

New York State's Health IT Strategic Plan



New York State Health IT Strategic Plan
March 2009

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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:

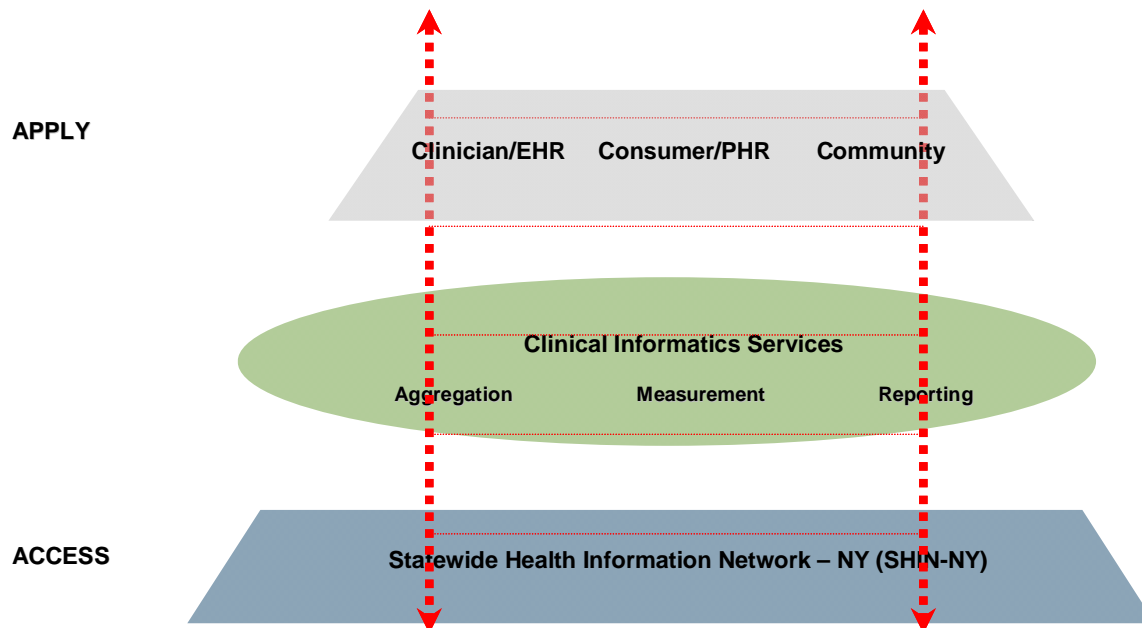
- Improvements in Efficiency and Effectiveness of Care: Provide the *right* information to the *right* clinician at the *right* time regardless of the venue where the patient receives care.
- Improvements in Quality of Care: Enable access to clinical information to support improvements in care coordination 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

"Cross-Sectional" Interoperability – People, Data, Systems



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

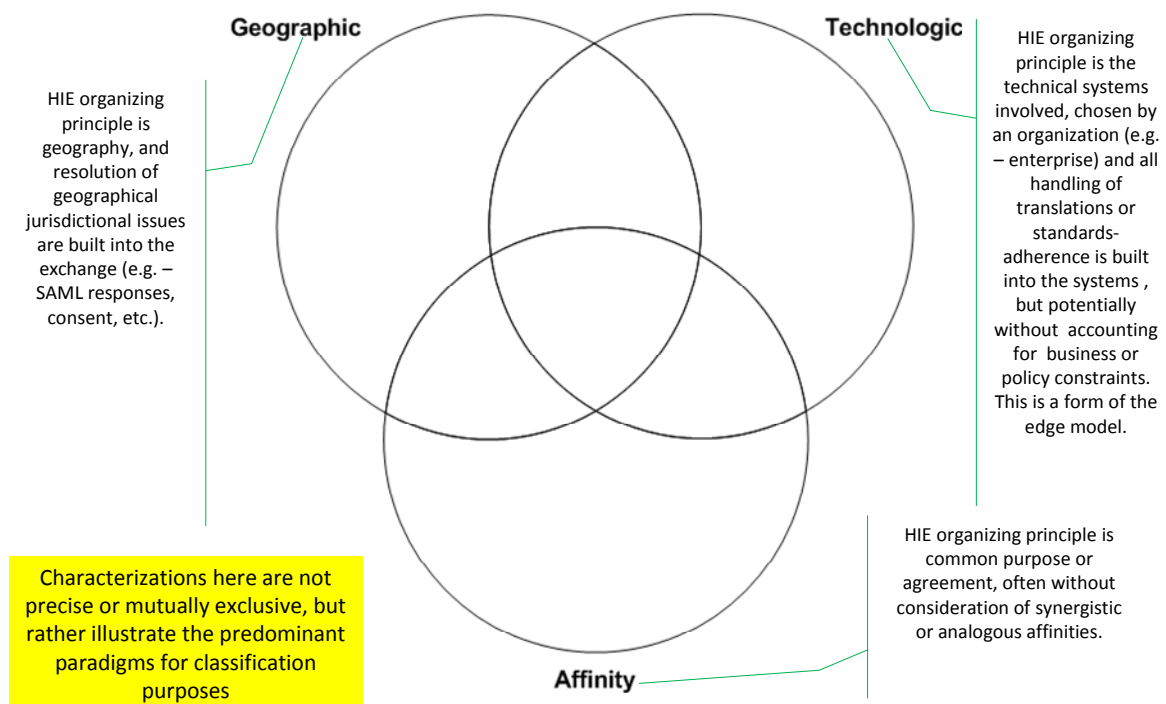
The SHIN-NY is a technical infrastructure pattern that enables widespread interoperability among disparate healthcare systems. The requirement to support very large-scale health care environments leads to two critical assumptions that lead directly to principles for the overall technical infrastructure: 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.

