHIE Oversight Workgroup is a broadly representative group of healthcare stakeholders (see Table 3, Stakeholders and Representatives) assembled to provide oversight and approval for the activities and products of the planning phase of this project. The OKHIE Oversight Workgroup will provide support for the State Healthcare IT Coordinator, who will direct a team of subject matter experts in the creation of the HIE Strategic and Operational Plans for Oklahoma, as well as the collateral assets required to launch and implement such a project. The major tasks and milestones for the Planning Phase are shown below. Some major milestones for the subsequent phases are noted as well, but clearly, these are subject to significant revision as the planning phase concludes. OKHIE Oversight Workgroup has begun meeting on a weekly basis to outline a process for developing the Strategic and Operational Plans. The workgroup has been charged to (1) provide guidance and oversight to obtain stakeholder input for the process; and (2) compile an inventory of critical HIE and HIT components and status. Once these targets are identified, the OKHIE Oversight Workgroup will recommend the design of a HIE governance and leadership structure, which will implement the HIT components. Subgroups or ad-hoc committees will be formed as needed to explore specific topics for the Strategic and Operational plans. The Gantt chart below outlines the tasks and timeline for the composition of the Strategic and Operational plans.

Figure 1: Gantt Chart of Planning Phase tasks and timeline.

Tasks	**Timing**						
PLANNING PHASE	NOV	DEC	JAN	FEB	MAR	APR	MAY
Interim State Coordinator for Healthcare IT named							
Needs assessment: Solicit input from stakeholders around Oklahoma, including patients							
Expert Teams appointed and approved							
Funding arrives							
Governance determination: Evaluate options and select governance model for HIE							
Develop sustainable financial model for HIE							

Tasks	Timing						
PLANNING PHASE	NOV	DEC	JAN	FEB	MAR	APR	MAY
State Strategic Plan: development, writing, comments, and approval period.							
State Operational Plan: development, writing, comments and approval period.							
Release and Gather Data through an HIT RFI							
Release OKHIE RFP							
Contracting and implementation planning							
IMPLEMENTATION PHASE							
Tasks and Timeline TBD							
STEADY-STATE PHASE							
Tasks and Timeline TBD							

2. Approach Ensuring Compliance with Privacy and Security Requirements for Health IT

Although trailing a number of other states in HIT use and adoption, Oklahoma is nevertheless making significant progress in this area, including more widespread development of HIT systems and the implementation of a public-private collaboration to plan and implement recommendations for an Oklahoma HIE. With an increasing number of provider groups in Oklahoma switching to electronic systems, many providers and stakeholders are concerned about the protection and preservation of privacy and security of records during the transition to EHRs.

In 2006, the federal government funded the Health Information Security and Privacy Collaboration (HISPC) to assess how organizational business policies and practices and state laws regarding privacy and security affect HIE. Oklahoma was one of 34 states and territories to participate in the HISPC efforts. In 2008, the Governor issued an Executive Order establishing the Oklahoma Health Information Security and Privacy Council (OKHISPC) to continue efforts to plan and implement recommendations for an Oklahoma HIE. OKHISPC has laid the groundwork for public and private partnerships as the state begins to move toward electronic HIE and explore issues related to privacy and security. The OKHISPC membership includes all state agencies, consumer groups, professional organizations (medical associations, bar association), and academic institutions. Attorneys, agency HIPAA officers, and professional organization representatives serving on the Council provide advice and education on issues related to privacy and security as outlined in Section I.F.2 of the Funding Opportunity Announcement. As

the project progresses, OKHISPC will work closely with the OKHIE team to ensure compliance with privacy and security requirements for health IT.

Since its inception three years ago, OKHISPC has been successful in introducing and/or providing support for legislation that created or amended state laws to better protect privacy and security and start paving the way for electronic HIE:

1. 63 O.S. § 7100, the ***Oklahoma Health Information Exchange*** Act, created a statewide standard process for authorizing the exchange of health information in compliance with federal and state law. The State Board of Health adopted and distributed a standard authorization form and accompanying instructions for use in obtaining authorization for exchanging health information. Persons exchanging health information under the authorization form adopted and distributed by the State Board of Health, when used in accordance with the instructions of the Board, are immunized from liability in actions based upon state privacy or privilege law that may be claimed to arise from the exchange of such information. Health care entities must accept the authorization form as a valid authorization for the exchange of health information.
2. 12 O.S. § 2503 changed existing state law regarding physician/patient privilege to make disclosure of confidential communications coincide with state and federal privacy laws.
3. 62 O.S. § 1-131 created the Health Information Infrastructure Advisory Board, which advises and assists the Oklahoma Health Care Authority in developing a strategy for the adoption and use of electronic medical records and health information technologies among state agencies that is consistent with emerging national standards and promotes interoperability of HIE.
4. 36 O.S. § 4601 – 4603 created the Health Care for Oklahomans Act, which in part, directs an advisory body to the Insurance Commissioner called the Health Care for the Uninsured Board (HUB). The Insurance Commissioner and the Oklahoma Health Care Authority are to advise and aid the HUB, and the State Board of Health is to implement and direct the duties of the HUB whose ultimate purpose is to aid the Insurance Commissioner in means to facilitate access to health

No Wrong Door, additional collaboration and data sharing opportunities are being fulfilled. A goal of the No Wrong Door program is to create a central vehicle for multiple program applications. The No Wrong Door initiative is to utilize data sharing between multiple agencies to verify elements of the application process electronically that previously had to be separately presented by an individual applicant, and institute real time decision making. Data sharing arrangements are to include; for example, social security numbers from the Social Security Administration, pregnancy verification from the Department of Health, applicant income from the Employment Securities Commission, and systematic citizenship verification for entitlement benefits.

