HIE Use Case Design Group

A Design Group of the Connecticut Health IT Advisory Council

October 4, 2017| 2:30 – 4:00 pm

Session #10

Facilitated by CedarBridge Group

Agenda

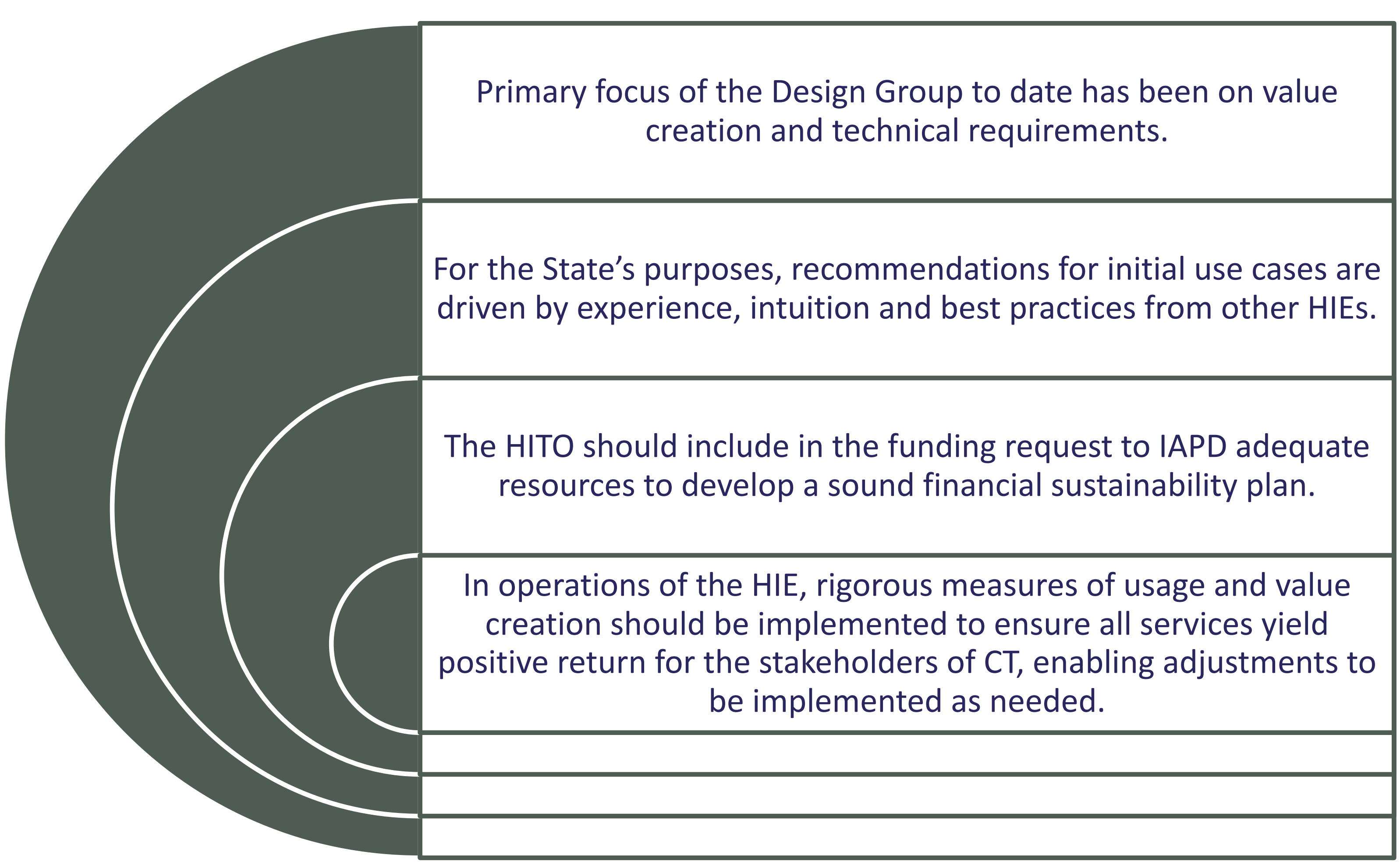
Welcome / Roll Call	Michael Matthews	2:30 PM
Comments on 8/30/17 Minutes	Design Group Members	2:32 PM
Review Meeting Schedule	Michael Matthews	2:34 PM
Planning Framework	Michael Matthews	2:35 PM
Suggested Approaches for Use Cases	Michael Matthews	3:00 PM
Preliminary Recommendations Discussion	Michael Matthews	3:40 PM
Meeting Wrap-up and Next Steps	Michael Matthews	3:55 PM

