

CSC

# NEHEN Alignment with State HIE Plan

September 2010



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# Summary of MA State HIE Plan

Phase 1	Phase 2	Phase 3
<ul style="list-style-type: none"><li>• Aggregation, Analysis and Reporting<ul style="list-style-type: none"><li>• Immunization, Syndromic Surveillance, Reportable Lab Registry</li><li>• Quality Data Center</li></ul></li><li>• Directory<ul style="list-style-type: none"><li>• Provider / Facilities</li><li>• Payer / Plan</li><li>• Public Health Entity</li></ul></li><li>• Routing</li><li>• Consent</li><li>• PKI/Identity Services</li><li>• Vocabulary Services</li></ul>	<ul style="list-style-type: none"><li>• Aggregation, Analysis and Reporting<ul style="list-style-type: none"><li>• All Payer Database</li><li>• Personally Controlled Health Record</li></ul></li><li>• Master Patient Index and Record Locator</li><li>• Event Notification</li><li>• Routing for Patients</li><li>• Radiology Image Exchange</li></ul>	<ul style="list-style-type: none"><li>• Pharmacosurveillance</li><li>• Knowledge Services:<ul style="list-style-type: none"><li>• Pre-Authorized Approval Rules</li><li>• Patient Education Materials</li><li>• Formulary</li><li>• Medication Safety Analysis</li></ul></li><li>• Advanced Directives Repository</li><li>• i2b2 Clinical Research</li><li>• Disclosure Logging</li></ul>

\* [http://www.maehi.org/HIE/MeHI\\_HIE\\_Plan\\_2\\_7\\_9.pdf](http://www.maehi.org/HIE/MeHI_HIE_Plan_2_7_9.pdf)



