

The Office of the National Coordinator for
Health Information Technology



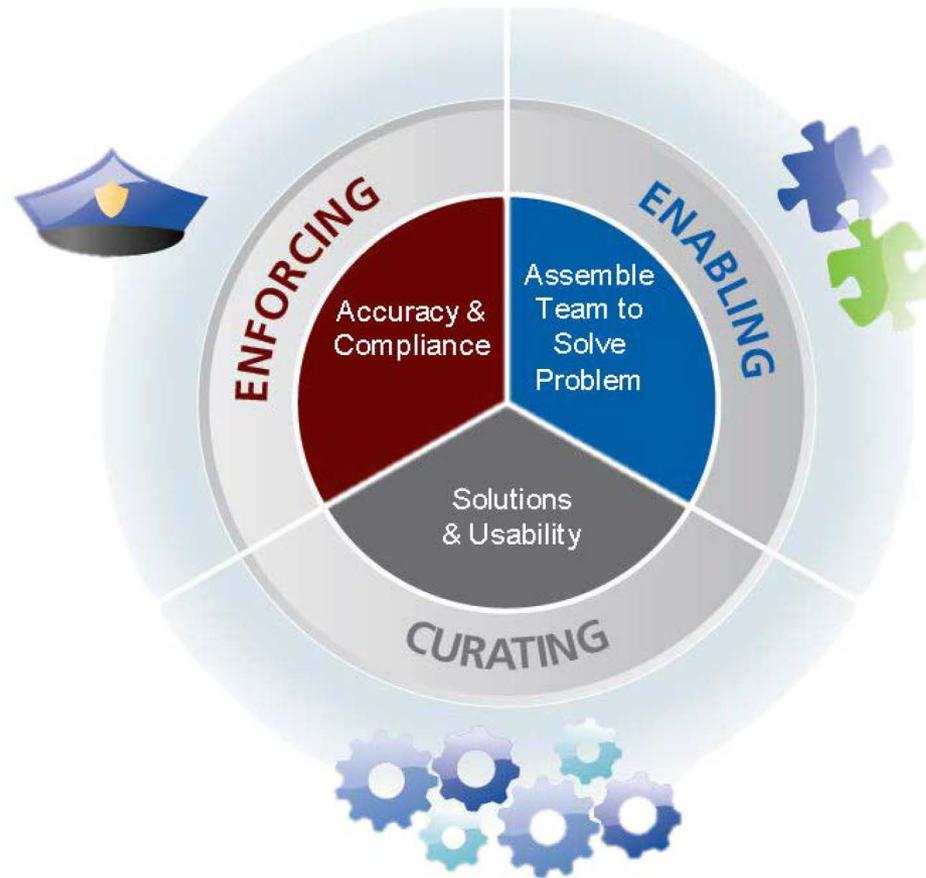
Update from ONC's Office of Standards & Interoperability

HIT Standards Committee
December 14, 2011

Doug Fridsma, MD, PhD, FACMI
Director, Office of Standards & Interoperability

Putting the **I** in **HealthIT**
www.HealthIT.gov





- Provide overview of Query Health
- Provide overview of other S&I initiatives and tools
- Discuss HITSC 2012 Work Plan
- Seek feedback and guidance from HITSC



Query Health Initiative: Distributed Population Queries

- Provide overview
- Confirm
 - Proposed technical approach
 - Proposed standards/specifications
 - Subject to feasibility and pilot feedback

Enable a learning health system to understand population measures of health, performance, disease and quality, while respecting patient privacy, to improve patient and population health and reduce costs.

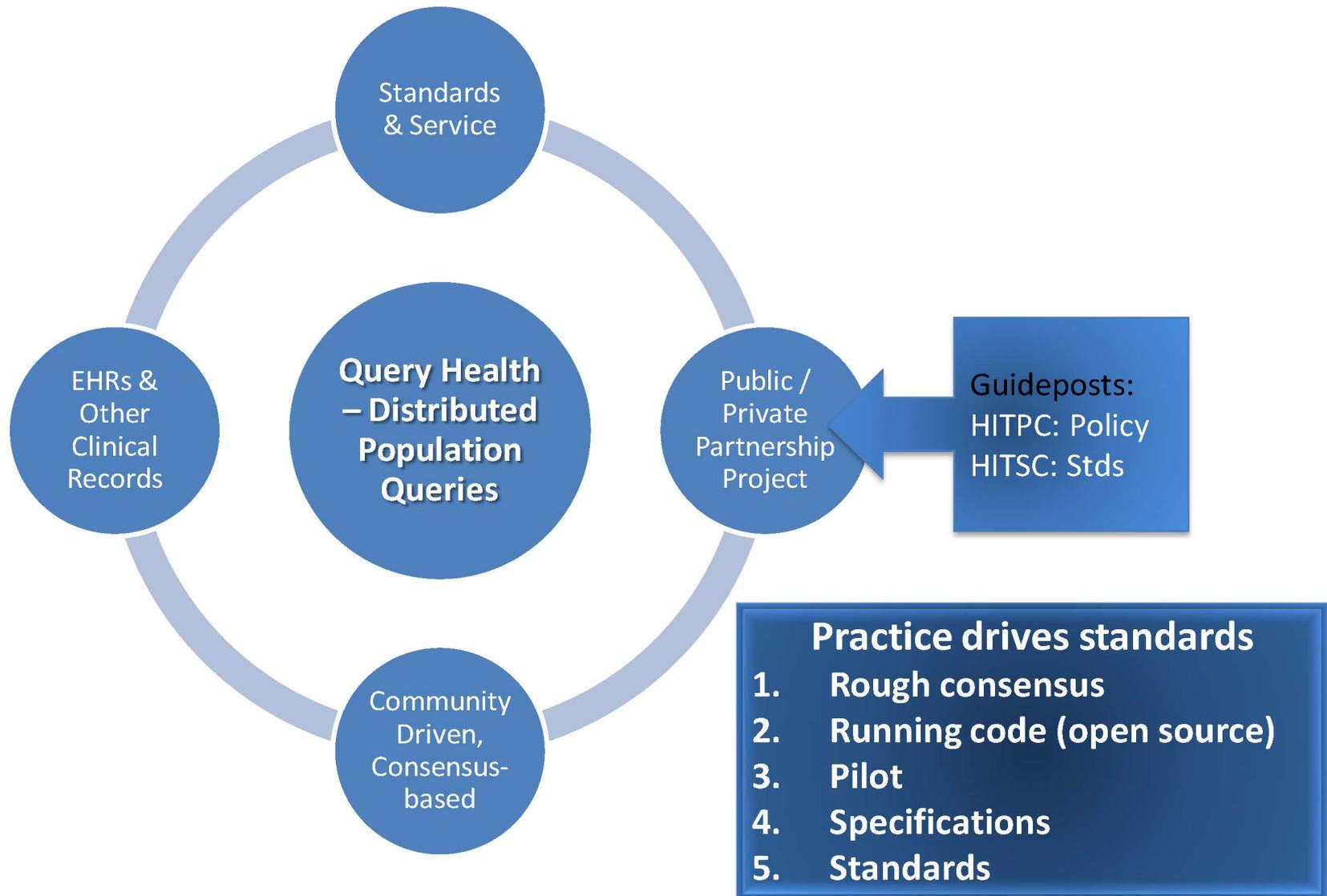


Distributed queries unambiguously define a population from a larger set

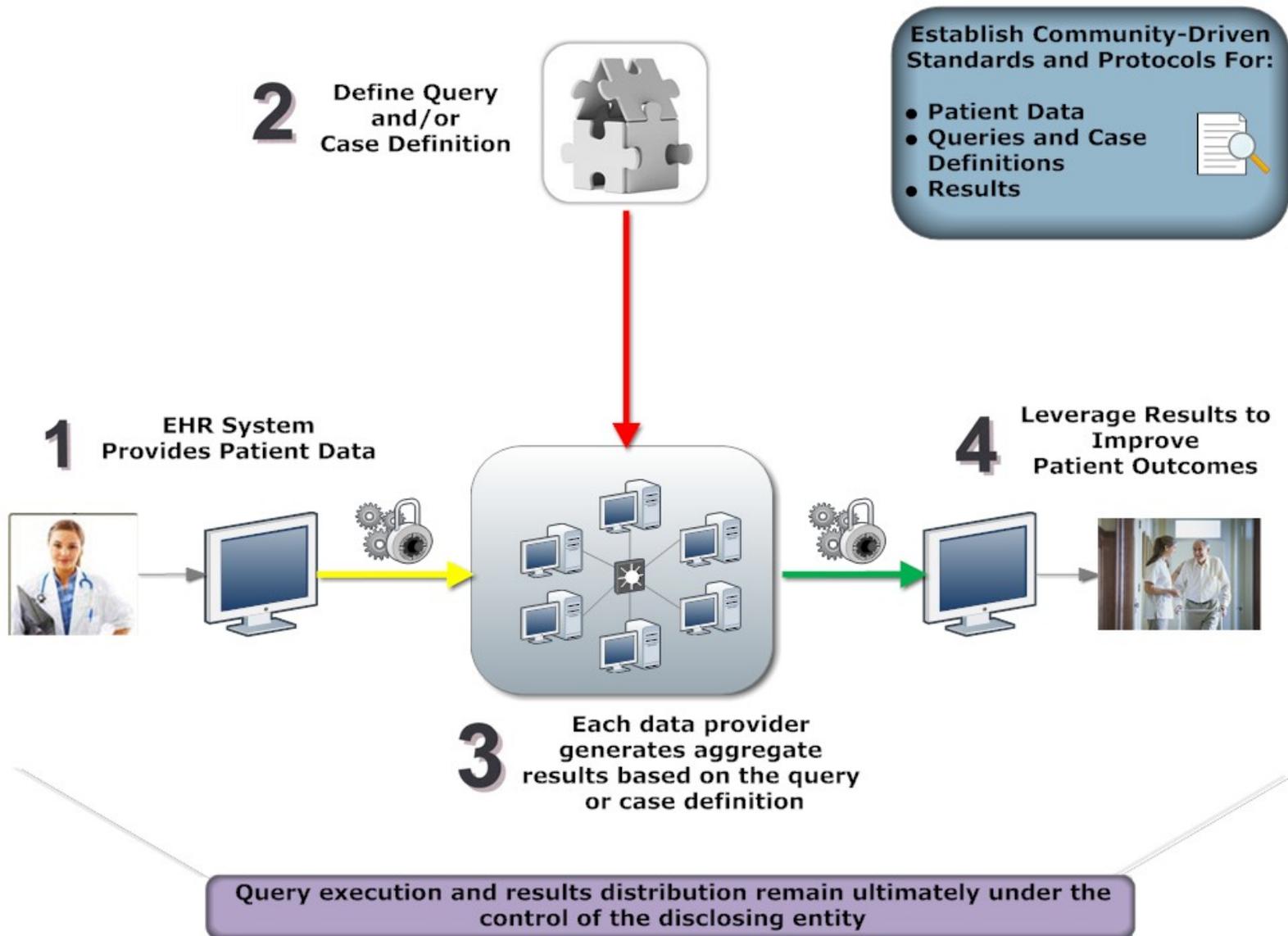


Questions about disease outbreaks, prevention activities, health research, quality measures, etc.

Query Health Scope and Approach

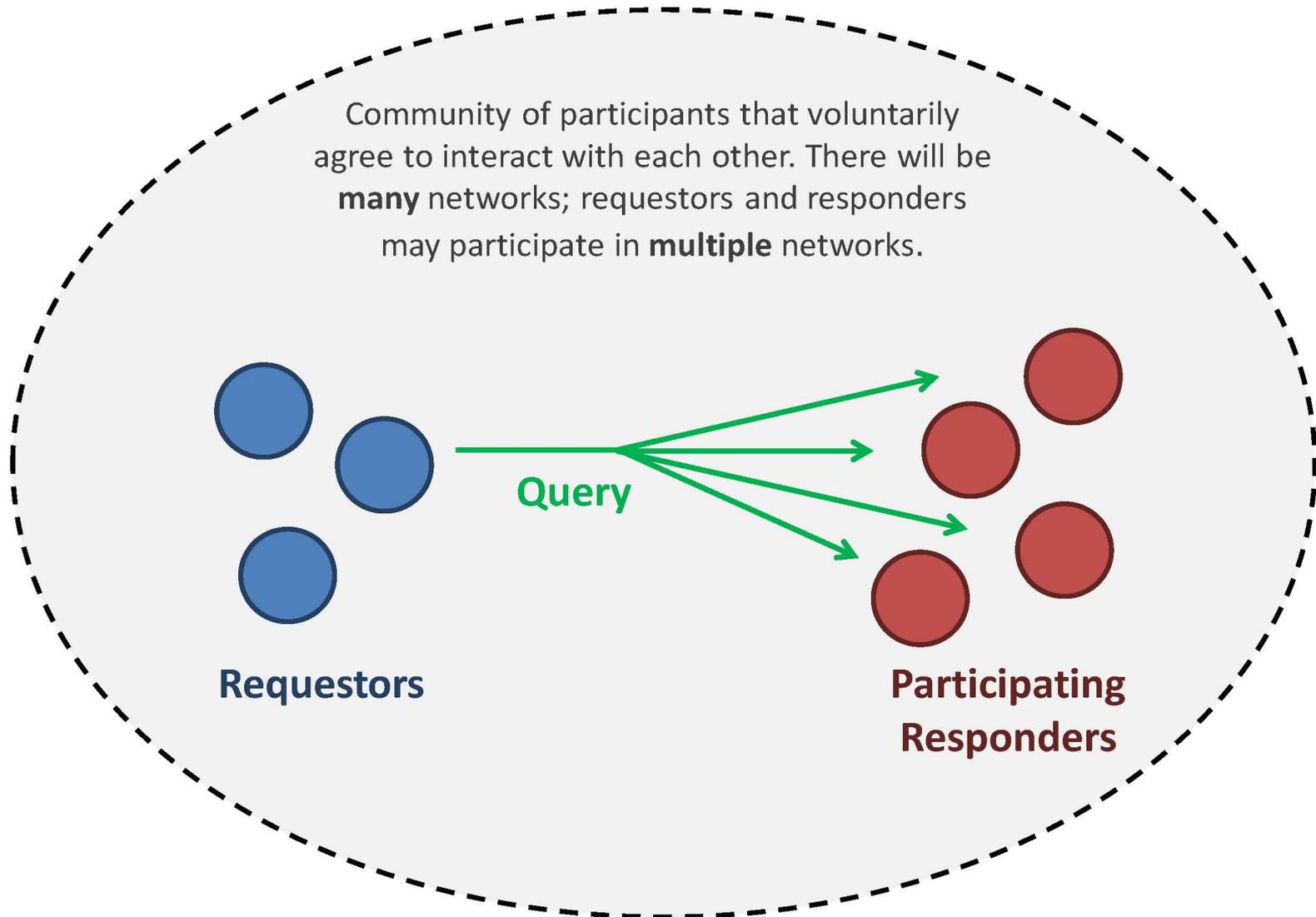


Inside Query Health



Distributed Query Networks

Voluntary, No Central Planning



"Summer Concert Series"

