Utah Statewide
Clinical Health Information Exchange 2009

Annual Legislative Report

November 2009

Submitted to: The Utah Legislative Health and Human Services Interim Committee

Required by: Utah Code Title 26 Chapter 1 Section 37. Duty to Establish Standards for the Electronic Exchange of Clinical Health Information, Enacted April 2008

Submitted by: David N. Sundwall, MD, Executive Director, State of Utah Department of Health and
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Utah Health Code §26-1-37 Duty to establish standards for the electronic exchange of clinical health information.

(5) The department shall report on the use of the standards for the electronic exchange of clinical health information to the legislative Health and Human Services Interim Committee no later than October 15, 2008 and no later than every October 15th thereafter. The report shall include publicly available information concerning the costs and savings for the department, third party payers, and health care providers associated with the standards for the electronic exchange of clinical health records.

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Executive Summary

The health care system is at a crossroads. Governor Gary Herbert has made health system reform a priority with a goal that all Utah citizens have health insurance coverage, and in the process assist businesses in Utah to become more successful in reducing their health care costs. There is a synergy in Utah's health reform initiatives. It is widely acknowledged that standardized health information exchange (HIE) will reduce health care cost. The Utah legislature passed key reform measures that promote the use of health information technology (HIT) and HIE to transform the health care delivery system. Recently, the Utah HIT Governance Consortium, lead by David N. Sundwall, MD, the State Health IT Coordinator, formed to coordinate and improve the quality and efficiency of health care applications across the state of Utah under the American Recovery Reinvestment Act (ARRA) of 2009 and specifically the Health Information Technology for Economic and Clinical Health (HITECH) stimulus funds. The robust HIT infrastructure Utah is building will optimize our ability to access accurate information on health care quality indicators, which supports transparency of quality and cost, which can be used for health payment reforms.

Many HIT initiatives in Utah are mature and while Utah enjoys widespread HIE, Utah is moving to advance statewide use of HIT and clinical health information exchange. Utah clinical health information exchange is in pilot in two rural communities; Grand County and Box Elder/Cache Counties. UHIN completed work on six clinical standards and is working on the development of an additional five clinical standards. According to interviews conducted by HealthInsight, an estimated 61 percent of all outpatient primary care practices in Utah now have EHR systems in place. This is more than double the national average Utah's State Clinical HIE Cooperative Agreement Program Strategic and Operational Plans detail Utah's coordinated efforts, planned and currently underway, to promote a sustainable statewide HIE architecture that expands access and electronic services, for improved quality and efficiency and reduced health care cost for all citizens across the state of Utah.

Utah's history of statewide cooperation and regional sharing, executive leadership and legislative reforms, relatively high penetration of Electronic Health Records (EHR) and Hospital Information Management Systems (HIMS) have enabled market-driven HIE. Our major health systems, such as Intermountain Healthcare, have invested years building their HIT systems. These efforts are supported by experts from the University of Utah, Department of Biomedical Informatics, one of the oldest Biomedical Informatics programs in the nation. Utah operates a successful self-sustaining administrative health information exchange through the Utah Health Information Network (UHIN) and the clinical exchange is in pilot stage. Multiple efforts undertaken to assist outpatient practices in adoption and effective use of EHR systems have produced EHR adoption rates much higher than the national average.

UHIN has been a partner with the Utah Department of Health and public health information exchange through the immunization registry and electronic death registration system. The cHIE will strengthen and expand the existing public-private collaboration in HIE and the UDOH will build capacity over the project period for the exchange of clinical information between public health agencies and health care providers to provide improved health care quality and reduced cost for Utah health care consumers.

