

THE STATE OF HEALTH IT IN TEXAS

*Health and Human Services Commission
Office of e-Health Coordination*

June, 2013



Table of Contents

| | |
|------------------------------------------------------------------------------|----|
| Section 1: Background..... | 2 |
| 1.1 Provider Adoption | 2 |
| 1.1.1 Practitioners..... | 2 |
| 1.1.2 Hospitals | 3 |
| 1.2 Consumer Attitudes..... | 4 |
| Section 2: HIT Policy | 7 |
| 2.1 Federal HIT Policy | 7 |
| 2.1.1 EHR Incentive Programs..... | 7 |
| 2.1.2 The ONC’s HITECH Programs | 7 |
| 2.1.3 The ONC’s Advisory Committees and Regulations | 9 |
| 2.1.4 eHealth Exchange | 9 |
| 2.2 Texas HIT Policy..... | 10 |
| 2.2.1 Office of e-Health Coordination | 10 |
| 2.2.2 HHS Executive Steering Committee..... | 10 |
| 2.2.3 Electronic Health Information Exchange System Advisory Committee | 10 |
| 2.2.4 Texas Health Services Authority | 11 |
| 2.2.5 State HIE Policy Development | 11 |
| 2.2.6 Privacy and Security Policy | 12 |
| 2.2.7 Medicaid Transformation Waiver | 12 |
| 2.2.8 Recent State Legislation..... | 12 |
| 2.3 Advocacy and Public Interest Groups | 13 |
| 2.3.1 Texas Health Information Exchange Coalition | 13 |
| 2.3.2 Texas eHealth Alliance | 13 |
| 2.3.3 Texas HIMSS Chapters..... | 14 |
| 2.3.4 Texas Medical Association | 15 |
| 2.3.5 Texas Hospital Association..... | 15 |
| 2.3.6 Texas Association of Community Health Centers | 15 |
| 2.3.7 Texas Association of Health Plans..... | 15 |
| 2.3.8 Texas Organization of Rural and Community Hospitals..... | 16 |
| Section 3: HIT in Texas | 17 |
| 3.1 Texas Medicaid Electronic Health Record Incentive Program | 17 |
| 3.2 Regional Extension Centers | 18 |
| 3.3 Health Information Technology Implementation Grants..... | 22 |
| 3.3.1 Lone Star Circle of Care..... | 22 |
| 3.3.2 Texas Association of Community Health Centers | 22 |
| 3.3.3 CommuniCare Health Centers | 22 |

| | | |
|------------|------------------------------------------------------------------------|----|
| 3.4 | Research and Education Initiatives..... | 23 |
| 3.4.1 | Strategic HIT Advanced Research Projects | 23 |
| 3.4.2 | University Based Training Grants..... | 24 |
| 3.4.3 | Texas Health Information Technology Workforce Development Project..... | 25 |
| 3.4.4 | Community College Consortium..... | 26 |
| 3.4.5 | Center for Health Organization and Transformation | 27 |
| Section 4: | HIE in Texas | 28 |
| 4.1 | State HIE Cooperative Agreement Program | 28 |
| 4.1.1 | Local HIE Grant Program..... | 28 |
| 4.1.2 | White Space Program | 29 |
| 4.1.3 | State-level Operations | 29 |
| 4.2 | Local HIE in Texas..... | 30 |
| 4.2.1 | Local HIE Grant Program Participants..... | 31 |
| 4.2.2 | Health Information Service Providers..... | 35 |
| 4.3 | Other Health Information Exchange Initiatives | 36 |
| 4.3.1 | Texas HIE Infrastructure Development Initiative | 36 |
| 4.3.2 | Prescription Drug Monitoring and HIE Integration..... | 36 |
| 4.3.3 | Medicaid Eligibility Health Information Service | 36 |
| 4.3.4 | Medicaid Health Information Exchange | 36 |
| 4.3.5 | PHR Ignite | 37 |
| 4.3.6 | Health Center Controlled Network Grant..... | 37 |
| 4.3.7 | Texas Immunization Registry | 38 |
| 4.3.8 | Foster Care Health Passport | 38 |
| 4.3.9 | State Broadband Initiative Program | 38 |
| 4.3.10 | Healthcare Connect Fund | 38 |
| Section 5: | Appendix..... | 40 |
| 5.1 | Acronyms..... | 40 |
| 5.2 | Additional Resources | 42 |

Executive Summary

Since the last *State of Health Information Technology in Texas* report was published in 2009, the electronic healthcare landscape in the State of Texas has undergone a significant transformation. Four years ago, many entities in the state recognized the potential benefits of electronic health records (EHRs) and health information exchange (HIE), but provider adoption rates accelerated slowly and many communities lacked the unified visions needed to create and sustain the infrastructure to share records between organizations.

Then in 2009, shortly before the last report was published, funds became available to support a number of Health Information Technology (HIT) initiatives through the [Health Information Technology for Economic and Clinical Health](#) (HITECH) Act as part of the American Recovery and Reinvestment Act (ARRA). Texas-based organizations including provider groups, universities, and state agencies successfully competed for grant opportunities and were awarded more than \$100 million to support HIT investments in the state. Significant funds were also given to the Texas Medicaid program to develop and administer the EHR incentive program.

The primary challenge for HIT in Texas in the last four years has been to successfully develop and implement programs while effectively collaborating to efficiently leverage these one-time resources. In this period, EHR meaningful use incentives, Regional Extension Centers' (RECs) support, colleges' and universities' education and workforce investments, and the work of HIEs throughout the state have laid the ground work for a modern, electronically enabled healthcare system in Texas. Early indicators show that provider adoption rates for electronic health records (EHRs) have accelerated from 33% before 2009,¹ to 48% in 2011 and 52.5% in 2012.² The increasing adoption rate has translated to high participation rates in the EHR incentive program which, to date, has allocated almost \$500 million to eligible providers and hospitals in the State of Texas.

Now, in 2013, the HITECH funded programs are beginning to conclude their activities which makes this a good time to document the work that has taken place in the last few years and reflect on some of the early successes. Many programs are in the process of conducting formal evaluations which will be included in a more extensive *State of Health Information Technology in Texas* in 2014. The 2014 report will also look at any gaps that persist and consider a unified State-level HIT Plan.

¹ [TMA Member Survey, 2007](#)

² [HHSC HIT Practitioner Survey, 2011 and 2012.](#)

Section 1: BACKGROUND

In the April 2004 State of the Union address, President George W. Bush called for all Americans to have an electronic health record (EHR) within a decade. At the same time, through an Executive Order, the Office of the National Coordinator for HIT (ONC) was established. Following its inception, the ONC pursued a planning and promotion strategy focused on facilitating the transition to a fully integrated, electronic health information infrastructure. The federal strategy focused on four major initiatives:

- The development of a credentialing process for EHRs and other components of an electronic HIT infrastructure;
- The development of data standards for Health Information Exchange (HIE);
- The development of technical architecture designs for regional HIE; and
- The development of privacy and security policies for governing intra- and inter-state HIEs.

“One of the amazing discrepancies in American society today is we’re literally changing how medicine is delivered in incredibly positive ways, and yet docs are still spending a lot of time writing things on paper-and sometimes it’s hard to read their handwriting. Therefore, sometimes it’s difficult to have the spread of accurate information so that doctors can make good decisions.” President George W. Bush – 2004

“To improve the quality of our health care while lowering its cost, we will make the immediate investments necessary to ensure that within five years, all of America’s medical records are computerized. This will cut waste, eliminate red tape, and reduce the need to repeat expensive medical tests. But it just won’t save billions of dollars and thousands of jobs – it will save lives by reducing the deadly but preventable medical errors that pervade our health care system.” President Barack Obama – 2009

Since the Obama administration, these initiatives have continued to be the ONC’s primary focus, but increased funding at the federal level has enabled them to administer a number of state and local projects. The 2009 HITECH Act included \$19.2 billion for HIT; \$17.2 billion for incentives through Medicare and Medicaid for physicians and hospitals, and \$2.0 billion for the Secretary of Health and Human Services to allocate to HIT infrastructure programs. Texas institutions were very successful in competing for these funds and, in recent years, have made significant progress towards realizing an electronically enabled healthcare infrastructure for the state.

This section will provide an overview of the programs that were created in Texas with the support of HITECH and ARRA funds. Then we take a closer look at the changes in provider and hospital adoption rates and consumer attitudes in this period.

1.1 Provider Adoption

1.1.1 Practitioners

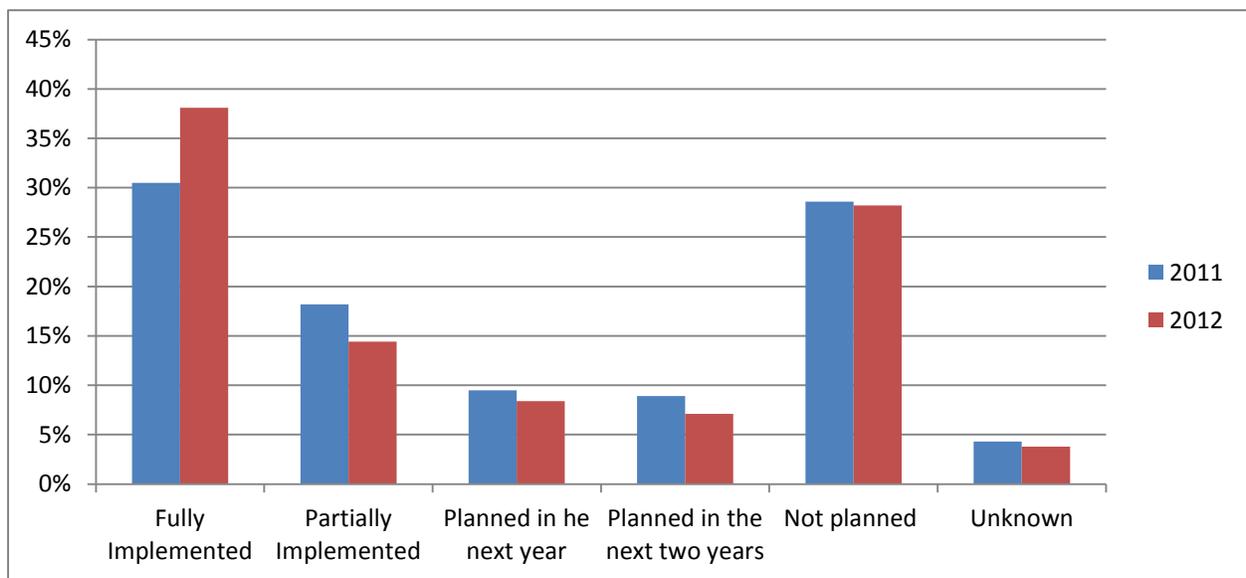
Before 2009, the rates of practitioner adoption of EHRs were estimated to be between 13% and 20% nationally.³ In the same period, the Texas Medical Association found that 33% of Texas physicians were using EHRs. These early statistics in the State of Texas indicate low adoption rates, and selection and methodology issues in the survey likely inflated these results.

Starting 2011, OeHC coordinated with the HIE Cooperative Agreement Program and the State Medicaid HIT

³ [State of HIT in Texas, 2009](#)

Planning process to develop the first [HIT Practitioner Survey](#). In its first year, 1,233 physicians, 1,076 dentists, 110 nurse practitioners, and 52 physician assistants were surveyed by phone, fax, and mail. The results showed that 30.5% of practitioners were fully paperless and 18.2% had partially implemented an EHR, for a combined adoption rate of 48.7%. Of the remaining practitioners 18.4% planned to implement an EHR in the next one or two years and only 28.6% had no plans to adopt EHRs. By practitioner type, physician assistants (65.4%) and nurse practitioners (58.2%) showed the highest rates of adoption, followed by physicians (49.6%) and dentists (45.8%).

The survey was fielded again in 2012, with a total of 927 physicians, 811 dentists, 44 physician assistants, and 108 nurse practitioners responding. Of these respondents, 38.1% reported being fully paperless and 14.4% had partially implemented an EHR, for a combined adoption rate of 52.5%. Those practitioners planning to implement in the next one to two years represented 15.5% of respondents, while 28.2% had no plans to adopt an EHR. Similar to the 2011 results, physician assistants (75%) and nurse practitioners (74.1%) had the highest adoption rates, while physicians increased slightly (57.2%) and dentists decreased slightly (42.6%).

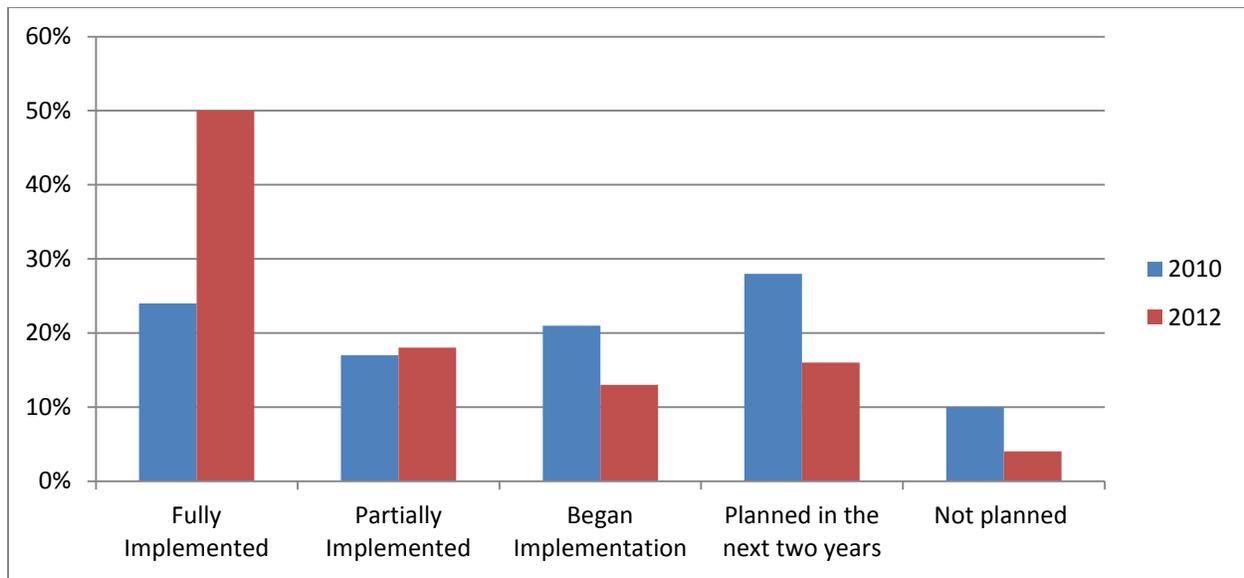


1.1.2 Hospitals

Prior to 2009, national studies of EHR adoption in hospitals varied significantly based on the functions included in the definition of an EHR. The adoption rates from these early studies showed that between 13.6% and 1.5% of hospitals fully implemented EHRs and between 57% and 10.9% of hospitals had partially implemented EHRs.

In 2010 and again in 2012, the OeHC conducted [HIT/HIE Hospital Surveys](#) of all licensed hospitals in the State of Texas. The surveys were available online, and staff notified hospital administrators via phone and email to encourage participation. In 2010, 253 hospitals responded. Approximately 24% of those respondents report a fully implemented EHR and 17% reported partial implementations. 21% of hospitals were in the early stages of implementation and 28% planned implementations in the next one or two years. Only 10% of hospitals in the state had no plans to implement an EHR.

In 2012, OeHC received 167 responses. Of these, almost 50% reported a fully implemented EHR and 18% reported a partially implemented EHR. 13% of the hospitals had begun an implementation and 16% were planning to implement within the next one to two years. Only 4% of respondents in 2012 reported that they did not have plans to implement an EHR in their facility.



1.2 Consumer Attitudes

Consumer demands will ultimately drive the success of HIT investments. Since 2009 there have been several studies on consumer attitudes towards HIT.

The Office of e-Health Coordination contracted with Texas A&M Public Policy Research Institute to analyze consumer attitudes in Texas in 2010. A total of 25 people through 8 focus groups were interviewed about their opinions of privacy and security in health information technology. The focus groups were held in two urban areas: Fort Worth and San Antonio, and in two rural cities: Brenham and Midland. Overall Texas A&M researchers found that most respondents felt that the transition to EHRs would provide more advantages than disadvantages. Researchers found some concern about privacy and security, but several participants were of the opinion that privacy and security would increase with the use of HIT. One important advantage cited was the use of electronic records in an emergency or natural disaster. The research also found that consumers wanted to be given the choice to participate in a HIE system but there was not a significant preference between opt-in and opt-out consent models.

