



New Jersey
Health Information Technology Commission
New Jersey Health Information Exchange Project

ARRA Grants to Promote HIT

“State HIE Cooperative Agreement Program”

Plan Strategy & Update

Presented by:
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October 1, 2009



New Jersey Health Information Technology Commission

ARRA Funding-HIE Creation

Purpose

*HIE Cooperative Agreement
(FON:EP-HIT-09-001)*

- **ONC will award up to one cooperative agreement per state to cover both planning and implementation of statewide health information exchange. However, groups of states may combine their efforts into one application.**
- **Total amount available
\$564,000,000**
- **Award floor
\$4,000,000**
- **Award ceiling
\$40,000,000**

Services

- Electronic eligibility and claims transactions
- Electronic prescribing and refill requests
- Electronic clinical laboratory ordering and results delivery
- Electronic public health reporting (i.e., immunizations, notifiable laboratory results)
- Quality reporting
- Prescription fill status and/or medication fill history
- Clinical summary exchange for care coordination and patient engagement
- Leverage existing regional and state level efforts and resources that can advance HIE

Qualifications

- **Either a state or a State Designated Entity may apply for cooperative agreements under this program. Multi-state efforts may also apply; however, one state or SDE must act as the responsible fiscal agent.**
- **One of the principal goals of the applicant organization is to use information technology to improve health care quality and efficiency through the authorized and secure electronic exchange and use of health information.**



New Jersey Health Information Technology Commission **ONC Plan Framework**

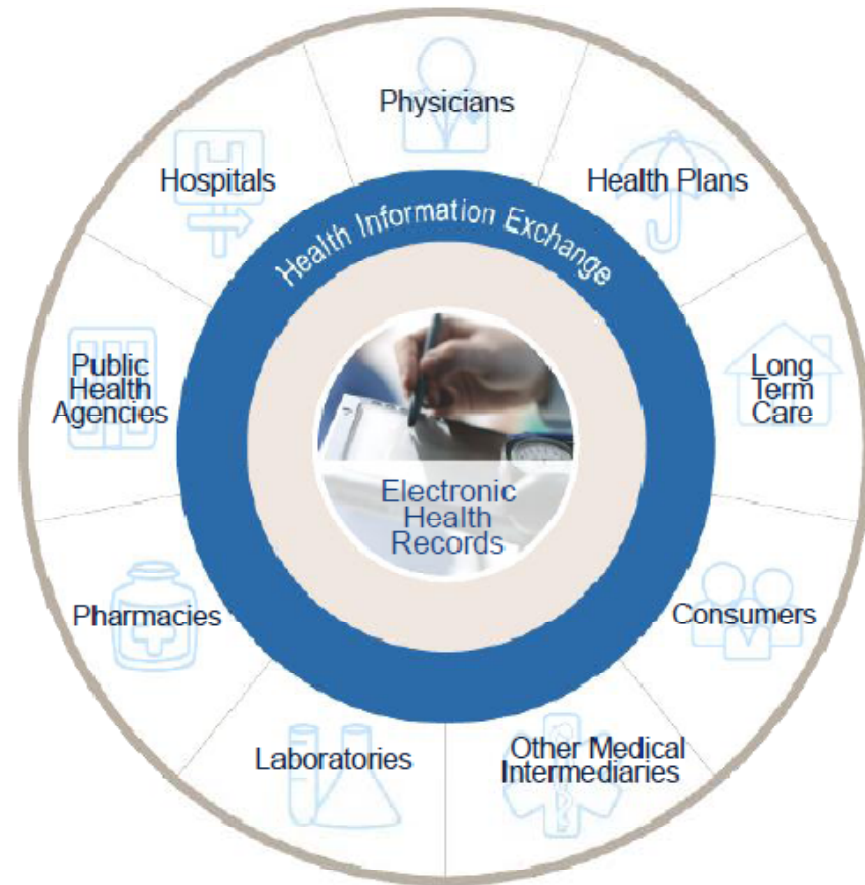
- Introduction
- Environmental Scan / HIE Readiness
- Stakeholders
- Governance
- Technology
- Medicaid Integration
- Integration of Other ARRA Programs
 - Regional Extension Centers
 - Workforce Development
 - Broadband Infrastructure
- Finance
- Privacy & Security



New Jersey Health Information Technology Commission Health Information Exchange

Health Information Exchange (HIE)

Facilitates the electronic flow of health-related data among all healthcare constituents in a specific geographic region to support processes that improve the quality and efficiency of healthcare delivery and population health





New Jersey Health Information Technology Commission Environmental Scan / HIE Readiness