I. INTRODUCTION

❑ State Legislation for Health Information Exchange and Healthcare Reform

Utah health policymakers acknowledge health information technology (HIT) and health information exchange (HIE) are two driving forces to transform health systems. To ensure that health care reform leads to better health care, the Utah legislature passed the following legislation to improve efficiency and quality of health care and reduce cost:

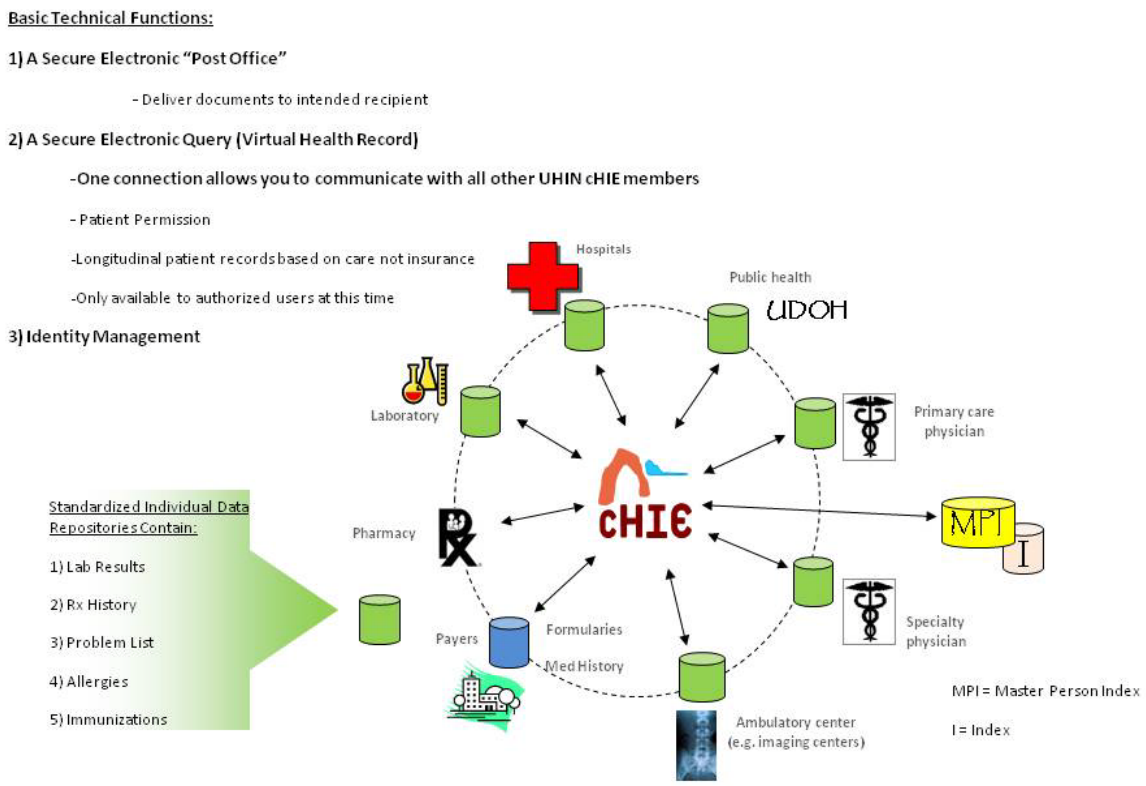
- House Bill 133 Health System Reform Act (2008)
- House Bill 47 Standards for Electronic Exchange of Clinical Health Information (2008)
- House Bill 128 Electronic Prescribing Act (2009)
- House Bill 165 Health Reform – Administrative Simplification (2009)

❑ Clinical Health Information Exchange (cHIE)

Utah's statewide exchange of administrative health data began operations in 1993. In 2004, Utah began to develop the clinical health information exchange (cHIE) to support health care reform. The goal of the Utah cHIE initiative is to create a secure electronic clinical health information exchange (cHIE) network whereby a Utah health care provider can, with patient permission, access basic medical information about their patients no matter where the patient receives care in Utah. Health care providers are not required to participate but may choose the option to participate in the cHIE. Patients and consumers may choose not to participate and may request that their health information not be accessed through the cHIE.

Participation in the cHIE will allow health care providers to have timely, secure and appropriate electronic access to accurate and essential patient health information for treatment purposes, improve the quality of health care (through more informed decision making) and reduce health care cost (through avoidance of duplicative and unnecessary tests and treatments). The cHIE can save money through improved efficiencies in management of health care services by reducing the administrative paperwork and errors between providers and payers. The following diagram describes the cHIE functional architecture and electronic connections.