# How NEHEN Services Align with State HIE

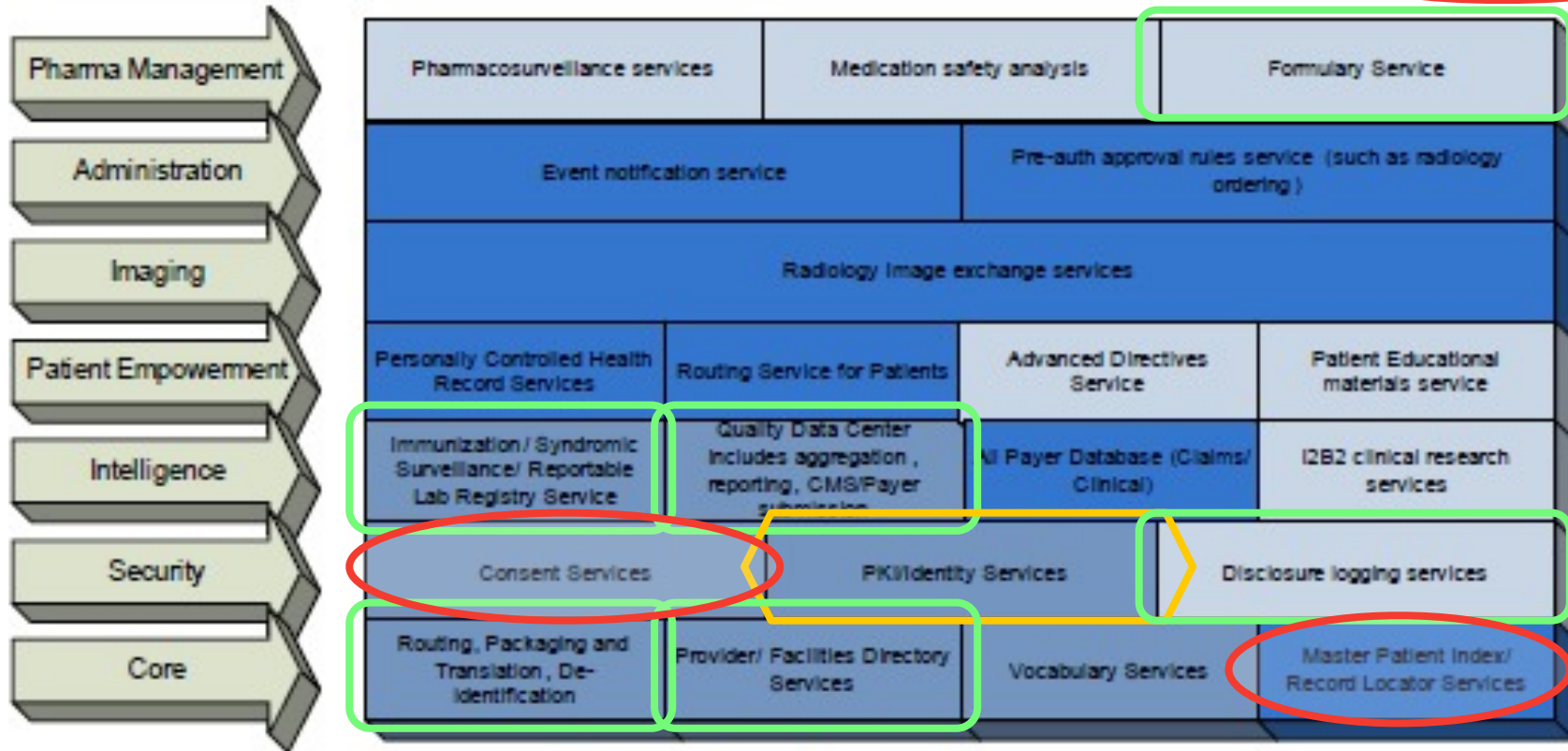
## NEHEN capabilities




Full or partial support in 2010

In development

Planned

### MA State-wide HIE Services Stack



-  = Phase 1 Implementation
-  = Phase 2 Implementation
-  = Phase 3 Implementation

\* Source: The Commonwealth of Massachusetts 2010 Health Information Exchange Strategic and Operational Plan [http://www.maehi.org/HIE/MeHI\\_HIE\\_Plan\\_2\\_7\\_9.pdf](http://www.maehi.org/HIE/MeHI_HIE_Plan_2_7_9.pdf)



# Planning for Greater Alignment

- NEHEN provides or can provide all Phase 1 services (see previous slide)
  - Recommendation is to plan for procurement by performing our own gap analysis (and differentiation) of our capabilities in key areas:
    - Phase 1
      - » Routing
      - » Directory
      - » PKI / Identity
      - » Immunization, Syndromic Surveillance, Lab Registry
      - » Quality Data Center – Aggregate, Report, CMS/Payer Submission
      - » Consent
      - » Vocabulary
    - Phases 2 and 3
      - » Services are aligned with NEHEN direction
- In addition, Board needs to consider parameters for responding and recommendations for governance relationship with state