Putting the I in HealthIT 
www.HealthIT.gov

popCCR

{ Approach for simplifying and integrating performance reporting and decision support

Michael Buck
NYC Dept. Of Health

Steven E. Waldren, MD
Open Health Data

Increasing Research Data Liquidity and Velocity through an Open-Source Framework

Ken Buetow, Ph.D.
Director, Center for Biomedical Informatics and Information Technology
National Cancer Institute

Query Health
Summer Concert Series
August 22, 2011

cancer Biomedical Informatics Grid* | caBIG

PopMedNet™

Distributed Networking Technologies for Population Medicine

ONC Summer Concert Series on Distributed Population Queries

Jeffrey Brown
Richard Platt

August 3, 2011



Department of Population Medicine
Harvard Pilgrim Health Care Institute / Harvard Medical School



An Introduction to DARTNet



Wilson D. Pace, MD, FAAFP
Caretaker, DARTNet



GSII Health

Overview of the Universal Public Health Node (UPHN)

Presenters:

Dr. Ivan Gotham - Director Bureau of Healthcom Network Systems Management
New York State Department of Health

Leroy Jones - CEO, GSII Health

Vincent Lewis - Principal Architect, GSII Health

August 9, 2011



OBSERVATIONAL MEDICAL OUTCOMES PARTNERSHIP

The Observational Medical Outcomes Partnership: Demonstration of distributed population queries

Patrick Ryan, Marc Overhage, Tom Scarnecchia
on behalf of OMOP Research Team
August 29, 2011

An Overview of the Indiana Network for Patient Care, a Distributed, Federated Model for Querying and Exchanging Health Care Data

Shoun Grannis, MD, MS FAAFP
The Regenstrief Regenstrief Institute
Indiana University School of Medicine
August 29, 2011

Indiana Health Information Exchange | Regenstrief Medical Informatics
The Science for Medical Informatics



Query Health i2b2 / SHRINE Presentation

Isaac Kohane MD, Ph.D.
Shawn Murphy MD, Ph.D.

BioSense 2.0 Introduction

Building a Community-Controlled and Shared PH Surveillance Environment

Query Health Series
Friday, August 26th, from 1:30-3pm

Taha A. Kass-Hout, MD, MS

Deputy Director for Information Science and BioSense Program Manager
Division of Non-ifiable Diseases and Healthcare Information (DNH), Proposed
Public Health Surveillance Program Office (PHSO)
Office of Surveillance, Epidemiology, and Laboratory Services (OSELS)
Centers for Disease Control & Prevention (CDC)

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Office of Surveillance, Epidemiology, and Laboratory Services
Public Health Surveillance Program Office



Distribute

A Novel Approach to Rapid Regional and National Sharing of Surveillance Data

SDS
INTERNATIONAL SOCIETY
ON DISEASE SURVEILLANCE

David Buckridge, MD PhD FRCP
Medical Consultant, Montreal Public Health and INSPQ
Associate Professor, Epidemiology and Biostatistics, McGill University
President and Board Chair, International Society for Disease Surveillance
ONC Query Health Series, August 26th, 2011

The Hub Population Health System: Ad-Hoc Queries and Alerts

Jesse Singer DO, MPH
Michael D Buck, PhD

Primary Care Information Project
New York City Department of Health
and Mental Hygiene &
NYC Regional Extension Center

jsinger@health.nyc.gov
mbuck@health.nyc.gov

August 25, 2011

NYC Primary Care Information Project

Primary Care Information Project | 0

hQuery

The MITRE Corporation

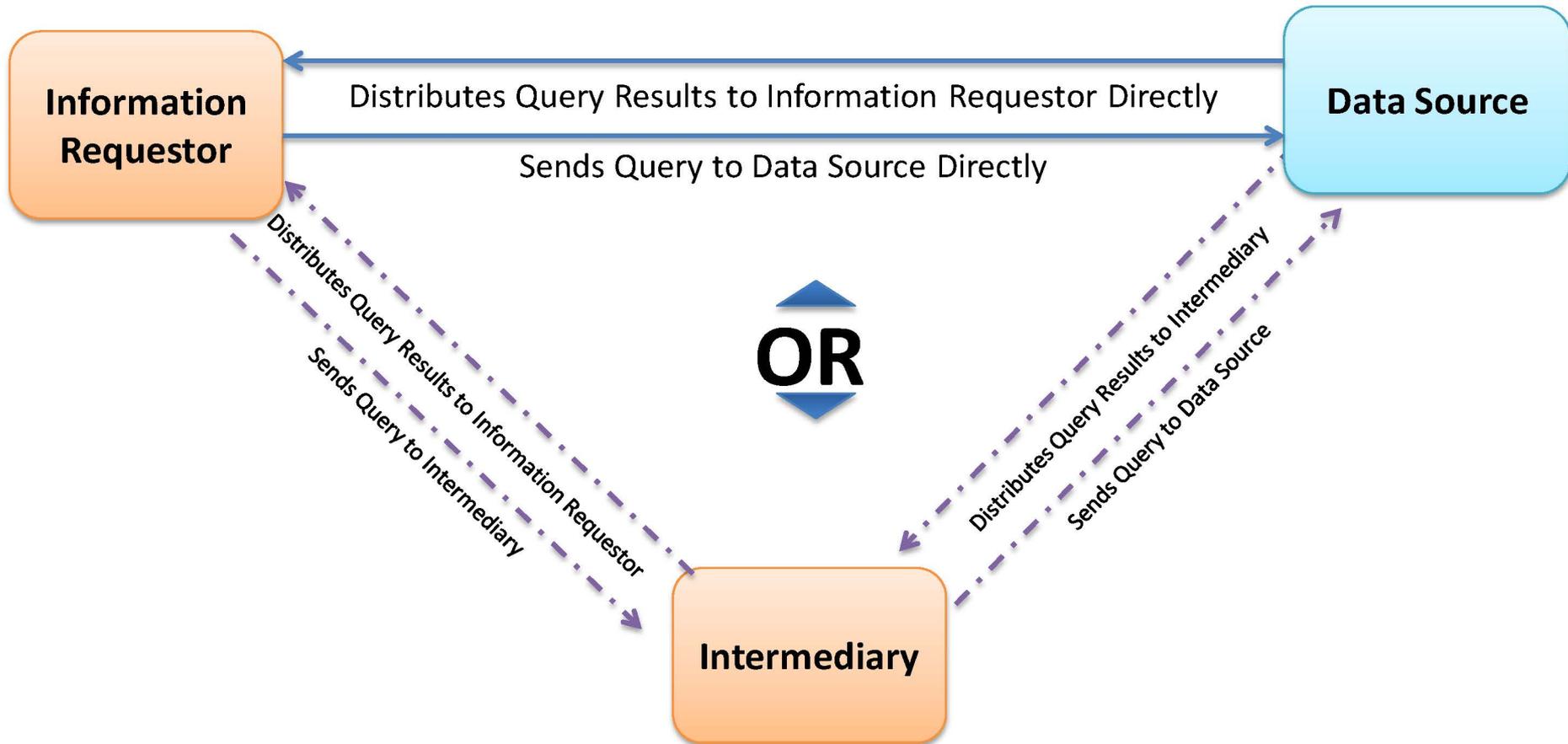
Andrew Gregorowicz
August 8th, 2011



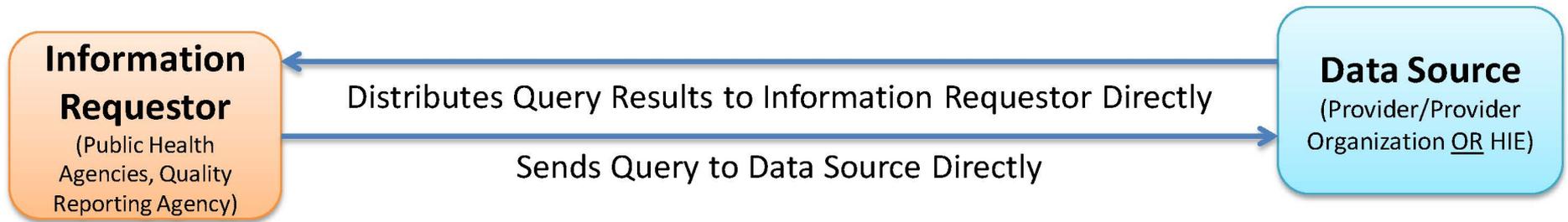
MITRE

- Focus on the clinical record (e.g., EHRs, HIEs, payer clinical repositories, PHR, etc.)
- User stories
 - Generic – for general distributed queries, to lay a requirements-driven foundation
 - Expanded Analysis – for the pilots, specific to an outpatient setting, distributed query of clustered metrics related to diabetes

Generic User Story in Action

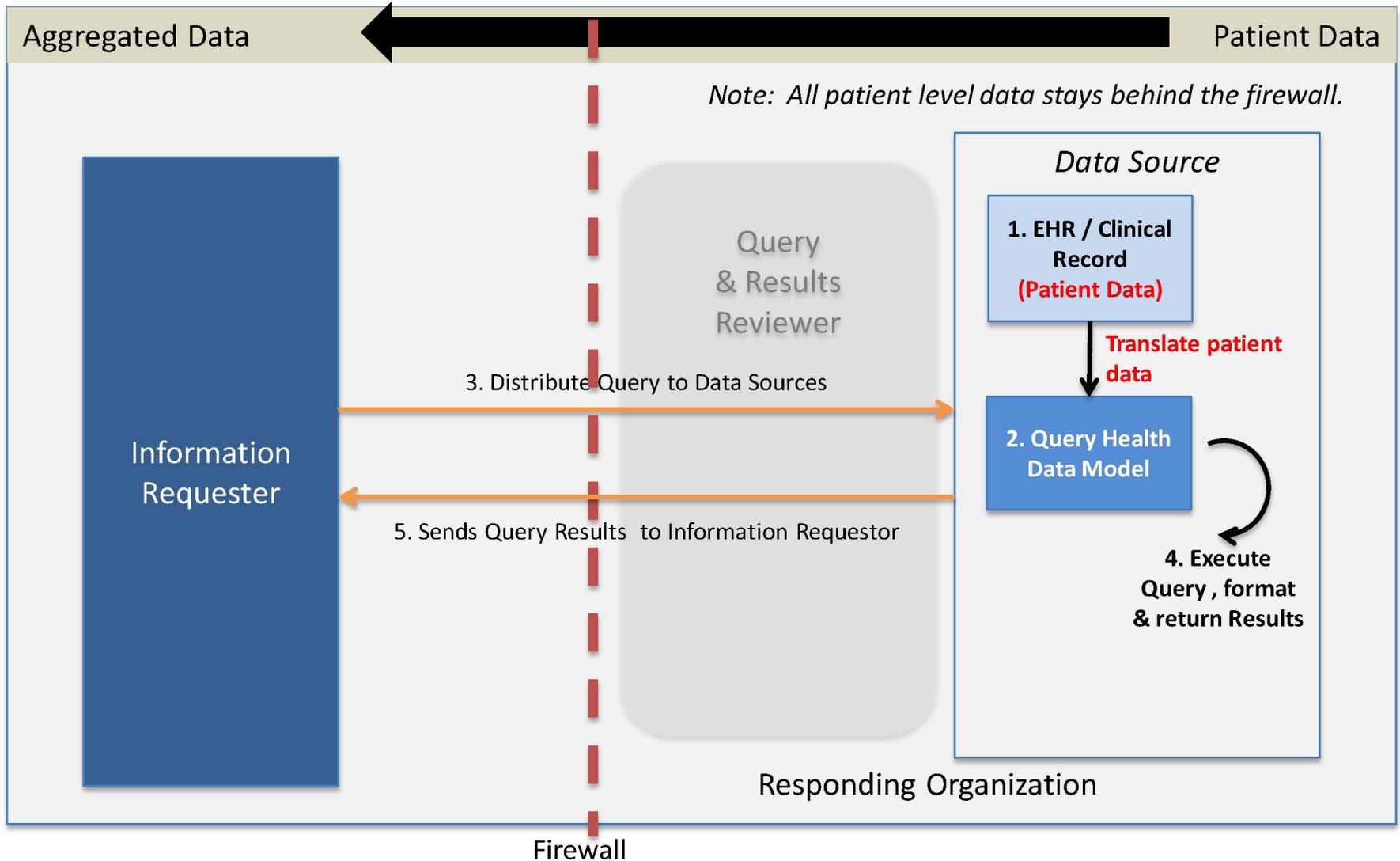


Expanded Analysis in Action



Expanded Analysis User Story

Context Diagram



Expanded Analysis Example Result Set

Example Result Set

Query Result for Provider X (where X is each reporting provider):	Total	Gender		Age Range			Zip Code			Setting			Encounter Type	Race	Ethnicity	Insurance Coverage
		Male	Female	<18	18 - 64	≥65	10021	10031	10041	Inpatient	Outpatient	ED				
For specified time frame: (MM-DD-YYYY - MM-DD-YYYY)												
Numerator Counts																
Risk Score																
0-1																
2-3																
4-5																
6-7																
HbA1c > 9.0%																
Blood Pressure ≥ 140/90 mm Hg																
LDL ≥ 130 mg/dl																
Microalbumin > 30 microgram/mg Creatine																
BMI ≥ 25 kg/m ²																
Smoking Status																
Foot Examination																
Eye Examination																
Medication - Statin																
Medication - Aspirin																
Medication - Ace Inhibitor/ARB																
Denominator Counts																
Diagnosis of Diabetes																
Type I																
Type II																
And all Risks Scores																
And Hb A1c Result																
And BP Reading																
And LDL Result																
And Microalbumin																
And BMI																
And Medications																