Utah Statewide Clinical Health Information Exchange: Functional Architectural Diagram



II. Progress in Implementing the Statewide Clinical Health Information Exchange (cHIE) From October 2008 to October 2009

❑ Administrative Rule 380-70 Standards for Electronic Exchange of Clinical Health Information

The most important piece of the cHIE solution is the standards and specifications associated with the cHIE network. The standards and specifications will dictate how the cHIE participants will function and communicate with each other. Utah Department of Health completed the administrative rule-making process and adopted the Utah Health Information Network's proposed standards for Clinical Laboratory Results v2.0 through Administrative Rule R380-70 Standards for Electronic Exchange of Clinical Health Information.

❑ Electronic Commerce Agreement and Information Sharing Addendum

To simplify administration for all members, UHIN utilizes a single electronic commerce agreement (ECA) that all members must sign. The ECA covers HIPAA privacy and security issues and allows the members to avoid having to sign HIPAA Business Associate Agreements with everyone else on the network. The UHIN Legal Committee has updated the ECA and developed a cHIE Information Sharing Addendum to the ECA.

❑ Consensus-based Development of Technical Specifications

UHIN Standards Committee leads the standards development process. To date, the Utah healthcare community has asked UHIN to work on the following clinical information exchange standards.

➢ Clinical Information Standards Completed

These standards have been through the process of development, recommendation to the UHIN Board of Directors, acceptance by the Board and are now being presented for inclusion into State Rule R380-70.

- Standard #52 Chief Complaint Version 2.0
- Standard #54 HL7 Acknowledgement and Error Status Version 2.0
- Standard #61 Discharge Summary Version 2.0
- Standard #62 History and Physical Version 2.0
- Standard #65 Operative Report Version 2.0
- Standard #75 Standardized Laboratory Test Result Identifiers Version 2.0

➢ Clinical Information Standards in Development

The following standards are currently in process or will be start in the near future with an expected completion in 2010.

- Standard #38 Security
- Standard #77 Medication History Request and Response
- Standard #80 Antepartum Record
- Standard #81 Laboratory Orders
- Standard #82 Radiology

❑ cHIE Pilot Implementation in Two Communities: Grand County and Box Elder/Cache Counties

The cHIE technical implementation began in January 2009 in Grand County and Box Elder/Cache Counties.

Grand County. Allen Memorial Hospital is connected to the cHIE to deliver, electronically, lab results to the clinics in the area. Two of the clinics are using the e-lite tool to receive these results for use in their offices. In addition, The Green River Community Health Center is using the e-lite tool to send referrals to Castleview Hospital in Price and St. Mary's Hospital in Grand Junction. UHIN is working with the clinics' electronic medical records system for connection to the cHIE.

cHIE Experiences: changes because of clinical exchange.

Moab is a small community and lab tests performed by the hospital, until recently, have been printed and available for pick up by the local providers. The office manager of one of the clinics would drive and pick up the clinic's tests three times a week. The hospital would send someone to deliver the results the other two days. Now that the hospital is connected to the cHIE, these same tests can be sent electronically. Critical and abnormal results are identified and delivered timely. Short term, the office manager is using the tool provided by the cHIE to access these results while the clinic's EMR system is working to connect to the cHIE. The benefit for her to be able to access these results greatly outweighs the issue of signing onto another system.

The Green River Medical Clinic is the main provider for services along I70 connecting Price and Colorado. They provide urgent and acute services for accidents that occur along this route. Many of these accident victims are transferred to the hospitals in Price or Grand Junction, Colorado. Due to the urgent need to transfer these patients, their medical records are placed with them in the ambulance transport. The problem for the Green River Medical Center has been having their records returned for their files. The clinic is now connected to the cHIE and is able to send medical records and referral instructions to the transfer hospitals electronically. This allows the referral to reach the hospital prior to the patient arriving and ensures that Green River Medical Center's data is retained

Box Elder/Cache Counties. UHIN surveyed all the clinicians to determine readiness. One clinic requested use of the e-lite system and is scheduled for workflow analysis and implementation. UHIN is working with the other clinics' electronic medical records system and the hospitals in the area for connection to the cHIE. In addition, one clinic in Ogden requested use of the e-lite system and is scheduled for implementation.