5. 43 O.S. § 1-109 amended existing state law to allow for disclosure of information by a health care provider of mental health information necessary to carry out another provider's own treatment, payment, or health care operations without an authorization to release information, limited to the minimum information necessary. Such disclosures are limited to mental health information and do not include substance abuse information.

Furthermore, OKHISPC has participated on multi-state collaboratives to assess interstate HIE: 1) the Consent Collaborative focused on state law and regulations pertaining to consent and disclosure of personal and public health information to facilitate interstate electronic HIE; 2) the Adoption of Standard Policies Collaborative focused on developing a set of basic policy requirements for authentication and audit to help states and territories adopt agreed-upon policies; and 3) Oklahoma participated with 17 other states in Indiana's initial HISPC project to identify and review main issues regarding 42 C.F.R, Part 2 (drug and alcohol abuse treatment information) and HIE efforts, collaborating with SAMHSA to help move a common interpretation of HIE and Part 2 forward, as well as developing a strawman model for HIE that complies with Part 2.

In addition to its advisory role, the OKHISPC will continue to study laws, rules and regulations, and recommend legislation at the state level that will affect the exchange of protected health information, while ensuring patient privacy and confidentiality.

3. Communications Strategy with Key Stakeholders and the Health Community

OKHIE meetings will be conducted as public meetings in accordance with Oklahoma's Open Meetings Act. Meetings will be open to the public and held at specified times and places that are convenient to the public. Meeting schedule, objectives, and agenda will be publicized in advance via public notice. A list-serve will be created to facilitate information sharing and dissemination.

As this grant proposal was prepared, OKHIE maintained an open and transparent planning process. Notices were sent to 75 organizations and associations across the state inviting them to attend as members of OKHIE. At OKHIE meetings and forums, attendees have been able to make comments publicly. For people who cannot attend meetings in person, OKHIE has developed a website where they can submit comments electronically. The comments and the electronic form for submitting comments are available at www.okhca.org/OKHITECH. This website also provides notices for other public meetings.

4. Involvement of Community-Based Organizations and Underserved Populations

Oklahoma is a state of diverse geography and population, making it challenging to provide equitable health care to all Oklahoma citizens. Members of the OKHIE are acutely aware of the underserved populations and are well-connected to community-based organizations advocating for these groups, and will actively seek input from them. For the last several years, the Oklahoma Task Force to Eliminate Health Disparities has been charged with assisting the State Department of Health to investigate issues related to health disparities and health access among multicultural, underserved and regional populations. Members of the Task Force serve on the OKHIE and will draw upon their own experience and that of other Task Force participants for guidance throughout the project.

Oklahoma is a largely rural state and to ensure improved health outcomes through HIT in Oklahoma it will be necessary to focus on rural underserved areas and populations. Half of the population lives in a rural or frontier area of the State. A delegate from the Oklahoma Office of Rural Health at Oklahoma State University serves on the OKHIE and underscores the many issues related to meeting the healthcare needs in these areas. Oklahoma is also home to the second largest number of AI/ANs in the nation. Representatives from the Indian Health Service and the Oklahoma City Area Inter-Tribal Health Board participate in the OKHIE meetings to coordinate among tribal, state, and federal entities.

More than 14% of the State's residents are living without health insurance. Several of the OKHIE members have worked on initiatives, such as the Oklahoma Employer/Employee Partnership for Insurance Coverage, to provide healthcare coverage for the uninsured, and are acutely aware of the need to reach this group with healthcare services. Many OKHIE members are advocates for specific underserved populations, including the Health Alliance for the Uninsured (HAU), which is an umbrella organization of 16 free clinics in Oklahoma County. These clinics provide free medical care to those without health insurance. The HAU has an existing shared electronic patient data system in most of the member clinics, and is currently in the process of joining the Secure Medical Records Transfer Network (SMRTNET) HIE for central Oklahoma. Through its membership in OKHIE, the HAU is just one example of how OKHIE is targeting underserved populations. Through the OKHIE membership, its connections with advocacy and governing agencies responsible for the care of medically underserved populations, and through public feedback, the project will be designed to target uninsured and underserved populations and ensure equality and improved health care outcomes for all Oklahomans.

5. Integration of Stakeholder Interests

5.1. Stakeholder Interests

A broad range of stakeholders are represented on the Oversight Workgroup (see Table 3 above).

Health care providers. The Oklahoma Hospital Association, the Oklahoma Primary Care Association, the Oklahoma State Medical Association, and the Oklahoma Osteopathic Association are involved in the planning of the SHIECAP funding opportunity and will be involved in the creation of the Strategic and Operation Plans. All of the organizations will keep their members and stakeholders informed of HIE development and share their members' concerns. HIE and HIT adoption directly affects health care providers in their service delivery as most of Oklahoma's federally qualified health centers (FQHCs) have EHRs and providers from the Oklahoma Physicians Resource/Research Network (OKPRN) work with electronic databases.

Health plans. A fully functional integrated HIE will tie into systems of commercial insurance companies. A functional integrated HIE that may improve quality of care will lower health care costs and possibly increase profit in these health plans. The Health Management Organization (HMO) associations have been invited to participate in the stakeholder meetings and forums. At open forums, commercial insurance companies and HMOs will be able to submit their comments and input on the strategic and operation plans. One of the intents of the Strategic and Operational Plans will be to encourage the Oklahoma Insurance Commissioner to communicate with the private plans.

