



State of New Hampshire

Health Information Exchange Planning and Implementation Project

Business and Technical Operations Working Group

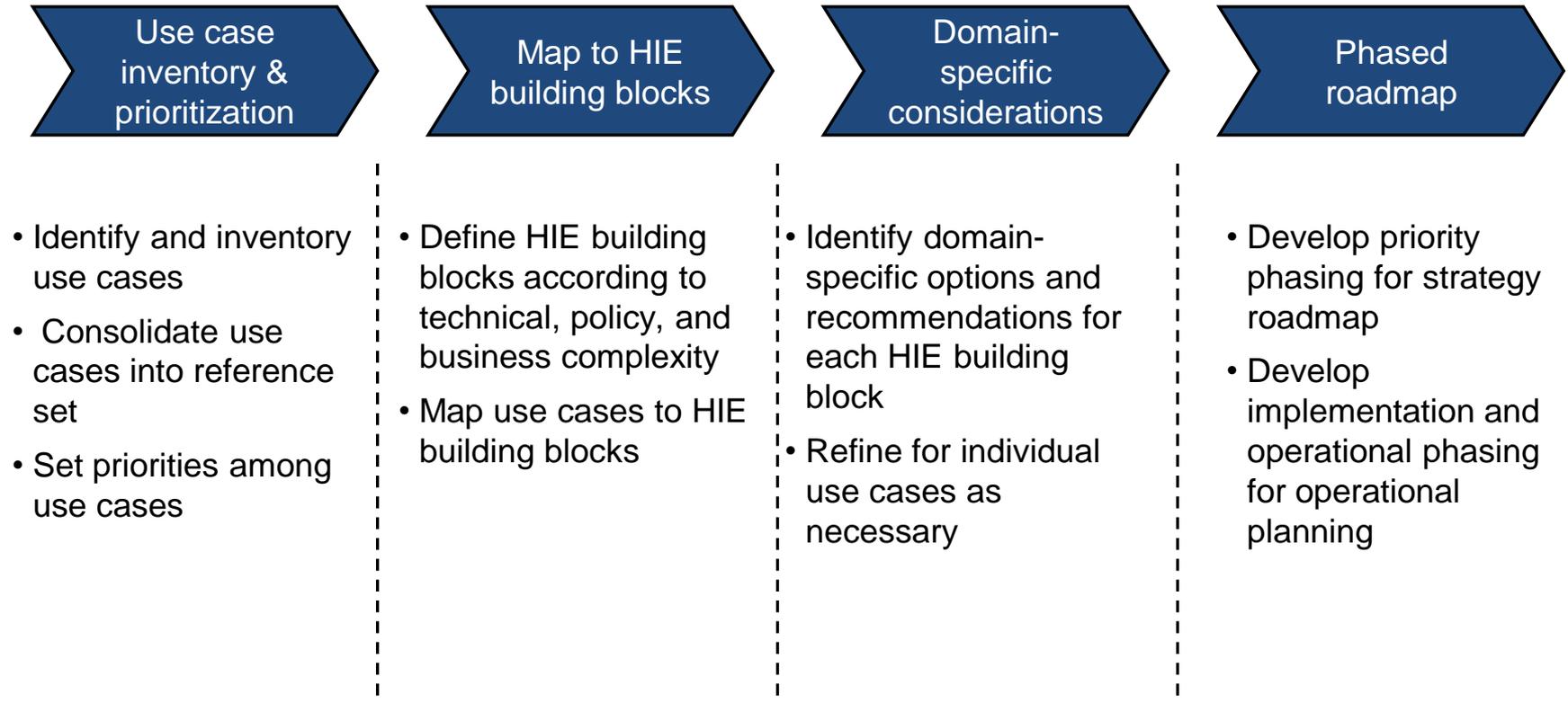
June 25, 2010

Agenda

Description of approach

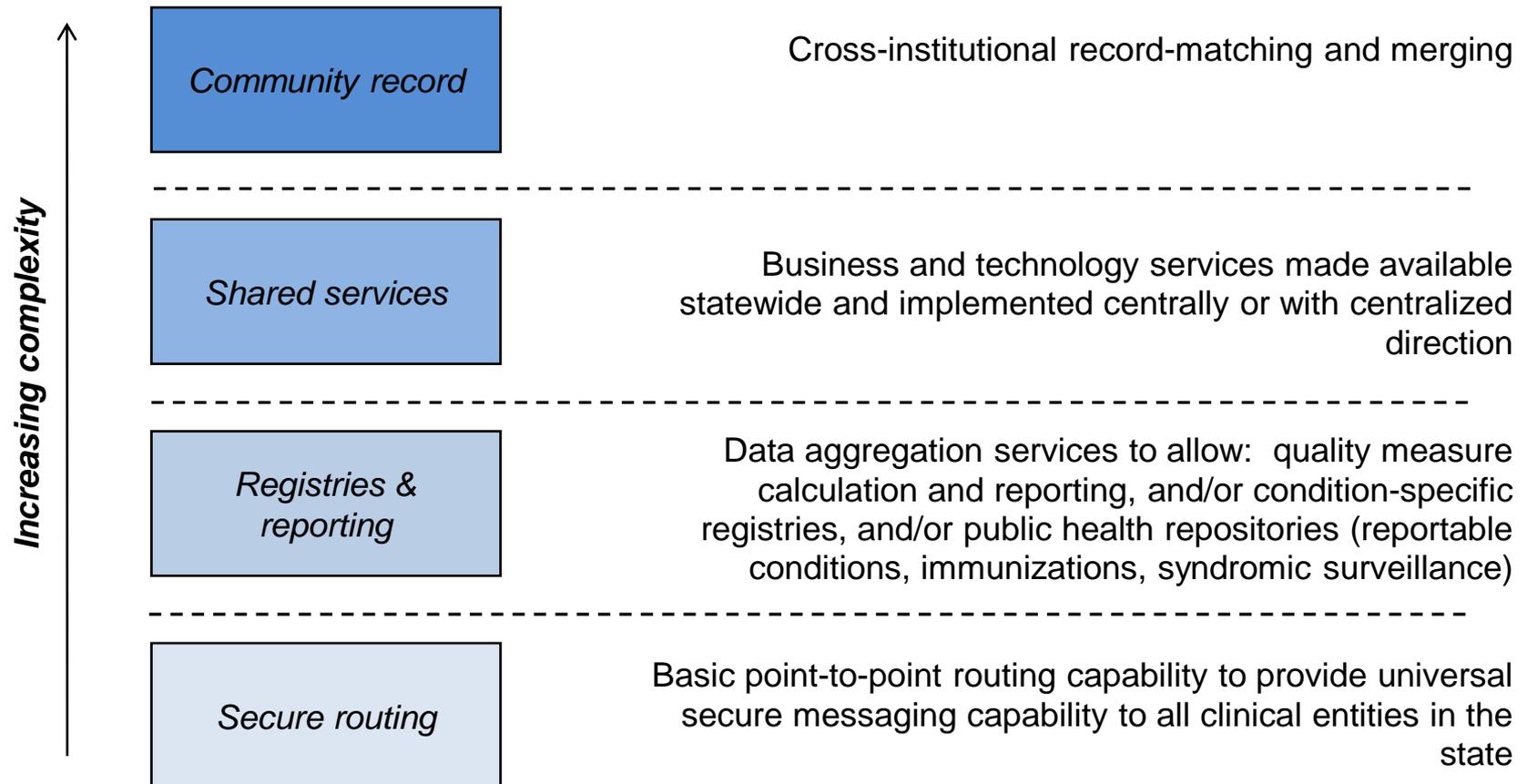
Use Case Inventory and Prioritization

Overall approach



Use Cases Will Map to HIE Building Blocks

Description



Domain Workgroups Address Each HIE Building Block

HIE stage

Community record

Shared services

Registries & reporting

Secure routing

Questions for each Domain Workgroup

- What are the key incremental issues associated with each stage?
- What is the range of options for each issue?
 - What are the pros/cons of each option?
- Is there a consensus view on each of the issues?
 - How do we get to consensus?