- Functional requirements to establish clinically-focused information for queries drive extensions to S&I Framework CEDD
 - What questions would researchers and clinicians ask and how do we ensure that information is represented in a data model?
- Leveraging distributed query best practices to extend current CEDD efforts
 - Don't create anew, leverage what exists in innovative ways to advance interoperability

- Starting point for S&I Framework CEDD:

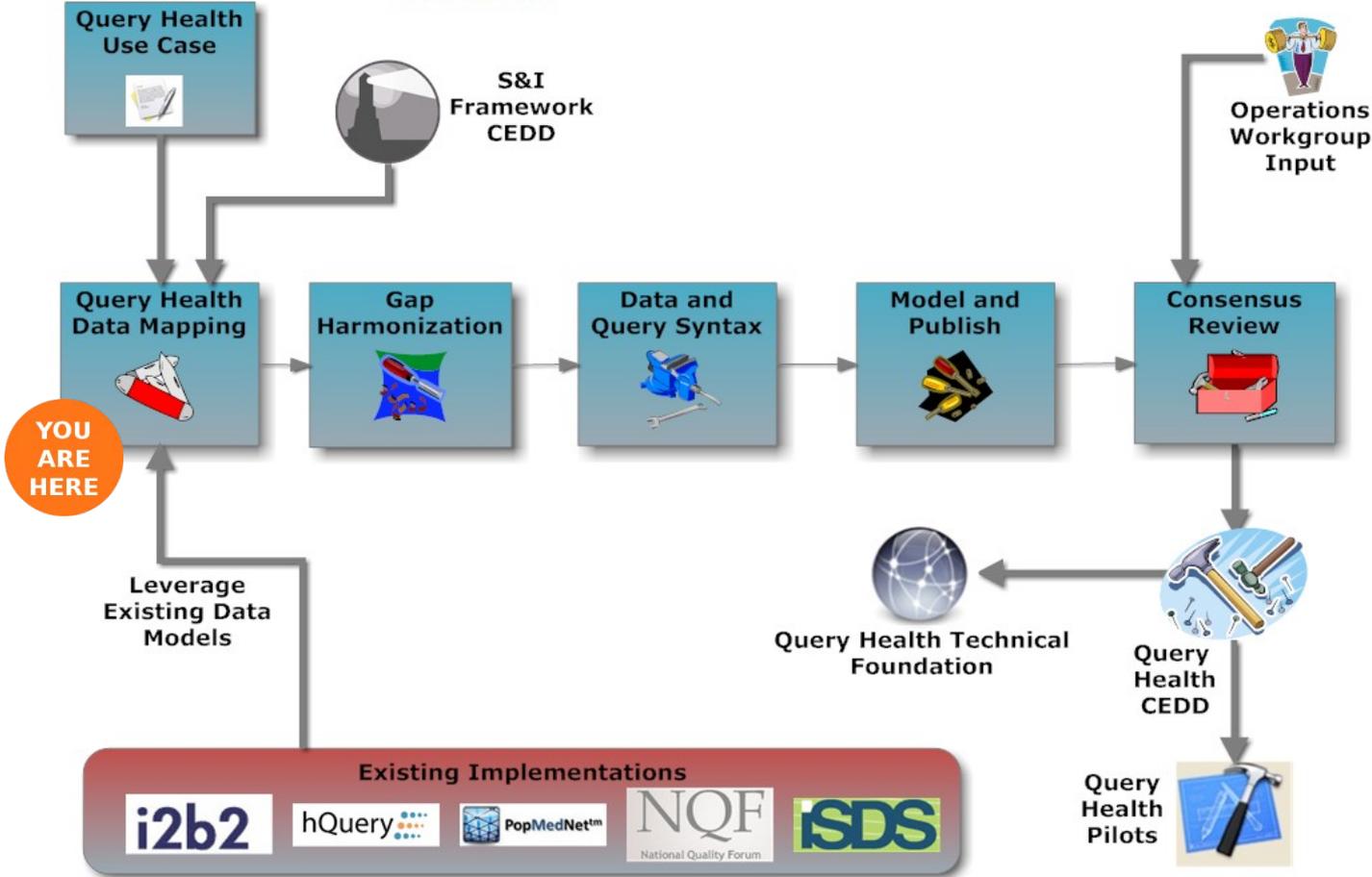
<http://wiki.siframework.org/S%26I+Framework+CEDD+Overview>

- Starting point for Query Health CEDD:

<http://wiki.siframework.org/Query+Health+Clinical+Element+Data+Dictionary+%28CEDD%29>

Development of Query Health CEDD

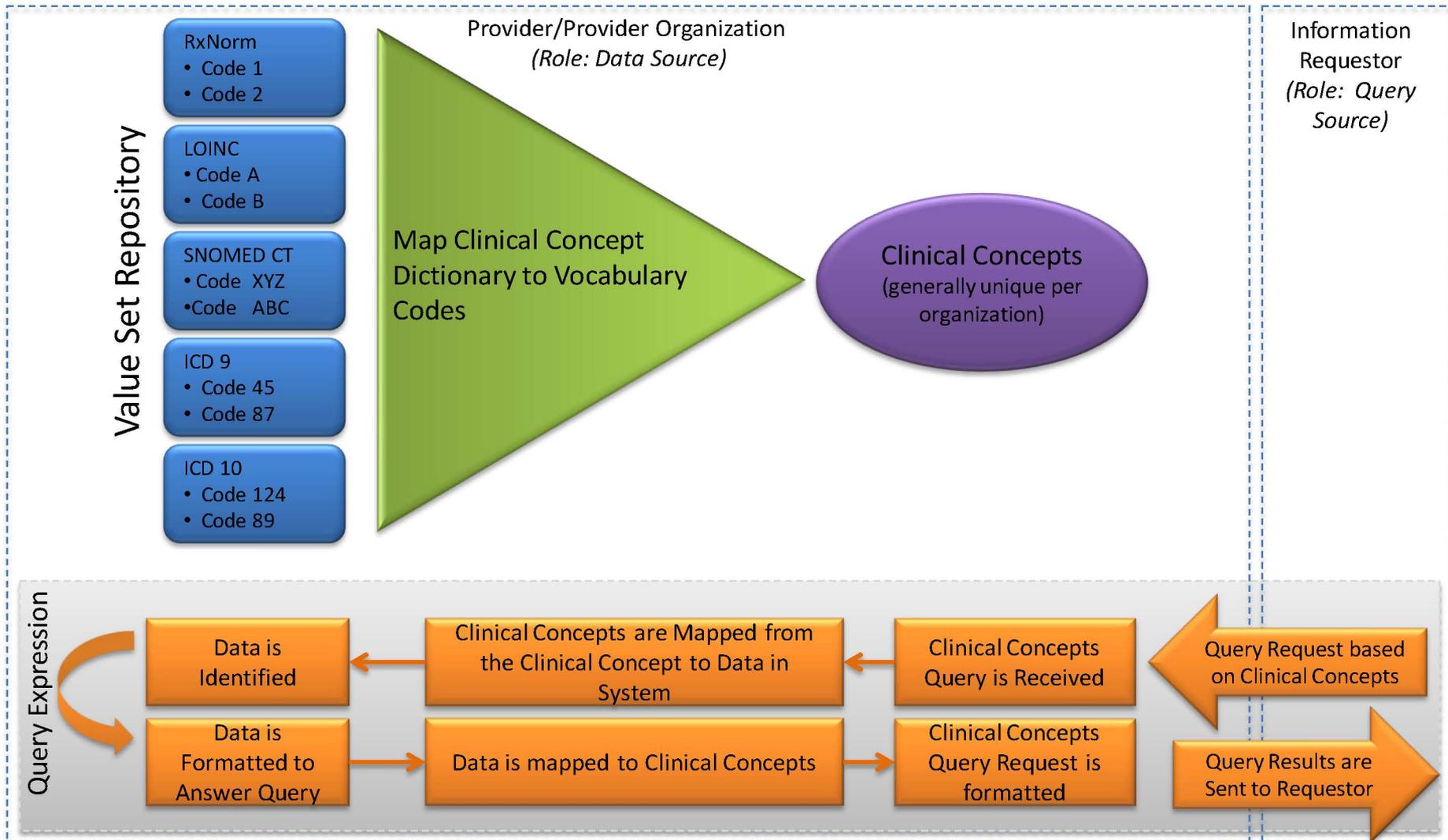
S&I FRAMEWORK Developing a Query Health CEDD



Key Building Blocks for the Query Health CEDD

- Personal Information
- Demographic Information
- Contact Information
- Insurance Information
- Healthcare Provider
- Allergies
- Other Adverse Reactions
- Problem List
- History of Past Illness
- Chief Complaint
- Reason for Transfer
- History of Present Illness
- List of Surgeries
- Hospital Admission
Diagnosis
- Discharge Diagnosis
- Medications
- Admission Medications
History
- Hospital Discharge
Medications
- Medications Administered
- Advance Directives
- Pregnancy
- Immunizations
- Physical Examination
- Vital Signs
- Review of Systems
- Hospital Course
- Diagnostic Results
- Assessment and Plan
- Plan of Care
- Family History
- Social History
- Encounters
- Medical Equipment
- Preoperative Diagnosis
- Postoperative Diagnosis
- Surgery Description
- Surgical Operation Note
Findings
- Complications Section
- Operative Note Surgical
Procedure
- Procedures
- Diagnosis Code
- Laboratory Results
- Security Information
- Care Setting
- Facility Information
- Entity Information
- Functional Status