Comments on 8/30/17 Minutes

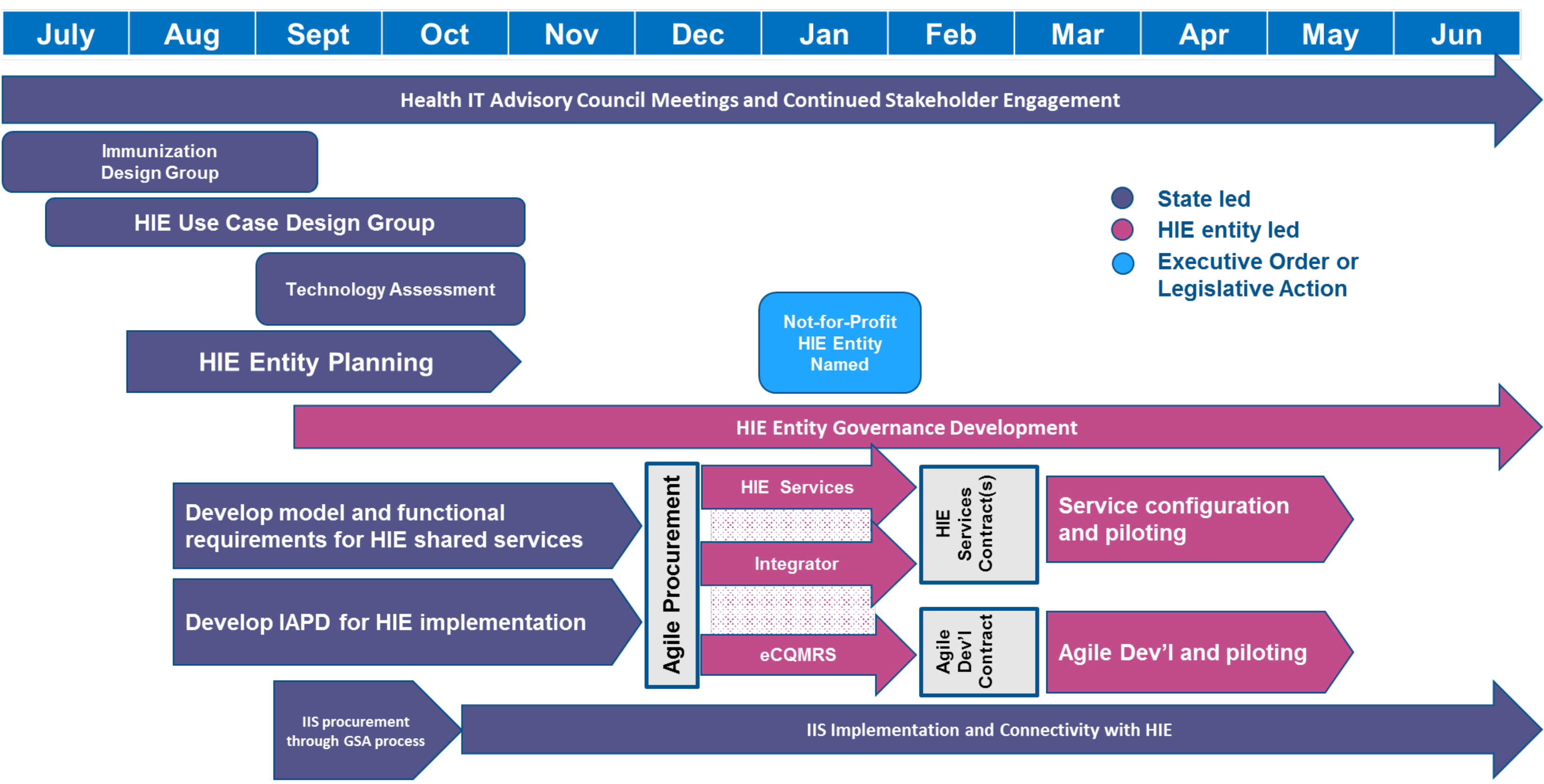
Meeting Schedule

Milestones/Deliverables	Dates
Session 1: Kick-Off Meeting	6/27/17
Session 2: Review Use Cases (Part 1)	7/12/17
Session 3: Review Use Cases (Part 2)	7/19/17
Present update to Health IT Advisory Council	7/20/17
Session 4: Review Use Cases (Part 3)	7/27/17
Session 5: Review Use Cases (Part 4)	8/2/17
Session 6: Review Use Cases (Part 5) and Prioritization Criteria for Use Cases	8/9/17
Session 7: Review Final Use Cases (Part 6); Apply Prioritization Criteria	8/16/17
Present Update to Health IT Advisory Council	8/17/17
Session 8: Select "Top 10" Use Cases; Discuss Final Prioritization Criteria	8/23/17
CedarBridge to Conduct Analysis of "Top 10" Use Cases; Research Financial, Business, Legal, and Policy Considerations	8/23/17 - 8/30/17
Session 9: Validate Value Propositions, Implementation Priorities, and HIE Services Needed to Enable Priority Use Cases	8/30/17
Session 10: Review of Additional Information and Preliminary Recommendations	**10/4/17**
Session 11: Final Recommendations	**10/11/17**
Final Report and Recommendations to Health IT Advisory Council	**10/19/17**