Key Considerations for Each Working Group

HIE stage

Domain Specific Considerations

Community record

Shared services

Registries & reporting

Secure routing



Governance	Finance	Technical Infrastructure	Business & Technical Ops	Legal & Policy
<p>Organization model options</p> <p>Public vs private</p> <p>Organization form</p>	<p>Oversight of federal funds</p> <ul style="list-style-type: none"> • fiduciary agent responsibilities • matching funds <p>Finance sources for incremental levels of activity</p> <ul style="list-style-type: none"> • Public • Private <p>Finance categories</p> <ul style="list-style-type: none"> • Investment • Recurring <p>Finance structure options:</p> <ul style="list-style-type: none"> • Subscription • Transaction <p>Budget development</p>	<p>HIE building blocks definition</p> <p>Technical requirements to support each HIE building block</p> <p>Options:</p> <ul style="list-style-type: none"> • Peer-to-peer • Record locator service • Centralized warehouse • Hybrids 	<p>Use case definition and prioritization</p> <p>Ongoing business and technical requirements</p>	<p>NH current statutes and regulations</p> <p>Consent</p> <p>Authorization</p> <p>Authentication</p> <p>Access</p> <p>Audit</p> <p>Breach</p>

Agenda

Description of approach

Use Case Inventory and Prioritization

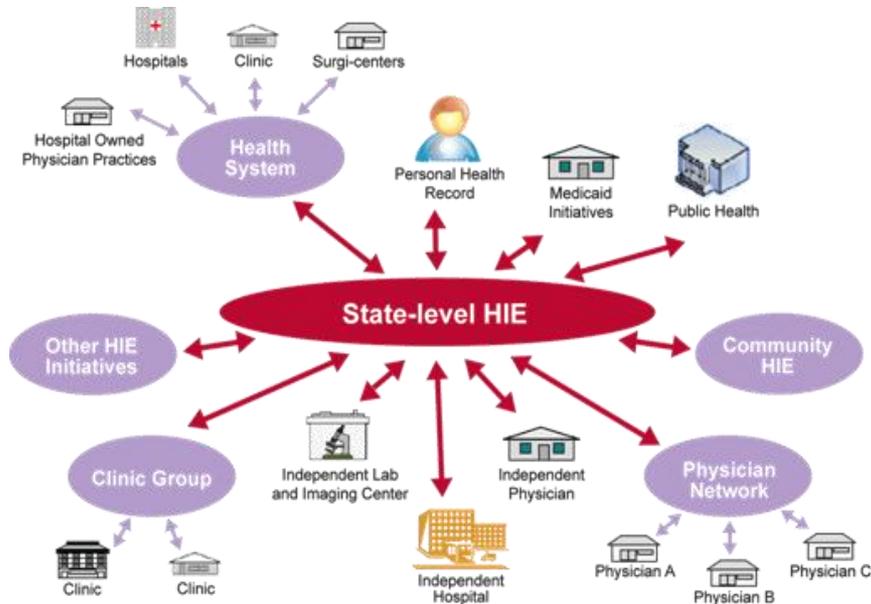
Use case sources

- ❑ Use cases describe the ways in which prospective users will want to utilize health information exchange capabilities to perform business functions

- ❑ We have drawn upon use cases that have already been defined at the national level and in other states in order to create a consolidated set of use cases that cover a wide array of provider-provider and provider-patient interactions
 - New Hampshire Hospital Association developed 8 prioritized use cases for hospital clinical transactions
 - Nationwide Health Information Network
 - Large library of use cases developed since 2006 that informed the Health Information Technology Standards Panel (HITSP) and the NHIN Exchange
 - 23 “user stories” developed for NHIN Direct pilot project
 - Various state use cases
 - New York, New Mexico, Maryland, etc
 - Meaningful use requirements
 - CMS Notice of Public Rulemaking (Dec 2009) for 2011
 - HIT Policy Committee Meaningful Use Working Group recommendations for 2013 and 2015

- ❑ These consolidated use cases will be our reference point for determining requirements for health information exchange

Each possible transaction across entities represents a use case



Who needs to receive the information, and who needs to send it?

