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6.1 New York Health IT Strategy

Attachment 6.1 New York State's Health IT Strategy

Introduction

To deliver safe, effective, high quality and affordable care in the 21st Century, strategic adoption of an interoperable health information infrastructure is needed to transform health care from today's largely paper-based system to an electronic, interconnected health care system. Accordingly, as one of its principle health care reform initiatives, New York has engaged in the development and implementation of a health information infrastructure.

Health IT is vital to the Governor's vision for health care in several ways. It plays a significant role in our progress to ensure that clinical information is in the hands of clinicians and New Yorkers so that it guides medical decisions and supports the delivery of coordinated, preventive, patient-centered and high quality care. Health IT can gather more precise and timely information about what works in the real world to refine health care policies, monitor health status and safety and guide physician and patient treatment choices. Health IT can replace expensive, stand-alone health surveillance systems with an integrated infrastructure to allow for seamless health information exchange for many public health purposes. Health IT can provide timely information about choices, prices, quality, and outcomes – information essential to a patient-centered health care system.

Health IT alone, however, will not result in the expected quality and population health improvement and efficiency goals. Key alignment of health IT with public health and clinical practice models, new quality and outcomes-based reimbursement models, prevention and wellness initiatives as well as services to support clinicians in learning how to consistently use information to realize the value are essential to improve quality, affordability and outcomes for all New Yorkers.

The successful development and implementation of New York's health information infrastructure will be defined by how beneficial health information is in improving quality, reducing health care costs and improving health outcomes. Achieving these benefits is dependent on much more than just technology. The story below exemplifies this point.

Suppose it was discovered that live music dramatically improved health outcomes. New York rallies and demands live music in every health interaction. However, the musical abilities among our health professionals are limited. The health care community comes up with a technological solution: "we will put a piano in every doctor's office." That should solve the problem. But we know that pianos will not solve the problem alone, because, as any musician will tell you, the music is not in the piano.

There is some hyperbole in this story but the essential characteristics are analogous. The benefit is the music or in the information. EHRs, for example, are essential but not enough to ensure effective use of information and improved health for New Yorkers. An environment must be created and substantial efforts made to 'get the music from the piano' or utilize the information and enable clinicians to learn how to consistently realize the benefits from vastly improved availability of health information.

Accordingly, New York's plan includes the technological building blocks, clinical capacity and governance and policy solutions necessary to advance health IT supporting improvements in health care quality, affordability and outcomes. In a health care system criticized for fragmented care, interoperable EHRs and other health IT tools are a necessary substrate to support the integration and coordination of care.

New York's health IT plan is being advanced in the public's interest and with clinical priorities and quality and population health improvement goals leading the way. The plan includes key organizational, clinical and technical infrastructure as well as cross cutting consumer, financial and regulatory strategies. The highlights include:

- Funding and guiding the development of a standard-based interoperable system to advance EHRs and other health IT tools through HEAL NY and F-SHRP programs. This includes the SHIN-NY as the health information exchange infrastructure through which EHRs and other health IT tools interconnect to ensure information portability.
- Implementing a state designated, public-private partnership entity – the New York eHealth Collaborative – to facilitate a statewide collaboration and governance process setting the rules for New York's health information infrastructure.
- Developing the rules, including: information policies, standards, and protocols and other technical approaches, collectively referred to as Statewide Policy Guidance through the statewide collaboration and governance process, including privacy and security policies.
- Demonstrating clinical and public health goals and improvements in quality through prototype projects providing clinicians with access to clinical information such as medication history information from the Medicaid program and from retail pharmacies and pharmacy benefit managers through Surescripts and RxHub and authorized access to a summary of EHR record information from other providers.
- Conceptualizing, funding and implementing Community Health Information Technology Adoption Collaborations or CHITAs to promote interoperable EHRs, provide implementation and adoption services ensuring effective use and quality gains by providers and clinicians.
- Educating consumers about the benefits and possible risks of health IT and developing and disseminating a portfolio of education materials and on-line tools, including a new website: www.ehealth4ny.org manage by the Legal Action Center.
- Developing financial and reimbursement models for interoperable EHRs, including the SHIN-NY, considering the momentum of the Medicaid and Medicare payment incentives in American Recovery and Reinvestment Act.

- Implementing a CON requirement for health IT focusing on interoperability of EHRs and other health IT systems with the SHIN-NY to ensure patient care and population health improvements.
- Coordinating state government health and human services agencies to develop a vision and implementation plan for a 21st Century state government health information architecture that can connect to the SHIN-NY. A number of state missions could be more cost effective in a world of widespread interoperable health IT perhaps leading to significant budget savings and more effective state programs.

Funding and HEAL NY Grant Program

HEAL NY was established in 2004 to invest up to an anticipated \$1 billion over a four year period to reform and reconfigure New York's health care delivery system to achieve improvements in patient care and increase efficiency of operation.

The DOH has budgeted and executed three rounds of HEAL NY funding totally \$260 million in public funds to develop and implement of a comprehensive health information infrastructure. This investment by the state is the largest in the country to date exceeding all other states combined by a significant margin. An additional \$200 million of private sector matching funds has been invested. Under HEAL X \$100 million will be invested. A total of \$492 million is currently being invested in New York's health information.

HEAL 5 marked the beginning of the development and implementation of the key organizational, clinical and technical building blocks for New York's health information infrastructure. In March, 2008, the DOH and the Dormitory Authority awarded \$106 million to 19 community based health IT initiatives to advance these building blocks for New York's health information infrastructure. A year prior, the Department awarded \$53 million to 26 projects advancing various health IT projects. These 45 projects in total are also contributing more than \$80 million in matching funds to their efforts.

The goal of HEAL 5 over the two year grant period from August 2008 – August 2010 is to establish and mature the organizational, clinical and technical building blocks to produce an initial level of health information liquidity or free flow of information among providers considered early health IT adopters and ensure information tools are being used effectively. Providers are expected to demonstrate the use of an interoperable EHR, a web portal or other tools with the ability to share information across settings as well as initial quality and efficiency gains. Approximately 1500 physicians, 96 hospitals and 56 long term care facilities should benefit as early health IT adopters from HEAL 5. Specific evaluation and progress based on clinical goals and metrics is being evaluated by HITEC.

New York's investment is also being supported by federal funds, including a \$20 million grant in 2008 from the Centers for Disease Control and Prevention to improve public health situational surveillance and reporting through health information infrastructure. In addition, NYeC

received a one-year, \$2.8 million contract from the U.S. Department of Health and Human Services to support the NHIN Trial Implementation Project. The health IT infrastructure components of the ARRA Act of 2009 (known as Federal economic stimulus law) also aligns and coordinates well with New York's strategy and will add further support and incentives for health information technology adoption.

The strategic focus of HEAL 10, the third health IT grant round, is to continue to advance New York's health information infrastructure, moving from phase 1 to phase 2 ("infancy to childhood") based on clinical and programmatic priorities and specific goals for improving quality, affordability and outcomes, while at the same time aligning health information infrastructure as an underpin to a new care delivery and reimbursement model - PCMH. This policy alignment is essential not only to advance and sustain the technical building blocks of New York's health information infrastructure, but also to ensure that the clinical capacity is established for providers and patients to be prepared and held accountable for new reimbursement models based on quality based outcomes and care coordination and management.

The specific goals of HEAL 10 build upon HEAL 5 from a health information infrastructure perspective and go much further with respect to aligning key health reforms included in the PCMH model to improve care.

The expected opportunities from New York's health IT investment overall includes:

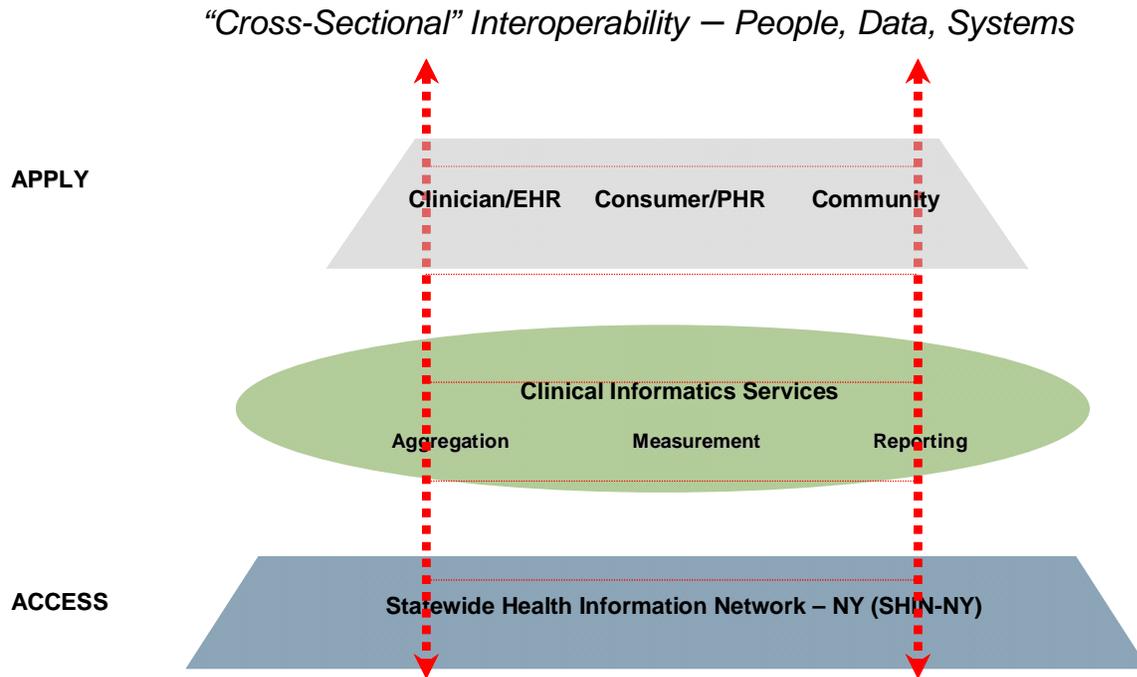
- Improvements in Efficiency and Effectiveness of Care: Provide the *right* information to the *right* clinician at the *right* time regardless of the venue where the patient receives care.
- Improvements in Quality of Care: Enable access to clinical information to support improvements in care coordination and disease management, help re-orient the delivery of care around the patient and support quality-based reimbursement reform initiatives.
- Reduction in Costs of Care: Reduce health care costs over time by reducing the costs associated with medical errors, duplicative tests and therapies, uncoordinated and fragmented care, and preparing and transmitting data for public health and hospital reporting.
- Improvements in Outcomes of Care: Evaluate the effectiveness of various interventions and monitor quality outcomes.
- Engaging New Yorkers in Their Care: Lay the groundwork for New Yorkers to have greater access to their personal health information and communicate electronically with their providers to improve quality, affordability and outcomes.

Technical Infrastructure

There are two key overarching strategies to achieving benefits from New York's health information infrastructure: (1) advancing three interrelated components – organizational,

clinical and technical infrastructure and (2) advancing cross-sectional interoperability based on building blocks depicted in figure below.

Framework for New York’s Health IT Strategy



The technical framework includes 3 main building blocks: (1) the 3C’s: interoperable electronic health records for **C**linicians, personal health records for **C**onsumers, and **C**ommunity information portals; 2) CIS which refer to the tools required for the aggregation, analysis, decision support and reporting of data for various quality and public health purposes; and (3) the SHIN-NY providing an architecture, common health information exchange protocols and standards to share information among providers and with patients and mobilize information for public health and quality reporting.

The SHIN-NY is viewed as a bedrock infrastructure component that is essential to achieve interoperability and support New York's broader health care goals. Interoperability is essential to realizing the expected benefit from health IT and vastly improving the availability and use of health information to improve patient care. Perpetuating siloed information systems that do not interconnect will significantly impede the adoption and effective use of health IT tools, especially electronic health records.

A key principle driving the implementation of New York's technical infrastructure is “design globally, implement locally.” This means that the infrastructure is being built upon common statewide information policies, standards, and protocols and other technical approaches

embodied in the SHIN-NY or “information highway” – as well as regional “bottom-up” implementation approaches and care coordination to allow local communities and regions to structure their own efforts based on clinical and patient priorities. This framework promotes innovation and accountability across the full range of New York's diverse health care delivery settings – from solo-physician offices and community health centers to large academic medical centers and nursing homes, and from Manhattan to rural upstate towns – with vastly different market conditions and health care needs.

The challenge in implementing the technical infrastructure is made more difficult in that each of the three elements of functioning health information exchange: demand, supply and the infrastructure, are still in the early stages of development. The cross-sectional interoperability approach depicted in figure 1 above addresses this by implementing capabilities in incremental amounts that include all three technical building blocks: SHIN-NY, CIS, and Clinician/EHRs, Consumer/PHRs, and Community (3Cs). A complete cross section can be designed to provide real benefit as soon as possible. A major goal of New York’s health IT strategy is to identify and support opportunities amenable to this approach. In this way a clinician and patient can begin to derive direct benefits from health information exchange. Like any infrastructure project, be it roads, water treatment or information, incremental efforts can provide value by integrating demand and supply through the infrastructure. For example, a small number of well chosen roads will enable some transportation and commerce that was not possible prior to their construction.

The Road to Interoperability

Interoperability enables patient health information to be exchanged in real time among disparate clinicians, other authorized entities, and patients, while ensuring security, privacy, and other protections. Interoperability is necessary for compiling the complete experience of a patient's care and ensuring it is accessible to clinicians as the patient moves through various health care settings. This will support clinicians in making fact-based decisions that will reduce medical errors, reduce redundant tests and improve care coordination. Interoperability is critical to cost-effective, timely, and standardized data aggregation and reporting for quality measurement, population health improvement, biosurveillance, and clinical research. Interoperability is also needed to facilitate convenient access by patients to their own personal health information, enabling this information to be portable rather than tethered to a particular payer or provider.

The vision for the clinician or other authorized users is to experience one big exchange. In reality there are many health care organizations and systems participating in HIE services and their ability to coordinate creates the illusion of a central exchange, simplifying the clinician experience. For example, a physician desiring the prescription history of a patient should only need to 'press a button' to fulfill the request. Underneath, the Rx service may have to traverse many HIEs or sub networks which comprise the SHIN-NY to obtain the information.

Health information exchanges, like the SHIN-NY, use the term "liquidity" to express the level of interoperability or rate of flow of assets through the exchange. Exchanges are characterized as very liquid when almost all uses succeed (ie., finding clinical information about a patient to inform medical decisions; receiving a drug-drug interaction alert). Conversely, in an illiquid exchange a large number of uses may fail (e.g., not finding current and/or complete medication profiles for patients).

A high level of liquidity for the health information flowing through the SHIN-NY is essential. The key to generating liquidity in any exchange is the belief on the part of stakeholders that uses of the exchange will succeed and be beneficial and that, in rare cases of problems, the stakeholders will be protected and problems will be solved. This is as much a function of trust as technology or clinical participation, and is achieved through an organizational infrastructure responsible for policy and governance. New York is implementing a two-tiered governance structure through which information policies and technical standards and protocols are developed, implemented and adhered to in order to enable secure and interoperable exchange of health information. The DOH, the NYeC and the RHIOs are responsible for the governance structure and policy framework outlined further in the Organizational Infrastructure section.

SHIN-NY Materials and Architecture – The Internet Model

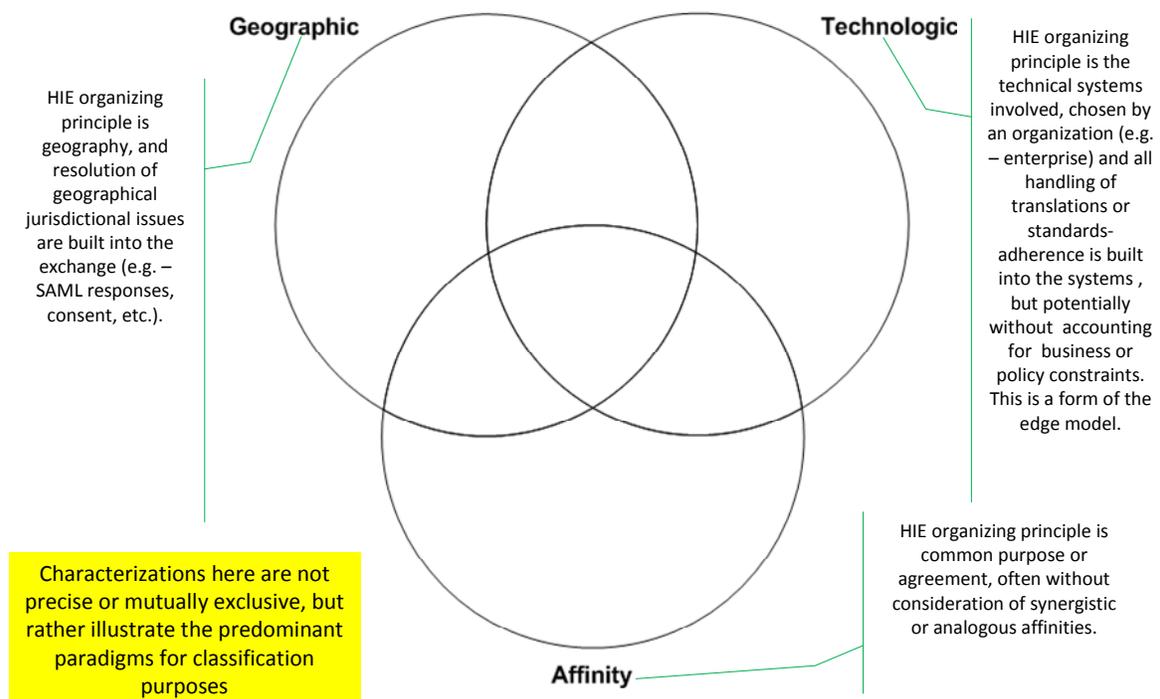
The SHIN-NY is a technical infrastructure pattern that enables widespread interoperability among disparate healthcare systems. The requirement to support very large-scale health care environments leads to two critical assumptions that lead directly to principles for the overall technical infrastructure: the environment will be very heterogeneous and continuously changing. Heterogeneity and change will be constant and flexibility to accommodate unanticipated components and retire existing components without significant disruption to the overall system will be essential. The 'system' is never down.