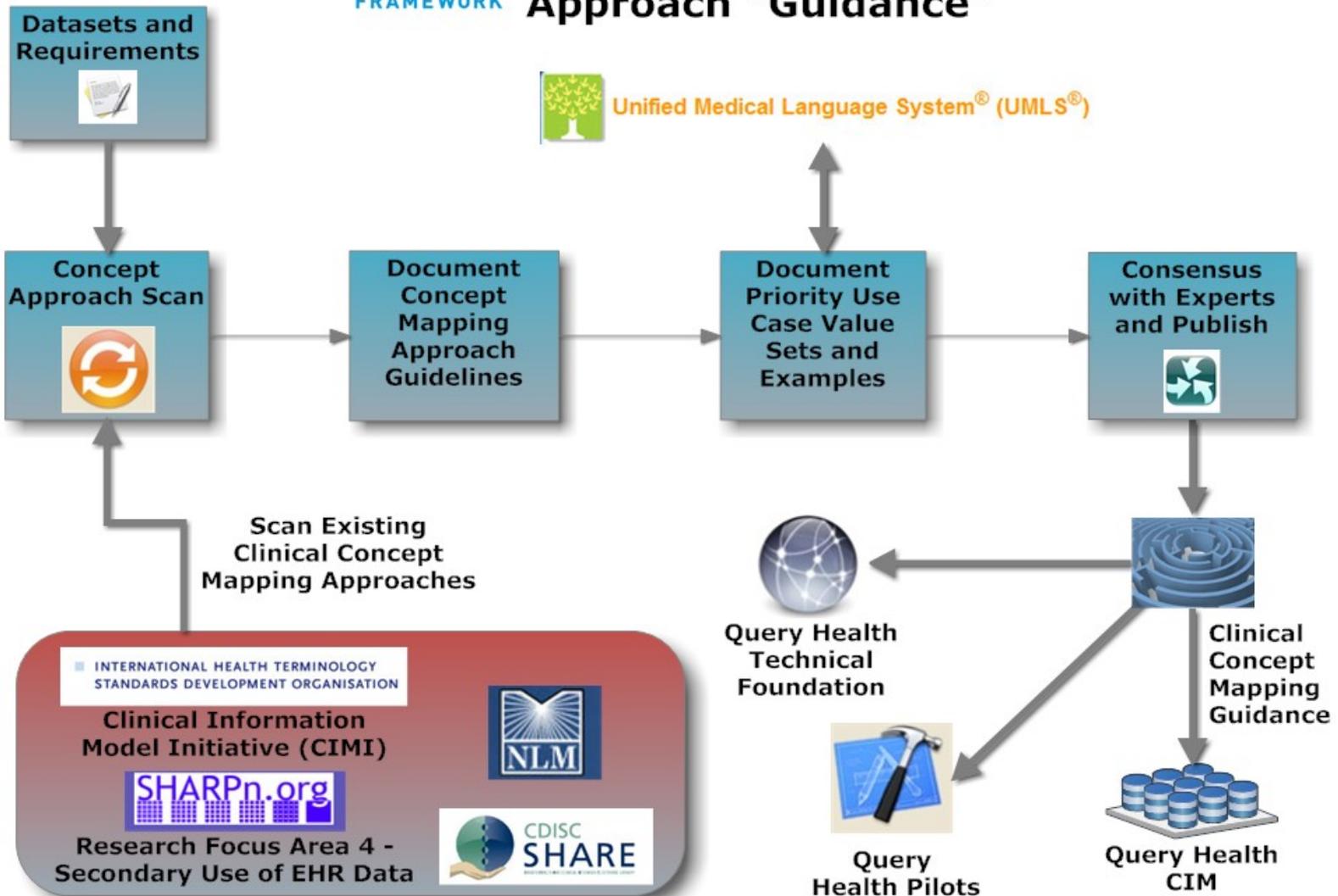
Clinical Concept Mapping

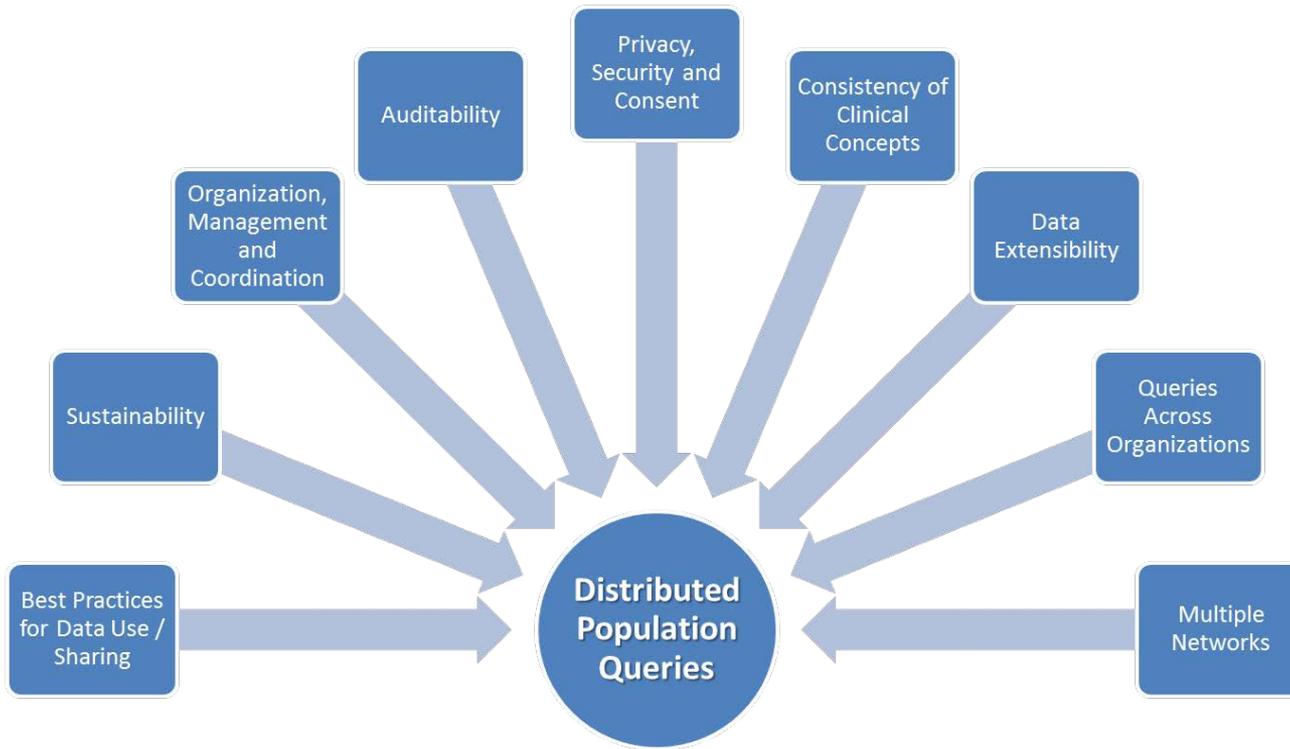


Concept Mapping Approach



Developing Clinical Concept Mapping Approach "Guidance"





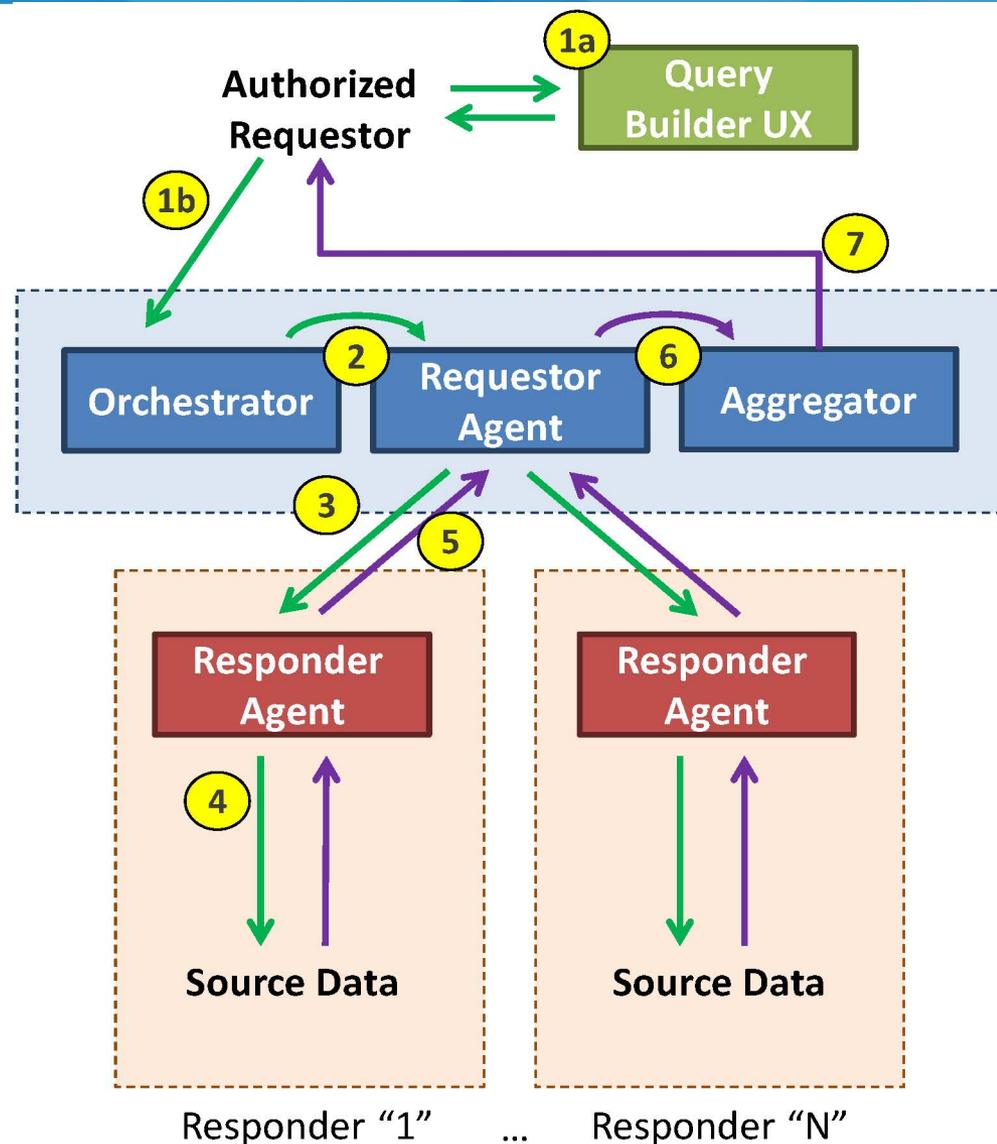
“The hardest part of distributed queries isn’t the technology, it’s the policy and governance”
-- From several distributed query practitioners

- **Control of data disclosures by data holder**
 - Whether to run a query
 - Whether to release any results
- **Data being disclosed**
 - Aggregated de-identified data sets or aggregated limited data sets, each with data use agreements (even in circumstances where they are not required by law), or
 - Public health permitted use under state or federal law providing the minimally necessary and permitted information (which may include identifiable information where permitted by law).

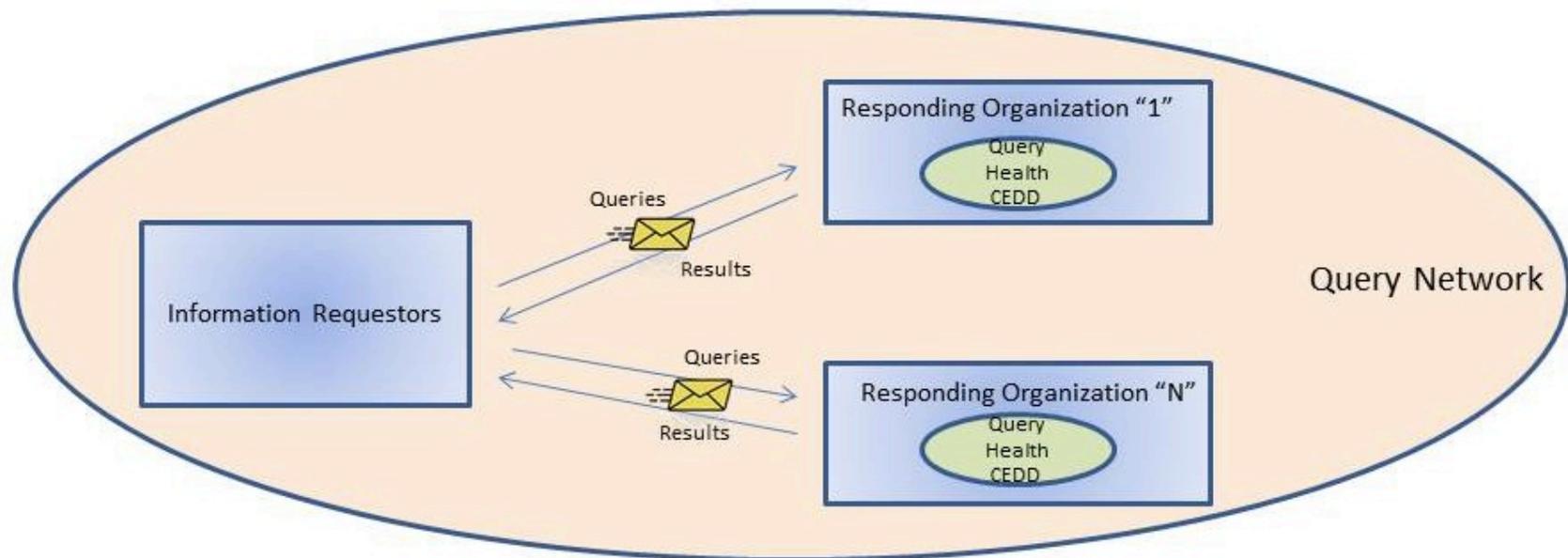
- **Data Use Agreement:**
 - No re-identification
 - Clarity of purpose (permissible uses)
- **Small cells:**
 - Cells with less than 5 observations in a cell shall be blurred by methods that reduce the accuracy of the information provided.
 - Exception for regulated / permitted use
 - (The CDC-CSTE Intergovernmental Data Release Guidelines Working Group has recommended limiting cell size to three counts presuming a sufficiently large population; this is also reflected in guidelines used by several states.)

Abstract Model - Query Lifecycle

1. Requestor optionally uses a **query builder user interface** to create a **query** and submits it to their dedicated **orchestrator**.
2. The orchestrator determines at what time and frequency the query should run (one time, monthly, etc.) and submits the query when appropriate to its **requestor agent**.
3. Requestor agent submits the query over the Internet to each participating organization's **responder agent** and awaits responses. Responder agents may provide a number of services: additional authorization, manual review, etc.
4. The responder agent calculates **site results** using the appropriate data sources.
5. The responder agent returns site results to the appropriate requestor agent.
6. The requestor agent returns site results to the **aggregator** that combines site results into **combined results**
7. The aggregator makes interim and final results available to the requestor.



Note: All communication between Requestors and Responders are asynchronous.



Four Areas targeted for standardization to promote interoperability

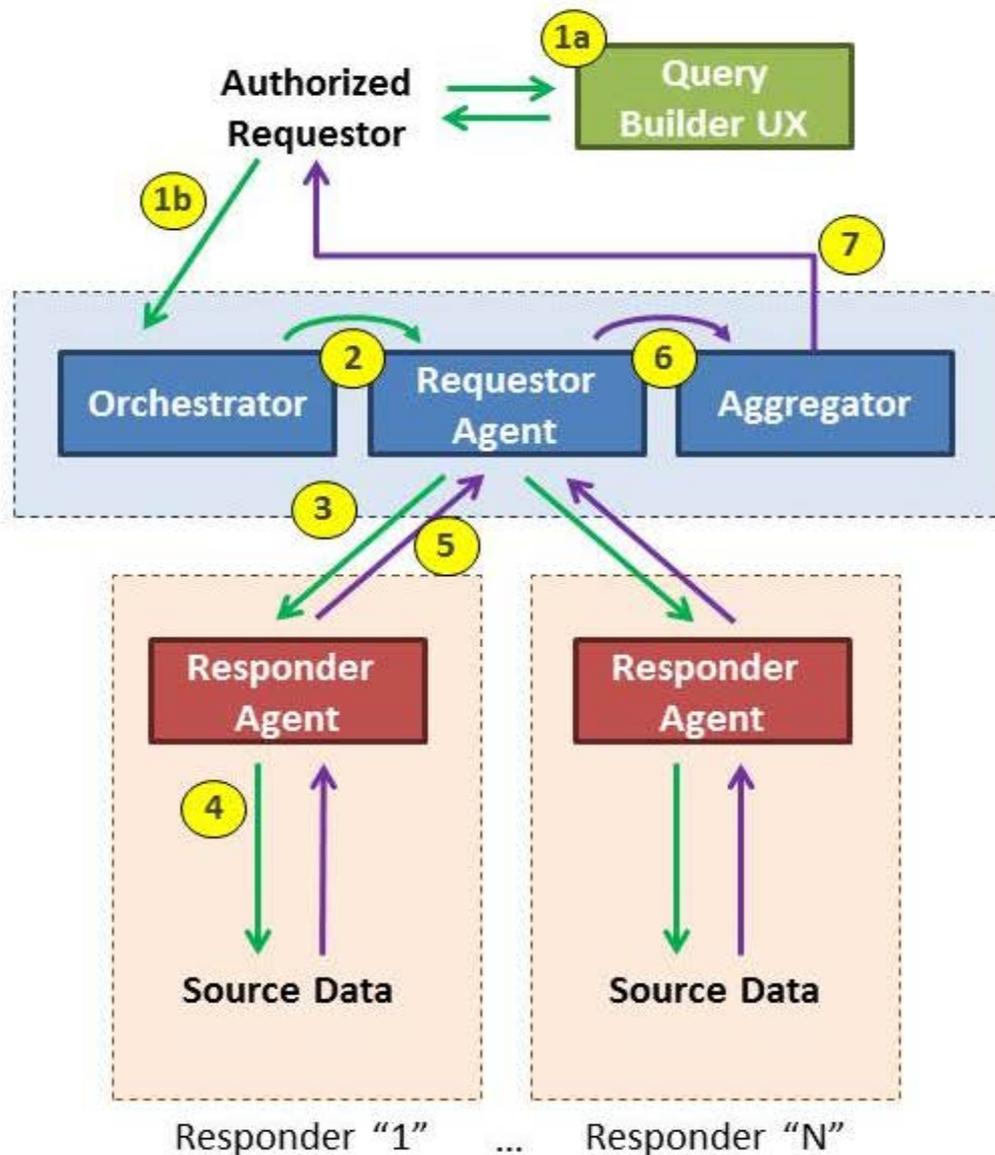
1. Query Envelope to package queries, results of different formats along with the metadata required for security and policy enforcement.
2. Query Format to express queries in a declarative format
3. Results Format to express results in a declarative format
4. Common Data element definitions that facilitate queries across organizations