Sustainability Considerations



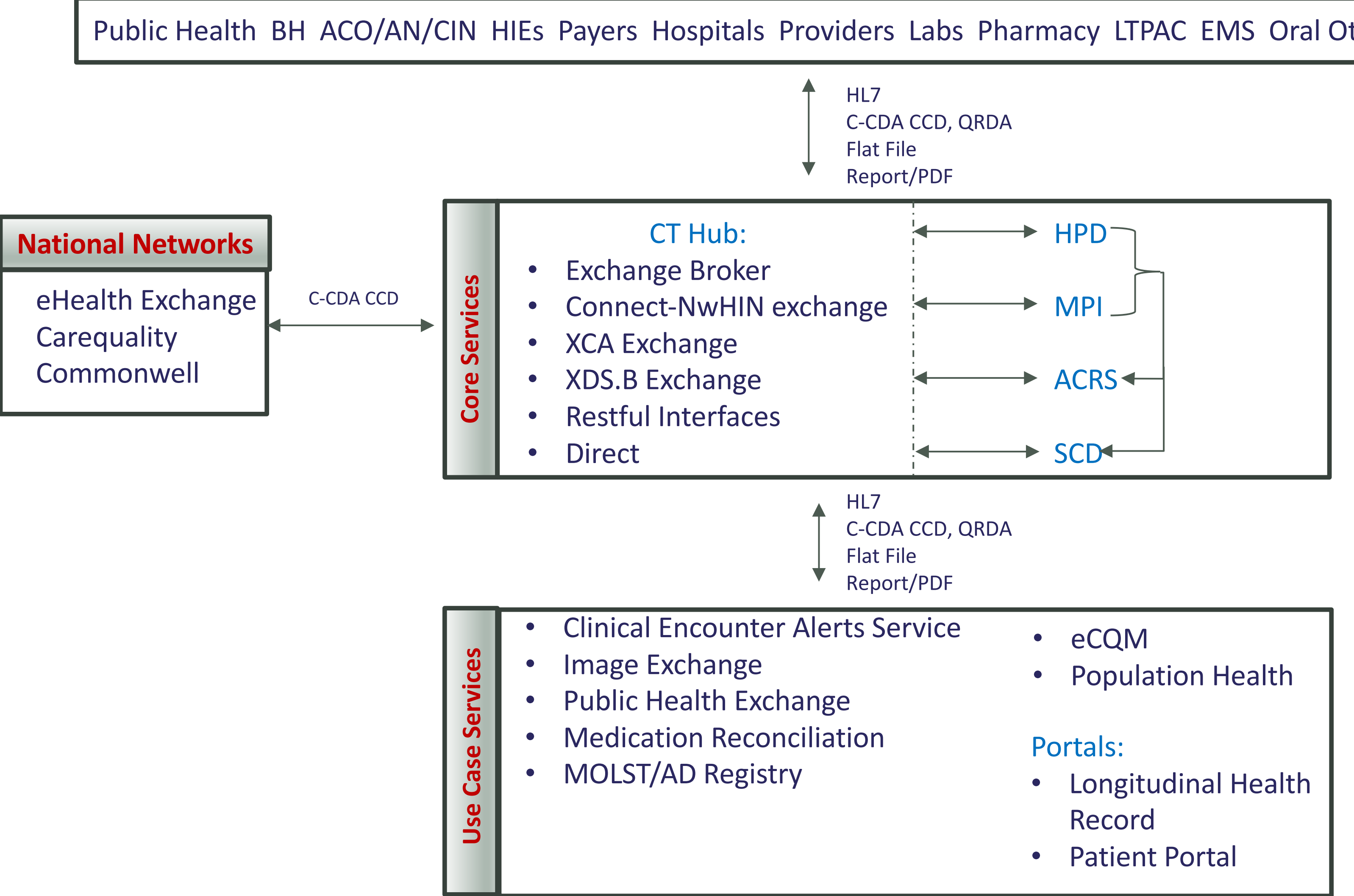
Procurement Timeline



System Components

System Components and Services:	Clinical Encounter Alerts	Longitudinal Health Records	Public Health Reporting	Patient Portal	Image Exchange	eCQM Reporting
MPI	x	x	x	x	x	x
Provider Directory	x	x	x	x	x	x
Active Care Relationship	x	x		x		x
Transformation	x	x	x	x	x	x
Map concepts and codes across controlled terminologies (VSAC, SNOMED, HCPCs, etc.)	x	x		x		x
Normalization and standardization	x		x	x	x	x
Rules Engine(s)	x		x	x		
Deduplication	x					x
Consolidation	x	x		x		x
Error detection and correction	x	x	x	x	x	x
Interface engine: transport/validation/translation/routing	x		x			x
Data governance	x	x	x	x	x	x
Logging	x	x	x	x	x	x
Account management	x	x		x	x	x
Error trapping	x	x	x	x	x	x
Security	x	x	x	x	x	x
Auditing	x	x	x	x	x	x
Measure specification data						x
Schema Mapping	x	x	x	x	x	
Compliant Gateway		x		x		
Reporting tool integration (i.e. SSRS)	x					x
Image Exchange Gateway					x	
Enterprise Viewer					x	
Consent Management	x	x	x	x	x	x
API and other submission methods of measures to CMS						x

HIE Services



Use Cases Under Review

- eCQM Reporting System
- Immunization Information System
- Longitudinal Health Record
- Public Health Reporting
- Clinical encounter alerts
- Image exchange
- Medication reconciliation
- MOLST / advance directives
- Population health analytics
- Patient portal / personal health record

eCQM Reporting System

Prior use case highlights	• eCQM DG recommendations • Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Requirements documentation • RFP preparation
Proposed approach	• Procurement • Necessary enabling services will be included in the IAPD-U; development and deployment of eCQM analytics will be funded by SIM

Immunization Information System

Prior use case highlights	• IIS DG recommendations • Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Acceptance of recommendations by Health IT Advisory Council 9/21/17
Proposed approach	• Inclusion in IAPD-U • Procurement

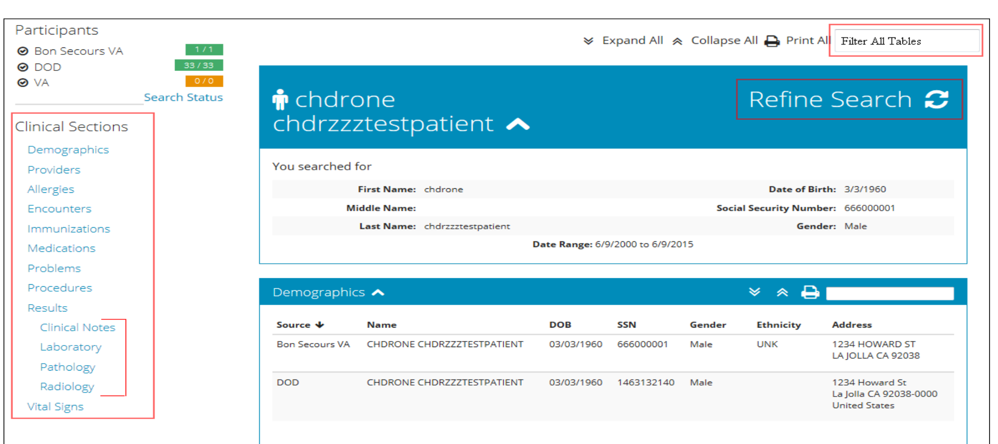
Longitudinal Health Records

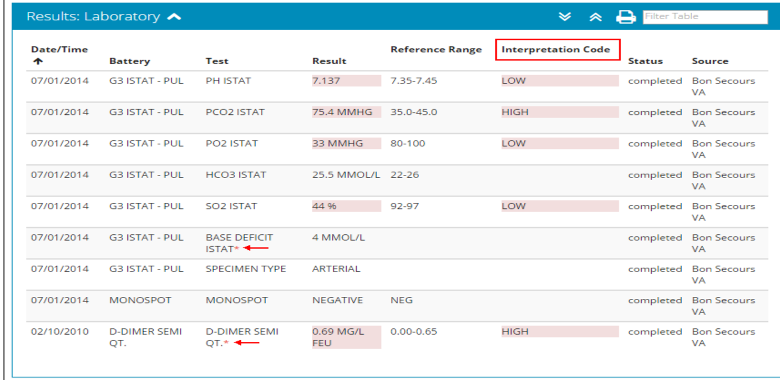
Prior use case highlights	• Function and purpose • Value proposition • Actors

Additional information	• Business, financial, legal, and policy considerations
	    • Requirements of PA 16-77
	    • 21st Century Cures Act
	    • Privacy and security
	    • Value-based care
	    • National networks (eHealth Exchange, CareQuality, Commonwell)
	    • Border states HIE initiatives
	    • Existing interoperability assets in CT
	• Technical requirements