We have a good example of this today. It's the Internet.

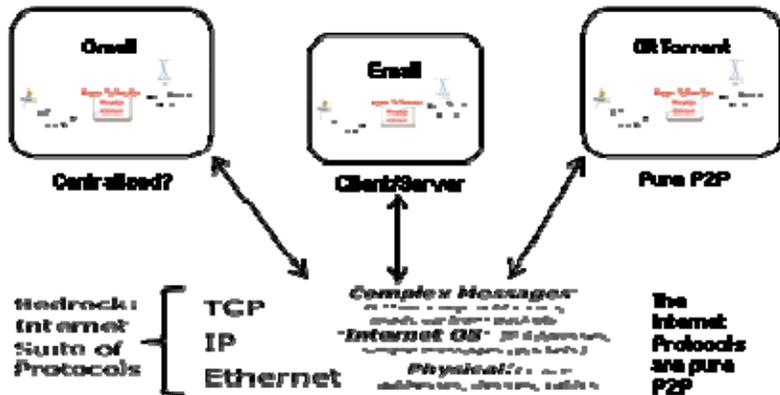
The SHIN-NY infrastructure pattern includes two major architectural components. The first is architectural materials and processes used in building the SHIN-NY. The second is the architectural structure of the SHIN-NY.

With sound materials like connections, messages, standards and wrappers defined by common health information exchange protocols or CHIXP, there are three main options for structuring health information exchange via the SHIN-NY: (i) between geographies, (ii) between systems and (iii) between affinity groups as illustrated in the figure below:

Paradigms in HIE – All Supported by SHIN-NY



The choice and sequencing of the structural options drives the construction and operation of SHIN-NY. Additionally, all distribution models as depicted in the figure below are supported by the SHIN-NY architecture in an effort to avoid constraints.



A Peer-to-peer protocol can support any form of distribution architecture. Servers and clients are really just "special" peers and a centralized system just has a "special" server.

The implementation of the overall SHIN-NY infrastructure pattern is being accomplished using any applicable technology components. The SHIN-NY specifications are vendor agnostic and technology agnostic, espousing technical standards, protocols, and architectural patterns. The goal is that the implementation of the prescribed architecture provides a framework that sets boundaries on the dimensions of technical implementation to ensure interoperability and consistent operation.

The SHIN-NY architecture is organized at different levels or layers, as for any complex environment and system. Architectural layers contain boundaries used to define interfaces and isolate system components as well as provide principles and processes used to guide design of dependent layers.

At each layer, the SHIN-NY architecture is as concise as possible and yet still descriptive enough to answer all the questions of the next level of refinement. For example, the Constitution of the United States is the entire architecture of our government and the resulting systems that still run the country today. The whole thing fits in a few pages, a bit more if you include all of the subsequent amendments. The laws and cases that have resulted from that Constitution fill libraries, and are full of contradictions and messy corners. Local courts don't worry directly about the Constitution, but the principles drive all the users and provide ultimate resolution if necessary.

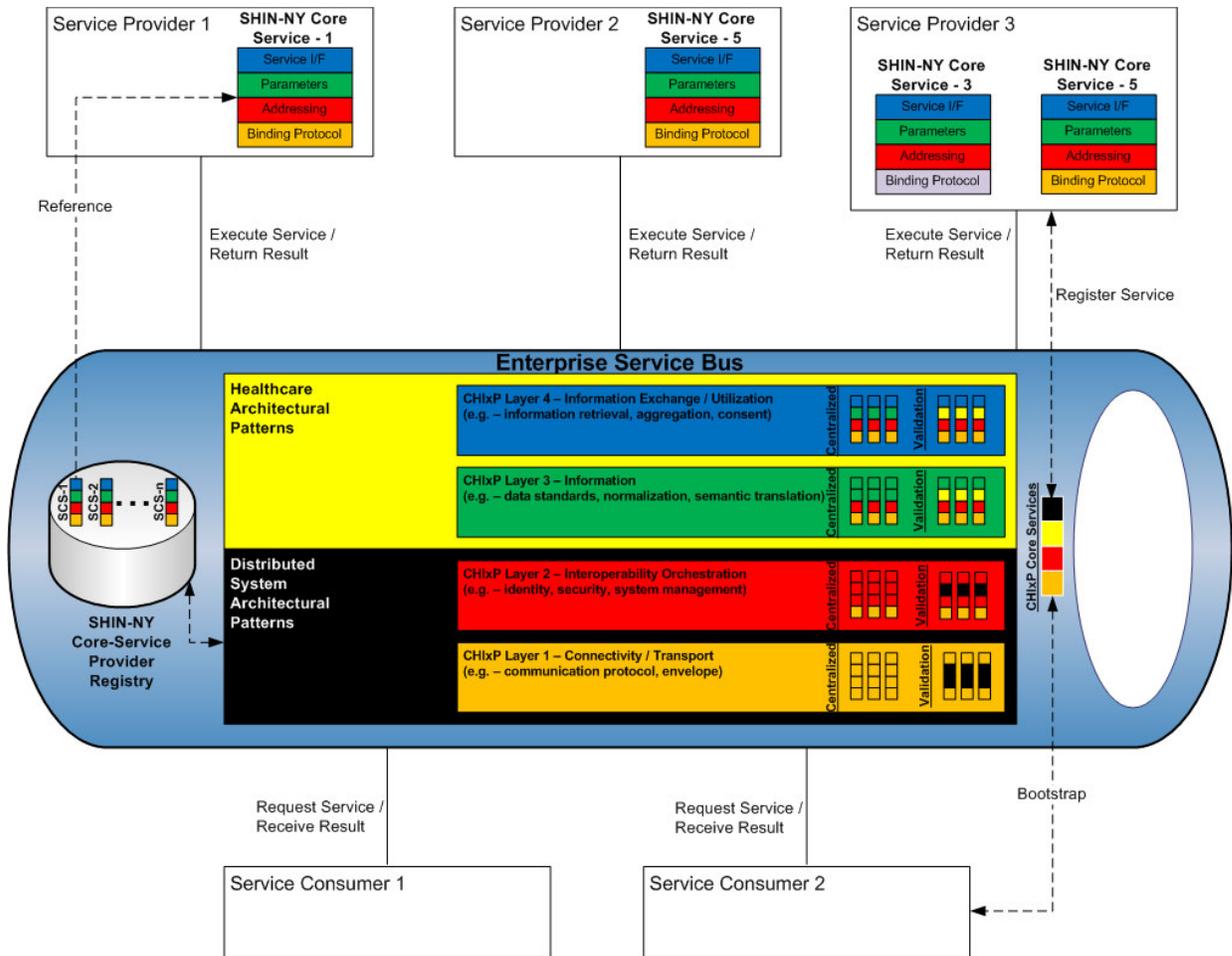
The SHIN-NY architecture is also a 'protocol driven, late binding architecture (PDLBA). A PDLBA is structured around groups of protocols governing the function of the system. As importantly, these protocols are defining the system at the highest level of abstraction possible. In non-technical terms, one can sum up a successful PDLBA implementation as an exercise in delayed gratification: a system that never makes a decision now if it can wait until it has more information about the actual needs to be fulfilled. A second critical requirement is that the protocols be 'open' or not proprietary.

The CHIXPs are the linchpin of New York's health information infrastructure, especially the SHIN-NY and EHRs that connect to it. They provide a common basis for implementing standards in a meaningful and practical way through interoperable systems. In other words, standards are necessary but not sufficient for health information exchange and interoperable EHR adoption. Architecture and CHIXP through which standards are fueled and effectuated are essential. Every SHIN-NY core HIE service talks through the CHIXP (with an optional adapter layer for external/legacy environments) to every other core HIE service it requires to fulfill its function. The result is that every interaction is dependent on the CHIXP. The widespread adoption and implementation of the CHIXP is crucial for SHIN-NY to be successful and is underway. The goal is for CHIXP to be as small and simpler as possible providing the best chance of success for implementation on a wide spread basis. The CHIXP are 'open' protocols to avoid ceding control to a particular vendor.

In summary, the SHIN-NY is using architecture and materials that fit the problem. Again, the Internet is the best model available for this.

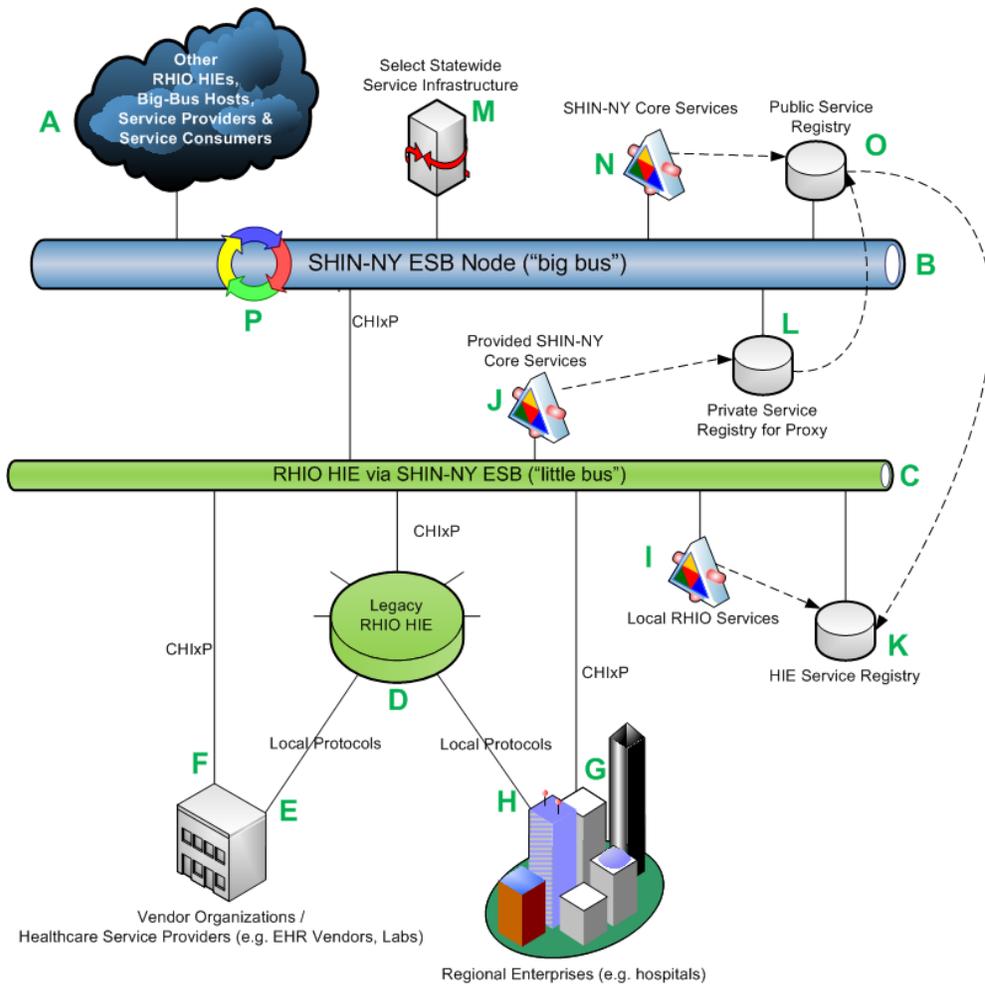
Service-Oriented Architecture

The SHIN-NY is based on a service-oriented architectural paradigm, implemented through web services operating through an enterprise service bus, with a four-tier protocol stack. The protocol stack, called the CHIXP, divides the protocols into categories, with the lower two corresponding to system architecture patterns, and the upper two dealing with healthcare architecture patterns as illustrated below.



The SHIN-NY implements an ESB for consistent trafficking of information among services and nodes within the network as depicted below. The SHIN-NY implements services that are brokered by Enterprise Service Bus nodes that are both centralized (SHIN-NY ESB, a.k.a. a “big bus”) and local (RHIO¹-HIE ESB, a.k.a. a “little bus”). This allows services to be orchestrated or choreographed at the ESB level with providers and consumers of services bringing economies of scope, scale and opportunity to the overall architecture.

¹ RHIO = Regional Health Information Organization, a regional governance entity, which is part of a statewide governance body, The New York eHealth Collaborative.



The roles and responsibilities of a “big bus” include:

- Be continually visible and accessible to third-party entities, including other Big Bus hosts (A-B);
- Expose global service listing publically that is synchronized with other Big Bus Hosts (O);
- Implement intrinsic services such as validations (N);
- Host infrastructure components for select statewide services (M);
- Intermediate access to hosted core services (A-B-L-B-C-J);
- Perform orchestration of services during intermediation (A/C-B-P-L/O-B-A*/C*-B-P-B-A/C); and
- Serve as gateway to selected statewide-services (A/C-B-M).

The roles and responsibilities of a “little bus” include:

- Be continually visible and accessible to Big Bus hosts (B-C);
- Expose HIE service listing locally containing local and global services (K);
- Implement requisite SHIN-NY Core Services (J);

- Interface with legacy HIE infrastructure as stop-gap toward level-3 compliance (C-D);
- Intermediate access to SHIN-NY Big Bus and external entities/services (F/G-C-B-A/M/N; E/H-D-C-B-A/M/N);
- Facilitate local CHIxP exchanges within HIE (E/H-D-C-F/G/I; F/G-C-I/F/G); and
- Deprecate legacy HIE exchanges (phase out E-D-H).

SHIN-NY vs. NHIN

The SHIN-NY architecture has an overarching principle to be compliant with the national standards for healthcare interoperability recognized by the Secretary of HHS. Specifically, HHS recognizes interoperability specifications containing harmonized standards published by HITSP, and as such, the SHIN-NY ESB is a HITSP-compliant and HITSP-consistent (where no direct conformance criteria exist) architecture. Similarly, HHS has sponsored a large scale development effort to build a national health information exchange capability called the NHIN that instantiates the HITSP standards into real networks and systems. SHIN-NY leverages the work of the NHIN effort, in which New York has been participating, in its architectural framework.

There are, however, major differences in strategy between the SHIN-NY and the NHIN. While the NHIN trial implementation focused on peer-to-peer transactions among NHIN Health Information Exchange participants, the SHIN-NY, as mentioned above implements services that are brokered by ESB nodes that are both centralized (SHIN-NY ESB, a.k.a. a “big bus”) and local (RHIO²-HIE ESB, a.k.a. a “little bus”). This allows services to be orchestrated or choreographed at the ESB level. For example, a service consumer can invoke a query to the ESB, which launches multiple queries to various service providers, receives all of the results, aggregates them into one response, and returns the unified response to the service consumer. Due to this architectural difference with the NHIN, some core services as defined by NHIN require modification in order to function within the SHIN-NY.

The SHIN-NY Service Oriented Architecture SOA defines two types of services: Core Services, which are not tied to specific functional (aka clinical) use cases, and Functional Core Services, which are tightly coupled to these clinical business requirements. These services and their implementation paths are outlined in the current version of the SHIN-NY specifications as part of Statewide Policy Guidance. The services and implementation paths will be augmented as additional services for the implementation of use case functionality not currently specified in the current version of SHIN-NY specifications are incrementally added and specified.

² RHIO = Regional Health Information Organization, a regional governance entity, which is part of a statewide governance body, The New York eHealth Collaborative.

The current version of the SHIN-NY technical design and specifications as part of Statewide Policy Guidance:

http://www.health.state.ny.us/technology/statewide_policy_guidance.htm

Organizational Infrastructure – Governance and Policy Framework

The technical infrastructure constitutes only one aspect of the overall strategy. More important is the organizational infrastructure that has been established and is comprised of a policy and governance framework, collaborative processes and accountability mechanisms on which the strategy is being implemented.

