



**2013 Update to Strategic and Operational Plan for Statewide
HIE in Connecticut**

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Connecticut Department of Public Health

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2013 Update to Strategic and Operational Plan for Statewide HIE in CT

I. Introduction and Background

Purpose of Document

Collaboration between ONC, the Connecticut Department of Public Health, HITE-CT, and other partners in 2010 resulted in the initial State HIE Cooperative Agreement. The Strategic and Operational Plan (S&OP) was approved in 2010 and updated in 2012. This document is intended to inform ONC of Connecticut's plan to sustain Health Information Exchange (HIE) activities going forward—to leverage investments and related statewide initiatives by all partners and to address remaining gaps.

Changes in Health Information Exchange Market

The evolving HIE market at local, state, and national levels, requires us to rethink and make appropriate changes to our S&OP. Initially, many states focused heavily on the acquisition and deployment of a technology model, which has now been replaced by a model focused on initiating and sustaining a point-to-point exchange using Direct Messaging as a first step. Similar changes have played out at the local and state level.

The Health Information Technology Exchange of Connecticut (HITE-CT) is the state-designated authority to enable exchange in Connecticut. HITE-CT was established by legislative mandate effective January 1, 2011 to develop, implement, and monitor state-level Health Information Exchange in order to meet the state's strategic objectives of improved health care outcomes and efficiency through the secure exchange of clinical and administrative health data (Public Act 10-117). HITE-CT's S&OP initially proposed a Utility Model approach for HIE activities in Connecticut. Our HIE market has been slow to develop and has taken a different direction than was originally predicted. There has been a slow emergence of local HIEs. Currently, at least four hospital HIE initiatives are underway. They differ in their level of maturity varying from being in a planning stage to being partially operational, but none are exchanging information across systems. These exchanges are focused on addressing needs of either a local community or the specific organization. We have also talked to a number of hospital CIOs who are contemplating developing local exchanges.

With local HIEs under development, our Utility Model no longer meets the identified needs. As the focus has changed, HITE-CT will terminate its current vendor contract and deliver an approach to achieve widespread adoption of Direct messaging. We believe that HITE-CT's efforts are better directed to:

- Incentivize providers' participation in the HIE
- Establish a market for Direct services
- Develop pilot projects to support public health initiatives and care coordination activities with a focus on state agencies
- Provide a statewide provider directory
- Develop a plan for how additional services such as a query-based exchange will be delivered by assessing market readiness in CT.

II. Current HIE landscape in CT

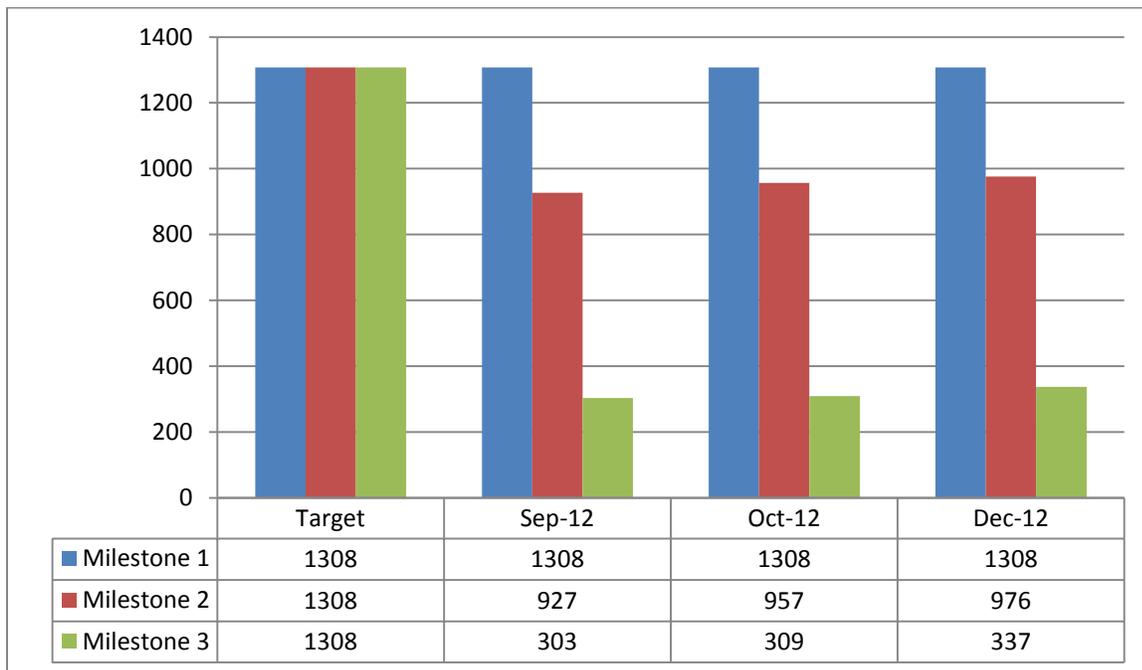
EHR Adoption Rates

Labs Enabled

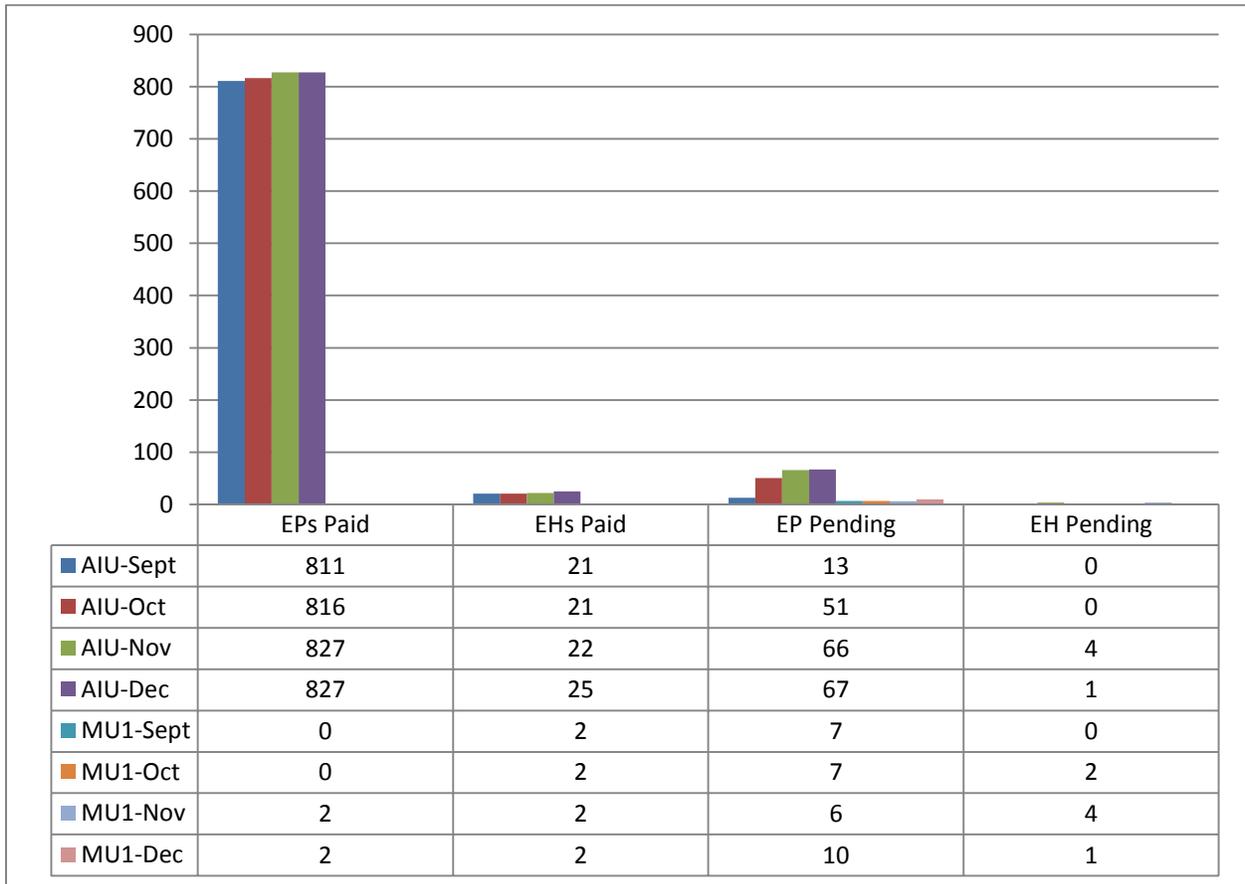
The State of CT has 28 hospital labs and 7 commercial labs. Currently, lab results are reported through a variety of methods, such as paper, CD, etc. By utilizing the Laboratory Interoperability Cooperative (LIC) grant, DPH has been able to establish a connection through Surescripts for facilitating electronic reporting. As of 2/20/2013, DPH can accept HL7 messages from Surescripts. Hospitals still interested in achieving Electronic Laboratory Reporting (ELR) can participate in LIC Services and facilitate real-time electronic data exchange of reportable lab results with public health agencies. It is anticipated that as more and more hospitals and laboratories sign up with Surescripts, the number of entities reporting electronic results will increase. Currently, no hospital has contracted with LIC.