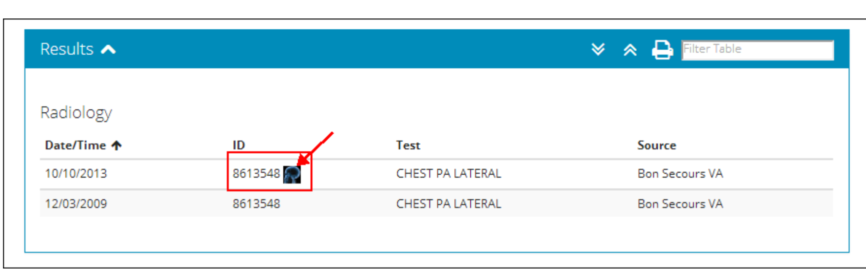
Proposed approach	• “First Wave” use case • Federated model • Leverage national networks • Provider portal • Inclusion in IAPD-U

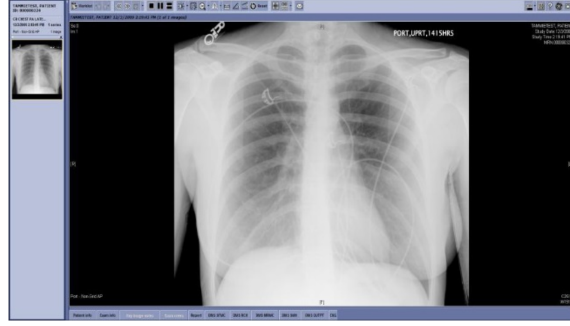
Sample Provider Portal





Date/Time	Battery	Test	Result	Reference Range	Interpretation Code	Status	Source
07/01/2014	G3 ISTAT - PUL	PH ISTAT	7.137	7.35-7.45	LOW	completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	PCO2 ISTAT	75.4 MMHG	35.0-45.0	HIGH	completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	PO2 ISTAT	33 MMHG	80-100	LOW	completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	HCO3 ISTAT	25.5 MMOL/L	22-26		completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	SO2 ISTAT	44 %	92-97	LOW	completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	BASE DEFICIT ISTAT*	4 MMOL/L			completed	Bon Secours VA
07/01/2014	G3 ISTAT - PUL	SPECIMEN TYPE	ARTERIAL			completed	Bon Secours VA
07/01/2014	MONOSPOT	MONOSPOT	NEGATIVE	NEG		completed	Bon Secours VA
02/10/2010	D-DIMER SEMI QT.	D-DIMER SEMI QT.*	0.69 MG/L FEU	0.00-0.65	HIGH	completed	Bon Secours VA





- Clinical Document Summary (C-CDA and C62) rendering that has multiple clinical components – Demographics, Providers, Allergies, Encounters, Immunizations, Medications, Payers, Problems, Procedures, Results-Clinical Notes, Laboratory, Radiology, Pathology, etc.
- Filtering and printing by participant, across sources, within sections, within results

Public Health Reporting

Prior use case highlights	• Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • IIS DG recommendations accepted by Health IT Advisory Council • Need for gateway to submit/query for immunizations (plus syndromic surveillance, reportable labs, tumor registry) • APHL Informatics Messaging Services (AIMS) • Technical requirements
Proposed approach	• “First Wave” use case • Further assess potential to leverage / expand AIMS • Onboarding • Technical assistance • Inclusion in IAPD-U

AIMS:
APHL Informatics Messaging Service

PHINMS
mirth
ORION HEALTH
tableau
the Direct Project
RCMT
NIST National Institute of Standards and Technology U.S. Department of Commerce
amazon WorkDocs
amazon WorkSpaces

Platform Applications

astho
The Office of the National Coordinator for Health Information Technology
Pubic Health Immunization Exchange (PHIZ)
CSTE
APHL SA Tool
NAPHSIS Protecting Personal Identity Promoting Public Health
CDC Centers for Disease Control and Prevention
Flu Contract Lab Accessioning Website (CLAW)
GenoLogics an Illumina company
CLC bio

Hosted Solutions

Route-Not-Read	Web Services	SFTP	ELR	Hosting	Transport Interop	Message Routing	Message Transform	DB	Backups	Disaster Recovery

Services

FISMA COMPLIANCE

Systems Management

Security & Information Assurance

THE PUBLIC HEALTH COMMUNITY PLATFORM

Clinical Encounter Alerts

Prior use case highlights	• Function and purpose • Value proposition • Actors

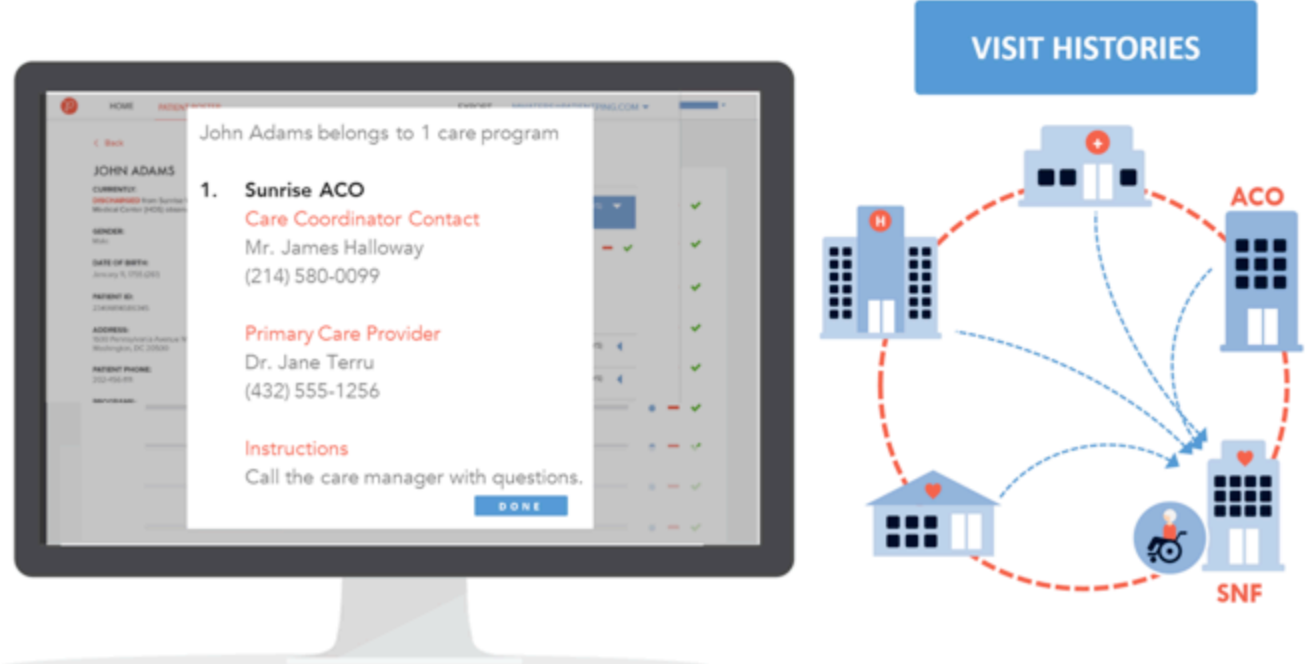
Additional information	• Business, financial, legal, and policy considerations
	    • PA 16-77
	    • Value-based care
	• Connecticut Hospital Association / PatientPing review
	• Technical requirements

