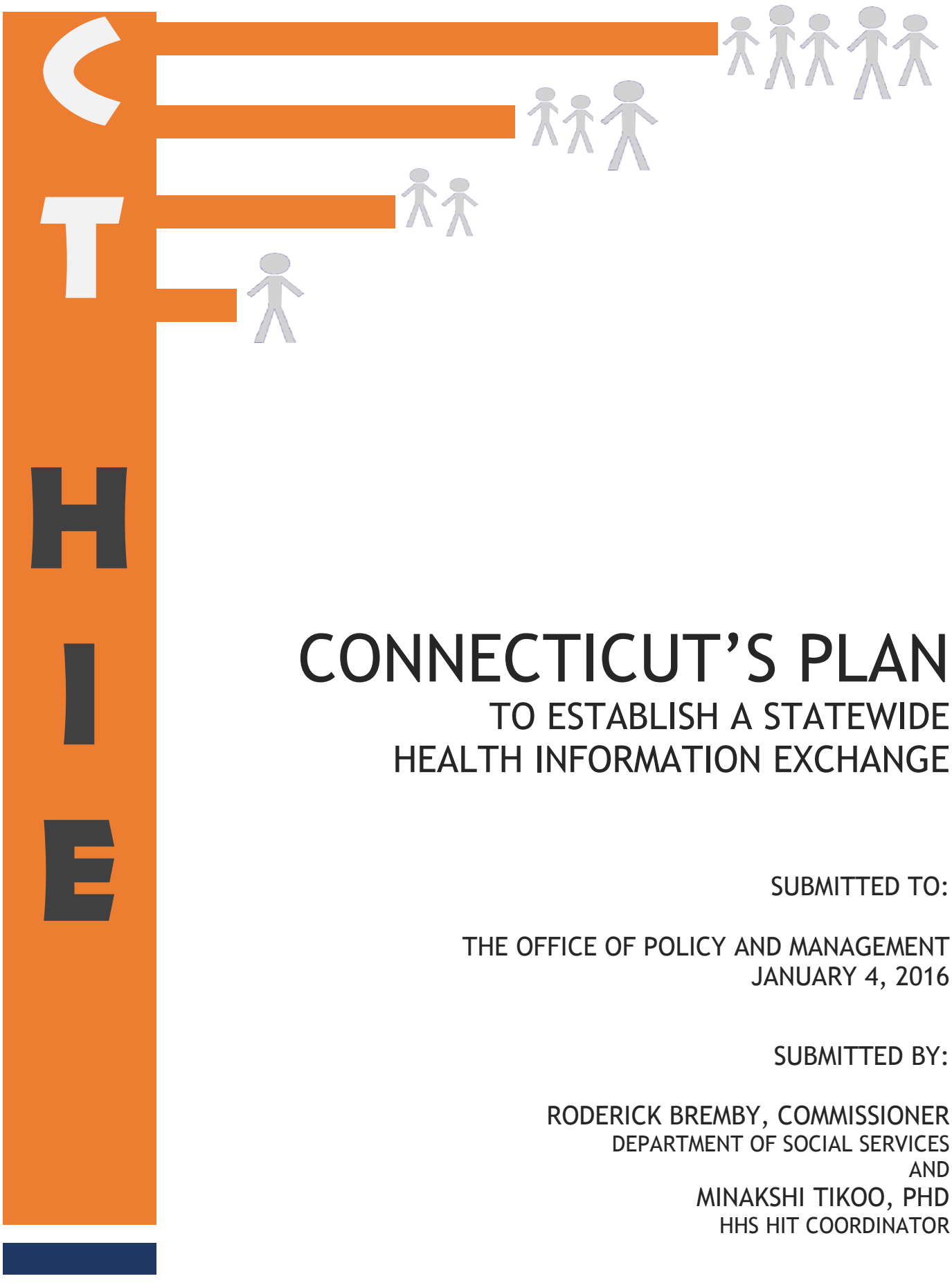



# CONNECTICUT'S PLAN
## TO ESTABLISH A STATEWIDE HEALTH INFORMATION EXCHANGE

SUBMITTED TO:

THE OFFICE OF POLICY AND MANAGEMENT
JANUARY 4, 2016

SUBMITTED BY:

RODERICK BREMBY, COMMISSIONER
DEPARTMENT OF SOCIAL SERVICES
AND
MINAKSHI TIKOO, PHD
HHS HIT COORDINATOR

DRAFT

# Brief History

| | |
|---|---|
| 2007 | CMS awards $5.0M to DSS implement Medicaid HIE and eRx system |
| | June 2007 **– DPH to develop a statewide Health IT Plan (PA 07-2)** |
| 2009 | Feb. 2009 – ARRA enacted |
| | Jun. 2009 – DPH lead HIT agency and forms HITEAC (PA 09-232) |
| | Jul. 2009 – DPH publishes CT Health IT Plan |
| | Oct. 2009 – DPH establishes HITEAC |
| 2010 | **Apr. 2010 – ONC awards $7.29M to DPH to create a statewide HIE** |
| | Jun. 2010 – HITE-CT created (PA 10-117) |
| | Sep. 2010 – DPH submits Strategic and Operational Health IT Plan to ONC |
| 2011 | Jan. 2011 – HITE-CT begins operation |
| 2014 | Jun. 2014 – HITE-CT is sunset (PA 14-217) |
| | Jul. 2014 – DSS responsible for state Health IT Plan development (PA 14-217) |
| | Dec. 2014 – CMS awards $45M to OHA for the State Innovation Model; **$10.7 M earmarked for Health IT and 1.9 M in state bond funds** |
| 2015 | **Jul. 2015 – PA 15-146 enacted- DSS authorized to develop & implement a statewide HIE.** |
| | Aug. 2015 – DSS releases Health IT Governance Plan (PA 14-217) |
| | Aug. 2015 – First Advisory Council meeting |

Acronyms used:

CMS – Centers for Medicare and Medicaid Services
DSS – Department of Social Services
HIE – Health Information Exchange
eRx – Electronic Prescribing system
DPH – Department Public Health
ARRA – American Recovery and Reinvestment Act
ONC – Office of the National Coordinator for Health Information Technology
HITE-CT – Health Information Technology Exchange of Connecticut
OHA – Office of the Healthcare Advocate

DRAFT

# Table of Contents


Executive Summary ..... 1

Establishing a Statewide Health Information Exchange ..... 3
- Public Act 15-146 ..... 3
- What are Health Information Exchanges? ..... 3
- Health Information Exchange Models ..... 4
- Connecticut's Health IT Framework ..... 5
- Connecticut's Health Information Exchange Model ..... 6
- Why invest in Health IT Infrastructure and a statewide HIE? ..... 8
- What are successful statewide HIEs doing? ..... 8
- What challenges does a state face when building an HIE? ..... 9

Connecticut's Statewide HIE Vision and Goals ..... 10
- Vision ..... 10
- Goals ..... 10

Connecticut's Legislative Requirements for HIE Governance ..... 12
- Designation of Responsibilities ..... 12
- HIE Features and Functionality ..... 14

Implementation and Operations ..... 17
- Legislative Requirements for Procuring HIE Services ..... 17
- Legislative Requirements for Participating in HIE ..... 18
- Who must submit data to the HIE? ..... 18
- Operational Considerations ..... 18
- Planning, Design and Implementation of the HIE ..... 20
- Operations Management of the HIE ..... 21
- Public Investment and Sustainability ..... 21

Recommendations and Next Steps ..... 22
- Timeline of the RFI/RFP Process ..... 22

Appendices ..... 23
- Appendix A – Public Act 15-146 (Sections 20-26) ..... 23
- Appendix B: The Federal Health IT Governance and Strategic Plan ..... 31
- Appendix C: Connecticut's Health IT Landscape ..... 33
- Appendix D: HIE Characteristics ..... 36
- Appendix E: Statewide Health IT Advisory Council Members ..... 39
- Appendix F: Complete List of Ranking of Features and Functionality by Advisory Council Members ..... 41
- Appendix G: Preliminary Draft Conceptual Budget Narrative and Budget ..... 43


DRAFT

# Executive Summary

Public Act 15-146 *An Act Concerning Hospitals, Insurers, and Health Care Consumers*[1] ("Public Act") authorizes the Department of Social Services (DSS) to develop and implement a statewide Health Information Exchange (HIE) with advice from the 28-member State Health Information Technology Advisory Council ("Advisory Council").

The Public Act requires the DSS Commissioner submit a plan to establish a statewide HIE to the Secretary of the Office of Policy and Management (OPM) on January 1, 2016. The plan outlined in this document describes the governance structure envisioned for a statewide HIE, incorporates the state's legislative requirements for features and functionality, leverages the state's existing Health IT assets, provides a Health IT framework, and highlights a number of implementation and operational considerations.

This document provides a resource for everyone to review the range of possible choices, from the type of HIE model that best aligns with the Public Act's vision, to methods for securing consumer input, and implementation approach. Ultimately, these choices will need to align with the reality of the approved final budget.

## Health Information Exchange

HIE is the electronic movement of health information between at least two entities with data transfers based on nationally recognized standards. The potential benefits of having an operational statewide HIE are:

- Improved patient care coordination and, as a result, a better quality of life for citizens;
- Reduction in unnecessary tests, procedures;
- Reduction in medical error and missed diagnosis; and
- Opportunities for improved quality reporting, public health surveillance, and cost reductions for both public and private payers.

Connecticut citizens will benefit from an HIE that allows people to engage in their health care and assists providers in delivering a higher quality of care while reducing costs. An HIE for the entire state can enable improvements in health care quality and efficiency.

[1] CT Public Act 15-146, §20-27, *An Act Concerning Hospitals, Insurers, and Health Care Consumers*, 2015. https://www.cga.ct.gov/2015/act/pa/pdf/2015PA-00146-R00SB-00811-PA.pdf.

This is Connecticut's third attempt to establish statewide HIE, and it is important that we incorporate the lessons learned from those prior attempts in our current planning. While HIEs have been elusive, adoption of certified electronic health records (EHRs) has flourished. Currently, all hospitals and about 80% of the physicians in our state are using certified EHRs. Certified EHRs at a minimum have to allow a person (patient) to view, download, and transmit their health information. Statewide HIE will provide a mechanism to securely and electronically move clinical information between and among EHRs and other disparate systems, when and where it is needed. Consumer-mediated exchanges empower people to take charge of their health information, which is both prudent and fiscally sound policy.

## VISION

There shall be established a State-wide Health Information Exchange to empower consumers to make effective health care decisions, promote patient-centered care, improve the quality, safety and value of health care, reduce waste and duplication of services, support clinical decision-making, keep confidential health information secure and make progress toward the state's public health goals.

It is important to note that the Public Act's legislative mandates were minimally funded for state fiscal year 2016 and 2017 budgets. As a result, this plan outlines two approaches for establishing and implementing a statewide HIE; incremental and "big bang". An incremental approach establishes core and add-on services over time, using an "integrator approach" and is projected to cost $3.11 million for SFY16-17. A turnkey solution would cost at least $9.7 million annually. The projected costs in the plan budget are based on review of what successful and sustainable statewide HIEs are doing today.

There is currently an estimated gap of $2.46 million between funds allocated to establish a statewide HIE and our projected budget. The funding gap must be closed in order to fulfill legislatively mandated requirements, and more importantly, to improve health care for the people of Connecticut as envisioned in the Public Act. Previous attempts to establish a statewide HIE never came to fruition in part because of lack of stakeholder buy-in and lack of identified revenue sources. Once approved by the Secretary of the Office of Policy and Management, this plan will guide the DSS as it implements the statewide HIE.

**Above all we have kept our focus on the person and the value proposition as seen by a citizen.**

# Establishing a Statewide Health Information Exchange

## Public Act 15-146

The 2015 Connecticut General Assembly passed Senate Bill No. 811 authorizing the Commissioner of the Department of Social Services (DSS) to administer a statewide Health Information Exchange (HIE). The resulting PA15-146 also establishes a 28-member state Health IT Advisory Council.

> *"Sec. 25. (NEW) (Effective July 1, 2015) (a) There shall be a State Health Information Technology Advisory Council to advise the Commissioner of Social Services in developing priorities and policy recommendations for advancing the state's health information technology and health information exchange efforts and goals and to advise the commissioner in the development and implementation of the state-wide health information technology plan and standards and the State-wide Health Information Exchange, established pursuant to section 21 of this act. The advisory council shall also advise the commissioner regarding the development of appropriate governance, oversight and accountability measures to ensure success in achieving the state's health information technology and exchange goals."* [See Appendix A for Public Act 15-146].

This document meets one of the requirements of Public Act 15-146; the development and submission of a plan to fund and implement a statewide HIE to the Secretary of the Office of Policy and Management (OPM).

> *"Notwithstanding the provisions of subsection (d) of this section, if, on or before January 1, 2016, the Commissioner of Social Services, in consultation with the State Health Information Technology Advisory Council, established pursuant to section 25 of this act, submits a plan to the Secretary of the Office of Policy and Management for the establishment of a State-wide Health Information Exchange consistent with subsections (a), (b) and (c) of this section, and such plan is approved by the Secretary, the commissioner may implement such plan and enter into any contracts or agreements to implement such plan" (Section 21 e).*

## What are Health Information Exchanges?

As with most health Information technology solutions, there are multiple definitions of HIEs. The basic feature of HIEs is the electronic movement of health information between at least two entities with data transfers based on nationally recognized standards.

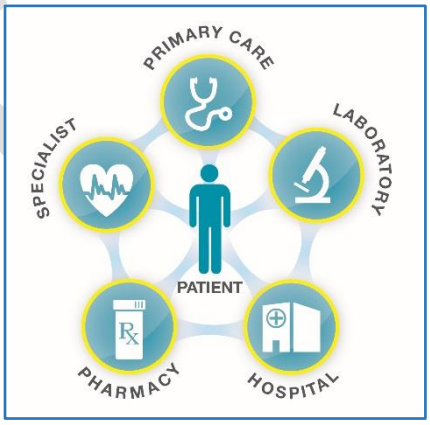
The US Health Resources and Services Administration (HRSA) defines HIEs as "…the electronic movement of health-related information among organizations according to nationally recognized standards. The goal of HIE exchange is to facilitate access to and retrieval of clinical data to provide safer, timelier, efficient, effective, equitable, patient-centered care. Health information exchange organizations (HIOs) provide the capability to electronically move clinical information between disparate health care information systems while maintaining the meaning of the information being exchanged. HIOs also provide the infrastructure for secondary use of clinical data for purposes such as public health, clinical, biomedical, and

DRAFT

consumer health informatics research as well as institution and provider quality assessment and improvement. Most HIOs currently are regional health information organizations (RHIOs)[2]."

The Healthcare Information and Management Systems Society (HIMSS) states, "HIE provides the capability to electronically move clinical information among disparate healthcare information systems, and maintain the meaning of the information being exchanged. The goal of HIE is to facilitate access to, and retrieval of, clinical data to provide safe, timely, efficient, effective, equitable and patient-centered care. The term "HIE" can mean either the verb (the electronic exchange of health-related data) or the noun (organizations dedicated to the secure exchange of health-related data)[3]."

The Office of the National Coordinator for Health Information Technology (ONC) presents an operational definition, stating that, "HIE allows doctors, nurses, pharmacists and other health care providers to securely share a patient's vital medical information electronically—reducing the need for the patient to transport or relay their medical history, lab results, images or prescriptions between health professionals. Instead, this information is shared between health care providers before the patient arrives for an appointment or goes to the pharmacy to pick up a medication[4]."