Governance and Policy Framework

The governance and policy framework includes:

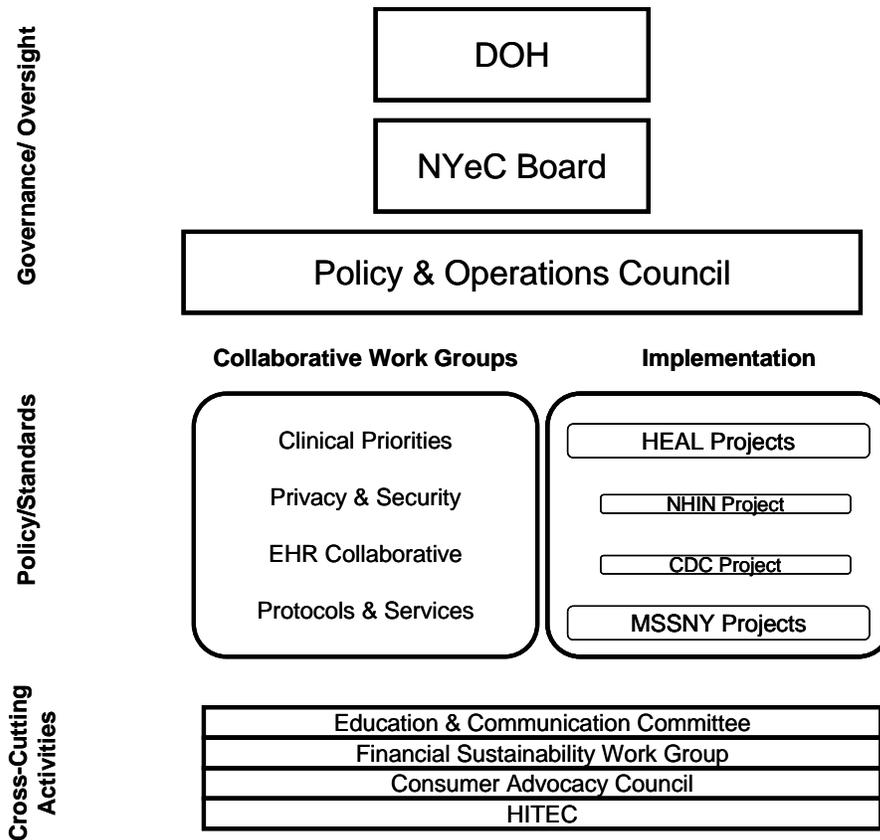
1. New York State Office of Health Information Technology Transformation (OHITT). In January 2007, the New York State Department of Health created the OHITT. OHITT is charged with coordinating health IT programs and policies across the public and private health-care sectors to enable improvements in health care quality, affordability and outcomes for all New Yorkers. These programs and policies will establish the health IT infrastructure and capacity to support clinicians in quality and population health improvement, quality-based reimbursement programs, new models of care delivery and prevention and wellness initiatives. The health IT transformation program is a part of the state's agenda to advance patient-centered care and enable improvements in health care quality, affordability and outcomes for each person, family and business in New York.

2. New York eHealth Collaborative (NYeC). The NYeC is a statewide public-private partnership and governance body playing an integral role in advancing New York State's health IT strategy. NYeC's key responsibilities include (1) convening, educating and engaging key constituencies, including health care and health IT leaders across the state; (2) facilitating a two-tiered governance structure for interoperable health information exchange through the SHIN-NY that includes: at the state level setting health information policies, standards and technical approaches, and at the regional and local level implementing such policies by RHIOs and CHITAs) and (3) evaluating and establishing accountability measures for New York State's health IT strategy.

NYeC is a state designated entity for the purposes of health information exchange infrastructure as defined in the American Recovery and Reinvestment Act 2009 and meets and exceeds the criteria put forth serving as a model for the country.

3. Statewide Collaboration Process. New York is developing health information policies, standards and protocols and other technical approaches governing the health IT infrastructure – collectively referred to as Statewide Policy Guidance. NYeC, in partnership with the DOH, is leading the development of Statewide Policy Guidance through an open, transparent, and consensus driven process to which all contribute to ensure a comprehensive policy framework to advance health IT in the public’s interest. This governance process is referred to as the SCP.

To date, the SCP is driven by the efforts of four workgroups which recommend Statewide Policy Guidance to the NYeC Policy and Operations Council, the NYeC Board and the Department of Health. The four workgroups are: (1) Clinical Priorities (2) Privacy and Security; (3) Technical Protocols and Services; (4) EHR Collaborative. As part of its commitment to the public-private organizational infrastructure and policy framework evolving to support statewide interoperability, the State of New York has committed \$5 million to NYeC over the next two years to manage the SCP. The picture below illustrates the components of the SCP to date.



The SCP is also developing a contractual and legal framework for New York’s health information infrastructure to effectuate the governance and technical models described herein and are discussed in the Contractual Framework section below.

4. Regional Health Information Organizations (RHIOs). Underlying the Statewide Collaboration Process and central to the successful implementation of the SHIN-NY are RHIOs. New York’s RHIOs working under the NYeC umbrella and with their stakeholders and constituents must create an environment that assures effective health information exchange both organizationally and technically through a sound governance structure. RHIOs are a part of the Statewide Collaboration Process managed by NYeC and are required to participate in setting Statewide Policy Guidance and then implement and ensure adherence to such guidance. Serving as trusted brokers, RHIOs are multi-stakeholder collaborations that enable the secure and interoperable exchange of health information with a mission of governing its use in the public's interest and for the public good by supporting improvements in health care quality, affordability and outcomes. Currently, there are state designated RHIOs, which are part of the statewide governance structure and provisioning health information exchanges or sub networks of the SHIN-NY through contracts with HIE vendors over the next two years. By virtue of fulfilling their obligations, RHIOs will be conferred benefits in terms of eligibility for grants, contracts for services, and access to various data sources, both public and private.

5. Community Health Information Technology Adoption Collaborative (CHITA). CHITAs, sometimes referred to as Service Bureaus and now synonymous with Regional Extension Centers referenced in the ARRA legislation, are providing feet on the street implementation and wrap around services to providers adopting interoperable EHRs to ensure proper configuration and implementation, effective use and attainment of quality and efficiency goals. CHITAs are essential to eliminating barriers to interoperable EHR implementation, providing low cost and high value services, and ensuring clinicians realize up-front and consistent value from interoperable EHRs and develop the capacity to be accountable for payment based on quality outcomes resulting from robust availability of health information.

Initially as part of HEAL 5, CHITAs were community-based collaborations of providers and health IT service providers with a mission to provide “wrap around” services for the successful adoption and effective use of interoperable EHRs. As part of HEAL 10, however, CHITAs, can be independent organizations – non-profit, for-profit or local government agencies – that demonstrate the capacity and proficiency to provide EHR adoption and support services to providers and clinicians. Additional discussion on CHITAs is in the Clinical Infrastructure section.

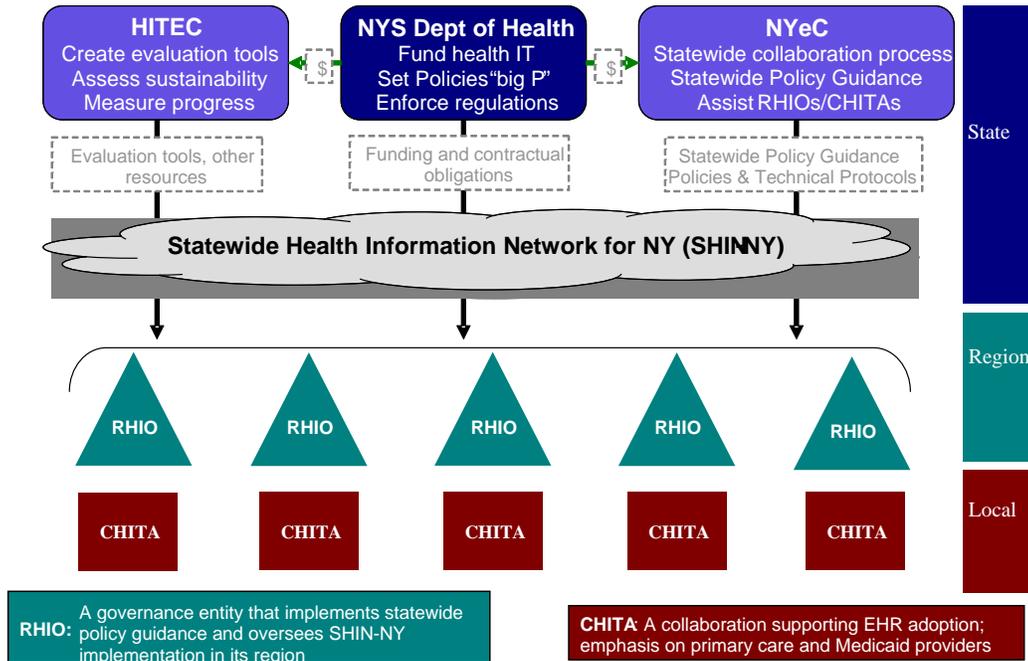
6. New York Health Information Technology Evaluation Collaborative (HITEC). HITEC is a multi-institutional, academic collaborative of New York State institutions including Cornell University, Columbia University, the University of Rochester, the University of Buffalo and the State University of New York at Albany, and serves in a research and evaluative role with respect to health IT initiatives in New York State. HITEC was formed to evaluate and develop evaluation instruments for health IT initiatives, including interoperable health information exchange and EHR adoption across the State. HITEC has been charged with providing evaluation services for HEAL NY Phase 5 grantees in a

consistent and objective manner across all funded projects. The State of New York has committed \$5 million to HITEC over the next two years.

HITEC is providing RHIOs with standardized surveys, standardized outcome measures, consulting on study design and other research methods for evaluation, statistical consulting, data analysis, and reports summarizing each RHIO’s findings (with anonymous comparisons to other RHIOs). HITEC will also conduct cross-RHIO evaluations, thereby generating more generalizable findings. Regional and national dissemination of these findings will be a top priority.

HITEC is also facilitating evaluations of the impact of HIE on consumer expectations of and satisfaction with HIE (including any concerns about privacy and data security), provider’s use of and satisfaction with HIT and HIE, including unintended consequences and effects on workflow, patient safety and health care quality, and financial impact (ie. return on investment from the perspectives of providers, health plans and large employers) as driven both by efficiency and safety/quality savings. HITEC will lead some of the first data-driven evaluations of the impact of HIE on health care. The results of these evaluations will inform HIE adoption and provide insights into the impact of state policy on HIT adoption and HIT-related changes in health care. HITEC will be able to serve as a model of HIT evaluation centers nation-wide.

A high-level representation of the key overall organizational infrastructure building blocks and relationships is illustrated below.



New York's framework for a comprehensive, interoperable health information infrastructure is predicated on distinguishing between the responsibility for setting policy, which is the province of the state (policy with a "big P") and is assisted by the state designated entity, the NYeC, through a transparent governance process (policy with a "little p"). The responsibility for implementing health information policies is the province of RHIOs and CHITAs; and the responsibility for compliance with the CHIxP and standards is the responsibility of the health information service provider companies providing health information exchange software and technical services that are contracted by the RHIOs, CHITAs or NYeC.

It is important to note that the setting of information policies, standards, protocols and other technical approaches "little p" or Statewide Policy Guidance is married to the actual implementation of the technical infrastructure. In other words, the governance process of setting Statewide Policy Guidance, changing and evolving it when necessary and holding stakeholders accountable to it requires an integrated and seamless process and must be aligned with technical implementations, especially at this nascent stage of infrastructure development and implementation.

Moreover, this distinction between policy, governance and the provision of technology services in advancing interoperability via the SHIN-NY is critical to understanding exactly what accountability mechanisms should be in place. Given the central governance role played by NYeC and RHIOs in New York and their receipt of substantial public funding, it is essential they be held publicly accountable. Moreover, accountability is important not just from the state's perspective. For NYeC and RHIOs governing the SHIN-NY to be successful, all stakeholders – state and local governments, providers, payers, and consumers – must have confidence that NYeC and the RHIOs serve the public interest and perform the duties expected of them in a transparent manner that earns public trust. Accordingly, an examination of alternative pathways is underway for ensuring the public accountability of NYeC and RHIOs governing the SHIN-NY, including how an accreditation process could establish a mechanism to define measures for governance and accountability functions and assess their performance.

Version 1 Statewide Policy Guidance

Through the Statewide Collaboration Process, a comprehensive set of health information policies, standards, and protocols and other technical approaches for the SHIN-NY and interoperable EHR adoption, including a comprehensive set of privacy and security policies has been developed and released as part of the current version of Statewide Policy Guidance. All state funded health IT initiatives are required not only to comply with the Statewide Policy Guidance but also participate in the governance process which develops it. The current version of Statewide Policy Guidance is located:

http://www.health.state.ny.us/technology/statewide_policy_guidance.htm

Privacy and Security Policies

The goal of the Privacy and Security workgroup as part of the Statewide Collaboration Process is to develop policies that will protect privacy, strengthen security, ensure affirmative and informed consent and support the right of New Yorkers to have greater control over and access to their personal health information as foundational requirements for interoperable Health IT.

The current version of privacy and security policies and procedures for New York's health information infrastructure include procedures governing interoperable health information exchange via the SHIN-NY as well as interoperable EHRs. The scope includes the full range of privacy and security policies for interoperable health information exchange, including: authorization, authentication, consent, access, audit, breach and patient engagement policies. The document which details the policies and procedures is located with the current version of the Statewide Policy Guidance.

The privacy and security policies and procedures are components of a larger state effort to advance comprehensive Statewide Policy Guidance noted above. All projects funded under the HEAL NY Health IT grant programs are required to comply with the privacy and security policies and procedures. In addition, all projects must require their participants to comply with the most recent version of privacy and security policies and procedures.

The privacy and security policies and procedures represent the minimum standards with which projects – currently RHIOs and providers participating in a CHITA – must comply and must require their participants to satisfy. Where appropriate, or where required by the operational models and/or governance structures of the RHIO, a RHIO may delegate certain of the responsibilities set forth in the privacy and security policies and procedures to its participants. However, RHIOs and providers participating in a CHITA remain responsible for requiring their participants to comply with the minimum policies set forth herein.

As part of the full suite of privacy and security policies, NYS established an affirmative written consent policy and statewide standardized model consent form whereby patients may authorize provider organizations to access all of their protected health information including sensitive health information.

New York State law requires that hospitals, physicians, other health care providers and HMOs obtain consumer consent before disclosing personal health information for non-emergency treatment. Unlike HIPAA, New York State law provides no exception to this requirement for treatment, payment or health care operations. While consent may be verbal or even implied for most types of health information, this is not the case for certain classes of specially protected health care information, including information related to HIV status, mental health and genetic testing, the disclosure of which require

written consent. These laws reflect a desire to ensure that consumers are protected from unauthorized uses of personal health information and provide both a legal and normative guidepost for developing consent policies for health information exchange via the SHIN-NY governed by RHIOs and interoperable EHR adoption in New York.

Accordingly, affirmative consent must be obtained by each provider and payer organization before accessing health information through the SHIN-NY governed by the RHIO. Consent may be obtained at an organizational level (ie., medical practice, hospital) and need not be at the individual clinician level. Once a provider or payer organization obtains consumer consent, it may access the information of all RHIO data suppliers unless the RHIO has voluntarily established additional restrictions on disclosures.

Consumers must be able to prevent any or all provider and payer organizations from accessing their personal health information via SHIN-NY governed by a RHIO without being refused treatment or coverage. Provider or payer organizations may not condition treatment or coverage on the consumer's willingness to provide access to the consumer's information through a RHIO.

Existing New York law does not require providers to obtain consumer consent to upload or convert information to a RHIO's HIE or SHIN-NY sub network as long as the RHIO does not make the information accessible to other entities without consumer consent.

As mentioned above, New York's consent to access policy is buttressed by the full range of privacy and security policies necessary to protect patient privacy and strengthen security in an electronic and interconnected health care system.

Contractual and Legal Framework

Through the statewide collaboration process, a policy framework to develop and maintain Statewide Policy Guidance is being formulated in the public's interest through a transparent governance process and the technical development and implementation of a dynamic, bi-directional health information infrastructure is underway. The policy framework and governance as well as the technical infrastructure implementation are inextricably linked and essential to advancing interoperable health information exchange supporting care coordination, quality improvement interventions, public health reporting and biosurveillance activities.

In order to effectuate the governance and technology models, a contractual and legal framework is being developed by DOH and NYeC and is based on the following characteristics:

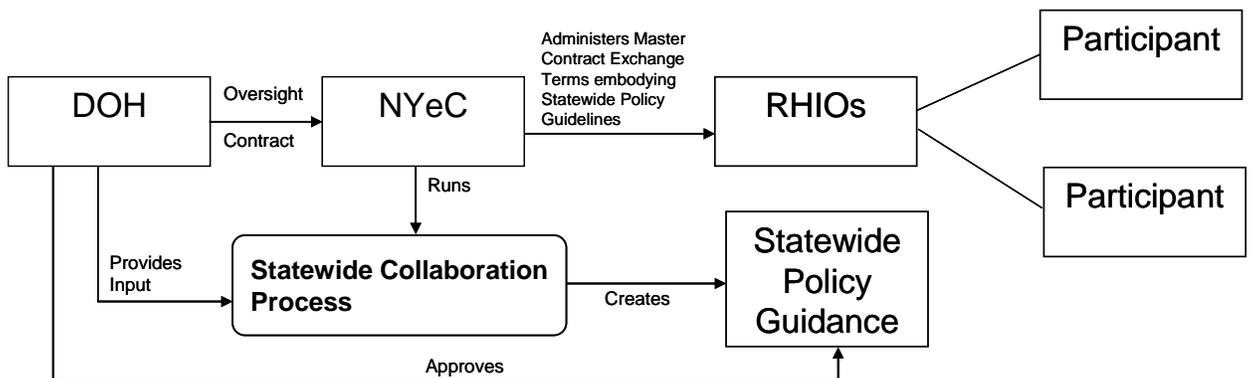
- Permanency: perpetuating a comprehensive contractual framework beyond the expiration of grant contracts;
- Simplicity: minimizing the number of separate contracts required;

- Flexibility: accommodating the addition of participants and the evolution of services over time;
- Certainty: implementing a comprehensive structure to resolve disputes and effect enforcement; and
- Equity: establishing a mechanism through which fair and equitable business terms can be established in a transparent, non-conflicted way.