Proposed approach	• "First Wave" use case • Further refine business and technical requirements • RFI to assess existing CT assets • Procurement/contracting • Inclusion in IAPD-U

PatientPing

RELEVANT INFORMATION

To all stakeholders in real time



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Medication Reconciliation

Prior use case highlights	• Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Further research on medication reconciliation process • Discussions with UCONN Pharmacy re: initiative to address process and technology
Proposed approach	• Initial project focus on process re-design and associated technology support • Technology procurement as indicated • Statewide rollout • Inclusion in IAPD-U

Medication Reconciliation Challenges

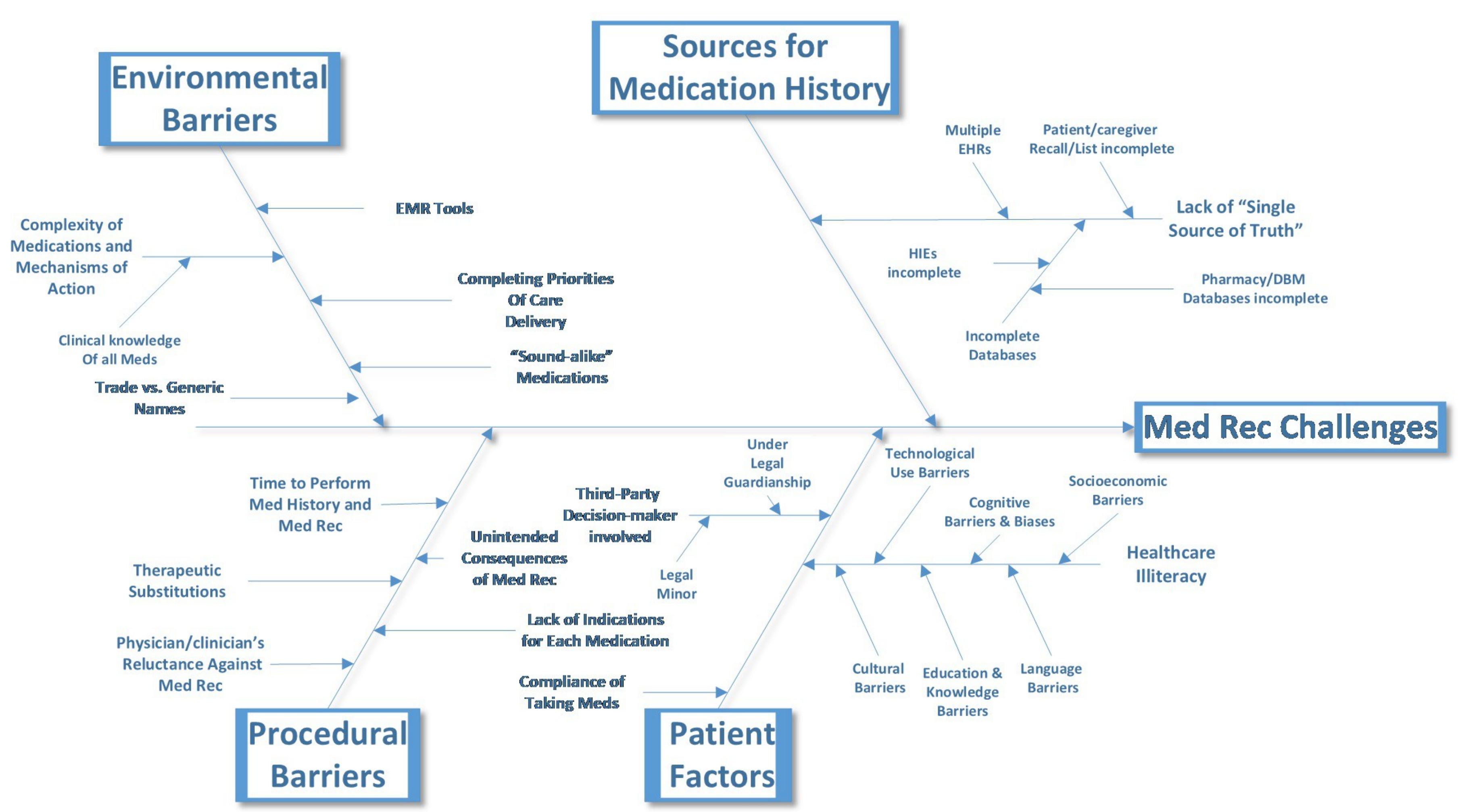


Image Exchange

Prior use case highlights	• Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Further research on image exchange • Discussion / information from NYeC • Radiology-to-radiology use case • Referral use case
Proposed approach	• “First Wave” use case • Inclusion in IAPD-U

NYeC Image Exchange Solution

Image Exchange Workflow Capabilities
eHealth Connect® Image Exchange has been designed to integrate with all common PACS technologies and with virtually all HIE and EHR platforms, providing the following image-enabled clinical workflows:
View all imaging studies from within the patient record on an HIE portal
With a single click, authorized HIE users can launch a study of interest from any connected imaging location on eHealthViewer® ZF—a zero-footprint, web-based viewing platform—a fully diagnostic-quality FDA 510(k) Class II medical device.
View and compare imaging studies from different locations
Authorized HIE users can access a Community-Wide Imaging Worklist for their patient. Users can manipulate, sort, and view one or multiple imaging studies from different imaging provider locations in a common eHealthViewer ZF image viewing session.
Collaborate with other healthcare providers anywhere in the community in real time
With a single click from the eHealthViewer ZF, users can initiate an immediate screen sharing consultation session with any other authorized care provider in the community—for wet reads, second opinions, and consultations between referring physicians and specialists.
Access images from external locations directly from their EMR or Direct Messaging inbox
Care providers seeking access to patient records from their Direct Messaging inboxes, or as delivered to directly to their EMRs can be provided "one-click" access to view imaging studies on eHealthViewer ZF. This capability has the added benefit of enabling participating institutions to meet a key imaging menu criterion of Meaningful Use Stage 2.
Transfer external imaging studies directly into a local PACS
Radiologists and other clinicians frequently have access to relevant external prior imaging studies on their local PACS in order to properly diagnose and treat more complex medical conditions. eHealth Connect® Image Exchange accomplishes this transfer with a few clicks directly from an HIE user interface, and will assure the key image attributes in the DICOM header, such as patient ID (MRN) and accession number, are updated prior to transferring images.