Source: ONC website[4]

# Health Information Exchange Models

According to the ONC, there are three HIE models in use today, namely the directed exchange, query-based exchange, and the consumer-mediated exchange. Common across all HIE models is the foundation of standards, policies and technologies. The following definitions of HIE models are presented verbatim from the ONC webpage.[5]

## Directed Exchange

Directed exchange is used by providers to easily and securely send patient information—such as laboratory orders and results, patient referrals, or discharge summaries—directly to another health care professional. This information is sent over the internet in an encrypted, secure, and reliable way amongst health care professionals who already know and trust each other, and is commonly compared to sending a secured email. This form of information exchange enables coordinated care, benefitting both providers and patients. For example:

- A primary care provider can directly send electronic care summaries that include medications, problems, and lab results to a specialist when referring their patients. This

[2] Health Resources and Services Administration, http://www.hrsa.gov/healthit/toolbox/RuralHealthITtoolbox/Collaboration/whatishie.html, downloaded on 12/7/2015
[3] (HIMSS, http://www.himss.org/library/health-information-exchange?navItemNumber=16135, downloaded on 12/7/2015
[4] ONC, https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie, downloaded on 12/7/2015
[5] https://www.healthit.gov/providers-professionals/health-information-exchange/what-hie, downloaded 12/7/2015.

information helps to inform the visit and prevents the duplication of tests, redundant collection of information from the patient, wasted visits, and medication errors.

Directed exchange is also being used for sending immunization data to public health organizations or to report quality measures to Centers for Medicare and Medicaid Services (CMS).

### Query-Based Exchange

Query-based exchange is used by providers to search and discover accessible clinical sources on a patient. This type of exchange is often used when delivering unplanned care. For example:

- Emergency room physicians who can utilize query-based exchange to access patient information—such as medications, recent radiology images, and problem lists—might adjust treatment plans to avoid adverse medication reactions or duplicative testing.
- If a pregnant patient goes to the hospital, query-based exchange can assist a provider in obtaining her pregnancy care record, allowing them to make safer decisions about the care of the patient and her unborn baby.

### Consumer-Mediated Exchange

Consumer-mediated exchange provides patients with access to their health information, allowing them to manage their health care online in a similar fashion to how they might manage their finances through online banking. When in control of their own health information, patients can actively participate in their care coordination by:

- Providing their health information to others
- Identifying and correcting wrong or missing health information
- Identifying and correcting incorrect billing information
- Tracking and monitoring their own health[6]

## Connecticut's Health IT Framework

Connecticut's Health IT framework[7] [See Figure 1] is built upon the 2012 recommendations of the Health Technology Workgroup of the Connecticut Health Care Cabinet[8] and the 2013 Health IT Strategic and Operational Plan.[9] Connecticut's Health IT Framework aligns with the Federal Health IT Framework [See Appendix B]

This framework is driven by a *person-centric* focus and follows the premise that Health IT supports the needs of health care systems via information that supports the business practices. The ultimate goal is better health outcomes for people. The health care delivery system is built

---

[6] Claudia Williams, Farzad Mostashari, Kory Mertz, Emily Hogin and Parmeeth Atwal. From The Office Of The National Coordinator: The Strategy For Advancing The Exchange Of Health Information. Health Affairs, 31, no.3 (2012):527-536.

[7] Department of Social Services, Connecticut HealthIT Strategic and Operational Plan: Developing a shared vision for governance, August 2015.

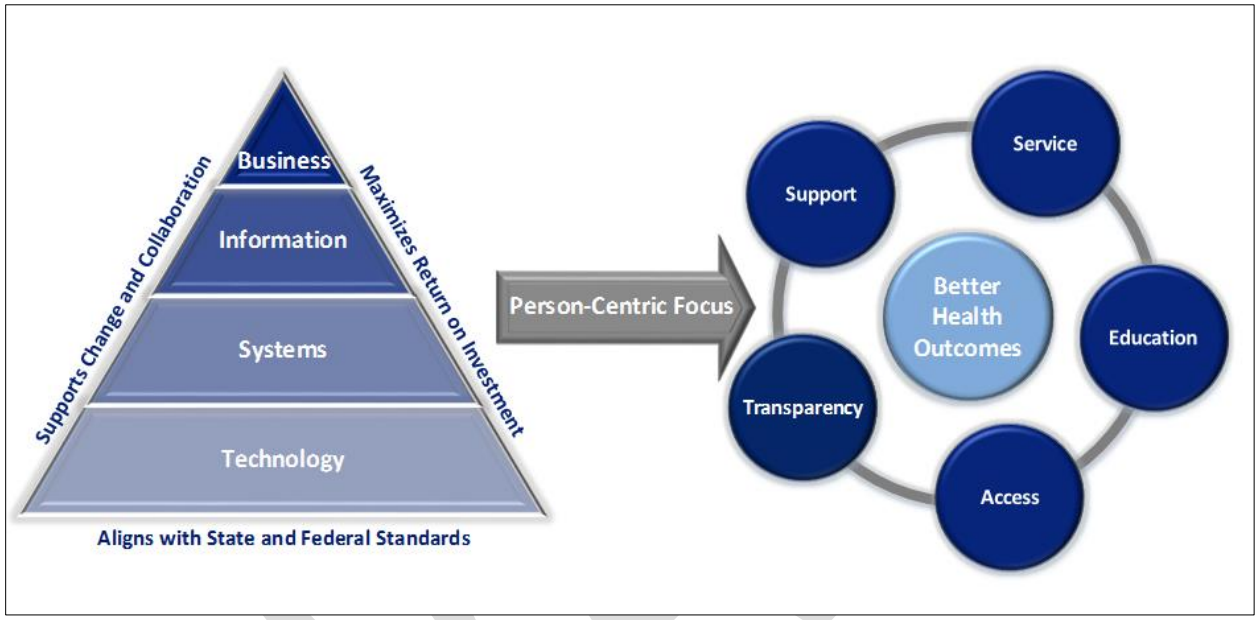
[8] *Integrating Connecticut's Health Information Technology: A White Paper prepared by the Health Technology Workgroup of the Connecticut Health Care Cabinet*, August 29,2012.

[9] Department of Public Health, Update to Strategic and Operational Plan for Statewide HIE in Connecticut, February 28, 2013.

with the aim of improving access to services, educating and informing people, better services and supports, and a transparent system of care. Lastly, the Health IT infrastructure that supports this framework needs to align with state and federal standards that support change and collaboration while maximizing return on investments.

Once Connecticut's HIE effort has identified and secured sustainable funding, next steps would be to implement a statewide HIE.

**Figure 1: Connecticut's Health IT Framework**




# Connecticut's Health Information Exchange Model

Currently, all hospitals and about 80% of the physicians in our state are using certified EHRs. Additionally, these EHRs are certified and are expected at a minimum to provide mechanisms for a person (patient) to "view, download, and transmit" their data. Empowering people to take charge of their health information is not only prudent but also fiscally sound policy. [See Appendix C for information on rates of health IT adoption among physicians and exchange of health care information].

As Health IT has matured over the years, the concept of "person-centered" healthcare has also emerged. This concept embraces the value of consumer as active partner in health care decisions. This shift is evident in the Public Act's vision of consumer empowerment, as the federal vision for Consumer eHealth.[10] Consumer empowerment is vital to improving health, health care outcomes, and patient experience in Connecticut.

[10] ONC Issue Brief: Using Health IT to Put the Person at the Center of Their Health and Care by 2020, Jan. 10, 2014. https://www.healthit.gov/sites/default/files/person_at_thecenterissuebrief.pdf

## Connecticut's Consumer Perspective on HIE

**ONC's vision for Consumer eHealth**

"*The power of each individual is developed and unleashed to be active in managing their health and partnering in their health care, enabled by information and technology*."

Based on a Connecticut resident survey completed in 2013, 54% of the participants described their health as excellent or very good, 89% of participants were satisfied with the care they received from their doctor or physician's assistant and 87% of participants said they understood what their doctor said to them during their last visit.[11] When asked about their views on the use of health information technologies in improving care, 83% of participants had heard about EHRs, 72% supported a national HIE that was driven by patient consent, and 64% expressed support for an "opt-in" while 21% supported "opt-out" consent model. These survey results, and Connecticut's vision to empower consumers to make effective healthcare decisions aligns strongly with a consumer-mediated exchange model. The consumer-mediated exchange gives patients access to their health information, allowing them to manage their health care online in a similar fashion to how they might manage their finances through online banking.[6] It also addresses challenges that currently inhibit HIEs, such as:

- Privacy and consent – consumers control their own data and establish their own privacy policy;
- Provider liability – consumers provide their own health information;
- Data correctness and identity management – consumers identify and correct wrong or missing health information; and
- Sustainability – depending on the model selected no centralized warehouse is needed.[12]

### Question to Consider

**Which HIE model empowers Connecticut consumers?**

A. Directed Exchange

B. Query-based Exchange

C. Consumer-mediated Exchange

[11] Tikoo M, Costello D. Evaluating Connecticut's Health Information Technology Exchange: Consumer Survey Report. Farmington, CT: University of Connecticut Health Center; 2014.

[12] Cimino, James, Frisse, Mark, Halamka, John, Sweeney, Latanya, Yasnoff, William. Consumer-mediated health information exchanges: the 2012 ACMI debate

DRAFT

# Why invest in Health IT Infrastructure and a statewide HIE?

The Health Information Technology for Economic and Clinical Health (HITECH) Act aims to "improve health care and make it patient-centric through the creation of a secure, interoperable nationwide information network. A key premise is that information should follow the patient, and artificial obstacles – technical, bureaucratic, or business related – should not be a barrier to the seamless exchange of information." HIEs are an essential component in the evolving state and national health care landscape. Potential benefits of a statewide HIE include:

- Improved patient care coordination;
- Better health outcomes;
- Reduction in unnecessary tests and procedures;
- Reduction in medical error;
- Opportunities for improved quality reporting and public health surveillance; and
- Cost reductions for both public and private payers.

A reliable and secure statewide HIE, supported by Health IT infrastructure will benefit the citizens of Connecticut as well as assist providers in delivering better care while reducing costs. HIEs allow people to be informed and engaged in their health care. Consumer engagement will play a critical role in the adoption of HIEs and in its potential to generate lasting improvements in the health care system.[8] Unless consumers are willing and able to participate in HIEs, the expected gains to the health care system may never be realized despite billions of dollars in government investments.

# What are successful statewide HIEs doing?

Almost all states have implemented HIEs, at least once. With the exception of a few states, HIEs are struggling financially. HIEs in Maine, Michigan, Colorado and Ohio are demonstrating success at multiple levels[13] [See Appendix D for a summary of state HIE characteristics]. The following characteristics are shared among HIEs that are successful:

- Identify a clear value proposition;
- Have a customer base that is willing to pay for HIE services;
- Plan their operations, policies, and service offerings;
- Articulate a clear business plan;
- Have policy and stakeholder support;
- Have operating budgets; and
- Offer basic services, such as:
    - Direct Secure Messaging (point-to-point communication),
    - Alert notifications, and
    - Care coordination services.

[13] http://www.healthcare-informatics.com/article/top-ten-tech-trends-survivor-edition-hie-can-statewide-hies-achieve-sustainability

DRAFT

## What challenges does a state face when building an HIE?

The single most cited cause of failure for statewide HIEs is the lack of sustainable funding. Of the 400 HIEs that were initiated in the last decade, only 143 remain active today due to multiple factors ranging from infrastructure challenges to technical issues, none of which incorporate the role for the patient.[14] This is an ever-changing landscape.

According to Dr. Swafford, an HIE consultant, "HIEs are struggling to stay operational in the face of dried up funds from the federal and state government as well as other sources. Some are surviving and some are perishing[15]." There is a tension between the public and private interest as health care data is made transparent and consumers are truly empowered. The challenge is in defining value from fundamentally different public and private benefit perspectives.

**"HIE is hard, HIE sustainability is really hard"**

Richard Swafford, PhD
2015 HIMSS Conference

Connecticut has had its own challenges in establishing a statewide HIE. The first two attempts were largely federally funded. The current initiative, mandated by the Public Act received $650,641 in state funding for SFY 16-17.

### Question to Consider

**How will Connecticut fund a statewide HIE?**

A. State general funds
B. Bond funds
C. Fees generated by health plans, hospitals, large IPAs, Medicaid, FQHCs
D. All of the above (will need to ascertain a formula)

DRAFT

[14] Kadry, B., Sanderson, I.C. & Macario, A. (2010). Challenges that limit meaningful use of health information technology. *Curr Opin Anaesthesiol, 23*(2), 184-92.
[15] 2015 HIMSS Conference. http://www.healthcare-informatics.com/article/hie-hard-hie-sustainability-really-hard

# Connecticut's Statewide HIE Vision and Goals

## Vision

**The Public Act cites the following vison for the statewide HIE:**

*"There shall be established a State-wide Health Information Exchange to empower consumers to make effective health care decisions, promote patient-centered care, improve the quality, safety and value of health care, reduce waste and duplication of services, support clinical decision-making, keep confidential health information secure and make progress toward the state's public health goals (Section 21(a).***"**

## Goals

**The Public Act cites the following goals for the statewide HIE:**

*"It shall be the goal of the State-wide Health Information Exchange to:*

1. *Allow real-time, secure access to patient health information and complete medical records across all health care provider settings;*
2. *Provide patients with secure electronic access to their health information;*
3. *Allow voluntary participation by patients to access their health information at no cost;*
4. *Support care coordination through real-time alerts and timely access to clinical information;*
5. *Reduce costs associated with preventable readmissions, duplicative testing and medical errors;*
6. *Promote the highest level of interoperability;*
7. *Meet all state and federal privacy and security requirements;*
8. *Support public health reporting, quality improvement, academic research and health care delivery and payment reform through data aggregation and analytics;*
9. *Support population health analytics;*
10. *Be standards-based; and*
11. *Provide for broad local governance that (a)Includes stakeholders, including, but not limited to, representatives of the Department of Social Services, hospitals, physicians, behavioral health care providers, long-term care providers, health insurers, employers, patients and academic or medical research institutions, and (b) Is committed to the successful development and implementation of the State-wide Health Information Exchange (Section 21 b)."*

These goals can be organized by Donabedian[16] principles of structure, process and outcomes and are guided by the following definitions:

> "Structure denotes the attributes of the settings in which care occurs. This includes the attributes of material resources (such as facilities, equipment, and money), of human resources (such as the number and qualifications of personnel), and of organizational structure (such as medical staff organization, methods of peer review, and methods of reimbursement).

[16] Donabedian A.JAMA. **1988**;260(12):1743-1748. doi:10.1001/jama.1988.03410120089033. Downloaded 12/8/2015

DRAFT

Process denotes what is actually done in giving and receiving care. It includes the patient's activities in seeking care and carrying it out as well as the practitioner's activities in making a diagnosis and recommending or implementing treatment.