In June 2011, Healthcare Access San Antonio (HASA) working with Prost Marketing conducted two focus groups on consumer attitudes regarding the use of HIEs and personal health records (PHRs). The participants in both focus groups were female and were in a caregiver position for a family member with a chronic condition or they or someone in their family had a health episode resulting in a hospital visit in the last year. Participants in the first focus groups were between 18 and 49 and the second cohort participants were age 50 to 64. Participants indicated that they saw potential benefits to an electronic medical record (EMR) storage system. Specifically, participants believed that sharing records, convenience, their use in emergency situations, and avoiding the duplication of tests would result from an EMR storage system. However, participants also had concerns about privacy, security, the ownership and management of the system, if all relevant healthcare facilities could be connected, and government involvement. Older cohorts rated “ensuring medical information is correct” and “controlling how information is shared” as the top benefits for PHRs. The younger cohort also included “better understand medication issues” and “timesaving”. Participants felt that the cost of HIE should be minimal and paid through insurance.

In 2011, Dr. Heather C. O’Donnell et. al. published *Healthcare Consumers’ Attitudes Towards Physician and Personal Use of Health Information Exchange* in the Journal of General Internal Medicine. This survey looked at

consumer attitudes toward physician and patient use of HIE in English-speaking residents of the Hudson Valley of New York. The researchers found that 67% supported physicians using HIE and 58% reported interest in using HIE themselves. Physician HIE supporters were more likely to be caregivers for the chronically ill, believe physician HIE would improve the privacy and security of their medical records, and earned an above average income. Respondents interested in using personal HIE were more likely to be male, be frequent internet users, and feel that communication could be improved with their physician.

In 2011, *The Digitization of Healthcare: Boundary Risks, Emotion, and Consumer Willingness to Disclose Personal Health Information*, by Catherine L. Anderson and Ritu Agarwal, was published in *Information Systems Research*. The researchers sought to better understand the circumstances under which individuals are willing to disclose personal health information (PHI) and permit it to be stored and accessed electronically. They found that the willingness to disclose was based on the type of information requested, the purpose for the request, the role of the requestor, and the emotional importance an individual places on their health condition.

“We proposed the existence of an empathy gap in PHI disclosure decisions, suggesting that individuals cannot accurately predict how their privacy decisions will change over time.” Catherine L. Anderson and Ritu Agarwal—2011

With 1,089 respondents, the Anderson and Agarwal study tested several hypotheses that controlled for past experience, media exposure, medical history, gender, age, education, income, race, trust propensity, and altruism. They found that there is not a relationship between a type of information and concern about electronic privacy or trust in electronic mediums. The hypothesis that potential health benefits increases willingness to provide access was supported. The role of a requestor also impacted the respondents concerns about electronic health information privacy and their trust in electronic

mediums. Finally, the researchers found that individuals who were currently feeling more negative about their health were more willing to provide access to their PHI. Of the controls the researchers found that altruism and trust propensity significantly increased an individual’s willingness to provide access.

Now that HIT is maturing with wider adoption of EHRs and more operational HIEs, consumer-based research is also shifting from attitudes to more specific applications of HIT that can be used by consumers. Larry Goldberg et. al., published *Usability and Accessibility in Consumer Health Informatics: Current Trends and Future Challenges*, in the *American Journal of Preventive Medicine* in 2011. These researchers looked at the rising trend, noted by the Pew Internet & American Life Project, in individuals using the internet to access health information. The future challenge identified by the researchers is to design systems that can handle large volumes of complex information and support patients with usable tools. To do this, they suggest that work be done to define objective usability standards that can eliminate bad design.

In 2012 *Nursing Outlook* published the article *Consumer Health Informatics: From Genomics to Population Health*, by Anna M. McDaniel, Debra L. Schutte, and Linda Olson Keller. This article explored the range of consumer health informatics (CHI) products that are now available. They found that the potential of the internet for consumer information is enormous due to its egalitarianism, adaptability, and immediacy. However, there are concerns about the quality of medical information that is currently available online. The researchers were more optimistic about tailored CHI interventions for chronic disease patients that increase self-efficacy and improve outcomes. It was noted that such interventions may be enabled by PHRs. The researchers also noted that CHI may enable genomic and personalized health care and help consumers make decisions based on better and more widely available population health information.

“The “public” is just beginning to discover the potential uses of population health information captured, stored, and processed in massive public data-bases.” Anna M. Daniel, Debra L Schutte, and Linda Olson Keller—2012

The table below outlines the methods and findings of some consumer attitude studies conducted after 2009.

| Researchers | Year | Methodology | Key Findings |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Office of e-Health Coordination and Texas A&M Public Policy Institute | 2011 | 25 adults interviewed through 8 focus groups in Texas. | Participants agreed HIE has more advantages than disadvantages. An opt-in or opt-out function is an important feature for consumers. |
| Healthcare Access San Antonio and Prost Marketing | 2011 | Focus groups with caregivers or individuals with recent hospitalization experience. | Participants saw benefits and risks to using PHRs and HIEs. All age participants believe that PHRs could help patients and caregivers to correct and manage medical data and were concerned about government involvement in HIE. |
| Heather C. O'Donnell, Vaishali Patel, Lisa M. Kern, Yolanda Barron, Paul Teixeira, Rina Dhopeswarkar, and Rainu Kaushal | 2011 | Cross-sectional telephone survey of 170 individuals. | 67% supported physicians using HIE and 58% reported interest in using HIE themselves. |
| Catherine L. Anderson and Ritu Agarwal | 2011 | 1,089 surveys | An individual's feelings about their current health status plays a significant role in their willingness to provide access to PHI. |
| Larry Goldberg, Bettijoyce Lide, Svetlana Lowry, Holly A. Massett, Trisha O'Connell, Jennifer Preece, Whitney Quesenbery, Ben Shneiderman | 2011 | Reviews literature on consumer expectations for eHealth | Recommend the development of standards for usability. |
| Anna M. McDaniel, Debra L. Schutte, and Linda Olson Keller | 2012 | Document the explanation of Consumer Health Informatics (CHI) | CHI may benefit consumers through improved interventions, the ability to personalize interventions, and informing choices with population health data. |

Section 2: HIT POLICY

Many policy developments at the state and federal level have paralleled the increased investment in HIT. At the federal-level, the most significant activity has taken place to implement or support HITECH Act programs. This activity has predominantly occurred in the federal Health and Human Services agency through the Center for Medicare and Medicaid Services (CMS) and the ONC.

In the last few years stakeholders in the State of Texas have worked to expand the role of HIT in healthcare and capitalize on funding opportunities. This work has included updating statute to respond to privacy and security concerns while allowing state-level entities to benefit from new technology. State agencies, particularly the Health and Human Services Commission (HHSC) have created departments and governance bodies to coordinate state-level HIT programs and ensure that stakeholder needs drive HHSC HIT initiatives. Public interest and advocacy organizations are also increasingly engaging in HIT policy discussions on behalf of their members.

This section takes a closer look at HIT policy and policy making developments since 2009 at the federal and state levels.

2.1 Federal HIT Policy

2.1.1 EHR Incentive Programs

The [Medicare and Medicaid EHR Incentive Programs](#), operated by CMS, were established in HITECH to promote the widespread adoption and meaningful use of EHRs. The programs provide incentive payments to eligible professionals and eligible hospitals as they demonstrate adoption, implementation, upgrading, or meaningful use of certified EHR technology. These incentive programs are designed to support providers in this period of HIT transition and promote the use of EHRs in meaningful ways to help our nation to improve the quality, safety, and efficiency of patient healthcare.

2.1.2 The ONC's HITECH Programs

HITECH provided the ONC with \$2.0 billion in funding to create eight programs designed to address identified gaps in the HIT market and kick-start investment. Most of these programs were outlined in federal statute and began in 2010.

The [Beacon Community Program](#) was a grant program for communities to build and strengthen their HIT infrastructure and exchange capabilities. The successful awardees were selected to help demonstrate the vision of a future where hospitals, clinicians, and patients are meaningful users of HIT. At the conclusion of their grants the Beacon Communities should be able to demonstrate measurable improvements in healthcare quality, safety, efficiency, and population health. Several highly regarded Texas-based provider communities applied under the first two rounds of the Beacon Community Program and a subsequent Challenge Grant. However, none of these outstanding candidates were ultimately selected to participate.

The [State Health Information Exchange Cooperative Agreement Program](#) was included in HITECH to support States or State Designated Entities in the establishment of HIEs or HIE networks



ONC's HIT enabled vision for healthcare

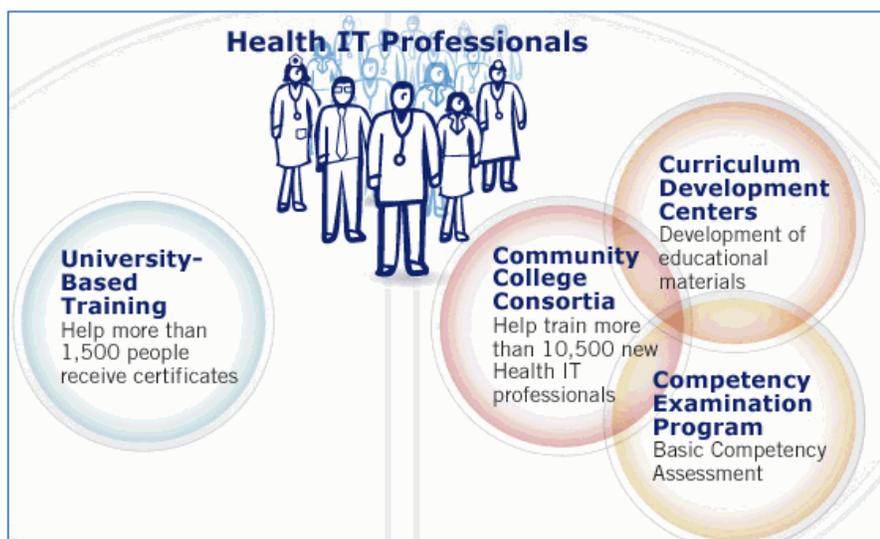
capable of delivering services to all healthcare providers and hospitals in their states. In Texas, HHSC serves as the state designated entity and the Cooperative Agreement Program is managed by the [Office of e-Health Coordination](#) (OeHC).

The [Health Information Technology Extension Program](#) was established to create HIT Regional Extension Centers (RECs) to offer technical assistance, guidance and information on best practices to support and accelerate priority primary care providers' efforts to become meaningful users of EHRs. Texas has four HIT RECs covering North Texas, Central Texas, The Gulf Coast, and West Texas.

The [Strategic HIT Advanced Research Projects](#) (SHARP) was a grant program to fund research focused on achieving breakthrough advances to address well-documented problems that have impeded adoption of HIT including: 1) Security of HIT; 2) Patient-Centered Cognitive Support; 3) Healthcare application and Network Platform Architectures; and 4) Secondary Use of EHR Data. The University of Houston is concluding its SHARP funded research in Patient-Centered Cognitive Support.

The [Community College Consortia](#) to Educate Health Information Technology Professionals Program was a grant to rapidly create HIT education and training programs at Community Colleges. Participating colleges were responsible for developing and implementing non-degree training programs that can be completed in six months or less. This program was intended to help meet the workforce demand created by the anticipated up-swing in

adoption. Pitt College in North Carolina was the primary recipient of the regional award, but three Texas Community Colleges participated as sub-recipients.



ONC's HITECH funded HIT Education and Workforce Development Programs

The [Curriculum Development Centers](#) grant program funded initiations of higher education to support HIT curriculum development. Materials developed under the program have been used to support the work of community colleges and universities as they develop HIT programs and classes. Applicants from the State of Texas were not successful in their bid for this grant opportunity.

The Program of [Assistance for University-Based Training](#) was a grant program to increase the availability of individuals qualified to serve in specific health information technology professional roles requiring university-level training. Texas State University was a successful in its application to develop programs under this opportunity. The Texas State programs also include participation from the University of Texas Health Science Center at Houston, The University of Texas at Austin, and the University of Texas Southwestern.

Finally, the [Competency Examination for Individuals Completing Non-Degree Training](#) grant program was developed to provide funds to institutions of higher education to support the development of HIT competency exams that can be used in HIT training and education programs. The ONC made a single award for this program and exams were made available to individuals and Community College Consortium Members in May, 2011.

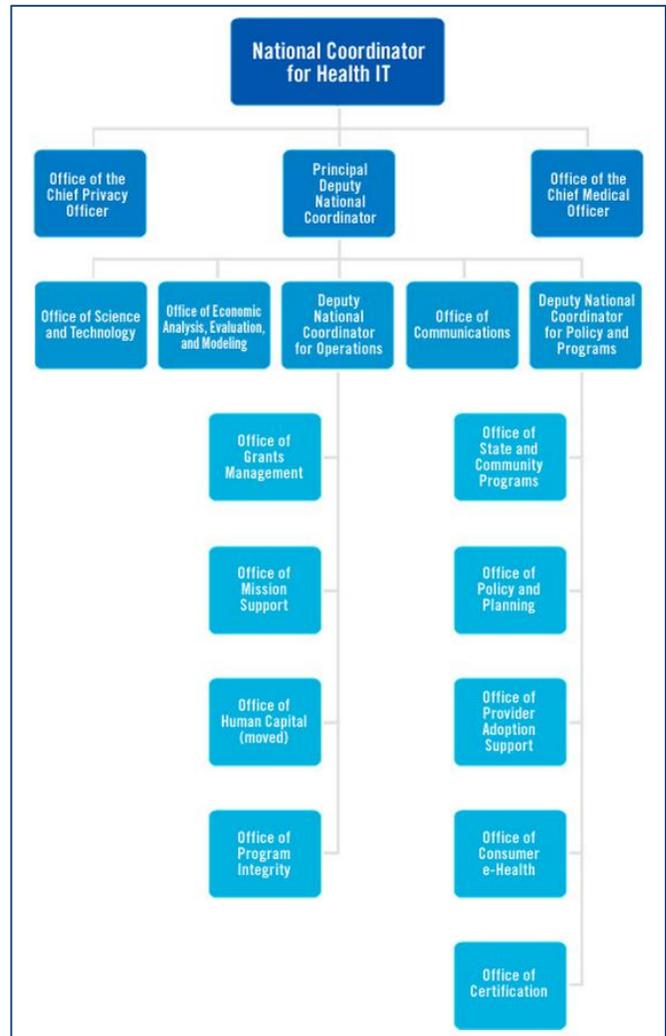
2.1.3 The ONC's Advisory Committees and Regulations

FEDERAL ADVISORY COMMITTEES

The ONC operates two Federal Advisory Committees that are outlined in HITECH. These are the [HIT Policy Committee](#) and the [HIT Standards Committee](#). The HIT Policy Committee makes recommendations to the National Coordinator for HIT on the standards, implementation specifications, and certification criteria in eight specific areas. These areas are:

- Certification/Adoption
- Enrollment
- Governance
- Information Exchange
- Meaningful Use
- Nationwide Health Information Network
- PCAST Report
- Privacy and Security Tiger Team
- Quality Measures
- Strategic Plan

The HIT Standards Committee is charged with making recommendations to the National Coordinator for HIT on the policies developed by the HIT Policy Committee's focus areas. The HIT Standards Committee also provides for the testing of the standards and specifications by the National Institute for Standards and Technology (NIST).



Office of the National Coordinator Organizational Chart

REGULATIONS

HITECH gave the HHS the authority to promulgate regulations and guidance to support the development of an interoperable, private, and secure nationwide HIT infrastructure. Some of HHS' regulatory activity, developed through the ONC includes:

- [Standards and Certifications](#)
- [Meaningful Use](#)
- [Privacy and Security](#)
- [Electronic Eligibility and Enrollment](#)

2.1.4 eHealth Exchange

Federal policy has always foreseen connectivity between states and connections to federal healthcare providing agencies. An early trial in developing this connectivity was the Nationwide Health Information Exchange (NHIN, NwHIN), which created the CONNECT gateway.