# NEHEN Capabilities Relative to State HIE Requirements Phase 1

Service	Current Capabilities	Current Gaps/Opportunities
<b>Routing</b>	<ul style="list-style-type: none"> <li>Secure routing of multiple message types among providers, payers, public health, quality</li> <li>Secure viewing of clinical summaries</li> </ul>	<ul style="list-style-type: none"> <li>Enable direct routing to individual providers via NEHEN<i>Portal</i>, fax, email, other portals</li> <li>Expand routing beyond “early adopters” and vendors</li> </ul>
<b>Directory</b>	<ul style="list-style-type: none"> <li>Registration of providers/facilities, payers, public health for local/long-distance routing</li> </ul>	<ul style="list-style-type: none"> <li>Expand to leverage broader directories (e.g., CAQH)</li> </ul>
<b>PKI / Identity</b>	<ul style="list-style-type: none"> <li>Authentication of members using certificates</li> <li>NEHEN/HPHC/Verisign/CAQH pilot</li> </ul>	<ul style="list-style-type: none"> <li>Expand Verisign pilot to centralized certificates management for data sharing and data receiving</li> <li>Evaluate eRx for controlled substances</li> </ul>
<b>Immunization, Syndromic Surveillance, Lab Registry</b>	<ul style="list-style-type: none"> <li>Secure routing of multiple message types to public health: immunizations, syndromic surveillance, labs, clinical summaries</li> </ul>	<ul style="list-style-type: none"> <li>Expand coverage with DPH/BPHC, explore NHIN integration</li> <li>Expand NEHEN RLS experience/assets for consent management</li> <li>Leverage bi-directional exchange for outgoing public health messages</li> <li>Opportunity to partner with analysis/reporting engines</li> </ul>
<b>Quality Data Center</b>	<ul style="list-style-type: none"> <li>Secure routing of raw data to MAeHC</li> </ul>	<ul style="list-style-type: none"> <li>Expand coverage with DPH/BPHC, explore NHIN integration</li> <li>Expand NEHEN RLS experience/assets for consent management</li> <li>Leverage bi-directional exchange for outgoing public health messages</li> <li>Opportunity to partner with analysis/reporting engines</li> </ul>
<b>Consent</b>	<ul style="list-style-type: none"> <li>Private, secure routing among all participants</li> <li>Access and disclosure logging</li> </ul>	<ul style="list-style-type: none"> <li>Requires more analysis:                             <ul style="list-style-type: none"> <li>Expand NEHEN RLS experience/assets for consent management</li> <li>Opportunity to partner for de-identification services</li> </ul> </li> </ul>
<b>Vocabulary</b>	<ul style="list-style-type: none"> <li>Not currently supported</li> </ul>	<ul style="list-style-type: none"> <li>Requires more analysis:                             <ul style="list-style-type: none"> <li>Simplify requirements for multiple partner interfaces</li> </ul> </li> </ul>

# NEHEN Capabilities Relative to State HIE Requirements: Routing Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>A Routing service connects data exchange participants with each other. It can take two forms:</p> <ol style="list-style-type: none"> <li>1. Routing data from an aggregation point such as EHX, CHAPS, SafeHealth to another aggregation point.</li> <li>2. Direct transmission from provider to provider. This transmission will be rarely done since most data exchange participants are part of an organization and already have an aggregation point. If chosen, it might be done via a web portal rather than direct EHR integration.</li> </ol>	<ul style="list-style-type: none"> <li>• Secure routing of clinical summaries among providers via their affiliated organizations and aggregation points</li> <li>• Secure routing of clinical summaries, immunizations, lab results, and syndromic surveillance from providers/affiliated organizations /aggregation points to public health and quality</li> <li>• Secure viewing of clinical summaries by all receivers via local NEHEN Express application</li> </ul>	<ul style="list-style-type: none"> <li>• Direct routing to individual providers               <ul style="list-style-type: none"> <li>• Enable clinical summary viewing in NEHEN Net for small providers</li> <li>• Enable direct secure fax/email delivery</li> <li>• Enable routing to other portals</li> </ul> </li> <li>• Connectivity currently limited to “early adopters” of clinical data exchange and their vendors               <ul style="list-style-type: none"> <li>• Proactively establish connectivity with broader base of vendors operating in the state</li> </ul> </li> <li>• Standards translation               <ul style="list-style-type: none"> <li>• Develop/maintain registry of versions of standards in use by participants, and map among them where needed</li> </ul> </li> <li>• Continuity of care document maker               <ul style="list-style-type: none"> <li>• Develop capability to construct standard messages from simpler data structures received from participants</li> </ul> </li> </ul>

Additional services for the router could include translation of standards from one to another, e.g., continuity of care document maker; filtering, determining what lab transactions are actually reportable; and de-identification, transmitting the minimal need to know information. These additional services would require inspection of the contents being transmitted, which may be inconsistent with security policy.