<http://wiki.siframework.org/Query+Health+Technical+Approach>

Query Health Specifications and Standards

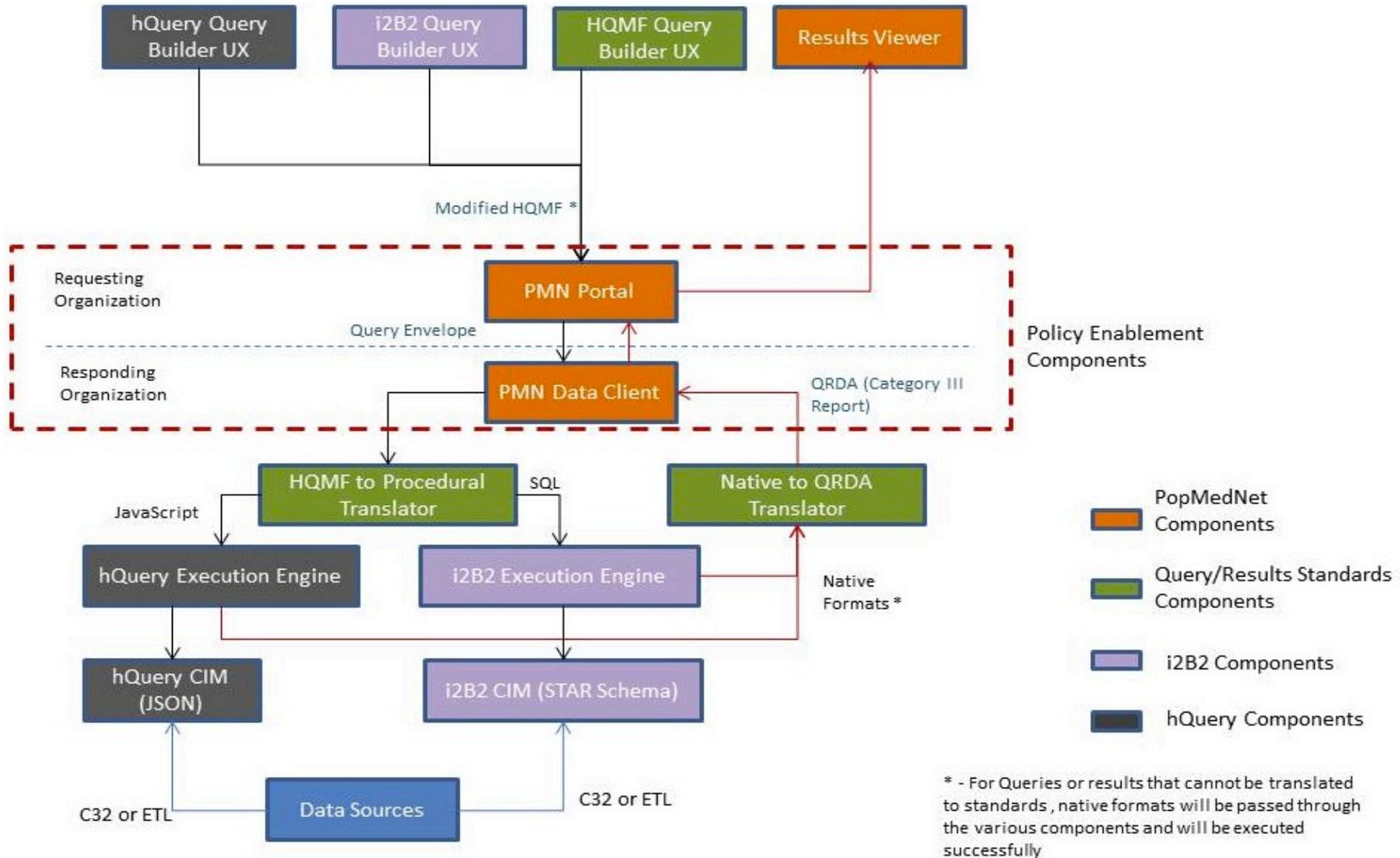
Specifications	Purpose	Standards or Proven Approaches selected to create the specifications	Rationale
Query Envelope	Required to package queries, results and associated metadata in an interoperable manner	PopMedNet QueryEnvelope	The Query Envelope allows a generic way to package queries and results and is agnostic to the actual query or results and their formats. In addition the envelope carries the required metadata to enforce the Query Health security and policy sandbox requirements.
Query Format	Required to promote interoperability among the various query network participants within and across query networks	Modified version of HQMF * * - The existing standard has to be modified for Query Health purposes.	The HQMF standard allows for expressing a large majority of queries related to Meaningful Use, ACO related queries, Comparative effectiveness, Population measures and basic research related queries. In addition it allows for Queries to be represented in a declarative fashion independent of the implementation language. For Queries which cannot be represented using HQMF the Query Health Reference Implementation will provide native format options to express queries.
Results Format	Required to promote interoperability among the various query network participants within and across query networks	QRDA ** - Currently only Category III Report is being considered for results representation. ** - The existing standard will have to be analyzed further before finalizing.	The QRDA Category III report allows for returning aggregate or summary level results that will be useful too report results for Meaningful Use, ACO, Comparative effectiveness results and many basic research results related to populations. In addition it allows for Results to be represented in a declarative fashion independent of the implementation language. For Results which cannot be represented using QRDA the Query Health Reference Implementation will provide other options based on MIME Types.
Data Element Specification	Required to create executable queries and promote common data definitions between information requestors and responding organizations	The Data Element Specification will be created as part of the Query Health Initiative based on sections in C32. Only the data elements are leveraged not CDA constructs.	The Query Data Definitions will allow query composers to know what data exists for queries and also allows for a common definition of the data across organizations. The C32 sections were chosen as a source to identify the data elements since it is supported by a large majority of EMR's.

Mapping between Abstract Model and Specifications



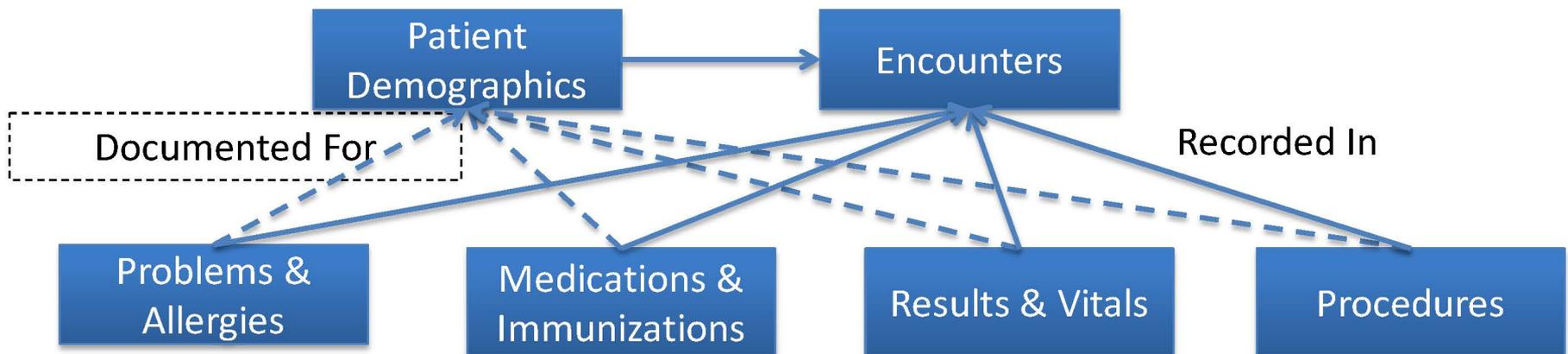
Interaction	Applicable Query Health Specification
1a – Query Construction	Data Element Specification
1b – Query Submission to Orchestrator	Query Format Specification
2 – Query Handoff to Requestor Agent	None.
3 – Query Distribution	Query Envelope Specification, Query Format Specification
4 – Query Execution	Data Element Specification
5 – Return Site Results	Query Envelope Specification, Result Format Specification
6 – Results handoff to Aggregator	None
7 – Results returned to the Requestor	Result Format Specification

Reference Implementation Top Level Components



Health Quality Measure Format Independent of Implementation Data Model

- Declarative Format
- Simple Information Model
 - Patient Demographics (Age, Gender, DOB, Race, Ethnicity, Location)
 - Problems, Allergies, Results/Vitals, Medications & Immunizations, Procedures and Encounters

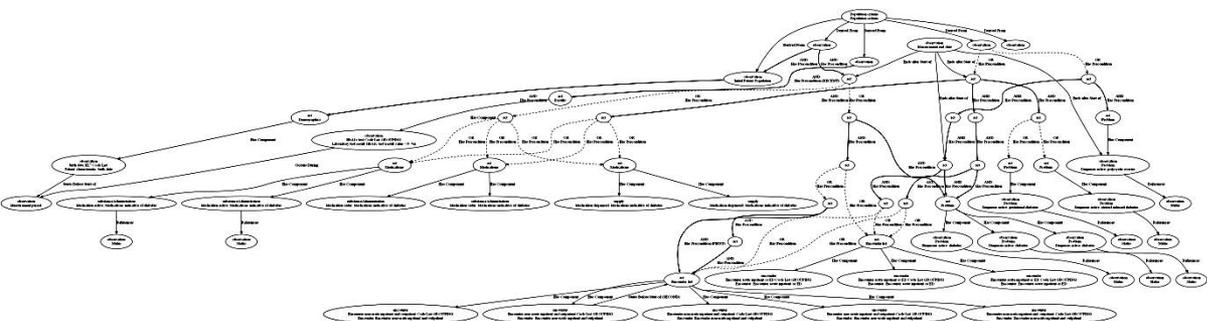


Health Quality Measure Format Independent of Implementation/Platform Choices

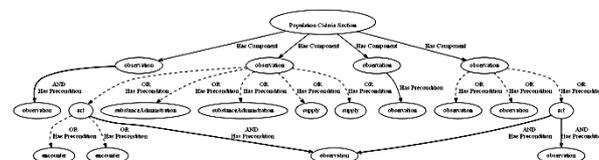
- Independent of Data Storage Model
 - Collections of CCD Documents
 - Clinical Data Repository (e.g., I2B2/SQL Data Models)
 - Data Objects (e.g., hQuery JavaScript Objects)
- Independent from Implementation (Execution) Model
 - SQL Query
 - Procedural Query using JavaScript
 - XQuery over Collection of Documents
- Independent of Vocabulary/Ontology
 - Expresses Concepts in Value Sets
 - Can be mapped to local vocabulary

Health Quality Measure Format Simplification Opportunities

- Using Business Names
 - Reductions: 30% File Size, 10% Line Count
 - Simply using business names provides a great deal of “readability” in the specifications and should be adopted in the next release of HQMF.
- “Greening”
 - Reductions: 65% File Size, 55% Line Count
 - Longer term restructuring of XML should be undertaken as a longer term project aligned with other greening efforts



NQF Measure 59 created using the Measure Authoring Tool.



NQF Measure 59 hand-crafted with the same semantics.

- The two images above demonstrate the impacts of different implementation guidance on the structure of a query created to identify the same set of patients.
- Appropriate implementation guidance will avoid unnecessary complexity in the representation.