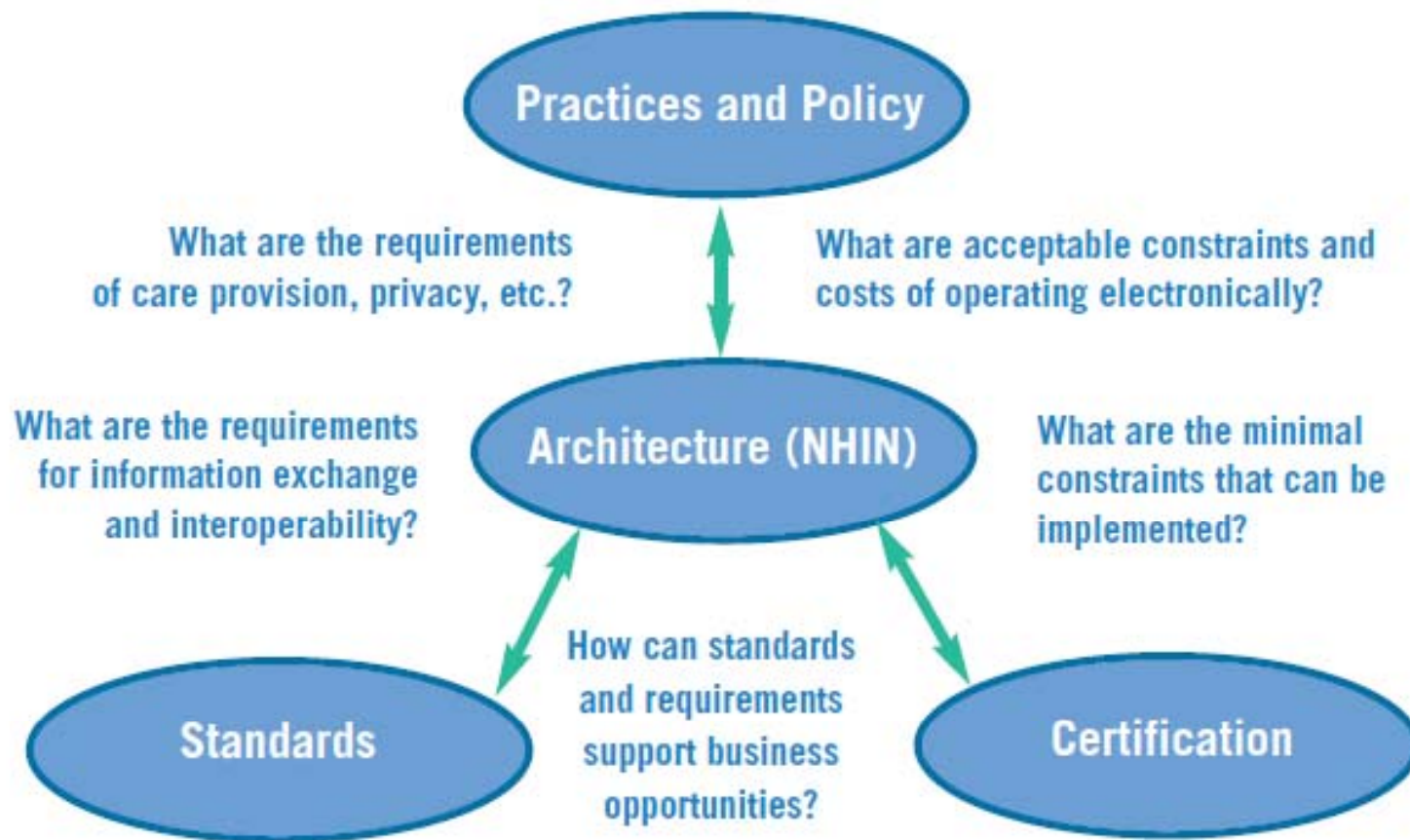
Kurt Salmon and Associates to update environmental scan
from NJHA plan from 2007

Responses Received from RFA



New Jersey Health Information Technology Commission Environmental Scan / HIE Readiness

What Enables HIE and Interoperability





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Environmental Scan / HIE Readiness

AHIC/NeHC Work Groups

To carry out this mission, AHIC created seven workgroups:

- Population Health and Clinical Care Connections Workgroup
- Chronic Care Workgroup
- Confidentiality, Privacy, & Security Workgroup
- Consumer Empowerment Workgroup
- Electronic Health Records Workgroup
- Quality Workgroup
- Personalized Healthcare Workgroup

The efforts of the workgroups resulted in the creation of several use cases that represent standards for HIE enabled clinical practice. The AHIC/NeHC priorities and use case road map which references existing and planned use cases is represented below.



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Environmental Scan / HIE Readiness

AHIC Priorities and Use Case Road Map

Practices		AHIC Priorities & Use Case Roadmap				4 CANDIDATE 2009 2	
2006	2007 Use Cases	2008 Use Cases		"New" Use Cases and...	Extensions & Gaps		
Consumer Empowerment Use Case <ul style="list-style-type: none"> Registration Medication History 	Consumer Access to Clinical Information <ul style="list-style-type: none"> Access to Clinical Data Provider Permissions PHR Transfer 	Remote Monitoring <ul style="list-style-type: none"> Remote Monitoring of Vital Signs & Labs (Glucose) 	Patient-Provider Secure Messaging <ul style="list-style-type: none"> Structured email Reminders 	Medical Home & Care Coordination <ul style="list-style-type: none"> PCP as Care Coordinator EHR as Med Hm 	Prior Authorization & Scheduling in Support of TPO <ul style="list-style-type: none"> Prior Auth & Scheduling Admin Data 	General Laboratory Orders	
EHR Use Case <ul style="list-style-type: none"> Laboratory Result Reporting 	Emergency Responder EHR <ul style="list-style-type: none"> On-site Care Emergency Care Definitive Care Provider Authentication & Authorization 	Medication Management <ul style="list-style-type: none"> Medication Reconciliation Ambulatory Prescriptions Contra-indication 	Consultations & Transfers of Care <ul style="list-style-type: none"> Referrals Problem Lists Transfer of Care 	Authorization for Release of Information for Third Party <ul style="list-style-type: none"> Patient/Consumer ROI Communication 	Maternal & Child Health <ul style="list-style-type: none"> Antenatal Prenatal, and Labor & Deliv. 	Medication Gaps	
Biosurveillance Use Case <ul style="list-style-type: none"> Visit Utilization & Reporting Clinical Data Lab & Radiology 	Quality <ul style="list-style-type: none"> Hospital Measurement & Reporting Clinician Measurement & Reporting Feedback to Clinicians 	Public Health Case Reporting <ul style="list-style-type: none"> Case Reporting Bidirectional Communication Labs Adverse Events 	Personalized Healthcare <ul style="list-style-type: none"> Laboratory Genetic/Genomic Data Family Medical History 	Newborn Screening <ul style="list-style-type: none"> Screening & Transition to Pediatric Care 	Long-Term Care & Assessment <ul style="list-style-type: none"> LTC Needs Assessment Tools & Data 	Common Device Connectivity	
				Clinical Research – Clinical Trials Data & EHRs <ul style="list-style-type: none"> Research Protocols Qualifying Ptns 	Store & Forward Telemedicine <ul style="list-style-type: none"> Teleconsults Health Data in Native Forms 	Clin Encounter Note Details	
						Order Sets	
						Consumer Preferences	
						Common Data Transport	
						AP Laboratory Results	
						Ptnt/Consumer Adv Event Rptg	
						Ptnt-reptd Probs & Outcomes	
						Health Surveys	
						Distributed Query	
						Death Rptg & Surveillance	
						Cancer & Tumor Registries	
						Occ Health & Injury Registries	
						Other Adverse Events	
						Blood Banks	
						Organ Donor Registries	