In October 2012 the NwHIN transitioned from an ONC initiative to a public-private partnership called the [eHealth Exchange](#) supported by Healthway, a non-profit organization established to support the eHealth Exchange and

advance HIE implementation. The eHealth Exchange will connect public and private exchange participants. The exchange is projected to have over 100 participants nationwide by the fall of 2013.

2.2 Texas HIT Policy

2.2.1 Office of e-Health Coordination

The Office of e-Health Coordination was created by [HHSC Circular C-032](#) to provide leadership to and act as a single point of coordination for health information technology initiatives in the State of Texas. The office ensures that health information technology projects and programs are coordinated across the State's health and human services agencies, facilitates coordination between Texas and federal or multi-state projects, and provides assistance to local and regional health IT projects. This includes:

- Creating a collaboration and coordination infrastructure on related health information policy and technology, in particular in cross-divisional and multi-agency projects.
- Identifying and prioritizing health information technology initiatives that can help improve health outcomes.
- Serving as the single point of contact for state funding opportunities under Title XIII ARRA.
- Supporting the state-level infrastructure efforts of the Texas Health Services Authority .
- Collaborating with the Electronic Health Information Exchange System Advisory Committee and other state-level health information technology leadership bodies.

HHSC is the designated state-level entity for the State HIE Cooperative Agreement Program and the OeHC manages this program on behalf of the agency. The director of OeHC, Stephen Palmer, also serves as the State HIT Coordinator.

2.2.2 HHS Executive Steering Committee

The Health Information Strategic Initiative deals with health information topics or projects. The initiative is guided by the HHS Health Information Steering Committee, chaired by the Office of e-Health Coordination, and includes representatives designated by the commissioners of each HHS agency and major programs within HHSC, including administrative and legal services. The steering committee provides strategic direction on issues that may arise about individual projects or policy concerns regarding health information. The steering committee also provides HHSC enterprise with oversight and guidance on issues such as strategic planning, data governance, interagency data sharing, project dependencies and HI standards. The committee meets as needed.

2.2.3 Electronic Health Information Exchange System Advisory Committee

[The Electronic Health Information Exchange System Advisory Committee](#) assists HHSC with duties related to the development of health information exchange systems in Subchapter V, Chapter 531, Government Code. The committee advises HHSC on the development and implementation of an electronic health information exchange system to improve the quality, safety and efficiency of healthcare services provided through Medicaid and the Children's Health Insurance Program (CHIP). The committee is engaged on the following issues:

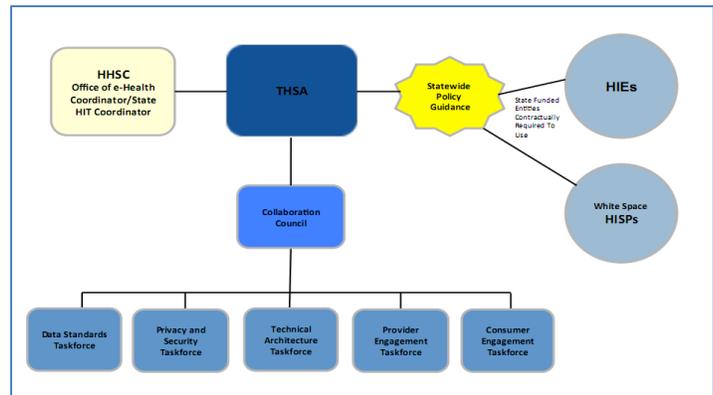
- Data to be included in an EHR.
- Presentation of data.
- Useful measures for quality of service and patient health outcomes.
- Federal and state laws regarding privacy and management of private patient information.
- Incentives for increasing healthcare provider adoption and usage of an electronic health record and the health information exchange system.
- Data exchange with local or regional health information exchanges to enhance the comprehensive nature of the information contained in electronic health records and healthcare provider efficiency by supporting integration of the information into the electronic health record used by healthcare providers.
- Any other issues specified by HHSC.

The committee is composed of 12 to 16 state agency and stakeholder members. The HHSC Executive Commissioner appoints the members and the presiding officer of the committee. The members must represent the geographic and cultural diversity of the state.

2.2.4 Texas Health Services Authority

In 2007, [House Bill 1066](#) of the 80th legislative session formally created the Texas Health Services Authority (THSA) to support improvement of the Texas healthcare system by promoting and coordinating HIE and HIT throughout the state to ensure that the right information is available to the right healthcare providers at the right times.

The THSA is structured as a public nonprofit corporation governed by a board appointed by the Governor which meets quarterly. The THSA manages an open and transparent collaborative process through a Collaboration Council and subject matter task forces that meet monthly to gather advice and develop consensus among key stakeholders in the planning and implementation of Texas statewide HIE. Over 200 individuals are participating in the THSA’s collaborative process.



THSA Collaborative Policy Development Framework

Under contract with HHSC, the THSA is responsible for administering some of the State HIE Plan strategies. The THSA supports HHSC by providing guidance and oversight in the Local HIE Grant Program, administers the White Space Program, and is responsible for developing State-level Operations.

2.2.5 State HIE Policy Development

The THSA, under contract with HHSC, was responsible for overseeing the creation of several documents intended to help HIEs expedite the development of policies and agreements that are consistent with existing law and best-practices.

These papers, listed below, consider a number of privacy, security, and technical topics.

- [Texas HIE Options](#), released in December 2011, provides an overview of options available to Texas healthcare providers for HIE in 2012. It includes a description of the Local HIE Grant Program and the White Space Program.
- The [Texas HIE Interoperability Guidance](#) has been developed by the THSA with significant stakeholder input. The Guidance includes documents on a Technical Standards Landscape Review, Enterprise Architecture Blueprints (EAB), EAB Lifecycle Management Plan, and Technical Implementation Specifications.
- The [Texas State-Level Trust Agreement](#), released March 2012, was developed by the THSA through a collaborative stakeholder process. The Trust Agreement can serve as a contractual agreement between the THSA, the state’s grant funded local HIEs, applicable state agencies, and others who want to participate in the state-level shared services and the trust environment established under the agreement to electronically exchange protected health information (PHI) with one another and, eventually, through the eHealth Exchange. While specifications and operating procedures related to the document remain to be defined and additional changes may be necessary to enable the THSA to join the eHealth Exchange, the agreement contains applicable agreements between participating parties relating to their

responsibilities and obligations to one another.

- The [Texas Model Business Associates Agreement](#) (BAA), also released in March 2012, is provided as an aid for use between physicians and hospitals (“Covered Entities”) and the state’s Local HIEs (“Business Associates”), to satisfy federal HIPAA requirements related to electronic exchange of PHI. The Model BAA was developed through a collaborative stakeholder process based on a BAA currently in use by one of the state’s local HIEs that was negotiated between that HIE and its Covered Entity participants.

2.2.6 Privacy and Security Policy

In 2011, under contract with HHSC and working closely with the THSA, the [University of Houston Health Law and Policy Center](#) developed a series of White Papers on issues relating to privacy and security. Together these papers form the basis for current and future state-level privacy and security guidance.

- [Implementing Privacy and Security Standards in Electronic Health Information Exchange](#)
- [Recommendations for Texas Health Information Trust Agreements](#)
- [Consent Options for HIE in Texas](#)
- [Primer – Medical Information Privacy Protections in Texas](#)

In 2013, University of Houston Health Law and Policy Center also completed work on four additional White Papers that look at special categories of sensitive data including:

- [Strategies for Electronic Exchange of Mental Health Records](#)
- [Strategies for Electronic Exchange of Minor’s Health Information](#)
- [Strategies for Electronic Exchange of HIV and other Communicable Diseases Related Information](#)
- [Strategies for the Exchange of 42 CFR Part 2 Substance Abuse Information](#)

2.2.7 Medicaid Transformation Waiver

In December 2011, Texas received federal approval for a [1115 Healthcare Transformation waiver](#) to support, among other things, a Delivery System Reform Incentive Payment (DSRIP) pool. The DSRIP pool will provide incentives to hospitals and other providers to transform their service delivery practices to improve quality, health status, patient experience, coordination, and cost-effectiveness.

Under the transformation waiver, eligibility to get DSRIP payments will require participation in a regional healthcare partnership (RHP). Participants will develop a regional plan identifying partners, community needs, the proposed projects, and funding distribution. At the time of this report, DSRIP funds have yet to be awarded, but many HIT and HIE projects have been included in regional plans and some support is anticipated.

2.2.8 Recent State Legislation

In the last few legislative sessions, state lawmakers have consistently shown interest in HIT for its ability to improve quality of patient care and efficiency in state managed programs. This section summarizes some legislation that has passed in the previous 81st (2009) and 82nd (2011) Legislative Sessions that relate to HIT.

81ST LEGISLATIVE SESSION

House Bill 1218

[HB 1218](#) recognized the need for electronic exchange of Medicaid health information to ensure Medicaid providers had a comprehensive health history of Medicaid beneficiaries under their care. HB 1218 amended Chapter 31 of the Texas Government Code by establishing programs to exchange certain health information between HHSC and certain healthcare facilities. The bill directed HHSC to develop an HIE system to improve the quality, safety, and efficiency of health-care services provided under Medicaid and the Children’s Health Insurance Program (CHIP) and to establish an HIE pilot to determine the feasibility, costs, and benefits of exchanging secure health information between HHSC and local or regional HIEs.

As of January 1, 2013, HHSC has implemented the following functionality specific to HB 1218:

- Completed Phase 1 of the Medicaid HIE pilot, consisting of exchange of medication information between Medicaid and two local HIEs.
- Developed a process to ensure the privacy and security of Medicaid client information.
- Developed and tested the e-prescribing requirement of Stage 1 of the Medicaid HIE system, consisting of electronic prescribing (e-prescribing) services for Medicaid providers.
- Developed and tested the Medicaid electronic health record (EHR) requirement of Stage 1 of the Medicaid HIE System, consisting of website portals for Medicaid clients and Medicaid providers.
- Enabled providers to view comprehensive immunization history online for their Medicaid clients

82ND LEGISLATIVE SESSION

House Bill 300

[HB 300](#) was a medical privacy bill that primarily amended the Texas Medical Privacy Act and the THSA under the Health and Safety Code. The law expanded the responsibilities of covered entities to include mandatory employee training and requirements for the handling of protected health information. Under the bill, the THSA was required to develop privacy and security standards which were reviewed and adopted by HHSC as a rule under [Title 1, Texas Administrative Code, Chapter 390](#). HB 300 also expanded patient rights by requiring patient access to electronic records where possible and authorizing HHSC to recommend a standard electronic format. Finally, the Office of the Attorney General was required to develop a [consumer information website](#) for consumer complaints and the OAG was asked to report complaints to the legislature annually.

Senate Bill 1106

[SB 1106](#) recognized that some of the restrictions in state law on information sharing relating to juveniles between the governmental entities hamper state and local governments' ability to provide effective services to Texas children. The legislation intended to increase information sharing between governmental entities to help prevent the duplication of services, improves the quality of services, provides a means to test the effectiveness of programs, and lead to better outcomes for Texas children

Under the law, school districts and charter schools are required to disclose information contained in a student's educational records to a juvenile service provider if the disclosure is under an interagency agreement. The law addresses data retention and confidentiality of these records. SB 1106 had a similar effect on non-educational records by requiring juvenile service providers to disclose to other requesting juvenile service providers a multi-system youth's personal health information or history of governmental services

2.3 Advocacy and Public Interest Groups

2.3.1 Texas Health Information Exchange Coalition

[The Texas Health Information Exchange Coalition](#) (THIEC) is a non-profit networking organization designed to facilitate communications and standardization among regional HIE organizations. Currently THIEC consists of ten of the State funded HIE organizations and two allied members. While still in its infancy, the State's requirement for State-wide connectivity is greatly facilitated by continuous collaboration. Evidence of this can be found in the very limited service area overlap among the organizations, thereby avoiding confusion in the market among hospitals and providers. THIEC initiated the first gap analysis of HIE services during the State planning phase. Currently, THIEC members are collaborating with THSA to deploy state level services.

2.3.2 Texas eHealth Alliance

The [Texas e-Health Alliance](#) is the state's leading advocate, from local communities to the national level, for the use of information technology to improve the healthcare system for patients. Founded in 2009 to bring together HIT stakeholders in response to passage of the HITECH Act, TeHA's industry expertise now influences the entire healthcare ecosystem. TeHA is a trusted advisor to elected officials and local, state and federal agencies that provides decision makers with objective and relevant feedback on policy and regulatory proposals.



The organization provides its members and partners with comprehensive information on state issues affecting health information exchanges, telemedicine, remote monitoring, and other e-health issues, and advocates for HIT policy changes at the state level. TeHA also serves as a connecting point for health information technology stakeholders to come together and share ideas, gain insights, develop partnerships, and collaborate on solutions, and membership is open to any entity with an interest in working on e-health policy issues.

2.3.3 Texas HIMSS Chapters

The Health Information Management System Society (HIMSS) is an international not-for-profit organization which represents nearly 50,000 individual members, over 570 corporate members, and more than 225 not-for-profit partner organizations. HIMSS members are focused on providing global leadership for the optimal use of information technology and management systems for the betterment of healthcare. Founded 52 years ago, HIMSS and its related organizations are headquartered in Chicago with additional offices in the United States, Europe and Asia. HIMSS frames and leads healthcare practices and public policy through its content expertise, professional development, research initiatives, and media vehicles designed to promote information and management systems' contributions to improving the quality, safety, access, and cost-effectiveness of patient care. Texas has four regional chapters of HIMSS.



AUSTIN

The [Austin HIMSS chapter](#), started in 2004, represents professionals in healthcare within their regionally assigned territories and promotes improved understanding of the existing principles of healthcare information and management systems.

DALLAS/FORT WORTH

The [Dallas/Fort Worth Chapter](#) of HIMSS (DFWHIMSS) is a professional organization for healthcare and IT professionals in the Metroplex providing leadership, professional development, education, and networking opportunities. The Dallas/Fort Worth HIMSS membership consists of IT professionals, consultants, vendors, physicians, nurses, professors, and students actively working in or interested in management systems, clinical systems, information systems, and telecommunications in healthcare.

SAN ANTONIO

The [San Antonio \(SA\) HIMSS](#) network of professionals spans San Antonio and West Texas, as well as the other chapters in Texas. The SA HIMSS chapter works to advance HIMSS' mission and goals through regular local networking and education events.

SOUTH CENTRAL TEXAS

The [South Central Texas chapter of HIMSS](#) services counties in South Texas including Harris, Montgomery, Austin, San Jacinto, Grimes, Wallace, Washington, Waller, Fort Bend, Galveston, Brazoria, and Matagorda counties. The

chapter provides leadership in healthcare for the management of technology, information, and change through educational opportunities, and member services.

2.3.4 Texas Medical Association

HIT such as EHRs, e-prescribing, and HIEs, has the potential to improve quality of care, patient safety, and practice viability. [Texas Medical Association's](#) (TMA) goal is to help ensure HIT has a positive impact on physicians, patients, and practices. Currently 60 percent of Texas physicians report the routine use of EHRs with another 22 percent planning to adopt in the next few years. TMA's primary task is to help Texas physicians through educational programs and resources that create a clear pathway, first to acquisition and integration of HIT into medical offices, and second into expanded uses as practices learn to generate and apply the clinical data these systems can produce.



TMA continues to help physicians understand and comply with EHR incentive opportunities such as the Medicare and Medicaid meaningful use program. TMA currently plays two primary roles to help encourage and support Texas physicians' adoption of health information technology:

1. Trusted Advisor — providing education, unbiased advice, resources and consulting services to Texas physicians.
2. Facilitator — facilitating health information exchange development in Texas, encouraging physicians to play an integral role in the development of interoperable community-based HIEs.

2.3.5 Texas Hospital Association

Texas hospitals and the 369,000 health care professionals they employ share one overarching mission: to make quality, compassionate, affordable health care accessible to all Texans. The [Texas Hospital Association's](#) (THA) experienced team has earned a reputation among Texas hospitals as the go-to resource and thought leader in hospital-related issues including health information technology.



THA assists members with alerts, resources on meaningful use and HIT incentive payment programs, education, and providing testimony on legislation of interest.