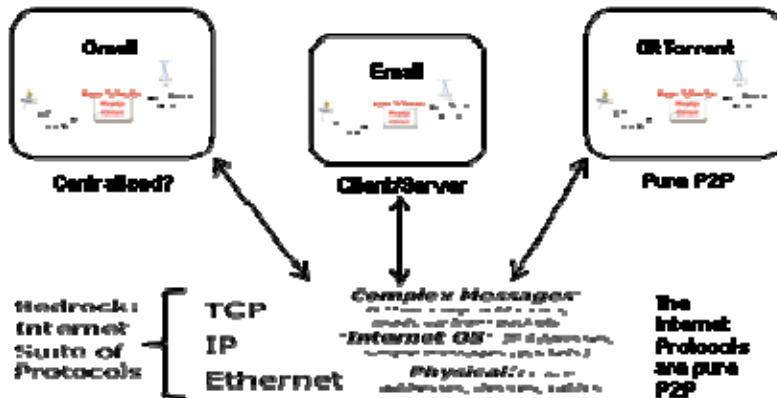
The SHIN-NY infrastructure pattern includes two major architectural components. The first is architectural materials and processes used in building the SHIN-NY. The second is the architectural structure of the SHIN-NY.

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.

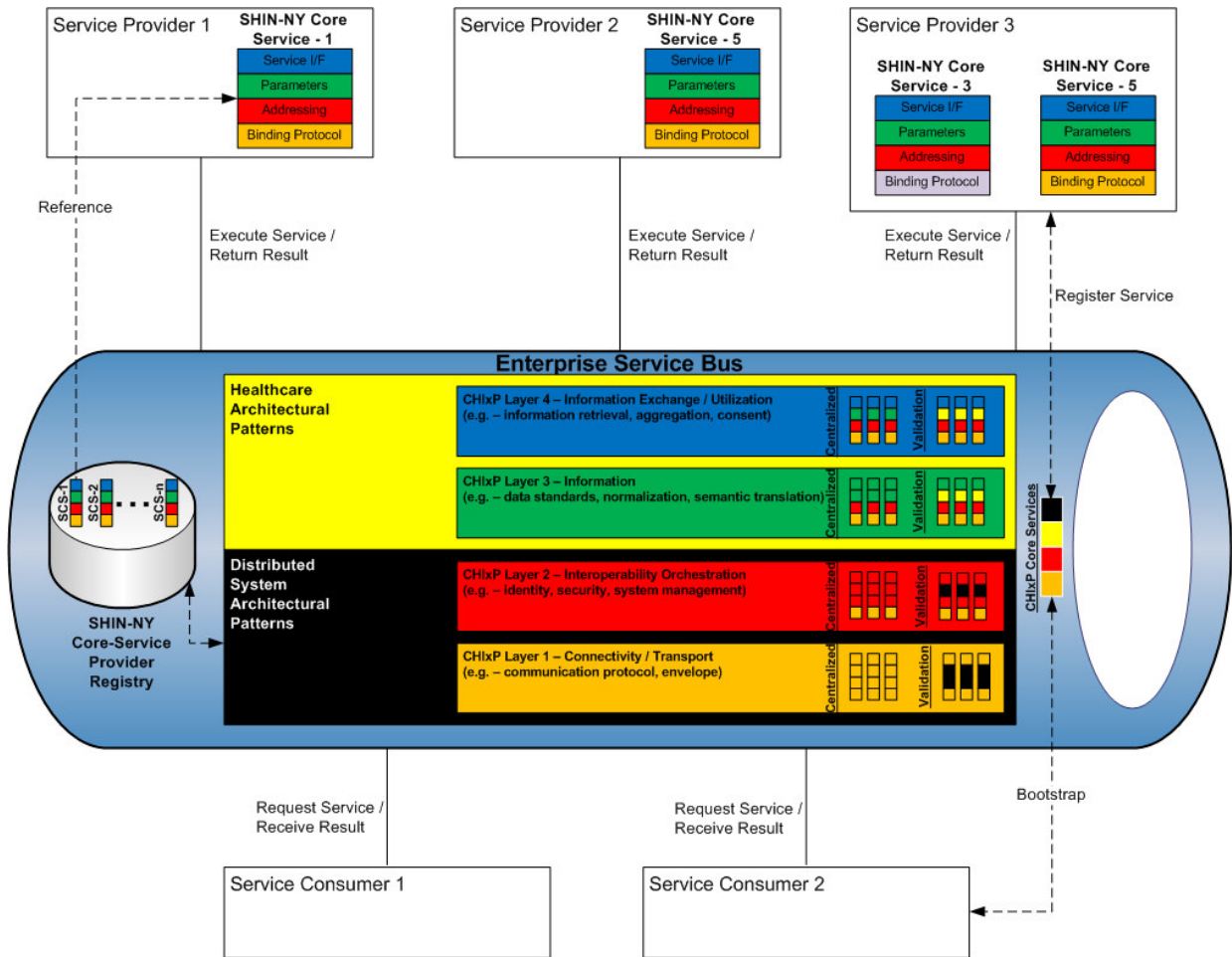
The SHIN-NY architecture is also a 'protocol driven, late binding architecture (PDLBA). A PDLBA is structured around groups of protocols governing the function of the system. As importantly, these protocols are defining the system at the highest level of abstraction possible. In non-technical terms, 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.