Patient or consumer organizations that represent the population to be served. In the Strategic planning phase OKHIE intends to collaborate with Patient Health Records (PHRs) and Patient Portals to allow patients to participate. The stakeholders meetings are open to the public and OKHIE hopes to incorporate the views of those who wish to participate in the OKHIE. For an HIE to be successful in Oklahoma it is important to gain patient trust and cooperation. OKHIE also intends to provide patient education via the internet. A current Oklahoma Health Care Authority initiative is the No Wrong Door program allowing

for online enrollment and eligibility into the Medicaid Program. This program will also direct consumers to other programs available within Oklahoma. Consumers will be an integral part of the planning and evaluation focus groups, and they will determine what the average Oklahoman needs from HIT and evaluate the success of the program.

Health information technology vendors. When Strategic and Operational Plans have been approved by the Office of the National Coordinator for Health Information Technology (ONC), a request for proposals will be released to select the appropriate experienced vendor to aid in the implementation of the plans. It is the intent of the OKHIE to have an open method of connecting the network of networks that will allow providers, organizations, and other Regional Health Information Organizations (RHIOs) to build applications into the network. It is important to collaborate with vendors to ensure that providers are able to get meaningful use out of their EHR systems. Several OKHIE members have ties to vendor organizations, including EMR/EHR providers and HIEs. Vendors will have an opportunity to comment and provide input during the public forums.

***Health care purchasers and employers*.** One of the OKHIE stakeholders and the current State Designated Entity is the OHCA. The OHCA is the state's largest health care purchaser as well as the state's Medicaid Agency. There are other organizations within Oklahoma that are self-insured, such as Chesapeake Energy and Norman Regional Hospital Network. Stakeholders of OKHIE will need the cooperation and input of private health care purchasers to contribute data to the HIE.

Public health agencies. Public health has a statewide service delivery network in Oklahoma. The role of public health in Oklahoma is to provide core public services as well as serve as a safety net for the low-income, uninsured and underserved population. The Governor's Secretary of Health, OHCA, the Department of Mental Health and Substance Abuse Services, as well as the Oklahoma State Department of Health (OSDH) all have a representative serving on the OKHIE and will contribute to the development of the Strategic and Operational Plans.

The OSDH's public health network is comprised of 90 county health departments under the direction of the Commissioner of Health and two City-County Health Departments in Oklahoma City & Tulsa. The Oklahoma public health network routinely provides services to the low-income, uninsured and underserved populations in Oklahoma. Services provided include family planning, early intervention, child guidance, sexually transmitted diseases, child health, maternity, tuberculosis, immunizations, breast and cervical cancer screening, the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), and other adult services. In state fiscal year 2009, the OSDH county health departments (excluding Oklahoma City and Tulsa City-County health departments) provided over 5.3 million services to 937,560 unduplicated clients.

Health professions schools, universities and colleges. Representatives from the Oklahoma State University Center for Health Sciences and the University of Oklahoma Health Sciences Center are members of OKHIE. These organizations comprise Oklahoma's medical schools and academic health centers, thereby providing representation for a large number of health care professionals including physicians, physician assistants, and nurses.

Clinical researchers. In addition to being a provider organization, OKPRN is a primary care practice-based research network that includes 245 primary care clinicians in 94 practices throughout the state of Oklahoma. As a participant in the National Institutes of Health (NIH) Roadmap-funded Electronic Primary Care Research Network (ePCRN), OKPRN is one of 12 regional networks with access to sophisticated IT designed to facilitate communication among participating national networks, identify patients who are eligible for studies, and carry out randomized controlled trials securely over the Internet. OKPRN maintains an extensive electronic database on over 240 network clinicians, routine patient encounter data, and several practice-based patient registries. These databases are regularly mined for practice-based research and quality improvement projects and in order to provide direct feedback to clinicians on their performance. The Indian Health Service and American Indian Tribes have stressed the need to follow all necessary protocols, including data ownership, in coordination with the IHS and

American Indian Tribes when examining AI/AN data. Clinical researchers will have an interest in the access to data from the HIE in accordance with ethical guidelines.

Other HIT Users. Support and clerical staff will be directly involved in assisting provider offices in the adoption of HIT, which may affect patient care coordination. Their experience with HIT adoption and use will provide valuable insight for crafting the proper Strategic and Operational plans.

5.2 Mechanism for the Integration of Stakeholders

These stakeholders will be integrated into the planning and implementation activities in three ways:

- They will be included in the workgroup or subcommittees to develop the strategic plan.
- Quality Circles will be created where representatives from various stakeholders will be invited to join. Quality Circles will meet at regular intervals to identify problems and make recommendations to the OKHIE team.
- Updates and invitations for public comment will be available on the OHCA website.

C) REQUIRED PERFORMANCE MEASURES AND REPORTING

In order to accurately track the progress of the Oklahoma HIE effort and to assess readiness for progress to new phases of work, OKHIE will regularly collect, monitor, and report on a set of performance measures. Oklahoma will meet the required measurement when published and will use the existing Physician Quality Reporting Initiative (PQRI) model where the patient information is de-identified and adapted to meet meaningful use criteria and requirements.

1. Reporting Requirements

Table 4 outlines performance measures the OKHIE team will capture to meet ONC and ARRA reporting requirements. Over the course of this work, additional data elements will be required to guide and evaluate the implementation of each phase. Thus, we will dedicate a component of our planning effort to define the metrics needed, and will formalize a process for gathering and presenting these metrics.