The governance role and responsibilities of NYeC with respect to the implementation of the contractual framework include:

- Drafting and adopting vendor contract requirements requiring SHIN-NY participants and their vendors to comply with Statewide Policy Guidance and share services through enterprise service buses;
- Establishing and running a Dispute Resolution Committee that will have authority to make binding determinations resolving disputes among vendors and participants relating to contracts for the provision of services funded through HEAL 5 contracts; and
- Serving as a contracting agent and administrator for SHIN-NY shared services, based on the technical architecture and core services, such as:
 - Medication management services;
 - Authentication services;
 - Patient identity reconciliation services;
 - Provider identity services; and
 - Consent management services.

NYeC is establishing a contractual framework which includes a set of master shared service terms (the Master Contract Shared Service Terms), which establishes a framework under which each specific SHIN-NY shared service will function. NYeC negotiates individual shared service addenda to govern each specific shared service within the framework of the Master Contract Shared Service Terms. Each RHIO and each participant of each RHIO subscribes to and binds itself to the Master Contract Shared Service Terms and each Shared Service Addendum. This is depicted in the figure below.



The goals of this contractual framework are to:

- Establish clear criteria for NYeC to determine that RHIO participants are eligible to use SHIN-NY shared services;
- Institutionalize and perpetuates enforcement mechanism for Statewide Policy Guidance relative to shared services including sanctions and remedies for breach;
- Unify into a single contractual framework what would otherwise be a multiplicity of contracts with potentially varying and disparate business terms;
- Provide a single dispute resolution forum that will encourage uniformity of interpretation and application of terms; and
- Enable statewide shared services to be contracted for on a basis that is simple and consistent for vendors.

Clinical Infrastructure

A key objective of New York's health IT strategy is to ensure that clinical and public health priorities and measurable outcomes drive technology implementation. Accordingly, the DOH has established a set of clinical investment priorities from which awardees through the HEAL NY grant program select as the goals of their projects and around which the technical implementation activities are oriented. Each clinical investment priority has a corresponding use case that reflects the high-level clinical and business requirements to guide software functionality and technical implementation. Clinical requirements for implementation of each use case are developed through the statewide collaboration process managed by NYeC. This process includes an analysis of clinical workflow for each specific use case as well as alignment with both NYS and federal guidelines when available. Clinical requirements are then used by other collaborative groups within NYeC to help develop and refine policies, standards and technical requirements.

Clinical Priorities and Use Cases

The clinical priorities and corresponding use cases are:

Medication Management: Sharing medication history information with clinicians emphasizing medication management and electronic prescribing as the initial priority. This includes medication history information from Medicaid as well as additional sources of medication history information from pharmacies and pharmacy benefit managers to enhance clinical decision support capabilities, such as drug-drug interaction checking. This use case also includes Medicare electronic prescribing standards.

Connecting New Yorkers and Clinicians: Providing the capacity to connect New Yorkers to their clinicians and providers to share clinical results, care management programs, as

well as provide New Yorkers with personal health records tools, including access to health information exchange audit trails and consent forms.

Health Information Exchange for Public Health: Improving situational awareness and reporting for public health purposes and reducing administrative costs of preparing and transmitting data among providers and public health officials. This use case includes the development of a Universal Public Health Node inside the DOH, incorporates Federal standards emerging from biosurveillance best practices and connections to the Statewide Health Information Network for New York.

Immunization Reporting via EHRs: Interfacing EHRs with the NYSDOH and NYCDOHMH Immunization Registries to enhance their use and improve safety and efficiency. The use case incorporates NY's Immunization Registry standards and incorporates criteria set forth by the CDC and CCHIT.

Quality Reporting for Prevention via EHRs: Implementing EHRs with embedded population health and prevention metrics supporting registry and alerting functions to improve preventive care.

Quality Reporting for Outcomes: Providing quality-based outcome reports based on clinical information from an interoperable EHR as well as other data sources to all payers and providers to improve quality and support new payment models. Utilization of the SHIN-NY and the CIS is incorporated into this use case as well as Federal and state priorities and requirements with respect to quality measures and approaches.

Clinical Decision Support in a HIE Environment: Providing analytic software to guide medical decisions and facilitate quality interventions either by providing a service via the SHIN-NY infrastructure and/or utilizing EHR analytics.

The NYeC working closely with DOH, is managing the SCP that includes a workgroup structure whereby clinical priorities described above are detailed and translated into technical requirements and approaches to ensure health IT produces the expected value with respect to improvements in health care quality, affordability and outcomes. The NYeC Clinical Priorities Workgroup consists of subgroups targeted to the clinical priorities from HEAL NY projects as well as other types of programmatic and policy goals within New York State.

The Clinical Priorities Workgroup also includes close coordination with other efforts within the DOH to promote improved health care for New Yorkers. Key to this strategy is coordination of state wide health information technology efforts to promote and support implementation of the patient centered medical home model as well as other reforms in reimbursement, long term care as well as public health initiatives.

Community Health Information Technology Adoption Collaborations

Another key part of the clinical infrastructure is the concept of the CHITAs, sometimes referred to as Service Bureaus and now synonymous with in the Regional Extension Centers referred in the ARRA legislation.

A CHITA is charged with providing, either directly or in an outsourcing capacity, health IT adoption and support services to New York's providers to:

- Promote and ensure proper implementation, configuration adoption, training and effective use of interoperable health IT;
- Train providers how to use information to realize the expected quality and efficiency benefits from health IT tools;
- Coordinate the support necessary for practice transformation, reimbursement changes and patient engagement to vastly improve the availability and use of health information and help ensure that the expected quality and efficiency goals are realized from interoperable health IT;
- Support the clinical practice transformation embedded adoption and effective use of EHRs, new reimbursement models (OPTIONAL) and engagement of patients in their care; and
- Share best practices and resources through the Statewide Collaboration Process.

A CHITA is a health IT services and support organization and may be a not-for-profit, for-profit corporation, or local government agency which can demonstrate the competence and ability to provide directly or through partnerships the following low cost, high value health IT adoption and support services to providers and patients: readiness assessment, organizational development, change management, workflow re-design, practice transformation including the implementation of new reimbursement models, project management, vendor/product selection, implementation and configuration support, interoperability services, user training, ongoing support/help desk services, and process and quality improvement services to achieve patient care improvements.

HEAL 5 introduced the concept of CHITAs. CHITAs promote a "wholesale" rather than "retail" approach to EHR adoption by providing health IT adoption and support services of sufficient scale across a community of providers to realize health IT benefits internally to a group of users at a lower cost and to allow providers to outsource all the services and support they need to successfully adoption and effectively use interoperable health IT. CHITAs are essential to eliminating barriers to implementation and ensuring clinicians not only adopt and effectively use EHRs, but also develop the capacity to be accountable for payment based on quality outcomes based on robust availability of health information.

For the purposes of the HEAL NY Health IT grant programs, CHITAs are expected to be:

- Vendor neutral accommodating different vendors based on provider requirements and product selection;
- Able to describe the composition of the CHITA and how the organization or partnership will perform health IT adoption and support services;
- Able to describe the business, governance and service plan of the CHITA organization and comply with all future requirements set forth by the Secretary of HHS regarding Regional Extension Centers. Specifically how teams of services providers, subject matter experts, trainers, quality experts, nurses, informaticians, etc., will be organized to provide services to PCMH providers. The CHITA organization is not permitted to spend more than 10% of grant funds on administrative costs of the organization; 90% of costs should be dedicated to the successful implementation, adoption and effective use of health information infrastructure in support of the PMCH to improve care; and
- Compliant with all provisions for Regional Extension Centers determined by the HHS Secretary.

Consumers and Health IT

New York is laying the groundwork for New Yorkers to have greater access to their personal health information and communicate electronically with their physicians to improve quality, affordability and outcomes.

Consumers seek assurance that they have a meaningful level of control over who is able to access their protected health information. They want choices and they want to have enough information in the consent process and enough understanding of the privacy and security policies to make that choice meaningful and knowing. Consumers want to know that those who have access to their information use it to improve the delivery and quality of their care, and do not use it in a way that could cause them embarrassment or harm. Consumers are particularly concerned that their sensitive health information is protected and only viewed by authorized individuals for whom they enable access.

There is an opportunity to create an environment that supports the right of consumers to have greater access to and control over the use of their own personal health information. New York is taking advantage of the significant opportunity to expand the way in which we have traditionally thought about consumer rights to access and use their own personal health information. Consumer access to and use of their personal health information is necessary to realize the full potential of the range of technologically enabled care advancements. There is an opportunity to create an environment that supports the right of consumers to control the use of their own personal health information.

Consumer Education and Access

An essential cornerstone of New York State's health IT strategy is to ensure that consumers are appropriately educated about how their health information can be shared and to provide consumers with the informed opportunity to decide whether or not they desire to have their information accessible via the SHIN-NY. The strategy targets outreach and education efforts to the public and legislature, as well as key stakeholder segments including employers, health plans, health care professionals and organizations.

The educational efforts for consumers are focused on the implementation of a Consumer Advisory Council whose mission is the development of a set of guiding principles to assist policymakers, health providers, and health consumers and advocacy organizations to develop policies and practices related to eHealth initiatives in order to promote progress and safeguard confidentiality and consumer autonomy. The CAC is developing a network of organizations throughout New York State – the Consumer Advocacy Network for eHealth – to participate in ongoing education and outreach efforts. While consumer or patient education is important in any setting in which health information is being shared electronically, systems that include consumer consent have an even greater responsibility to communicate effectively about what they are doing and why. Without an understanding of the general benefits and risks of health IT, as well as the specifics associated with the full range of privacy and security policies, consumers are not able to make truly informed decisions.

Even with strong educational materials and support, given the complexity of the topic and the importance of what is at stake – including the quality and convenience of healthcare services and the extent of privacy protection – it is essential to provide a comprehensive policy framework that protects consumers. Given the culture of privacy laws in New York, there is a need to balance consent provisions with a full range of privacy and security policies. New York has developed a comprehensive set of privacy and security policies are part of the current version of Statewide Policy Guidance.

Materials and Tools

The New York Consumer Advisory Council, the NYeC Communication and Education committee and the DOH, with funding from the HISPC, a federally funded contract through ONC, and the New York Health Foundation have worked collaboratively to develop an initial set of consumer education materials on health IT. There is a portfolio of consumer-centric materials geared towards educating, engaging and ensuring consumers understand how interoperable health IT changes the way health care information is accessed including the potential benefits and risks. The materials are templates or tools that can be customized for use by clinicians, RHIOs, government, consumer groups and other organizations within the state and also for use by other states.

The materials are:

- **eHealth Brochure** – The brochure includes basic information about ehealth in New York, including the definition and purpose and the primary benefits. It also has a section about privacy and answers basic questions about consent and accessing your own information through ehealth. The design and layout of were developed in partnership with DOH’s Public Affairs Office.
- **Visual advertisements** –There are two versions, one emphasizing the value of eHealth in an emergency, and the other the convenience it can bring every day. The emergency version—with an image of a person falling off a ladder, was adapted from research done by the Markle Foundation in its report “Connecting Americans to their Healthcare.”
- **Radio Spots** – There are two 30-second radio spots, again emphasizing the emergency and convenience messages. The radio ads were produced at a local recording studio. DOH is working with its media buyer to air the spots as public service announcements around the state.
- **Video** – We adapted the video produced by members of the HISPC Consumer Education and Engagement Collaborative from Oregon by adding additional footage: an introduction and concluding comments by Dr. Richard Daines, New York State Health Commissioner.
- **Website** – The website www.ehealth4ny.org is hosted by the Legal Action Center, which also organizes the Consumer Advisory Council and Consumer Advocacy Network for eHealth. The website incorporates the materials described above and also provides more in depth information such as updates about upcoming events, more in-depth questions and answers about eHealth, and information about the CAC and specific health IT initiatives in New York. The goal is to provide education on eHealth, and spur engagement and participation in local and regional efforts. A listserv of thousands of advocacy groups, service providers, patient organizations, and others is ready to launch.

- **Model Consent Form** – Although this form was developed through the Statewide Collaboration Process and is part of the current version of the Statewide Policy Guidance, it is the mechanism through which consumers choose to participate in eHealth in New York. It is designed for use by provider organizations participating in health information exchange in NYS.
- **Toll Free #** - A toll free number (877-690-2211) for consumers was created for questions related to eHealth and privacy and security policies. The # is printed on both the eHealth brochure and the Model Consent Form. The # is housed at DOH and professional staff will respond to all inquiries.

All materials went through consumer testing and a literacy review. Additionally, all materials were vetted through the CAC, RHIOs, many practicing physicians and other provider organizations participating in the SCP. The print materials (brochure, ads and consent form) will be translated into at least five other languages based on the population needs in NYS.

RHIOs and their participating stakeholders must conform to consumer education program standards developed by the Statewide Collaboration Process managed by NYeC and approved by the Department of Health as part of the HEAL X.

The DOH has also participated in the HISPC Consumer Education and Engagement Collaborative, a federally funded contract through ONC, made up of eight member states, each of which developed both materials for its own state and materials that are specifically for use by other states related to electronic health information exchange and the privacy and security challenges related to the sharing of personal health information.

Financial and Reimbursement Models

In New York, the technological infrastructure and capacity that would make health information available and useful is in very early stages of development. As discussed throughout this document, this infrastructure must be interoperable and is essential to realizing the expected benefit from health IT.

The Role of Government

Market forces alone are unlikely to foster the SHIN-NY interoperable EHRs that connect to it. Government intervention through the current HEAL NY investment and beyond is required. The key economic arguments for government intervention arise from the potential social benefits in excess of private benefits (externalities) and the public good characteristics of interoperable EHR adoption. There are at least two kinds of externalities in the context of interoperable EHRs, both of which lead to an under-adoption of the technology.

First, as is widely noted, the market for health care does not properly price health as an output good, so for the most part health outcomes are a benefit “external” to providers’ financial incentives, regardless of factors such as the professional dedication of providers. Since it is difficult to measure and assign value to health status, the system has priced more easily measurable intermediate outputs like procedures and office visits. To the extent that interoperable EHRs reduce utilization or otherwise improve health outcomes, it may paradoxically decrease the net income of providers. Additionally, the main benefits of interoperable electronic health records flow to payers and purchasers, and not to the providers who must purchase health IT. There is currently no way for providers to be compensated for these externalities. New reimbursement models that pay for use of EHRs tied to prevention and quality goals are required to advance interoperable EHR adoption.

The second externality applicable to interoperable EHRs is a true market failure: network effects. These effects arise when one user of an interoperable health IT tool gains as a result of another user adopting compatible technology. Similar to telephone, fax machines or email, interoperable capability is valueless for an isolated person, but as more users have it, the benefits compound. The implication of this is that early adopters face economic burdens and few benefits of interoperable EHR adoption, while the late adopters enjoy substantial benefits.

Strategies to Address the Problem

To address the market externalities described above, New York State is investing hundreds of millions of dollars in the up-front costs of New York’s health information infrastructure, promoting a shared investment among the public and private health care sectors for the operating and maintenance costs and reforming our health care reimbursement system to reward high quality, coordinated and patient centered care fueled by health IT as well as new delivery and payment models such as the patient centered medical home model.

Additionally, NYeC and the Business Council of, which represents a large number and cross-section of employer interests, have established the Health IT Sustainability Work Group early in 2008 to begin to tease out a long term financing models for health information infrastructure. The work group was structured into sub-groups based on three broad categories of work as described below:

Cost and Benefit Analysis: This sub-group is overseeing activities to detail the costs and benefits of providing interoperable health IT across New York State. The analysis has estimated the distribution of these costs and benefits among the various groups of stakeholders, with the primary goals of identifying the qualitative and quantitative value proposition for each stakeholder group. This initiative is supporting DOH policy development efforts, gaining stakeholder support and understanding of the challenges

and developing financial models to bridge the time period between grant funds and reimbursement reform over the next five to ten years. The sub group worked with NYeC to select a consultant for this work - Price Waterhouse Coopers- and the final results are expected *in* Q2 of 2009.

Financial Instruments and Policy: This sub-group is developing concepts to finance the various costs associated with HIE deployment and EHR adoption, including defining policies and mechanisms for financial investment in health IT, both from broad value-driven activities and existing or potential financing sources and methods. It has produced several issue papers explaining the conceptual framework for providing reimbursable value to carefully selected categories of stakeholder congruent with the priorities of the state wide collaborative process. It has also focused on establishing similar capabilities across the state so that stakeholders willing to finance the system will have a broader market to address than any individual piece could provide. While the group has focused primarily on financial issues that could provide revenue streams in the medium term, it is recognized that financial incentives for better care will likely provide the long term sustainability of the statewide health information strategy.

Business Support and Communications: This sub-group began developing recommendations to enlist the support of the business community in the statewide health information strategy. A major focus was to communicate the need for this support and the justification for it to the business community. Specific deliverables considered included regular correspondence to business leaders, organization of seminars/meetings to address business concerns, and meetings with the business community to address specific issues. The sub-group has subsequently been merged into NYeC's education and communications committee, which is responsible for a similar mission across all health care stakeholder groups; and make sure that materials are disseminated through a variety of media.