2.3.6 Texas Association of Community Health Centers

The [Texas Association of Community Health Centers](#) (TACHC) is a private, non-profit membership association that represents safety-net health care providers in the state of Texas. Our members include Community and Migrant Health Centers, Health Care for the Homeless Grantees, Public Housing Primary Care Grantees, Ryan White HIV/AIDS Grantees, Health Center Networks and other providers who strive to meet the health care needs of the uninsured and underserved. TACHC serves as the federally designated primary care association for the state of Texas.



TACHC provides support services, technical assistance and training for its members. Through close ties with its membership, the TACHC staff is aware of the needs of the safety-net providers in Texas and work hard to create programs that will benefit all members.

2.3.7 Texas Association of Health Plans

The [Texas Association of Health Plans](#) (TAHP) is dedicated to advocating for public and private healthcare issues that improve access, value and quality of



care for many Texans. TAHP represents health maintenance organizations, health insurers and other related healthcare entities operating in Texas. The association was founded in 1987, and represents the healthcare industry's commitment to improving healthcare for Texans.

TAHP brings together industry leadership to develop answers to the critical healthcare issues in Texas. The association does this through continuous communication with its members, industry and community stakeholders, as well as with representatives of the Legislature and state agencies.

2.3.8 Texas Organization of Rural and Community Hospitals

The [Texas Organization of Rural and Community Hospitals](#) (TORCH) is an organization of rural and community hospitals, corporations and interested individuals working together to address the special needs and issues of rural and community hospitals, staff and patients they serve.



TORCH sees the challenges of bringing new information technology into the rural landscape, dealing with a growing number of retirees and uninsured residents, and functioning under a national health care system that many agree is broken. As a more integrated organization, TORCH envisions the development of new services that will benefit rural hospitals, embracing everything from staff education to the funding of technological improvements. Meanwhile, we will remain the only clear voice that speaks for just rural hospitals in Texas.

Section 3: HIT IN TEXAS

Healthcare quality suffers when healthcare professionals do not have the right information at the right time to make the best decisions in their patients’ care. One way to improve access to health information is through technology. The use and exchange of electronic health information in a secure and patient-centered manner is imperative to reducing medical errors, improving medical decision making, promoting the public health, and containing healthcare costs.

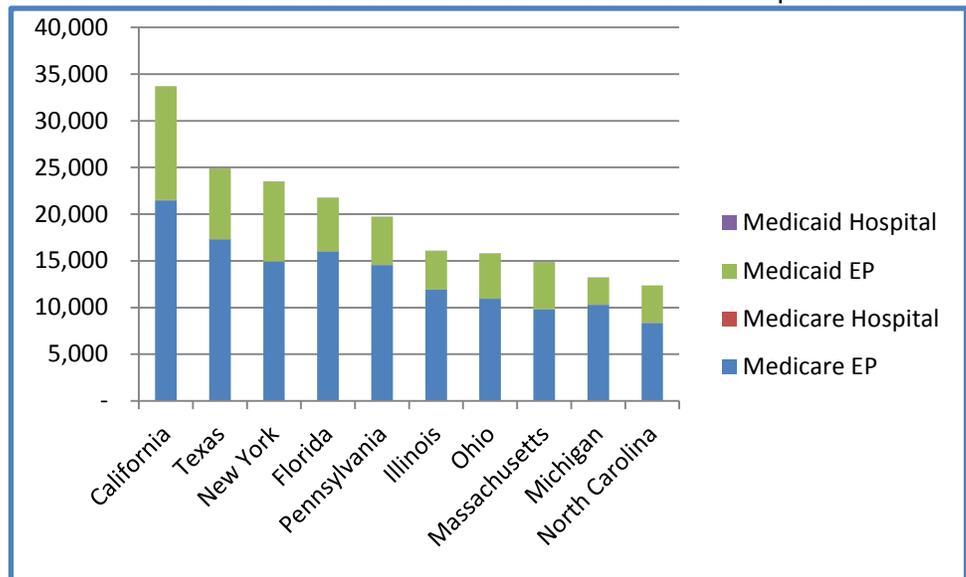
Getting to a fully electronically enabled healthcare system requires investments from public and private sources. ARRA sought to incentivize this investment in critical provider populations through the EHR Incentive Program and investments in community access clinics. ARRA also made technical assistance available to all providers and healthcare facilities throughout the country through the HIT Regional Extension Centers. Demand for HIT skills is projected to continue to increase in future years and many training and educational programs in Texas are actively working to build the necessary workforce. This section takes a closer look at some of these programs and the work that is being done to create and support the emerging HIT market in Texas.

3.1 Texas Medicaid Electronic Health Record Incentive Program

| Awardee | Amount | Term |
|------------------------------------------------------------|----------------------------|-----------------------------------------|
| Planning Texas Health and Human Services Commission | \$3,856,551 ⁴ | November 2009- February 2011 |
| Administrative | \$ 17,097,746 ⁵ | FFY 2013- FFY 2014 |
| Incentive Payments to Hospitals and Eligible Practitioners | \$ 487,601,737 | 2011 to the present (February 26, 2013) |

The HITECH Act provides funding opportunities to assist physicians and other healthcare professionals in the adoption and meaningful use of EHRs and to advance health information exchange. To be [eligible for incentive funds](#), healthcare professionals and hospitals must meet certain eligibility criteria, including Medicaid patient volume thresholds and provider type.

A certified EHR is an electronic record of an individual’s health-related information that includes patient demographic and clinical health information, such as medical histories and problem lists, and that has a variety of capabilities, including clinical decision support; physician order entry; capture and query of information relevant to healthcare quality; and the ability to exchange electronic health information with, and integrate such information from, other sources. ARRA allows state Medicaid agencies to establish programs for paying



EHR Registrations by ten largest state programs as of February 28, 2013.

⁴ The required match from the State of Texas for Medicaid HIT Planning was \$428,506.

⁵ The required match from the State of Texas is \$1,899,750.

incentives to Medicaid providers for the meaningful use of EHRs.

To be considered a "meaningful EHR user," an eligible professional or eligible hospital must demonstrate meaningful use of the EHR technology over a specified period of time in a manner that is consistent with the objectives and measures outlined in federal regulation by CMS. These objectives and measures would include the use of certified EHR technology that improves quality, safety, and efficiency of healthcare delivery; reduces healthcare disparities; engages patients and families; improves care coordination; improves population and public health; and ensures adequate privacy and security protections for personal health information. Examples of meaningful use criteria include, but are not limited to, maintaining a problem list for patients and writing prescriptions for patients electronically.

[Meaningful use](#) is being implemented in three stages:

1. [Stage 1](#), effective in 2012 – Electronically capture health information in structured format.
2. [Stage 2](#), effective in 2014 – Electronically exchange clinical information in structured format and advanced processes.
3. [Stage 3](#), effective in 2015 – Access to comprehensive patient data; improve population health outcomes.

States can receive 100 percent federal financial participation (FFP) for incentive payments to Medicaid providers to purchase, implement, and “meaningfully use” certified EHRs. This provision also provides for Medicaid agencies to obtain 90 percent federal administrative matching funds to develop and administer the program.

Texas Medicaid has implemented the [EHR Incentive Program](#) and began disbursement of incentive payments to eligible providers in May 2011. As of February 26, 2013, 278 of Texas’ eligible hospitals had received a total of \$364.1 million, and 5,493 of Texas’ eligible professionals had received \$123.5 million through this program.

Quality data received through providers’ submission of meaningful use and clinical quality measures may be used for quality, safety, and efficiency initiatives in Texas Medicaid.

Texas Medicaid conducts pre- and post-payment audits to ensure integrity of the incentives and to meet program requirements. Any participant could be selected for an audit and should retain records from auditable sources.

3.2 Regional Extension Centers

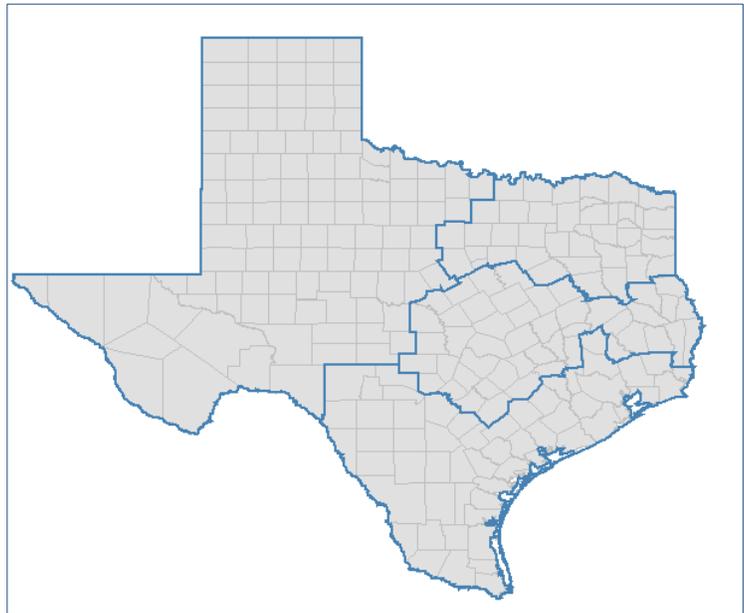
| Awardee | Providers | Amount | Term |
|-----------------------------------------------------------------------|-----------|--------------|--------------------------|
| The Texas A&M University Health Science Center Research Foundation | 1,000 | \$6,788,775 | April 2010 to April 2014 |
| University of Texas Health Science Center at Houston | 2,200 | \$13,234,318 | |
| Dallas- Fort Worth Hospital Council Education and Research Foundation | 1,498 | \$8,596,513 | |
| Texas Tech University Health Sciences Center | 933 | \$7,578,296 | |

In April of 2010, four Texas RECs were established through grants awarded by the ONC. Texas RECs received a total of \$35.7 million to be used over a four year period to serve Texas Primary Care Providers (PCPs) who specialize in family practice, pediatrics, internal medicine, and obstetrics and gynecology. Texas RECs are contracted to enroll and support 5,831 PCPs and 111 Critical Access and Rural Hospitals (CAHs/RHs) of 50 beds or less.

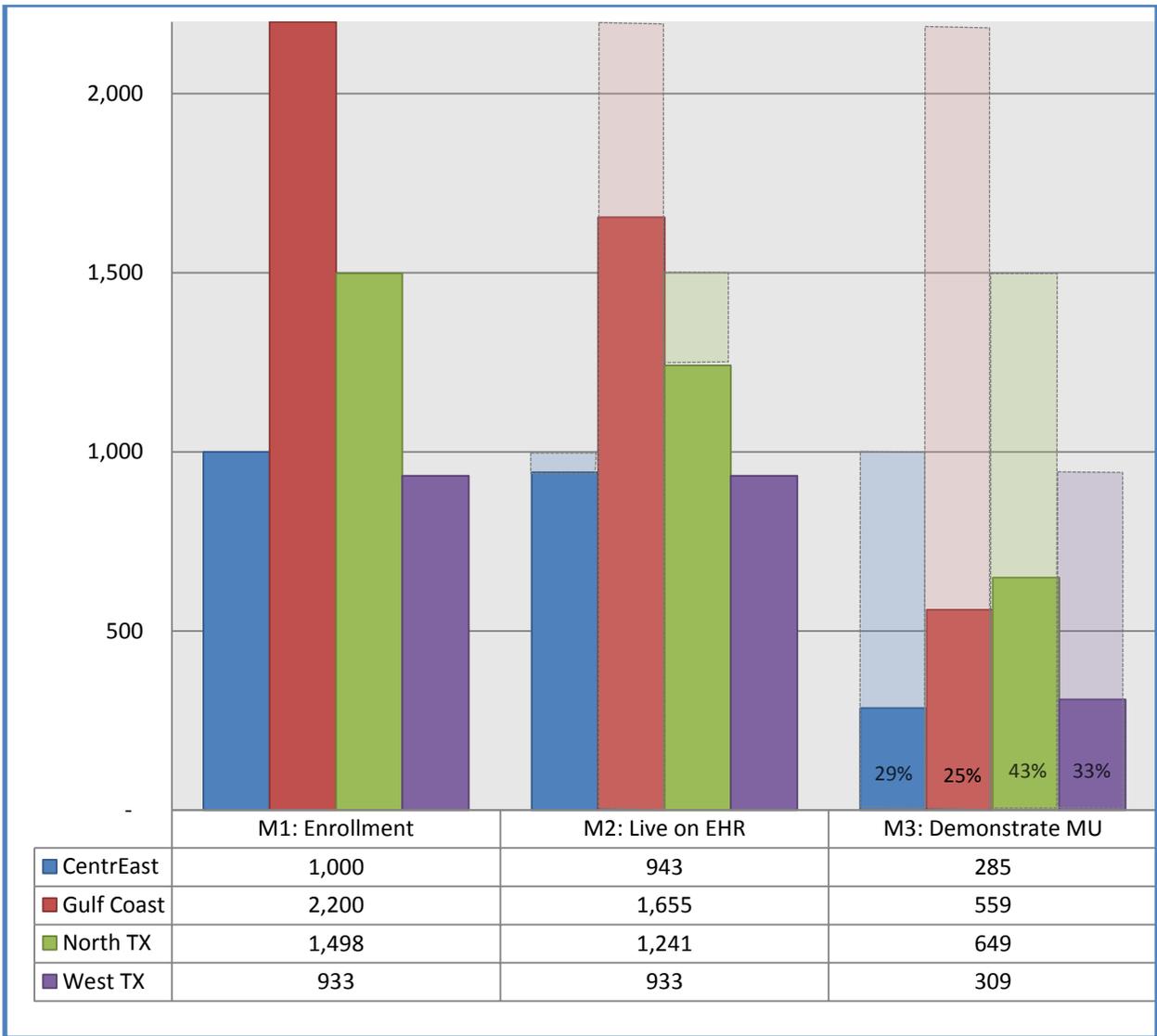
The purpose of the REC program is to furnish assistance, defined as education, outreach, and technical assistance, to help PCPs and CAHs/RHs in their geographic service areas select, successfully implement, and meaningfully use certified EHR technology to improve the quality and value of healthcare. RECs also help providers achieve, through appropriate available infrastructures, exchange of health information in compliance with applicable statutory and regulatory requirements, and patient preferences.

The Texas RECs consist of four regional independent organizations. The [West Texas REC](#), based out of the Texas Tech University Health Sciences Center, serves the 108 Western most counties of Texas that include Lubbock, Amarillo, Wichita Falls, Midland/Odessa, Abilene, San Angelo, and El Paso. The [CenterEast REC](#), based out of Texas A&M University, serves East Texas, the Hill Country, Austin, Waco, and the Brazos Valley. The [Gulf Coast REC](#), based out of the University of Texas at Houston, serves the greater Houston area, San Antonio, Corpus Christi, Laredo, and the Rio Grande Valley. The [North Texas REC](#), based out of the Dallas/Fort Worth Hospital Council, serves the DFW Metroplex, Corsicana, Jacksonville, Longview, Texarkana, and Tyler.

As of March 2013, each of the four Texas RECs has reached 100% of its enrollment target of PCPs and continue to over enroll eligible providers to account for a small amount of attrition. Of the 5,831 PCPs under service agreements with the RECs, a Texas REC average of 85% of PCPs have implemented an electronic health record and a Texas REC average of 32% of PCPs have reached meaningful use (MU).