What needs to be sent?

When does it need to be sent?

How does it need to be sent?

Consolidated Use Case Transactions

Patient access to information	Provide patients with timely electronic access to their health information (including lab results, problem list, medication lists, allergies) within 96 hours of the information being available to the eligible professional
Community Record	Capability to exchange key clinical information among providers of care and patient-authorized entities electronically (query capability)
Quality measure reporting	Report quality measures to CMS or the States – manual in 2011, electronic in 2012
Public health reporting	Capability to submit electronic data for syndromic surveillance and immunization registries, and actual submission where required and accepted
Lab/Rad ordering	Use of CPOE – electronic transmission not required until Stage 2
Referrals/consults (CCD push)	Provide summary of care record for each transition in care
Hospital documents (CCD push)	Provide summary of care record for each transition in care
Lab/Rad results (HL7 push)	Structured lab results
Claims/eligibility checking	Electronic claims and insurance eligibility checking
eRX	Electronic prescribing transactions and medication history lookup

Detailed Use Case Transactions

	From whom	To whom	What	When	How
1	Hospital	Referring physician and/or PCP	Discharge summary	Post encounter	CCD or CCR
2	Hospital	Hospital	Discharge summary	Post encounter	CCD or CCR
3	Hospital	Other care settings	Discharge summary	Post encounter	CCD or CCR
4	Hospital	Referring physician and/or PCP	Departmental reports	Post encounter	No standard specified
8	Hospital	Public health	Immunization record	Post encounter	HL7 2.3.1 or 2.5.1
9	Hospital	Public health	Syndromic surveillance data	Post encounter	HL7 2.3.1 or 2.5.1
10	Hospital	Public health	Reportable lab results	Post encounter	HL7 2.5.1 & LOINC
11	Hospital	CMS and/or NH Medicaid	Quality measures	Periodic, scheduled	CMS PQRI 2008 XML
12	Hospital	Health plan	Claims submission & eligibility checking	Post encounter	HIPAA security standards
13	Hospital	Patient	Discharge summary	Post encounter	CCD or CCR
14	Imaging center	PCP or specialist	Imaging reports	Post encounter	No standard specified
15	Imaging center	PCP or specialist	Images	Post encounter	No standard specified
16	Lab	PCP or specialist	Lab results	Post encounter	No standard specified
17	PCP	Specialist	Referral -- Summary of care record	Post encounter	CCD or CCR
18	PCP or specialist	Hospital	Referral -- Summary of care record	Post encounter	CCD or CCR
19	PCP or specialist	Public health	Immunization record	Post encounter	HL7 2.3.1 or 2.5.1
20	PCP or specialist	Public health	Syndromic surveillance data	Post encounter	HL7 2.3.1 or 2.5.1
18	PCP or specialist	Pharmacy	eRX	During encounter	NCPDP Script & RxNorm
19	PCP or specialist	Pharmacy	Medication history	Pre prescription	NCPDP Script & RxNorm
20	PCP or specialist	Lab	Lab order	During encounter	No standard specified
21	PCP or specialist	Imaging center	Imaging order	During encounter	No standard specified
22	PCP or specialist	Health plan	Claims submission & eligibility checking	Post encounter	HIPAA security standards
23	PCP or specialist	Patient	Post-visit summary	Post encounter	CCD or CCR
24	PCP or specialist	Patient	Access to health information	Within 96 hours	CCD or CCR
25	Specialist	PCP	Consult note -- Summary of care record	Post encounter	CCD or CCR
26	Multiple sources	Hospital	Community record	On demand	CCD or CCR
27	Multiple sources	PCP or specialist	Community record	On demand	CCD or CCR