Connecticut’s Process on EHR Incentives

Achievements of Regional Extension Center



DSS payments to Eligible Hospitals and Eligible Providers



Medicare and Medicaid Payments¹

- As of December 2012, Medicare has paid out 1440 EPs and one hospital totaling \$75,860,840 in payments.
- As of December 2012, Medicaid has paid out 927 EPs and 25 hospitals totaling \$40,458,432 in payments.

¹ Source: Interagency meetings and website: http://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/Downloads/Dec_PaymentsbyStatesbyProgram.pdf

Health Information Exchange Environmental Scan

This updated environmental scan is based on the family of surveys conducted to gather baseline data to evaluate the change in exchange activities as a result of establishing HITE-CT.²

Physician Survey

(n=900)

- 51% of the physicians practice in a single-specialty group practice.
- 46% of the physicians practice at one site.
- 54% have a lot of experience using computers.
- 75% of the physicians have good internet access via T-1, broadband cable, or broadband digital lines, though 18% stated that their organization needed additional high speed internet access.
- 62% practice in an office-based outpatient setting and 21% practice in a hospital setting.
- 48% practice in an urban setting.
- 82% of physicians stated that their CIS captured patient demographics.
- 59% of physicians stated that their CIS was capable of e-prescribing. Of those that had access to an e-prescribing system, 79% were sending prescriptions electronically.
- 46% of physicians stated that their CIS was capable of ordering labs.
- 70% of physicians stated that their CIS was capable of viewing labs.
- 38% of physicians stated that their CIS was capable of ordering radiology tests.
- 70% of physicians stated that their CIS was capable of viewing images.
- 48% of physicians stated that their CIS captured medication lists.
- 24% of physicians stated that their CIS was capable of sending them reminders for guideline based interventions and screening. Most physicians believe that EHRs have had a positive impact on their practice in the areas of quality of decision-making (51%); communication with other providers (71%); filling prescriptions (65%); timely access to medical records (89%); and avoiding medication errors (61%). They believe that EHRs have had no impact on communication with patients (49%); delivery of preventive care (49%); and delivery of chronic care (46%).

² <http://cicats.uconn.edu/pdf/bmi/HITECT-Report.pdf>

Pharmacy Survey

(n=60)

- 58.3% of the pharmacies were independent.
- 42% of the pharmacies estimated between 16-50% adoption of e-prescribing in the area.
- 57% of the pharmacies were dispensing between 101-300 prescriptions daily.
- 78% of the pharmacies were enabled for e-prescribing.
- 72% were using standards outlined in the HHS Final Rule.
- 33% were using the NCPDP codes for communication, while 48% did not know what terminology was being used.
- 90% of the pharmacies were using electronic transactions for filling new prescriptions; 80% for filling renewed prescriptions; and 50% for notifying the prescriber.
- 93% of the pharmacies receive prescriptions via fax; 90% of the pharmacies receive prescriptions over the phone; 80% receive requests on paper; and 72% of the requests used the e-prescription system.
- 57% were paying a transaction fees to receive e-prescriptions.
- 68% were not familiar with the Connecticut Health Information Exchange. Most pharmacies believed that e-prescribing had a positive impact on efficiency (82%), patient safety (80%), patient-centered care (63%), effectiveness (75%), equal access to care (53%), and timeliness of care delivery (70%).

Laboratory Survey

(n=66)

- 14 of the 24 hospitals' laboratories completed our survey.
- Fourteen hospital laboratories use CPT codes, one uses LOINC®, and one mentioned other terminology used to code and communicate data. Fourteen hospitals responded that their laboratory systems were HL7-compatible, but none of them could identify the version of HL7 in use.
- When asked about with whom they exchanged data, these hospitals mentioned physicians (14), independent clinical pharmacies (12), physician office laboratories (5), hospital laboratories (4), blood bank laboratories (3), public health laboratories (3), insurance companies (3), no one (2), patients (2), Personal Health Record (2), and electronic health exchange (1).

Emergence of Local Exchanges

The emergence of local HIEs, primarily sponsored by the hospital community is a significant factor that was not predominate when the original plan was developed. Currently, at least four hospital HIE initiatives are underway. Their maturity varies from being in a planning stage to being partially operational. These exchanges will address either a local community or the specific needs of a particular organization. We have also talked to a number of hospital CIOs who are contemplating developing local exchanges. These exchanges will focus on addressing either a local community or the specific needs of a particular organization.

Local exchange efforts include the following. We are in the process of gathering more information as to the planned capabilities and the current state of readiness:

Western Connecticut Health Network: There is an operational HIE in the Danbury area sponsored by Danbury Hospital. This HIE addresses providers in the Danbury area. Danbury Hospital is part of the Western Connecticut Health Network, which services western Connecticut and adjacent areas of New York. It is comprised of Danbury Hospital, New Milford Hospital, and their affiliated organizations. It is anticipated that additional local hospitals may join this network in the future. The HIE, originally started by Danbury Hospital, services local providers that practice at the hospital. We are aware that they may be seeking to change their current HIE vendor, but this has not been substantiated. This exchange has been in various stages of operation for at least 3 years.

Hartford Healthcare: Hartford Healthcare is the second-largest integrated development network in the state. It provides the following services:

- **Acute Care Services** - Hartford Hospital, The Hospital of Central Connecticut, Midstate Medical Center, Windham Hospital)
- **Behavioral Health Services** - The Institute of Living, Natchaug Hospital, Rushford Mental Health Providers
- **Diagnostic Services** - Clinical Laboratory Partners, Open MRI of Southington
- **Home Care** - VNA Healthcare
- **Physical and Occupational Therapy** - Hartford Healthcare Rehabilitation Network
- **Physician Practices** – Occupational Health Network, Hartford HealthCare Medical Group
- **Senior Health** – Central Connecticut Senior Health Services, Connecticut Center for Healthy Aging

This organization encompasses a large area of the central and eastern part of the state. They have had a limited HIE in place for approximately one year. Data in the form of clinical documents is exchanged between Hartford Hospital and Hartford Medical Group. The exchange is integrated into each organization's EHR.

Yale New Haven Health System – This system is made up of Yale New Haven Hospital, Bridgeport Hospital, Greenwich Hospital, and Northeast Medical Group. Together they provide a comprehensive integrated delivery network in the southwest region of Connecticut. They have recently started to deploy the Epic system throughout the network. They also are aware that Epic, alone, will not be sufficient to connect all providers in their region.

Eastern Connecticut Health Network (ECHN) - ECHN services 19 towns in eastern Connecticut. Its service area does overlap with Hartford Healthcare. It is made of Manchester Memorial Hospital, Rockville General Hospital, CorpCare Occupational Health, Evergreen Endoscopy Center, Glastonbury Wellness Center, John A. DeQuattro Cancer Center, Urgent Care of South Windsor, Walden Behavioral Care, and Woodlake at Tolland Nursing and Rehabilitation Center. They have been pursuing HIE

capabilities for at least two years. Their vendor is MobileMD. Currently we do not know how much of the ECHN is using MobileMD.