Outcome denotes the effects of care on the health status of patients and populations. Improvements in the patient's knowledge and salutary changes in the patient's behavior are included under a broad definition of health status, and so is the degree of the patient's satisfaction with care."[13]

**Table 1: Connecticut's HIE goals classified using Donabedian quality of care model**

| Structure | Process | Outcome |
|---|---|---|
| Provide patients with secure electronic access to their health information | Allow real-time, secure access to patient health information and complete medical records across all health care provider settings | Reduce costs associated with preventable readmissions, duplicative testing and medical errors |
| Promote the highest level of interoperability | Allow voluntary participation by patients to access their health information at no cost | Support population health analytics |
| Meet all state and federal privacy and security requirements | Support care coordination through real-time alerts and timely access to clinical information | Empower consumers to be active participants in their health care |
| Be standards-based | | Support public health reporting, quality improvement, academic research and health care delivery and payment reform through data aggregation and analytics |
| Provide for broad local governance | | |

# Connecticut's Legislative Requirements for HIE Governance

The Public Act outlines a governance structure for the statewide HIE, including responsibilities of DSS, and the roles of the Advisory Council and the Office of Policy Management (OPM).

## Designation of Responsibilities

### Role of Department of Social Services (DSS)

The Pubic Act assigns DSS the administrative authority over the statewide HIE and the DSS Commissioner the Chair of the Advisory Council. Specifically, the Commissioner, in consultation with the Advisory Council, shall develop and issue a Request for Proposal (RFP) for the development, management and operation of the HIE as well as to oversee the development and implementation of the statewide HIE. The Commissioner shall coordinate the state's Health IT and HIE efforts to ensure consistent and collaborative cross- agency planning and implementation and serves as the state liaison to work with the HIE and ensure consistency between the Health IT Plan, the HIE and to support the state's Health IT goals.

The Public Act also requires the DSS Commissioner, in consultation with the Advisory Council, to report to the General Assembly on the status of the Health IT plan, data standards, establishment of the HIE and recommendations for policy, regulations, legislative changes and other initiatives to promote the state's Health IT and HIE goals. Further, it requires the DSS Commissioner present any proposals or documents seeking federal grants, matching funds or other federal support for Health IT or HIE to the Advisory Council for its "review and comment".

### Role of Health IT Advisory Council

The Public Act mandates appointments to a 28-member Advisory Council be made no later than August 1, 2015, that the first meeting be held on or before September 1, 2015, that the DSS Commissioner schedule the first Advisory Council meeting by August 1, 2015, and that the Advisory Council select a second chairperson from among its members that is not a state official. The Public Act also requires the Advisory Council meet at least three times prior to January 1, 2016. The Advisory Council has met four times in 2015 – August 20th, October 15th, November 19th, and December 17th. As of December 2015, six appointments to the council remain outstanding. [See Appendix E for council members and meeting schedules]. The current structure of the Health IT Advisory Council is depicted in Figure 2

Section 25 of the Public Act states the Commissioner, with advice from the Council, shall *"develop appropriate governance, oversight and accountability measures to ensure success in achieving the state's health information technology and exchange goals."*

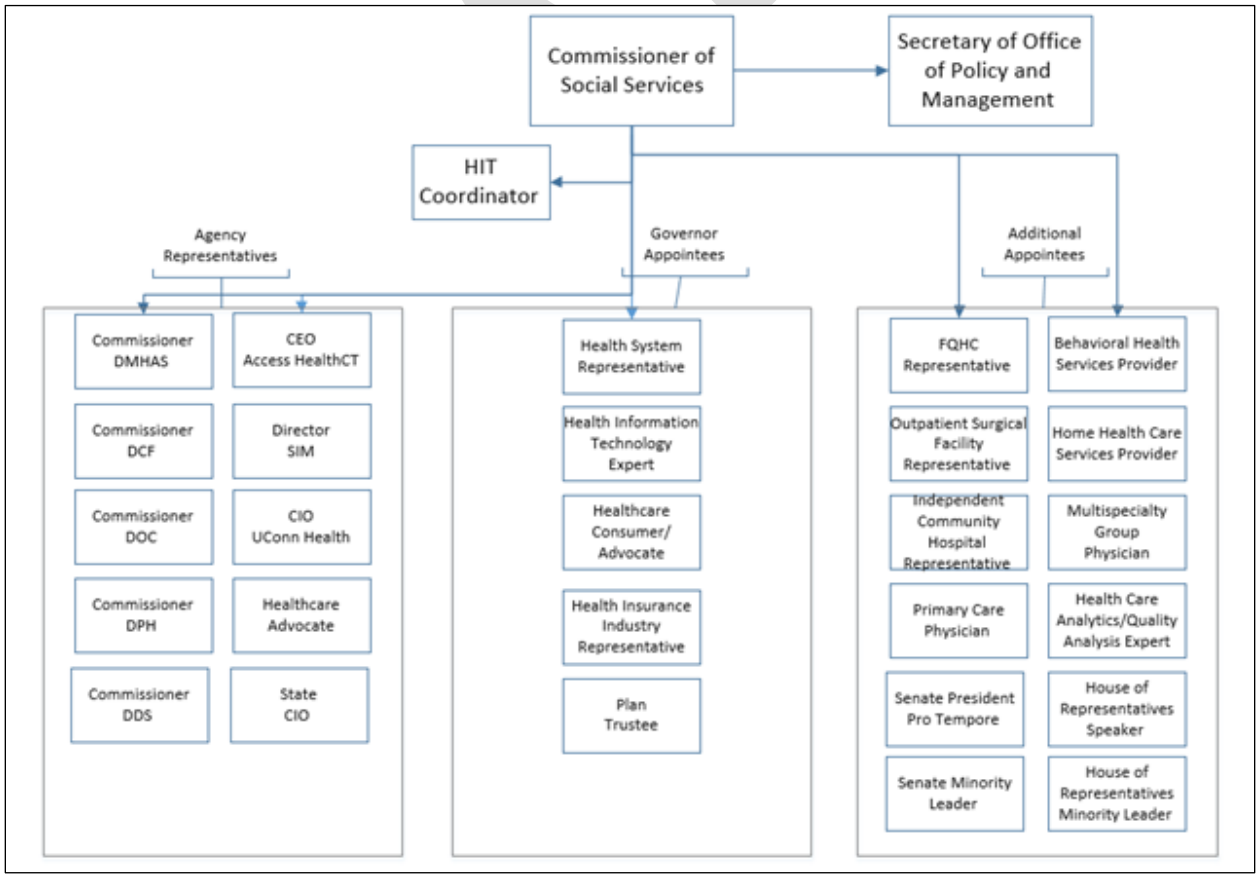
The Health IT Advisory Council advises the DSS Commissioner on:

- Developing priorities and policy recommendations for advancing the state's Health IT and HIE efforts and goals;
- Developing and implementing the statewide Health IT plan, standards and HIE; and
- Developing appropriate governance, oversight and accountability measures to ensure success in achieving the state's Health IT and HIE goals.

The DSS Commissioner will consult with the Advisory Council on the following:

- Development and issuance of the RFP for the development, management and operation of the HIE;
- Submission of the Health IT plan to establish the HIE to OPM by January 1, 2016:
- Oversight of the development and implementation of the HIE:
- Coordination of the state's Health IT and HIE efforts;
- Ensuring consistency between the Health IT plans; and
- Submission of the report reports to CGA.

**Figure 2: Health IT Advisory Council Structure**



The Public Act emphasizes a consumer-focused HIE; however, the Public Act designated only **one** (1) consumer representative for the Advisory Council, which to this date has not been appointed.

## Question to Consider

**How will Connecticut engage consumers in establishing the HIE?**

A. Appoint additional Consumer Representatives to the Health IT Advisory Council

B. Establish a Consumer Committee to support outreach, education and engagement initiatives as well as help in the development of policies and practices geared toward safeguarding confidentiality and promoting consumer autonomy powered by Health IT

C. Develop a substantial and meaningful consumer outreach and engagement campaign

### Role of Office of Policy and Management (OPM)

The DSS Commissioner, in consultation with the Advisory Council, is required to submit an plan to establish a statewide HIE to the OPM Secretary and if such plan is approved by the OPM Secretary, the DSS Commissioner may implement the plan and enter into any contracts or agreements to implement the plan. Secondly, the DSS Commissioner, in consultation with the OPM Secretary and the Advisory Council, and upon approval of the State Bond Commission of bond funds authorized by the General Assembly to establish a statewide HIE, is required to develop and issue a RFP for the development, management and operation of the statewide HIE.

### Role of State Health and Human Services Health IT Coordinator

DSS continues to appoint the Health and Human Services Health IT Coordinator (Health IT Coordinator). Under the leadership of the DSS Commissioner, the Health IT Coordinator has the responsibility to ensure that the state's Health IT and HIE initiatives are fully integrated and collaborative across systems, state- and federal-initiatives and Health IT programs. Also, the State Health IT Coordinator is tasked to develop an achievable Health IT roadmap for the state that uses the current enterprise technology assets to build a robust interoperable Health IT infrastructure for statewide exchange of health information.

## HIE Features and Functionality

The Public Act lists 11 goals of the HIE while requiring the reuse of current enterprise assets (Section 21b).

1. Allow real-time, secure access to patient health information and complete medical records across all health care provider settings;

2. Provide patients with secure electronic access to their health information;
3. Allow voluntary participation by patients to access their health information at no cost;
4. Support care coordination through real-time alerts and timely access to clinical information;
5. Reduce costs associated with preventable readmissions, duplicative testing and medical errors;
6. Promote the highest level of interoperability;
7. Meet all state and federal privacy and security requirements;
8. Support public health reporting, quality improvement, academic research and health care delivery and payment reform through data aggregation and analytics;
9. Support population health analytics;
10. Be standards-based; and
11. Provide for broad local governance that (A) includes stakeholders and (B) is committed to the successful development and implementation of the State-wide Health Information Exchange.

To support the above mentioned goals, the state needs an enterprise provider registry, an enterprise master person index, health information service provider, personal health record, alert notification engine, and a population analytic engine. Of the five Health IT solutions listed, the state has already procured for everything except a population analytic engine, which is a proposed Health IT solution included in Connecticut's State Innovation Model (SIM).

**Current Connecticut Health IT Assets**

- Enterprise Master Person Index
- Provider Registry
- Health Information Service Provider for Direct Messaging
- Reporting electronic clinical quality measures (eCQMs)
- Personal Health Records

## Priority Ranking of HIE Goals

At the second meeting of the Advisory Council convened on October 17, 2015, council members deliberated requirements for a statewide HIE, with the understanding that additional requirements may not be incorporated into the first phase of the HIE. The Advisory Council's requirements were mapped to, and correlated well with the legislatively mandated requirements, with one exception. The Advisory Council did not identify "Reduce costs associated with preventable readmissions, duplicative testing and medical errors" as a desired functional requirement.

At the third meeting of the Advisory Council convened on November 19, 2015, council members participated in a ranking exercise to identify the "Top-Five" goals. Presented with a list of legislatively required goals and additional goals listed in the second council meeting, each council member was asked to rank the goals he/she deemed most important. Of the 14 council

DRAFT

members in attendance, nine represented state agencies, three were healthcare providers and two represented legislators. Since no consumer representatives have been appointed to the Advisory Council, no consumer representatives participated in the ranking exercise.

The results of the priority ranking exercise are identified in Table 2. Interoperability with EHRs received the highest rank, followed by ability of people/providers to access various systems through one single access point. In this ranking, the goal related to consumer empowerment, "Allow voluntary participation by patients to access their health information at no cost" did not get any vote.

While the Public Act's vision for a statewide HIE requires consumer empowerment, only one consumer-centric goal, "Include and involve community providers and consumers", was ranked in the top five by the Advisory Council. All other consumer-centered goals received one or less votes.

- Patient-centered (zero-votes)
- Patients must have the ability to opt-out (zero votes)
- Assure patient records are never discarded (one vote)
- Real or near real-time; automatic sharing of health records that is not reliant on the will of the user (one vote)
- No or low cost to patients, which will require a funding stream (one vote)
- The patient must have the ability to choose what medical information goes to which providers, including which providers they do not want to receive their information (one vote)

**Table 2: Health IT Advisory Council Priority Ranking of HIE Goals**

| ***Rank*** | ***Top 5 Priority Ranking by the Health IT Advisory Council Members*** | ***Voting Results*** | ***Corresponding Public Act Requirements*** |
|---|---|---|---|
| **# 1** | Integrated with provider's EMRs so providers can easily work with the data provided by the HIE | 12 of 14 | Promote the highest level of interoperability |
| **# 2** | PHI can be shared across all providers (hospitals, walk-in clinics, emergency rooms, physician offices, etc.) | 9 of 14 | Support care coordination through real-time alerts and timely access to clinical information |
| **# 3** | Single point of entry for all (providers, patients, state agencies, and other stakeholders) | 8 of 14 | Promote the highest level of interoperability |
| **# 4** | One system and a single way for health care providers to access (vs. multiple systems and passwords) | 6 of 14 | Support care coordination through real-time alerts and timely access to clinical information |
| **# 5** | Include and involve community providers and consumers | 8 of 14 | Provide for broad local governance |
| **Added Goal** | Allow voluntary participation by patients to access their health information at no cost | 0 of 14 | Empower consumers to be active participants in their health care |

DRAFT

# Implementation and Operations

## Legislative Requirements for Procuring HIE Services

The Public Act authorizes DSS, in consultation with the Secretary of OPM and the Advisory Council, and upon approval of the plan, to issue a request for proposals (RFP) for the development, management and operation of the statewide HIE requiring the reuse of any and all enterprise health information technology assets, such as the existing Provider Directory, Enterprise Master Person Index, Direct Secure Messaging Health Information Service Provider infrastructure, analytic capabilities and tools that already exist in the state or are in the process of being deployed in the state. The RFP may require the applicant organization to have at least three years of experience operating either a statewide HIE or a regional exchange serving a minimum population of one million. Additional required experience of the applicant:

1. Enables the exchange of patient health information among health care providers, patients and other authorized users without regard to location, source of payment or technology;
2. Includes, with proper consent, behavioral health and substance abuse treatment information;
3. Supports transitions of care and care coordination through real-time health care provider alerts and access to clinical information;
4. Allows health information to follow each patient;
5. Allows patients to access and manage their health data; and
6. Has demonstrated success in reducing costs associated with preventable readmissions, duplicative testing or medical errors;
    i. Be committed to, and demonstrate, a high level of transparency in its governance, decision-making and operations;
    ii. Be capable of providing consulting to ensure effective governance;
    iii. Be regulated or administratively overseen by a state government agency; and
    iv. Have sufficient staff and appropriate expertise and experience to carry out the administrative, operational and financial responsibilities of the State-wide Health Information Exchange.

*The Commissioner of Social Services, in consultation with the Secretary of the Office of Policy and Management and the State Health Information Technology Advisory Council, established pursuant to section 25 of this act, shall, upon the approval by the State Bond Commission of bond funds authorized by the General Assembly for the purposes of establishing a State-wide Health Information Exchange, develop and issue a request for proposals for the development, management and operation of the State-wide Health Information Exchange. Such request shall promote the reuse of any and all enterprise health information technology assets, such as the existing Provider Directory, Enterprise Master Person Index, Direct Secure Messaging Health Information Service provider infrastructure, analytic capabilities and tools that exist in the state or are in the process of being deployed. (PA15-146, Section 21, (d)(1)*

DRAFT

As listed in the section above, of the five Health IT solutions needed to meet the listed goals of the Public Act, the state has already procured for everything except a population analytic engine which is a proposed Health IT solution listed in the State Innovation Model (SIM). Consequently, we might want to issue an RFP for an "integrator"[17] service rather than an RFP for an "HIE solution" per se. This may also make it possible to realize the goal of implementing an HIE in SFY 2017 more likely.