Summary of Medicare Meaningful Use Requirements

From CMS NPRM, Dec 2009

	Stage 1 2011-2012	Stage 2 (est) 2013-2014
Documentation	<ul style="list-style-type: none"> • Structured problem list • Active meds list • Active allergy list, Demographics • Vital signs • Smoking status 	
Patients	<ul style="list-style-type: none"> • Send reminders to patients per patient preference • Provide patients with electronic copy of health information upon request • Provide patients with timely electronic access to their health information within 96 hours of availability to EP 	<ul style="list-style-type: none"> • Make patient data available in PHRs
Decision support	<ul style="list-style-type: none"> • drug-drug, drug-allergy, drug-formulary checks; • order entry for diagnostic tests and prescribing • condition-specific registry reporting 	
Interoperability	<ul style="list-style-type: none"> • electronic claims submission and insurance eligibility-checking, • electronic lab results, • eRX, • immunization registry reporting, • summary-of-care record for each transition of care • Capability to exchange key clinical information (1 test) • Medication reconciliation at each transition of care • Capability to submit public health data to public health agencies (1 test) 	<ul style="list-style-type: none"> • Electronic transmission of key clinical information, quality measures, and public health data • Lab ordering • RX histories
Quality measurement	<ul style="list-style-type: none"> • Core plus specialty measures: attestation (2011); electronic report (2012) 	
Privacy & security	<ul style="list-style-type: none"> • Perform security audit 	

Meaningful Use Trajectory

From CMS NPRM (2011) and MU Working Group Recommendations (2013-15)

Meaningful Use objectives requiring health exchange

2011

- Lab results delivery
- Prescribing
- Claims and eligibility checking
- Quality & immunization reporting, if available
- Health summaries for continuity of care



Increases volume of transactions that are most commonly happening today

- Lab to provider
- Provider to pharmacy

2013

- Registry reporting and reporting to public health
- Electronic ordering
- Receive public health alerts
- Home monitoring
- Populate PHRs



Substantially steps up exchange

- Provider to lab
- Pharmacy to provider
- Office to hospital & vice versa
- Office to office
- Hospital/office to public health & vice versa
- Hospital to patient
- Office to patient & vice versa
- Hospital/office to reporting entities

2015

- Access comprehensive data from all available sources
- Experience of care reporting
- Medical device interoperability



Starts to envision routine availability of relatively rich exchange transactions

- “Anyone to anyone”
- Patient to reporting entities

Prioritization Matrix: For Discussion

Higher complexity	Low	Medium	High (get started)
Lower complexity	Medium	High	High
	Urgent but not important	Important but not urgent	Urgent & important

Urgent: FOA priority area; Stage 1 MU requirement ; key shared service opportunity; overlap with Medicaid funding

Important: Expected MU requirement; difficult to achieve without HIE infrastructure

Next steps

- ❑ Prepare for face-to-face meeting: Monday, June 28

- ❑ For the face-to-face meeting, we will want to:
 - Inventory all use cases – build on matrix as necessary
 - Prioritize use cases – High, Medium, Low
 - Begin preparing for 2nd face-to-face meeting – Business and Operational options for each HIE building block