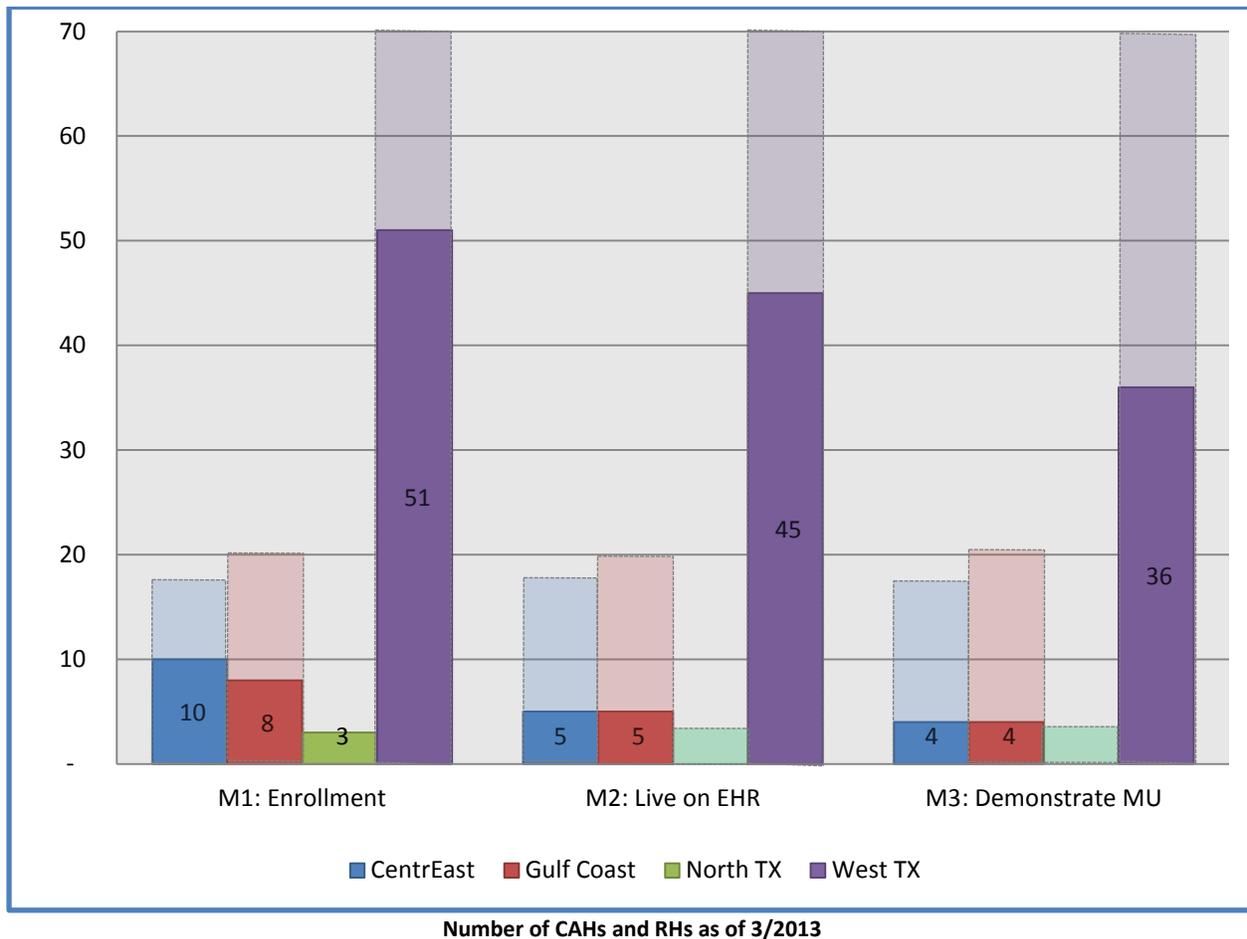


Texas REC Regions



Numbers of Enrolled, Live, and Meaningfully Using Providers as of March 2013.

In addition, the West Texas REC currently serves 51 CAHs/RHs, the CenterEast REC currently serves 10 CAHs/RHs, the North Texas REC currently serves 3 CAHs/RHs, and the Gulf Coast REC currently serves 8 CAHs/RHs.



Going forward, the Texas RECs are determined to implement new strategies and rely on their skilled staff to address the EHR needs of Texas and continue to be a trusted advisor for the support and optimization of HIT, Stage 2 and 3 of meaningful use (MU), and the three-part aim of better care, better health, and cost reduction. These strategies include the following:

- (1) Continue to enroll primary care providers and critical access hospitals eligible for federally subsidized services.
- (2) Provide services to specialists to help drive this group towards MU.
- (3) Participate with the Texas Health and Human Services Commission to provide federal subsidized services to cardiologists, endocrinologists, pulmonologists, and psychiatrists to help drive the providers in these practice areas towards MU.
- (4) Participate with the Texas Health Services Authority (THSA) to promote THSA's White Space Voucher Program and HIE initiatives.

In addition to these strategies, the Texas RECs are reviewing and designing service models to assist healthcare providers meet MU Stage 2 requirements and to provide additional services such as Accountable Care Organizations (ACO) accreditation, Patient-Centered Medical Home recognition, clinical informatics and data warehousing services, ICD-10 transformation, and pay for quality/performance incentive consulting services.

3.3 Health Information Technology Implementation Grants

| Awardee | Amount | Term |
|-----------------------------------------------|-------------|-------------------------|
| Texas Association of Community Health Centers | \$982,587 | Ended November 30, 2012 |
| Lone Star Circle of Care | \$2,987,610 | |
| Barrio Comprehensive Family Healthcare Center | \$2,909,072 | |

The Health Information Technology Implementation Grants are funded by ARRA through the Health Resources and Services Administration (HRSA). 45 grants were issued to support new and enhanced EHR implementation projects and HIT innovation projects. Three Texas institutions received grants totaling \$6,879,269.

3.3.1 Lone Star Circle of Care

[Lone Star Circle of Care](#) (LSCC) is a nonprofit Federally Qualified Health Center (FQHC) with a network of 25 clinics providing comprehensive primary care services to over 100,000 uninsured and underserved residents of Central Texas. Since 2002, LSCC's ultimate goal has been for all Central Texans, regardless of socioeconomic or insurance status, to have access to an affordable and culturally/linguistically appropriate healthcare home.



Interested in sharing the benefits of HIT with other mission-aligned healthcare organizations, in 2010, LSCC secured a \$3 million grant award from the HRSA through its **Error! Reference source not found.** for Health Center Controlled Networks (HCCN) funding opportunity. This funding was used to dramatically reshape the healthcare infrastructure at multiple FQHC clinic sites operated by Brazos Valley Community Action Agency, CommUnityCare, Cross Timbers Health Clinics, and LSCC.

LSCC partnered with Centex Systems Support Services (CSSS) to implement, develop, customize, enhance, and support the synchronous EHR strategy. EHR and practice management technology was implemented and/or enhanced by CSSS within the HCCN member organizations, enabling the health centers to manage and improve patient outcomes in real time, target areas for quality improvement initiatives, and incorporate strategies in chronic disease management. Additionally, HCCN members have seen a significant benefit from inherent service billing and reimbursement efficiencies through the use of EHRs and integrated practice management systems, leading to increased cost savings in terms of clinical operations.

3.3.2 Texas Association of Community Health Centers

In addition to advocating for Community Health Centers in Texas, TACHC has also actively sought opportunities to enhance the HIT infrastructure that supports the state's Community Health Centers. TACHC received an award under the HIT Implementation grant to connect members and create a data warehouse and centralized data repository. In 2012, TACHC was awarded a new Health Center Controlled Network grant to build on the HIT Implementation Grant.

3.3.3 CommuniCare Health Centers

Barrio Comprehensive Family Healthcare Center, Inc. (BCFHCC) received a federal grant to support implementation of EHRs for the Southwest Texas Network, Inc. (STN). Members of the STN include BCFHCC, Community Health Development Agency, Atascosa Health Center, Frontera Health Center, and Community Health Services Agency. By the end of the grant period,



all five organizations had implemented EHR and electronic dental records (EDR) at all of their sites with all of the providers. STN has also joined Healthcare Access San Antonio (HASA), who is the area's HIE, using funds from

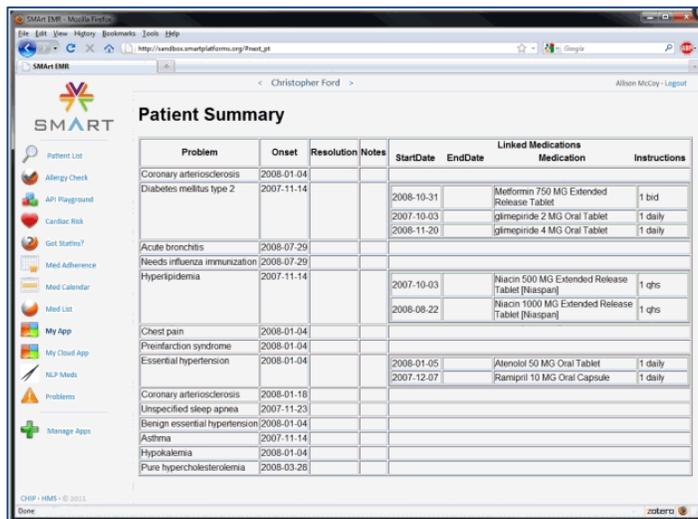
the grant to establish the connectivity.

3.4 Research and Education Initiatives

3.4.1 Strategic HIT Advanced Research Projects

| Awardee | Amount | Term |
|----------------------------------------------------------|--------------|--------------------------|
| The University of Texas Health Science Center at Houston | \$15,000,000 | April 2010 to March 2014 |

In April 2010, The [National Center for Cognitive Informatics and Decision Making in Healthcare](#) (NCCD) was formed with a \$15 million dollar grant funded by the ONC under the [Strategic Health IT Advanced Research Projects](#) (SHARP) Program. The SHARP program was designed to seek and support improvements in the quality, safety and efficiency of health care through advanced information technology. The award was one of four presented by ONC through the American Recovery and Reinvestment Act of 2009 to address key barriers to health information technology. NCCD's research focus area is Patient-Centered Cognitive Support and the goal of responding to urgent and long-term cognitive challenges in HIT adoption and meaningful use.



Screen shot of [SMART Patient Summary](#) supported by the NCCD.

NCCD is a consortium of ten institutions led by [The University of Texas Health Science Center at Houston](#). Dr. Jiajie Zhang is the Principal Investigator of this award and the Director of NCCD. NCCD's vision has been to develop a national resource providing strategic leadership in research and applications for patient-centered cognitive support in healthcare. NCCD's mission has been to (1) bring together a collaborative, interdisciplinary team of researchers across the nation with the highest level of expertise in patient-centered cognitive support research from biomedical and health informatics, cognitive science, computer science, clinical sciences, industrial and systems engineering, and health

services research; (2) conduct short-term research that addresses the urgent usability, workflow, and

cognitive support issues of HIT as well as long-term, breakthrough research that can fundamentally remove the key cognitive barriers to HIT adoption and meaningful use; and (3) translate research findings to the real world through a cooperative program involving researchers, patients, providers, HIT vendors, and other stakeholders to maximize the benefits of HIT for healthcare quality, efficiency, and safety. NCCD has five research projects that directly and fundamentally address the cognitive challenges in HIT identified by ONC, focusing on work-centered design, cognitive foundations for decision making, adaptive decision support, model-based data summarization, and visualization.

HIT has great potential to increase care quality, efficiency, and safety through its wide adoption and meaningful use. The \$19 billion HITECH Act under ARRA aims to have every American's medical records on computers by 2014. However, there are huge gaps between the status quo and the potential of HIT, mostly due to cognitive, financial, security/privacy, technological, social/cultural, and workforce challenges. Among these, the 2009 National Research Council (NRC) report on "Computational Technology for Effective Health Care: Immediate Steps and Strategic Directions" identified "patient-centered cognitive support" as an overarching research grand challenge for HIT. This was echoed by two recent AHRQ reports on EHR Usability.

NCCD considers HIT to provide “Patient-Centered Cognitive Support” if it is specifically designed and optimized to support problem solving and decision making that maximizes the chance of providing the highest quality of care for patients, as measured by IOM’s six dimensions of quality (safe, effective, timely, efficient, equitable, and patient-centered). At the work domain level, the ideal HIT should have an explicit, unified, accurate, and comprehensive model that reflects the true ontology of the work domain, which provides a clear understanding of the care problem that is independent of how systems are implemented. Current HIT systems typically suffer from models of the work domain that are implicit, multiple, unconnected, disparate, incomplete, and often inaccurate. At the representation and implementation level, ideal HIT systems should have clear, comprehensive, easy to navigate information and knowledge models optimized for 3 human users. Current HIT systems usually have representations that are based on hardware and software features, which make them confusing, siloed, task-specific, difficult to use and learn, and hard to navigate because they do not match human characteristics. At the level of task performance, ideal HIT systems should “build-in” safe, timely, effective, efficient, equitable, patient-centered task performance. Current HIT systems often have disconnected, redundant, tedious, and unclear user models based on billing and legal requirements that interfere with task performance. These gaps result from multiple cognitive problems with HIT, which are summarized as six research challenges by ONC.

The five projects under the NCCD umbrella have responded to the changing aims at the ONC and have also joined with the other SHARP awardees for the Pan-SHARP collaboration. SHARP has made notable contributions to the science of usability, specifically in the context of EHRs. Recommendations generated from the project helped to inform EHR usability guidelines published by the National Institute of Standards and Technology (NIST). Recommendations from several of the projects informed inclusion of Safety Enhanced Design in the EHR certification criteria for the 2014 Meaningful Use for EHRs. SHARPC continues to explore opportunities for commercialization of various project artifacts by actively engaging with the vendor community with mixed success.

3.4.2 University Based Training Grants

| Awardee | Amount | Term |
|------------------------|-------------|-------------------------|
| Texas State University | \$5,421,205 | March 2010 to June 2013 |

The Program of Assistance for University-Based Training (UBT) grant in Texas is titled “[Professional University Resources and Education for Health Information Technology, PURE-HIT.](#)” The PURE-HIT grant application requested \$5.96 million and was awarded \$5.4 million. The training objectives consist of awarding 291 graduate certificates and 29 master’s degrees. Texas State University is the prime institution for the grant, with subcontracts awarded to The [University of Texas at Austin](#) (UT-A) and the [University of Texas Health Science Center School of Biomedical Informatics at Houston](#) (UT-SBMI). Texas State and UT-A were tasked with delivering the certificate training, with UT-SBMI awarding a newly created Master’s in Applied Health Informatics. In its final year the grant is on target to exceed its training goals for both graduate certificates and master’s degrees.



UT-Austin was the UBT leader for training, graduating the first cohort of certificate trainees in July 2010. They have had great success with their 9-week intensive program training for a certificate in Health Informatics and Health Information Exchange. This program has now been converted to professional education and UT-A plans to enroll three cohorts of approximately 50 students each year. UT-Austin also trained one cohort for a Privacy and Security certificate and two cohorts for the Public Health Informatics leader role. The Privacy and Security specialist certificate

will not be continued. The Public Health Informatics training will be incorporated into the public health baccalaureate as a track. Of special note for UT-A is their HIT training lab and the health information exchange (HIE) training lab created for their programs.

Texas State University is training for three roles, the Health Information Management and Exchange specialist; the Privacy and Security specialist; and the Software Programmer/Engineer. Two cohorts have graduated, with a third in process. The graduate certificate in Health Information Management consists of 9 hours of core health information technology training with 6 hours of electives primarily from the Texas State Computer Information Systems department, but Healthcare Administration also a possible focus. The Privacy and Security certificate consists of 16 hours of coursework focused on learning health information systems and the appropriate privacy and security for the same. The training for these roles builds upon the very successful B.S. in Health Information Management already in existence at Texas State. Sustainability plans call for the continuation of both certificates, working towards a Master's in Health Information Management.



The University of Texas Health Science Center School of Biomedical Informatics in Houston offers the Master of



Science in Applied Health Informatics. The degree creates an educated workforce with the knowledge and skills to assess, implement, maintain and evaluate Electronic Health Records (EHRs) and computerized health information systems. The program requires 36 semester credit-hours (12 courses). Each course consists of didactic and laboratory coursework with

the exception of the capstone project. The courses investigate a broad selection of areas such as the modern American healthcare system, healthcare legislation, primary care facilities, health information security protocols, project management, and change management. The program culminates a capstone project that summarizes the skills that are learned from the previous courses and allows students to apply them in a practical, real-world setting.

These courses are available only online. This program is available to both full-time and part-time students.

The UT-HSC SBMI also offers a certificate of Applied Health Informatics which is designed for motivated professionals working in health information technology fields, to provide them with the knowledge and skills to assess, implement, maintain and evaluate Electronic Health Records (EHRs) and health information systems. This certificate can be obtained via two options:

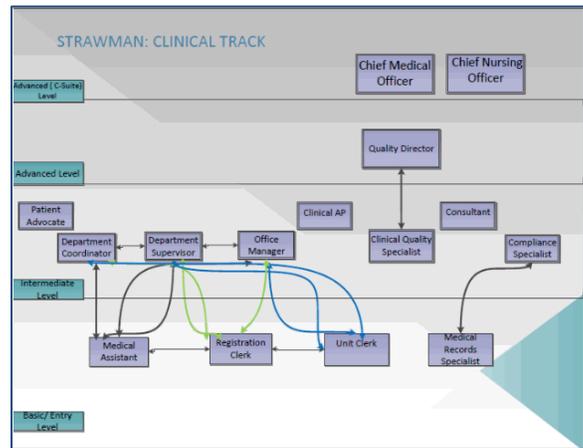
- Option 1 - A set of 5 predetermined courses with an emphasis in Electronic Health Records (EHRs).
- Option 2 - Any 5 classes chosen from the course set of the Master of Science program in Applied Health Informatics with guidance from the Certificate Program Director. This option allows professionals to customize their studies to meet their background and needs.