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New Jersey Planned “Use Cases”

- **Accurate Patient Identification** - This use case illustrates the importance of ensuring accurate patient identification on the front end at the point when the patient’s identity data is captured. As the Master Patient Index (MPI) of any hospital, clinic, practice management, or ancillary/EMR system is the foundation for each of these systems, the accuracy and completeness of the patient’s demographic data is critical to successful clinical data sharing.
- **State Databases** - Immunization Registry, CDRSS, Medicaid
- **ePrescribing** - + **Medication Histories in Emergency Departments / Hospitals**
- The prescription medication list is derived from insurance claims information and does not have 100% coverage of all medications a patient may be taking; some patients are not in the system and some medications may have been obtained in a manner that is not captured by PBMs. Rather, the list is an aid to the physician during the medication reconciliation interview required by JCAHO, helping to create a more accurate medication history than could otherwise be obtained. Integration of Other Data Sources (i.e. SureScripts, RxHub) will occur in Phase 2



New Jersey Health Information Technology Commission New Jersey Planned “Use Cases”

- **Lab Results - Delivery to Physicians and Clinics –**

Most of the large national laboratories (including LabCorp and Quest) already offer electronic delivery of results to ordering physicians through proprietary portals. The services offered through NJHIE would include the national labs as well as hospital and local/regional laboratories. Physicians will realize efficiencies by not having to access multiple portals, faxes, or mailed reports to obtain results for patients. For historical lab results, authorized physicians will be able to access the NJHIE to obtain patient-specific data.

As far as hospital labs are concerned, they often utilize paper to mail results to physicians today. By enabling electronic delivery, hospitals can reduce the administrative costs of paper and postage. This service would simply route lab results from the processing lab to the ordering physician, along with any requested copies to other physicians.



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New Jersey Planned “Use Cases”

- **Clinical Messaging Services to Provider Portals** – Clinical messaging allows providers to route reports, records, or notes to other authorized users of the exchange. This service is similar to secure email, where each time a user logs onto the exchange, he will see messages in his inbox. Those messages may be a request for consult, a lab result delivery, a discharge summary making a PCP aware that one of his patients was in the emergency room, or any other form of message that could be sent from one user to another.
- **Emergency Department / Hospital Discharge Summaries** - Delivering emergency department and hospital discharge summaries to physicians and clinics is a critical Use Case that enables the transfer of key information following an acute health event so that appropriately informed follow-up care can take place. However, not all emergency room care is for emergent situations. New Jersey has experienced ER crowding due in part to poor access to primary care and in part to poor patient awareness of how to effectively receive primary care for non-emergent health events. This Use Case supports appropriate use of emergency rooms by supplying physicians, SNFs and clinics with detailed discharge information but also informs clinics of patients who may not have a primary care physician, thus allowing for outreach efforts to be employed and seeking to discourage non-emergent use of the ER while promoting primary, clinic-based care when appropriate.



New Jersey Health Information Technology Commission

New Jersey Planned “Use Cases”

- **Chart Summaries to Emergency Departments / Hospital/ SNFs; Physicians and Clinics** - Chart summaries provide a concise but holistic view of an individual’s overall healthcare experience. A clinical summary should contain demographics (name, date of birth, address, sex), medications, allergies, conditions/problems, results when available, and past hospitalizations and surgeries where possible. The chart summary should be in a structured document (CCD) format but may vary on the data elements depending on what is available.

Potential sources of information for a chart summary include electronic health record systems from participating providers, ancillary service provider systems, personal electronic health records or health record banks, and claims systems for payers. NJHIE will seek to integrate all sources available to the exchange and would be sufficiently flexible to permit the addition of new data sources as they become available.



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New Jersey Planned “Use Cases”

- **Radiology Reports to Emergency Departments / Hospitals / SNFs/ Physicians and Clinics** - The delivery of radiology reports to emergency departments and other hospital settings is extremely valuable. The services offered through NJHIE would include connectivity with the national radiology centers as well as hospital and local/regional centers. The value of sharing radiology results is the ability to benchmark against prior images and reports and assess the progression of any particular health issue. As the exchange grows and matures, functionality allowing for more rapid interpretations of historical radiology reports will likely become available, thus increasing the overall value of this particular Use Case.