Regulatory Framework and Certification of Need

It is anticipated that requests for health information technology expenditures from New York hospitals will increase in magnitude and frequency over upcoming months and years. Ensuring and maximizing the state's policy goals related to such health IT expenditures is fast becoming an increasingly important component of the State's Certificate of Need program and associated processes.

The key policy goal of the Health IT CON requirements is interoperability or ensuring the connection between an electronic health record system and the SHIN-NY. Interoperability is essential to realizing the expected benefit from health IT and vastly improving the availability and use of health information to improve patient care. Perpetuating siloed information systems that do not interconnect will significantly

impede the adoption and effective use of health IT tools, especially electronic health records.

The health IT CON requirements for the most part include a self attestation on the part of hospital providers attesting that the technical, organization and clinical aspects of interoperability are being addressed and that electronic health record systems will interoperate with the SHIN-NY ensuring health information exchange among providers and clinicians to support care coordination and quality improvements. At this time, for health IT projects costing over \$10 million, the State Hospital Review and Planning and Planning Council will undertake a review to approve CON health IT applications ensuring interoperability requirements are met. It is anticipated by the DOH, however, that the regulatory requirements will change and include a self attestation process for all projects under \$50 million dollars and a review by the SHRPC for those above \$50 million in the future.

Federal Health IT Agenda and Alignment with New York’s Strategy

The federal government has a long history of health IT policy leadership, including in April 2004 when President Bush called for interoperable EHRs for every American by 2014 and established the ONC to spearhead national efforts to achieve this goal. These policy efforts were significantly expanded in February 2009 when President Obama signed the ARRA authorizing roughly \$36B in health IT infrastructure and payment incentives.

A summary of the ARRA health IT provisions are summarized as follows:

Multiple Areas of Focus

The stimulus package included \$36B in expected health IT funding from the federal government

Appropriations for Health IT & HIE	New Incentives for Adoption
<p>\$2 billion for loans, grants & technical assistance:</p> <ul style="list-style-type: none"> • HIE Planning & Implementation Grants • EHR State Loan Fund • National Health IT Research Center & Regional Extension Centers • Workforce Training • New Technology R&D 	<p>New Medicare and Medicaid payment incentives to providers for EHR adoption</p> <ul style="list-style-type: none"> • \$20 billion in expected payments through Medicare • \$14 billion in expected payments through Medicaid • ~\$34 billion in gross expected outlays, 2011-2016
Comparative Effectiveness	Broadband and Telehealth
<p>\$1.1 billion to HHS for CER</p> <ul style="list-style-type: none"> • Establishes Federal Coordinating Council to assist offices and agencies of the federal government to coordinate the conduct or support of CER and related health services 	<p>\$4.3 billion for broadband & \$2.5 billion for distance learning/ telehealth grants</p> <ul style="list-style-type: none"> • Directs ONC to invest in telehealth infrastructure and tools • Directs the new FACA Policy Committee to consider telehealth recommendations

The key statutory concepts outlined in the ARRA legislation align very well with NY’s health IT strategy. NY is well positioned to maximize the available funds and serve as a model for the country. There are five key statutory concepts in the legislation:

- Meaningful Use of EHRs;
- HIE Infrastructure;
- State-Designated Entities;
- State HIE Plan; and
- Regional Extension Centers.

Meaningful Use of EHRs

The ARRA has targeted funding for both Medicaid and Medicare to incentivize implementation of electronic health record systems in physician offices and acute care facilities which meet “meaningful use” criteria defined by federal statute. A fierce debate is anticipated over the definition of “meaningful use of EHRs”, and it is expected that interoperable health information exchange and new tools for quality reporting are essential. New York’s goal is to maximize the ability of providers to qualify for the incentives by continuing to advance robust interoperable health information infrastructure, including the SHIN-NY and CIS as quickly and strategically as possible.

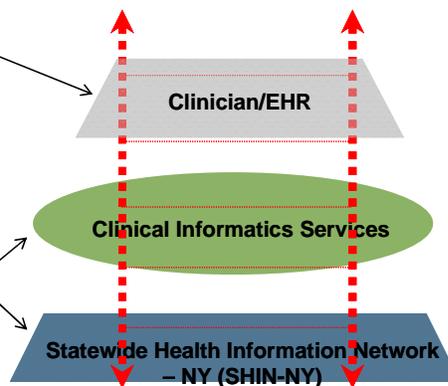
The meaningful use definition includes three components and will require robust infrastructure consistent with NY’s Health Information Infrastructure Framework. See figure below.

Existing Statutory Definition of “Meaningful Use” of EHRs
Consistent with NY’s Health Information Infrastructure

Three Components

- Uses EHR in a meaningful manner, which includes electronic prescribing as determined to be appropriate by the HHS Secretary
- Uses EHR that is “connected in a manner” that provides for the electronic exchange of health information to improve the quality of health care, such as promoting care coordination (in accordance with law and standards applicable to the exchange of information)
- Submits information on clinical quality measures and other measures as selected and in a form and manner specified by the Secretary

• **Framework for NY’s Health Information Infrastructure**



Health Information Exchange Infrastructure

New York's health information exchange infrastructure is called the SHIN-NY. The SHIN-NY is still in the early stages of development and implementation, but NY has a good head start compared to most states on meeting the anticipated HIE infrastructure requirements in the legislation. The SHIN-NY is a common network of networks that utilizes the Internet and specialized software and services to deliver results to providers' electronic health records from outside sources such as labs, medication histories and hospital reports and facilitate the exchange of a summary record of information among electronic health records, both inpatient and outpatient EHRs and other health IT tools.

The key characteristics for HIE Infrastructure implementation funding is to be determined by the HHS Secretary, but will likely involve:

- An operating governance structure;
- A defined technical plan;
- Defined clinical use cases; and
- Statewide policy guidance as to privacy and security.

NY meets and exceeds these requirements. This is important because the ability of providers to benefit from either proposed Medicare and Medicaid incentive payment mechanisms is heavily dependent on the creation of HIE networks and on State action to facilitate health information exchange.

State Designated Entity

The ARRA legislative language explicitly provides that a "qualified state-designated entity" shall be designated by the state to receive awards to advance HIE infrastructure. Based on the criteria, New York's qualified state designated entity, the New York eHealth Collaborative (NYeC), has been in operation for the past two years as a statewide governance and collaboration structure for the SHIN-NY. This includes the RHIOs which are a part of the NYeC governance structure. The primary goal of the governance structure is to define Statewide Policy Guidance or the "rules of the road" for governing and operating the SHIN-NY. Evolving a governance structure which can set rules, changes rules, implement rules and hold stakeholders accountable along with the technical infrastructure is essential to orchestrate consistent and successful implementation of the SHIN-NY.

NYeC meets and exceeds these requirements and serves as a model for the country.

State Health IT Plan

The ARRA legislative language provides the following required elements of a state health IT plan to facilitate and expand the electronic movement and use of health information among organizations:

- Be pursued in the public interest;
- Be consistent with the strategic plan developed by ONC;
- Include a description of the ways the state or qualified state-designated entity will carry out the activities for which it receives grant funds; and
- Contain such elements as the Secretary may require.

This document is the current version of New York's Health IT Strategic plan and meets and exceeds the above criteria and will be updated to address future criteria put forth by Secretary of HHS.

Entity Promoting EHR Adoption – Regional Extension Centers

In New York, the term Community Health Information Technology Adoption Collaborations or CHITAs has been used to refer to the intent of Regional Extension Centers. CHITAs are discussed extensively in this document.

Additionally, a key component of the Medicaid incentives includes legislative language which says, "incentives may also be paid to an entity promoting the adoption of certified EHR technology called regional extension centers, as designated by the state..."

As noted, this is consistent with the community wide approach to EHR adoption we put forth as part of the HEAL NY health IT grant programs.

HIPAA Privacy Protections

The ARRA legislation also places a focus on privacy, requiring the Secretary of HHS to appoint a new Chief Privacy Officer and expanding current federal privacy and security protections under HIPAA. Many of these changes will have a direct impact on organizations participating in HIE in New York and we are doing an analysis vis-à-vis the current version of the statewide privacy and security requirements established through the Statewide Collaboration Process managed by NYeC and approved by DOH. The ARRA privacy provisions include:

- Extension of HIPAA to Business Associates;
- Security Breach Notification Mandate;
- New Restrictions on the Use and Disclosure of Protected Health Information;
- Additional Patient Rights; and
- Increased HIPAA Enforcement.

New York is at the forefront of clinical excellence and health IT and is well positioned to make effective use of the ARRA of 2009 funds as well as play a significant leadership role and inform the overall policy and regulatory framework developed by HHS.

SHIN-NY Technical Specifications: See the New York State Department of Health, Office of Health Information Technology Transformation website:

http://www.health.state.ny.us/technology/technical_infrastructure.htm

6.2 CHITA Services Template

Attachment 6.2 CHITA Services Template

I. Health IT Adoption and Support Services (CHITA Services) Plan

A description of health IT adoption and support services is required that includes all services listed below to promote EHR adoption, ensure adoption and effective use and achieve patient care improvements.

Applicants are required to complete the matrix (Attachment 6.11) outlining the EHR adoption and support services needs and a plan to address those needs. This should include intended results with respect to both patient care and care coordination improvements, and specific actions for achieving the goals during the grant period. Poor implementations have been identified as one of the prime causes of low adoption of health information technology and this template will help identify the resources necessary to prevent failure.

Below the applicant must list by service how much the service will cost, the quantity of full time equivalents that will be required for that service, the anticipated portion of HEAL funding that will cover that service cost, the anticipated portion of other funding/support that will cover that service cost and where/who the other funding/support is coming from (Other Funding/Support Source). All service cost estimates must be based upon a comprehensive assessment from multiple vendors.

II. Service Definitions

Service	Definitions
Readiness Assessment	Services to assess practice readiness for EHR implementations, including leadership support, financial commitment, staff capacity and workflow teams, policy considerations, computer literacy of all users, readiness questionnaires and well defined implementation goals.
Workflow Re-design	Analysis and planning for the successful integration of EHRs into practice settings, including office reconfiguration, changes in roles and responsibilities, EHR and IT configuration, setup and transition of legacy data and systems, planning for quality outcomes and reporting.
Project Management	End-to-end project management services for EHR and HIE deployments including pre-implementation tasks, system deployment and implementation, post-implementation services. This may include oversight of vendor services and management of interoperability functions.
Vendor Selection	Formalized process and tools used in the EHR vendor selection process,

	including detailed selection criteria (functionality, training, reporting, implementation approach, etc.), vendor certification requirements, technical support, maintenance plans, demo plan, references, vendor disaster recovery planning and application hosting.
Adoption Resources/Tools	Processes and tools to help practices achieve higher EHR adoption and continuous process improvement, including templates, flow sheets, workflow toolkits, best practices, data migration processes, etc.
Answer Desk	Resource(s) to respond to calls and email questions from EHR users (Re: EHR functionality, problems and a wide variety of EHR and HIT use issues).
Business Analysis/Project Navigation	Resource(s) to assess project status and support project needs across the EHR value chain, including readiness planning, workflow analysis and execution, goals definition, financial sustainability.
Technology Analysis	Analysis of all aspects of technology required to implement EHRs including IT requirements definition, system requirements, system selection, infrastructure assessments, technology integration, transition planning, hardware configuration, technology support, technology replacement planning and disaster recovery.
Interface Services	Technical resources to advise, certify and provide interfacing services between EHRs and HIE systems and national and local data sources.
IT Implementation and Support	Management services for hardware deployment (infrastructure, network setup, perimeter security, firewalls, wireless networks, etc.) and support (maintenance, upgrades, backups, etc.).
Dictionary Mapping	Guidance and services to map and maintain clinical and administrative dictionaries (ie. services to map lab compendiums to LOINC).
Contract Support	Formalized assistance for the creation, execution and ongoing management of EHR vendor contracts, and other related HIT contracts.
Training	Training resources to ensure successful HIT adoption including basic and enhanced EHR training to maximize use of the system (performance measurement, clinical decision support) and HIE training.
Quality and Process Improvement	Assessing and modifying clinical practices and workflow to achieve patient care improvements (for high value diagnoses – high risk, high cost) and care coordination and management.

Participating Physicians:

Other Participating Clinicians (NP or PA):

Note: See Attachment 6.11 (Budget Forms – “HEAL 10 Budget Worksheet.xls”) and complete CHITA Services tab (Excel file which includes a CHITA Services tab)

III. Narrative Description of Plan to Address Health IT Adoption and Support Needs (see Sections 3.3.5)

This section must include the following:

- Describe, in detail, the process undertaken to consider cost estimates; and
- Assumptions made as part of estimating costs for services, being sure to address how each component in the table above is going to be delivered and offered as a package with all necessary services (ie., directly by a CHITA or through a CHITA partnership).

6.3 Stakeholder Template

Attachment 6.3 Stakeholder Template

Identify chosen diagnosis for project: _____

If the diagnosis above is not one listed in Attachment 6.7 (Diagnosis Choices) include sufficient documentation proving that the chronic disease or high risk/high cost diagnosis involves a significant portion of the population or is a particularly high risk population in the CCZ. The chosen diagnosis should also align with the PCMH model and include all appropriate stakeholders:

NARRATIVE

All project stakeholders must be documented in the tables below. Letters of support must appear in section IV of this attachment. Each stakeholder name must be listed in the first column. Stakeholders include participants in the PCMH. The applicant must assign a number to each stakeholder letter of support and that number must appear in column two. In column three the applicant must describe the type of healthcare provider that the stakeholder is and indicate what services they provide. Column four must describe what the stakeholder's role(s) and responsibilities will be for the PCMH and CHITA. Column five is where the role(s) of the stakeholder in the RHIO must appear. Column six should indicate the stakeholder's overall role in the project. Column seven must indicate the percentage of the total number of stakeholder patients that are Medicaid patients. Finally, column eight must indicate the percentage of the total stakeholder patient population that is associated with the chosen diagnosis for the project.

I. Project Stakeholders – Please note that the first line is reserved for information related to the lead stakeholder.

(1) Name	(2) Letter of Support # Below	(3) Type of Provider and Health Care Services Provided	(4) Briefly Describe Role(s) in Project, Including PCMH and CHITA	(5) Briefly Describe Role(s) in RHIO	(6) Briefly Describe Role(s) in Project	(7) Percentage of Stakeholder Patients That Are Medicaid	(8) Target Patient Population (%) with Chosen Diagnosis in the CCZ
					Lead Stakeholder		

II. Stakeholder Participation Narrative.

This must include a detailed RHIO partnership and governance plan, including but not limited to:

- a. Describe how the PCMH providers are participating in a RHIO and what role the PCMH provider are playing and activities in which they are participating; and
- b. Describe how the PCMH providers are planning on utilizing SHIN-NY services and committing to sharing information with all appropriate providers in the PCMH. RHIOs are a part of the statewide governance structure managed by NYeC and are responsible for implementing the SHIN-NY pursuant to Statewide Policy Guidance.

III. Patient Centered Medical Home (PCMH) Analysis

Below describe your Patient Centered Medical Home in terms of the following metrics. Sources for information reported should be included. Sources must be made available to NYSDOH upon request. NYSDOH reserves the right to evaluate responses based on resources available to the Department. Completing the tables below is required.

- a. The number and scale of physicians practicing in solo and small physician practices

Physicians		Total Physicians in the PCMH (A)	Total number of Physicians participating in the Project	Physicians in the PCMH in practices ≤ five	Physicians in the PCMH in practices < five participating in the Project	Physicians in the CCZ not Participating in the Project (B)	% of Physicians Participating in the PCMH $A/(A+B)$
	Primary Care						
	Specialty Care						

Projects are asked to calculate % of physicians participating in the PCMH by dividing column A above by the sum of columns A and B. This % is required and will determine the application’s Pass/Fail status (see Section 3.3.3 of RGA).

b. The number of physicians in “a” above that contract with and provide services to Medicaid beneficiaries

Medicaid Participating Physicians		Total Number of Medicaid Participating Physicians in the PCMH	Total number of Medicaid Physicians participating in the Project	Total Number of Medicaid Participating Physicians in the PCMH in Practices ≤ five	Total Number of Medicaid Participating Physicians in the PCMH in Practices ≤ five Participating in the Project	Total number of Medicaid Participating Physicians in the PCMH not Participating in the Project
	Primary Care					
	Specialty Care					

c. For the physicians in “a” above, identify aggregate payer mix

Identify aggregate payer mix for the physicians participating in the Project		Percentage of Patients with Medicaid	Percentage of Patients with Medicare	Percentage of Patients with Other Payers	Totals
Primary Care					100%
Specialty Care					100%

d. The number of community health centers/federally qualified health centers

Community Health Centers / Federally Qualified Health Centers	Total Number in the PCMH	Total Number Participating in the Project

e. The number of discharges among clinicians and hospitals, clinicians and long term care providers, and hospitals and long term care providers.