MOLST / Advance Directives

Prior use case highlights	• Function and purpose • Value proposition • Actors • Associated use case of Advance Directives
Additional information	• Business, financial, legal, and policy considerations • Legislation for MOLST Pilot • Expansion of MOLST statewide 10/1/17 • Paper-based / patient-controlled process • Discussion with members of MOLST Task Force and Advisory Committee 9/25/17
Proposed approach	• Partner with MOLST Task Force and Advisory Committee to assess technology value-add • Further assess complementary Advance Directives Registry

MOLST Form

Connecticut
Medical Orders for Life Sustaining Treatment (MOLST)
PILOT PROGRAM

PATIENT INFORMATION

Patient Last Name/First/Middle Initial		
Street	City/Town	ZIP
Date of Birth (mm/dd/yyyy)	Sex: M [ ] F [ ]	

ELIGIBLE DIAGNOSIS:
[ ] END STAGE SERIOUS, LIFE LIMITING ILLNESS: (specify)________________________ OR
[ ] ADVANCED CHRONIC PROGRESSIVE FRAILTY CONDITION:

GOALS OF TREATMENT- MEDICAL INTERVENTIONS: (check one box only)
[ ] a. No limitations to medical treatment & intervention
[ ] b. Limited medical treatment or intervention
[ ] c. Comfort care; allow natural death with symptom management for comfort purposes

Section A (Check one box only)

CARDIOPULMONARY RESUSCITATION (CPR): PERSON HAS NO PULSE AND IS NOT BREATHING

[ ] Perform CPR [ ] Do Not Perform CPR
If patient is not in cardiopulmonary arrest, follow orders in section B & C.

Section B (Check one box only)

Transfer to Hospital

[ ] Transfer to hospital [ ] ICU care [ ] No ICU care	[ ] Do not transfer to hospital (unless needed for my comfort)

Intubation and Ventilation (Non CPR related)

[ ] Use invasive airway management or mechanical ventilation [ ] Use invasive airway management or mechanical ventilation, defined trial period Length of trial period: ______________________	[ ] No invasive airway management or mechanical ventilation

Non-Invasive Ventilation

[ ] Use non-invasive ventilation or rescue breathing for respiratory distress, such as BiPAP or CPAP [ ] Use non-invasive ventilation defined trial period Length of trial period: ______________________	[ ] Do not use non-invasive ventilation

HIPAA PERMITS DISCLOSURE OF MOLST TO ANY HEALTH CARE PROFESSIONAL AS NEEDED FOR PATIENT CARE

Connecticut Department of Public Health, 410 Capitol Avenue, PO Box 304308, Hartford, CT 06134

Section C (Check one box only)

Medically Administered Hydration (oral or by mouth hydration will always be offered if feasible)

[ ] Use medically administered hydration [ ] Use medically administered hydration, defined trial period Length of trial period: ______________________	[ ] No medically administered hydration	[ ] Undecided [ ] Did not discuss

Medically Administered Nutrition (oral or by mouth nutrition will always be offered if feasible)

[ ] Use medically administered nutrition, such as total parenteral nutrition or tube feedings [ ] Use medically administered nutrition defined trial period Length of trial period: ______________________	[ ] No medically administered nutrition	[ ] Undecided [ ] Did not discuss

Dialysis

[ ] Use dialysis [ ] Use dialysis, defined trial period Length of trial period: ______________________	[ ] No dialysis	[ ] Undecided [ ] Did not discuss

Other treatment preferences specific to the patient's medical condition, e.g. vasopressors, medications, antibiotics, etc.

Section D

For this form to be valid: The form must be a lime green original MOLST form and the provider signing must ensure the form is thoroughly completed and signed by the patient or patient's legally authorized representative, provider and witness. A form that is incomplete, improperly completed or amended, except as permitted in Section E shall be deemed invalid and of no effect.

Discussed with:
[ ] Patient
[ ] Legally Authorized Representative (specify) ______________________
Signature below confirms this form was signed by the patient or Legally Authorized Representative **voluntarily** and reflects his/her wishes and goals of treatment as expressed to the provider signing below. Signature by a patient representative as indicated above confirms the form reflects his/her assessment of the patient's preferences or goals of care, or if those preferences are unknown, his/her understanding of the patient's best interests.

Signature of Patient or Legally Authorized Representative:	Date:
Printed Name of Patient or Legally Authorized Representative:	
Signature of Provider: [ ] MD/DO [ ] APRN [ ] PA	
Printed Name of Provider:	Date:
Provider Phone Number:	
Signature of Witness:	
Printed Name of Witness:	Date:
Interpreter Name or ID# and/or Service	Date:

Connecticut Department of Public Health, 410 Capitol Avenue, PO Box 304308, Hartford, CT 06134

Patient Portal

Prior use case highlights	• Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Patient as “North Star” • MU requirements • MACRA • Technical requirements • Safety concerns • Competitive issues • Funding
Proposed approach	• Further assess business and functional requirements • Assess marketplace vendor solutions • Consider implementation after Longitudinal Health Record implementation