Table 4. Reporting Requirements

Reporting Requirement	Metric	Method and data source	Initial Target
Governance			
What proportion of the governing organization is represented by public stakeholders?	% of Governance Board representing public entities	# board members from public entities/total number of board members	50%
What proportion of the governing organization is represented by private sector stakeholders?	% of Governance Board representing private entities	# board members from private entities/total number of board members	50%
Does the governing organization represent government, public health, hospitals, employers, providers, payers and consumers?	Yes or No for each stakeholder type	Count representatives	Yes to all
Does the state Medicaid agency have a designated governance role in the organization?	Yes or No	Attestation of the state Medicaid agency (OHCA)	Yes
Has the governing organization adopted a strategic plan for statewide HIT?	Yes or No	Ratification of Strategic Plan	Yes
Has the governing organization approved and started implementation of an operational plan for statewide HIT?	Yes or No	Requires Governance ratified strategic plan and operational plan, both of which have been approved by the ONC	Yes
Are governing organization meetings posted and open to the public?	Yes or No	Review of meeting policies and communications methods	Yes
Do regional HIE initiatives have a designated governance role in the organization?	Yes or No	Review of organizational chart, board composition, and self attestation	Yes
Finance			
Has the organization developed and implemented financial policies and procedures consistent with state and federal requirements?	Yes or No, Narrative description	Independent review of written policies and procedures of the organization	Yes
Does organization receive revenue from both public and private organizations?	Yes or No, Graphical breakdown	Categorize incoming revenue as public or private sources and chart	Yes, fulfill matching requirements
What proportion of the sources of funding to advance statewide HIE are obtained from federal assistance, state assistance, other charitable contributions, and revenue from HIE services?	% of total revenues from each type of organization indicated	Track revenues and source. Report proportion of each as a fraction of total revenue	Revenue from sustainable source, fulfill matching requirements
Of other charitable contributions listed above, what proportion of funding comes from health care providers, employers, health plans, and others (please specify)?	% of total revenues, and % of "other charitable contributions" derived from each stakeholder group.	Track revenues and source. Report proportions as % of total revenues and % of "other charitable contributions" by stakeholders	Revenue from sustainable source
Has the organization developed a business plan that includes a financial sustainability plan?	Yes or No	Detailed pro forma will be reviewed by independent expert	Yes

Does the governance organization review the budget with the oversight board on a quarterly basis?	Yes or No	Review of meeting agendas and minutes.	Yes
Does the recipient comply with the Single Audit requirements of OMB?	Yes or No	Independent review of processes to determine	Yes
Is there a secure revenue stream to support sustainable business operations throughout and beyond the performance period?	Yes or No	Detailed pro forma evaluated	Yes
Technical Infrastructure			
Is the statewide technical architecture for HIE developed and ready for implementation according to HIE model(s) chosen by the governance organization?	Yes or No	Determined based on 1) initial needs assessments, 2) governance organization decision, and 3) capacity of the technical architecture to meet both governance and technical needs. A document, called the Technical Architecture Plan, will be created to support this assessment and subject matter experts will review this document to determine the answer.	Yes
Does statewide technical infrastructure integrate state-specific Medicaid management information systems?	Yes or No	Determined by cataloguing the interfaces planned between the MMIS and the HIE system(s).	Yes
Does statewide technical infrastructure integrate regional HIE?	Yes or No	Determined by cataloging the interfaces planned between regional HIEs and the statewide technical infrastructure	Yes
What proportion of healthcare providers in the state are able to send electronic health information using components of the statewide HIE Technical infrastructure?	1. % of providers (by type) who *could be sending* health information (by type) via the HIE 2. % of providers who actually *are sending* data	This will be calculated using information on 1) the types of information that must be shared, 2) the preferred protocols for data exchange, 3) number of providers (by type) who currently have systems capable of sending the *required* information electronically via the preferred protocols, and 4) the number of providers in the process of implementing such systems and their estimated go-live dates (to establish a trajectory that hopefully will intersect with the roll-out of statewide HIE). Metrics 2 and 3 will be used to monitor the progress and success of the roll out.	1. 100% by end of year 2 2. 40% by end of year 2
What proportion of healthcare providers in the state are able to receive electronic health information using components of the statewide	1. % of providers (by type) who *could be receiving* health information (by type)	This will be calculated using information on 1) the types of information that must be shared, 2) the preferred protocols for data exchange, 3)	1. 100% by end of year 2 2. 40% by end of year 2