Discharges	Total in the PCMH	Total Participating in the Project

f. The number of insurers and the percentage of covered lives

Insurers	Total Number in Region	Number Participating	Total Covered Lives	Covered Lives from Participating Insurers

IV. Letters of Support

Each letter of support must include the following components:

- Corporate name of the stakeholder:
 - Contact information for the stakeholder (primary contact & backup contact, including project manager or equivalent); and
 - Full commitment to sharing information among the PCMH participants This includes data for HIE, quality reporting and data for research and evaluation purposes.
- Signature of the stakeholder executive.
- Commitment to project including:
 - Financial contributions (personnel, cash, etc... to be aggregately reported on the Project Funding Form with associated letter of support #);
 - Role in the project;
 - Reason for participation; and
 - Future plans for participation.
- Percentage of population served for target patient population in the PCMH which is the total number of patients with the specified diagnosis covered by the stakeholder divided by the total number of patients with that diagnosis in the PCMH.

The RHIO letter of support must include:

- RHIO name and contact information for the executive director and a back up contact.
- Signature of the RHIO Board Chair and Executive Director.
- Commitment to project including:
 - Description of the role in the project;
 - Providing connections between and among EHR and other health IT tools and the SHIN-NY technical infrastructure; and
 - How PCMH participants fit into the SHIN-NY governance structure.

If a CHITA is not the lead applicant, then the CHITA letter of support must include:

- CHITA name and contact information for the executive director and a back up contact.
- Signature of the CHITA Director.
- List of all organizations that are a part of the CHITA and providing health IT technical services and adoption and support services to the project.
- Commitment to project including:
 - Describe role in the project; and
 - List of PCMH projects to which the CHITA is providing services.

If the CHITA is the lead applicant, then letters of support are required from each PCMH participant and include the following:

- Corporate name of the stakeholder:
 - Contact information for the stakeholder (primary contact & backup contact ; including project manager or equivalent); and
 - Full commitment to sharing information among the medical home participants This includes data for HIE, quality reporting and data for research and evaluation purposes.
- Signature of the stakeholder executive.
- Commitment to project including:
 - Financial contributions (personnel, cash, etc... to be aggregately reported on the Project Funding Form with associated letter of support #);
 - Role in the project;
 - Reason for participation; and
 - Future plans for participation
- Percentage of population served for target patient population in the CCZ which is the total number of patients with the specified diagnosis covered by the stakeholder divided by the total number of patients with that diagnosis in the CCZ.

Number each letter for reference in Section I of this attachment.

6.4 Model Project Work Plan

Attachment 6.4 Model Project Work Plan

I. Work Plan

Applicants should include a one to two page high level narrative of their work plan (Insert Narrative Here), including an implementation plan based on incremental phases clearly delineating which stakeholders are participating in the implementation and how the project will be rolled out across the region.

The narrative should be structured in the following way:

- Organizational/Governance Plan (reference Organizational Plan in Application Structure;)
- Care Coordination and Management Plan (reference Clinical Plan in Application Structure document);
- Technical and Interoperability Plan (reference 9.9 – Technical Architecture and Implementation Plan);
- CHITA Services Plan (reference 9.2 – Health IT Adoption and Support Services Template); and
- Reimbursement/Sustainability Plan (see Section 4 of the RGA).

Following the narrative, applicants should identify high level milestones, by quarter, for a typical two-year project. This MS Word document should be used.

Insert Narrative Here

II. Complete Milestones

Year 1

- Quarter 1
 -
 -
 - (insert more as appropriate)
- Quarter 2
 -
 -
 - (insert more as appropriate)
- Quarter 3
 -
 -
 -
 - (insert more as appropriate)

- Quarter 4
 -
 -
 - (insert more as appropriate)

Year 2

- Quarter 1
 -
 -
 - (insert more as appropriate)
- Quarter 2
 -
 -
 - (insert more as appropriate)
- Quarter 3
 -
 -
 - (insert more as appropriate)
- Quarter 4
 -
 -
 - (insert more as appropriate)

6.5 Reimbursement and Sustainability Programs and Measures

Attachment 6.5
Reimbursement and Sustainability Programs and Measures

Projects are encouraged to leverage incentive programs for health information technology to support improvements in patient care and to maximize provider participation and funding support as part of a long term plan for project sustainability. A key to sustainable use of health information technology is using it to capture incentives from quality improvement programs. This attachment provides a list of examples of potential programs that are either currently available or proposed in NYS that can be leveraged to provide further funding to support HEAL 10 projects.

I. Programs

- Medicare incentive program for e-prescribing (utilization based).
- Proposed NYS Medicaid and e-prescribing (utilization based).
- Bridges to Excellence P4P (population based).
- Proposed NYS Medicaid and Medical Home (utilization based).
- Other Health Plan Incentives, such as:
 - Medical Home (utilization based);
 - Pay for Performance (population based);
 - Reimbursement reform (population based); and
 - E-Prescribing (utilization based).

List and describe below any programs (such as the examples listed above) in which stakeholders in your project already participate or plan to participate. Also describe how your project plans to use health information technology to participate successfully in these or other incentive programs.

Program Name	Description of Health IT and Incentive Program	List stakeholders currently participating	List stakeholders planning to participate and when

II. Measures

- A. Options for the Coordination of Care
- Hospital to Primary care:

- Hospital should provide discharge data to the provider's EHR for every instance of chosen diagnosis admissions for his/her patients. Need to be specific re: diagnosis and required discharge data (see IV below).
- Primary care EHR needs to track upload date of data into the EHR received from the hospital discharge process.
- Expectation is that primary care physicians will document follow-up with patient within 3 days (accounting for weekends and holidays).
- Clinician Referrals to Specialists:
 - Primary care physician needs to use electronic referral process to share information with specialty physicians for specific diagnostic group (as above).
 - Referral specialist should send minimal data set of a patient clinical summary of visit back to primary care physician electronically within 3 days of office visit (accounting for weekends and holidays).
 - Primary care physician and specialty physician EHRs should be able to facilitate electronic referrals, health information exchange and recording the date of sending and receiving patient data.

6.6 Reimbursement Model Examples

Attachment 6.6 Reimbursement Model Examples

Model 1: PCMH Support

- A. Premise: Coordination of patient care within a PCMH will lead to more efficient, less costly quality medical care. Reimbursement to primary care physicians whose patients are enrolled in this model should be adjusted to reflect this delivery system.
- Provide a framework for providers and payers to work together to improve the coordination and quality of care delivered, while reducing the cost of care.
- B. Model for reimbursement:
- Based on number of members in the PCMH with a certain diagnosis.
 - Payment of Fee Schedule times a multiplication factor for a certain diagnosis.
 - Payments could be made with current fee schedule payments, or distributed monthly, quarterly, etc.
- C. Reinforcement of PCMH:
- Allows physicians to get additional compensation for providing complex patients with certain diagnoses or conditions the care they need in a coordinated way.
 - Allows multiple payers (including Medicaid/Medicare) to develop reimbursement models based on this methodology.
 - Makes the reengineering of the office or workflow redesign more of a financial ‘plus’ to the physician practices.
 - Complements the evolution of health IT.

Model 2: Cost Sharing

- A. Optional Evidence for payment:
- Payer needs to be able to track the cost of care for a defined diagnosis at the patient level, and “link” to the primary care physician and specialist where appropriate. This should be accomplished in one, or both of the following ways:
 - Measures should document the transfer of patient care from hospital to provider (discharge from hospital).
 - Measures should document the transfer of patient care from provider to provider (primary care referral to a specialist or vice versa).
 - # of emergency department visits.
 - Establish program start date.
 - Payer tracks from that point, agreeing to “share” savings with clinician of documentable savings for defined diagnosis at predefined time intervals (ie. at 6 and 12 months).
 - Payer agrees to go retroactive to start of pilot program.

- B. Possible Issues – Projects should identify issues/risks in satisfying this requirement (Reimbursement Model) and present project strategies to mitigate them.
- Ability of hospital to provide/extract required data and provider EHR to provide reports of when discharge data is received and when patient follow up is completed (ie. phone follow up, referral timing, data sharing etc.).
 - Cooperation of payers.
- C. Clinical Measures for Evaluation
- Measure for discharge time and health information exchange to primary care practice from hospitals and patient follow up.
 - Specialist referral timing for receiving referral results, etc.
 - Other measures may also be included in the proposal if they also include documentation and published references of how these measures have successfully improved care coordination.

6.7 Diagnosis Choices

Attachment 6.7 Diagnosis Choices

Target Patient Population with Chronic Disease or High Risk/High Cost Diagnosis Choices:

- Project proposals must include one of the following chronic diseases or high risk/high cost diagnosis to focus the project scope in the proposed care coordination zone. It is implicit that multiple diagnoses will exist (and be prevalent) among the selected patient population. These patients will still benefit from better coordination of care through the PCMH model. These secondary diagnoses are not required to meet criteria identified in the RGA for establishing the PCMH.

Chronic Disease Choices

- Diabetes
- Congestive heart failure
- Chronic obstructive pulmonary disease
- Asthma
- Osteoporosis
- Rheumatoid arthritis
- Alzheimer's disease
- Chronic mental health disorder– depression, schizophrenia, bipolar disease

High Risk/High Cost Diagnosis Choices

- AIDS
- End stage renal failure
- High risk pregnancy/maternal fetal health

Resources: Potential resources for accessing data to help identify high risk and chronic disease groups include:

1. The NYS DOH's recently released website that gives detailed data on the numbers of patients with a specific diagnosis in regions of NYS; (https://apps.nyhealth.gov/statistics/prevention/quality_indicators/) may be utilized to help identify high prevalence diagnosis specific to their CCZ.

6.8 Clinical Scenario Template and Examples

Attachment 6.8
Clinical Scenario Template and Examples

CHRONIC DISEASE SCENARIO EXAMPLE: _____

CHRONIC DISEASE/HIGH RISK POPULATION: _____

Clinical Scenario Overview:

In addition to describing your project’s proposed clinical scenario in narrative format, using the chart below, fill out the medical settings/clinical transfer points, clinical stakeholders and include a workflow summary of how care coordination and management will be improved through an EHR and Health Information Exchange. Also include in the scenario the value associated with the implementation of PCMH and EHRs. See clinical scenario example in Appendix 1 below.

Site of Care / Care Transition	Stakeholders	Workflow summary	Comments

Appendix 1: Detailed Case Example

Detailed Scenario Narrative:

CHRONIC DISEASE SCENARIO EXAMPLE: OSTEOPOROSIS AND HIP FRACTURE

CHRONIC DISEASE/HIGH RISK POPULATION: OSTEOPOROSIS IN THE ELDERLY

Clinical Scenario Overview: Ms P., a patient of a primary care practice participating in the PCMH model through HEAL 10, was admitted from home to an acute hospital for an acute left

femoral neck fracture. She is being discharged from the hospital to a nursing home facility where she is to receive 30 days of skilled and rehabilitative care and then return home or to independent or assisted senior housing. She was recently diagnosed with osteoporosis by a DXA scan as well as Vitamin D deficiency but had not yet begun treatment prior to the fracture. She is also diagnosed with a MRSA positive wound infection following hip surgery that requires further treatment, follow up by public health and specialty care referral management.

Site of Care / Care Transition	Stakeholders	Workflow summary	Comments
Home to acute care and acute care to nursing home	Acute care and Nursing home staff	Pertinent hospital admission/discharge information to including a complete medication list is available in the PCMH primary care physicians EHR and is available electronically to the acute care facility on the patient’s admission to the emergency center via the health information exchange. This information is also available when the patient is admitted to the hospital for surgical repair of the fracture. An updated medical history including a discharge summary, discharge medications, problem list and test results are all available to the Nursing/Rehab center when the patient is transferred following initial recovery from surgery. Due to the availability of information about the previous diagnosis of osteoporosis and Vitamin D deficiency, the patient is treated for both during the hospitalization and in follow up care resulting in a significantly decreased risk of further fractures or death.	
	Nursing home facility	Medical director, administrator,	

	clinical staff:	and clinical staff can input/access administrative and clinical information via EHR and RHIO data exchange access.	
Nursing home to ambulatory care at senior independent living facility	PCP Participating in the PCMH:	The PCP is able to access admission/discharge information from the RHIO as it is made available to his/her EHR via the data exchange; this timely availability of this information allows the PCP to contact and/or visit the patient within 24 hours of discharge as well as coordinate home nursing and other services needed for her safe transition back to independent senior housing.	
	Specialty care	Orthopedics specialist, Infectious disease specialist and a wound care specialist all have access to the patient's clinical information via exchange of data with their EHRs. These clinicians are able to coordinate services with the PCP including timely specialty follow up visits as well as rapid availability of clinical recommendations which results in improving the patient's recovery from a wound infection.	
	Home health care	Home health care services for wound care, etc are coordinated and arranged through the referral capabilities of the PCMH program EHR at the PCP office and patient clinical information is viewable by the home care team via a web-based EHR with clinical information supplied through the data exchange. Home monitoring equipment is available for blood pressure,	

		pulse and temperature.	
	Rehabilitative Services Coordinated Through the PCMH:	The medical home team coordinates PT and OT services which are arranged through the referral capabilities of the EHR and data exchange and the service results are monitored using the EHR and data exchange.	
	Pharmacy	Pharmacy and the PCP are able to adjust the patient's medications by monitoring lab results (PT/INR) and Coumadin dose via availability of lab results in the EHR and using a fully functional electronic prescribing system.	
	Communication with Patient and Caregiver:	Use of a secure electronic system to communicate with the patient (as able) and her authorized caregiver allows communication of test results, medication dosing changes, and scheduling of appointments and tests as well as other coordination of care.	
	Public Health:	The patient screened positive for MRSA when evaluated for a post surgical wound infection. The lab is able to report the result electronically through the data exchange to county and state DOH as legally required. State and county departments of health also have access to reportable infections through RHIO data exchange and are able to access follow up information as needed.	

This case is typical of a vulnerable long-term care patient who can benefit from improved communication of care givers during transfer of care between clinical settings. An EHR coupled with a simplified transfer form and a local RHIO project help assure that Ms P. is discharged promptly to a facility that meets her needs. Upon arrival her care givers have prompt access to key medical information needed to plan for her care. Her primary care physician is able to coordinate her care throughout the transition between care settings through an EHR that is connected to a regional information exchange.

Medical Settings/Clinical Transfer Points and Clinical Stakeholders

Home → Acute Care Hospital → Skilled Nursing Facility → Senior independent living facility (County Public Health, Orthopedics, Infectious disease, Pharmacist, Home healthcare nurse, Nutritionist; Wound specialist; PT, OT all coordinated through Primary Care Physician working in the PCMH)

Summary of How Clinical Information is Shared Through the EHR and Data Exchange to Improve Care During Transitions of Care:

Potential Project Cost Areas and Incentives:

Costs:

EHR purchase and implementation and support costs

Office cost for implementation of the PCMH

EHR - RHIO data exchange implementation and support costs

Incentives for Implementation of EHRs and the PCMH model: Patient is in the high tier risk category for health care cost and the primary care physician office implementing the PCMH receives a monthly management fee of \$100.35 for such patients through a voluntary incentive program by a major insurer.

Appendix 1: Detailed Case Example

Clinical Example: Osteoporosis Chronic Disease Patient in a Long Term Care setting at High-Risk for Hip Fracture:

Transfer Points: Home → Acute Care Hospital → Nursing Home → Senior independent living facility

Hospital Admission

Ms. P. is an 82 year old widowed female who resided at home. She had lived alone for several years. She is Ukranian and speaks some English. She has one daughter who recently moved back to the area and provides some support. She was admitted to hospital after she was found on the floor, having fallen in her kitchen. Medical history obtained from the on hospital admission was significant for osteoarthritis, osteoporosis and Vitamin D deficiency. She had a pnuemococcal vaccination in the past 3 years.

On examination, extensive bruising was noted on her left side. She was conscious but confused. Other features on examination included left flank pain, atrial fibrillation with a ventricular rate of 55/min. Temperature was 36.5 C.

Medications: Tylenol #3 up to 6 tabs a day, multivitamin, Caltrate 600 plus D, brought by ambulance.

X-rays of her hips and pelvis revealed a left femoral neck fracture and osteopenia. Urinalysis proved positive for bacteria, CPK 300 U/L and a WMC of 400/mmm3. Estimations of Hgb, Na, K, Cl, CO2, BUN, creatine, Ca & Mg were all within normal limits. The patient underwent successful surgical stabilization of the fracture. Patient was treated per hip fracture standard hospital protocol.

Hospital Day 4

On day four of the hospitalization, the patient remained lethargic, slightly confused and mostly immobile. Further work-up to more fully assess current status was undertaken:

TSH =44 (normal <6.0) **CS**

Albumin =24 (normal >35) **CS**

Urine culture showed a mixed growth of 3 organisms. **NCS** (bacteruria,10-20% prevalence)

MRSA: **CS**

CT of head shows atrophy only. **Significance unsure** (perform MMSE)

The patient had hypothyroidism as a contributing precipitant for her fall. In addition, there was biochemical evidence of malnutrition. A neurology consultation revealed a MMSE score of 17/30, (mild cognitive impairment possibly reversible once malnutrition and hypothyroidism are treated). BADLs (Katz): Patient is dependent in bathing and dressing. Patient needs assistance to go to toilet. Continence: Patient has occasional accidents. In addition, the nursing staff reported a 2x3 cm sacral decubitus ulcer, stage2.

Discharge Orders: Day 7, Regional Nursing Home

The D/C team determined to move Ms P to a nursing home closer to her daughter for follow up care and rehabilitation with plans for her to return home later on if possible. Following a 6 week stay she was discharged a senior independent living facility from the nursing home.

Discharge plans included follow up home health nursing care as well as follow up P.T. and O.T. care coordinated through the patient's primary care physician office.