Population Health Analytics

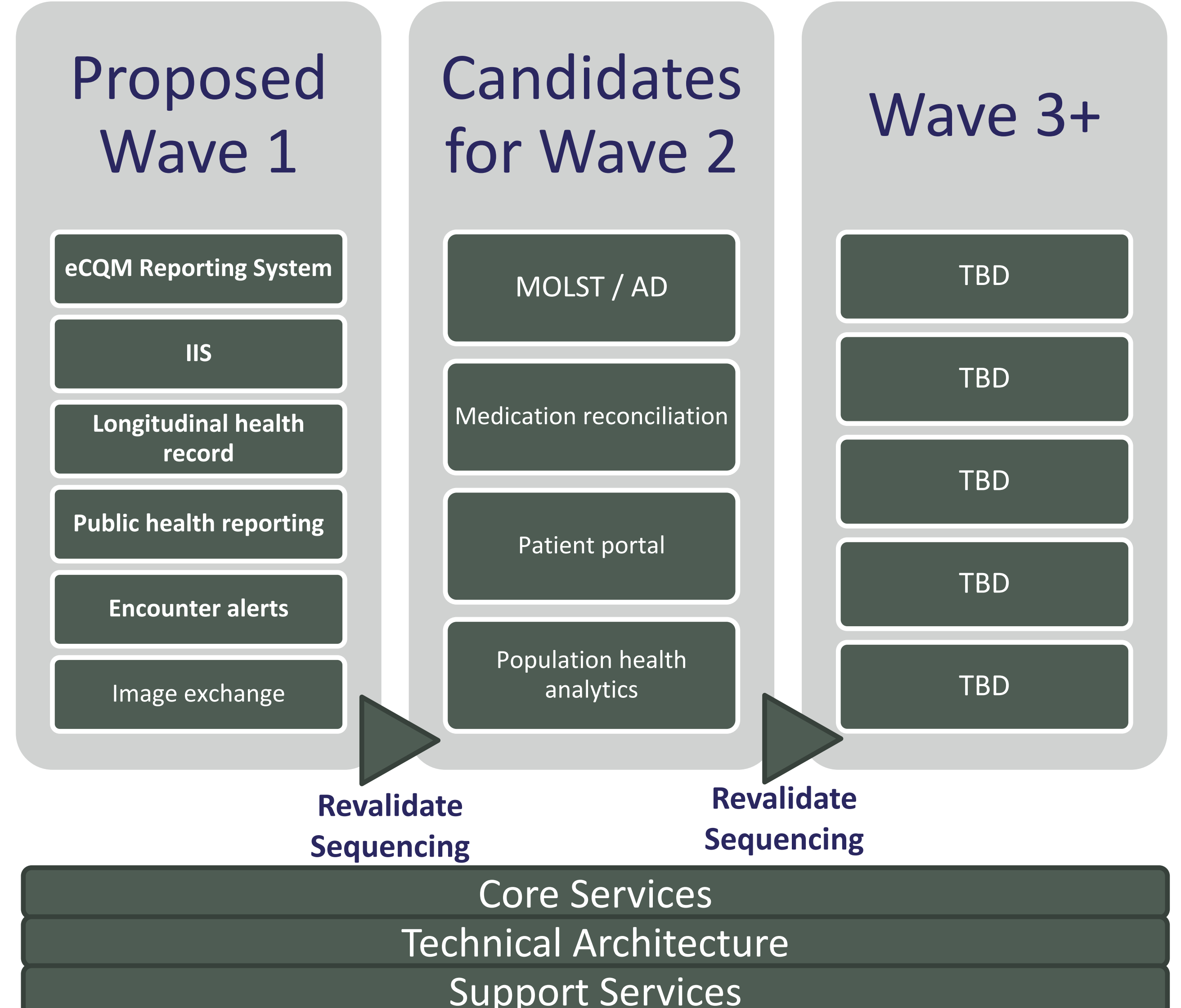
Prior use case highlights	• Function and purpose • Value proposition • Actors
Additional information	• Business, financial, legal, and policy considerations • Technical requirements • Overlap with eCQM Reporting System use case
Proposed approach	• Further assess business and functional requirements • Consider for implementation after eCQM Reporting System implementation

Proposed Wave 1: Summary

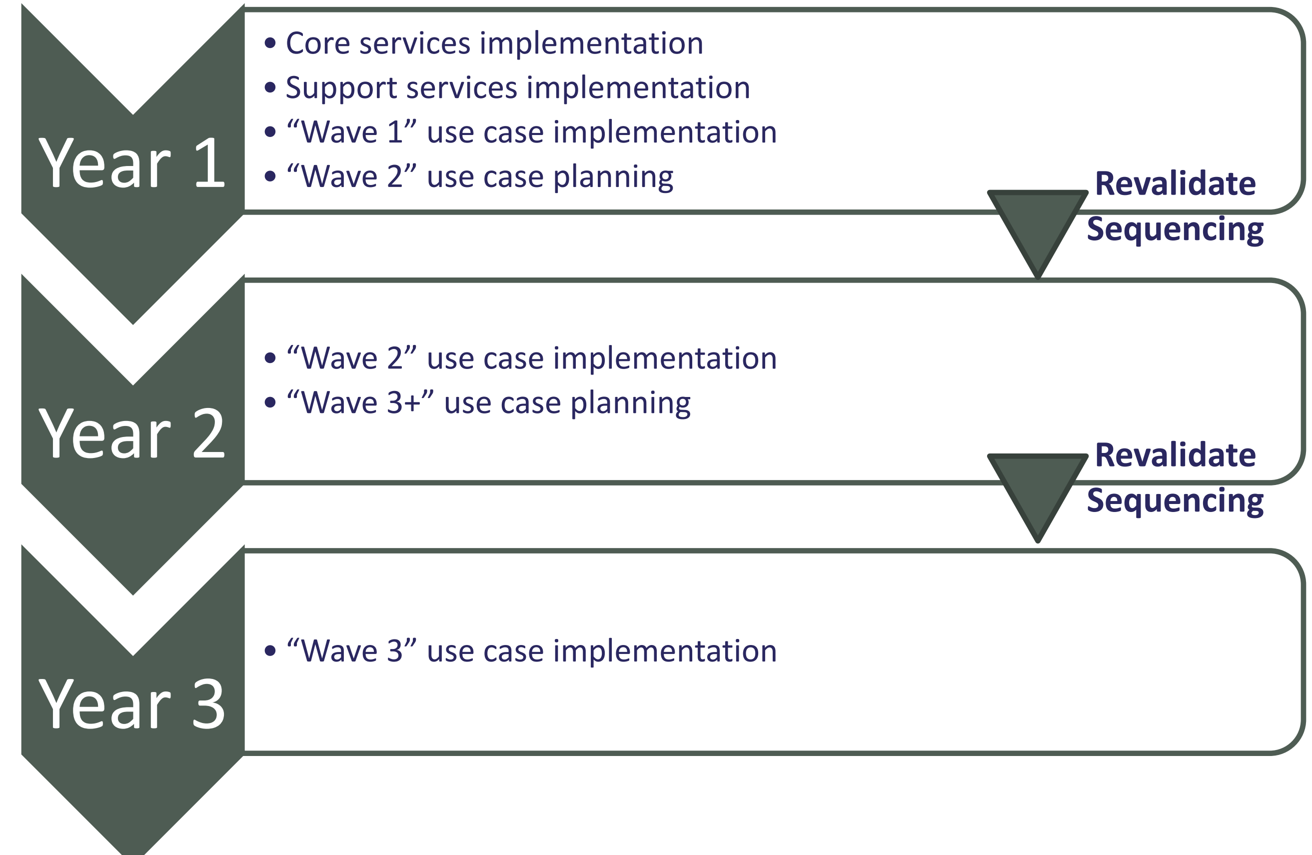
eCQM Reporting System	• Procurement • Implementation
Immunization Information System	• Implementation • Integration with Public Health Reporting
Longitudinal Health Record	• Leverage eHEX, CeQ, CW • Implement provider portal
Public Health Reporting	• Potential to leverage/expand AIMS • Implement expanded data elements; onboarding and TA
Clinical Encounter Alerts	• Finalize business requirements • Procurement/contracting (including leverage of existing assets)
Image Exchange	• Finalize business and functional requirements • Further discussions with NYeC