HIE Technical infrastructure?	2. %of providers who actually *are receiving* data	number of providers (by type) who currently have systems capable of *receiving* the required information electronically via the preferred protocols, and 4) the number of providers in the process of implementing such systems and their estimated go-live dates (to establish a trajectory that hopefully will intersect with the roll-out of statewide HIE). Metrics 2 and 3 will be used to monitor the progress and success of the roll out.	
Business and Technical Operations			
Is technical assistance available to those developing HIE services?	Yes or No and quantitative report of volume of assistance provided	Recruit technical expertise to provide support. Establish formal technical assistance processes and procedures, including issue tracking and support. Report statistics on new issue tickets and resolution of issues.	50% of open tickets resolved in <24 hours, 90% in 72 hrs.
Is the statewide governance organization monitoring and planning for remediation of HIE as necessary throughout the state?	Yes or No	Measurements will be a completed assessment of existing HIE, and documented plan for the incorporation of those HIEs into the State Plan from governance, financial, and technical perspectives. As implementation phase begins, milestones in this plan will be tracked and met.	Yes, planned milestones met.
What percent of health care providers have access to broadband?	% of providers with broadband access by type	There will be a baseline assessment then semi-annually with the Corporation Commission.	100% by end of year 2
What statewide shared services or other statewide technical resources are developed and implemented to address business and technical operations?	List of statewide shared services and technical resources, stage of implementation of each, and utilization of each.	Catalog statewide shared services and technical resources, and then track their stages of implementation and ultimately, utilization.	Complete list, with % of implementation complete and % of eligible providers
Legal/Policy			
Has the governance organization developed and implemented privacy policies and procedures consistent with state and federal requirements?	Yes or No	Written privacy policy and procedure reviewed and evaluated by credentialed independent experts in coordination with OKHISPC	Yes
How many trust agreements have been signed?	# of agreements signed, % of offered agreements signed	Track the number of potential agreements, number signed and number refused	60% of potential agreements by year 2
Do privacy policies, procedures and trust agreements incorporate provisions allowing for public health data use?	Yes or No	Written policies reviewed and evaluated by independent experts. *Public health data use* will be defined by federal guidance and interpreted as necessary by a governance committee (which includes IHS and AI/AN staff representatives). .	Yes

2. Performance Measures

A number of performance measures will be tracked during the implementation phase. Additional metrics will be added to the list during the planning phase.

Table 5. Performance Measures

Performance measure	Metric	Method and Data sources	Initial target
Percent of providers participating in HIE services enabled by statewide directories or shared services	% of providers using shared services	Number of providers with logins to shared services each month divided by the total number eligible to use shared services.	40% at year 2
Percent of pharmacies serving people within the state that are actively supporting electronic prescribing and refill requests	% of new scripts that are electronic % of refill requests that are electronic	Number of scripts written electronically divided by the total number of scripts filled Number of refill requests submitted electronically to providers by pharmacies divided by the total number of refills completed	40% of scripts should be electronic by end of year 2. 40% of refill requests should be electronic by the end of year 2.
Percent of clinical laboratories serving people within the state that are actively supporting electronic ordering and results reporting	% of lab tests ordered electronically % of lab results delivered electronically	Number of lab tests ordered electronically divided by the total number of lab tests ordered Number of lab test results delivered electronically divided by total number of lab tests	40% ordered electronically 95% of test results delivered electronically
Provider participation in HIE by meaningful use requirement met	Identity of providers who demonstrate meaningful use % of providers demonstrating meaningful use by requirement	Given finalized list of requirements, the HIE will be used to assess the number and identity of providers who meet relevant meaningful use criteria	40% of providers meet meaningful use criteria
Electronic exchange of clinical summaries	% of clinical summaries available electronically	Number of clinical summaries in HIE divided by the total number of encounters documented	25% available electronically by the end of year 2
Immunizations available via HIE	% of childhood and adult immunizations documented electronically and available in HIE % of providers documenting immunization administration electronically	Number of immunization administrations available electronically divided by the total need for vaccines. Number of providers entering immunization administrations each month divided by the total number of providers in the state	99% of immunization records available electronically by the end of year 2 and 80% of providers documenting immunizations electronically by the end of year 2
Eligibility checking	% of providers using electronic eligibility checking	Number of electronic eligibility checks divided by the total number of eligibility checks	60% of eligibility checks electronic by end of year 2
Public health reporting	% of reports to state and local public health agencies occurring electronically	Number of electronic reports to public health agencies of vital statistics, reportable conditions, etc. divided by total number of reports	50% of reports via electronic means by the end of year 2

D) PROJECT MANAGEMENT

We propose the following organizational structure only for the planning phase of our HIE project (See Figure 2). Oklahoma anticipates each phase of the project requiring teams better aligned with the tasks at hand. Future recommendations concerning organizational structure will be sent to the Governor's Office for review and concurrence. Because we are in the very early stages of developing a state-wide approach to HIE, we have adopted a structure and process that we believe will meet the following criteria:

1. Supports the active involvement of the broadest range of stakeholders including multiple consumer, vendor and provider organizations.
2. Includes broad stakeholder representation during decision-making processes.
3. Incorporates local and national expertise early in the planning phase to guide the work and present feasible options for consideration by the larger stakeholder group.
4. Divides the complex work into manageable pieces, and assigns those pieces to teams of subject matter experts who report to the State HIT Coordinator and to the Oversight Workgroup.
5. Directly involves, and coordinates well with public health (OSDH) and Medicaid (OHCA).