Follow-up with primary care physician in one week:

- Hypothyroidism
- Fall work-up
- Osteoporosis
- Vitamin D deficiency
- Malnutrition
- R/O depression
- R/O dementia
- Pressure Ulcer Stage 2
- MRSA+ post surgical wound infection

Follow-up with Orthopedics in 1 week

Other consults:

- Physiotherapy
- Wound care therapy

Discharge Medications:

- Remeron 15 mg qd (anti-depressant that increases appetite)
- L-thyroxine 50 mcg po qd (hypothyroidism)
- Arixtra 2.5 mg sc (DVT prophylaxis, Atrial Fib)
- Tylenol #3, up to 6 tabs qd
- Vancomycin 40-50 mg tid
- Calcium 600mg twice a day
- Vitamin D 1000 IU three times a day

(Received 5 mg IV treatment with Reclast during the hospitalization which will need to be repeated in one year for treatment of osteoporosis)

F/U labs needed: TSH, B12, Folate, PT/INR , adjust to INR of 2-3.0., Vitamin D level in 2 months

Weight Bearing Status: Partial, use walker

6.9 Technical Architectural and Interoperability Plan

Attachment 6.9 Technical Architecture and Interoperability Plan

1. Overview

1.1 Purpose of the Document

The purpose of this document is to provide a description of the technical architecture and interoperability plan and timelines for achieving the plan [your project name] will implement in compliance with the current version of Statewide Policy Guidance (Section 6.14). Statewide Policy Guidance is developed through the Statewide Collaboration Process which is managed by NYeC and approved by the DOH.

2. Architectural Description Summary

This section should include a narrative description of the technical architecture and interoperability plan for connecting EHRs and other health IT tools to the SHIN-NY for results delivery to the EHR and health information exchange among EHRs and other health IT tools. The components depicted in Figure 1, detail the key elements that need to be addressed as part of the plan.

For some proposed projects, the CHIxP current state description and diagram may not apply. Component A is the RHIO's HIE or sub network of the SHIN-NY that you will be connecting to as part of your HEAL 10 grant. You should describe the vendor(s) that the RHIO is or will be using to implement their HIE as part of the SHIN-NY, the functionality envisioned, the CHIxP at the EHR level to exchange data and the health information types to be exchanged. Please use Row A in the grid to complete your Current and Future state of SHIN-NY connectivity. For all connections between the EHR and SHIN-NY, please indicate the vendor and number of practices using that vendor.

The rest of the diagram depicts connections that are or will be established as part of your plan and should be completed as follows:

B – This represents a CHIxP compliant connection between a local practice's EHR and the RHIO HIE /"little bus" SHIN-NY ESB. This will probably not be part of your current architecture; however, your transition plan from the Current State to this Future State is an important part of the description. Identify the clinical data types that will be transmitted between the practice and the RHIO/HIE, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Do not forget to include consent and other transaction types (ie. referrals, prescriptions, etc.).

C – This represents the legacy connection between a local practice’s EHR and the Legacy HIE. Identify the clinical data types that will be (or are currently) transmitted between the practice and the HIE, the protocol used, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Do not forget to include consent and other transaction types (ie. referrals, prescriptions, etc.).

D – This represents a connection from other clinical data sources to the Legacy or Future HIE. For each clinical data source please indicate the protocol used, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Please include a plan to transition from a local connection to the HIE to a CHIxP protocol that connects directly to the “little bus”(as in “E”).

E – This represents the future connection using a CHIxP compliant connection. For each clinical data source please indicate the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional).

F – This represents the legacy connection between a Regional Enterprise (ie. hospital, IDN, etc.) and the Legacy HIE. Identify the clinical data types that will be transmitted between the practice and the HIE, the protocol used, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Do not forget to include consent and other transaction types (ie. referrals, prescriptions, etc.).

G - This represents a CHIxP compliant connection between a Regional Enterprise and the SHIN-NY ESB “little bus”. This will probably not be part of your current architecture; however, your transition plan from the current state to this future state is an important part of the description. Identify the clinical data types that will be transmitted between the practice and the RHIO/HIE via the “little bus”, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Do not forget to include consent and other transaction types (ie. referrals, prescriptions, etc.).

H – This represents the Legacy connection between a Regional Enterprise (ie. Hospital, IDN, etc.) and a practice’s EHR. Identify the clinical data types that will be transmitted between the practice and the Regional Enterprise, the protocol used, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional). Do not forget to include consent and other transaction types (ie. referrals, prescriptions, etc.).

I – This represents the Legacy connection between a practice’s EHR and other clinical sources (ie. local lab vendor). For each clinical data source please indicate the protocol used, the nomenclature standards used, and the directionality of the transmission (ie. one way or bidirectional).

2.1 Current architectural summary (narrative)

Using Figure 1 as reference, please provide an architectural summary of the current state of your project.

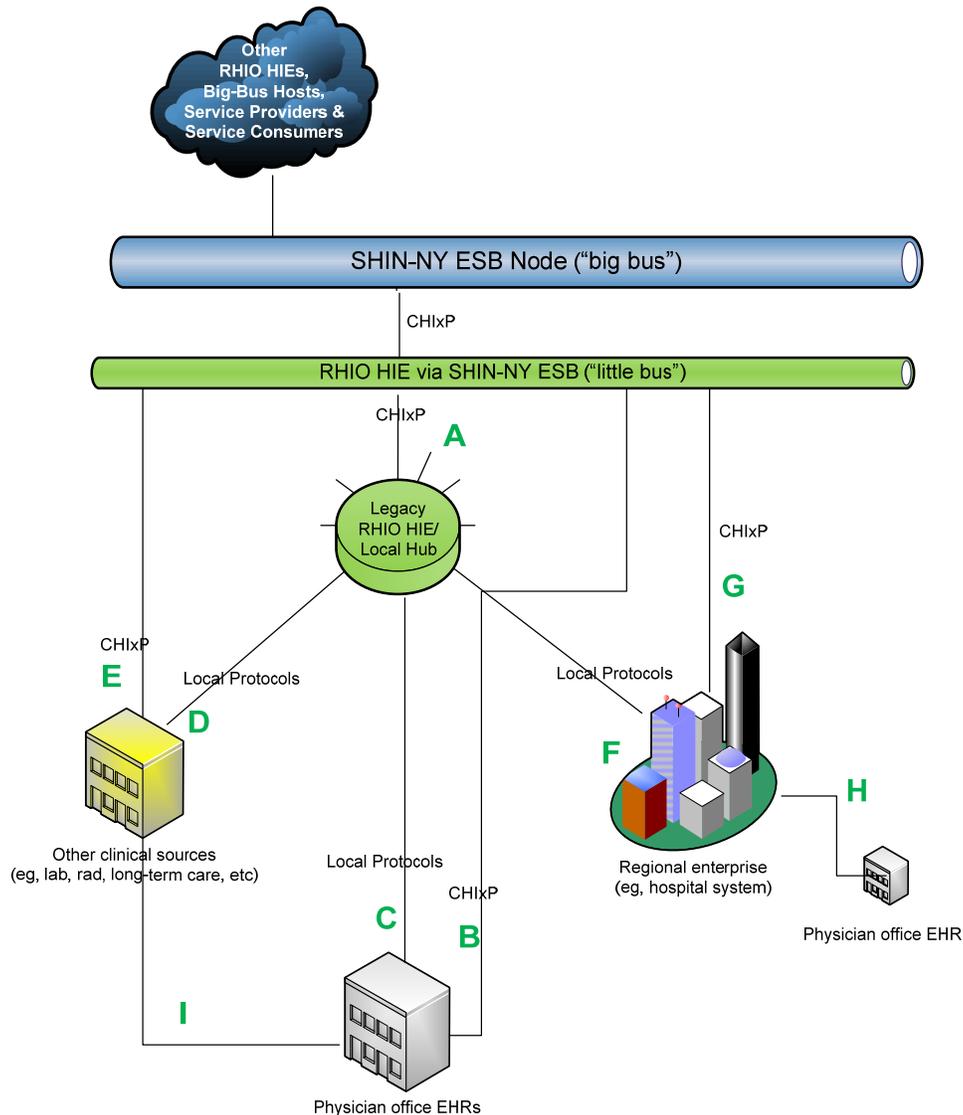
Projects utilizing technology other than EHRs must provide a description of the technical strategy for connecting to the SHIN-NY. If a connection to a local hub is employed, it must be clearly justified.

2.2 Planned HEAL 10 architectural summary (narrative)

Using Figure 1 as reference, please provide an architectural summary of the proposed Heal 10 project.

Projects utilizing technology other than EHRs must provide a description of the technical strategy for connecting to the SHIN-NY. If a connection to a local hub is employed, it must be clearly justified.

Figure 1



3. Grids for Completion

In addition to the narrative, the following table(s) provides a way to summarize the project's approach to satisfying the SHIN-NY architectural requirements for connectivity between the EHR and the SHIN-NY.

Instructions to Complete the Grids:

Based on the labeled diagram above, please provide connectivity and interoperability information, based on connections labeled in the diagram:

1. Complete the project overview information.
2. Grid 1 represents the current state of your project;
 - a. For the first row, provide the description of your HIE approach, if there is one; and
 - b. For each connection type provided (B – I), please include details around that connection type. For each practice or enterprise system, you will need to add a row to represent that entity and its connectivity, and then details around that connection type (Add a row by highlighting the area above where you would like the row to be entered. Keeping that area highlighted go to the Table menu and select Insert and then select Rows Below). For example, if you have two physician offices currently connected to either labs, imaging centers, or other clinical sources or entities, you will need to describe the specifics of each practice’s connectivity in the grid. If a practice has no connections, then you do not need to detail it. For each connection type/practice you will need to have a row added to the appropriate lettered connection type. If there are 2 physician practices all connecting to the local hospital for labs, then under connection type “H”, there will be three lab rows listed, one for each practice connecting to the hospital.
3. In addition to describing your current connectivity, the second table should be completed as a depiction of the future state of connectivity as described in your HEAL 10 project plan.

PROJECT OVERVIEW INFORMATION	
Project Name	
What SHIN-NY node/sub network (RHIO’s HIE) are you connecting to?	
How many practices in this project?	
How many providers in this project?	
How many providers currently using an EHR?	
Which EHR vendors are part of this project?	
List number of providers by EHR vendor	
Which vendors being used by Enterprise (ie. Hospital) system(s)?	

CURRENT STATE

Diagrammatic Label	Diagrammatic Description	HIE Platform ("A")	Components - Solutions	Implementation Date	Source System ← - → Destination System	Vendor	Protocol Used	Data Shared	Nomenclature - Standard	Integration approach
A	Legacy to "little bus" via CHIXP									
B	CXIXP protocols from vendor apps to HIE									
C	Local protocols from vendor apps to HIE		Lab							
			Radiology/Imaging							
			Other Clinical Data							
D	Local protocols from other clinical sources to HIE		Lab							
			Radiology/Imaging							
			Other Clinical Data							
F	Local protocols from enterprise systems to HIE		Lab							
			Radiology/Imaging							
			Other Clinical Data							

Diagrammatic Label	Diagrammatic Description	HIE Platform ("A")	Components - Solutions	Implementation Date	Source System ← - → Destination System	Vendor	Protocol Used	Data Shared	Nomenclature - Standard	Integration approach	
G	CHiXP-compliant enterprise systems										
H	Local protocols from vendor apps to Regional Enterprise		Lab		<i>EMR System – 3 Physicians to Local Community Hospital System</i>	<i>Vendor 1</i>	<i>HL7 – results delivery only</i>	<i>Lab, Pathology</i>	<i>Hospital Lab Dictionary</i>	<i>Point-to-point connection</i>	
			Lab		<i>EMR System – 15 Physicians to Local Community Hospital System</i>	<i>Vendor 2</i>	<i>HL7 – order entry, results delivery</i>	<i>Lab, Pathology</i>	<i>Hospital Lab Dictionary</i>	<i>Point-to-point connection</i>	
			Radiology/Imaging								
			Other Clinical Data								
I	Local protocols		Lab								
			Radiology/Imaging								

Diagrammatic Label	Diagrammatic Description	HIE Platform ("A")	Components - Solutions	Implementation Date	Source System ← - → Destination System	Vendor	Protocol Used	Data Shared	Nomenclature - Standard	Integration approach
	from vendor apps to Other Clinical Sources		Other Clinical Data							

HEAL 10 PLANS

Diagrammatic Label	Diagrammatic Description	Connection Approach ("A")	Components - Solutions	Implementation Date	Source System ← - → Destination System	Vendor	Protocol Used	Data Shared	Nomenclature - Standard	Integration approach	Milestone Number
A	Legacy to "little bus" via CHIxP										
B	CXIxP protocols from vendor apps to HIE										
C	Local protocols from vendor apps to HIE		Lab								
			Radiology/Imaging								
			Other Clinical Data								
D	Local protocols from other clinical sources to HIE		Lab								
			Radiology/Imaging								
			Other Clinical Data								
E	CHIxP connection from Other Clinical Sources to HIE										
F	Local protocols		Lab								
			Radiology/Imaging								

Diagrammatic Label	Diagrammatic Description	Connection Approach ("A")	Components - Solutions	Implementation Date	Source System ← - → Destination System	Vendor	Protocol Used	Data Shared	Nomenclature - Standard	Integration approach	Milestone Number
	from enterprise systems to HIE		Other Clinical Data								
G	CHIxP-compliant enterprise systems										
H	Local protocols from vendor apps to Regional Enterprise		Lab								
			Radiology/Imaging								
			Other Clinical Data								
I	Local protocols from vendor apps to Other Clinical Sources		Lab								
			Radiology/Imaging								
			Other Clinical Data								

6.10 Allowable Project Costs

Attachment 6.10 Allowable Project Costs

The application must describe what specific technology will be purchased directly with HEAL 10 funds or covered with matching funds and implemented, and why the proposed technical solutions and services are critical to project success. The application must also include how the technical solutions and services will provide interoperable health information exchange that meets the requirements outlined through the Statewide Collaborative Process.

NOTE: DOH reserves the right to approve all technology paid for with HEAL 10 funds or included as matching costs.

Grant funds (and matching funds) can be used to pay for:

1. EHRs for primary care and appropriate specialty physician practices:
 - a. All primary care practices receiving EHR funding must participate in the PCMH.
 - b. All specialty practices receiving EHR funding must participate in PCMH. The inclusion of any specialty physician practices must include a detailed explanation of how they provide a critical role in care of the chosen target diagnosis population.
 - c. A maximum of 25% of the costs of inpatient and/or long term care providers EHRs is also permitted.
2. Clinical Informatics Services (CIS):
 - a. Aggregate, analyze, measure and report data for population health and quality purposes.
 - b. Clinical decision support software which must be directly related, but not limited to the chronic or high risk diagnosis chosen.
3. Connections to SHIN-NY:
 - a. Must be fully electronic e-prescribing (no faxing) with medication history and reconciliation. If project includes multiple medications history data sources should include explanation of how this information will be presented to the clinician electronically in a reconciled form. Must provide a single reconciled list to the clinician within the HER.
 - b. Connecting ambulatory, inpatient, sub-acute EHRs to RHIO HIE (SHIN-NY sub network), or local hub solution as a bridge to the SHIN-NY, including but not limited to results reporting and summary record exchange;
 - i. Lab, radiology, hospital reports, transfer of care documents connected to SHIN-NY or local hub solution using CHIxP; and
 - ii. Summary record exchange among EHRs utilizing CHIxP.
4. Portals:
 - a. Only if appropriate for access to clinical data for care support of patients with the chosen diagnosis and no EHR is available.

5. Implementation, configuration, maintenance and operational support services for all of the above. Inclusion of costs for EHRs must include complete CHITA support planning.
6. CHITA Services: Health IT adoption and support services, including quality improvement services.
7. Project organization and administration of the PCMH.
8. Project evaluation, in addition to and/or in cooperation with HITEC, to document improvements in care coordination and outcomes.

6.11 Budget Forms

Attachment 6.11 Budget Forms (including CHITA Services Template)

See Excel Budget Forms (Section 8.2.4) – Excel version posted with package

- Project Budget Form
- Project Funding Form
- Revenue and Expense Projections

6.12 Leadership and Personnel Qualifications

Attachment 6.12 Leadership and Personnel Qualifications

Applicants are required to clearly describe the roles and responsibilities of all staff involved in the proposed project. Roles and responsibilities include: staff time contributed from stakeholders and the lead applicant organization and hours paid for with HEAL funding. The description should also describe which participating organization staff is from, their primary expertise (supported by experience), role in the project, and anticipated role in the Statewide Collaboration Process. Resumes for all project staff (paid and in-kind) should be included as part of this Attachment.