❑ Develop a Sustainable Business Model

Since its inception, UHIN has operated through membership fees. The UHIN formula for determining membership fees first involved a determination of who receives value for the transaction. In the case of the claim, the board decided that payers received 70% of the value and providers received 30% of the value. The basic idea is that the 'price' of each claim exchanged through UHIN is divided 70-30: each stakeholder group pays for their share of the value received by exchanging that claim. UHIN payers pay a click fee for claims and UHIN providers pay an annual membership fee.

UHIN is not-for-profit. Therefore, as the transaction volume increases we are able to reduce the price for members. The chart below illustrates UHIN's commitment to consistently reduced prices over the years as our administrative transaction volumes have increased.

	2002	2003	2004	2005	2006	2007	2008
Total Claim Transaction Volume (in thousands)	12,454	13,486	13,643	14,068	17,161	22,265	22,492
Price Per Claim	$0.24	$0.24	$0.20	$0.20	$0.17	$0.15	$0.15

UHIN intends to continue with the same business approach to exchange clinical health information through the cHIE. Over the last two years, UHIN has worked closely with clinicians, hospitals and payers, including Medicaid and the state Public Employees Health Plans to build a sustainable business case for the cHIE.

During 2009-2013, UHIN will fully develop and test the proposed cHIE business case with a fee/price structure for all cHIE participating organizations. Negotiation, revision, and compromise is anticipated and expected as part of the normal process to secure a consensus-based business case for cHIE. Early cHIE development and statewide rollout will rely on ARRA funding. To encourage early adoption and cHIE use UHIN will reduce its cHIE membership fees in 2010. It is UHIN's goal that by 2012, UHIN will not be dependent upon federal or state funds to support the core services of the cHIE. If successful, UHIN, as a non-profit entity, will only charge cHIE users to cover the operational costs.

III. The ARRA Health Information Exchange (HIE) Program Application

The Office of the National Coordinator for Health Information Technology (ONC), Health and Human Services as authorized under Health Information Technology for Economic and Clinical Health (HITECH) 2009

announced the State HIE Cooperative Agreement Program, a federal-state collaboration to advance the appropriate use of health information technology to improve quality of care and establish a foundation for health care reform. The Utah Department of Health and the Utah Health Information Network (UHIN), in collaboration with the Utah Health IT Governance Consortium and its 22 statewide organization members support the State Clinical Health Information Exchange (cHIE) Cooperative Agreement Program. The goal of the Utah Statewide cHIE Program is to implement the statewide exchange of clinical health information for improved health care delivery in the state of Utah.

This program will continuously improve and expand HIE services over time to reach all health care providers in an effort to improve the quality and efficiency of health care. State cHIE Cooperative Agreement Program Strategic and Operational Plans detail Utah's coordinated efforts, that will evolve and advance the necessary governance, policies, technical services, business operations and financing mechanisms for HIE over a four year performance period. This program will build off of existing efforts to advance regional and state level HIE and move towards interoperable health care systems. The State of Utah will lead the statewide strategic planning effort to assure proper governance to protect the public interests and patient privacy and coordinate additional resources to develop the clinical HIE; and UHIN, is the state-designated HIE entity, to implement, operate, and sustain the clinical HIE.

❑ Governor Herbert Designates the State HIT Coordinator

Governor Gary Herbert designated Dr. Sundwall the State HIT Coordinator and Utah Department of Health as the accountable agency to coordinate and implement the applications for the Health Information Technology for Economic and Clinical Health (HITECH) Act State Grants to Promote HIT in the Recovery Act of 2009 (ARRA). See Appendix A Governor's Designation Letter for details.

❑ Utah HIT Governance Consortium

The Utah Department of Health organized the Utah HIT Governance Consortium to coordinate ARRA proposals to ensure stimulus funds target Utah's efforts in health reform, economic development, evidence-based assessment and collaboration. See Appendix B Utah HIT Governance Consortium: Vision and Partnership for details.