Figure 2: Proposed planning phase organization

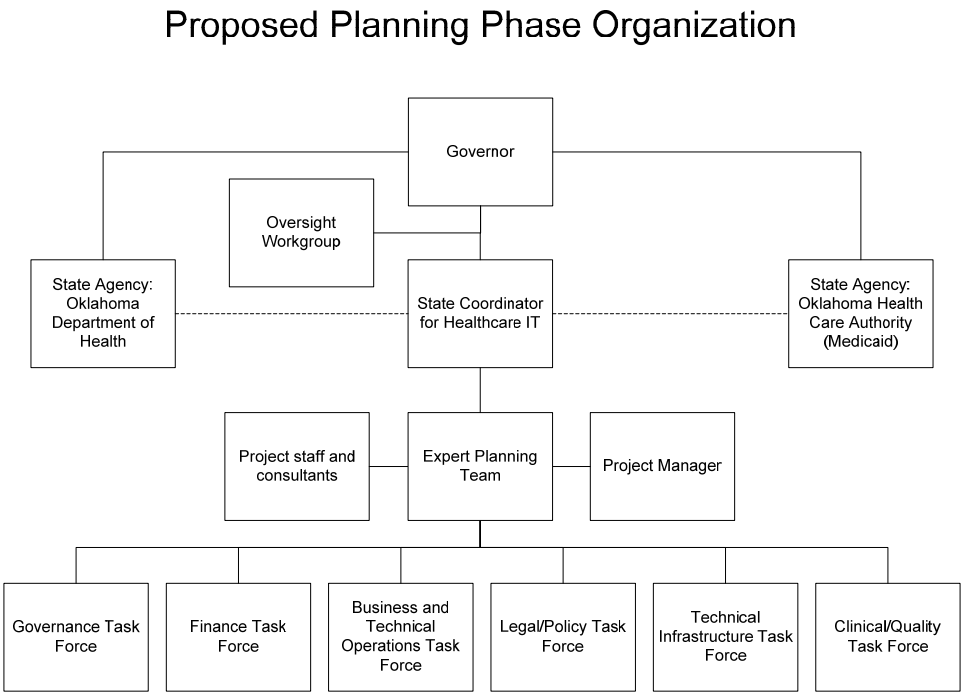

Table 6: Project Roles and responsibilities

Role	Responsibilities
Governor	Holds ultimate responsibility for effectively spending Federal Stimulus dollars to achieve health information exchange in Oklahoma.
Oversight Workgroup: Large, multi-disciplinary group of healthcare stakeholders (See Table 3 for members)	Serve as the Board of Directors for the Planning Phase. Some of these stakeholders will also serve as Experts (see below). This group will review and approve or reject recommendations from the Expert Planning Team and the State HIT Coordinator.
State Healthcare IT Coordinator: Interim initially, permanent in early 2010	State's lead officer for implementation of HIE, with day to day responsibility for leading the project.
Expert Planning Team: HIE subject matter experts (SME) appointed by the State Coordinator for Healthcare IT and ratified by the Oversight Workgroup	Engage deeply in the planning process and work out details for each of the focus areas for HIE. Oversee the focused subcommittees and assemble their work for presentation to the Oversight Workgroup. The State Coordinator will lead this team.
Project staff and consultants: Grant staff, consultants and other personnel assigned to support the project	Grant staff and consultants may be utilized to provide coverage for knowledge gaps.
Project manager: PMI certified project manager	Oversee the planning work, provide critical continuity between the teams and provide reports on progress.
Governance Task Force: Individuals with experience in assembling health information organizations	Recommend the multi-stakeholder governance approach for Oklahoma's HIE and recommend the organization structure and roles and responsibilities for Oklahoma's HIE.
Finance Task Force: Individuals with experience in business planning and the development of sustainable business models in healthcare IT	Develop the sustainable funding model and plan for implementation, which may include establishment of a legislative agenda or a marketing plan.
Technical Infrastructure Task Force: Individuals with technical expertise in the development and implementation of healthcare information systems, enterprise networks and software product development	Conduct a technical assessment of current state; Evaluate available technologies; Define desired architecture and approach; Develop requirements for RFP including interoperability with the NHIN; Craft RFPs.
Business and Technical Operations Task Force: Individuals with operations experience in healthcare IT with enterprise system deployment and support skills	Based on needs assessment and resource availability, plan for deployment of HIE to all geographies and populations within Oklahoma. Determine the best ways to integrate existing HIE efforts into the overall plan and identify strategy for connection to NHIN.
Legal/Policy Task Force: HIPAA privacy officials, healthcare attorneys along with OKHISPC committee experts	Review and establish policies for privacy and security, creation of trust agreements, as well as defining technical requirements related to privacy and security. In addition, identify needs and establish legislative agenda required to create a legal environment conducive to HIE.
Clinical/Quality Task Force: Clinicians and healthcare researchers focused on quality	Define clinical and quality use-cases, data sharing requirements, policies related to use of the data, and clinical and quality-related technology requirements.

Portions of the organization structure above have already been assembled, and we expect to complete selection of the expert team and domain-specific task forces shortly after the submission date for this grant. Several paid positions, such as the State HIT Coordinator and grant staff will need to be interim

positions initially filled by in-kind contributions from one of our stakeholder member organizations until funding is received January 15, 2010.

OHCA is currently the State Designated Entity and thus will act as the fiscal intermediary between the OKHIE effort and the ONC. OHCA serves in this role at the pleasure of the Governor but the State Designated Entity could be re-assigned. Many other organizations will be providing in-kind services and resources as well. Table 7 below, "Project Personnel" details some of the individuals and organizations who will be actively contributing to the effort, and the roles they will fill.