Other Related Activities at the State Level

SIM Grant - Earlier this year CMS awarded a grant to the State of Connecticut to develop a new model to align the state to a new innovative delivery system, payment reforms, and a robust workforce development program to optimize health.

- The state has convened a multi-stakeholder group that includes public and private, payers, providers and patients to improve and make care health care more efficient.
- HITE-CT is an important partner in this effort as one of the levers of generating efficiency in the delivery of health care.

Integrated Eligibility - In early 2012, the state convened a multi-agency working group under the leadership of the State CIO to tackle the difficult issue of information sharing across state agency lines to better facilitate outcomes. This group, representing DHMAS, DPH, DSS, DDS, DCF and Information Technology has launched a systems and data sharing effort around eligibility rules and sharing of specific case data across pre-defined lines. This exchange of information across agencies is being launched initially between the Health Insurance Exchange and DSS, with Phase III efforts bringing additional agencies into the integrated effort.

Health Technology Work Group - In December 2012, the Health Technology Work Group, which is a sub-committee of the Governor's Health Care Cabinet, issued a paper with specific recommendations around leadership and coordination in the area of health and human services technology. The Work Group paper called for the establishment of a highly placed resource within the government with broad coordination efforts across public and private health technology. The primary role of this resource is to review business and technology plans, to establish steps towards a future state that limits redundancies and maximizes reuse of data and technology assets.

Enterprise IT Investment Fund - In July 2012, the established an Enterprise IT investment fund that recognized the need to make technology investments in a centralized and coordinated manner to obtain the efficiency outcomes needed by the state. This group allocates funding for initiatives that bring efficiency in service areas and also creates capabilities that can be used across multiple agencies. The exchange of health data is a critical, enterprise-wide capability.

PIN PRIORITIES: Quarterly Progress Report (OCT 01 thru DEC 31, 2012)

PIN Area	Target Value Type	Target Value Description	Data Source	Denominator	Current Numerator	Current Value	Target Numerator	Target Value
eRx	%	% of pharmacies actively prescribing	Surescripts	713	642	90.0%	674	95%
eRx	%	% of pharmacies actively prescribing within the SS network	Surescripts	651	640	98.3%	-	-
Care Summary	%	% of physicians sending CCRs/CCDs to coordinate care	Physician survey	898	114	12.7%	224	25%
Care summary	%	% of physicians receiving CCRs/CCDs to coordinate care	Physician survey	898	69	7.7%	225	25%
Care Summary	number	Exchange 80 messages using Direct	HITE-CT	1	0	0	80	
Lab Exchange	number	Have 4 meetings with Quest to explore the feasibility and costs associated with Quest becoming part of the Direct fabric	HITE-CT	4	0	0	4	4
Lab Exchange	number	Meet with DPH at least twice a month to develop a detailed project plan for receiving	HITE-CT	6	0	0	6	6

PIN Area	Target Value Type	Target Value Description	Data Source	Denominator	Current Numerator	Current Value	Target Numerator	Target Value
		lab information						
Lab Exchange	number	Number of labs in the testing stage for reporting via 2.5.1 messaging standard	DPH	36 (7 commercial labs + 28 hospital labs+1 state Lab)	3	8.3%	4	11.4%
Lab Exchange	number	Number of labs in production for reporting via 2.5.1 messaging standard	DPH	36	1	2.7	4	11.4%
Other		% of consumers familiar with EMRs	Consumer Survey	213	181	85.0%		
Other		% of consumers familiar with PHRs	Consumer Survey	213	107	50.2%		
Other		% of consumers familiar with CT HIE	Consumer Survey	213	28	13.1%		
Other		% of consumers interested in EMRs	Consumer Survey	213	110	51.6%		
Other		% of consumers interested in PHRs	Consumer Survey	213	116	54.5%		
Other		% of consumers who support National HIE	Consumer Survey	213	136	63.8%		

Public Health Reporting

Immunization

ARRA funded CT Immunization Registry and Tracking System (CIRTS) web application went into production on April 26, 2012. This system is a statewide population based childhood immunization registry. The legislation for the registry currently limits to age six. The next release in April 2013 will support electronic exchange between DPH and EMR systems that can utilize the PHINMS transport. The number of pediatric and family practice reporting immunization events for children under 3 years via paper is over 450 practices monthly.

There are currently 10 provider sites using this application.

We are currently working with two EHR vendors – Allscripts and Cerner Ambulatory. Both vendors have set up PHIN MS as the transport and will be sending data via their hub to CDC RnR to CT PHIN MS. Both Cerner and Allscripts will be sending real-time data, but Cerner will also have clients that will report as batch. CIRTS is setting up for both methods and both vendors are sending HL7 version 2.5.1 format. CIRTS 2.0 release supports sending data to the registry and returning only HL7 ACK/NAK. All of this work is being funded by CDC IIS--EHR Interoperability Grant as well as technical assistance requests to CDC to provide additional resources.

Laboratory

Laboratory test reporting by laboratories via HL7 version 2.5.1 format is currently under development and testing for three laboratories with the LIMS vendors. The two vendors are Cerner as hospital based LIMS with two locations, Quest as a commercial base LIMS and one RHIO is Western CT Health Network as regional exchange. Cerner is the LIMS system in four additional hospital laboratories once in production. Quest would be expanding to provide additional exchange to their larger out of state testing facilities once in production. Western CT Health Network would be expanded to 1 -2 hospital base laboratories once in production. Currently the number of labs reporting test results for public health reporting in CT is 36. All the laboratories in progress are using PHIN MS as the transport mechanism. All of this work is being funded by CDC ELC Interoperability Grant as well as technical assistance requests to CDC to provide additional resources for LOINC mapping for the state laboratory's LIMS, CDC PHIN MS PHIN MS Support and APHL for the state laboratory.

Department of Public Health (DPH) currently has mandated reporting of 77 diseases both to state and local health departments. The majority of the reporting to public health is paper reporting via fax or regular mail. The data reported ultimately ends in seven or more systems each with business areas own workflow within DPH. All of these interfaces need to be developed to send the appropriate data into each system.

Syndromic Surveillance

In Connecticut, syndromic surveillance systems provided critical information to monitor infectious diseases events and public health emergencies. The Connecticut Hospital Emergency Department Syndromic Surveillance System (HEDSS) was implemented in 2004. The current system is voluntary with 20 of 32 emergency departments and 1 urgent care clinic sending electronic emergency department (ED) patient abstract data to Connecticut Department of Public Health (DPH) on a daily basis. Free-text chief complaints are characterized into syndromes of public health importance to provide near real-time estimates of disease activity, situational awareness, and monitoring of public health emergencies, including pandemic influenza. In addition, all 32 acute care hospitals participate in the Hospital Admissions Syndromic Surveillance System (HASS), a labor-intensive system that was established in 2001 and also allows monitoring of hospital admissions by syndrome category.

DPH is in the process of transitioning to a new syndromic surveillance system which will incorporate the HASS and HEDSS into a single automated system, accept data from all 32 acute care hospitals, and meet Meaningful Use standards for syndromic surveillance as outlined in the PHIN Syndromic Surveillance Messaging Guide. Initially Connecticut had hoped to implement BioSense 2.0 to accomplish these goals, however, is unable to do so due to legal concerns related to the data use agreement. At this time, DPH is evaluating the costs and benefits of improving the existing HEDSS system compared to implementing a low-cost existing system (such as Essence) to meet Meaningful Use. Regardless of which method is chosen, we plan to start implementation and testing this year and begin accepting hospital data during 2014. Future funding will depend on support from Connecticut Cooperative agreements including PHEP and ELC grants.

Other – Cancer Registry

Cancer registry business unit has begun discussions with DPH IT on identifying the business needs, business workflow and what options will be available to begin to move to Stage 2 Meaningful Use. The projected timelines, vendor involvement and identification of external partners and their capability assessment is being developed by the business area.