\* Source: The Commonwealth of Massachusetts 2010 Health Information Exchange Strategic and Operational Plan [http://www.maehi.org/HIE/MeHI\\_HIE\\_Plan\\_2\\_7\\_9.pdf](http://www.maehi.org/HIE/MeHI_HIE_Plan_2_7_9.pdf)



# NEHEN Capabilities Relative to State HIE Requirements: Directory Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p><b>Provider/Facilities Directory</b> – Centralized service leveraging existing databases, such as CAQH's provider index, MHQP's provider index or Covisint's physician identity database built for the AMA. This information can be used for routing messages to the right organization for delivery to the clinician.</p> <p><b>Payer/Plan Directory</b> – Centralized service that offers routing information for each payer and details about their plans which will facilitate administrative transactions.</p> <p><b>Public Health entity Directory</b> - Centralized service that provides routing information for all reportable lab/syndromic surveillance/ immunization data.</p>	<ul style="list-style-type: none"> <li>• Register “long-distance” and “local” routing information for individual and institutional providers, payers/plans, public health, quality, and other participants via web services and user interface. Registration currently “from scratch” by participant organization or affiliated provider</li> </ul>	<ul style="list-style-type: none"> <li>• Leverage broader-based existing directories</li> <li>• Partner to support “pre-population” of provider information in NEHEN or regional registry or add routing information to partner directory</li> </ul>

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# NEHEN Capabilities Relative to State HIE Requirements: PKI / Identity Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>A centralized service that supports authentication of endpoints (people and organizations), as well as e-prescribing of controlled substance workflows.</p>	<ul style="list-style-type: none"> <li>• NEHEN currently authenticates our member organizations and supports use of certificates to secure traffic between those endpoints.</li> <li>• NEHEN, Harvard Pilgrim, Verisign and CAQH are currently piloting a centralized certification service that will allow authorizing entities to issue their own certificates, but also allow bi-lateral trust of other issuing entities so that each endpoint only needs to manage one certificate to participate in the HIE.</li> <li>• NEHEN is also currently analyzing the e-Prescribing of controlled substance regulations to determine how to support this through the RxGateway.</li> </ul>	<ul style="list-style-type: none"> <li>• Expand the NEHEN/Verisign pilot to document the workflow required to issue and maintain certificates for both types of endpoints (data sharing and data receiving)</li> <li>• Document the role that a state identity service could play in e-Prescribing of controlled substances.</li> </ul>

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# NEHEN Capabilities Relative to State HIE Requirements – Immunization, Syndromic Surveillance, Lab Registry Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>Centralized service in which the state aggregates data and, with patient consent, makes it available to cities and other users.</p>	<ul style="list-style-type: none"> <li>• Transport clinical summaries, immunization histories, syndromic surveillance, and reportable lab results to public health. Identification of reportable events currently resides with the provider organization. Currently supporting transmissions to MDPH and BPHC</li> </ul>	<ul style="list-style-type: none"> <li>• Registries               <ul style="list-style-type: none"> <li>• Managed/developed by public health</li> </ul> </li> <li>• Patient consent services               <ul style="list-style-type: none"> <li>• Leverage NEHEN experience/assets re: record locator service to develop statewide patient index/consent management</li> </ul> </li> <li>• Identification of reportable events               <ul style="list-style-type: none"> <li>• Partner with existing solutions that analyze raw data, such as reportable lab engines</li> </ul> </li> <li>• Transport of outgoing public health data (e.g., alerts, notifications, other data)               <ul style="list-style-type: none"> <li>• Leverage existing NEHEN bi-directional exchange and directory capabilities to support directed delivery and request/response models for public health outgoing transmissions</li> </ul> </li> </ul>

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# NEHEN Capabilities Relative to State HIE Requirements – Quality Data Center-Aggregate, Report, CMS/Payer Submission