❑ The State HIT Coordinator Designates the State Health Information Exchange Entity

David N. Sundwall, MD, the State HIT Coordinator, with support of the Utah HIT Governance Consortium, leveraged existing statewide HIE efforts and designated the Utah Health Information Network (UHIN) "to serve as the accountable entity to implement the Operational Plan" submitted with the Utah application for the State Health Information Exchange Cooperative Agreement Program for the Health Information Technology for Economic and Clinical Health (HITECH) Act Section 3013 State Grants to Promote HIT in the Recovery Act of 2009. See Appendix C for details.

❑ Federal-State Health Information Exchange (HIE) Cooperative Agreement (CA) Program

The Utah Department of Health and the Utah Health Information Network (UHIN), in collaboration with and support of the Utah Health IT Governance Consortium and its 22 statewide organization members submitted the State Clinical Health Information Exchange (cHIE) Cooperative Agreement Program.

The vision of the cHIE is to improve the quality of care and reduce the cost of care by "connecting the dots" in Utah. The small number of other successful HIE efforts around the country illustrate that "connecting the dots" – making more complete health information available at the point of service –significantly impact the community including: reduced number of prescriptions[1], reduced cost of care[2], reduced duplicate tests[3], and gaining administrative efficiencies[4] and a reduction in adverse drug reactions[5]. The key advantage to using a cHIE is that it does not matter whether or not the patient has insurance. It only matters that the patient receive care and that the provider giving that care be a participating entity in the cHIE. Therefore, patients without insurance will benefit from coordination of care.

A fully-implemented and efficiently utilized cHIE in Utah will make significant inroads in our goals to reduce the cost of care while improving the quality. A fully operational cHIE could also provide the infrastructure for quality reporting to support quality improvement and health payment reform. UHIN and UDOH are working with many other organizations[6] across Utah to coordinate the cHIE roll out during the course of the state HIE CA program.

The goal of the Utah Statewide cHIE Program is to implement the statewide exchange of clinical health information for improved health care delivery in the state of Utah. The federal HIE funding will enable Utah to achieve the following objectives:

1) Connect a preponderance of healthcare providers - defined as 80% or more of the healthcare entities in the state of Utah - to the clinical HIE to exchange clinical health information for treatment purposes at the point of care ("*Connections*");
2) Expand the clinical HIE services to include electronic prescribing, laboratory ordering and result delivering, and medication history to provide better quality and cost-effective health services and to support providers to meet federal meaningful use requirements ("Expanded HIE Services");
3) Develop a sustainable governance and business model to operate the clinical HIE ("*Sustainability*");

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[1] Report in *Modern Healthcare*, February 18, 2008, Florida Agency for Health Care Administration, "Florida 2007 Electronic Prescribing Report." January 2008
[2] V. Willey, Gregory, "An Economic Evaluation of Use of a Payer-Based EHR within an Emergency Department," *HealthCore*, vol. July, 2006.
[3] T. Matthews, Senior Policy Advisor, Kentucky Cabinet Health and Family Services, "States Make Plans for Health IT to Improve Quality, Lower Costs," The Council of State Governments 2007.
[4] J. Conn, "RHIOs Make It Work," in *Modern Healthcare*, 2006.
[5] M. Kolbasuk McGee, "Why Progress Toward Electronic Health Records is Worse Than You Think," in *InformationWeek*, 2007.
[6] Utah Medical Association, the Utah Hospital Association, the Utah Pharmacists Association, the Utah Nurse Practitioner and Physician Assistant Association, the Association for Utah Community Health, HealthInsight, the American Association for Retired Persons, the Utah Home Health Care Association have actively supported the cHIE.

4) Conduct ongoing strategic planning and evaluation in order to implement initiatives that efficiently use technology to transform the health care delivery system ("Planning and Evaluation"); and
5) Integrate public health data exchange with clinicians to reduce burden on providers, increase timely and completed reporting, and protect population health ("Public Health").