Other Related Infrastructure Projects

Capability	Status	# of Users
Secure messaging	Every hospital has secure messaging for internal use that is not Direct. HITE-CT is proposing to offer Direct through a marketplace.	Unknown
Provider Directory	Proposed and partial funding requested from CMS through the IAPD requesting 90/10 match	N/A
Statewide MPI	Long-term goal	N/A
All-Payer Claims Database (APCD) and / or other centralized repositories	CT passed legislation in 2012 to start a statewide APCD	Reporting not yet started
Health Insurance Exchange	Open enrollment to begin October 1, 2014	N/A

HITE-CT has initiated discussions with many stakeholders in the state to determine current interest in cross organization HIE. The results are as follows:

Stakeholder	Engagement	Interest
Hospitals	Have interacted with all hospital CIOs through CHA	Low
Hospitals	Beginning interaction with hospital CEO's	Too early to determine
Ambulatory providers	Met with MPS - 1 of the ACOs established in CT	Low
Payers	Preliminary discussions with Cigna and the state	Not explored sufficiently
Behavioral Health	3 meetings with Qualifacts User Group; 1 meeting with Wheeler Clinic, 1 meeting with Community Health Resources	High
Long-term Care	5 discussions with Genesis	High

III. Gap Analysis

From the data above the following conclusions can be drawn. eRx capabilities are fairly well deployed but provider uptake for using ePrescribe could be improved. The vast majority of pharmacies throughout the state are capable of receiving medication orders electronically. From our recent physician survey, 61% of providers have the ability through their EHR to order medications; however, only 42% use it almost all the time. Given the benefits of patient safety and convenience, this is an area that needs to be addressed.

- From our recent physician survey 45% of physicians have the ability to order labs, and 70% can view lab results. However, only 30% order labs and 46% report viewing of lab results most of the time.
- DPH has provided lab-reporting capabilities through Surescripts. Currently this mechanism is not widely used. The provider community has not taken advantage of this or is not yet aware of this capability. As the provider community has diverse technical capabilities, there must be multiple options available to send public health data to DPH. This includes attestation for immunization reporting.
- Attestation for Phase I Meaningful Use immunization reporting is not yet available.
- We have very low numbers of providers exchanging clinical documents electronically. From the most recent survey results, only 13% say they send documents to coordinate care and only 8% say they receive documents.
- Due to major vendor challenges, HITE-CT has been unable to develop and operate an operational HIE. This adversely affects the electronic exchange of clinical documents. This issue is of major concern and is the number one priority. Without a basic HIE network capable of secure point-to-point exchange, it is impossible to address many of the challenges above. These challenges would include alternate methods to send public health data to DPH and better coordinate patient transitions of care among others.
- Connecticut has two operational hospital-based HIEs and two in the planning stage. We are uncertain of the number of providers that will be served by these exchanges. This one-off approach can impact communication across unaffiliated entities. This, again, could be addressed through basic point-to-point HIE services being made available through one entity.

IV. Path Forward to Address Gaps and Assure Statewide Access to HIE

Collaboration Among Partners

Connecticut Department of Public Health

Commissioner Mullen maintains her commitment to the Cooperative Agreement and to the success of the Health Information Technology Exchange of Connecticut. She also supports Dr. Tikoo's role as the State's HIT Coordinator.

The CT Department of Public Health was designated by the Governor's office to apply for the ONC's Health Information Exchange State Cooperative Agreement in 2009. In the past three years, there has been a change in leadership at both the Executive and Department level.

In 2012, Vanessa Kapral was named the Principal Investigator for Connecticut's Cooperative Agreement. With her leadership, the Department of Public Health is realigning its resources to support meeting the public health Meaningful Use requirements. Ms. Kapral has engaged a variety of programs including, but not limited to, Immunizations, Surveillance, and Infectious Diseases with the aim of building capacity, developing a plan consistent in meeting grant requirements, ensuring implementation, and leveraging and maximizing funds to support meeting Meaningful Use requirements.

HIT Coordinator

With these changes, Dr. Minakshi Tikoo was named the State Health IT (HIT) Coordinator. Dr. Tikoo serves as a leader in developing and advocating for policies that support the goals of the statewide HIE. She is responsible for the coordination and working in close collaboration with ONC, the Connecticut Department of Public Health – Connecticut's State Designated Entity, the Connecticut Department of Social Services - State's Medicaid Director, eHealth Connecticut – the Regional Extension Center, HITE-CT, other health leaders, and stakeholders in the government and private health care sectors, as well as other states' HIT Coordinators. Dr. Tikoo is ensuring state agencies and their partners in the statewide HIE initiative work cooperatively with their respective federal partners and other stakeholders to facilitate statewide HIE and to help move providers to meet Meaningful Use.

The State HIT Coordinator resides at the University of Connecticut and is designated by the Commissioner of the Department of Public Health with the Lieutenant Governor's approval. In fulfilling this role as the State HIT Coordinator, Dr. Tikoo is driving the coordination and integration of the HIT/HE related projects funded under ARRA. In her role, she does, but is not limited to, the following:

1. Represents the state at HIT-related functions;
2. Supports planning of HIE services within Connecticut;
3. Coordinates with Medicaid, Public Health and other HIE activities in the state to enable and ensure an integrated, unified approach to HIE, the avoidance of duplication of efforts, and the monitoring of provider participation in HIE as required by the Meaningful Use requirements.
4. Works to leverage and maximize state resources;
5. Fosters cross-program coordination with other ARRA funded and HHS funded programs;
6. Ensures the annual report to ONC addresses statewide HIE alignment with other federal programs;
7. Identifies and facilitates potential interstate partnerships pertaining to HIT/HIE.

The HITE Coordinator has instituted interagency meetings with representatives from DSS, DPH, REC, Capital Community College, and HITE-CT to share ongoing HIT work and explore additional ways to collaborate within the group and with stakeholders.

Medicaid

The state Medicaid Program is part of Connecticut's Department of Social Services (DSS). DSS has and continues to be a principal participant in the state's eHealth program and initiatives. Past commitment to advancing HIT within Connecticut included the Medicaid Transformation Grant in 2007 to implement an e-Prescribing tool to allow Medicaid providers online access to particular patient information (i.e., patient eligibility, preferred drug lists, and medication history) to improve the quality of care, safety, and efficiency.

Currently, DSS has submitted the state Medicaid HIT Plan (SMHP)/ Implementation Advanced Planning Document (IAPD) that will accelerate the development of Medicaid's capacity to facilitate care coordination, improve quality and efficiency, and will be consistent with the broader statewide vision for Health Information Exchange. DSS is working collaboratively with HITE-CT and DPH to produce an implementation strategy for the Medicaid Incentive Payments that leverages existing expertise and ensures the alignment of architecture between agencies.

Multiple coordination activities are occurring with the DSS Medicaid program to develop a coordinated HIT/HE strategy that promotes the use of EHR technology and exchange of health information to help improve the health of individuals and communities. This coordinated strategy is also reflected in the state Medicaid Plan. Specific coordination activities include:

1. Medicaid Director participation on the HITE-CT Board
2. Medicaid staff participation on the HITE-CT Board Committees
3. Project Management Coordination
4. HITECH program alignment, collaboration, and coordination between DSS, DPH, REC, HITE-CT and HIT Coordinator.

Health Information Technology Exchange of Connecticut (HITE-CT)

In June 2010, Governor M. Jodi Rell signed legislation creating the HITE-CT as a quasi-public agency that will take over responsibility for the implementation and management of the statewide HIE from DPH in January 2011. The 20-member Board has established a monthly meeting schedule in which the Lieutenant Governor, a representative of the Office of Policy and Management, and the Commissioners of Public Health, Social Services, Consumer Protection, and the State's Chief Information Technology Officer serve as members.