Table 7. Project Personnel

Name	Organization	Organizational Position	Grant Position
John Calabro, MBA	OHCA	Chief Information Officer	Oversight Workgroup Co-chair
Robert Roswell, MD	OU Health Sciences Center	Sr. Assoc. Dean, College of Medicine, Chair, OKHISPC	Oversight Workgroup Co-chair
Terri White, MSW	State of Oklahoma	Secretary of Health	State Coordinator for Healthcare IT (interim until funding is made available in January 2010)
TBD			Project Manager
TBD	Stakeholder organizations		Expert Team and Task Forces
Advisors and Consultants			
Mike Fogarty, JD	OHCA	Chief Executive Officer	Advisor
Lynn Mitchell, MD	OHCA	Medicaid Director	Advisor
J. Paul Keenan, MD	OHCA	Chief Medical Officer	Advisor
Michael Herndon, DO	OHCA	Health Care Management Medical Director	Advisor
Leon D. Bragg, DDS	OHCA	Director of Dental Services	Advisor
Brian Yeaman, MD	GOCHC	Director of Physician Informatics	Advisor
Ann Chou, PhD	University of Oklahoma Health Sciences Center	Department of Health Administration and Policy	Evaluation Consultant
Jim Mold, MD	University of Oklahoma Health Sciences Center	Clinical researcher active with OKPRN projects	Evaluation Consultant
Jeff Hackler, JD	Oklahoma State University Center for Health Sciences	Center for Rural Health	Evaluation Consultant
David Kendrick, MD	University of Oklahoma-Tulsa	Department of Medical Informatics	Technology, Interoperability, and Evaluation Consultant
Dale Bratzler, DO, MPH	OFMQ	President and CEO	Clinical Quality Organization

Upon receipt of funding the State Designated Entity could issue a bid for the following consulting services: 1) a Project Management Institute (PMI) certified project manager and 2) project management services to perform independent verifier and validation services for any contractors hired for planning or implementation services. OHCA is currently facilitating the project and will utilize consultants to aid with meeting coordination and administrative tasks. OHCA is also requesting project administrative services as part of the consultant bid. These services will be utilized for meeting coordination, travel coordination and other necessary administrative duties. OHCA will require the project management consultant to prepare weekly project reports and updates to support the work of the Expert Team, State HIT Coordinator and Oversight Workgroup. OHCA will organize the project support team who will utilize the reports and tools to monitor the progress of the project and inform the State HIT Coordinator. Guided by the State HIT Coordinator and supported by the Project Staff and Project Manager, the Expert Team will meet frequently to produce deliverables for presentation to the Oversight Workgroup. The Oversight Workgroup will meet to review deliverables and provide guidance and direction to the Expert Team. Changes to project scope and direction will be approved by the Oversight Workgroup during the Planning Phase of the project.

E) EVALUATION

1. Domains for Evaluation

The Oklahoma HIE evaluation plan will capture and track performance measures across five domains, which will be utilized for internal project evaluation and performance improvement activities as directed by the HIT Policy Committee. The measures will also be utilized for external reporting to stakeholders within Oklahoma and for national program evaluation activities. The five domains of evaluation include Adoption, Patient Satisfaction, Provider Satisfaction, Financial, and Health Outcomes. Each domain and representative measures are described below. Additional measures will be selected and updated as necessary by the Performance and Evaluation Subcommittee of the HIT Policy Committee.

Adoption measures will include all required Performance Measures and additional measures as directed by the HIT Policy Committee. These data are intended to reflect the extent to which Oklahoma providers have adopted EHRs and are successfully demonstrating meaningful use though successful exchange of electronic health information. Data will be collected for each of Oklahoma's 77 counties and aggregated to yield statewide data. Individual county adoption and meaningful use data will be collected and reviewed in close collaboration with the Oklahoma HIT Regional Extension Center under the leadership of the Oklahoma Foundation for Medical Quality. At a minimum, adoption measures will include the percent of providers participating in HIE services enabled by statewide directories or shared services, the percent of pharmacies serving people within the state that are actively supporting electronic prescribing and refill requests, and the percent of clinical laboratories serving people within the state that are actively supporting electronic ordering and results reporting.

Patient satisfaction measures are included because preliminary work in Oklahoma conducted through the Oklahoma Health Information Security and Privacy Council has revealed that concerns about security and privacy of electronic health information is the greatest barrier to patient acceptance of the use of EHRs and HIE in Oklahoma. At a minimum, patient satisfaction measures will include survey data designed to assess patient confidence in health data security and privacy, ease of patients' ability to obtain and share electronic health information with providers, and ease of exchanging data between personal health record software and provider systems.

Provider satisfaction measures will be developed to assess the level of satisfaction among physicians, other healthcare professionals, and hospitals with the use of EHRs and HIE services in Oklahoma. At a minimum these survey measures will include the level of satisfaction with data security and privacy, ease of obtaining and sharing medical information with other providers, ease of reporting quality measures, and the overall value or return on investment associated with the use of EHRs and HIE in Oklahoma.

Cost measures are included so that data can be collected over time to evaluate the potential for HIT to reduce per capita healthcare costs in Oklahoma through the reduction of medical errors, elimination of

duplicated tests and services, increased delivery of needed preventive care and evidence based medical services, and overall improved coordination of care. The measures will also be utilized to assess the relative cost share for Oklahoma HIT adoption among state, federal, private payer, and provider sources. At a minimum, financial measures will include per capita health care expenditures for Oklahoma beneficiaries by Medicaid, Medicare, VA, IHS, private payers, and self pay sources, along with total all source per capita healthcare costs; state, federal, private payer, and provider expenditures to acquire EHR technology and connect to the Oklahoma HIE network; and the annual cost per provider and hospital bed to access the Oklahoma HIE network.

Health outcome measures are an essential component of the evaluation plan because the overarching goal of Oklahoma's HIE effort is the improvement in the health of all Oklahomans. Accordingly, selected measures from the United Health Foundation and Commonwealth Fund annual state health rankings where Oklahoma has traditionally performed very poorly will be used in the evaluation process. At a minimum, health outcome measures will include preventable hospitalization rates, immunization rates, a geographic disparity index, and the incidence of preventable adverse medical events in hospitalized patients.