This Use Case includes varying levels of implementation challenges dependent upon the degree of integration and the pursuit of structured data. For example, delivery of an unstructured text radiology report as a document through the exchange does not present as many implementation challenges as exchanging radiology images or structured results data. The benefit of this reality is that this Use Case can be an early entrant to the HIE and provide near-term clinical value.



New Jersey Health Information Technology Commission Stakeholders



Horizon Blue Cross Blue Shield of New Jersey



NEW JERSEY HOSPITAL ASSOCIATION



THE OFFICIAL WEB SITE FOR
THE STATE OF NEW JERSEY

New Jersey Academy of Family Physicians
New Jersey Health Plan Association



Department of Human Services



New Jersey
LEGISLATURE



STATE OF NEW JERSEY
DEPARTMENT OF HEALTH AND SENIOR SERVICES



New Jersey Primary Care Association
(representing Federally Qualified Health Centers)

Health Care Association of New Jersey
(representing long-term care providers).

STATE OF NEW JERSEY
DEPARTMENT OF BANKING & INSURANCE



THE STATE OF NEW JERSEY
OFFICE OF THE GOVERNOR



STATE OF NEW JERSEY
DEPARTMENT OF CHILDREN AND FAMILIES



THE STATE OF NEW JERSEY
DEPARTMENT OF LAW & PUBLIC SAFETY

Division of Medicaid Assistance



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New Focus - Specific Areas of Health IT and HIE





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Governance

A coordinated approach to health information exchange is required to meet New Jersey's vision and goals for HIE, to take advantage of significant federal investment in Health IT, and to create an infrastructure that allows New Jersey's providers to meet the goals of meaningful use, which includes the ability to exchange health information.

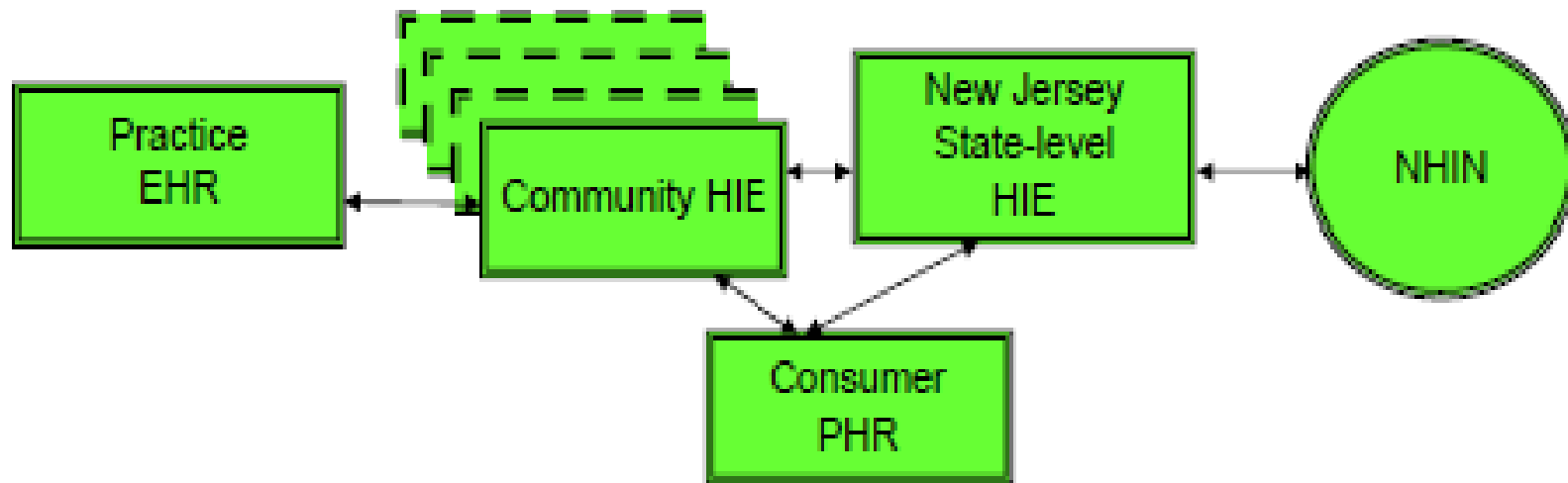
- There are a number of fundamental principles, including:
 - The value of health information exchange in improving the quality and efficiency of care, especially with respect to the upcoming meaningful use incentive program.
 - A state-wide approach with respect to privacy and security.
 - A technical architecture that uses standards-based protocols for interoperability based on federal standards and the NHIN implementation platform.
 - An approach to leverage existing HIE and Health IT investments.
 - An approach that allows for some level of regional variation to accommodate New Jersey's size and diverse regional needs and priorities.
 - A process that supports rural areas and the health-care safety-net.

Governance will address all of these principles



New Jersey Health Information Technology Commission Technology Model

A single state-level HIE (NJHIE) should be adopted in New Jersey to enable healthcare information to be exchanged among stakeholders that are associated with different Community HIEs, and among statewide entities that are directly connected to the state-level HIE.