Candidates for Wave 2: Summary

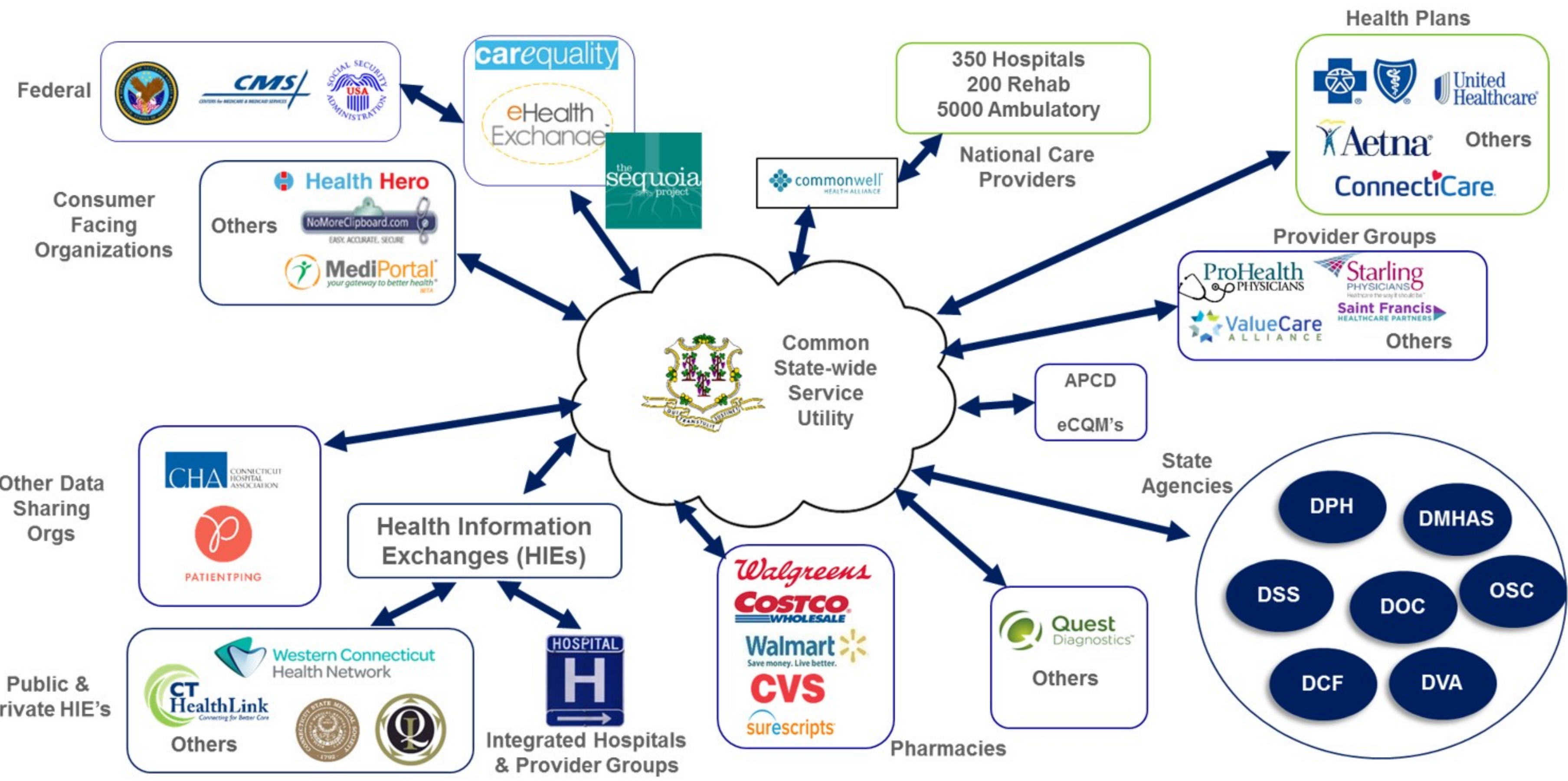
Medication Reconciliation	• Implement pilot for process re-design • Implement technology to support re-designed process
MOLST / Advance Directives	• Partner with existing MOLST Task Force and Advisory Committee to assess technology value-add • Further assess value of complementary AD Registry
Patient Portal	• Plan for rollout after implementation of longitudinal health record
Population Health Analytics	• Plan for rollout after eCQM RS and required technical architecture


Governance
Proposed Wave 1
eCQM Reporting System
IIS
Longitudinal health record
Public health reporting
Encounter alerts
Image exchange
Candidates for Wave 2
MOLST / AD
Medication reconciliation
Patient portal
Population health analytics
Wave 3+
TBD
TBD
TBD
TBD
TBD
Revalidate Sequencing
Revalidate Sequencing
Core Services
Technical Architecture
Support Services

Rollout



Discussion and Next Steps



Michael Matthews

Michael@cedarbridgegroup.com

Carol Robinson

Carol@cedarbridgegroup.com

www.cedarbridgegroup.com