3.4.3 Texas Health Information Technology Workforce Development Project

Texas State University's [Texas HIT Workforce Development Project](#) has built on statewide connections established over two years to:

- conduct a [state-wide HIT employer survey](#) and disseminate the results to HIT stakeholders;
- create and disseminate a [statewide educational plan](#);
- collaborate with Texas Workforce Commission’s Work in Texas and other existing resources to identify an internet-based HIT Workforce Resource Center; and
- expand the HIT Internship Program, successfully placing 44 interns with the 4 RECs and an additional 7 HIT employers across the state over 2 years.

Texas has an enormous need for an estimated 10,000 qualified HIT workers by the end of 2013.

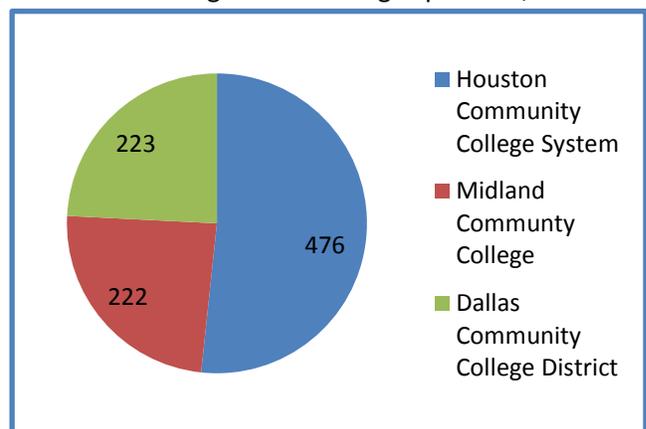


The Executive Committee which represents HIT employers, educators, local workforce boards, professional organizations and other Texas stakeholders is an engaged group, providing valuable feedback and ideas for program projects including the long-term HIT education plan developed in year two. The Texas HIT Workforce Project Executive Committee gathered data from across the state and country related to competencies, credentials, training programs, new education models, and innovative workforce development models in an effort to find the most effective methods for addressing this need. The sub-committee discussed dual credit and the four community colleges represented are considering the feasibility of dual credit for HIT in four regions, Houston, Austin, Midland/Odessa, and Dallas/Fort Worth. The executive committee subcommittee provided oversight for the creation of an outreach tool using Camtasia software to encourage students at the secondary level to consider HIT careers. It is entitled, “[Careers in Health Information Technology \(HIT\)](#)” and has been shared with key stakeholders.

3.4.4 Community College Consortium

| Sub-Awardees | Amount | Term |
|----------------------------------------------------------------------------------------------------------------|-------------|------------------------------|
| Midland College | \$1,689,685 | March 2010 to September 2013 |
| Houston Community College | \$1,028,815 | |
| Dallas County Community College District in partner with Austin Community College and Temple Community College | \$1,050,887 | |

[Houston Community College System](#), [Midland Community College](#), and the [Dallas County Community College District](#) (in consortium with Temple College and Austin Community College) offer intensive online continuing education programs training six (6) Health IT workforce roles designed to be completed in less than six (6) months. The training roles include practice workflow and information management redesign specialist, clinician/practitioner consultant, implementation support specialist, implementation manager, technical/software support staff, and trainer. Upon completion of the programs, completers are expected to sit for the national competency exam developed by the American Health Information Management Association (AHIMA). Graduates will find employment with healthcare institutions, physician offices, and vendors of EHRs. These training roles were built upon successful programs focusing on Associates degrees in Health Information Management. To date the combined



Total number of graduates from participating community colleges.

community college consortia participants have trained more than 900 students.

After the grant term ends, all three colleges will be sustaining the HITECH program, however, required number of courses, length of course term, and costs may vary.

3.4.5 Center for Health Organization and Transformation

The Center for Health Organization Transformation (CHOT) is an industry-university cooperative research center funded by the National Science Foundation (NSF) and includes the Texas A&M Health Science Center, the Georgia Institute of Technology, Northeastern University, and Pennsylvania State University. CHOT has been actively engaged in electronic medical record and HIE research for many years. A number of publications on HIE, including one multi-decade review of the literature and several empirical articles on HIE use have been conducted by CHOT researchers and can be found on the [Center's website](#). CHOT researchers have focused, too, on EHR implementation and optimization projects including end-user satisfaction, alert fatigue, and leveraging EHRs to drive other system-level change projects.



TAMHSC is the lead site of the four-university Center which is funded by NSF and health system 'members'. The Center's core strength lies in its unique combination of health management and industrial and systems engineering. The Center's research is conducted by faculty researchers and both doctoral and masters students, but is driven by its Industry Advisory Board 'members'. The CHOT researchers at Texas A&M are faculty and students associated with the TAMHSC's Department of Health Policy and Management and the TAMU Department of Industrial and Systems Engineering. A number of PhD and masters students (MHA, MPH, and MS) from the two departments who have been involved in CHOT health information systems research are now actively employed in EHR related activities with vendors and health organizations.

Section 4: HIE IN TEXAS

4.1 State HIE Cooperative Agreement Program

| Awardee | Amount | Term |
|--------------------------------------------|--------------|---------------------------------------|
| Texas Health and Human Services Commission | \$28,810,208 | March 2010 to March 2014 ⁶ |

In March 2010, the HHSC received an award from ONC from funding through [the State HIE Cooperative Agreement Program](#). The purpose of this program is to fund state planning and implementation of electronic health information exchange networks to support higher quality, safer, and more efficient healthcare. Texas' allotment through this program is \$28.8 million over four years. The HHSC is serving as the fiscal agent for this funding and the THSA, under contract with HHSC, is supporting and implementing projects under the program.

In November 2010, the ONC approved the [Texas HIE Strategic and Operational Plans](#). These plans, which guide the implementation of HIE services in Texas, outline and support the implementation of the following key strategies:

- Strategy #1: Local HIE Grant Program to partially fund planning, development, and operations of local and regional HIE networks;
- Strategy #2: Rural "White Space" program to provide HIE connectivity options through HISPs to healthcare providers in regions of the state without local or regional HIEs; and
- Strategy #3: General state-level operations administered jointly by THSA and HHSC to support transparent and collaborative governance structure to coordinate the implementation of HIE in Texas, develop policies and guidelines, and provide statewide HIE connectivity services.

4.1.1 Local HIE Grant Program

Prior to 2011, Texas had several HIE initiatives that had already developed strategies to coordinate and improve care in local markets. The HHSC and THSA worked to further these efforts in 2011 by implementing a [Local HIE Grant Program](#) to provide partial funding for the planning, implementation, and operations of local HIE initiatives and networks.

In December 2010, the HHSC released a Request for Application for funding under the Local HIE Grant Program and made planning grants to 16 community-based HIEs, entering into contracts with the HIEs to develop Business and Operational (B&O) Plans for the operation of the HIE in the community.

Program awardees, which intend to connect the majority of physicians and hospitals in Texas, conducted a planning process in 2011 and submitted B&O Plans to THSA and HHSC for review



[Map of Local HIE Service Areas](#)

⁶ The Federal Office of Management and Budget advised all ARRA funded programs that activities should be completed by September 2013. However, the ONC is seeking a waiver from this requirement. At the time of this report, the matter remains unresolved and the dates cited for these grants are the original ones set by the ONC.

and HHSC approval for subsequent implementation funding. In 2012, the local HIEs with approved B&O Plans used the implementation funding to support the overall operations of the HIEs, including personnel, HIE technology selection and deployment, development of marketing materials, and ongoing sustainability, outreach and provider and patient engagement activities.

Of the 16 initially funded HIEs, 12 have decided to continue in the program. At a minimum, these HIEs will support the delivery of lab results and exchange of patient clinical summaries. The HIEs may offer other types of HIE services requested by providers at the community level, such as population health analytic services or patient portals.

4.1.2 White Space Program

In 2012 the THSA established a marketplace of qualified health information service providers, or HISPs, to provide “lite” HIE connectivity services to physicians and hospitals located in counties that do not have a local HIE, otherwise referred to as the “White Space” in Texas.

A HISP is an organization that supports the secure, encrypted transport of data on behalf of the sending or receiving organization or individual by adhering to federal technical standards and operational policies. The HISPs qualified to participate in the Texas White Space marketplace must meet additional Texas-based requirements and must provide the electronic capabilities for the transmission of all clinical transactions necessary for meaningful use of. Initially, this includes the transmission of clinical care summaries and lab results using Direct secure messaging.

As of November, 2012 \$750,000 in total funds was available to support the White Space strategy and additional funds are supporting a “boots on the ground” strategy with the [West Texas REC](#). All HISPs participating in the Texas White Space marketplace are eligible to receive a subsidized payment, or voucher, from the THSA based on the number of eligible hospitals and physicians located in the identified White Space counties that each HISP is able to connect. The voucher is \$400 per White Space physician connected and \$5,000 for each White Space hospital connected.

The voucher is intended to act as a subsidy to help offset initial connectivity costs, and the HISPs may not charge participating physician or hospitals for any services until the voucher funds have been expended on those services. As of February 2013, over 100 voucher numbers have been issued and the THSA has made voucher payments to a HISP on behalf of 4 hospitals and 4 physicians.

The THSA qualified HISPs, physicians, hospitals, and others across the nation report various factors that may be hindering adoption of Direct secure messaging, including: lack of familiarity with HIE and HISPs; lack of knowledge of federal Meaningful Use requirements; not wanting to be the “first to use the fax machine” (i.e. waiting for connecting providers to obtain their own Direct addresses or to see what technologies are selected by connecting providers, which may or may not include use of Direct); and not understanding a clear value proposition for adoption of Direct-based secure messaging services. In 2013, HHSC and the THSA will evaluate the White Space strategy and consider options to ensure that providers in these counties continue to have access to services that will meet meaningful use requirements.

4.1.3 State-level Operations

The THSA, in partnership with the HHSC, is supporting [state-level operations](#) to enable the establishment, operations and interoperability of HIE infrastructure statewide. Activities under this strategy include:

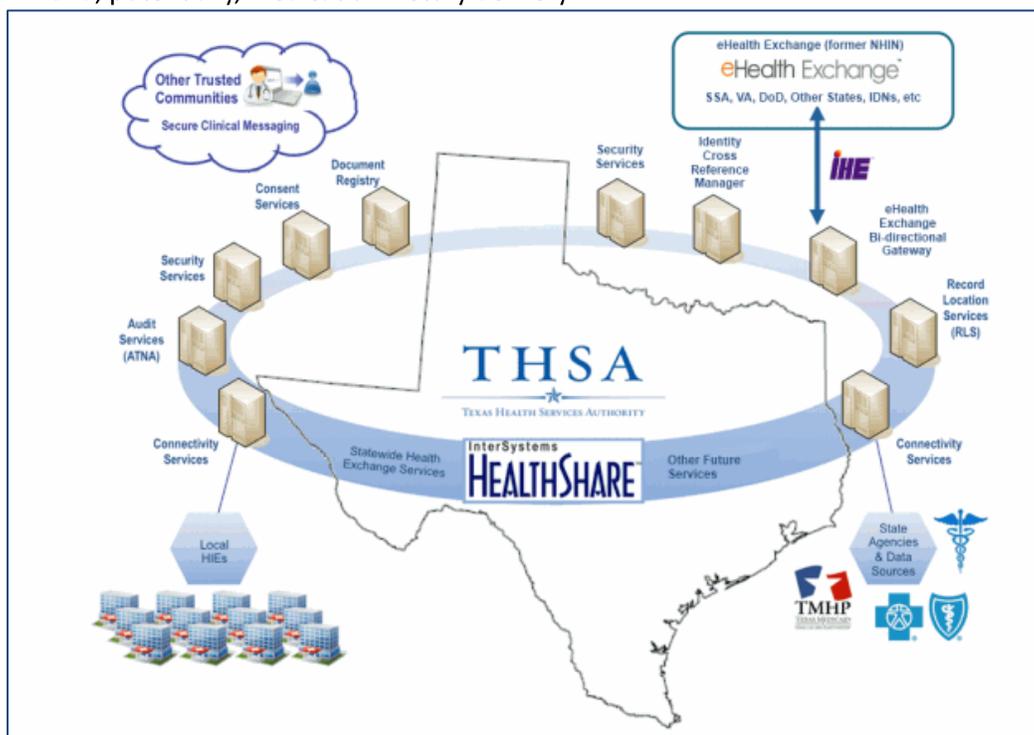
1. Administering the THSA and the implementation of the governance structure (see Section 2.2.4).
2. Establishing and maintaining required policies and standards for HIEs (see Section 2.2.5).

3. Developing and administering state-level shared connectivity services.

The THSA released a State-Level Shared Services RFP in June 2012 to procure the development of certain technological infrastructure components that will enable the THSA to support patient privacy preferences, to securely connect to the National eHealth Exchange, and enable the state's Local HIEs to exchange health information with the THSA and other THSA approved parties. In January 2013 the THSA offered a tentative award to InterSystems Corporation which was finalized in April 2013.

The currently planned state-level shared connectivity services include:

- Clinical Document Exchange (treatment);
- Federal Trust Framework (Security/Confidentiality/Accuracy);
- Patient Consent Management;
- eHealth Exchange;
- and, potentially, medication history delivery.



Texas HIE Vision: Federated HIEs connect to a thin state layer in order to connect to Texas Medicaid, DSHS, eHealth Exchange, and other state level data sources.

4.2 Local HIE in Texas

Texas has pursued an HIE strategy that aims to create an innovative and responsive HIE market in the state. The emerging environment is dynamic with many private HIE networks emerging and competing for services. The OeHC plans to conduct an environmental scan of the full HIE market in Texas prior to the end of the HIE Cooperative Agreement program in March 2014. This environmental scan will help public and private stakeholders plan future healthcare investments and activities.

Today, the part of Texas' HIE market that is best understood are the participants in the Local HIE Grant Program. After the planning process, 12 local HIEs had approved B&O plans. These HIEs cover the majority of Texas counties, providers, hospitals, and residents. Below you will find a summary of each HIE funded through the Local HIE Grant Program.

In 2013, these HIEs are working to achieve or maintain operations, conducting evaluations, and progressing towards evaluations. The Local HIE Grant Program will conclude at the end of the cooperative agreement program in March 2014.

4.2.1 Local HIE Grant Program Participants

FIRSTNET EXCHANGE

FirstNet Exchange, headquartered in Tyler, Texas, was formed in 1996 by the East Texas Medical Center (ETMC) Regional Healthcare System as a regional HIE with a mission to “optimize quality care, services, and cost management by streamlining the exchange of healthcare information.” It started by connecting ETMC hospitals and physicians, but grew quickly over the years to provide a data exchange for numerous East Texas providers. Today, FirstNet’s stakeholders include 15 hospitals and over 600 physicians, and its exchange spans 21 counties with data on over one million patients.



GREATER HOUSTON HEALTHCONNECT

Founded through the collaboration of the Center for Houston’s Future and the Harris County Healthcare Alliance, Greater Houston Healthconnect was launched in 2010. The organization was inspired by the vision of Houston area business and community leaders to work hand-in-hand with local healthcare providers to achieve a decisive gain in community health. Greater Houston Healthconnect was developed with the support of numerous organizations and interested individuals, including the area’s major healthcare systems and medical schools, along with the Harris County Medical Society.



Two regional HIEs, Galveston County HIE and the HIE of South East Texas have merged with Healthconnect, expanding the service area to 20 counties serving 6.8million people, 14,000 physicians and more than 130 hospitals. Healthconnect has begun connecting major hospital systems in its service area through the regional community health portal. In addition, the HIE offers Direct Messaging and a referral platform. By Q2 2013, lab results and medication fill data will also be available to participating providers.