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Technology Overview

- New Jersey will utilize a hybrid technology approach,
- Maintain confidential healthcare data at the participating facilities and providers,
- An option for the consumer/patient to ask for his or her information to be held in a health record bank account that he or she controls.
- The HIE will be used as a secure and trusted conduit rather than a centralized repository.
- There are three general models for an HIE.
 - The centralized model stipulates that all participants' medical records will be kept in a central repository (database), under the control of the HIE and out of the direct control of participating entities. This first model has not gained popularity, especially due to privacy concerns.
 - The second approach, sometimes referred to as the federated or distributed model, keeps the data at its source facilities or with providers and uses the HIE as the conduit for sharing. In the federated model, the HIE also provides a roadmap for properly routing information to the appropriate location.
 - The third model employs a Personal Health Record under the control of the patient, and does away with HIE services such as master person index (MPI) and Registry.
- The NJHIE will utilize elements of all three models. We propose maintaining a central MPI and a registry of the location of electronic health records within the system. The hybrid model also allows the centralization of records when directed by consumers or in certain use-cases like medication histories.



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HIE Technology: Different Architecture Models

Model Type	Description
Federated	<ul style="list-style-type: none">• Connects the participants of an HIE to one another• Participants maintain their own health information and respond to requests from other HIE members• HIE provides community based tools to facilitate patient identification (MPI), patient record location (record locator) and security (authentication, authorization, auditing, and patient consent), but relies on members to enforce. <p>Pros: Data providers have more control over data Cons: Performance and resiliency of exchange is based upon weakest link model</p>
Centralized	<ul style="list-style-type: none">• HIE participants submit data to one shared repository which participating providers then query to obtain patient information• Patient identity matching is performed when record is added to central repository• Security functions (authentication, authorization, auditing, patient consent) are enforced centrally at time of repository access <p>Pros: Very high performance and resiliency, enables community based services Cons: Higher HIE infrastructure/support costs, data ownership concerns.</p>
Hybrid	<ul style="list-style-type: none">• Centralized repository is constructed over time as requests are processed by the exchange• The size and intent of the CDR can differ, ranging from a focused database (e.g. all immunization data) to the ultimate creation of a Centralized model



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Technology Plan

- NJHIE would provide the gateway for Community HIEs to access the NHIN, and also provide a gateway from one Community HIE to another.
- The effort to retain the levels of conformity required to be a node on the NHIN would be shouldered by the NJHIE so that Community HIEs would not have to bear that burden.
- A single Community HIE (designated NJ-CHIE) should be developed or sponsored by the agency that operates the NJHIE. This “default,” Community HIE would provide connections for entities that have no other way to connect, and would be operated, at least on an interim basis, as an adjunct capability of the NJHIE.
- NJHIE must provide a statewide Master Patient Index (MPI).
 - to provide the capabilities for patient identity matching and cross-referencing, but also the operational requirement to manage the data quality issues and ambiguous and erroneous matching
 - The MPI entry for a given person would “point to” the Community HIE(s) that have records for the person.
- The implementation of the NJHIE must accommodate patient control of their clinical data, strong user authentication and HIPAA compliance
- The NJHIE should, to the greatest extent practical, follow the standards of the NHIN for the exchange of healthcare information, including both the protocols to be used in exchanging information and the formats for the information content.



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Architecture of the NJHIE

The architecture of the NJHIE will conform to the following principles:

- Maintain compatibility with the NHIN standards for interoperability.
- Specifications should be vendor neutral, providing for implementation in the widest range of hardware, operating systems and programming languages possible.
- Utilize Services Oriented Architecture (SOA) design principles and Web Services, Open Source capabilities like NHIN Connect wherever possible.
- Address privacy and security aspects of all transactions and databases used to ensure compliance with HIPAA requirements.
- Ensure strong authentication methods are used in transactions with all external entities.
- Honor consumer permissions, denials and directives regarding the sharing of their health information (though there may be limited exceptions to this guiding principle in cases governed by state or federal law, or for emergency access).
- Connection to the NJHIE will be by Community HIEs and state-level entities such as DHSS, Medicaid, statewide insurance companies and labs. In general, connection should be by established standard formats and mechanisms although non-standard connections will be considered.



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Infrastructure

- NJHIE will deploy a hybrid infrastructure supportive of decentralized data and services leveraging an MPI and a Record Locator Service to locate health information in the CHIE or Provider edge servers.
- Lab results, radiology reports, pathology reports, and medication histories and certain other clinical data will either be routed through edge servers, or if necessary, routed from the lab or imaging center to the ordering physician or maintained centrally by NJHIE.
- NJHIE feels it is critical to address the overall interoperability challenge with an approach that allows us to achieve the fundamental design principles, while at the same time, we seek to avoid alienating participants who may be operating proprietary systems in order to reach our desired goals.



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Service Oriented Architecture

NJHIE embraces the Service Oriented Architecture (SOA) approach, as it is necessary for the long-term viability of the HIE. The HIE infrastructure is comprised of numerous services that will run on an enterprise service layer and enable the core functions of the HIE.

By incorporating an SOA approach NJHIE can ensure that the HIE can take advantage of developing and advancing services and not be reliant upon a single service provider for all services.