## Legislative Requirements for Participating in HIE

Section 22 of the Public Act requires hospitals and clinical laboratories to connect and participate in the statewide HIE no later than one year, and health care providers connect and participate in the statewide HIE not later than two years after the HIE is operational. Additionally, the statewide Health IT plan is required to be implemented and periodically revised to enhance interoperability to support health outcomes and will include (1) general standards and protocols for HIE and (2) national data standards to support secure data exchange data standards to facilitate the development of a statewide integrated electronic health information system for use by health care providers and institutions that are licensed by the state. Data standards will

- Include provisions relating to security, privacy, data content, structures and format, vocabulary and transmission protocols;
- Be compatible with any national data standards in order to allow for interstate interoperability;
- Permit the collection of health information in a standard electronic format; and
- Be compatible with the requirements for an electronic health information system.

## Who must submit data to the HIE?

Section 24 of the Public Act requires hospitals use EHR systems to enable bidirectional connectivity and the secure exchange of patient electronic health records between the hospital and any health care provider who maintains an EHR system and provides healthcare services to the patient. Data that can be shared include: laboratory and diagnostic tests; radiological and other diagnostic imaging; continuity of care documents; and discharge notifications and documents. Non-compliance can be deemed as health information blocking.

## Operational Considerations

The Public Act outlines a governance structure to oversee the planning, funding and development of a statewide HIE for consumers, health care providers and other health organizations. Once funding to establish the statewide HIE has been approved, an implementation project plan and operational policies will be needed to guide the day-to-day

[17] A **systems integrator** is a person or company that specializes in bringing together component subsystems into a whole and ensuring that those subsystems function together, a practice known as system integration. Systems integrators may work in many fields but the term is generally used in the information technology (IT) field, the defense industry, or in media. https://en.wikipedia.org/wiki/Systems_integrator

DRAFT

work involved in managing the HIE. Additionally, the HIE's legal entity status, legal agreements, policies and procedures will need to be established.

It is important to note that the state will need Health IT staff (hire or consultants) to operate and manage the HIE infrastructure. Depending on the amount of funding available to implement and operate the statewide HIE, the Advisory Council will need to determine the implementation approach and the initial set of service.

## Questions to Consider

**What is the RFP for?**

A. Integration services (Incremental approach)
B. HIE Solution (Big-Bang/ Turn Key approach)

**Who will design, develop and manage the RFP process?**

A. Health IT Advisory Council
B. Department of Social Services
C. Consultants hired to assist in managing the RFP process

**What services should we offer, what will people pay for?**

A. Direct Secure Messaging through our HISP
B. Alert Notifications
C. Enterprise Master Person Index
D. Provider Registry
E. Personal Health Records
F. Population Analytics

DRAFT

# Finance and Sustainability

As part of the planning process, Connecticut has developed a conceptual budget based on an integrator/incremental approach to establishing a statewide HIE. This budget assumes two phases (1) planning, design and implementation and (2) on-going operations management. Per the Public Act, the DSS Commissioner, in consultation with the Health IT Advisory Council and with approval from the Secretary, seek approval to request $2.46 million through state bond funds to establish a statewide HIE.

## Planning, Design and Implementation of the HIE

The State has allocated $650,641 over a two-year period to support the planning, design and implementation of a statewide HIE.

The initial cost for SFY 2016 and SFY 2017 is summarized in Table 3. Personnel and start-up costs relate to 3 FTEs (0.5 FTE CTO, 0.5 FTE Administrative Assistant; 1.0 FTE Project Manager and 1.0 FTE Communication and Outreach Manager) for to support the planning and design phase, creating a strategic plan, developing the RFP and managing the procurement process, supporting the Health IT Advisory Council, and launching initial stakeholder engagement. The contracted services required to implement a HIE is greater than the cost of personnel. This is due to the fact that highly specialized skill sets are required to lay a strong foundation for the aforementioned activities. It is envisioned that personnel have the ability to maintain and support the operation of the HIE during the operational phase. The only Health IT enterprise asset to be procured would be the “alert notification engine” and remaining services will be possible as a result of leveraging statewide enterprise assets.

A detailed budget and budget narrative can be found in Appendix F.

**Table 3: Planning, Design and Implementation Phase**

| Planning, Design and Implementation | | |
|---|---|---|
| **Budget** | **2016** | **2017** |
| Salaries, Benefits and Overhead | $73,000 | $828,168 |
| Start-up Costs | $0 | $217,840 |
| Contracted Services | $165,000 | $1,428,000 |
| HIT Assets | $200,000 | $200,000 |
| **Total Costs** | **$438,000** | **$2,674,008** |
| | | |
| **Funding Sources** | | |
| State Investments: PA15-146 Funds | $292,096 | $358,545 |
| State Investments: Bond Funds | | |
| State Investments: General Funds | | |
| Federal Investments | | |
| Fees | | |
| **Shortfall** | -$145,904 | -$2,315,463 |

DRAFT

# Operations Management of the HIE

The State has not allocated monies to support the operations of the HIE for SFY 2018 – SFY 2021. Table 4 summarize the second phase for Connecticut's statewide HIE in which 15 FTEs (11 FTEs in 2018 – 2020; total of 15 FTEs in 2021) will support the operations and day-to-day management, including both technical and project management activities (i.e. contract/vendor relations, stakeholder outreach and education, ensure alignment with strategic and operational HIT/HIE plan). Strategic contractors are utilized for their highly specific skill sets to support the ongoing management of the HIE including expertise governance, business, technology, finance, and policy. Costs for Health IT Assets and its maintenance is scaled to support users of the HIE in an incremental fashion.

**Table 4: Operations Management of the HIE**

Operation Management

| **Budget** | **2018** | **2019** | **2020** | **2021** |
|---|---|---|---|---|
| Salaries, Benefits and Overhead | $2,993,968 | $3,045,451 | $3,105,867 | $3,781,712 |
| Start-up Costs | $120,340 | $81,060 | $56,060 | $66,060 |
| Contracted Services | $862,500 | $862,500 | $882,500 | $904,500 |
| HIT Assets Operation & Maintenance | $5,510,000 | $5,510,000 | $5,510,000 | $5,510,000 |
| **Total Operating Costs** | $9,486,808 | $9,499,011 | $9,554,427 | $10,262,272 |
| | | | | |
| **Funding Sources** | | | | |
| State Investments: PA15-146 Funds | | | | |
| State Investments: Bond Funds | | | | |
| State Investments: General Funds | | | | |
| Federal Investments | | | | |
| Fees | | | | |
| **Shortfall** | -$9,486,808 | -$9,499,011 | -$9,554,427 | -$10,262,272 |

# Public Investment and Sustainability

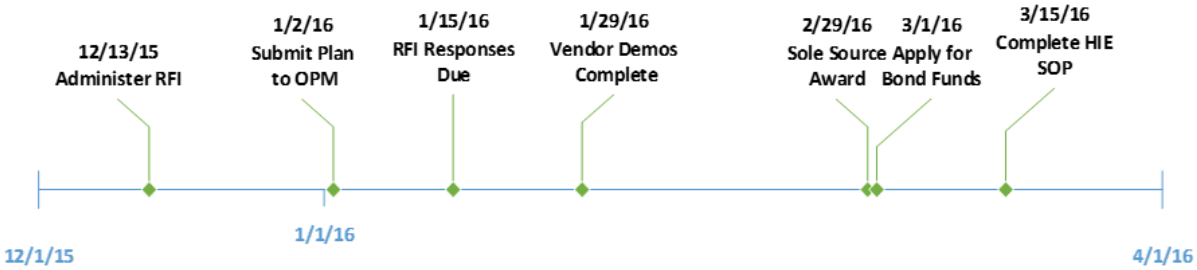
In review of states with successful HIEs, we found that all states have pricing models that are subscription and/or fee based. Securing commitment from participants to pay for value derived from HIE services is vital to sustainability. We have based our revenue projections on a simple model, $3/per person/year based on the population on the state. How that cost is distributed among the different stakeholders will be the first decision to be made if the statewide HIE is expected to sustain itself. The state should pay a fair share for the use and benefit it derives from the statewide HIE as should other stakeholders that benefit from the HIE.

DRAFT

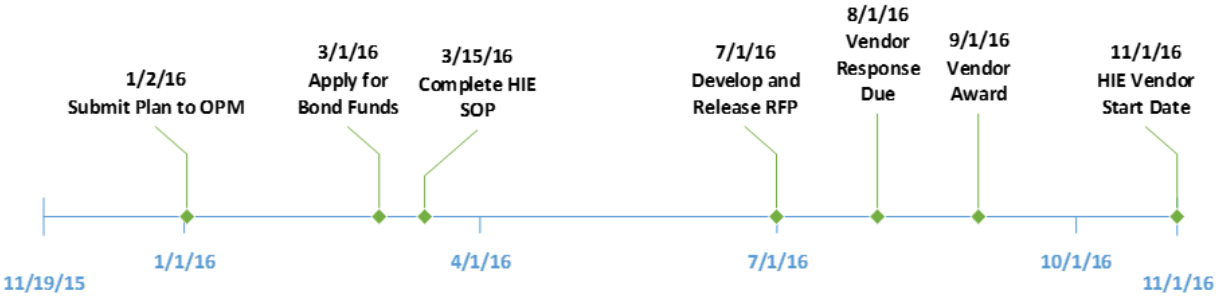
# Recommendations and Next Steps

## Timeline of the RFI/RFP Process

### Request for Information




### Request for Proposals




## Question to Consider

**Should we pursue a …?**

A. RFP

B. RFI

C. Parallel process where we purpose A and B above.

DRAFT

# Appendices

## Appendix A – Public Act 15-146 (Sections 20-26)

*Senate Bill No. 811*

***Public Act No. 15-146***

***AN ACT CONCERNING HOSPITALS, INSURERS AND HEALTH CARE CONSUMERS.***

Sec. 20. (NEW) (*Effective October 1, 2015*) (a) For purposes of this section:

(1) "Affiliated provider" means a health care provider that is: (A) Employed by a hospital or health system, (B) under a professional services agreement with a hospital or health system that permits such hospital or health system to bill on behalf of such health care provider, or (C) a clinical faculty member of a medical school, as defined in section 33-182aa of the general statutes, that is affiliated with a hospital or health system in a manner that permits such hospital or health system to bill on behalf of such clinical faculty member;

(2) "Certified electronic health record system" means a health record system that is certified by the federal Office of the National Coordinator for Health Information Technology;

(3) "Electronic health record" means any computerized, digital or other electronic record of individual health-related information that is created, held, managed or consulted by a health care provider and may include, but need not be limited to, continuity of care documents, discharge summaries and other information or data relating to patient demographics, medical history, medication, allergies, immunizations, laboratory test results, radiology or other diagnostic images, vital signs and statistics;

(4) "Electronic health record system" means a computer-based information system that is used to create, collect, store, manipulate, share, exchange or make available electronic health records for the purposes of the delivery of patient care;

(5) "Health care provider" means any individual, corporation, facility or institution licensed by the state to provide health care services;

(6) "Health information blocking" means (A) knowingly interfering with or knowingly engaging in business practices or other conduct that is reasonably likely to interfere with the ability of patients, health care providers or other authorized persons to access, exchange or use electronic health records, or (B) knowingly using an electronic health record system to

DRAFT

both (i) steer patient referrals to affiliated providers, and (ii) prevent or unreasonably interfere with patient referrals to health care providers who are not affiliated providers but shall not include legitimate referrals between providers participating in an accountable care organizations or similar value-based collaborative care models;

(7) "Hospital" has the same meaning as provided in section 19a-490 of the general statutes;

(8) "Health system" has the same meaning as provided in section 19a-508c of the general statutes, as amended by this act;

(9) "Seller" means any person or entity that directly, or indirectly through an employee, agent, independent contractor, vendor or other person, sells, leases or offers to sell or lease an electronic health record system or a license or right to use an electronic health record system.

(b) Electronic health records shall, to the fullest extent practicable,

(1) follow the patient, (2) be made accessible to the patient, and (3) be shared and exchanged with the health care provider of the patient's choice in a timely manner.

(c) Health information blocking shall be an unfair trade practice pursuant to section 42-110b of the general statutes.

(d) Health information blocking by a hospital, health system or seller shall be subject to the penalties contained in subsection (b) of section 42-110o of the general statutes.

(e) It shall be an unfair trade practice pursuant to section 42-110b of the general statutes for any seller to make a false, misleading or deceptive representation that an electronic health record system is a certified electronic health record system.

(f) The provisions of this section shall be enforced by the Attorney General.

(g) Nothing contained in this section shall be construed as a limitation upon the power or authority of the state, the Attorney General or the Commissioner of Consumer Protection to seek administrative, legal or equitable relief as provided by any state statute or common law.

Sec. 21. (NEW) (*Effective from passage*) (a) There shall be established a State-wide Health Information Exchange to empower consumers to make effective health care decisions, promote patient-centered care, improve the quality, safety and value of health care, reduce waste and duplication of services, support clinical decision-making, keep confidential health information secure and make progress toward the state's public health goals.

(b) It shall be the goal of the State-wide Health Information Exchange to: (1) Allow real-time, secure access to patient health information and complete medical records across all health care provider settings; (2) provide patients with secure electronic access to their health information; (3) allow voluntary participation by patients to access their health information at no cost; (4) support care coordination through real-time alerts and timely access to clinical information; (5) reduce costs associated with preventable readmissions, duplicative testing and medical errors; (6) promote the highest level of interoperability; (7) meet all state and federal privacy and security requirements; (8) support public health reporting, quality improvement, academic research and health care delivery and payment reform through data aggregation and analytics; (9) support population health analytics; (10) be standards-based; and (11) provide for broad local governance that (A)

DRAFT

includes stakeholders, including, but not limited to, representatives of the Department of Social Services, hospitals, physicians, behavioral health care providers, long-term care providers, health insurers, employers, patients and academic or medical research institutions, and (B) is committed to the successful development and implementation of the State-wide Health Information Exchange.

(c) All contracts or agreements entered into by or on behalf of the state relating to health information technology or the exchange of health information shall be consistent with the goals articulated in subsection (b) of this section and shall utilize contractors, vendors and other partners with a demonstrated commitment to such goals.

(d) (1) The Commissioner of Social Services, in consultation with the Secretary of the Office of Policy and Management and the State Health Information Technology Advisory Council, established pursuant to section 25 of this act, shall, upon the approval by the State Bond Commission of bond funds authorized by the General Assembly for the purposes of establishing a State-wide Health Information Exchange, develop and issue a request for proposals for the development, management and operation of the State-wide Health Information Exchange. Such request shall promote the reuse of any and all enterprise health information technology assets, such as the existing Provider Directory, Enterprise Master Person Index, Direct Secure Messaging Health Information Service provider infrastructure, analytic capabilities and tools that exist in the state or are in the process of being deployed.