-NARRATIVE-

Resumes

- 1.
- 2.
3. (as many as necessary)

6.13 Chronic Care model

Attachment 6.13 Chronic Care Model

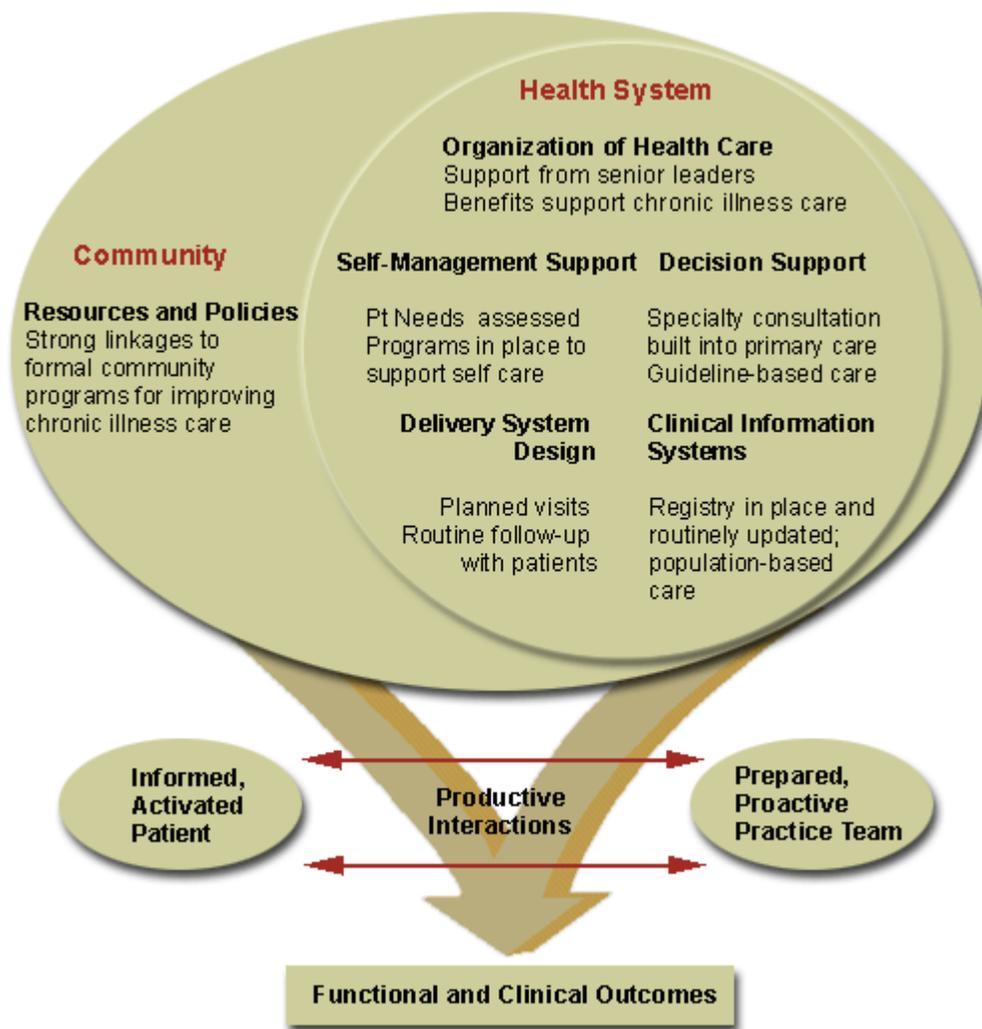
From: Interactive Textbook on Clinical Symptom Research
http://symptomresearch.nih.gov/chapter_10/sec5/cabs5pg1.htm

Chronic Care Model

The Chronic Care Model (Figure 5.1) is an attempt to synthesize available evidence of system changes that improve care for chronic illness, relevant to arthritis and other conditions causing symptoms and disability ([Wagner et al, 1996a; 1996b; 1999; 2000](#)). It was based on a survey of best practices, expert opinion, more promising interventions in the literature, and quality improvement work on diabetes, depression, and cardiovascular disease ([Wagner et al., 1999](#)).

Figure 5.1 shows how system changes in the six areas of the Chronic Care Model influence interactions between patients and providers to produce better care and improved outcomes.

Figure 5.1 The Chronic Care Model



There are three overarching themes in the Chronic Care Model:

1. It is population-based, meaning that care is planned and organized for all arthritis patients in the practice, whether they present for care or not. Standardized assessment and follow-up, for example, are routinely provided for all arthritic patients in a given system, rather than for select high-risk patients. Clinical information systems that include key information on all patients with arthritis facilitate population surveillance and reminders of needed services. This population-based approach differs from usual care, where providers respond to whatever is scheduled for that day.

2. It is [evidence-based](#) in that clinical management is based on the best randomized studies.
3. It is [patient-centered](#); that is, the patient's concerns are a priority in the practice and a central feature of improvement efforts. Enhanced collaboration between patients and providers leads to improved patient outcomes, including better symptom control. Collaborative management of chronic illness involves setting goals and developing a care plan with patients, training and support for self-management, and active follow-up to monitor success and modify care ([Von Korff et al., 1997](#)). These elements of care are essential in a condition like arthritis, where outcomes depend on keeping patients active and motivated over the long run to care for their condition.

As outlined in the Chronic Care Model, there are several types of practice changes that can influence effective chronic illness interventions.

- [Practice re-design](#) - This focuses on increasing roles and responsibilities of the practice team, with an emphasis on patient follow-up and use of alternative mechanisms (ie. group visits; drop-in medical group appointments) to increase the efficiency of care.
- [Self-management support](#) - Since patients are an integral part of care, they should be offered training and provided with ongoing support to proactively manage the day-to-day complications of their condition.
- [Clinical information systems](#) - Clinical information systems or registries are essential for tracking the care and outcomes of an entire population of patients, as well as for prompting providers about follow-up.
- [Decision support](#) - Decision support involves, for example, access to guidelines or joint visits involving primary care providers and specialists.
- [Community resources](#) - Links to key community resources facilitate the delivery of care to a larger population of patients and individuals in the community, and may enhance self-management delivery.
- [Leadership](#) - In order for all the elements of care to take effect, strong support from leadership within a health care organization is needed. The Malcolm Baldrige National Quality Award Criteria, the standard for organizational excellence in other industries, include leadership as a central component of effective organizations ([US Chamber of Commerce, 1993](#)). [Shortell and colleagues \(1995\)](#) have adapted these criteria to health care organizations and have reported the need for support from senior leadership in making health care system changes.

6.14 Statewide Policy Guidance

Attachment 6.14 Statewide Policy Guidance

See the New York State Department of Health, Office of Health Information Technology Transformation website for the current version of Statewide Policy Guidance:

http://www.health.state.ny.us/technology/statewide_policy_guidance.htm

6.15 Pass/Fail Review

Attachment 6.15 Pass/Fail Review

Criteria from the RGA :

- The proposed projects must identify a target patient population, and list it in the Stakeholder Template, (Attachment 6.3) with a chronic disease or high risk/high cost diagnosis and a PCMH through which the care of the target patient population will be coordinated and managed.
 - P – Identified chosen diagnosis/target patient population on line one of Attachment 6.3.
 - F – Blank line and/or unapproved diagnosis (not in attachment 6.7, or unexplained).

- The proposed project must also include a plan, using CHITA Services Template (Attachment 6.2), for providing Community Health Information Technology Adoption Collaboration (CHITA) services for promoting and supporting implementation of interoperable EHRs and other health IT tools and ensuring their effective adoption and use to support the PCMH model. Collectively, the target patient population, PCMH and CHITA are organized as a CCZ to ensure effective organization and management of the project.
 - P – 6.2 is present and complete.
 - F – 6.2 is missing or incomplete.

- An eligible lead applicant
 - P – EA is identified as either a PCMH stakeholder or a CHITA.
 - F – EA is not identified as either a PCMH stakeholder or a CHITA.

- A letter of support must also be included from each stakeholder participant included in the Stakeholder Template Attachment 6.3. See Attachment 6.3 for the Letter of Support Requirements.
 - P – One letter of support for each stakeholder in the Project Stakeholders table in 6.3.
 - F – A missing letter.

- Letters of support must also be included from the CHITA and RHIO. See Attachment 6.3 for the Letter of Support Requirements.
 - P – RHIO and CHITA letters of support present.
 - F – RHIO and CHITA letters of support missing.

- The application must include a detailed description of the CCZ by clearly completing all 6.3, Section III tables.
 - P – Elements present in 6.3.
 - F – Elements absent in 6.3.

- A summary of the PCMH providers and other care givers who provide care to the target patient population. At least 50% of the providers and other care givers who provide care to the target patient population must be a part of the PCMH. A detailed listing must be completed as part of the participant stakeholder template (Attachment 6.3), as noted in Section 3.2.2.
 - P – 50% of all providers involved in care of target patient population included (6.3, Section III tables).
 - F – 50% of all providers involved in care of target patient population not included (6.3, Section III tables).

- Applicants must describe and include a technical design, by completing the Technical Architectural and Interoperability Plan (Attachment 6.9), for how EHRs will be connected to the SHIN-NY to enable health information exchange among all providers in a PCMH.
 - P – Complete 6.9.
 - F – Incomplete or missing 6.9.

- Applicants must include a RHIO partnership and governance plan describing how the PCMH providers are participating in a RHIO and how they plan on utilizing SHIN-NY services that includes a commitment to share information with all appropriate providers in the PCMH.
 - P – Exists as part of 6.3.
 - F – Is not part of 6.3 or is absent.

- Applicants must include a detailed description of what health IT products and services will be purchased, for which PCMH providers in the proposed project and why these tools are critical for the success of the project.
 - P – Included as part of Budget Justification (see RGA Section 8.2.4) in the Financial Application and copied as part of the Technical Plan section of the Program Narrative (see Section 4.1.6).
 - F – Not included, or includes an unallowable cost per Attachment 6.10.

- The applicants are required to provide a project sustainability plan in their application (per section 4.1.4.3), including all current and potential future funding and reimbursement opportunities.
 - P – Plan is present as part of the Organizational Plan in the Program Application narrative.
 - F – Plan is not clearly labeled and present as part of the Organizational Plan in the Program Application.

- Representatives must be staff members with expertise that align with the mission of the specific workgroup (ie., technical liaisons are members of the Protocols and Services workgroup, providers are members of Clinical Priorities, etc.).
 - P – Clearly indicated as part of 6.12.
 - F – Not clearly indicated as part of 6.12.

- Applications are required to include a list of project goals and a model project work plan that details high level milestones for the project. Applicants will be required to complete Attachment 6.4 to provide this information.
 - P – Complete Attachment 6.4.
 - F – Incomplete Attachment 6.4.

General (Application Structure and Format) – Each of the items that follow are considered Pass/Fail items as well and should be regarded by the applicant as such.

General

- Applicant has selected a region on both Financial and Program Application Cover pages.

Eligible Applicant

- Have designated a legal entity as the lead applicant to contract with New York State (see section 3.2.1).

Budget

- Have allocated a 50% match. Applicants are required to contribute at least 50% of the project budget in the form of matching funds. These funds can be in the form of cash or in-kind contributions from project stakeholders. It should be noted that State funds may not be considered and/or counted as matching funds. Applicants should specifically identify matching funds and associated source(s) of these funds on the Project Funding / Project Fund Source Worksheet. The total match funds (combined cash and in-kind) should equal the Total Match (N) on the Project Budget Worksheet.
- Commission on Healthcare Facilities in the 21st Century Review. The awardee is not in fundamental conflict with the Commission mandates and DOH policy.
- (105, 5) - Each capitalized expense listed on Budget Form must include a detailed explanation as to how the determination was made that the expense is capitalizable.
 - P – Is present in the budget justification.
 - F – Is absent from the budget justification.

Structure

- The Program Application and Financial Application Templates are included in Section 8. Applicants are required to follow these formats to complete the application.
- After the initial screening of grant applications, the next step in the review process is the scoring of grant applications based on the grant requirements outlined throughout the RFA. All grant applications must include two narratives, not to exceed 30 pages each – Program and Financial. Applications will be evaluated based on responsiveness and completeness of all requirements.
- The Program Application narrative must be organized and clearly labeled by the five following sections, each of which will be evaluated as part of the review and award process. The sections are:

- Organizational Plan;
 - Technical Plan;
 - Clinical Plan;
 - Leadership and Personnel Qualifications – Provide detail in Attachment 6.12; and
 - Project Management – Provide Detail in Attachment 6.2.
- Attachments must be as follows and appear as SEPARATE documents (see Attachments).
 - Applications must be submitted in two separate and distinct parts, following the formats shown in Section 8.
 - Part I: Program Application
 - Part II: Financial Application
 - Each cover page must be signed by an individual authorized to bind the Eligible Applicant to any GDA resulting from the application.
 - Applications must be submitted in electronic form (on a CD or Flash Drive), however all signature pages must accompany the electronic application in original form. These pages will bind the applicant to everything in their electronic submission. Digital files:
 - Must have a back-up copy (identical folders on the same Flash Drive are acceptable).
 - Be in native format (Excel, Word, etc...) AND also have a Portable Document Format (PDF) copy.
 - ALL PDFs MUST BE SEARCHABLE! Scanned or otherwise generated PDF images of documents will not be accepted.
 - Must have a separate folder for the Program Application and components and the Financial Application and components.
 - Not adhering to these requirements will result in application disqualification.

Attachment Screening Guidance (consult to determine “completeness” of each Attachment)

6.2 – CHITA Services Template

- A description of health IT adoption and support services is required that includes all services listed below to promote EHR adoption, ensure adoption and effective use and achieve patient care improvements.
- Applicants are required to complete the matrix in the “CHITA Services” tab – “HEAL 10 Budget Worksheet.xls” outlining the EHR adoption and support services needs and a plan (narrative in 6.2) to address those needs.
- On the spreadsheet (“CHITA Services” tab – “HEAL 10 Budget Worksheet.xls”) the applicant must list by service how much the service will cost, the quantity of full time equivalents that will be required for that service, the anticipated portion of HEAL funding that will cover that service cost, the anticipated portion of other funding/support that will cover that service cost and where/who the other funding/support is coming from (Other Funding/Support Source). All service cost estimates must be based upon a comprehensive assessment from multiple vendors.
- Narrative - This section must include the following:

- Describe, in detail, the process undertaken to consider cost estimates; and
- Include assumptions made as part of estimating costs for services; be sure to address how each component in the table above is going to be delivered and offered as a package with all necessary services (ie. directly by a CHITA or through a CHITA partnership).

6.3 – Stakeholder Template

- All project stakeholders must be documented in the tables.
- Letters of support must appear in section IV of this attachment. Each letter of support must include the following components:
 - Corporate name of the stakeholder.
 - Contact information for the stakeholder (primary contact & backup contact, including project manager or equivalent).
 - Full commitment to sharing information among the PCMH participants This includes data for HIE, quality reporting and data for research and evaluation purposes.
 - Signature of the stakeholder executive.
 - Commitment to project including;
 - Financial contributions (personnel, cash, etc...);
 - Role in the project;
 - Reason for participation; and
 - Future plans for participation.
 - Percentage of population served for target patient population in the PCMH which is the total number of patients with the specified diagnosis covered by the stakeholder divided by the total number of patients with that diagnosis in the PCMH.
- RHIO Letter of Support:
 - RHIO name and contact information for the executive director and a back up contact.
 - Signature of the RHIO Board Chair and Executive Director.
 - Commitment to project including:
 - Description of the role in the project;
 - Providing connections between and among EHR and other health IT tools and the SHIN-NY technical infrastructure; and
 - How PCMH participants fit into the SHIN-NY governance structure.
- CHITA Letter of Support (not lead):
 - CHITA name and contact information for the executive director and a back up contact.
 - Signature of the CHITA Director.
 - List of all organizations that are a part of the CHITA and providing health IT technical services and adoption and support services to the project.
 - Commitment to project including:
 - Describe role in the project; and
 - List of PCMH projects to which the CHITA is providing services.

- PCMH Letters of Support (CHITA lead):
 - Corporate name of the stakeholder.
 - Contact information for the stakeholder (primary contact & backup contact ; including project manager or equivalent).
 - Full commitment to sharing information among the medical home participants This includes data for HIE, quality reporting and data for research and evaluation purposes.
 - Signature of the stakeholder executive.
 - Commitment to project including:
 - Financial contributions (personnel, cash, etc.);
 - Role in the project;
 - Reason for participation; and
 - Future plans for participation.
 - Percentage of population served for target patient population in the CCZ which is the total number of patients with the specified diagnosis covered by the stakeholder divided by the total number of patients with that diagnosis in the CCZ.
- Project stakeholders table:
 - Each stakeholder name must be listed in the first column.
 - The applicant must assign a number to each stakeholder letter of support and that number must appear in column two.
 - In column three the applicant must describe the type of healthcare provider that the stakeholder is and indicate what services they provide.
 - Column four must describe what the stakeholder’s role(s) and responsibilities will be for the PCMH and CHITA.
 - Column five is where the role(s) of the stakeholder in the RHIO must appear. Column six should indicate the stakeholder’s overall role in the project.
 - Column seven must indicate the percentage of the total number of stakeholder patients that are Medicaid patients.
 - Finally, column eight must indicate the percentage of the total stakeholder patient population that is associated with the chosen diagnosis for the project.
- Narrative - This must include a detailed RHIO partnership and governance plan, including but not limited to:
 - Describe how the PCMH providers are participating in a RHIO and what role the PCMH provider are playing and activities in which they are participating .
 - Describe how the PCMH providers are planning on utilizing SHIN-NY services and committing to sharing information with all appropriate providers in the PCMH. RHIOs are a part of the statewide governance structure managed by NYeC and are responsible for implementing the SHIN-NY pursuant to Statewide Policy Guidance.

6.9 – Technical Architectural and Interoperability Plan:

- Projects utilizing technology other than EHRs must provide a description of the technical strategy for connecting to the SHIN-NY.

- If a connection to a local hub is employed, it must be clearly justified.