The HIE core services include:

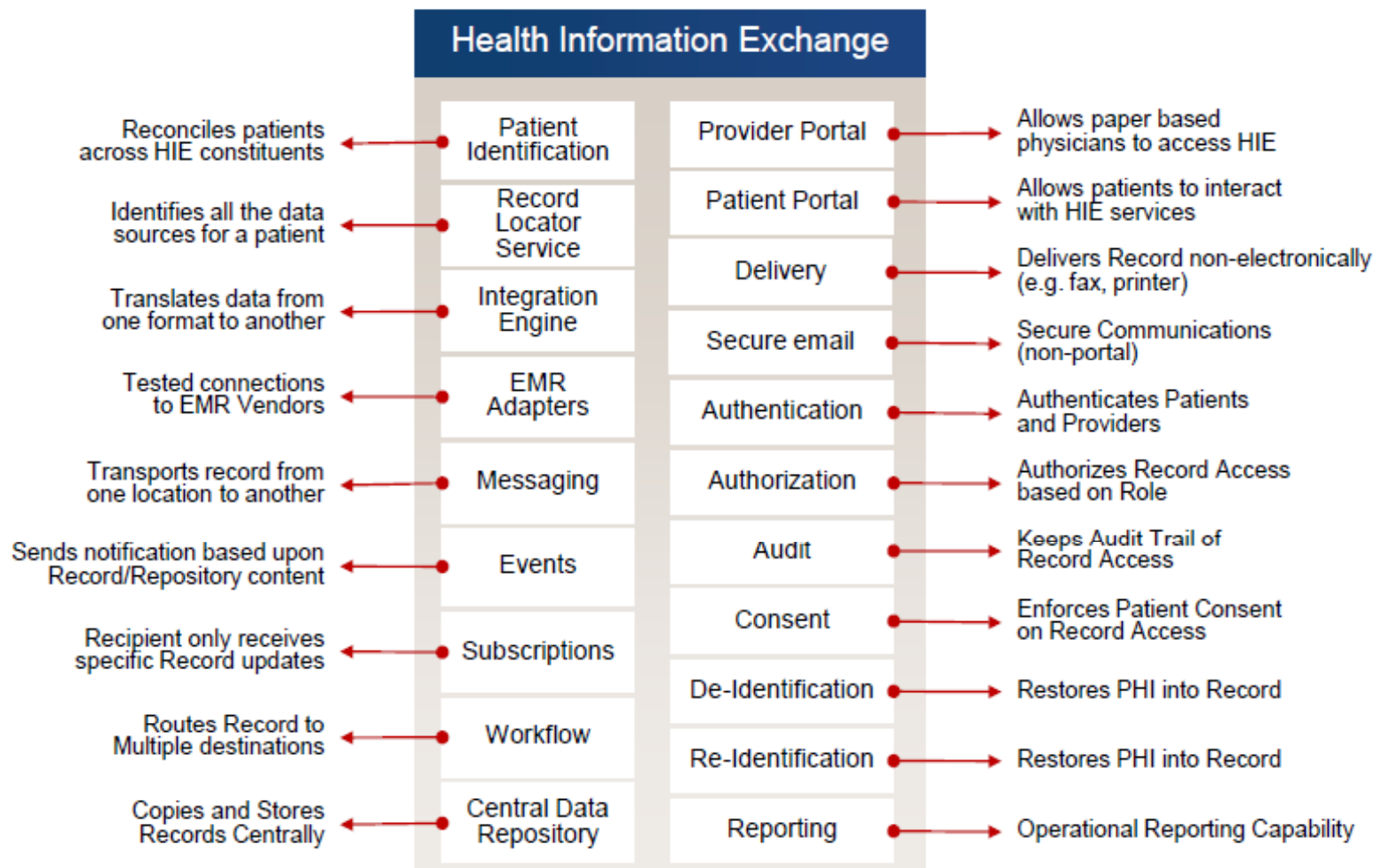
- Master Person Indexing
- Provider Identity Management Services
- Registry Services
- Repository Services
- Authentication Services
- Audit Services
- Nomenclature Normalization Services
- Consent / Authorization Management Services
- Network Monitoring Services