(2) Such request for proposals may require an eligible organization responding to the request to: (A) Have not less than three years of experience operating either a state-wide health information exchange in any state or a regional exchange serving a population of not less than one million that (i) enables the exchange of patient health information among health care providers, patients and other authorized users without regard to location, source of payment or technology, (ii) includes, with proper consent, behavioral health and substance abuse treatment information, (iii) supports transitions of care and care coordination through real-time health care provider alerts and access to clinical information, (iv) allows health information to follow each patient, (v) allows patients to access and manage their health data, and (vi) has demonstrated success in reducing costs associated with preventable readmissions, duplicative testing or medical errors; (B) be committed to, and demonstrate, a high level of transparency in its governance, decision-making and operations; (C) be capable of providing consulting to ensure effective governance; (D) be regulated or administratively overseen by a state government agency; and (E) have sufficient staff and appropriate expertise and experience to carry out the administrative, operational and financial responsibilities of the State-wide Health Information Exchange.

(e) Notwithstanding the provisions of subsection (d) of this section, if, on or before January 1, 2016, the Commissioner of Social Services, in consultation with the State Health Information Technology Advisory Council, established pursuant to section 25 of this act, submits a plan to the Secretary of the Office of Policy and Management for the establishment of a State-wide Health Information Exchange consistent with subsections (a), (b) and (c) of this section, and such plan is approved by the Secretary, the commissioner may implement such plan and enter into any contracts or agreements to implement such plan.

(f) The Department of Social Services shall have administrative authority over the State-wide Health Information Exchange.

DRAFT

Sec. 22. (NEW) (*Effective from passage*)

(a) For purposes of this section:

(1) "Health care provider" means any individual, corporation, facility or institution licensed by the state to provide health care services; and

(2) "Electronic health record system" means a computer-based information system that is used to create, collect, store, manipulate, share, exchange or make available electronic health records for the purposes of the delivery of patient care.

(b) Not later than one year after commencement of the operation of the State-wide Health Information Exchange, each hospital licensed under chapter 368v of the general statutes and clinical laboratory licensed under section 19a-30 of the general statutes shall maintain an electronic health record system capable of connecting to and participating in the State-wide Health Information Exchange and shall apply to begin the process of connecting to, and participating in, the State-wide Health Information Exchange.

(c) Not later than two years after commencement of the operation of the State-wide Health Information Exchange, each health care provider with an electronic health record system capable of connecting to, and participating in, the State-wide Health Information Exchange shall apply to begin the process of connecting to, and participating in, the State-wide Health Information Exchange.

Sec. 23. Section 4-60i of the general statutes is repealed and the following is substituted in lieu thereof (*Effective July 1, 2015*):

(a) As used in this section:

(1) "Electronic health information system" means an information processing system, involving both computer hardware and software that deals with the storage, retrieval, sharing and use of health care information, data and knowledge for communication and decision making, and includes: (A) An electronic health record that provides access in real time to a patient's complete medical record; (B) a personal health record through which an individual, and anyone authorized by such individual, can maintain and manage such individual's health information; (C) computerized order entry technology that permits a health care provider to order diagnostic and treatment services, including prescription drugs electronically; (D) electronic alerts and reminders to health care providers to improve compliance with best practices, promote regular screenings and other preventive practices, and facilitate diagnoses and treatments; (E) error notification procedures that generate a warning if an order is entered that is likely to lead to a significant adverse outcome for a patient; and (F) tools to allow for the collection, analysis and reporting of data on adverse events, near misses, the quality and efficiency of care, patient satisfaction and other healthcare-related performance measures.

(2) "Interoperability" means the ability of two or more systems or components to exchange information and to use the information that has been exchanged and includes: (A) The capacity to physically connect to a network for the purpose of exchanging data with other users; and (B) the capacity of a connected user to access, transmit, receive and exchange usable information with other users.

(3) "Standard electronic format" means a format using open electronic standards that: (A) Enable health information technology to be used for the collection of clinically specific data; (B) promote the interoperability of health care information across health care settings, including reporting to local, state and federal agencies; and (C) facilitate clinical decision support.

**[**(a)**]** (b) The Commissioner of Social Services shall (1) develop, throughout the Departments of Developmental Services, Public Health, Correction, Children and Families, Veterans' Affairs and Mental Health and Addiction Services, uniform management information, uniform statistical information, uniform terminology for similar facilities, uniform electronic health information technology standards and uniform regulations for the licensing of human services facilities, (2) plan for increased participation of the private sector in the delivery of human services, (3) provide direction and coordination to federally funded programs in the human services agencies and recommend uniform system improvements and reallocation of physical resources and designation of a single responsibility across human services agencies lines to eliminate duplication.

**[**(b)**]** (c) The Commissioner of Social Services shall, in consultation with **[**the Departments of Public Health and Mental Health and Addiction Services**]** the Health Information Technology Advisory Council, established pursuant to section 25 of this act, implement and periodically revise the state-wide health information technology plan established pursuant to **[**section 19a-25d**]** this section and shall establish electronic data standards to facilitate the development of integrated electronic health information systems **[**, as defined in subsection (a) of section 19a-25d,**]** for use by health care providers and institutions that receive state funding. Such electronic data standards shall: (1) Include provisions relating to security, privacy, data content, structures and format, vocabulary and transmission protocols; (2) limit the use and dissemination of an individual's Social Security number and require the encryption of any Social Security number provided by an individual; (3) require privacy standards no less stringent than the "Standards for Privacy of Individually Identifiable Health Information" established under the Health Insurance Portability and Accountability Act of 1996, P.L. 104-191, as amended from time to time, and contained in 45 CFR 160, 164; (4) require that individually identifiable health information be secure and that access to such information be traceable by an electronic audit trail; (5) be compatible with any national data standards in order to allow for interstate interoperability; **[**, as defined in subsection (a) of section 19a-25d;**]** (6) permit the collection of health information in a standard electronic format; **[**, as defined in subsection

(a) of section 19a-25d;**]** and (7) be compatible with the requirements for

an electronic health information system. **[**, as defined in subsection (a) of section 19a-25d.**]**

(d) The Commissioner of Social Services shall, within existing resources and in consultation with the State Health Information Technology Advisory Council: (1) Oversee the development and implementation of the State-wide Health Information Exchange in conformance with section 21 of this act; (2) coordinate the state's health information technology and health information exchange efforts to ensure consistent and collaborative cross-agency planning and implementation; and (3) serve as the state liaison to, and work collaboratively with, the State-wide Health Information Exchange established pursuant to section 21 of this act to ensure consistency between the state-wide health information technology plan and the State-wide Health Information Exchange and to support the state's health information technology and exchange goals.

(e) The state-wide health information technology plan, implemented and periodically revised pursuant to subsection (c) of this section, shall enhance interoperability to support optimal health outcomes and include, but not be limited to (1) general standards and protocols for health information exchange, and (2) national data standards to support secure data exchange data standards to facilitate the development of a state-wide, integrated electronic health information system for use by health care providers and institutions that are licensed by the state. Such electronic data standards shall (A) include

provisions relating to security, privacy, data content, structures and format, vocabulary and transmission protocols, (B) be compatible with any national data standards in order to allow for interstate interoperability, (C) permit the collection of health information in a standard electronic format, and (D) be compatible with the requirements for an electronic health information system.

(f) Not later than February 1, 2016, and annually thereafter, the Commissioner of Social Services, in consultation with the State Health Information Technology Advisory Council, shall report in accordance with the provisions of section 11-4a to the joint standing committees of the General Assembly having cognizance of matters relating to human services and public health concerning: (1) The development and implementation of the state-wide health information technology plan and data standards, established and implemented by the Commissioner of Social Services pursuant to section 4-60i, as amended by this act; (2) the establishment of the State-wide Health Information Exchange; and (3) recommendations for policy, regulatory and legislative changes and other initiatives to promote the state's health information technology and exchange goals.

Sec. 24. (NEW) (*Effective October 1, 2015*) (a) For purposes of this section:

(1) "Electronic health record" means any computerized, digital or other electronic record of individual health-related information that is created, held, managed or consulted by a health care provider and may include, but need not be limited to, continuity of care documents, discharge summaries and other information or data relating to patient demographics, medical history, medication, allergies, immunizations, laboratory test results, radiology or other diagnostic images, vital signs and statistics;

(2) "Electronic health record system" means a computer-based information system that is used to create, collect, store, manipulate, share, exchange or make available electronic health records for the purpose of the delivery of patient care;

(3) "Health care provider" means any individual, corporation, facility or institution licensed by the state to provide health care services; and

(4) "Secure exchange" means the exchange of patient electronic health records between a hospital and a health care provider in a manner that complies with all state and federal privacy requirements, including, but not limited to, the Health Insurance Portability and Accountability Act of 1996 (P.L. 104-191) (HIPAA), as amended from time to time.

(b) Each hospital licensed under chapter 368v of the general statutes shall, to the fullest extent practicable, use its electronic health records system to enable bidirectional connectivity and the secure exchange of patient electronic health records between the hospital and any other health care provider who (1) maintains an electronic health records system capable of exchanging such records, and (2) provides health care services to a patient whose records are the subject of the exchange. The requirements of this section apply to at least the following: (A) Laboratory and diagnostic tests; (B) radiological and other diagnostic imaging; (C) continuity of care documents; and (D) discharge notifications and documents.

(c) Each hospital shall implement the use of any hardware, software, bandwidth or program functions or settings already purchased or available to it to support the secure exchange of electronic health records and information as described in subsection (b) of this section.

(d) Nothing in this section shall be construed as requiring a hospital to pay for any new or additional information technology, equipment, hardware or software, including interfaces, where such additional items are necessary to enable such exchange.

(e) The failure of a hospital to take all reasonable steps to comply with this section shall constitute evidence of health information blocking pursuant to section 20 of this act.

(f) A hospital that connects to, and actively participates in, the State- wide Health Information Exchange, established pursuant to section 21 of this act shall be deemed to have satisfied the requirements of this section.

Sec. 25. (NEW) (*Effective July 1, 2015*) (a) There shall be a State Health Information Technology Advisory Council to advise the Commissioner of Social Services in developing priorities and policy recommendations for advancing the state's health information technology and health information exchange efforts and goals and to advise the commissioner in the development and implementation of the state-wide health information technology plan and standards and the State-wide Health Information Exchange, established pursuant to section 21 of this act. The advisory council shall also advise the commissioner regarding the development of appropriate governance, oversight and accountability measures to ensure success in achieving the state's health information technology and exchange goals.

(b) The council shall consist of the following members:

(1) The Commissioners of Social Services, Mental Health and Addiction Services, Children and Families, Correction, Public Health and Developmental Services, or the commissioners' designees;

(2) The Chief Information Officer of the state, or the Chief Information Officer's designee;

(3) The chief executive officer of the Connecticut Health Insurance Exchange, or the chief executive officer's designee;

(4) The director of the state innovation model initiative program management office, or the director's designee;

(5) The chief information officer of The University of Connecticut Health Center, or said chief information officer's designee;

(6) The Healthcare Advocate, or the Healthcare Advocate's designee;

(7) Five members appointed by the Governor, one each of whom shall be (A) a representative of a health system that includes more than one hospital, (B) a representative of the health insurance industry, (C) an expert in health information technology, (D) a health care consumer or consumer advocate, and (E) an employee or trustee of a plan established pursuant to subdivision (5) of subsection (c) of 29 USC 186.

(8) Two members appointed by the president pro tempore of the Senate, one each who shall be (A) a representative of a federally qualified health center, and (B) a provider of behavioral health services;

(9) Two members appointed by the speaker of the House of Representatives, one each who shall be (A) a representative of an outpatient surgical facility, and (B) a provider of home health care services;

DRAFT

(10) One member appointed by the majority leader of the Senate, who shall be a representative of an independent community hospital;

(11) One member appointed by the majority leader of the House of Representatives, who shall be a physician who provides services in a multispecialty group and who is not employed by a hospital;

(12) One member appointed by the minority leader of the Senate, who shall be a primary care physician who provides services in a small independent practice;

(13) One member appointed by the minority leader of the House of Representatives, who shall be an expert in health care analytics and quality analysis;

(14) The president pro tempore of the Senate, or the president's designee;

(15) The speaker of the House of Representatives, or the speaker's designee;

(16) The minority leader of the Senate, or the minority leader's designee; and

(17) The minority leader of the House of Representatives, or the minority leader's designee.

(c) Any member appointed or designated under subdivisions (8) to (17), inclusive, of subsection (c) of this section may be a member of the General Assembly.

(d) All appointments to the council shall be made not later than August 1, 2015. The Commissioner of Social Services shall schedule the first meeting of the council, which shall be held not later than September 1, 2015. The Commissioner of Social Services shall serve as a chairperson of the council. The council shall elect a second chairperson from among its members, who shall not be a state official. The council shall meet not less than three times prior to January 1, 2016. The terms of the members shall be coterminous with the terms of the appointing authority for each member and subject to the provisions of section 4-1a of the general statutes. If any vacancy occurs on the council, the appointing authority having the power to make the appointment under the provisions of this section and shall appoint a person in accordance with the provisions of this section. A majority of the members of the council shall constitute a quorum. Members of the council shall serve without compensation, but shall be reimbursed for all reasonable expenses incurred in the performance of their duties.

(e) Prior to submitting any application, proposal, planning document or other request seeking federal grants, matching funds or other federal support for health information technology or health information exchange, the Commissioner of Social Services shall present such application, proposal, document or other request to the council for review and comment.

Sec. 26. Section 4-60j of the general statutes is repealed and the following is substituted in lieu thereof (*Effective October 1, 2015*):

In fulfilling his or her responsibilities under sections 4-60i, as amended by this act, and 4-60*l* and complying with the requirements of **[**section 19a-25d**]** said sections, the Commissioner of Social Services shall take into consideration such advice as may be provided to the commissioner by advisory boards and councils in the human services areas.

# Appendix B: The Federal Health IT Governance and Strategic Plan

The vision of building a national electronic health information infrastructure for the United States began in 2004 by the Department of Health and Human Services (HHS). In over a decade this vision has transformed and embraces 'putting the person at the center' through the Federal Health IT Strategic Plan 2015-2020 (Federal Plan). This Federal Plan has a singular focus: improving the health and well-being of the nation through a resilient Health IT infrastructure.[18]

The HHS Office of the National Coordinator for Health Information Technology (ONC) has worked diligently to expand provider adoption of electronic health records (EHR) and use of health information exchange to deliver better care through improved care coordination. In five years, over 479,000 eligible professionals and 4,849 eligible hospitals received an incentive payment for participating in the Medicare and Medicaid EHR Incentive Programs.[19] The federal government's initial effort has resulted in the accelerated maturation of the Health IT market and widespread use of Health IT.

## Federal Vision

High-quality care, lower costs, healthy population, and engaged people

## Federal Mission

Improve the health and well-being of individuals and communities through the use of technology and health information that is accessible when and where it matters most.

[18] Office of the National Coordinator for Health Information Technology, *Federal Health IT Strategic Plan 2015-2010*, September 2015. https://www.healthit.gov/sites/default/files/9-5-federalhealthitstratplanfinal_0.pdf

[19] Centers for Medicare and Medicaid EHR Incentive Payment Program, Data and Program Reports, October 2015. https://www.cms.gov/Regulations-and-Guidance/Legislation/EHRIncentivePrograms/DataAndReports.html

## Federal Health IT Goals

**Goal 1:** Advance Person- Centered and Self- Managed Health

**Goal 2:** Transform Health Care Delivery and Community Health

**Goal 3:** Foster Research, Scientific Knowledge, and Innovation

**Goal 4**: Enhance Nation's Health IT Infrastructure.

The Federal Plan's strategies focus on making electronic information available so individuals can manage their health, providers can deliver high-quality care, health and health care entities can improve community heath, and scientists can advance cutting edge research and develop solutions. HIE is fundamental to ensuring health information is accessible when and where it matters most. This Plan puts the person at the center with health IT as a support. Connecticut seeks to align with the Federal Plan to empower individuals to make effective healthcare decisions.