Background slides

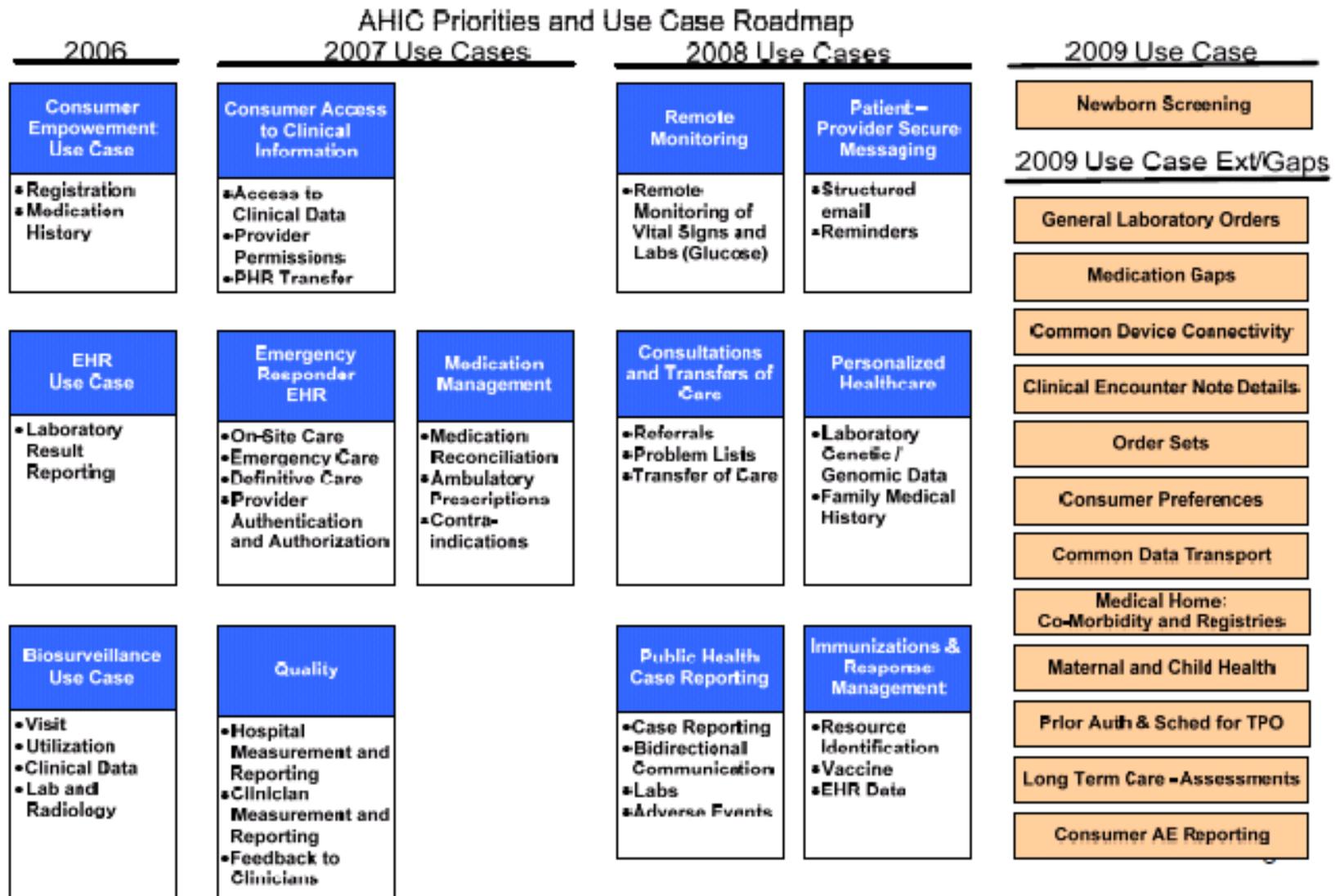
Background: New Hampshire Hospital Association Use Cases