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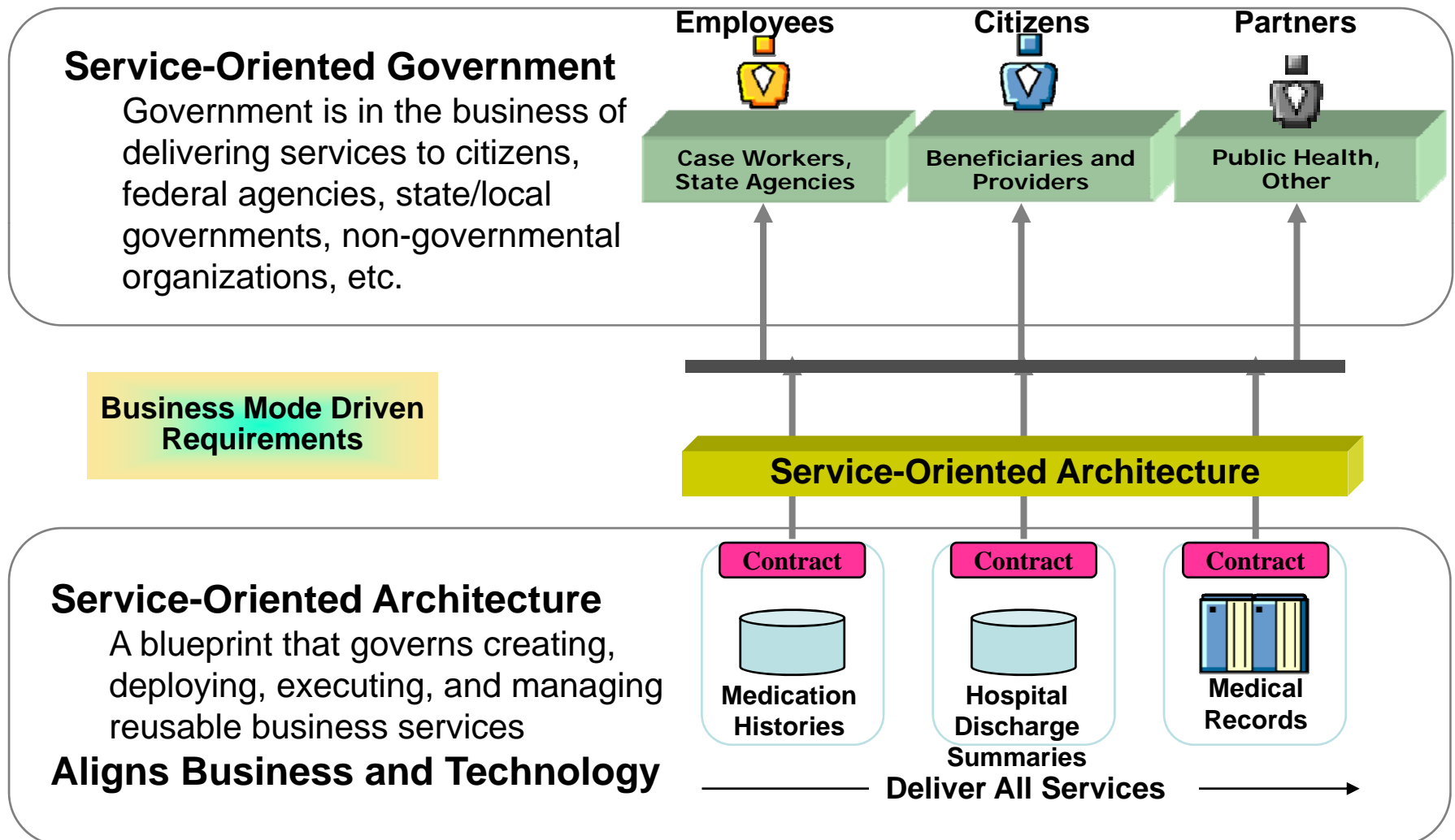
HIE Services & Functionality

A robust infrastructure is needed to handle securely exchanging health data





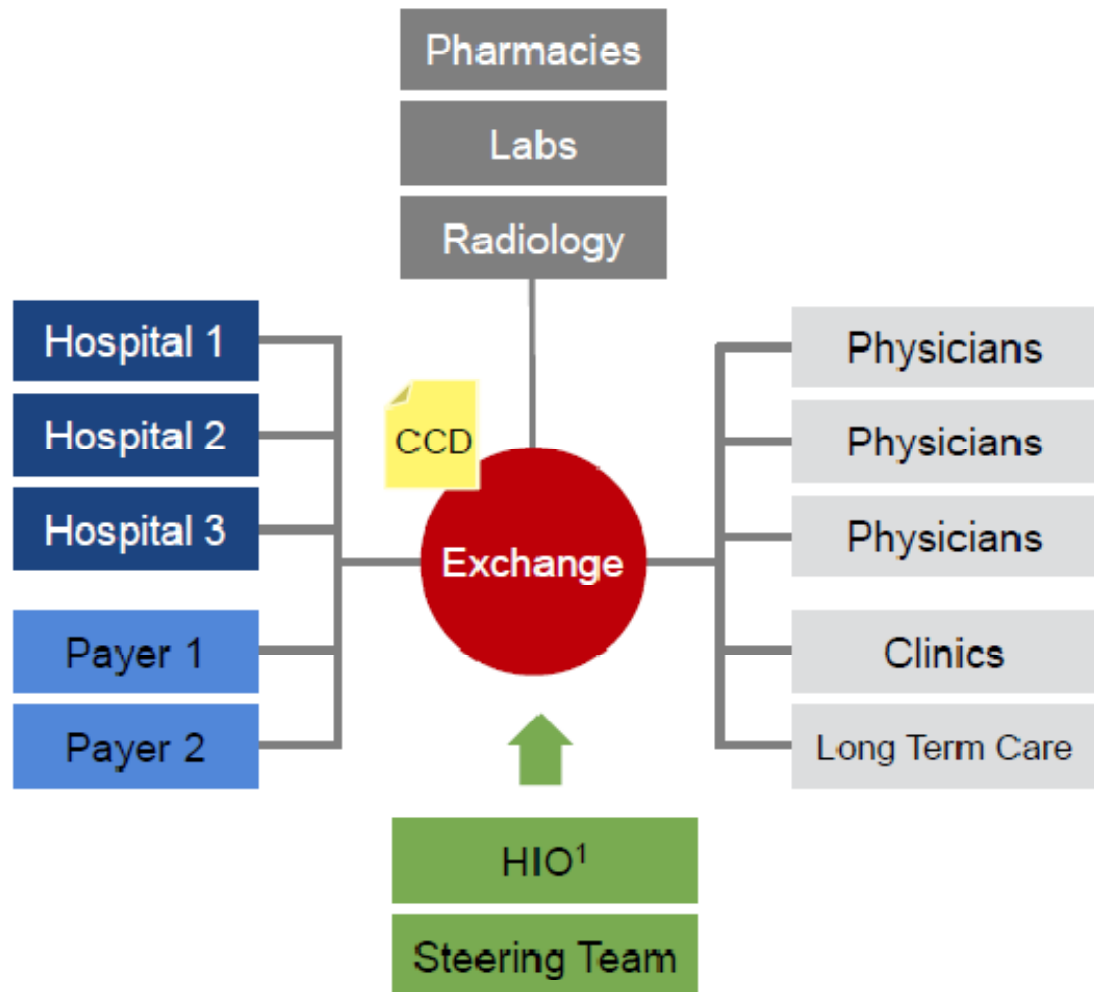
New Jersey Health Information Technology Commission Service Driven Business





New Jersey Health Information Technology Commission Community HIE Model

HIE connects all the healthcare organizations in a given region/area as well as national data providers, local public health organizations, etc.