DPH and DSS are collaboratively working with HITE-CT, with ONC guidance, to develop a strategy to support a statewide exchange. Both DPH and DSS meet separately with HITE-CT staff on a weekly basis. The HIT Coordinator leads a biweekly interagency meeting with the ARRA grantees to enable and ensure an integrated unified approach to HIE development. Additionally, the Commissioners of DSS and DPH are represented on the HITE-CT Board.

The Department of Public Health has an executed contract with HITE-CT in which HITE-CT would do the following:

1. Determine an effective strategy for achieving and operationalizing a statewide health information exchange;
2. Build an organization and administer the agency's programs and activities in accordance with policies and objectives established;
3. Implementation and periodic revisions of the HITE Plan, including the implementation of an integrated statewide electronic health information infrastructure for the sharing of electronic health information among health care facilities, health care professionals, public and private payers, state and federal agencies and patients; and,
4. Develop appropriate protocols for health information exchange.

5. Develop electronic data standards to facilitate the development of a statewide integrated electronic health information system for health care providers and institutions.

The strategies to achieve the aforementioned goals are materially different than as described in the original Strategic and Operational Plan submitted in 2010. As the focus has changed, HITE-CT will terminate its current vendor contract and deliver an approach to achieve widespread adoption of Direct messaging.

eHealthConnecticut – Regional Extension Center

This organization provides services to assist providers in adopting Meaningful Use technology. These include supporting a number of Direct assistance contractors, and providing educational services and provider outreach. They are the customer-facing organization and could provide additional value-added services for various partners.

Other Stakeholders

There are numerous other partners with skills that could be leveraged to provide a more coordinated effort to address HIE issues within the state and beyond. We have had numerous conversations with the CIO group at the Connecticut Hospital Association (CHA). These have certainly provided insight into the technical needs of hospitals with respect to HIEs. CHA also has numerous other forums, such as a CEO forum, Health Information Management Forum, Chief Medical Officer Forum, etc. Capital Community College provides training programs in health care technology. This is important in providing a well skilled labor force to address health information technology needs. The University of Connecticut School of Pharmacy has been supportive of HIE from a research perspective. eRx is a critical concern for HIE adoption and the School of Pharmacy may offer to partner in research efforts concerning eRx. Connecticut has a developing Health Insurance Exchange that will be providing services starting October 1, 2013. We have already met with them on two occasions to discuss mutual concerns.

We have had and continue to peruse possible collaborations with the Rhode Island Quality Institute (RIQI) and HealthInfoNet, Maine's statewide health information exchange. RIQI has a functional query-based exchange, as well as a Direct Marketplace. HealthInfoNet provides similar services. Much can be learned from both these organizations as to how they have spearheaded HIE efforts in their respective states and how they approach issues from a collaborative perspective.

Strategies to Address HIE Gaps

The following tables summarize our approach to meeting identified PIN gaps. Detailed information on some of the individual tactics follows.

PIN Priority: Secure Exchange of Care Summaries

From our most recent physician survey, we found that 12% of physicians can generate a CCD document and only 7% can receive one. These numbers are focused on providers who currently have EHRs. We must also address those providers without EHRs. Creating an environment for the secure exchange of clinical documents is a high priority target. Possible factors effecting low numbers:

- Physician is not adequately trained as to how to receive or send a clinical document
- EHR is not capable of producing or receiving clinical documents

- **The provider has no trading partners who are capable of document exchange.** This is true for providers with EHRs as well as those without

Gap	Strategy to Address	Tactics	Responsible Party	Start and End Date	Targets	Projects Cost
Lack of a widely deployed mechanism for providers to easily exchange clinical data across organizational boundaries.	Lack of HIE services that span organizational boundaries.	Provide a Direct Marketplace in Connecticut through alignment with the Rhode Island Quality Institute Direct Marketplace	HITE-CT – Coordinate RIQI agreement	3/13 – 4/13	30 Days – Signed Agreement	\$7K
		Direct Voucher Program to address needs for HIE services within and between organizations.	-HITE-CT – Creation and deployment of program -REC – Marketing and provider outreach	4/13 – 2/14	30 Days – Vouchers for phase I available 60 Days – Measure uptake and access 90 Days – Measure uptake and access 120 Days – Measure uptake and access 150 Days – Measure uptake and access Vouchers for phase II available 180 Days – Measure uptake and access 210 Days – Measure uptake and access 240 Days – Measure uptake and access	ONC - \$215K

		<p>In conjunction with DSS implement a care coordination project that utilizes real-time ADT data to track high utilizer Medicaid patients</p>	<p>-HIT Coordinator – Manage the project DSS – Fund and initiate the project HITE-CT – provide technology assistance and infrastructure where required.</p>	<p>Timeframe not yet available</p>	<p>120 Days – Early adapter identified, RFP published 150 Days – Vendor selected 180 Days – System live</p>	<p>ONC - \$0</p>
		<p>Medicaid IAPD Grant project</p>	<p>HIT Coordinator – Manage project DSS – Fund project through IAPD grant proposal HITE-CT – Provide technology consulting and support services</p>			<p>ONC - \$0</p>
		<p>Development of a statewide provider Directory. This tactic depends on Medicaid IAPD grant acceptance. Partial funding from that grant (the Medicaid patient portion) will be needed to implement the directory.</p>	<p>-HITE-CT – Develop and manage plan -DSS provide some initial financial support -Stakeholder – Provide data and financial support -REC – Assist in marketing</p>	<p>5/13-12/13 (May vary depending on IAPD funding)</p>		<p>ONC - \$225K</p>

PIN Priority: Lab Exchange

The issue of lab exchange can be viewed from multiple perspectives:

- Providers: From our recent physician survey 45% of physicians have the ability to order labs, and 70% can view lab results. However, only 30% order labs and 46% report viewing of lab results most of the time.
- Public Health reporting and Meaningful Use perspective: We don't currently have well utilized methods in place for lab data exchange. We expect that as the Surescripts option to be more widely used in the future

Gap	Strategy to Address	Tactics	Responsible Party	Start and End Date	Targets	Projects Cost
Methods for exchange of data with DPH for Public Health reporting and Meaningful Use attestation	A comprehensive strategy is needed which allows for multiple ways for providers to electronically exchange lab data with public health agencies. These methods must be well publicized to the provider community.	Utilize the Surescripts Network for ELR Develop a plan to inform providers of the various options for lab exchange Develop a pilot to show how Direct messaging can be used for the transport of immunization data to the immunization registry. This will provide another means for providers to send data to the registry. This same method could be used to transport labs also.	- DPH -HITE-CT – Contract partners, develop plan -DPH – Work with HITE-CT on project -Pilot participants – Provide immunization data via Direct message	5/13 – 1/14	60 Days – Participants Identified 120 Days – MOA signed 180 Days – Go Live	ONC - \$40K
Providers use of lab ordering and viewing capabilities	It is difficult to ascertain why providers are not currently utilizing these features	Conduct a follow-up physician survey in July 2013 to assess change in practices use of CPOE since 2010.	- HIT Coordinator	7/13-9/13	60 Days – Conduct survey and publish results	\$0

Lab Exchange—Electronic Lab Orders

- a. The HORIZON Web Portal (HWP) is an extension of the Actuate Active Portal technology, providing full integration with HORIZON LIMS. The state has modified the Web Portal interface to correspond with the look and feel of the existing state web site. HWP also includes sample receipt acknowledgement and other pre-defined queries for a DPH customer to view sample status and other details about samples in process or those previously reported.

HWP provides advanced “push” technologies, allowing DPH’s customer to order bottles/shipments via the DPH web site, and to submit test requests that can populate Pre-Login (to generate a chain-of-custody form, for example) and facilitate sample accessioning once the samples physically arrive.

In addition the HWP and HORIZON LIMS have a series of reports that allow for the tracking, monitoring and processing status of test orders, samples (once they have arrived), testing status and eventually results availability. Results are primarily delivered or available via two mechanisms or function within the HWP. Final reports or electronic versions of the actual paper copy are available in a Client’s inbox. In addition, database queries can be developed to allow for specific results lookups for specific patients or all based on outcomes they may be interested in, such as significant results.