❑ The Statewide Strategic Plan

The State of Utah will lead the statewide strategic planning effort to assure proper governance to protect the public interests and coordinate resources to develop the clinical HIE. The cHIE governance will follow a community-driven, consensus-based non-profit business model that uses an incremental development strategy. The public-private governance model Utah is proposing is a newly articulated concept. Aspects of the model will evolve with the implementation of the State cHIE CA Program. Through the course of the program the HIT Consortium will further define the scope and content of the state's HIE accountability; develop process and procedures to assure accountability; establish procedures for HIE transparency; expand public participation through open meetings, public hearings, public postings; and monitor evaluate and report on progress in fully implementing the cHIE in Utah.

The cHIE is intended to serve Utah residents who have not opted out of the clinical HIE. Individuals/consumers have a choice to participate in electronic HIE and will receive clear notice of the HIE and the ability to opt-out of participation in the statewide exchange. Improvements in Utah's statewide electronic connectivity and interoperability among healthcare providers is expected to result in appropriate and secure clinical health information sharing and improved care coordination and patient health.

Utah will document its efforts and publicly share project publications. Through evidence-based evaluation, we expect to achieve the following outcomes: improved efficiency of the health care delivery system, reduced medication errors, timely and accurate care coordination and better quality care for people of Utah. We also expect to create a private-public collaborative business model, the clinical HIE, and to efficiently use health information technology and exchange to transform today's healthcare delivery system to support national healthcare reform. See Appendix D for details.

❑ The Statewide Operational Plan

UHIN, as the state-designated HIE entity, will implement, operate, and sustain the clinical HIE. UHIN has always rigorously protected all the health data that it transports and it requires that members comply with HIPAA privacy and security regulations and any applicable state laws. UHIN's business plan reflects the character of the Utah healthcare marketplace. All cHIE planning is open and consensus based and represents the Utah provider market and Utah insurer market. UHIN has been working closely with these entities and has secured their support for the cHIE.

In broad terms, the cHIE utilizes secure, federated, database web services architecture. The cHIE solution will handle HIE traffic between health care entities within the State. The patient/consumer makes an informed decision at the point of care about who can access and exchange their information via the statewide HIE. There are entities – Intermountain, the University of Utah Health Sciences Center, Central Utah Clinic, that utilize internal HIE. The cHIE is not intended to replace or supplant that functionality. See Appendix E for details.

IV. CHALLENGES

HIT in and of itself is not the solution. Providers need assistance, both technical and monetary, in building and effectively using their EHR connections to the cHIE. Practicing physicians require the resources and time to acquire/understand the technology, learn how to use it to accomplish what they currently do (i.e., see patients efficiently), and, most importantly, to use it to improve practice and care. However, the current economic and national political landscape challenges providers to balance limited resources among mandated responsibilities and emerging HIE accountability.

To assure long-term commitment, participants need evidence that the cHIE system is providing a benefit whether it is in savings over time (especially payers and policy makers) or improved coordination and care (public). The cHIE begins to align various technical efforts under a unique comprehensive Utah strategy to promote meaningful uses of the implemented HIT among all participating providers for improved health care quality, coordination of care and reduced health care cost.

APPENDICES

A. Governor Herbert's Letter to Designate the State HIT Coordinator
http://health.utah.gov/phi/ehealth/Gov%20Letter.pdf

B. Utah HIT Governance Consortium: Statewide Vision and Partnership
http://health.utah.gov/phi/Utah%20HIT%20Governance%20Consortium_Final.pdf

C. The State HIT Coordinator's Letter to Designate the State HIE Entity
http://www.health.utah.gov/phi/ehealth/Jan%20Roots%20Letter.pdf

D. Utah Statewide Clinical Health Information Exchange Strategic Plan. Adopted, October 12, 2009. Salt Lake City, Utah. http://health.utah.gov/phi/UT_HIE_StrategicPlans_Final_2009.pdf

E. Utah Statewide Clinical Health Information Exchange Operational Plan. Adopted, October 12, 2009. http://health.utah.gov/phi/TU_HIE_OperationalPlans_Final_2009.pdf

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