Priority for STATE LEVEL HIE	“Use Case” Examples	Notes
HIGH	Continuing Care Document (CCD) record that contains nationally standardized data elements for medication list, problem list and allergy lists.	Sharing of CCD information could enhance clinical interpretations, discharge summaries, order processing and clinical follow-through.
HIGH	Secure access to hospital discharge summaries by area health providers.	This is linked to the CCD record (see above). Discharge summaries are usually a document, not discrete data elements. Document sharing of key clinical information is important to share for continuity of patient care.
HIGH	Lab results exchange between neighbor hospitals, primary care and specialty clinics EMRs.	Patients can often go to a variety of settings for lab work. Receiving lab results into the patient’s EMR would be highly beneficial.
STRETCH GOAL	An eReferral gateway. That is, a system for managing specialty consult referrals to external providers of care including referral order/request, order processing, and result reporting back to referring provider.	This is an important use case, but given other priorities, this may have to be considered a secondary priority.
LOW	Secure patient access to electronic medical record charts. The solution could take several possible permutations. For example, a Google Health or Health Vault interface gateway. Or, a longitudinal web-based patient portal that combines elements of	This could take two forms: 1. Access to patient’s own record through secure portal. 2. Patient upload their own health information to a web-based service. Both of these options can probably be done best at the local level.
LOW	Secure access to hospital’s electronic patient chart (ambulatory) for area health providers (nursing homes, home health, mental health).	This is probably best done at the local/neighborhood level.
LOW	A radiology imaging gateway and repository for sharing radiology images between hospitals and other providers of care	This was given a “low” priority ranking because the storage and exchange of radiological images is costly. Sharing of images happens today on an as-needed basis, but worth continuing to discuss this topic.
LOW	A public health data reporting gateway for reportable diseases, syndromic surveillance, immunization registry, infection control, etc.	This is a long-term goal. Some of the public health data could be captured as a by-product of health information exchange (such as ED data, reportable diseases or immunization records), but public health is not the primary focus of a clinically based HIE. Further analysis of other types and level of detail of public health data will need to be explored.

Background: New York HEAL 5 Use Cases

- ❑ **Interoperable EHRs for Medicaid:** Sharing Medicaid medication history information with clinicians emphasizing medication management and electronic prescribing as the initial priority. This includes providing 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 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 and emergency contact information.
- ❑ **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 incorporates Federal standards emerging from biosurveillance best practices and the nationwide health information network.
- ❑ **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 Centers for Disease Control and Prevention (CDC) and the national Certification Commission for Healthcare Information Technology (CCHIT).
- ❑ **Quality Reporting for Prevention via EHRs:** Implementing EHRs with embedded quality metrics for reporting prevention and process measures to support quality reporting. The use case incorporates the Federal Quality and Lab-EHR use cases and NY's priorities and requirements with respect to quality measures and approaches.
- ❑ **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. The use case incorporates Federal standards and NY's 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. A Clinical Decision Support use case must be submitted by each applicant for consideration in the evaluation process.

Background: NHIN Exchange/HITSP/AHIC Use Cases



Background: NHIN Direct User Stories

	Story	Priority	Status
1	Primary care provider refers patient to specialist including summary care record	1	Draft
2	Primary care provider refers patient to hospital including summary care record	1	Draft
3	Specialist sends summary care information back to referring provider	1	Draft
4	Hospital sends discharge information to referring provider	1	Draft
5	Laboratory sends lab results to ordering provider	1	Draft
6	Transaction sender receives delivery receipt	1	Draft
7	Provider sends patient health information to the patient	1	Draft
8	Hospital sends patient health information to the patient	1	Draft
9	Provider sends a clinical summary of an office visit to the patient	1	Draft
10	Hospital sends a clinical summary at discharge to the patient	1	Draft
11	Provider sends reminder for preventive or follow-up care to the patient	1	Draft
12	Primary care provider sends patient immunization data to public health	1	Draft
13	Provider or hospital reports quality measures to CMS	2	Draft
14	Provider or hospital reports quality measures to State	2	Draft
15	Laboratory reports test results for some specific conditions to public health	2	Draft
16	Hospital or provider send chief complaint data to public health	2	Draft
17	Provider or hospital sends update to regional or national quality registry	2	Draft
18	Pharmacist sends medication therapy management consult to primary care provider	2	Draft
19	A patient-designated caregiver monitors and coordinates care among 3 domains	2	Draft
20	A Provider EHR orders a test	2	Draft
21	A patient sends a message to the provider	2	Draft
22	Transaction sender receives read receipt	3	Draft
23	State public health agency reports public health data to Centers for Disease Control	3	Draft