- Define amendments to simplify HQMF
- Develop implementation guidance for Query Health use of HQMF

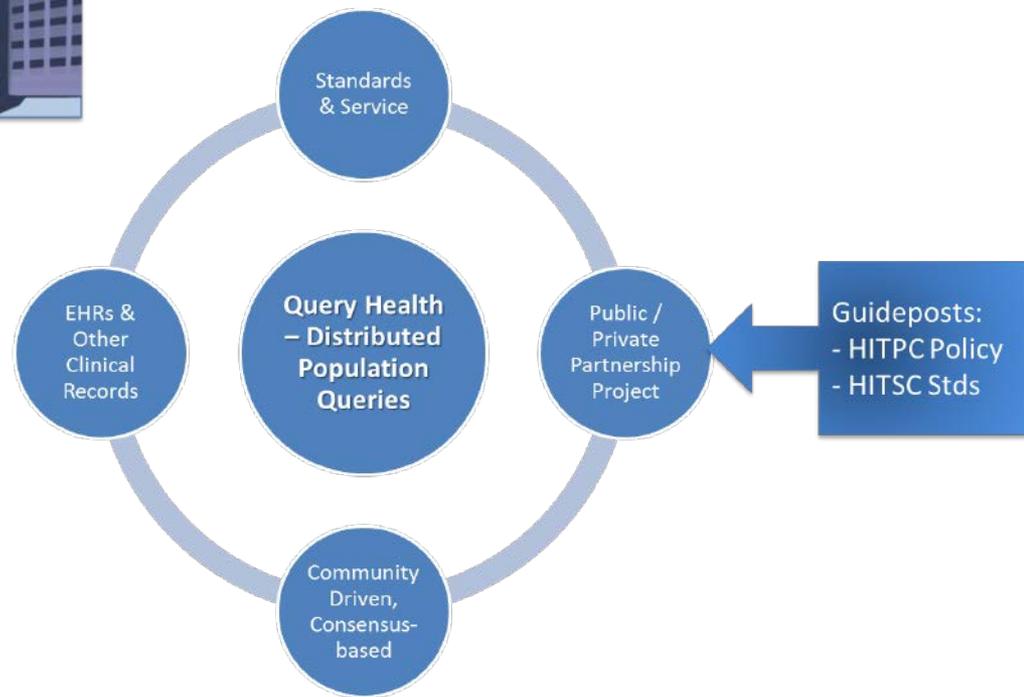


Query Health Recap



Clinical Information

Clinical Information



Update on other S&I Framework Initiatives

December 14, 2011

The S&I Framework currently includes seven initiatives focused on driving value through:

- development of standards, technical specifications, implementation guidance, and reusable tools
- empowerment and deep engagement of the community to build and leverage these deliverables to enhance the efficiency, quality, and efficacy of healthcare delivery



S&I Framework Initiatives Overview

Initiative (chronologically, by start date)	Value Created
Transitions of Care	Enables improved coordination of patient care by defining standardized content that enables electronic exchange of core clinical information among providers, patients, and other authorized entities in alignment with Meaningful Use
Laboratory Results Interface	Standardizes results reporting to ambulatory primary care, in support of Meaningful Use objectives for decision support, quality reporting, and transitions in care
Provider Directories	Provides a scalable, standardized solution to discover digital certificates, and an extensible model to query for electronic service information to facilitate health information exchange
Certificate Interoperability	Enables providers to electronically exchange and protect electronic health information created or maintained by certified EHR technology
Query Health	Focuses on establishing standards for distributed queries, which can increase the ability to understand macro health trends, proactively respond to disease outbreaks, understand the efficacy of drug treatments, and contribute to reduction of healthcare costs
Data Segmentation for Privacy	Enables the implementation and management of electronic health information exchange disclosure policies allowing providers to share specific portions of an electronic medical record
esMD	Gives providers a new mechanism for submitting medical documentation to Medicare Review Contractors

Transitions of Care Initiative: Focus Area & Challenges

Focus Area:

The Transitions of Care (ToC) Initiative is focused on improving the electronic exchange of core clinical information among providers, patients, and other authorized entities in support of Meaningful Use and IOM-identified needs for improvement in the quality of care. Our focus is on providing clear, unambiguous, and implementable standards and implementation guidance for care transitions.

Transitions of Care Initiative: Forward-Looking Deliverables

Current Work Products

Key Clinical Constructs

Mapping of CEDD to ConsolidatedCDA for each care transition scenario

Clinical Element Data Dictionary

Clinically-oriented definitions of data elements for care transitions

ConsolidatedCDA

Single repository of harmonized CDA templates

Proposed Future Outputs

ToC "How To" Guide

Implementer-friendly description of how clinical content is to be encoded through Consolidated CDA

Incorporation of CEDD into CIM

Incorporate the data definitions into a Clinical Information Model

greenCDA

Simplified, business-friendly XML on the wire

Potential Value

Enable implementers without a detailed knowledge of CDA to successfully enable semantic interoperability

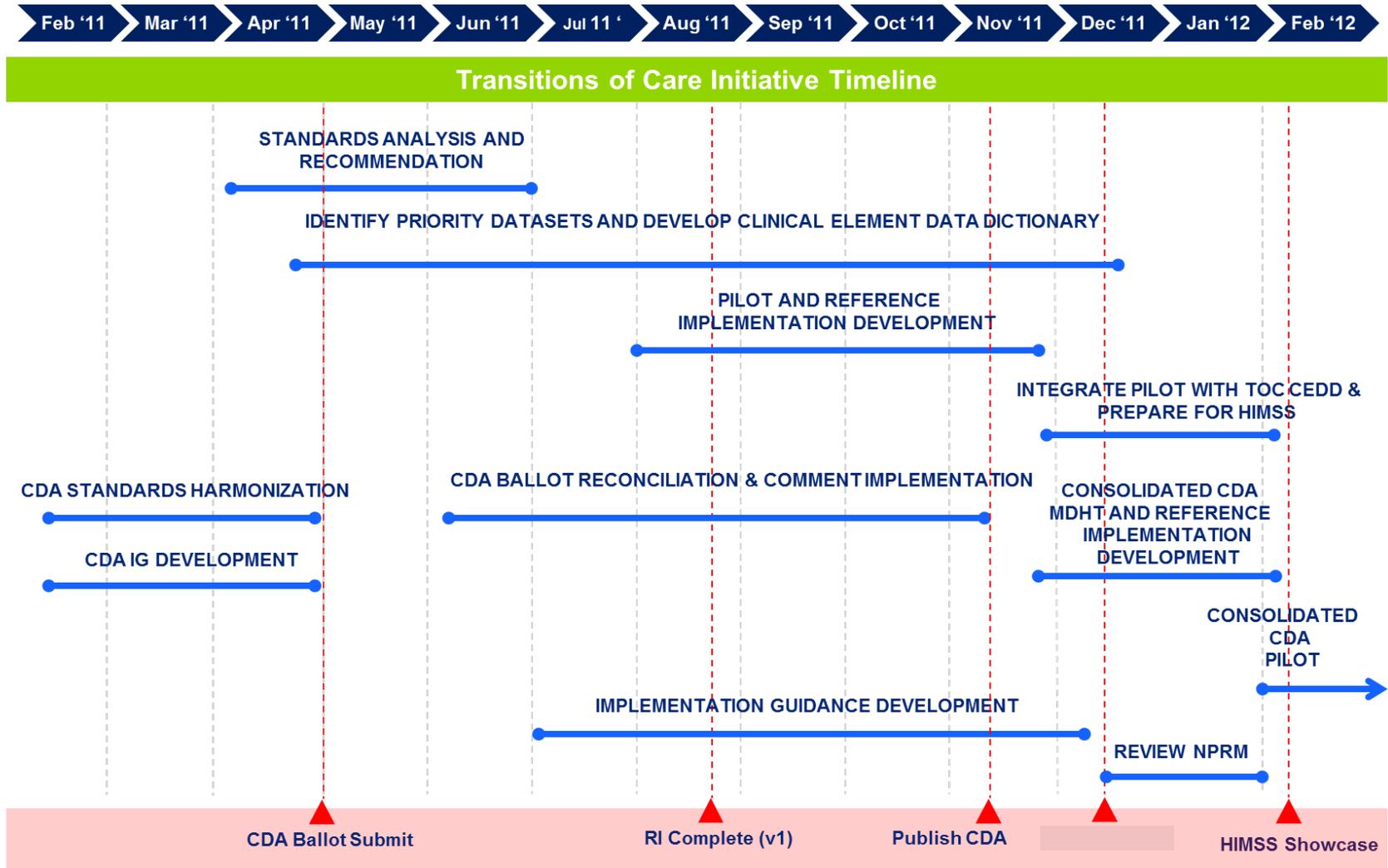
Higher longevity and greater detail enabled by a more robust, broadly used representation of the data

Narrows the gap between business/clinical and technical representation of care transitions data

Transitions of Care Initiative: Differentiated Value

- Engaged a broad community spanning clinicians through technology vendors to develop clinically-defined data elements → high level of clinical involvement
- Agreement across the industry to use a single standard (CDA) to strengthen and support MU criteria for inclusion of an interoperable clinical summary in all transitions
- Provides a foundation for re-use for outstanding national health IT needs, e.g., initiatives such as Query Health (CEDD) and Data Segmentation for Privacy (functional requirements)
- Delivering technical resources, such as Java API, sample code, and validation tools to guide implementations and reduce ambiguity

Transitions of Care Initiative: Timeline



Laboratory Results Interface Initiative: Focus Area and Challenges

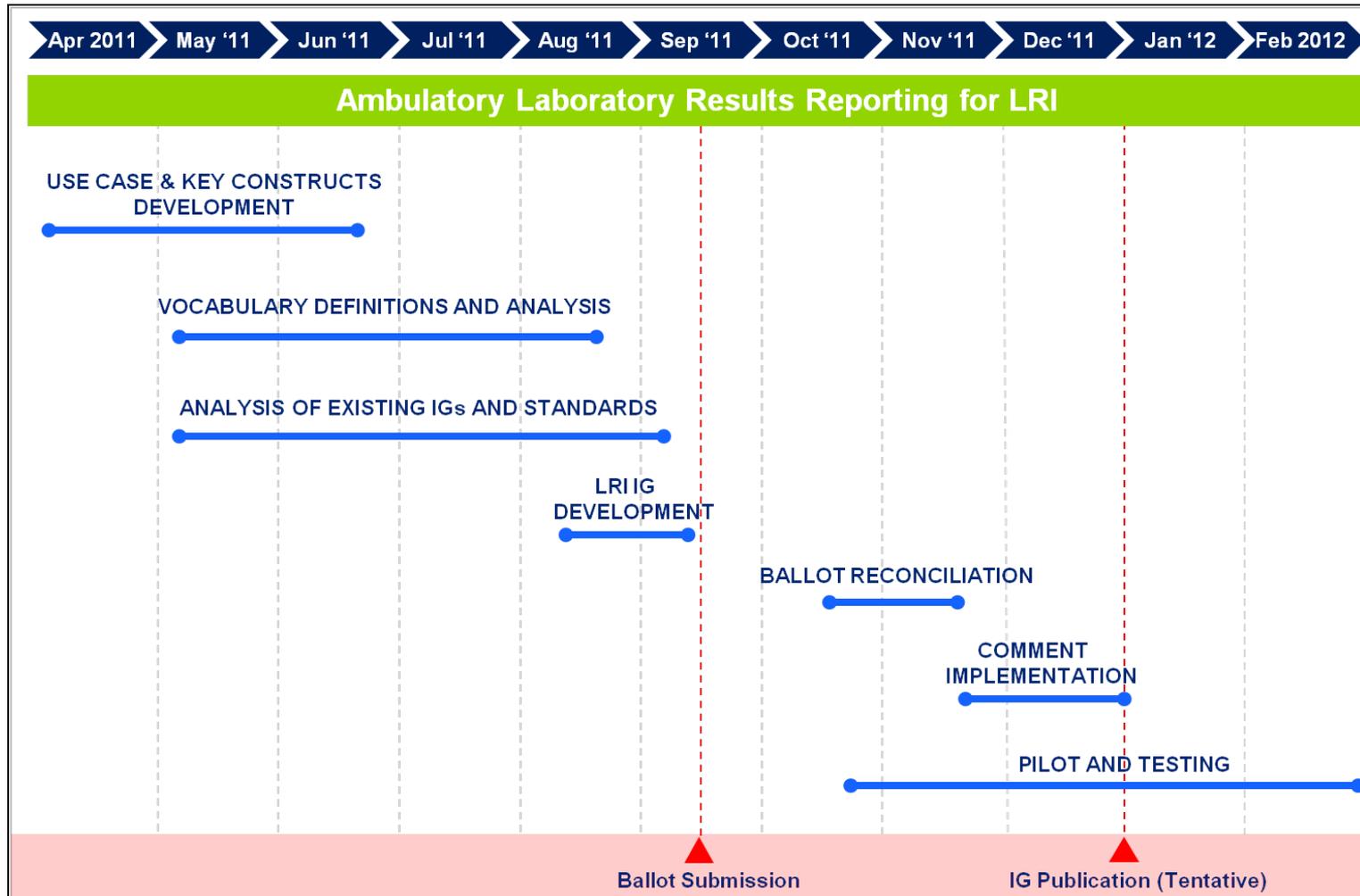
Focus Area:

The Laboratory Results Interface (LRI) Initiative aims to standardize results reporting to ambulatory primary care, in support of Meaningful Use objectives for decision support, quality reporting, transitions in care, and electronic copies of clinical summaries and Discharge Instructions. The Initiative enables results reporting between a laboratory information system and an ambulatory EHR system in different organizational entities, including incorporation of lab results into EHRs as structured data.