HEALTH INFORMATION NETWORK OF SOUTH TEXAS

The Health Information Network of South Texas (HINSTX) is a not for profit organization comprised of public, private and non-profit organizations whose population center is Corpus Christi and includes eleven rural Coastal Bend counties that is committed to providing the health information technology infrastructure to expand access to quality healthcare, enable patient engagement and improve health outcomes for all people in the region. HINSTX will accomplish this through the establishment of a health information exchange (HIE) that is continually adapting, transparent and accountable, community-based, and self-sustaining and demonstrates quantifiable social, clinical, and economic benefits for patients and providers. HINSTX is building on past health IT initiatives in South Texas and leveraging existing resources to create a foundation for a health information exchange that will assist providers and patients across the entire continuum of care - including the essential connectivity with state and federally-based HIE initiatives and networks, such as the Texas Health Services Authority (THSA) and the National Health Information Network (NwHIN).



HEALTH INFORMATION PARTNERSHIP OF SOUTHEAST TEXAS

Health Information Partnership of Southeast Texas (HIPSET) covers Montgomery, San Jacinto, Liberty, and Walker counties with a total population over 630,000. HIPSET was formed to promote the health of citizens in these



counties through facilitating the creation and operation of an HIE with the objectives to increase access to care, quality of care, and efficiency in providing care, including for Medicaid, self-pay and the uninsured population.

The goal, objectives, and benchmarks for HIPSET include providing aggregated data to identify disease populations for individuals for management, especially asthma, congestive heart failure, diabetes, and hypertension. The program will also look to identify system abuse and overuse in an attempt to direct individuals' care to more appropriate solutions. Finally, we wish to assist physicians in treating patients, reducing unnecessary and duplicative testing and procedures and empower patients to better manage their healthcare strategies. HIPSET plans to develop a community-based resource to facilitate disease management programs, systems abuse mitigating strategies, and create surge capacity by reducing Emergency Department visits. Recognizing the referral patterns that exist with Harris County, HIPSET intends to facilitate the exchange of data across the region in collaboration with the other regional HIEs operating in Southeast Texas.

HEALTHCARE ACCESS SAN ANTONIO

Healthcare Access San Antonio (HASA) is a non-profit community collaborative, including premier hospital systems, community health providers, and the San Antonio Metropolitan Health Department. HASA's mission—to enhance access to care for community residents—is realized by facilitating the exchange of patient information across providers in a safe and secure environment. In working in close partnership with its stakeholders, HASA intends to provide HIE to the benefit of residents and providers in 22 counties in the Central and Southwest Texas area.



As a safety net for the uninsured, HASA has provided a platform for patient information exchange since 2008. As a community collaborative, HASA provides these services in complement to what providers have implemented for internal use. Additionally, a portal for providers with limited or no electronic medical record capabilities will be made available. HASA's objectives for 2011-2013 include connecting providers in rural and urban Central and Southwest Texas and expand this connectivity to all patient types. As a community collaborative, HASA intends to provide value to multiple community stakeholders including providers, physicians, consumers, companies, and payers. Through collaboration with other community providers, HASA intends to assist in providing patient-centered, high quality and cost efficient care for its service area.

iHEALTH TRUST

iHealth Trust is a Houston community owned and directed nonprofit organization whose purpose is to improve healthcare quality and contain rising costs in the Greater Houston area by engaging patients, their healthcare providers, and other authorized entities in the exchange of health information, with assured privacy and anytime-anywhere access, resulting in all stakeholders having complete healthcare information and decision support.



The vision of iHealth Trust is to enhance healthcare quality and effectiveness for all patients, the healthcare sector should be supported by an infrastructure made up of interoperable, electronic health records composed of standardized, structured data elements that are exchanged among authorized healthcare organizations and providers across secure regional and statewide networks.

The mission of iHealth Trust is to improve the quality, safety, and efficiency of the community's healthcare sector by enabling the delivery of high quality, cost-effective healthcare for all patients by utilizing electronically collected information, serving as a trusted third party fiduciary for the depositor of that information.

INTEGRATED CARE COLLABORATION

The Integrated Care Collaboration (ICC) is a nonprofit alliance of healthcare organizations in Central Texas dedicated to the collection, analysis, and sharing of health information. The ICC has been nationally recognized for its efforts in HIE and community-wide care transformation to improve quality, increase access, and lower costs across unaffiliated providers throughout the spectrum of healthcare delivery. The ICC upgraded its HIE platform to support technology-enabled, patient-centric care delivery and the ability to measure Accountable Care Organizations established outcomes. With federal and state emphasis on HIT, Meaningful Use requirements, and ACOs, providers are now looking to ICare as the regional HIE solution for Central Texas. The ICC's target patient population is all individuals regardless of insurance status, race, sex, or age.



The ICC offers both query based and Direct-protocol based HIE solutions. ICare 2.0 is the ICC's second-generation query based HIE solution and has been live and in-use by providers and hospitals since September, 2011. With the development of ICare 2.0, a Data Warehousing and Analytics solution has been coupled with the data to facilitate performance-based outcome analysis, validate patient information and assess the community health research.

The ICC's Texas Direct secure messaging system, based on the ONC's Direct protocol, facilitates the electronic exchange of referrals, test results, reports, and other clinical data over a secure network. Texas Direct allows providers on an EHR, as well as though without an EHR, to quickly and easily exchange patient information without the burden of fax, phone, or traditional mail services.

NORTH TEXAS ACCOUNTABLE HEALTHCARE PARTNERSHIP

The North Texas Accountable Healthcare Partnership (NTAHP) is a non-profit, multi-stakeholder organization designed to implement a health information exchange (HIE) in North Texas. NTAHP's mission is to promote and reward local healthcare clinical performance for the citizens of North Texas, that is coordinated, transparent, and value based. The NTAHP HIE's service area covers 11,700 physicians, 137 hospitals and over 6.6 million patients in Dallas, Tarrant, and 11 other counties around the Dallas-Fort Worth Metroplex.



At its core, NTAHP seeks to be the primary driver and champion of healthcare value for the region it serves. It is the intent of the NTAHP HIE to facilitate health information exchange services for all interested providers in the defined 13-county region. This includes all licensed hospitals, physicians and mid-level providers. The NTAHP HIE capabilities center around a query-based solution that provides clinicians a longitudinal patient health record, which includes rapid, secure access to: patient demographics, allergies, lab results, radiology reports, medications, problems and procedures, and transcribed documents. In addition to the query based solution, NTAHP HIE also has Direct Secure Messaging embedded within the HIE platform, based on the ONC's protocols. To allow for proactive care coordination, NTAHP HIE uses alerts and notifications for its clinical users based on triggering events to allow providers to know that their patients have had activity within the HIE and allow for the continuity of care to be timely and efficient.

After the establishment of the core HIE platform, NTAHP envisions two distinct categories of services, (a) services offered and administered by NTAHP at the direction of our community stakeholders and (b) use of the NTAHP HIE capabilities by stakeholders to drive their core business operations or "NTAHP HIE Enabled Services". Thanks to

the collaborative efforts of NTAHP's stakeholders, including leading area providers, payers, and businesses, the NTAHP HIE will play a central role in this region's efforts to lower costs, improve health outcomes, and improve the overall health of citizens of North Texas.

PASO DEL NORTE HIE

The Paso del Norte (PdN) HIE is a nonprofit corporation formed to benefit and promote the health of the residents of El Paso County, Texas and surrounding communities. The mission of the PdN HIE is to improve the quality, safety, and efficiency of healthcare services in the Paso del Norte region, through privacy protected exchange of health information.



Members of the PdN HIE act together as a collaborative of physicians, hospitals, health departments, clinics, mental health authorities, other providers, and consumers through secure exchange of privacy-protected health information and the sharing of best practices for the improvement of care.

The PdN HIE received a planning grant and is in the process of finalizing the organizations' goals and objectives. In preliminary conversations, stakeholders have identified the following priorities:

- Prevent unnecessary test duplication
- Enhanced patient safety
- Improve quality of medical treatment
- Enable greater care coordination
- Enable disease surveillance

RIO GRANDE VALLEY HIE

Rio Grande Valley HIE (RGV HIE) intends to provide services to extreme South Texas and is comprised of a multi-disciplined, multi-stakeholder, multi-county representative board designed to provide guidance and oversight to the exchange of critical information. Working in close partnership with its stakeholders, the RGV HIE intends to provide HIE to the benefits of residents and providers by expanding access to quality healthcare and improving health outcomes for all people in the service region. From Brownsville to Laredo, patients will have the ability to provide medical information to those who need it most, just when they need it.



The goal of RGV HIE is to facilitate access to, and retrieval of, clinical information to provide safer, more timely, efficient, and effective patient-centered care. By having access to all patient data, healthcare providers can reduce time and expense associated with duplicate tests and effort spent locating missing patient information such as referrals, consults, radiology, and lab result orders.

It provides the capability to electronically access clinical information across disparate healthcare information systems while maintaining the meaning of the information being exchanged. HIE is part of an evolving strategy on the national, state, regional, and local levels. These strategies may include telemedicine, social networking, patient-centered medical homes, and accountable care organizations.

RIO ONE HEALTH NETWORK

Rio One Health Network is a Texas non-profit corporation specifically established to participate in the planning and subsequent development of a HIE organization in Hidalgo and Starr Counties in compliance with state and federal standards. The goal of



this organization is to create an active exchange of healthcare information between all participating entities and physicians for the benefit of patients in this region that meets all security and privacy requirements for patient information. Further, this network plan is intended to promote cooperative cost reduction measures for these local providers, pharmacies, and laboratories.

Rio One Health Network understands the challenge of sustainability and maintaining a positive dialogue with the medical community on the benefits of a fully developed and compliant HIE in this region and intends to consistently promote the goal through professional meetings and community education. This will ensure that providers, patient, and support services are all engaged in a patient centric HIE designed to reduce costs, protect patient privacy, and promote the essential need to conserve limited healthcare resources through a systematic exchange of reliable health information.

SOUTHEAST TEXAS HEALTH SYSTEM (SETHS)

Southeast Texas Health System (SETHS) is a non-profit corporation equally owned by nine hospitals whose purpose is to collaborate to create economies of scale and scope in the delivery of healthcare. The members share common goals of operating a cost-effective, quality healthcare delivery system to provide a continuum of healthcare services and products that offer greater efficiency, economy, quality, and availability of such services than the individual providers can offer alone.



SOPHIE, the SETHS-Operated Provider HIE, is designed to serve as the rural HIE solution. It is integrating hospitals, providers, pharmacies and labs both locally and regionally for the purpose of meeting HIE requirements in a manner that preserves the local control and independence of all participants. SOPHIE is a cost effective Open Source HIE solution designed to consume data in any format, remove the implementation pain points away from the HIO, and ultimately enable providers to meet Meaningful Use.

The technology partners developed SOPHIE with the following guiding principles in mind:

- Implement a patient-centric approach
- Focus on the needs of rural and/or small hospitals, providers, pharmacies and labs
- Support national standards for maximum interoperability
- Collect data from HIE participants in whatever form it is provided
- Provide multiple mechanisms for accessing HIE data
- Utilize Open Source technologies to avoid vendor lock-in

4.2.2 Health Information Service Providers

Health Information Service Providers (HISPs) are companies that offer HIE secure messaging services (i.e., Direct Project services) directly to physicians and hospitals. In Texas, the THSA established a marketplace for qualified HISPs to offer Direct email services through the White Space Program. These qualified HISPs support the secure transport of health information and have agreed to support electronic transmission of all clinical transactions required to achieve meaningful use in accordance with federal and state standards.

The qualified HISPs in the State of Texas include GSI Health, Harris Healthcare Solutions, Inpriva, Sandlot Solutions, and Secure Exchange Solutions.



4.3 Other Health Information Exchange Initiatives

4.3.1 Texas HIE Infrastructure Development Initiative

The HHSC released an HIE Infrastructure Development Initiative (THIEIDI) Request for Proposal in December 2012. THIEIDI seeks to provide financial assistance to Texas' HIEs to help meet challenges in HIE priority areas and to document and share lessons learned for the benefit of all Texas HIE stakeholders.

These priority areas include, but are not limited to, state immunization registry reporting, electronic lab reporting, prescription drug monitoring program interoperability, and facilitating communication between providers and independent and/or hospital labs. Other topics of interest for investigation may include syndromic surveillance, lab results delivery, HIE-to-HIE connectivity, behavioral health connectivity, pharmacy outreach for electronic prescribing, cancer care, and enhancing veterans care.

4.3.2 Prescription Drug Monitoring and HIE Integration

The nation is dealing with an escalating prescription drug epidemic that now claims more lives every year than car crashes. In Texas, the counties in Southeast Texas around Houston appear to be an epicenter for this problem. To address this issue, HHSC, in partnership with the Texas Department of Public Safety, Greater Houston HealthConnect, and THSA, is supporting a pilot project to achieve Prescription Drug Monitoring Program (PDMP) interoperability with a regional HIE to support the patient and provider population of this region and promote the utilization of PDMP data at the point of care.

4.3.3 Medicaid Eligibility Health Information Service

The Medicaid Eligibility Health Information Service (MEHIS) is a web-based patient and provider portal that provides access to health data generated through Medicaid-covered services, plus additional functionalities that empower patients and assist providers in rendering care. This service is incorporated as part of the YourTexasBenefits.com service platform.

HHSC is currently developing a health record for each Medicaid client, and making it available through the web, via MEHIS. This health record functionality is scheduled to be available in 2013, when HHSC plans to roll out the health histories to providers who treat Medicaid clients. Subsequently, the system will be available for clients and their providers to access their claims-based health history.

Another functionality of MEHIS, which is currently available, is the ability for providers to verify if a client is eligible for Medicaid at the point of care. Clients are also able to check their Medicaid eligibility and request Medicaid cards or print them.

In addition to eligibility verification, the system supports aggregation of medical service encounter data, medication history for filled prescriptions, immunization history from the state's immunization registry, and program information, such as Texas Health Steps notifications. MEHIS will take advantage of any opportunities to receive and aggregate information from data sources available in the future, such as the Medicaid HIE.

Special functionalities are planned for support of state employees that interact with Medicaid clients. By enabling the sharing of eligibility and health history data, state agencies will be better equipped to provide service to Medicaid clients.

4.3.4 Medicaid Health Information Exchange

HHSC has been closely monitoring the development of the statewide HIE coordinated by OeHC. The network of regional HIEs will soon be receiving clinical data from their members, many of which are Medicaid providers. HHSC will build an HIE to interact with these partners and receive clinical data. The benefits of Medicaid having access to its clients' clinical data are numerous. Combining clinical data with claims data can aid in policy

decisions, measurements of quality of care, and prevention of fraud and abuse. Additionally, any clinical data received by the Medicaid HIE will be made available for viewing in MEHIS.

The Medicaid HIE will also become a resource for the Medicaid providers. Data held exclusively by Medicaid, such as prescription claims history, will be made available to providers via their regional HIEs, which will query the Medicaid HIE for such information.

An initial pilot exchange of prescription claims history with several regional HIEs has been completed. Full implementation of the Medicaid HIE will begin in 2013. Availability of prescription claims history is projected for the first half of 2014, with the addition of claims-based health history soon after.

MEHIS and the Medicaid HIE are distinctly different in their functionalities. The Medicaid HIE is intended to supply and receive clinical data via accepted HIE standards, as an integrated, behind-the-scenes service. For providers without robust HIE functionality, the MEHIS system will provide web-based, manual access to any clinical data gathered by the HIE.

4.3.5 PHR Ignite

Under Stage 2 Meaningful Use criteria, Certified EHRs are now required to support the use of Direct secure messaging transport protocols to download, receive and transmit interoperable care summaries, allowing available data to flow. Direct-enabled Personal Health Records (PHRs) will have the capacity to receive and collect this information in a single location, controlled by the consumer. This project aims to ignite the use of PHRs by supporting projects that will provide patients with access to Direct-enabled PHR systems, research the gap between PHR functionalities that currently exist and those that consumers desire, and create educational materials that support a change in the attitude and understanding within the consumer population about PHRs.

A first of its kind, Children's Medical Center is launching a PHR pilot program for Sickle Cell Anemia patients in Tyler, Texas. These patients are an ideal target population due to their extensive medication protocols and multiple care providers in dispersed geographical locations. The pilot will test the patient use of Microsoft's Direct-enabled Health Vault PHR with the Drop Off and Pick Up Application (DOPU) by Children's. Children's will host the DOPU application that allows information to be sent to a patient's Health Vault PHR without requiring an additional interface between the patient and the care provider. This will allow patients to receive health information from multiple specialty and service areas in one record. Centralizing this information and putting it in the hands of the patients will increase continuity of care, patient and provider communication, and medication management. With support from Verizon, patients will be able to access their Health Vault PHR using donated iPhones, enabling mobile access to their health record information and other Health Vault features including medication reminders. Following testing and evaluation of the pilot, the implementation will be imminently scalable and released in wide distribution to Children's patients.