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>Distributed service that stores multi-institutional clinical and administrative data needed to compute HEDIS and PQRI, and to pay for performance measures. A single organization may offer all three services (aggregation, reporting and quality data submission) or those tasks might be divided among multiple organizations.</p> <p>Hospitals already have services in place to report inpatient data to CMS - this would not need to be replaced, but instead leveraged to satisfy other data requirements for the state.</p>	<ul style="list-style-type: none"> <li>• Transport raw data from provider organizations to quality aggregators. Currently supporting transmission to MAeHC</li> </ul>	<ul style="list-style-type: none"> <li>• Aggregate, analyze, report, and submit quality data</li> <li>• Partner with MAeHC and other aggregators to accomplish standards-based transmission of raw data</li> </ul>

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# NEHEN Capabilities Relative to State HIE Requirements – Consent Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>There are two distinct kinds of consents</p> <ol style="list-style-type: none"> <li>1. Consent covered by the HIPAA Notice of Privacy, such as orders/results, referrals/consult notes/discharge summaries</li> <li>2. Consent for other information releases, such as patient self-referrals to specialists or Emergency Departments, or changes in primary care physicians or use for research.</li> </ol> <p>The first case would be made available for 2011, without the need for an EMPI, while the second case would be made available by 2013, facilitated by an EMPI to limit the number of times a patient has to sign a consent form.</p>	<ul style="list-style-type: none"> <li>• Secure, private transport of messages among participants. Responsibility for managing consent currently resides with sending organization</li> </ul>	<ul style="list-style-type: none"> <li>• Patient index and consent management services               <ul style="list-style-type: none"> <li>• Leverage NEHEN experience/assets re: record locator service, state expertise, and HISPC findings to develop statewide patient index/ consent management or opportunity to partner with third-party service provider</li> </ul> </li> <li>• De-identification services               <ul style="list-style-type: none"> <li>• Opportunity to partner with existing research/reporting organizations to provide ability to anonymize, pseudonymize, de-identify live data and test data</li> </ul> </li> </ul>

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# NEHEN Capabilities Relative to State HIE Requirements – Vocabulary Service

State Requirements*	Current Capabilities	Current Gaps/Opportunities
<p>Access to/mapping of LOINC, SNOMED-CT, ICD9/10, RXNorm. This should be a combination of local and central services. The role of the state HIE would be to negotiate preferred rates with companies that offer vocabulary services, such as Intelligent Medical Objects (IMO). The Federal Government (ONC and NLM) is also working on vocabulary services repositories.</p>		<ul style="list-style-type: none"> <li>• Vocabulary translation               <ul style="list-style-type: none"> <li>• Opportunity to partner with the state and translation service vendors to offer a single interface, removing the requirement for each participant to develop and maintain multiple vendor interfaces</li> </ul> </li> </ul>

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# Summary of Alignment with Phases 2 and 3

- Phase 2
  - All Payer Database – Extensible from current electronic claim submission
  - Personally Controlled Health Record – Extensible from current clinical message routing
  - Master Patient Index and Record Locator – Experience/assets from RLS Prototype
  - Event Notification – Extensible from directories/routing capabilities
  - Routing for Patients – Extensible from current clinical message routing
  - Radiology Image Exchange – Extensible from current clinical message routing
- Phase 3
  - Pharmacosurveillance – Extensible from current medication history and eRX
  - Knowledge Services:
    - Pre-Authorized Approval Rules – Enhance current referral authorization
    - Patient Education Materials – No plans at current, but can build on patient routing
    - Formulary – Already part of current Rx Gateway
    - Medication Safety Analysis – Extensible from current medication history and eRX (Rx Gateway)
  - Advanced Directives Repository – Can build on clinical message routing, RLS, etc.
  - i2b2 Clinical Research – Contribution to the repository is extensible from current clinical message routing
  - Disclosure Logging – Already part of Clinical Gateway