Both the final report and the output of queries can be saved in several formats such as PDF, MS Word, or MS Excel, Rich Text Format.

At this time the only functionality being delivered to the external client is the delivery of an electronic version of a samples final report. This final report can be saved in the above formats previously mentioned. At this time, there is no plan to roll out additional functionality such as electronic submission of orders of any kind

- b. To meet the needs of CT PHL’s New Born Screening (NBS) requirements, a custom interface was developed that will allow for HL7 message ordering. Consilience Software will use the MAVEN application to submit new orders and updates to existing patient data to CT PHL through an HL7 2.5.1 OML^O21 message. CT PHL will respond with an acknowledgment message (HL7 2.5.1 ORL^O22) and a confirmation of specimen received (HL7 2.5.1 ORU^R01). Finally, after the lab performs the requisite analysis, it will submit results back to MAVEN through HL7 2.5.1 ORU^R01 (RSSC CST020537).

HORIZON LIMS then produces HL7 messages containing laboratory test results for unsolicited testing from the CTPHL and deliver the HL7 data to a messaging integration engine called Rhapsody®. Once in Rhapsody, CTPHL personnel can manage and supplement the data on a case-by-case basis. The data can then be delivered to a variety of surveillance programs based on specific requirements. Currently this data is only delivered directly to the Maven/NBS application that is used by 34 state-wide birthing centers.

HORIZON LIMS produces an HL7 message based on the ORU^R01 message specifications for v2.6. An open HL7-MSG schedule is created for each specimen. The HL7 Daemon package executes on a

scheduled basis and processes all open HL7 schedules. If there is no HL7 data required, the HL7-MSG schedule is simply closed. Otherwise, the required data is queried and stored in the HORIZON HL7 Data Tables. The HL7 Daemon runs on scheduled intervals and fetches data from the HL7 Data Tables and creates the ORU^R01 v2.6 messages. The messages are transmitted to Rhapsody via a TCPIP port. Receipt acknowledgements are received from Rhapsody once the data is received.

A series of Utilities, reports and processes have been incorporated into the workflows that allow for monitoring orders placed, acknowledgements received, results sent. These reports and processes are used on a daily basis to ensure all communications, orders, acknowledgements and results messages are working correctly. These same reports and processes can be used to quantify and monitor performance as well.

Current transport methods in production:

- CDC PHIN MS using either CDC's RnR hub or APHL's RnR hub with 3 external partners
- CT DPH can support the exchange of reportable lab events utilizing Laboratory Interoperability Cooperative (LIC) grant through Surescripts. This method transports HL7 messages through PHIN MS using either CDC's RnR hub from the Surescripts hub as of 2/20/2013. Currently there are no hospital labs in CT that have been identified who wish to participate and facilitate real-time electronic data exchange of reportable lab results with DPH.
- Secure FTP with 21 hospital emergency departments for submitting syndromic surveillance data daily, Lead Blood level, HIV, Lyme disease data in non-HL7 format from some hospital and commercial laboratories with manual effort on business areas to consume the data.

Current development:

- Secure FTP with 21 hospital emergency departments for submitting syndromic surveillance data daily with Pilotfish to automate the transform, validate and data extraction for upload into system reducing the manual effort on business area. All of this work will be leverage to the Direct and web services as communication route change with all the transformation, validation and data extraction process remaining the same. All of this work is being funded by CDC ELC Interoperability Grant as well as technical assistance requests to CDC to provide additional resources for LOINC mapping for the state laboratory's LIMS, CDC PHIN MS PHIN MS Support and APHL for the state laboratory.
- Stage 1 Meaningful Use Automated Testing Portal using Pilotfish would be accessed by practices or their vendors on their client's behalf and hospital laboratories or their vendors on the laboratory's behalf to complete Stage 1 test as well as HL7 message formatting and any or all validation business rules. This testing will include sending information in as well as the acknowledgments (pass and failures) back to the sender. These systems need to handle the handshake portion as well. DPH is currently developing and will publish guides for HL7 formats version 2.5.1 specific for CT as well as any coding to support laboratory and immunization data. All of this work is being funded by CDC ACA IIS-EHER Interoperability Grant and some funding HIE Grant as well as technical assistance requests to CDC to provide additional resources for LOINC mapping for the state laboratory's LIMS, CDC PHIN MS PHIN MS Support and APHL for the state laboratory.

Current planning stage for development within next year:

- HITE-CT and CT Department of Public Health (DPH) are working collaboratively on the proposed Direct solution and proposed vendors. DPH is working on developing the solution to enhance the ability to receive and consume Direct messages as they relate to Meaningful Use for public health reporting measures. The current solutions above in development will be leverage to the Direct as communication route change with all the transformation, validation and data extraction process remaining the same. No funding has been identified to date for this work but is planned as part of CT DSS IAPD that is targeted for DPH work.

- **Web Services**

CT DPH participates on the American Immunization Registry (AIRA) Web Service and Real-Time Data Exchange workgroup. CT DPH will begin to development on a SOAP web service solution after CIRTS 2.0 production release in April 2013. This solution will work for all public health reporting measures for Stage 2. This production implement will be hosted at CT Dept. of Administrative Service/Bureau of Enterprise Systems and Technology (DAS/BEST) infrastructure in East Hartford for external access over the internet. This will require that the solutions meet state standards for security and software lifecycle process.

DPH is currently developing and will publish guides for HL7 formats version 2.5.1 specific for CT as well as any coding to support laboratory and immunization data. All of this work will be leverage to web services as communication route change with all the transformation, validation and data extraction process remaining the same. All of this work is being funded by CDC IIS-EHR Interoperability and PHEP Grant.

PIN Priority: ePrescribe

Although the deployment of eRx capabilities in pharmacies is very high, the numbers of medication orders sent electronically is lagging. The electronic transmission of medication is a key for patient safety and convenience. Issues as to why providers don't use this capability need to be addressed.

Gap	Strategy to Address	Tactics	Responsible Party	Start and End Date	Targets	Projects Cost
We have identified that providers are not using the ePrescribe capabilities they have as often as they could.	Resolving this gap will require an outreach effort to providers. In order to properly focus this effort, additional information must be gathered to determine reasons why providers don't take advantage of existing ePrescribe capabilities.	We will look at our most recent evaluation to see if there is information we can use to develop a provider engagement plan to address this issue. If more questions need to be added to the current survey, we will do that in preparation for our next survey.	-HITE-CT and HIT Coordinator	3/13 – 6/13	30 Days – Examine survey results	ONC - \$0
		We will work with the REC on identified issues to have them engage their provider customer base.	-REC – engagement plan	5/13 – 10/13		ONC - \$0
		Evaluate survey results after outreach performed.	-HITE-CT, HIT Coordinator	TBD		ONC - \$0

Detailed Tactic Implementation Plans

Establish a Direct Marketplace for Connecticut – Partnership with RIQI

HITE-CT has closely monitored the development of the ONC-sponsored Direct initiative. It is not in HITE-CT's best interest to provide Direct services as part of our service offering based on the following factors:

- Financial modeling shows that operating this service would contribute little, if any, to HITE-CT's sustainability.
- Growing competition within the Direct service vendor market will further reduce operational margins.

Given the need for Direct services in the state, HITE-CT will participate with the Rhode Island Quality Institute's (RIQI) Direct Marketplace. We will sign an MOU with RIQI for a period of one year at which time we will re-evaluate our relationship. RIQI was the first state to establish a marketplace and is considered a thought leader in this area. Through this already established marketplace, we will be able to offer a selection of "pre-approved" Direct service vendors to Connecticut providers. All vendors are evaluated on technical adherence to Direct standards, products and services offered, and participation in the national Direct project and the Rhode Island Trust Community.

This relationship is advantageous to HITE-CT in the following ways:

- RIQI is supportive and willing to work with Connecticut to leverage their marketplace.
- The marketplace is already established and saves HITE-CT the time required to establish a Direct Marketplace.
- The current vendors in the RIQI marketplace are experienced on a national level and provide a rich set of value-added services for those providers who are interested.
- RIQI staff is providing all administrative functions (at a cost,) so HITE-CT will not have to hire additional resources.
- Rhode Island is a border state to Connecticut. This relationship will foster future initiatives around interstate HIE.