Challenges:

- Too many options for laboratory result interfaces result in point-to-point agreements
- Multiple message formats in multiple guides:
 - Variety of “flavors” of HL7: 2.2, 2.3, 2.3.1, 2.5.1, etc.
- Non-standardized (and often non-electronic) custom formats
 - Uneven usage of vocabulary & code sets, e.g., LOINC, SNOMED, etc.
- Differing clinical workflows and levels of EHR/LIS adoption

Laboratory Results Interface Initiative Timeline



Laboratory Results Interface Initiative: Differentiated Value

- Engaged a broad and diverse community - including Clinical Laboratories, EHR Vendors and Public Health experts - on a neutral platform that enabled productive discussion
- Agreement across the industry to use a standard (HL7 2.5.1) and single implementation guide (LRI) to drive down the cost and time required to implement a laboratory results interfaces
- Final standard implementation guide bootstraps on existing investments made across the industry, enabled by broad input
- Provides a platform for aligning outstanding, related national health IT needs, particularly lab orders
- Delivering technical resources, such as Java API, sample code, and validation tools to guide implementations and reduce ambiguity
- Established a platform for testing and piloting of key elements of lab results exchange, including LOINC, SNOMED, UCUM and OIDs
- Provided a forum for defining “standardized structured data” for MU Stage 2

Provider Directories Initiative

Focus Area and Challenges

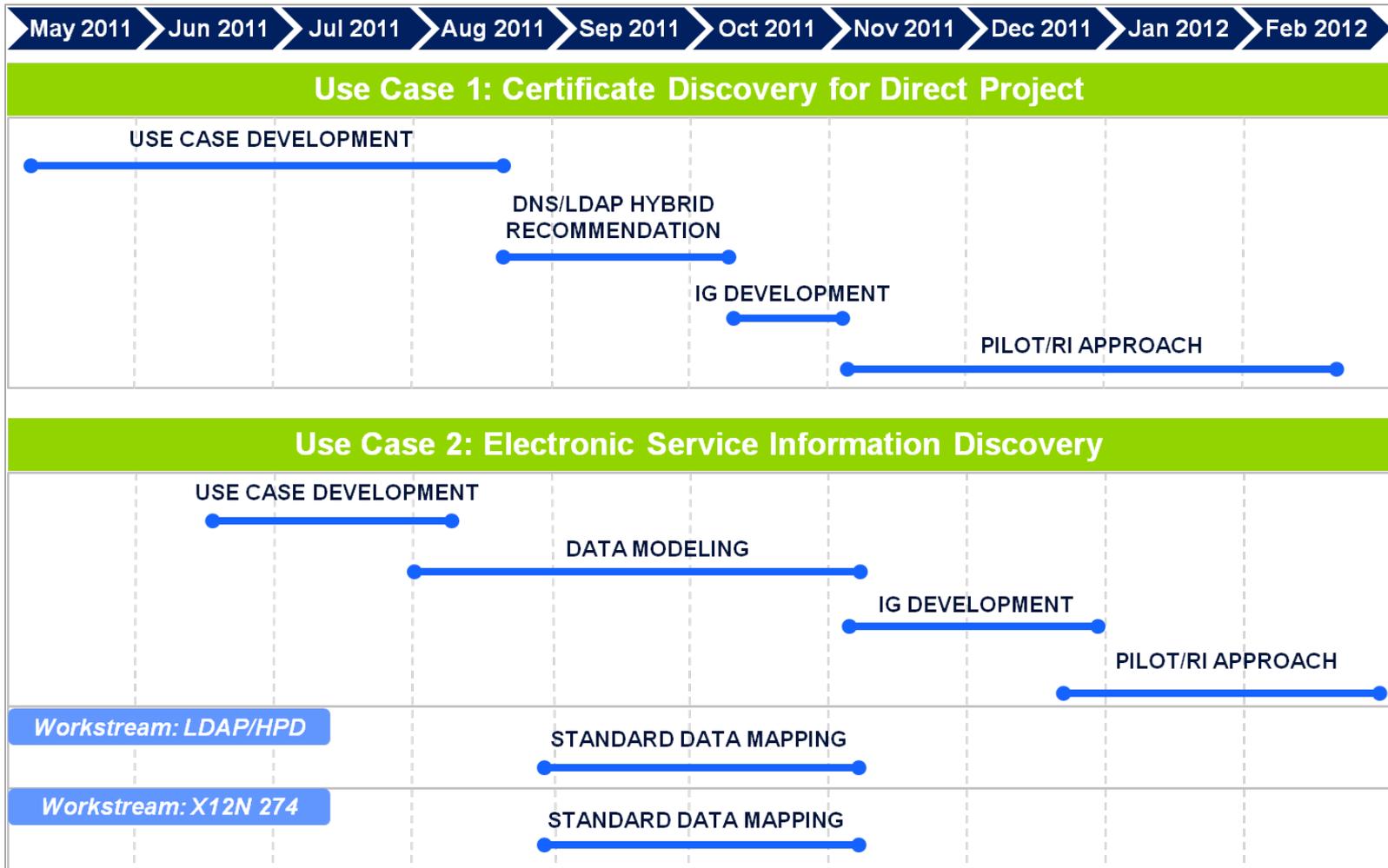
Focus Area:

Provide a scalable, standardized solution to discover digital certificates, and an extensible model to query for electronic service information to facilitate health information exchange.

Challenges:

- Broad set of issues with provider directories that can plausibly be tackled within the S&I Framework, and a motivated community aimed at solving these issues
- Projects implementing the Direct specifications needed a common, simple, and reliable mechanism for the retrieval of digital certificates. Two competing standards (LDAP and DNS) each have limitations that keep them from addressing requirements in all settings.
- Outside of the Direct environment there is a need to be able to discover the electronic service address, security policies, and types of exchanges supported by a provider or provider organization. There are no broadly adopted standards to support the query and retrieval of this information.
- Provider Directories are being implemented in support of Health Information Exchange. Implementers of these directories lack guidance on a basic set of data elements that should be incorporated into their directories to ensure that provider data can be queried and retrieved within and across communities.

Provider Directories Initiative: Timeline



Provider Directories Initiative: Differentiated Value

- Broad consensus on standards for the retrieval of digital certificates for Direct, including endorsement of existing guidance (DNS) and addition of complementary guidance (DNS/LDAP Hybrid)
- Forum where EHR vendors, State HIEs, health information service providers, and other mediators of exchange were able to define a use case-driven data model for the query and retrieval of electronic service information to facilitate broad-based exchange
- Repository of provider directory guidance relevant and broadly known to a wide variety of stakeholders who are not otherwise engaged in standards development, e.g., State HIEs
- Forum where provider directory implementers can provide feedback on data model and the standards available in the marketplace

Data Segmentation for Privacy: Focus Area and Challenges

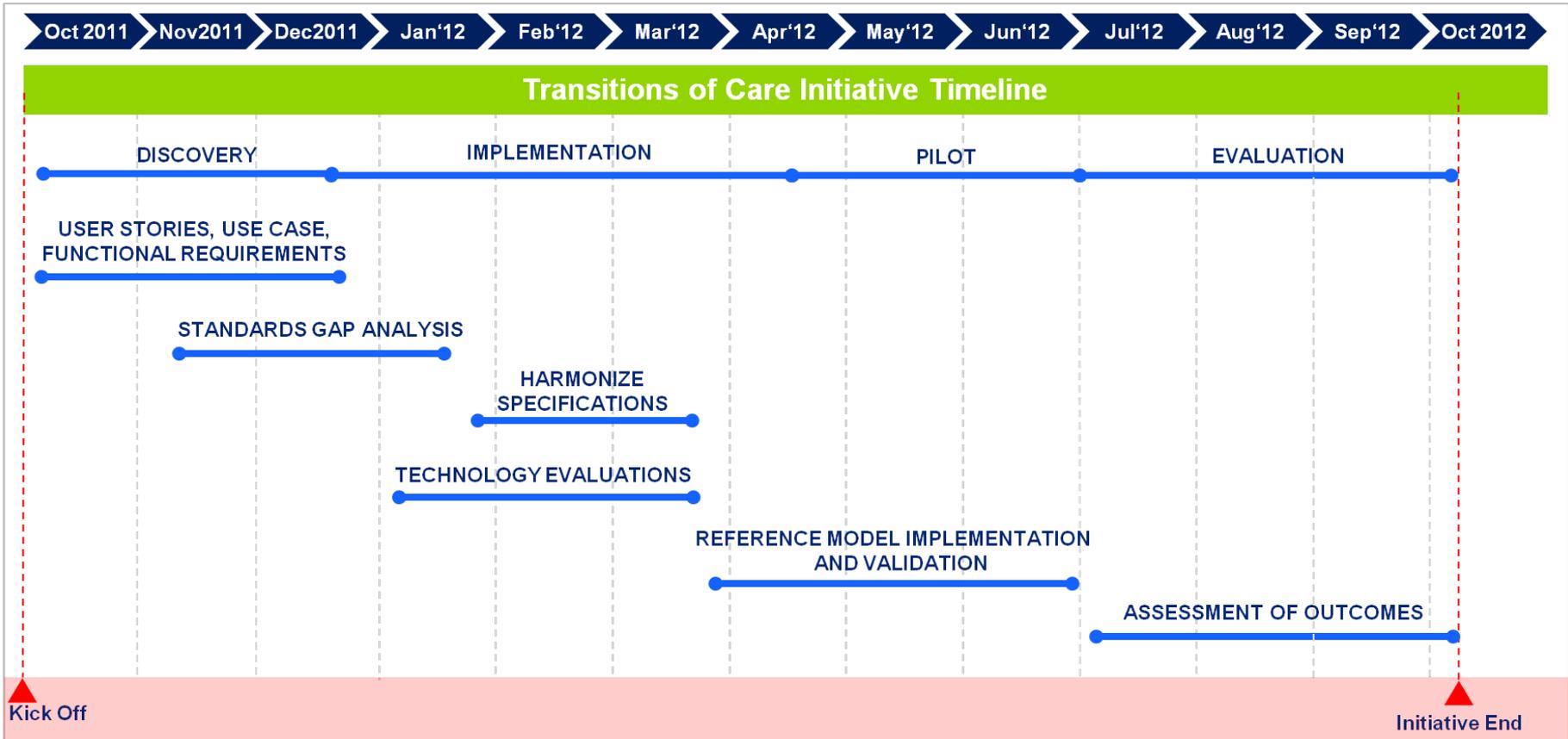
Focus Area:

The Data Segmentation (DS) Initiative enables the implementation and management of varying disclosure policies in an electronic health information exchange environment in an interoperable manner allowing providers to share specified portions of an electronic medical record while retaining others, such as information related to substance abuse treatment, which is given heightened protection under the law.

Challenges:

- New regulatory requirements will mandate that data related to alcohol and drug abuse treatment and data related to services paid directly by the patient place restrictions on disclosure without patient consent.
- Providers using electronic health records will need automated tools that will enable them to enforce restrictions on the sharing of this data.
- Currently there are no widely adopted standards to associate restrictions with specific data types or data elements and for managing changes to those restrictions.

Data Segmentation for Privacy: Timeline



Electronic Submission of Medical Documentation: Focus Area and Challenges

Focus Area:

The Electronic Submission of Medical Documentation (esMD) Initiative intends to give providers an electronic mechanism for submitting medical documentation to Medicare Review Contractors. This initiative is a collaboration between CMS and ONC, to leverage the expertise of the S&I Community to help CMS identify acceptable standards and solutions to support CMS requirements. A fundamental requirement for esMD is the ability to validate the authorship of medical documentation submitted to CMS; the successful application of this capability will be applicable to other federal agencies and payers as well. In addition, this initiative will require collaboration and input from external workgroups and other S&I Initiatives, and will allow ONC to test recent S&I Framework solutions in a real world setting.

Challenges:

Currently, Medicare Review Contractors request approximately 2 million medical documents per year by sending a paper request letter to the healthcare providers. These providers have only 2 options for submitting the requested records: 1) mail paper or 2) send a fax. Key challenges in implementing an electronic solution include:

- Establishing policy regarding signatures or proof of content authorship within structured content
- Identifying implementable solutions to prove authorship that minimize burden to providers
- Ensuring secure, trustable communications between CMS and providers
- Compliance with FISMA in sending PHI from CMS to providers

Electronic Submission of Medical Documentation: Summary of Benefits

The esMD Initiative solution will enable the electronic transmittal of documentation request letters from CMS Review contractors to providers, and the transmittal of relevant documentation from providers back to CMS contractors. In order to allow providers to receive requests and reply to them electronically, this Initiative will investigate and recommend requirements and standards relevant to:

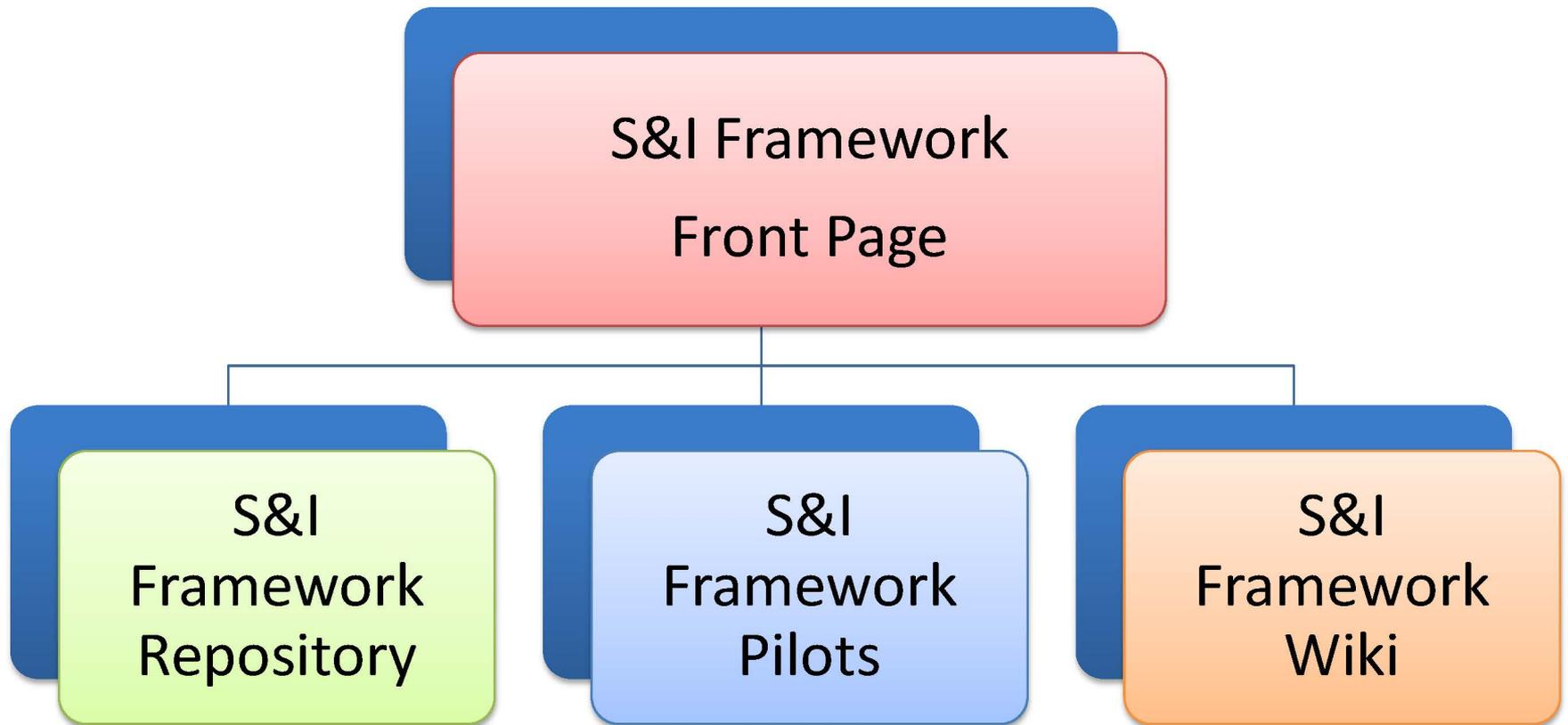
- Structured claims and clinical content for providers to submit to CMS
- Technical transport & authentication needs to allow CMS to identify and send requests to providers
- Proof of authorship of content within the EHR, and secured transmission to CMS, to validate who takes responsibility for the document
- Enables providers to send their documents electronically to CMS, saving time, money and resources in the auditing process
- Facilitates legal accountability of claims submissions
- Pre-defined, interested community that should minimize time to implement, adopt, and use by other communities, such as payers
- Encourages coordination between ONC and a federal partner to utilize the S&I framework
- Expands the health IT infrastructure to incorporate and validate digital signatures as part of structured documents