## Federal HIE Governance Framework

The ONC developed the Governance Framework for Trusted Electronic Health Information Exchange[20]:

- **Organizational Principles**: Identify generally applicable approaches for good self-governance.
- **Trust Principles**: Guide HIE Governance entities on patient privacy, meaningful choice, and data management in the HIE.
- **Business Principles**: Focus on responsible financial and operational policies for governance entities with emphasis on transparency and HIE with the patients' best interest in mind.
- **Technical Principles**: Express priorities for the use of standards in order to support the Trust and Business Principles as well as furthering the execution of interoperability.

It is imperative that Connecticut leverages available federal guidance and state-based best practices, as well as key learnings from governance shortfalls in previous attempts to establish a state-wide HIE.

[20] ONC Governance Framework for Trusted Electronic Health Information Exchange, May 2013. https://www.healthit.gov/sites/default/files/GovernanceFrameworkTrustedEHIE_Final.pdf

DRAFT

# Appendix C: Connecticut's Health IT Landscape

Statewide HIEs are integral components to state Health IT infrastructures. State Health IT infrastructures were infused with federal funding following he Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009, which provided federal funding through the Centers for Medicare and Medicaid Services (CMS) for state-based Health IT initiatives, such as establishment of HIEs and adoption of certified electronic health records (EHRs). The goal of HITECH is to increase the use of Health IT to improve quality, safety and efficiency of health care while reducing disparities, engaging patients and families, improving care coordination, ensuring adequate privacy and security protections for personal health information and improving population and public health. While Connecticut received HITECH funding in 2010 to establish a statewide HIE, it was not successful. However, the state has leveraged funding for EHR adoption. As of October 2015, Connecticut has received over $330 million in federal funds to incent adoption and meaningful use of certified EHRs by Medicaid providers. The adoption and use of certified EHRs will pave the way for health information exchange between and among providers.

## Connecticut's Health IT Adoption among Healthcare Professionals

Almost 6,170 eligible professionals and all hospitals in Connecticut have received payments for adoption of EHRs, and many have attested to achieving Meaningful Use Stage 1. A survey to assess physician EHR adoption rates was completed in 2011 and 2013. Based on 1,346 responses, about 68-74% of physicians are either using EHRs or are in the process of implementing EHRs -- an increase from 53-56% of physicians in 2011.[21] Based on the current trends, by end of 2015, EHR adoption among physicians will exceed 80%. E-prescribing activities increased from 2011 to 2013 among pharmacies and prescribers. Ninety-six percent (96%) of pharmacies were enabled for processing e-prescriptions and 62% of prescribers were e-prescribing.[12] In 2013, 63% of Connecticut's hospitals were sharing lab results electronically, higher than the national average of 56%.[22] Fifty percent (50%) of the independent labs were sending lab results electronically in 2013, an increase from 37% in 2011-12.

[21] Tikoo M, Costello D. Evaluating Connecticut's Health Information Technology Exchange: Physician Survey Report. Farmington, CT: University of Connecticut Health Center; 2014.

[22] Tikoo M, Roy A. Evaluating Connecticut's Health Information Technology Exchange: Laboratory Survey Report. Farmington, CT: University of Connecticut Health Center; 2014.

## Connecticut's HIE History

Connecticut has aspired to establish a statewide HIE since 2007, when it enacted Public Act 07-2, *An Act Implementing the Provisions of the Budget Concerning Human Services and Public Health*[23] that required the Department of Public Health (DPH) in consultation with Office of Health Care Access (OCHA) to contract for the development of a statewide health information technology plan and to be designated as the lead HIE organization for the state between December 1, 2007 and June 30, 2009.

In 2009, Connecticut entered into a $7.29 million cooperative agreement with ONC to establish a statewide HIE. Subsequently, in 2010 the state created the quasi-public Health Information Technology Exchange of Connecticut (HITE-CT)[24] to use this federal funding to develop, administer, and implement a statewide HIE. HITE-CT was unable to establish an HIE due to a number of challenges, including a problematic governance structure, an unsustainable financial model, selection of vendor and solutions that were not interoperable, and weak stakeholder/consumer outreach and engagement.[25] HITE-CT was sunset effective June 30, 2014[26], and responsibility for implementing the state's Health IT plan and establishing standards to facilitate development of a statewide HIE was transferred from the Department of Public Health to the DSS effective July 1, 2014.

Since assuming responsibility on July 1, 2014, DSS has made steady progress on developing a pathway for HIE in Connecticut.

### CT Health IT History

**Feb. 2007 – CMS awards $5M to DSS implement Medicaid HIE and eRx system**

Jun. 2007 – DPH to develop a statewide HEALTH IT Plan (PA 07-2)

Feb. 2009 – ARRA enacted

Jun. 2009 – DPH lead HIT agency and forms HITEAC (PA 09-232)

Jul. 2009 – DPH publishes CT HealthIT Plan

Oct. 2009 – DPH establishes HITEAC

**Apr. 2010 – ONC awards $7.29M to DPH to create a statewide HIE**

Jun.2010 – HITE-CT created (PA 10-117)

Sep. 2010 – DPH submits Strategic and Operational HEALTH IT Plan to ONC

Jan. 2011 – HITE-CT begins operation

Jun. 2014 – HITE-CT is sunset (PA 14-217)

Jul. 2014 – DSS responsible for state Health IT Plan development (PA 14-217)

Aug. 2015 – DSS releases Health IT Governance Plan

Dec. 2014 – CMS awards $45M to OHA for SIM; $10M earmarked for Health IT

**Jul. 2015 – PA 15-146 enacted- DSS authorized to develop & implement a statewide HIE.**

Aug. 2015 – First Advisory Council meeting

Jan. 2016 – Submit Conceptual Plan to OPM

## Existing Health IT Enterprise Assets for HIE Reuse

The Public Act (Sec. 21 d) promotes the reuse of all Health IT assets. A number of technology solutions, such as the Enterprise Master Person Index (EMPI), Provider Directory

[23] CT Public Act 07-2, §68, *An Act Implementing the Provisions of the Budget Concerning Human Services and Public Health*, 2007. https://www.cga.ct.gov/2007/ACT/PA/2007PA-00002-R00HB-08002SS1-PA.htm

[24] CT Public Act 10-117, §82-90, 96, *An Act Concerning revisions to Public Health related statues and establishment of the Health Information Technology Exchange of Connecticut*, 2010. https://www.cga.ct.gov/2010/ACT/Pa/pdf/2010PA-00117-R00SB-00428-PA.pdf .

[25] Tikoo M. *Evaluating Connecticut's Health Information Technology Exchange: Executive Summary.* Farmington, CT: University of Connecticut Health Center; 2014.

[26] CT Public Act 14-217 §35-36,169-176, *An Act Implementing provisions of the State Budget for the Fiscal Year Ending June 30, 2014*, 2015. https://www.cga.ct.gov/2014/act/pa/pdf/2014PA-00217-R00HB-05597-PA.pdf .

(PD), and Health Information Services Provider (HISP) are being deployed at the state's Bureau of Enterprise Systems and Technology (BEST). These assets are fundamental to building a sustainable and robust Health IT infrastructure which is essential for enhanced care delivery, payment reform, and implementing and operating a statewide HIE.

### Enterprise Master Person Index and Provider Directory

DSS, along with Department of Administrative Services/BEST is in the process of implementing an Enterprise Master Person Index and Provider Directory. Both of these assets were previously procured by HITE-CT and are available for enterprise use. These two assets will be offered as services to other health organizations at a fee, as part of the HIE offering.

### Health Information Service Provider (HISP)

In April 2014, DSS established a HISP to provision Direct Secure Messaging (DSM) mailboxes for eligible providers (EPs) participating in the Medicaid EHR Incentive Program. A one-year free subscription is being provided, renewable at cost after the first year. Use of DSM will help eligible providers exchange transfer of care summaries with long-term care facilities that may not have access to certified EHRs and provides a simple and secure method for exchange of health information. The ONC promotes DSM as a simple, secure, scalable, standards-based way for participants to send authenticate, encrypted health information directly to known, trusted recipients over the internet. DSM is HIPAA compliant, and does not require the use of an EHR.

### Electronic Clinical Quality Measures (eCQMs)

DSS is working with healthcare providers to explore ways of using defined standards, such as Quality Reporting Document Architecture (QRDAs) Category I and III, to report and measure clinical quality; ensuring timely access to data for reporting and audits while minimizing data retrieval and storage. DSS has purchased data indexing technology to collect Meaningful Use measures (Stage 1 and Stage 2) as they relate to the Medicaid EHR incentive program. This technology uses indices and edge servers to access data, eliminating the need for creating, exporting and importing data files.

**Current Connecticut Health IT Assets**

- Enterprise Master Person Index
- Provider Registry
- Health Information Service Provider for Direct Messaging
- Reporting electronic clinical quality measures (eCQMs)
- Personal Health Records

### Personal Health Records (PHRs)

DSS is the recipient of a four-year grant from CMS, Testing Experience and Functional Assessment Tools (TEFT), which will provide PHRs to Medicaid beneficiaries. This four-year initiative is comprised of four components, of which two are related to HEALTH IT; (1) testing the use of Personal Health Records (PHRs) among the community-based long-term services and supports (LTSS) and (2) aiding the development and testing of the eLTSS content and transport standard.

DRAFT

# Appendix D: HIE Characteristics

| Characteristics | Connecticut | Colorado | Maine | Michigan | Ohio | Rhode Island |
|---|---|---|---|---|---|---|
| | | HIEs Highlighted as Successful[27] (CO, ME, MI, OH) | | | | |
| **Population**[28] | 3,596,677 | 5,355,866 | 1,330,089 | 9,909,877 | 11,594,163 | 1,055,173 |
| **No. of Hospitals**[29] | 28 hospitals and 2 health systems | 100 hospitals and health systems | 37 hospitals | 154 hospitals | 220 hospitals and 13 health systems (of which 172 are acute care hospitals) | 13 Hospitals |
| **No. of Active Physicians**[30] | 12,148 | 14,631 | 4,174 | 26,948 | 32,438 | 3,656 |
| **Statewide HIE(s)** | DSS authorized to develop and implement a statewide HIE | CORHIO | HealthInfoNet (HIN) | MiHIN is a "network of networks" (7 sub-state HIEs) | OHIP - CliniSync | RIQI - CurrentCare |
| **Statewide HIE Participation Stats** | PA 15-146 requires Hospitals and Clinical Laboratories to participate/connect after the 1st year that the HIE is operational. Providers are required to participate/connect after the 2nd year that the HIE is operational. | CORHIO<br>- 48 hospitals,<br>- 2,600+ providers<br>- 131 LTC Facilities<br>- 39 beh. health centers<br>- 4 large medical labs<br>- EMS providers<br>- CO Spring Military Health System<br>- State health department | HealthInfoNet<br>- 36 hospitals<br>- 440 Ambulatory Sites (includes physician practices, FQHCs, LTC sites & BH agencies)<br>- 2,349 ME Clinicians and support staff active users | Information not readily available | CliniSync<br>- 123 hospitals "live"<br>- 3 hospitals contracted<br>- 34 hospitals in progress to connect<br>- 600 practices (representing 3,000+ physicians) | CurrentCare<br>-12 hospitals (except VA)<br>- Lawrence & Memorial (CT hospital)<br>- 400 entities (primary care/ specialty practices, CHCs, LTC facilities & visiting nurse agencies) |
| **Other HIEs** | N/A | *QHN – HIO in western CO Includes:*<br>*- 11 hospitals*<br>*- 850+ providers* | N/A | N/A | *HealthBridge – Cincinnati-based HIE that supports OH, IN, & KY)*<br>*Includes:* | N/A |

[27] Hagland, M., "Ohio's Statewide HIE: Success, Strategy and Services," *Healthcare Informatics*, Feb. 3, 2015. http://www.healthcare-informatics.com/article/ohio-s-statewide-hie-success-strategy-and-services.

[28] United States Census Bureau. Population Estimates July 1, 2014 (v2014) http://www.census.gov/quickfacts/table/PST045214/08,00.

[29] Information from respective State Hospital Association, where available.

[30] Association of American Medical Colleges. 2015 State Data Snapshots. https://www.aamc.org/data/workforce/447978/2015statedatabooksnapshots.html.

| Characteristics | Connecticut | Colorado | Maine | Michigan | Ohio | Rhode Island |
|---|---|---|---|---|---|---|
| | | *- 210 healthcare org* | | | *- 50 hospitals (of which 20 OH hospitals)*<br>*- 800 physicians practices*<br>*- 7,500 physicians*<br>*- 6 labs* | |
| **Consent Model for Statewide HIE** | TBD | Opt-Out | Opt-out (opt-in for behavioral health/ sensitive information) | Information not readily available | Opt-out[31] | Opt-In |
| **Legal Entity Status** | State-run | Independent, nonprofit | Independent, nonprofit | Public/private collaboration, Nonprofit | OHIP- CliniSync- private, nonprofit | RIQI- CurrentCare - nonprofit |
| **Financials**[32] | PA 15-146 provides $650K to support the development and implementation of the HIE for SFY 16-17 | $ 10.2M Total Expense<br>$ 8.4M Total Revenue<br>$ 4.4M Net Asset | $ 5.2M Total Expense<br>$ 6.4M Total Revenue<br>$ 2.2M Net Asset | 2013 IRS 990 Form not available | $ 8.8M Total Expense<br>$13.2M Total Revenue<br>$ 4.6M Net Asset | $12.1M Total Expense<br>$11.3M Total Revenue<br>$ 4.6M Net Asset |
| **Staffing**[33] | 0 | 50 | 25 | Unavailable | 23 | 64 |
| **Funding history**<br><br>-Statewide Cooperative Agreement (HIE)<br><br>-Regional Extension Center (REC)<br><br>-Beacon Community (Beacon) | Federal Grants:<br>2010<br>$7.29M ONC – HIE<br>*used funding to purchase enterprise assets. | Federal Grants:<br>2010<br>$ 9.1M ONC - HIE<br>$12.8M ONC - REC<br><br>2011<br>$ 1.7M ONC - Challenge<br><br>Private Grant:<br>2008:<br>$ 1.3 M CO Health Found<br>2009<br>$16.6M CO Health Found | Federal Grants:<br>2010<br>$ 6.5M ONC - HIE<br>$12.7M ONC - Beacon<br>$ 4.7M ONC - REC<br>$ 0.5M ONC - Workforce<br>2012<br>SAMHSA<br>2013<br>SIM<br>HRSA (connect to the VA) | Federal Grants:<br>2010<br>$14.9M ONC - HIE<br>$16.2M ONC - Beacon $19.6M ONC - REC | Federal Grants:<br>2010<br>$12.8M ONC - HIE<br>$28.5M ONC - REC | Federal Grants:<br>2005<br>$ 5.0M AHRQ<br>2010<br>$ 5.2M ONC - HIE<br>$15.2M ONC - Beacon<br>$ 6.0M ONC – REC<br>Additional Funding:<br>$3.7M Annual budget<br>$1.5M HIE bridge funding from payers<br>$2.5M CVS Caremark Charitable Trust<br>$0.8M Congressional appropriation |

[31] "CliniSync switched from an opt-in to an opt-out model effective 12/11/15 due to administrative burden in gathering consent"; B.Shipley interview with Ohio CliniSync Communications Director D.Howe; Dec. 11,2015.