Additionally, we will continue to explore other opportunities for collaboration with other New England states for leveraging their mature infrastructure and contractors to sustain HIE efforts. We have been in conversations with Maine and are requesting exploratory conversations with Massachusetts.

High Level Implementation Steps:

Implementation Steps	Responsible Party	Completion Date
Initiate discussion plan with RIQI	HITE-CT, RIQI	3/14/2013
Discuss plan with HITE-CT Board	HITE-CT	3/5/2013
Approve plan (HITE-CT Board)	HITE-CT Board	4/5/2013
Marketplace available for CT providers	HITE-CT, RIQI	4/8/2013
Create a joint HITE-CT/RIQI press release	HITE-CT, RIQI	4/8/2013

Expected Costs of Tactic:

Item	Costs
Legal (Review of marketplace documents)	\$7,000
Projected Total Costs	\$7,000

Measurement Metrics:

- Successfully reached agreement with RIQI

Voucher Program for Direct Services

As part of a *Capacity-building approach*, many states have successfully initiated voucher programs for providers to purchase Direct services for a limited time period. HITE-CT will initiate a voucher program to target provider groups that will defray some or all of the costs for the purchase of Direct services from our Direct Marketplace approved vendors. This initiative will focus on creating a “network effect” within the provider community. The network effect is a recognized pattern of exponential growth where the value of participation in the network increases exponentially compared with the cost of participation. To achieve the desired outcome, the network must reach a critical mass and have the correct mix of participants. Vouchers will cover up to one year of service. Since funding is limited, vouchers will first be offered to specific provider groups. These include hospital emergency departments, Federally Qualified Health Centers (FQHCs), VNAs, Long Term Care Providers, and behavioral health providers. From our initial assessment, these groups would benefit from Direct services and help establish a baseline for further network growth. In addition, the FQHCs, some VNAs, and a number of behavioral health providers have expressed interest in being early adopters.

The program will allow a set number of voucher slots for each provider group. There will be specific requirements around the number of care summary/lab/eRx documents that must be transmitted to other providers via Direct messaging. HITE-CT will conduct multiple rounds of funding as finances permit. Round One will provide funding to the aforementioned groups. We will examine the results of Round One funding and, if necessary, identify additional funding programs, which may be open to other potential participants.

We have examined how other states have implemented this type of program for its provider community. Results have varied, but generally, just providing the vouchers without any formal engagement program has not been successful. The delivery of these services will include a marketing and stakeholder engagement plan jointly developed by HITE-CT and the REC.

The following outcomes are expected from this initiative:

- Initiation of a Direct messaging network in Connecticut
- Increase in number of care summary documents exchanged
- Possible provider workflow enhancements
- A conduit for public health reporting through Direct messaging

High Level Implementation Steps:

Implementation Steps	Responsible Party	Completion Date
Approve voucher program	HITE-CT Board	4/2/2013
Modify DPH MOU	DPH, HITE-CT	4/9/2013
Develop voucher requirements for first offering	HITE-CT	4/9/2013
Work with REC on marketing, distribution, and training	REC	4/9/2013
Voucher program 1 and marketing available	HITE-CT, REC	5/6/2013
Monitor changes in clinical document transmissions	HITE-CT	10/15/2013
Develop voucher requirements for second offering	HITE-CT	8/16/2013
Voucher program 2 and marketing material available	REC	10/15/2013
Monitor changes in clinical document transmissions after second offering	HITE-CT	2/2/2014

Expected Costs of Tactic:

Item	Costs
First offering of vouchers (Approximately 750 providers)	\$150,000
Second offering of vouchers (Approximately 250 providers)	\$50,000
RIQI administration costs (\$15/per application – Costs based on complete uptake)	\$15,000
Projected Total Costs	\$215,000

Measurement Metrics:

- Number of vouchers for phase I issued at 30, 60, 90, and 120 days
- Number of providers who accepted phase I voucher and have complied with requirements (exchanging clinical documents)
- Percent of providers signed up for phase I by REC at 30, 60, 90, and 120 days
- Number of clinical documents exchanged via Direct from phase I vouchers at 30, 60, 90, and 120 days
- Number of vouchers for phase II issued at 30, 60, 90, and 120 days
- Combined phase I and II increase in clinical document transfer post phase II at 30, 60, 90, and 120 days

Demonstration Project: A Hospital or IDN to Send Immunization Data to State Immunization Registry via Direct Messaging

The method for transmitting immunization data for Meaningful Use Stage 2 certification is still under examination by DPH. Since all MU Stage 2-certified EHRs must be able to send and receive Direct messages, it would be logical to leverage that capability for other purposes as well. An increasing number of EHR vendors are

capable of sending structured data in CCD (Continuity of Care Document) format via Direct messaging. Given that the immunization data is part of the transmitted CCD, this would allow for the extraction of the data, transformation into an appropriate format, and delivery to DPH for inclusion in the statewide immunization registry. It should be noted that the CCD is the preferred format, but not the only format for transmission. We will also provide capabilities to receive data in HL7v2 format.

Demonstrating this capability has potential advantages:

- Presumably, providers with MU Stage 2-certified EHRs could take advantage of this service with little or no extra effort or cost.
- It could lead to more providers using Direct service, thus increasing the utility of Direct messaging in the state.
- Hospitals should be able to utilize this by leveraging existing interface capabilities.
- This pilot will serve as a model for the transmission and processing of data for other public health reporting (e.g., syndromic surveillance) and possibly other HITE-CT service offerings.

High Level Implementation Steps:

Implementation Steps	Responsible Party	Completion Date
Identify pilot participant(s), (hospital(s), and or community provider(s))	HITE-CT, HIT Coordinator	5/22/2013
Collaboratively finalize approach with DPH, pilot participant(s) and HITE-CT	HITE-CT, HIT Coordinator, DPH, Pilot Participant(s)	7/10/2013
MOU between parties	All	8/28/2013
Legal review of MOU by HITE-CT lawyer	HITE-CT	9/18/2013
All participants deploy required technology	All	10/30/2013
Execute pilot	All	12/4/2013
Publish results to stakeholder community	HITE-CT	1/5/2013

Expected Costs of Tactic:

Item	Costs
Legal review	\$4,000
Direct accounts for 1 year for pilot participants (HITE-CT, DPH, 3 participants)	\$1,000
Software development costs for participants	\$35,000
Additional software development costs for DPH beyond current grant funding	\$0
Projected Total Costs	\$40,000

Measurement Metrics:

- Number of participant(s)
- Number of immunization records sent to DPH by pilot participant(s)
- Signed MOU with DPH
- Signed MOU with Pilot Participants(s)
- Cost to pilot participants for software development

Care Coordination Project Utilizing Real-time Admission and Discharge Information

Understanding how patients utilize the health care system in near real time is an important tool for case coordinators. This is especially true for high utilizer patients. We will work with the Department of Social Services (DSS) to provide near real-time information on admissions and discharges from care sites for an identified group of high utilizer Medicaid patients. The information will be provided to case coordinators designated by DSS. As opposed to current practices, the data will be available in near real time. This will allow the case coordinator to intervene on a patient's behalf at an earlier point in the care continuum. We expect this will lead to a reduction in overall cost. Initially, we will specifically track patients identified as high utilizers. If this proves successful, we hope to expand the scope to additional Medicaid patient populations and allow for the exchange of clinical documents between care providers and case coordinators.

Our objective is to focus on appropriately reducing the overall cost of care for Medicaid high utilizer patients. We will alert case coordinators in near real time as to where/when a patient is utilizing the health care system. This will allow case coordinators to take more timely action on a patient's behalf, which should help to improve the quality of care and reduce overall cost.