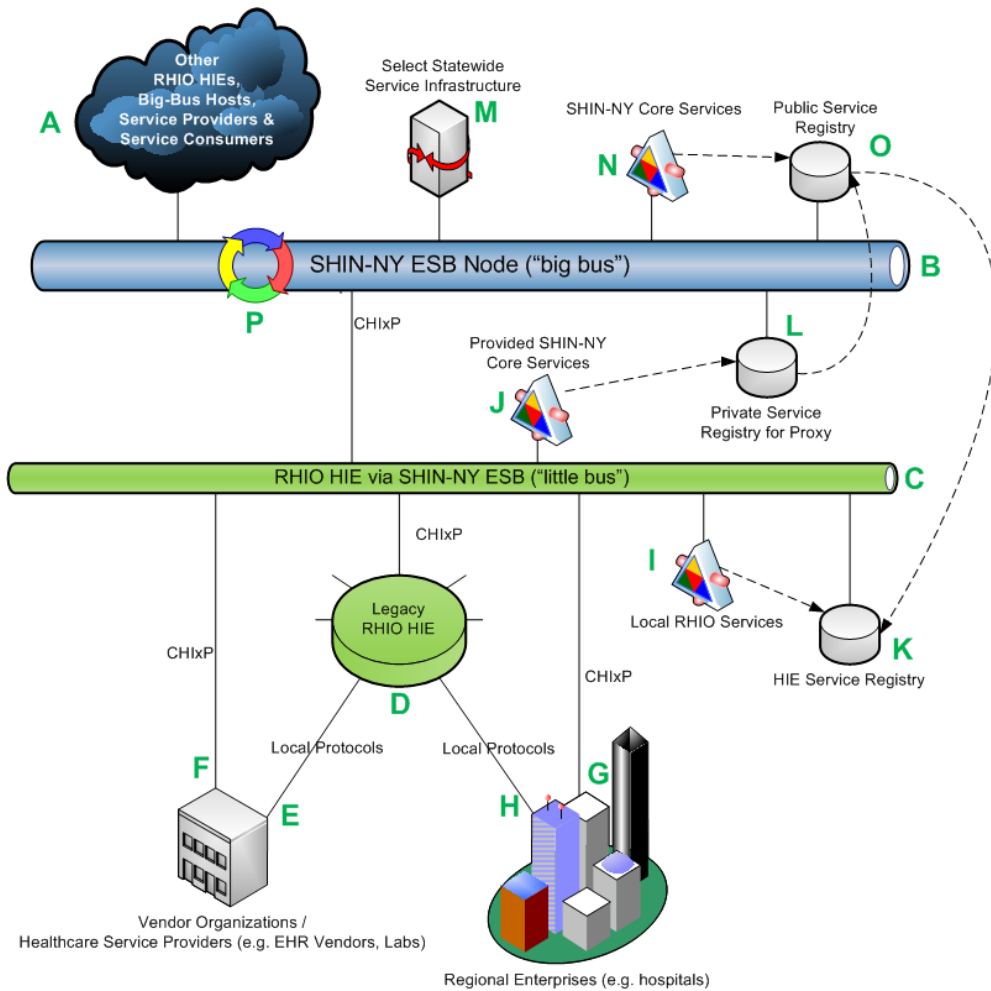
Service-Oriented Architecture

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 CHiP 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:

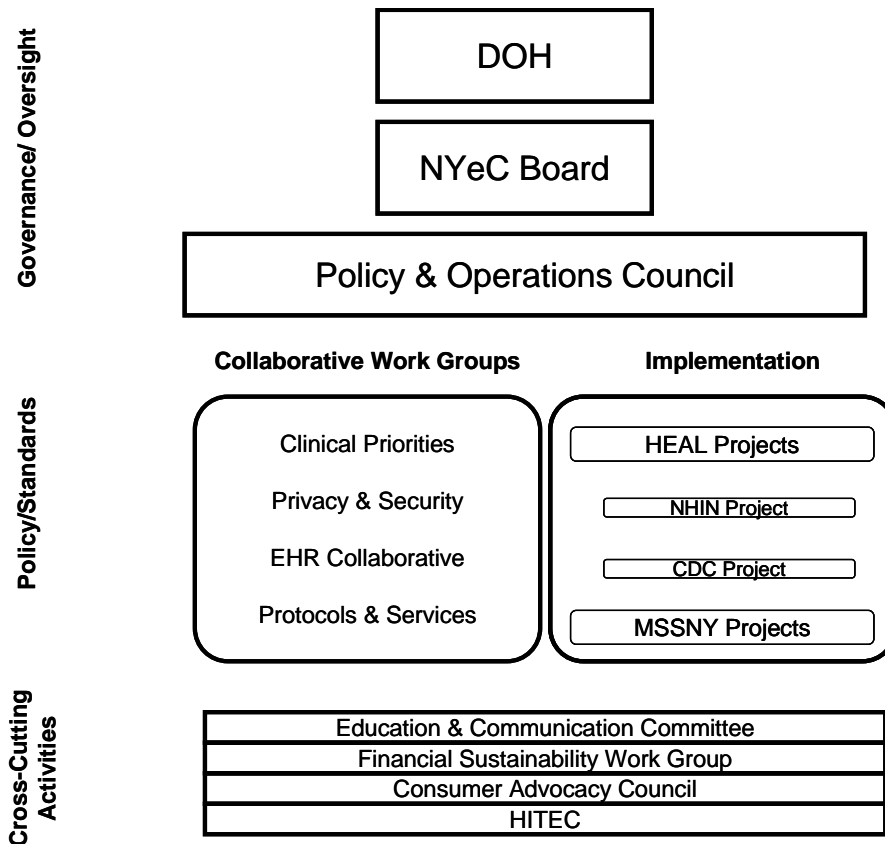
1. New York State Office of Health Information Technology Transformation (OHITT). In January 2007, the New York State Department of Health created the OHITT. OHITT is charged with coordinating health IT programs and policies across the public and private health-care sectors to enable improvements in 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.