[32] Review of 2013 IRS 990 Tax Forms.

[33] Ibid., where available.

| Characteristics | Connecticut | Colorado | Maine | Michigan | Ohio | Rhode Island |
|---|---|---|---|---|---|---|
| **Pricing Model**[34][35] | Proposed $3 per person per year | Monthly Subscription Fee $25 – $35<br>+<br>One-Time Implementation Fee $2000 - $7500 | Subscription based model[36]<br>Subscription Fee $200-$600 per physician/year<br>Hospital: $1K/bed/year<br><br>One-Time Implementation Fee<br>$5K for physicians<br>$25K for hospitals | | Reports and Results: No cost to providers; 100% paid by hospitals<br><br>$300/physician/year with sliding scale for large practices to contribute/publish data to HIE, receive ADT notifications and Public Health Reporting[37] | Subscription based model |
| ***Functionalities*** | | | | | | |
| EMPI | ✓ | ✓ | ✓ | ✓ | | |
| Provider Registry | ✓ | | | ✓ | | ✓ |
| Direct Secure Messaging | ✓ | ✓ | ✓ | ✓ | ✓ | ✓ |
| ADT | ✓ | ✓ | ✓ | ✓ | | ✓ |
| Results Delivery | | ✓ | | ✓ | ✓ | |
| Personal Health Record | ✓ | | ✓[38] | | | ✓[39] |
| Public Health Reporting | | ✓ | ✓ | ✓ | ✓ | |
| Analytics and Reporting Tools | | | ✓ | ✓ | | |
| Community Health Record | | ✓ | | ✓ | | |
| CCD sharing | | ✓ | ✓ | | ✓ | ✓ |
| Viewer | | | | | | ✓ |

[34] Statewide HIEs have found that fee models based on transactions discourage use; HIEs are currently using subscription based models with a sliding scale cost depending on subscriber size; subscribers include providers, hospitals, payors and state.

[35] Additional research required to identify current statewide HIE operating budgets and current subscription fee schedule.

[36] B.Shipley interview with Maine HIN's COO, S. Alfreds; Dec. 14,2015.

[37] B.Shipley interview with Ohio CliniSync Communications Director D.Howe; Dec. 11, 2015.

[38] Maine will utilize the "blue button" for PHR and CCD Sharing. Funding under SIM initiative.

[39] Rhode Island describes the PHR as a consumer portal.

DRAFT

# Appendix E: Statewide Health IT Advisory Council Members

**HealthIT Advisory Council**

| | Appointment by | Name<br>Appointment Date | Represents |
|---|---|---|---|
| **1.** | **Statute** | Comm. Roderick Bremby | Commissioner of Social Services or designee |
| **2.** | **Statute** | Comm. Miriam Delphin-Rittmon | Commissioner of Mental Health and Addiction Services or designee |
| **3.** | **Statute** | Dep. Comm. Fernando Muñiz for Comm. Joette Katz | Commissioner of Children and Families or designee |
| **4.** | **Statute** | Dep. Comm. Cheryl Cepelak for Comm. Scott Semple | Commissioner of Correction or designee |
| **5.** | **Statute** | Comm. Jewel Mullen | Commissioner of Public Health or designee |
| **6.** | **Statute** | Comm. Morna Murray | Commissioner of Developmental Services or designee |
| **7.** | **Statute** | Mark Raymond | CIO or designee |
| **8.** | **Statute** | James Wadleigh | CEO of the CT Health Insurance Exchange or designee |
| **9.** | **Statute** | Mark Schaefer | Director of State Innovation Model Initiative Program Management Office or designee |
| **10.** | **Statute** | Jon Carroll | CIO of UCHC or designee |
| **11.** | **Statute** | Victoria Veltri | Healthcare Advocate or designee |
| **12.** | **Governor** | | Representative of a health system that include more than one hospital |
| **13.** | **Governor** | | Representative of the health insurance industry |
| **14.** | **Governor** | Bob Tessier<br>10/8/2015 | An expert in health information technology |
| **15.** | **Governor** | | A health care consumer or consumer advocate |
| **16.** | **Governor** | | An employee or trustee of a plan established pursuant to subdivision (5) of subsection © of 29 USC 186 |
| **17.** | **President Pro Tempore of Sen.**<br>Sen. Martin Looney | Philip Renda<br>7/31/2015 | Representative of a federally qualified health center |
| **18.** | **President Pro Tempore of Sen.**<br>Sen. Martin Looney | Jeannette DeJesus<br>7/31/2015 | Provider of Behavioral Health Services |
| **19.** | **Speaker of the House of Rep.**<br>Rep. Brendan Sharkey | | Representative of an outpatient surgical facility |
| **20.** | **Speaker of the House of Rep.**<br>Rep. Brendan Sharkey | | Provider of home health care services |

**HealthIT Advisory Council**

| | Appointment by | Name<br>Appointment Date | Represents |
|---|---|---|---|
| **21.** | **Majority Leader of the Sen.**<br>Sen. Bob Duff | Patrick Charmel<br>11/30/2015 | Representative of an independent community hospital |
| **22.** | **Majority Leader of the House of Rep.**<br>Rep. Joe Aresimowicz | Ken Yanagisawa, MD FACS<br>10/5/2015 | Physician who provides services in a multispecialty group and who is not employed by a hospital |
| **23.** | **Minority Leader of the Sen.**<br>Sen. Len Fasano | Joseph L. Quaranta, MD<br>7/22/2015 | Primary care physician who provides services in a small independent practice |
| **24.** | **Minority Leader of the House of Rep.**<br>Rep. Themis Klarides | Alan D. Kaye, MD<br>8/24/2015 | Expert in health care analytics and quality analysis |
| **25.** | **President Pro Tempore of Sen.**<br>Sen. Martin Looney | Sen. Martin Looney | President Pro Tempore of Senate or designee |
| **26.** | **Speaker of the House of Rep.**<br>Rep. Brendan Sharkey | Rep. Brendan Sharkey | Speaker of the House of Representatives or designee |
| **27.** | **Minority Leader of the Sen.**<br>Sen. Len Fasano | Jennifer Macierowski<br>Designee 8/20/2015 | Minority Leader of the Senate or designee |
| **28.** | **Minority Leader of the House of Rep.**<br>Rep. Themis Klarides | Prasad Srinivasan, MD<br>Designee 8/10/2015 | Minority Leader of the House of Representatives or designee |

## HealthIT Advisory Council Meeting Schedule

| 2015 Meeting Schedule | | 2016 Meeting Schedule | |
|---|---|---|---|
| Aug. 20, 2015 | Nov. 19, 2015 | Jan. 21, 2016 | Apr. 21, 2016 |
| *Sept. 15, 2015 (cancelled)* | Dec. 17, 2015 | Feb. 18, 2016 | May 19, 2016 |
| Oct. 15, 2015 | | Mar. 17, 2016 | Jun. 16, 2016 |
| | | **Additional meetings to be scheduled.* | |

DRAFT

# Appendix F: Complete List of Ranking of Features and Functionality by Advisory Council Members

| Public Act Functionalities | Priority Ranking by the HealthIT Advisory Council | # Voting | Ranking |
|---|---|---|---|
| Allow real-time, secure access to PHI and complete medical records across all health care provider settings | Assure patient records are never discarded | 1 | 10 |
| Provide patients with secure electronic access to their health information | Real or near real-time; automatic sharing of health records that is not reliant on the will of the user | 1 | 10 |
| | One system and a single way for health care providers to access (vs. multiple systems and passwords) | 6 | 5 |
| Allow voluntary participation by patients to access their health information at no cost | No or low cost to patients, which will require a funding stream | 1 | 10 |
| Support care coordination through real-time alerts and timely access to clinical information | PHI can be shared across all providers (hospitals, walk-in clinics, emergency rooms, physicians' offices, etc) | 9 | 2 |
| | The patient must have the ability to choose what medical information goes to which providers, including which providers they do not want to receive their information | 1 | 10 |
| | Patient-centered | 0 | 18 |
| Promote the highest level of interoperability | Single point of entry for all (providers, patients, state agencies, and other stakeholders) | 8 | 3 |
| | Integrated with provider EMRs so providers can easily work with the data provided by the HIE | 12 | 1 |
| | One-stop shopping | 0 | 18 |
| Meet all state and federal privacy and security requirements | Some information cannot be shared with the HIE and other providers, such as behavioral health information. The HIE needs to adhere to such privacy rules | 0 | 18 |
| | Patients must have the ability to opt-out | 0 | 18 |
| | Provide de-identified data to assist in achieving public health goals | 4 | 7 |
| Reduce costs associated with preventable readmissions, duplicative testing and medical errors | | 0 | 18 |

| Public Act Functionalities | Priority Ranking by the HealthIT Advisory Council | # Voting | Ranking |
|---|---|---|---|
| Support Public Health reporting, quality improvement, academic research and health care delivery and payment reform through data aggregation and analytics | SIM initiative has long range strategies that include developing value-based payment structures. Having an automated, timely way to collect patient data would assist in the creation of provider quality scorecards | 1 | 10 |
| | Assist the SIM initiative to have a HIE that more quickly provides data to payers (health insurance companies) rather than wait for claims data | 1 | 10 |
| | ** Members stated that PA 15-146 did not envision giving insurers access to HIE Data | | |
| Be Standards Based | Be as standards based as possible | 2 | 8 |
| Support population health analytics | Use the HIE as a disease registry (there are separate disease registries in CT, but it would be helpful to have the information in one place) | 0 | 18 |
| | Share data across CT social systems to assist in addressing population health issues, such as health disparities | 2 | 8 |
| | Provide de-identified data to assist in achieving public health goals | 0 | 18 |
| | *Analytical/ advance public health to create new data statistics* | 1 | 10 |
| | *Ability to measure quality of procedures across time; capability to track metrics and report on quality* | 5 | 6 |
| Provide for broad local governance that:<br>Includes stakeholders, including but not limited to, representatives of the Department of Social Services, hospitals, physicians, behavioral health care providers, long term care providers, health insurers, employers, patients and academic or medical research institutions<br>Is committed to the successful development and implementation of the statewide HIE | Include and involve community providers and consumers | 8 | 3 |
| | Is cognizant of large systems and small providers to assist in the exchange of health information | 0 | 18 |
| | Provider costs- subsidies – decrease barrier to entry | 1 | 10 |

# Appendix G: Draft Budget Narrative and Budget

## Personnel, Fringe and Contracted Services

The budget includes the cost of personnel to plan, implement and maintain the exchange. There is a 3.5% annual rate increase to support cost of living adjustments. Additionally, due to the varying fringe rates for individual state agencies, a 53% fringe rate was used to calculate benefits within this budget.

It is envisioned that the state will hire four staff members immediately – CTO, Project Manager, Communications and Outreach Manager and Administrative Assistant – to support the strategic planning process of the plan, the facilitation of the HealthIT Advisory Council, the RFP development, selection and procurement process, the stakeholder outreach and education, and manage vendor and contractor relations. The CTO and Administrative assistant will be at 50% FTE while the Project and Communications and Outreach Managers are at 100% FTE. These positions will work closely with DSS, the HealthIT Advisory Council and the HHS HIT Coordinator. Of note, the DSS Commissioner and the HHS HIT Coordinator will provide oversight to the HIE Planning and implementation.

In the third year, additional staff will be hired to support the ongoing maintenance of the HIE. Consultants will be hired to provide subject matter expertise throughout SFY 2016-SFY 2021. By utilizing consulting services, the State avails itself with highly specialized skill sets to engage in specific activities for a finite time. Specifically in SFY 2017 consultants will be hired to facilitate of the Health IT Advisory Council as well develop and a strategic and operational HIE plan. In addition, a consultant will be in SFY 2016/2017 hired to develop the RFP, support the evaluation, selection and procurement of appropriate vendor(s).

### Job Summaries of Personnel

**Chief Technology Officer** - Manage and direct all technological objectives. Directs the HIE implementation efforts through the state while providing leadership and consultation services to hospitals, clinical laboratories and providers. Is responsible for managing the technology contracts, overseeing the project plan, managing EHR vendor relationships, working with participant organizations, collaborating with the provider relations team to address provider issues, and monitoring the system for availability, usage, access controls and security. Is responsible for tracking and monitoring projects to ensure that they are progressing according to plan.
Salary Range $110K – $150K (average salary $130K);
Percent Effort: 50% for SFY 2017; 100% SFY2018 onwards.

**Program Manager** – Oversees the daily operations. Responsible for monitoring vendor contracts, leading various project teams, ensures project is on task. Works in collaboration with the CTO, DSS Commissioner and the HHS HIT Coordinator.
Salary Range $60K – $80K (average salary $70K);
Percent Effort: 100%

DRAFT

**Administrative Assistant** – Is responsible for clerical/secretarial duties. Works closely with the CTO, Program Manager and CEO and provides support as needed.
Salary Range $40K – 60K (average salary $50K)
Percent Effort: 100%

**Communications and Outreach Manager** – Is responsible in managing relationships with key stakeholders that are participating in the HIE implementation. Is responsible for outreach to providers, consumer and other key stakeholders throughout the state and ensure that a variety of community outreach approaches are deployed to connect with a large and diverse populations within the state.
Salary Range $80K – 100K (average salary $90K)
Percent Effort: 100%

**Informatics and Research Associate** – Is responsible for providing leadership related to the deployment of the HIE. They will have a focus on monitoring impact of the HIE as it relate clinical workflow, data storage and retrieval and processing.
Salary Range $90K – 105K (average salary $95K)
Percent Effort: 100%

**Research Associate** – Is responsible for providing support to the Informatics and Research Associate. They will have a focus on monitoring impact of the HIE as it relate clinical workflow, data storage and retrieval and processing. A Research Associate will be hired in 2018 and a second will be hired in 2021.
Salary Range $70K – 90K (average salary $80K)
Percent Effort: 100%

**Economist** – is responsible in providing healthcare economic analysis regarding the HIE, will collect, organize and analyze data while providing technical and administrative leadership in delivering solutions to the DSS Commissioner, HHS HIT Coordinator, CTO and to CGA. An Economist will be hired in 2018 and a second Economist will be hired in 2021.
Salary Range $70K – 90K (average salary $100K)
Percent Effort: 100%

**Business Analyst** – is responsible to gather, document and manage HIE requirements, perform in-depth analysis and document workflows for data collection and integration associated with HIE integration. Will assist with the design, documentation, implementation and testing of software interfaces. A Business Analyst will be hired in 2018 and a second Business Analyst will be hired in 2021.
Salary Range $60K – 80K (average salary $70K)
Percent Effort: 100%

**Quality Improvement and Compliance Associate** – is responsible in designing and implementing policies and practices to ensure that the HIE is in compliance with federal and state requirements. Will monitor, assess and analyze both quality assessment and performance improvement of the HIE as well for stakeholders who participate in the HIE. A QI Associate will be hired in 2018 and a second will be hired in 2021.

DRAFT

Salary Range $70K – 90K (average salary $80K)
Percent Effort: 100%

**IT Analysts 2 and 3** – Provides technical support to vendors and users. Has the ability to troubleshoot technical problems, has technical knowledge of operating platforms. Experience with project management methodologies and experience with IT implementation. Develops and manages project plans. Assists with technical design and development. Performs system tuning, monitoring and support.