The following are assumptions:

- Costs for this project will be funded by DSS.
- We will track high-utilizer Medicaid patients, which will be identified in advance by DSS.
- Collaboration from hospitals and possibly large provider organizations is required.
- DSS will assist in bringing partners to the project.
- Care coordinators will be identified by DSS; we will work with them to develop an alerting workflow.
- We intend to use Direct messaging for the transport of HL7 ADT messages.
- Initially, the number of collaborating organizations will be small. If we are successful, additional patient groups and participating organizations may be added. The intention is to have five hospitals participate.
- The evaluation time period for the project is six months after initial go-live.

Expected outcomes of this initiative are:

- Reduction in cost of care for the patient population group through early intervention
- Additional network effect for Direct messaging through the inclusion of additional Direct users participating in this project

High Level Implementation Steps:

Implementation Step	Responsible Party	Completion Date
Approve Care Coordination Project	DSS Commissioner	4/10/2013
Form project team and define roles	HIT Coordinator	5/22/2013
Identify high utilizer group	DSS	5/8/2013
Identify partner hospitals and/or other providers	HITE-CT, HIT Coordinator	6/26/2013
Sign MOU (partners)	DSS, Partners	7/31/2013
Deploy technology	HITE-CT, Partners	10/9/2013
Go-live	All	10/16/2013
Provide initial outcome report to DSS	HIT Coordinator	4/16/2014

Expected Costs of Tactic (Costs paid by DSS):

Item	Costs
Direct accounts 1 year for pilot participants (DSS, 5 participants)	\$1,200
Software development costs for 5 participants	\$60,000
Additional software development costs for DSS (may include message transformation, portal for viewing, etc.)	\$100,000
Software development costs for HITE-CT	\$40,000
Projected Total Costs	\$201,200

Measurement Metrics:

- Cost of care for high utilizer patient before
- Cost of care for high utilizer patient after
- Number of care interventions by care coordinators
- Number of admission and discharge messages sent

Medicaid IAPD Project

The Department of Social Services (DSS) under the guidance of the State HIT Coordinator has developed and submitted an IAPD proposal to CMS. The proposal focuses on four initiatives:

- 1. Providing Direct messaging capabilities to Medicaid providers.** The plan calls for some funding to support Direct messaging for Medicaid providers on a first-come first-serve basis.
- 2. Developing a statewide provider directory, initially including Medicaid providers.** Funding is being sought to develop a statewide directory of Medicaid providers with enhanced capabilities that will serve as the basis for a statewide provider directory. The proposal would provide for some resources to maintain the data integrity and technology to support that effort.

3. **The development of a patient portal for a limited number of Medicaid patients.** Funds are being sought to develop a patient portal for a limited pilot group of Medicaid patients, which assists patients in being able to view, download, and transport their health information to their providers. The funding would provide technology, patient outreach, and training support.
4. **Building clinical data exchange capabilities between service organizations and the health care provider community at large in support of better transition of care.** One such example is the use of CCDs for Long Term Care (LTC) coordination. LTC costs are a major cost driver for DSS. This initiative would provide funding to develop more effective and efficient transfer of important clinical information as Medicaid patients transition from various care settings into and out of LTC settings.

This proposal is under review at CMS at this time. A response from CMS is expected within the next two months. As part of this IAPD grant, HITE-CT would provide services to manage and deploy some or all of the required technology. This is important to HITE-CT in the following ways:

- This project provides additional dollars for Direct messaging deployment. Combined with planned HITE-CT initiatives around Direct messaging, this will further increase the number of providers connected with Direct.
- This project could fund some part (the Medicaid contribution) of the provider directory initiative (See Section: *Development of a Statewide Provider Directory under Changes to Technology*).
- HITE-CT **could** be compensated for services as part of this plan.

Development of a Statewide Provider Directory

The information contained in a provider directory has broad use among many clinical and non-clinical applications across the health care enterprise. The information can be used to enhance the clinical workflow (contact information), enhance the user interface (user friendly names and titles), and ensure identity (digital certificates). The provider directory is a critical component of HIE. Properly developed and maintained, it offers multiple purposes. The provider directory could serve as an authoritative source for provider information, a statewide Direct address repository, and a resource for licensure information, among other uses. Initially, the hospital community has indicated an interest in this service. Further discussion needs to take place to develop a detailed proposal.

There is a possibility that some funding for this project could be obtained through DSS as part of their CMS IAPD grant funds (see Medicaid IAPD Project above). One of the proposed initiatives detailed in the IAPD grant is to provide DSS with an accurate provider directory. HITE-CT intends to populate the provider directory from multiple sources, both public and private. Incoming data will be automatically analyzed to produce a “Single Best Record” (SBR) from all incoming feeds. This will be coupled with a self-service portal for providers to update their information and for staff to manage the process. The combination of these processes will result in high quality provider information—exactly what DSS is looking for.

This is an important project for the following reasons:

- An authoritative source of detailed and broad provider information is lacking in the state.
- Although many organizations have provider databases, the quality of the data in any single source is in question.
- Well-maintained data will allow organizations and providers to more easily and accurately communicate with one another.
- This is a valuable service to the provider community, as it is costly to keep up.
- It could serve as a revenue source for HITE-CT.
- The data also has numerous secondary uses that many companies, such as large national provider database vendors, would pay for.

Initial Uses Cases Supported:

- Authoritative source provider directory is used to feed “cleaned” data to state Medicaid provider database.
- A provider needs to look up information to refer a patient to another provider.
- A patient wishes to contact a provider.
- The DPH wishes to send out an alert to providers.

High Level Implementation Steps:

Implementation Step	Responsible Party	Completion Date
Garner stakeholder commitment	HITE-CT	7/24/2013
Identify stakeholder requirements	HITE-CT, Stakeholders	7/24/2013
Identify early adopters	HITE-CT	8/21/2013
Publish an RFP for services	HITE-CT	9/25/2013
Select vendor and implement technology	HITE-CT	10/30/2013
Work with early adopters to develop a usable system	HITE-CT	1/22/2014
Partner with the REC for marketing of the Directory to additional customers and a possible supporting role	REC	11/20/2013

Expected Costs of Tactic (First Year):

Item	Costs
Legal	\$10,000
Software	\$180,000
Hardware	\$6,000
Initial implementation	\$10,000
Maintenance (paid after year 1)	\$40,000*
Hosting	\$24,000
Additional staff	\$85,000
Marketing	\$10,000
Projected Total Costs Year 1	\$325,000

**Maintenance costs are not included in Year 1 costs*

Measurement Metrics:

- Number of early adopters identified

Change to Strategies for ePrescribe

From our recent physician survey, 61% of providers have the ability through their EHR to order medications; however, only 42% use it almost all the time. This is a difficult area to address, as we are unsure of the reasons why providers choose not to leverage existing ePrescribe capabilities. We will address this issue in the following manner:

- Re-examine current survey results in detail to look for reasons why providers don't use ePrescribe when it is available to them.
- Work with the REC to address their provider community on this issue.
- Re-evaluate the next survey results.

High Level Implementation Steps:

Implementation Step	Responsible Party	Completion Date
Examine current survey results	HITE-CT, HIT Coordinator	5/22/2012
Work with REC to address their customer base	REC	6/2013 – 9/2013
Re-evaluate the results of the next survey	HITE-CT, HIT Coordinator	TBD

Expected Costs of Tactic (First Year):

Item	Costs
Projected Total Costs	\$0

Measurement Metrics:

- Study complete
- Outreach plan implemented
- Changes in providers using ePrescribe accessed at appropriate survey period

Summary

Our HIE market is still maturing. There are many unanswered questions in the minds of our stakeholders with respect to the sustainability of HIE efforts and the value proposition. As we learn more, we are better able to address these concerns and make appropriate changes to our state HIE strategy. Currently, all efforts are focused on establishing a Direct marketplace, which gives all providers a mechanism to exchange health care information. The absence of widespread HIE services that cross organizational boundaries has been a single deterrent to our success. This has impacted the exchange of care summaries, which in turn impacts coordination of care and many other workflow improvements which could be realized. For the last year of the grant, our primary focus will be on delivering Direct messaging capabilities to the market.