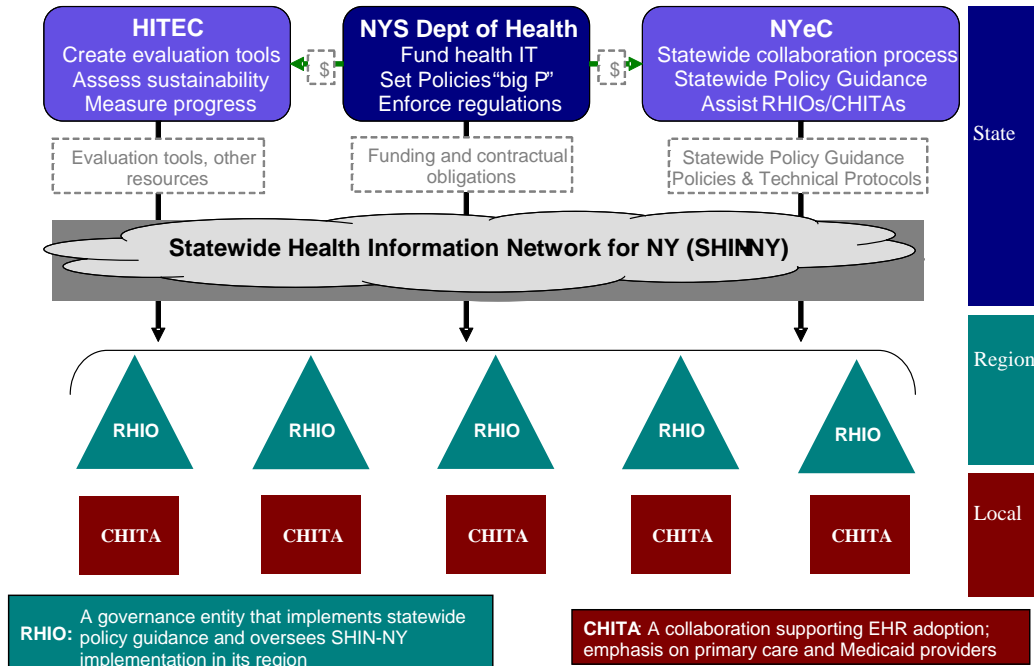
6. New York Health Information Technology Evaluation Collaborative (HITEC). HITEC is a multi-institutional, academic collaborative of New York State institutions including Cornell University, Columbia University, the University of Rochester, the University of Buffalo and the State University of New York 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:

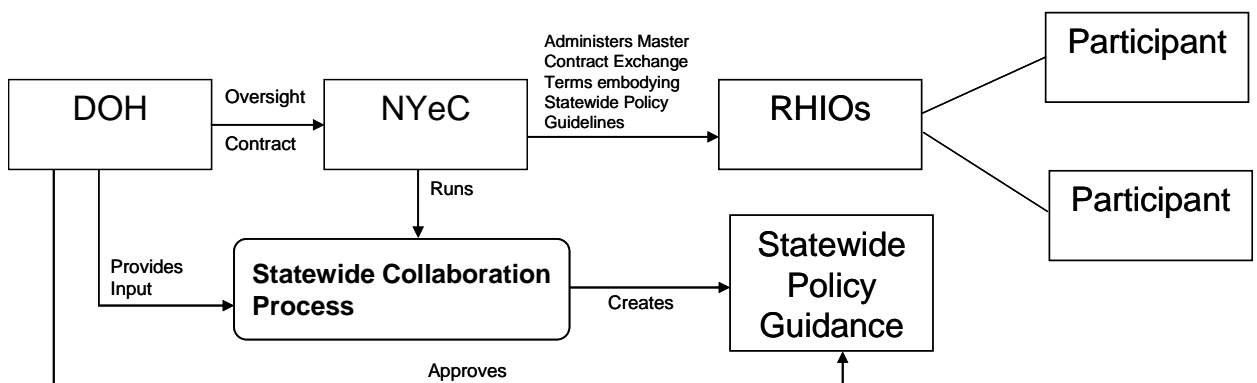
- Permanency: perpetuating a comprehensive contractual framework beyond the expiration of grant contracts;
- Simplicity: minimizing the number of separate contracts required;

- 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

<div style="border: 1px solid black; background-color: #FFD700; padding: 2px; text-align: center; margin-bottom: 5px;">Appropriations for Health IT & HIE</div> <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 	<div style="border: 1px solid black; background-color: #FFD700; padding: 2px; text-align: center; margin-bottom: 5px;">New Incentives for Adoption</div> <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
<div style="border: 1px solid black; background-color: #FFD700; padding: 2px; text-align: center; margin-bottom: 5px;">Comparative Effectiveness</div> <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 	<div style="border: 1px solid black; background-color: #90EE90; padding: 2px; text-align: center; margin-bottom: 5px;">Broadband and Telehealth</div> <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 FACAP 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.

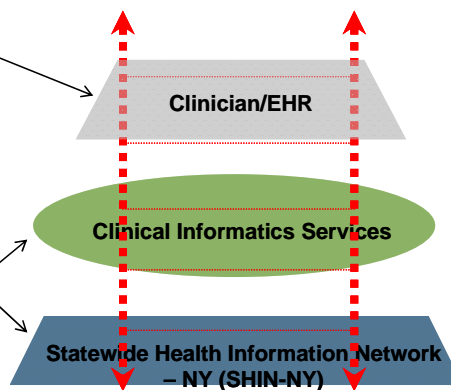
The meaningful use definition includes three components and will require robust infrastructure consistent with NY's Health Information Infrastructure Framework. See figure below.

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