2. Methodology

Although the evaluation plan will be developed and monitored by the Clinical and Quality Task Force, the actual survey instruments, collection of data and statistical analysis will be performed by the University of Oklahoma Health Sciences Center (OUHSC) and The Oklahoma State University (OSU) Center for Rural Health in an effort to eliminate any bias in the process and help guarantee the accuracy of results. Both OUHSC and OSU have previously successfully performed similar support and analytical services for Oklahoma's state agencies and health care providers.

The evaluation will take a mixed method approach, including both quantitative and qualitative analyses. Cost and health outcome measures may be derived from databases that the Oklahoma State Insurance Commission and the State Department of Health collect and maintain. Working with the state's

professional organizations such as the Oklahoma State Medical Association and the Oklahoma Osteopathic Association, a survey instrument, web- or paper-based, will be completed by a sample of physicians to track HIT adoption and physician satisfaction. Similarly, a sample of patients, recruited through consumer organizations such American Association of Retired Persons (AARP) or the Oklahoma City Inter-Tribal Health Board, will be asked to complete a survey on patient satisfaction.

Qualitative information regarding the project will be collected via semi-structured interviews. These interviews will be conducted with members of OKHIE, stakeholder participants, and OHCA staff, to assess the progress, strengths and weaknesses of the project, and identify ongoing process improvement strategies for the project.

3. Evaluators

The Department of Health Administration and Policy and the Biostatistics and Epidemiology Research Design and Analysis Center (BSE RDAC) managed by the Department of Biostatistics and Epidemiology, at the College of Public Health, OUHSC, and the Department of Medical Informatics at OU/Tulsa are charged with the task of performing the project's evaluation, and tracking performance measures, and reporting. The BSE RDAC's mission includes serving the Health Sciences Center, along with public, community, and private health entities by providing biostatistical and epidemiological support for projects and programs that involve clinical or health data. The center has dedicated research facilities. The Center utilizes server space that is maintained and administered according to policies and procedures related to electronic storage of protected health information, security, and electronic back-up by the OUHSC Information Technology Department. Data security is further enhanced by the policies and procedures of the Center. BSE RDAC staff maintain a variety of software programs and statistical packages and the skill sets to use them.

The Department of Medical Informatics at OU-Tulsa has Oklahoma's only formally trained medical informaticists and has substaintial expertise in the development and deployment of enterprise clinical information systems. In addition, the informatics team has experience with technology evaluation,

systems architecture design and clinical information systems interoperability. The OU informatics team makes wide use of the previously mentioned tools and additionally employes software design and engineering principles to achieve practical systems whose evolution is guided by data. In addition, the OU informatics team has teamed up with the Department of Bioethics to bring consideration of the ethics of health information exchange to the conversation. This partnership will be critical in developing the framework for making decisions about how, where, why and with whom, sensitive personal health information can be shared.

The OSU Center for Rural Health, a designated state agency housed at the OSU Center for Health Sciences (CHS), will provide consultation on the evaluation related to Oklahoma's rural populations and work closely with the OUHSC evaluation team. The Center for Rural Health is home to Oklahoma's State Office of Rural Health and the Oklahoma Area Health Education Center. The OSU Center for Rural Health's mission includes rural research and program applications. Through these programs, the Center works very closely with rural hospitals, physicians, and the communities they serve. The Center is equipped to provide research and data analysis support including secure data storage on network servers managed by OSU Information Technology Department, full adherence to ethical principles for research and data analysis as described in the *Guiding Principles for Evaluators* published by the American Evaluation Association, experienced personnel that are trained in a wide variety of research, evaluation and analysis methods, and analytic tools including appropriate software .

F) ORGANIZATIONAL CAPABILITY STATEMENT

The Oklahoma Health Care Authority is one of only seven stand alone Medicaid agencies in the country. OHCA was formed by legislation and is the primary entity in the state of Oklahoma charged with controlling costs of state-purchased health care. It currently handles federal funding for Medicaid and SCHIP programs and is experienced in handling all required federal reporting for those programs as well those reports requested ad hoc by Federal and State auditors. In addition, there is organizational

knowledge as a Transformation Grant recipient and prepares regular progress reports and evaluations of the grant activities. The ***SoonerCare*** program covers over 650,000 lives with a variety of service delivery models, including Oklahoma's public/private premium assistance program, ***Insure Oklahoma***. As the Medicaid agency it has dedicated medical, care management, quality assurance, planning and information technology divisions, as well as provider and member services operational divisions. Resumes of key staff working on this grant are included in Appendix 2. Members of appropriate divisions participate in multi-disciplinary teams to plan, manage, and implement projects. Statewide or regional projects include external stakeholders and other state agencies on project steering committees. Oklahoma's Medicaid program puts special emphasis on collaboration within the community of members, providers and partner agencies to meet the many needs of Oklahomans. The state designated entity will diligently work as a collaborator with the OKHIE team to further the health information interoperability needs of Oklahoma. The technology division manages multiple large information technology and consultant contracts as part of the Medicaid Management Information System (MMIS) and is skilled at the procurement process. Oklahoma's MMIS is known for its innovation and ability to adapt quickly to new processes. The Oklahoma MMIS was the first MMIS to implement Internet-based claim, eligibility and other administrative transactions all in real-time operation. The ***SoonerCare*** program is one of the first in the nation to implement the medical home model into its Medicaid delivery system. OHCA is preparing a bid, to be issued upon funding, for a consultant to perform project management functions and independent verification and audit services. There is extensive experience with contracting with national consulting firms.