This project is supported through the State Health Policy Consortium, managed by RTI International, and funded by the Office of the National Coordinator for Health IT.

4.3.6 Health Center Controlled Network Grant

Texas Association of Community Health Centers (TACHC) was awarded new HCCN (Health Center Controlled Network) funding for the period of December 1, 2012 to November 30, 2015. This funding, from the Health Resources Services Administration (HRSA), for TACHC was one of 37 grantees in the country and the only one in Texas. The grant is \$775,000 per year for three years and the network includes 36 FQHC's. The new funding will build upon the Health Information Technology Implementation Grants and assist with the expansion of the data warehouse and centralized data repository. The TACHC network has a focus on clinical data and assisting FQHC's with quality improvement by providing reporting tools that can be directly accessed by the FQHC members.

The goals/deliverables for FQHCs in the new HRSA grant are:

1. Implementation of a certified EHR at all sites
2. All providers must be using a certified EHR system
3. All providers must register for EHR incentive program payments
4. All providers must be receiving EHR incentive payments (Or the center on their behalf)
5. All Centers must meet or exceed Health People 2020 goals on at least one UDS clinical quality measure
6. All centers must achieve PCMH recognition or maintain/increase their recognition level

4.3.7 Texas Immunization Registry

The [Texas immunization registry](#) (ImmTrac) is a secure, confidential registry that stores immunization information electronically in a centralized system operated by the Texas Department of State Health Services (DSHS). The data is available to health care providers, schools and licensed child care facilities, and to patients and/or their parents or legal guardians.

In 2010, the DSHS applied for and was awarded a grant under the Enhancing the Interoperability of Electronic Health Records and Immunization Information Systems (IIS) program. The program, operated by the CDC, was designed to help states meet the meaningful use priority to improve population and public health by building EHR and IIS interoperability.

The initial project in Texas was intended to move providers from transmitting flat files to HL7 transactions that are interoperable with the ImmTrac system. In the initial grant, 225 facilities using a variety of EHR systems were connected to ImmTrac. Between 2010 and 2012, DSHS applied for and was awarded an additional Immunization Capacity Building grant from the CDC to continue the program.

4.3.8 Foster Care Health Passport

In April 2008, the HHSC implemented STAR Health, a statewide medical services delivery model for children in foster care. One important component of the program is the [Health Passport](#), a web-based EHR for each child that facilitates information sharing and medical services coordination among the child’s healthcare providers, the Department of Family and Protective Services (DFPS) staff, and caregivers. The Passport allows immediate access to a child’s basic health records so that care is less likely to be disrupted if a child moves to a new placement or location. The Passport is available to authorized users through a secure, password-protected web site administered by the STAR Health managed care organization.

4.3.9 State Broadband Initiative Program

| Awardee | Amount | Term |
|------------------|-------------|-----------|
| Connected Nation | \$4,997,835 | 2010-2011 |

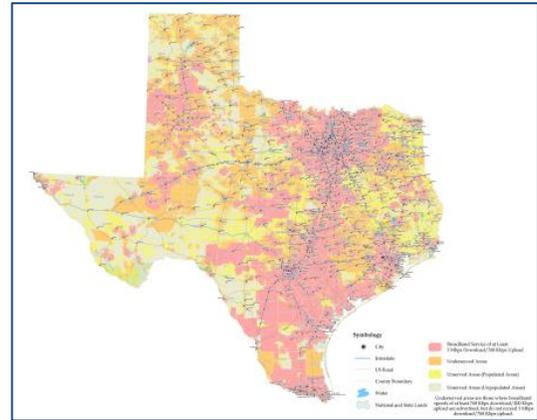
One of the persistent barriers to the adoption and use of HIT, especially in rural areas, has been the lack of broadband service. [The State Broadband Initiative Program](#), funded through ARRA and the Broadband Data Improvement Act of 2008 mapped areas of the state by their connectivity capabilities. The Texas Department of Agriculture was the lead on the grant and Connected Nation serves as the state designated entity.

4.3.10 Healthcare Connect Fund

In 2008 a number of Texas healthcare provider organizations jointly applied to the Federal Communications Commission (FCC) to be a FCC Rural Healthcare Pilot Program (RHCPP). The RHCPP was designed to improve broadband services (bandwidth and availability) to eligible rural healthcare providers. It was also the nation’s single largest investment in health IT until the HITECH Act. For the first time the FCC allowed non-rural

healthcare providers to participate. The Department of Health and Human Services (HHS) joined as a co-sponsor. RHCPP participants are required to support HHS goals for health information exchange, personal health records, homeland security and bioterrorism.

The application was successful and the applicant organizations formed the Texas Health Information Network Collaborative (TxHINC) to coordinate the project. TxHINC's goal is to design, develop, deploy and manage a state wide medical grade broadband network that connects rural healthcare providers to urban and regional healthcare centers and with each other for expanded healthcare access, improved services and efficiencies of care delivery and improved quality. The RHCPP subsidizes the costs of broadband services including hardware and monthly recurring charges. A few of the Texas HIEs are leveraging the RHCPP with their activity to ensure that their facilities have sufficient bandwidth available to exchange information. A few of the Medicaid 1115 Waiver Regional Health partners are also considering leveraging TxHINC as a highway for sharing information among their participants. All the FCC RHCPP participants were included in the FCC's Healthcare Connect Fund, assuring continued support for this initiative.



State of Texas by terrestrial broadband service.

Section 5: APPENDIX

5.1 Acronyms

| Acronym | Full Name |
|---------|-----------------------------------------------------------------------------|
| ACO | Accountable Care Organization |
| ARRA | American Recovery and Reinvestment Act |
| B&O | Business and Operational Plan |
| BAA | Business Associates Agreement |
| BCFHCC | Barrio Comprehensive Family Healthcare Center |
| CAH | Critical Access Hospital |
| CDC | Centers for Disease Control |
| CHIP | Children's Health Insurance Program |
| CHOT | Center for Health Organization and Transformation |
| CMS | Centers for Medicare and Medicaid |
| CSSS | Centex Systems Support Services |
| DSHS | Department of State Health Services |
| DISRIP | Delivery System Reform Incentive Payment |
| EDR | Electronic Dental Record |
| EHR | Electronic Health Record |
| FFP | Federal Financial Participation |
| FQHC | Federally Qualified Health Center |
| GHH | Greater Houston HealthConnect |
| HASA | Health Access San Antonio |
| HCCN | Health Center Controlled Networks |
| HHSC | Health and Human Services Commission |
| HIE | Health Information Exchange |
| HIMSS | Health Information Management Systems Society |
| HINSTX | Health Information Network of South Texas |
| HIPSET | Health Information Partnership of South East Texas |
| HISP | Health Information Service Provider |
| HIT | Health Information Technology |
| HITECH | Health Information Technology for Clinical Health Act |
| HRSA | Health Resources and Services Administration |
| ICC | Integrated Care Collaborative |
| IIS | Immunization Information Systems |
| IT | Information Technology |
| LSCC | Lone Star Circle of Care |
| MNC | Member Navigation Center |
| MU | Meaningful Use |
| NCCD | National Center for Cognitive Informatics and Decision Making in Healthcare |
| NHIN | Nationwide Health Information Network. Became NwHIN |
| NIST | National Institute for Standards and Technology |
| NSF | National Science Foundation |
| NTHP | North Texas Health Partnership |
| NwHIN | Nationwide Health Information Network. Now eHealth Exchange. |

| | |
|-----------------|---------------------------------------------------------------------------------------|
| OEHC | Office of e-Health Coordination |
| ONC | Office of the National Coordinator |
| PCP | Primary Care Physician |
| PDMP | Prescription Drug Monitoring Program |
| PdN | Paso del Norte |
| PHI | May refer to either Protected Health Information or Personal Health Information. |
| PHR | Personal Health Record |
| PURE-HIT | Professional University Resources and Education for Health Information Technology |
| REC | Regional Extension Center |
| RGV | Rio Grande Valley |
| RHIO | Regional Health Information Organization |
| SETHS | South East Texas Heath Services |
| SHARP | Strategic HIT Advanced Research Projects |
| STN | Southwest Texas Network |
| TAHP | Texas Association of Health Plans |
| TAMHSC | Texas A&M Health Science Center |
| THIEIDI | Texas Health Information Exchange Infrastructure Development Initiative |
| THSA | Texas Health Services Authority |
| TMA | Texas Medical Association |
| UT-A | University of Texas at Austin |
| UTB | University Based Training Grant |
| UT-SBMI | University of Texas Health Science Center School of Biomedical Informatics at Houston |

5.2 Additional Resources

| Background | |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | State of HIT in Texas, 2009 on the THSA Website |
| | Full text of the American Recovery and Reinvestment Act from the Government Printing Office Website |
| | State Broadband Initiative Program maps on Connected Texas |
| | TMA Member Survey, 2009 |
| | HHSC Annual HIT Practitioner and Hospital Survey Data on the HHSC Website |
| | Dr. Heather C. O'Donnell, Vaishali Patel, Lisa M. Kern, Yolanda Barron, Paul Teixeira, Rina Dhopeswarkar, and Rainu Kaushal, Healthcare Consumers' Attitudes Towards Physician and Personal Use of Health Information Exchange, Journal of General Internal Medicine . 2011. |
| | Catherine L. Anderson and Ritu Agarwal. The Digitization of Healthcare: Boundary Risks, Emotion, and Consumer Willingness to Disclose Personal Health Information. Information Systems Research . 2011. |
| | Larry Goldbergm, Bettijoyce Lide, Svetlana Lowry, Holly A. Massett, Trisha O'Connell, Jennifer Preece, Whitney Quesenbery, Ben Shneiderman, Usability and Accessibility in Consumer Health Informatics: Current Trends and Future Challenges, American Journal of Preventive Medicine . 2011 |
| | Anna M. McDaniel, Debra L. Schutte, and Linda Olson Keller, Consumer Health Informatics: From Genomics to Population Health, Nursing Outlook. 2012. |
| Federal HIT Policy | |
| | CMS EHR Incentive Program Website |
| | ONC Beacon Community Program Website |
| | ONC State Health Information Exchange Cooperative Agreement Program Website |
| | ONC Health Information Technology Regional Extension Centers Website |
| | ONC Strategic HIT Advanced Research Projects Website |
| | ONC Community College Consortia Website |
| | ONC Curriculum Development Program Website |
| | ONC Program of Assistance for University Based Training |
| | ONC Competency Examination Program Website |
| | ONC HIT Policy Committee Website |
| | ONC HIT Standards Committee Website |
| | ONC Certifications Website |
| | ONC Meaningful Use Website |
| | ONC Privacy and Security Policy Website |
| | ONC Enrollment Website |
| | eHealth Exchange and Healthway Website |
| State HIT Policy | |
| | HHSC Circular C-032 on HHSC Website |

| |
|-----------------------------------------------------------------------------------------------------------------------|
| HB 1066, 80th Legislative Session, from Texas Legislature Online |
| Texas Office of e-Health Coordination Website |
| Electronic Health Information Exchange System Advisory Committee on HHSC Website |
| THSA Website, www.HIETexas.org |
| THSA Annual Report on THSA Website |
| THSA Financial Audits on THSA Website |
| Texas HIE Options on THSA Website |
| Texas HIE Interoperability Guidance on THSA Website |
| Texas State-Level Trust Agreement on THSA Website |
| Texas Model Business Associates Agreement on THSA Website |
| University of Houston Health Law and Policy Center |
| Implementing Privacy and Security Standards in Electronic Health Information Exchange on THSA Website |
| Recommendations for Texas Health Information Trust Agreements on THSA Website |
| Strategies for the Electronic Exchange of Minors Health Information |
| Strategies for the Electronic Exchange of Substance Abuse Treatment Records |
| Strategies for Electronic Exchange of Sensitive Health Information: HIV, AIDS and STDs |
| Consent Options for HIE in Texas on THSA Website |
| Primer – Medical Information Privacy Protections in Texas on THSA Website |
| Texas HIE Collaborative Process on HIETexas.org |
| Medicaid Transformation Waiver on HHSC Website |
| HB 1218, 81st Legislative Session from Texas Legislature Online |
| HB 300, 82nd Legislative Session from Texas Legislature Online |
| Title 1, Texas Administrative Code, Chapter 390 on the Texas Secretary of State Website |
| Office of the Attorney General Customer Site on the Office of the Attorney General Website |
| Standards authorization form required under HB 300 on the Office of the Attorney General Website |
| SB 1106, 82nd Legislative Session from Texas Legislature Online |
| Advocacy and Public Interest Groups |
| Texas Health Information Exchange Coalition Website |
| Texas eHealth Alliance Website |
| National HIMSS Website |
| Austin HIMSS Chapter |
| Dallas/Fort Worth HIMSS Chapter |
| San Antonio HIMSS |
| South Central Texas HIMSS Chapter |
| Texas Medical Association’s HIT Website |
| Texas Hospital Association HIT Issues Website |
| Texas Association of Community Health Centers |
| Texas Association of Health Plans |

| |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Texas Organization of Rural and Community Hospitals |
| HIT in Texas |
| TMHP EHR Incentive Program Site Website |
| Texas HIT Incentive Programs Learning Tool, and HHSC Website |
| ONC Meaningful Use Resource Website |
| ONC Regional Extension Center Website |
| West Texas REC Website |
| CenterEast REC Website |
| Gulf Coast REC Website |
| North Texas REC Website |
| Lone Star Circle of Care Website |
| Texas Association of Community Health Centers |
| CommuniCare Health Centers |
| Research and Education Programs |
| National Center for Cognitive Informatics and Decision Making in Healthcare |
| Strategic Health IT Advanced Research Projects Website |
| The University of Texas Health Science Center at Houston Website |
| McCoy AB, Wright A, Laxmisan A, Singh H, Sittig DF. A Prototype Knowledge Base and SMART App to Facilitate Organization of Patient Medications by Clinical Problems. Accepted for AMIA Fall Symposium. 2011. Pub Med . |
| Texas State University PURE-HIT Website |
| University of Texas at Austin PURE-HIT Website |
| University of Texas Health Science Center School of Biomedical Informatics at Houston PURE-HIT Website |
| Texas Health Information Technology Workforce Development Project Website |
| Texas Health Information Technology: Employer Needs Assessment Report, February 3, 2012. PDF. |
| Texas Health Information Technology Project: Long-Term Educational Plan. PDF. |
| Careers in HIT Website |
| Houston Community College System |
| Midland College Health Information Technology Website |
| Dallas County Community College District |
| Center for Health Organization and Transformation (CHOT) Website |
| HIE in Texas |
| ONC State HIE Cooperative Agreement Program Website |
| Texas HIE Strategic and Operational Plans on THSA Website |
| Local HIE Grant Program on THSA Website |
| Local HIE Service Areas Map on THSA Website |
| White Space Program on THSA Website |
| White Space Program Fact Sheet/Q&A and marketing materials on THSA Website |

| |
|----------------------------------------------------------------------------------|
| <u>State-level Operations on THSA Website</u> |
| <u>HIE At-A-Glance Monthly Progress Report</u> |
| <u>FirstNet Exchange Website</u> |
| <u>Greater Houston Health Connect Website</u> |
| <u>Health Information Network of South Texas Website</u> |
| <u>Health Information Partnership of Southeast Texas Website</u> |
| <u>Healthcare Access San Antonio Website</u> |
| <u>iHealth Trust Website</u> |
| <u>Integrated Care Collaboration Website</u> |
| <u>North Texas Accountable Healthcare Partnership Website</u> |
| <u>Pasto del Norte HIE Website</u> |
| <u>Rio Grande Valley HIE Website</u> |
| <u>Rio One Health Network Info sheet on THSA Website</u> |
| <u>Southeast Texas Health Systems Website</u> |
| <u>Texas Immtrac Website</u> |
| <u>Foster Care Health Passport</u> |
| <u>FCC Healthcare Connect Fund Factsheet</u> |