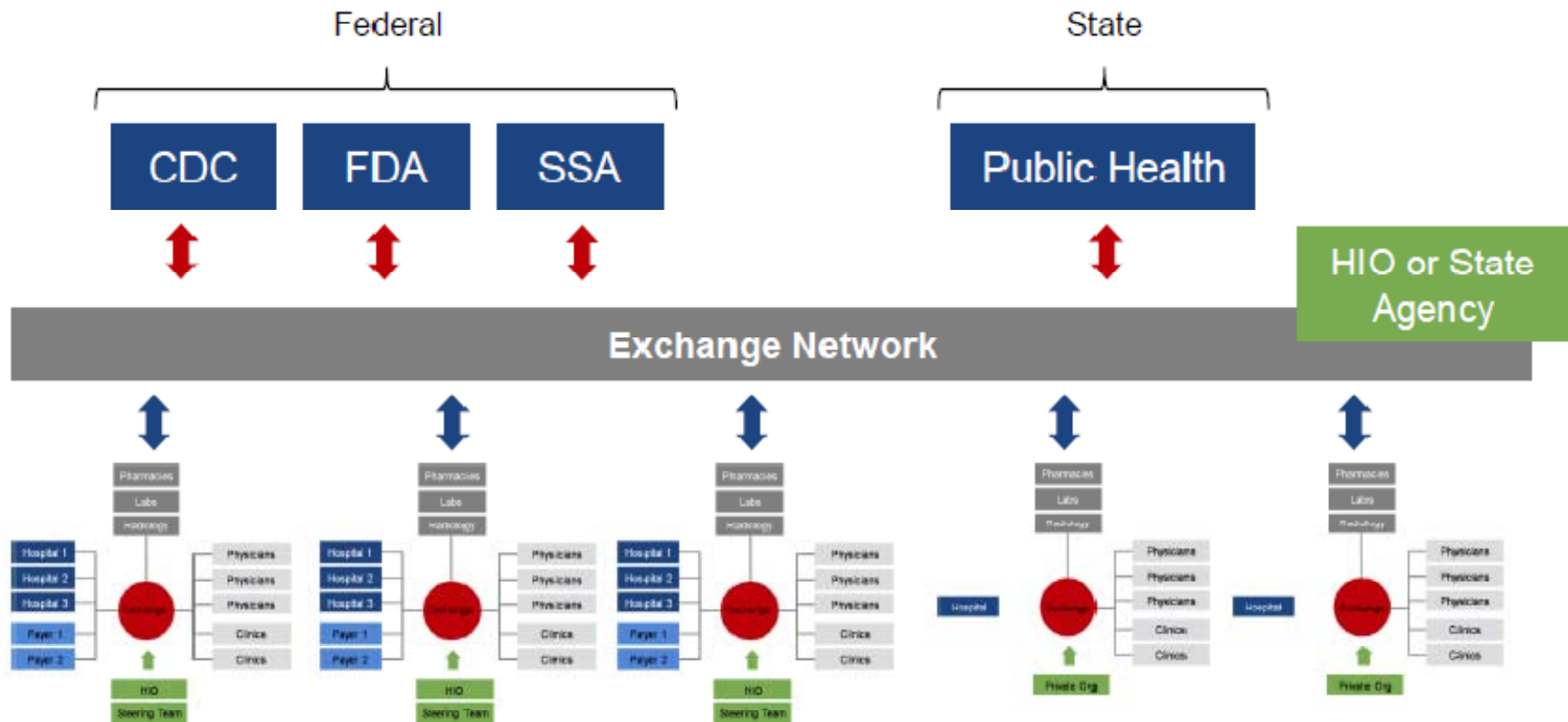


¹ Health Information Organization



New Jersey Health Information Technology Commission Statewide Health Information Exchange Network

Connects several independent HIEs, creating an HIE network. Exchange networks are typically found at the State or Federal level. State and Federal health agencies will rely on Exchange Networks as a source of data to better service their mission.





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HIE Security: Evolving Standards & Regulations

- HITECH Act expanded the Privacy and Security protections of health information
- In addition to federal safeguards, many states are drafting their own safeguards, legislation, and penalties
- Privacy and Security policies must cover:
 - Physical access to Data Centers storing Protected Health Information
 - Protection of health information “At Rest” and “In Motion”
 - Authentication and Authorization (role-based access control)
 - Audit history
 - De-identification and re-identification of health records
- Standards continue to evolve:

ISO/IEC 27001:2005
ISO/IEC 27002:2005
ISO/IEC 27799:2008
COBIT 4.1
HIPAA

21 CFR Part 11
NIST SP 800-53 Revision 2
NIST SP 800-66
PCI DSS version 1.2
FTC Red Flags Rule

JCAHO
HITSP
CMS
ARRA 2009
201 CMR 17.00



New Jersey Health Information Technology Commission

What We Need From You

- Letters of Support for Grant Submission to ONC
- Commission Members – Resumes
- Commission Feedback or Comments by October 9th



New Jersey Health Information Technology Commission Questions or Comments

Our Mission - To Improve Health Care to New Jerseyans