Salary Range $50K – 90K (average salary $60K-$80K)
Percent Effort: 100% in SFY2018 onwards

## Contracted Services

**Facilitator for Health IT Advisory Council** – To facilitate the Health IT Advisory Council.

**Strategic Planner/Facilitator** – Develops short- and long-term plan. Develops state's role in enabling interoperability of health IT systems, establishing privacy and security policies, align financial and technical aspects of an HIE and shape policy development. Specializes in Health IT, Health IT strategies subject matter experts. To be hired for first year.

**RFP Consultant** – Specializes in Health IT RFP development, procurement strategy and support and vendor contract management. Includes technical content, managing proposal response, and develop and evaluate vendor responses. Facilitate decision-making and negotiate vendor contracts. To be hired for first year.

**Strategic Consultants** – Subject matter experts to be called in to: support aligning federal standards and interoperability standards; executive oversight; data analytics, financial management, and evaluation of the process. Ability to provide recommendations to alignment and leverage Medicaid, public health and other state agencies health IT infrastructure to support rapid deployment of system designs and development. Experience of implementing HIE use cases; knowledge of federal landscape for HIE and Health IT, and evaluation. Range of subject matter expertise in Governance, Business, Technology, Legal (Consent, Policy and Government Affairs) and Finance (may include financial firm and auditing services).

**Legal Counsel** – Specializes in HealthIT issues. Has thorough knowledge of privacy laws, contract negotiation experience specifically with Health IT vendors; the ability to research questions of law and manage legal issues arising from planning and implementation of the HIE. Has familiarity with the evolving landscape for HIEs.

**Outreach, Communication & Marketing** – Manage relationships with key stakeholder that participate in the HIE implementation. Responsible for outreach to providers, patients, throughout the state, ensure community outreach approaches are deployed to connect with a large and diverse group of consumers. Serves as marketing and outreach professional to ensure providers and consumers are aware of the HIE implementation and how it can benefit their organizations. Conduct informational presentations throughout the state, town hall meetings and partner with a variety of organizations to gather consumer, provider, and stakeholder feedback and support.

**Evaluation and Metrics** – Evaluates the development, design and implementation of the statewide health information exchange including environmental scan, conducts stakeholder surveys (consumers, providers, and healthcare entities), the development and analysis of metrics, and will report Connecticut's progress to DSS, Advisory Council and CGA.

**Technical Assistance/ Help Desk –** Services include technical support, integration services, application development and help desk to support onboarding as well as consumer relations.

## Procurement

**Enterprise Master Person Index (EMPI)** is a Connecticut enterprise asset. An EMPI is a centralized and trusted directory to manage and share patient information across healthcare settings, applications and organizations. This will be scaled to support record flow. For the budget, we used 4 million patients as the threshold. This includes the 3.6 million Connecticut residents as well as non-state residents utilize the state's healthcare system. The cost per patient is approximately $0.20. This was scaled so that 25% of the population is included per year for Year 3 through Year 6 to participate in the HIE. The maintenance of the EMPI asset is 20% per year.

**Provider Registry (PR)** is a Connecticut enterprise asset. A provider directory supports the management of healthcare provider information in a directory structure. This will be scaled to support healthcare entities in the state. For the budget, 600,000 entities. The cost per entity is $3.50. This was scaled aggressively due to the Public Act requirement of hospitals, clinical laboratories, and providers to connect and/or participate in the HIE after the HIE is operational for one year or two years respectfully. This was scaled so that 25% of the entities be included per year from Year 3 - Year 6 entities would participate in the HIE. The maintenance of the PR asset is 20% per year.

**Direct Secure Messaging (DSM)** is a DSS/ Medicaid asset. DSM is a protocol to allow simple, HIPAA-compliant, encrypted transmission of protected health information between two entities. An estimated cost for maintenance for the DSM has been included for Year 3 - Year 6.

**Alert Notification (ADT)** is a proposed asset to be purchased in SFY 2016. Also known as Alert, Discharge and Transfer (ADT) notifications provides healthcare providers knowledge with patients are admitted, discharged or seen in the emergency department to provide better care coordination. The DSS EHR Incentive Program as well as the State Innovation Model have proposed utilizing ADT.

**Consent Registry** is a future proposed asset. A consent registry supports the management of patient consent of their health data. This will be scaled to support record flow. For the budget, we used 4 million patients as the threshold. This includes the 3.6 million Connecticut residents as well as non-state residents utilize the state's healthcare system. The cost per patient is approximately $3.5. This was scaled so that 25% of the population are phased in per year from Year 3 through Year 6 to participate in the HIE. The maintenance of the consent registry is 20% per year.

DRAFT

**Personal Health Record (PHR)** is a DSS/ Medicaid asset. A PHR is a tool used by patients to maintain and manage their health information in a private, secure and confidential environment. The PHR is managed by the patient. An estimated cost for maintenance for the PHR has been included for Year 3 through Year 6.

**General and Administrative Expense** – This includes rent, utilities, office expenses, liability insurance and general overhead. (20%)

## Funding Sources

Connecticut will need to evaluate the appropriate and successful funding models employed by other states. In this proposal, we are asking for a modest investment of $2.46 million of state funds and then are relying on participant subscription fees to achieve financial sustainability over the course of 6 years. It is imperative that the initial investment of state dollars will be used to evaluate health information organizations around the nation, develop Connecticut's HIE value statement, develop and RFP procurement process, and strategically leverage and build upon the state's enterprise assets.

## Revenue projection

Connecticut's Health Insurance Exchange[40] has calculated the insurance status of the state's residents in which ninety percent of residents would be covered under the top four categories: employer sponsored, state employee, Medicaid and Medicare. At this time we do not expect the VA healthcare, individuals and the uninsured to pay into the HIE model.

| | |
|---|---|
| **Employer-sponsored** | **50.2% (1,827,852)** |
| **State Employee** | 5.4%(200,000) |
| **Medicaid (including Duals)** | 20.9% (760,758) |
| **Medicare** | 14.3%(522,587) |
| **Military/VA Healthcare** | 0.8% (29,416) |
| **Individual (on/off exchange)** | 4.6% (166,933) |
| **Uninsured** | 3.8% (137,000) |

A revenue model that statewide HIE would pursue would include collecting $3 person starting in SFY 2018. It is calculated that the revenue would be scaled for the population participating for employer based companies as well as Medicare in which 10% would participate in Year 3, 25% in Year 4, 50% in Year 5 and 75% in Year 6. There is no scaling of population for those who fall into State Employees Insurance and Medicaid. Participation would be at 100%. At this time we do not expect the VA healthcare, individuals and the uninsured to pay into the HIE model. The revenue generated in this conceptual plan is modest; however it will support the state's enterprise assets and develop a strong HIE backbone that can further be developed in coming years.

[40] http://www.ct.gov/hix/lib/hix/Connecticuts_Remaining_Uninsured_Results_Revised_%5BRead-Only%5D.pdf

## Table 6: Funding Gap SFY 2016-2017 & Proposed Budget SFY 2018-2021

| | Strategic Planning for the HIE | | Operation of the HIE | | | |
|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| **Personnel** | | | | | | |
| *Commissioner, DSS* | *Oversight* | | *Oversight* | | | |
| *HHS HIT Coordinator* | *Oversight* | | *Oversight* | | | |
| CTO | $0 | $65,000 | $139,259 | $144,133 | $149,178 | $154,399 |
| Project Manager | $0 | $70,000 | $72,450 | $74,986 | $77,610 | $80,327 |
| Administrative Assistant | $0 | $25,000 | $53,561 | $55,436 | $57,376 | $59,384 |
| Communication and Outreach Manager | $0 | $90,000 | $93,150 | $96,410 | $99,785 | $103,277 |
| Informatics and Research Associate | $0 | $0 | $95,000 | $98,325 | $101,766 | $105,328 |
| Research Associate | $0 | $0 | $80,000 | $82,800 | $85,698 | $88,697 |
| Economist | $0 | $0 | $100,000 | $103,500 | $107,123 | $110,872 |
| Quality Improvement & Compliance Associate | $0 | $0 | $80,000 | $82,800 | $85,698 | $88,697 |
| IT Analyst 3 | $0 | $0 | $80,000 | $82,800 | $85,698 | $88,697 |
| IT Analyst 2 | $0 | $0 | $60,000 | $62,100 | $64,274 | $66,523 |
| Business Analyst | $0 | $0 | $70,000 | $72,450 | $74,986 | $77,610 |
| Research Associate | $0 | $0 | $0 | $0 | $0 | $80,000 |
| Economist | $0 | $0 | $0 | $0 | $0 | $100,000 |
| Quality Improvement & Compliance Associate | $0 | $0 | $0 | $0 | $0 | $80,000 |
| Business Analyst | $0 | $0 | $0 | $0 | $0 | $70,000 |
| **Total Personnel** | **$0** | **$250,000** | **$923,421** | **$955,740** | **$989,191** | **$1,353,813** |
| | | | | | | |
| **Fringe** | **$0** | **$132,500** | **$489,413** | **$506,542** | **$524,271** | **$717,521** |
| | | | | | | |
| **Start-up Costs** | | | | | | |
| Computers +Software | $0 | $8,000 | $14,000 | $0 | $0 | $8,000 |
| Office Supplies | $0 | $2,000 | $3,000 | $3,000 | $3,000 | $5,000 |
| Instate Travel | $0 | $840 | $840 | $560 | $560 | $560 |
| Website | $0 | $7,000 | $2,500 | $2,500 | $2,500 | $2,500 |
| Develop/ Deploy Consumer/Provider Education/Marketing Materials | $0 | $200,000 | $100,000 | $75,000 | $50,000 | $50,000 |
| **Total Start-up Costs** | **$0** | **$217,840** | **$120,340** | **$81,060** | **$56,060** | **$66,060** |
| | | | | | | |
| **Contracted Services** | | | | | | |
| Facilitator for Health IT Advisory Council | $65,000 | $78,000 | $0 | $0 | $0 | $0 |

| | Strategic Planning for the HIE | | Operation of the HIE | | | |
|---|---|---|---|---|---|---|
| | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** |
| Strategic Plan Consultant | $0 | $100,000 | $0 | $0 | $0 | $0 |
| RFP Consultant | $100,000 | $100,000 | $0 | $0 | $0 | $0 |
| Legal/Policy Consultant | $0 | $150,000 | $100,000 | $100,000 | $100,000 | $100,000 |
| Communication, Outreach & Marketing | $0 | $300,000 | $300,000 | $300,000 | $300,000 | $300,000 |
| Strategic Consultants, as needed (Governance, Business, Technical, Finance, Consent) | $0 | $300,000 | $62,500 | $62,500 | $62,500 | $62,500 |
| Evaluation and Metrics | $0 | $200,000 | $200,000 | $200,000 | $200,000 | $200,000 |
| Help Desk/ Customer Support | $0 | $200,000 | $200,000 | $200,000 | $220,000 | $242,000 |
| **Total Contracted Services** | **$165,000** | **$1,428,000** | **$862,500** | **$862,500** | **$882,500** | **$904,500** |
| | | | | | | |
| **Procurement (Based on State Assets)** | | | | | | |
| EMPI Enterprise Asset Scaling for Y3-Y6 | $0 | $0 | $200,000 | $200,000 | $200,000 | $200,000 |
| EMPI Maintenance for Y3-Y6 | $0 | $0 | $40,000 | $40,000 | $40,000 | $40,000 |
| Provider Directory Enterprise Asset Scaling for Y3-Y6 | $0 | $0 | $350,000 | $350,000 | $350,000 | $350,000 |
| Provider Directory Maintenance for Y3-Y6 | $0 | $0 | $70,000 | $70,000 | $70,000 | $70,000 |
| DIRECT Messaging DSS/Enterprise Asset Scaling for Y3 - Y6 | $0 | $0 | $200,000 | $200,000 | $200,000 | $200,000 |
| DIRECT Messaging Maintenance for Y3-Y6 | $0 | $0 | $40,000 | $40,000 | $40,000 | $40,000 |
| Alert and Notification Services - Proposed Asset to Leverage | $200,000 | $200,000 | $60,000 | $60,000 | $60,000 | $60,000 |
| Consent Registry Scaling for Y3-Y6 - Proposed | $0 | $0 | $3,500,000 | $3,500,000 | $3,500,000 | $3,500,000 |
| Consent Registry Maintenance for Y3-Y6 - Proposed | $0 | $0 | $700,000 | $700,000 | $700,000 | $700,000 |
| Personal Health Record DSS/Enterprise Asset | | | $350,000 | $350,000 | $350,000 | $350,000 |
| **Total Procurement Assets** | **$200,000** | **$200,000** | **$5,510,000** | **$5,510,000** | **$5,510,000** | **$5,510,000** |
| | | | | | | |
| **F&A (20%)** | $73,000 | $445,668 | $1,581,135 | $1,583,169 | $1,592,404 | $1,710,379 |
| | | | | | | |
| **Total Cost** | **$438,000** | **$2,674,008** | **$9,486,808** | **$9,499,011** | **$9,554,427** | **$10,262,272** |

## Funding Sources

| | Description | Strategic Planning for the HIE | | Operation of the HIE | | | |
|---|---|---|---|---|---|---|---|
| | | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
| **Funding sources** | | | | | | | |
| | | | | | | | |
| **State Investments** | | | | | | | |
| PA15-146 Funds | | $292,096 | $358,545 | $0 | $0 | $0 | $0 |
| Bond Funds | | | | | | | |
| **Total State Investments** | | **$292,096** | **$358,545** | **$0** | **$0** | **$0** | **$0** |
| | | | | | | | |
| **Federal Investments** | | | | | | | |
| CMS EHR Incentive Program | | | | | | | |
| State Innovation | | | | | | | |
| Other | | | | | | | |
| **Total Federal Investments** | | | | | | | |
| | | | | | | | |
| **Revenue** | | | | | | | |
| Employer-sponsored | 50.2% (1,827,852) | $0 | $0 | $548,356 | $1,370,889 | $2,741,778 | $4,112,667 |
| State Employee | 5.4%(200,000) | $0 | $0 | $600,000 | $600,000 | $600,000 | $600,000 |
| Medicaid (including Duals) | 20.9% (760,758) | $0 | $0 | $2,282,274 | $2,282,274 | $2,282,274 | $2,282,274 |
| Medicare | 14.3%(522,587) | $0 | $0 | $156,776 | $391,940 | $783,881 | $783,881 |
| Military/VA Healthcare | 0.8% (29,416) | $0 | $0 | $0 | $0 | $0 | $0 |
| Individual (on/off exchange) | 4.6% (166,933) | $0 | $0 | $0 | $0 | $0 | $0 |
| Uninsured | 3.8% (137,000) | $0 | $0 | $0 | $0 | $0 | $0 |
| **Total Revenue** | | | | $3,587,406 | $4,645,103 | $6,407,933 | $7,778,822 |
| **Shortfall** | | | | | | | |
| | | ($145,904) | ($5,899,402) | ($4,853,908) | ($3,146,494) | ($2,483,451) | ($5,899,402) |

For questions, please contact
**Minakshi Tikoo, PhD, MBI, MS, MSc, HHS HIT Coordinator,**
Connecticut Department of Social Services
55 Farmington Avenue
Hartford, CT, 06105
minakshi.tikoo@ct.gov

Cover Design: Carl L Zimmerman, PhD