S&I Framework as a Platform



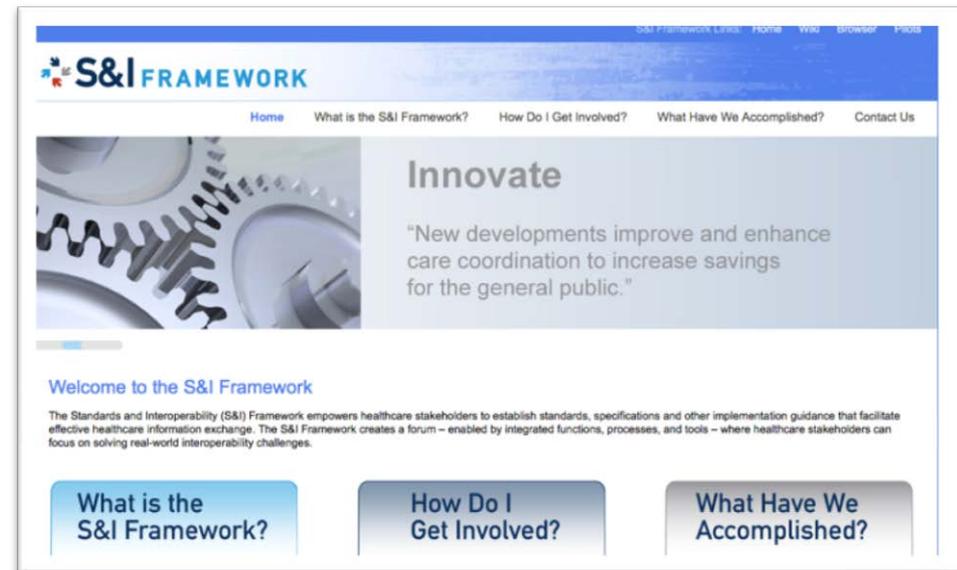
Asset	Audience	Value Created
Browser	<ul style="list-style-type: none"> • Analysts • Implementers 	<ul style="list-style-type: none"> • Repository of initiative artifacts that enables access, traceability, guidance and tooling to enable implementation and development
Coordinator Handbook	<ul style="list-style-type: none"> • New S&I Coordinators • Participants and observers aiming to understand the S&I Framework at an operational level • Organizations aiming to leverage or replicate the S&I Framework 	<ul style="list-style-type: none"> • Guidelines for running initiatives, focused on: <ul style="list-style-type: none"> • Tactical elements, e.g., how to best run workgroup meetings • Strategic elements, e.g., how the S&I Framework process creates a neutral environment for collaboration
Wiki, WWW, Pilots Site, etc	<ul style="list-style-type: none"> • Public 	<ul style="list-style-type: none"> • Tools for running new initiatives • Information on the process, participants, and output that can inform usage of platform and deliverables
Relationships	<ul style="list-style-type: none"> • ONC • SDOs 	<ul style="list-style-type: none"> • Relationships and goodwill developed through collaboration with FACAs, ONC, SDOs, and broader community

The S&I Framework Tools



The S&I Front Page

- Starting point for people interested in the S&I Framework.
- Provides a description of the S&I Framework and a brief description of each Initiative
- Streams latest S&I Framework News and Events
- Guides users to appropriate S&I Information Resources based on their roles



- Overview of current S&I Pilot Projects and their related initiatives
- Profiles of the organizations participating in Pilot projects
- Information on how to get involved

The screenshot shows the S&I Framework Pilots website. The header includes navigation links for Home, Wiki, Browser, and Pilots. The main content area features a map of the United States with red arrows indicating pilot locations. To the left of the map is a sidebar with filter options for different pilot categories. At the top right of the map area, there are statistics: Initiatives 3, Pilots 6, and Participants 15. The footer contains contact information: Contact Us: pilots@siframework.org.

S&I Framework Links: Home Wiki Browser Pilots

S&I FRAMEWORK PILOTS BETA Pilot

Home Pilots Participants FAQ

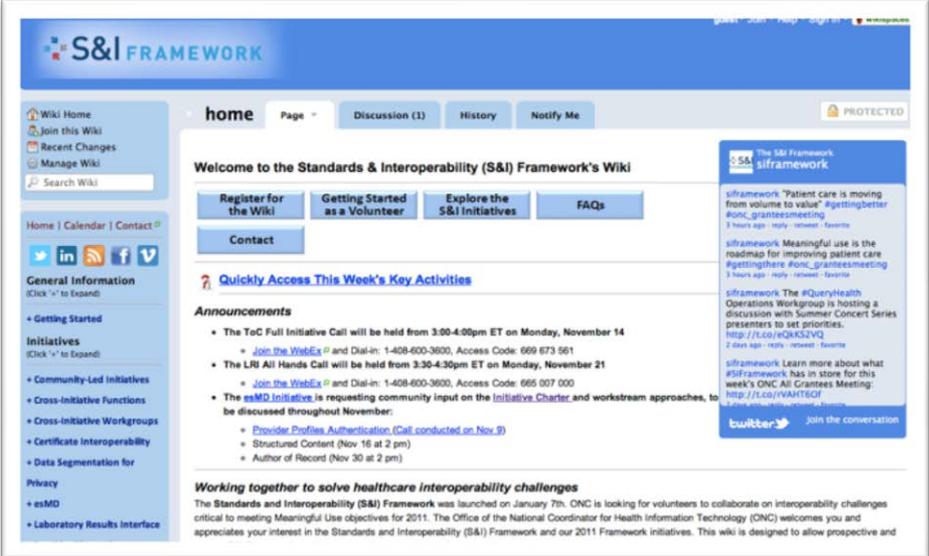
Initiatives **3** Pilots **6** Participants **15**

Select desired S&I Initiatives or Pilots to view corresponding Participants. Click on different arrows on the map, to learn more about each participant and which pilots they are actively involved in.

- Lab Results Interface (LRI)
 - View all LRI Pilots (LRI)
 - Halpenny, RML
- Transitions of Care (ToC)
 - View all ToC Pilots (ToC)
 - Enable, Techsant, MEDx
 - Greenway, MedAllies, NextGen
 - SEMHIE, FireStar
 - Kolusu, MaTaga
- Provider Directory (PD)
 - View all PD Pilots (PD)
 - Redwood MedNet, Mendocino Coast, Alliance Medical Center

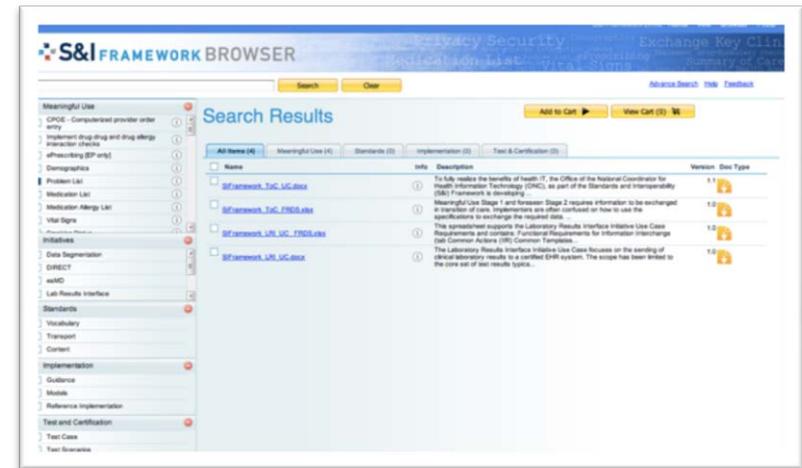
Contact Us: pilots@siframework.org

- Collaboration home for the S&I Initiatives
- Workspace for information, resources and artifacts as they go through the development to consensus process.



The screenshot displays the homepage of the S&I Framework Wiki. The page features a blue header with the S&I Framework logo and navigation tabs for 'home', 'Discussion (1)', 'History', and 'Notify Me'. A 'PROTECTED' status indicator is visible in the top right corner. The main content area includes a welcome message, a 'Register for the Wiki' button, and links for 'Getting Started as a Volunteer', 'Explore the S&I Initiatives', and 'FAQs'. A 'Contact' button is also present. Below these are sections for 'Quickly Access This Week's Key Activities' and 'Announcements', which lists several upcoming events and initiatives. A sidebar on the left provides navigation options like 'Wiki Home', 'Join this Wiki', and 'Recent Changes'. A right sidebar contains social media links and a 'Join the conversation' button.

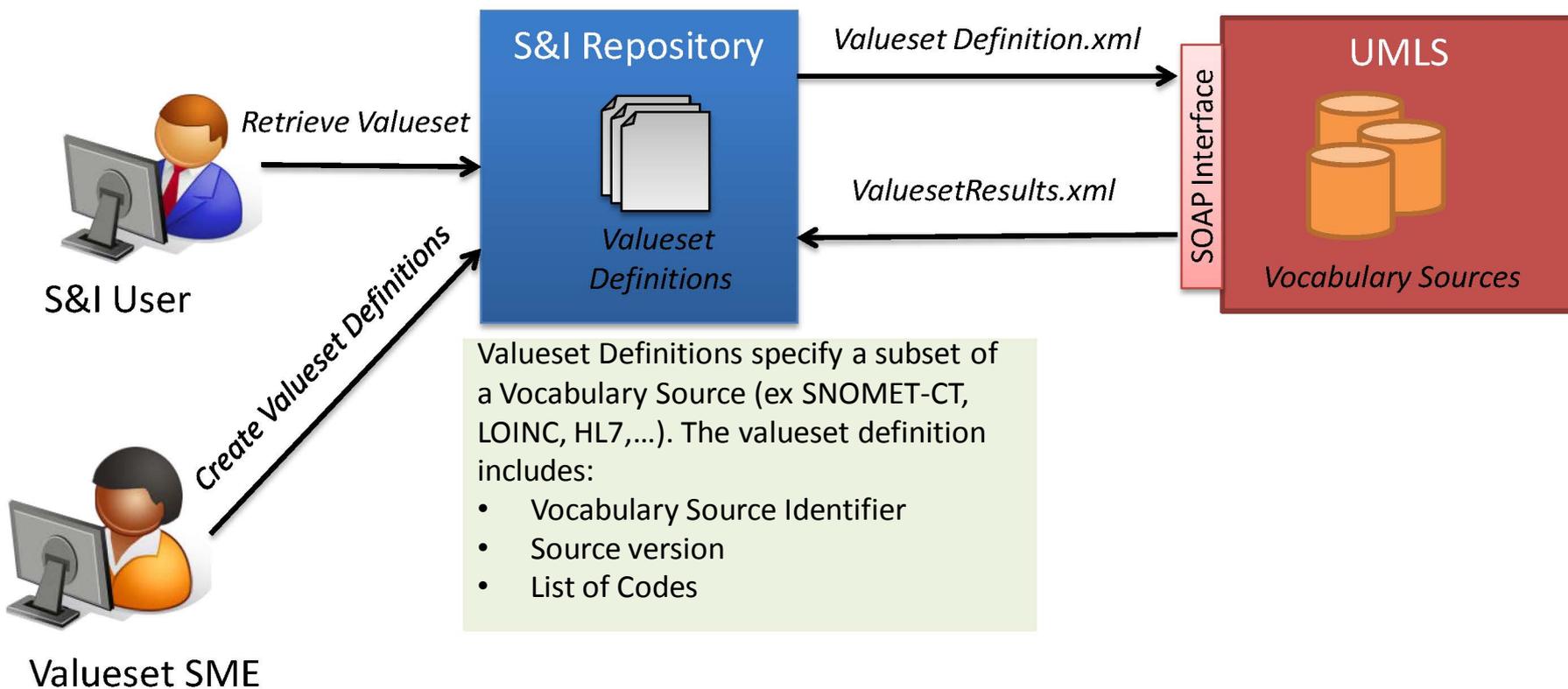
- Managed Repository for S&I artifacts (docs, models, links, ...)
- Facilitates artifact lifecycle (publishing, versioning, ...)
- Create and manage contextual relationships between artifacts
- Provides the ability to create, apply and manage taxonomies of categories for additional meta-data tagging.
- Contextual Searching based on both artifact meta-data as well as content
- Shopping cart model allows user to select artifacts to be downloaded as a structured zip package.
- Managed Links provides integration with external web information sources



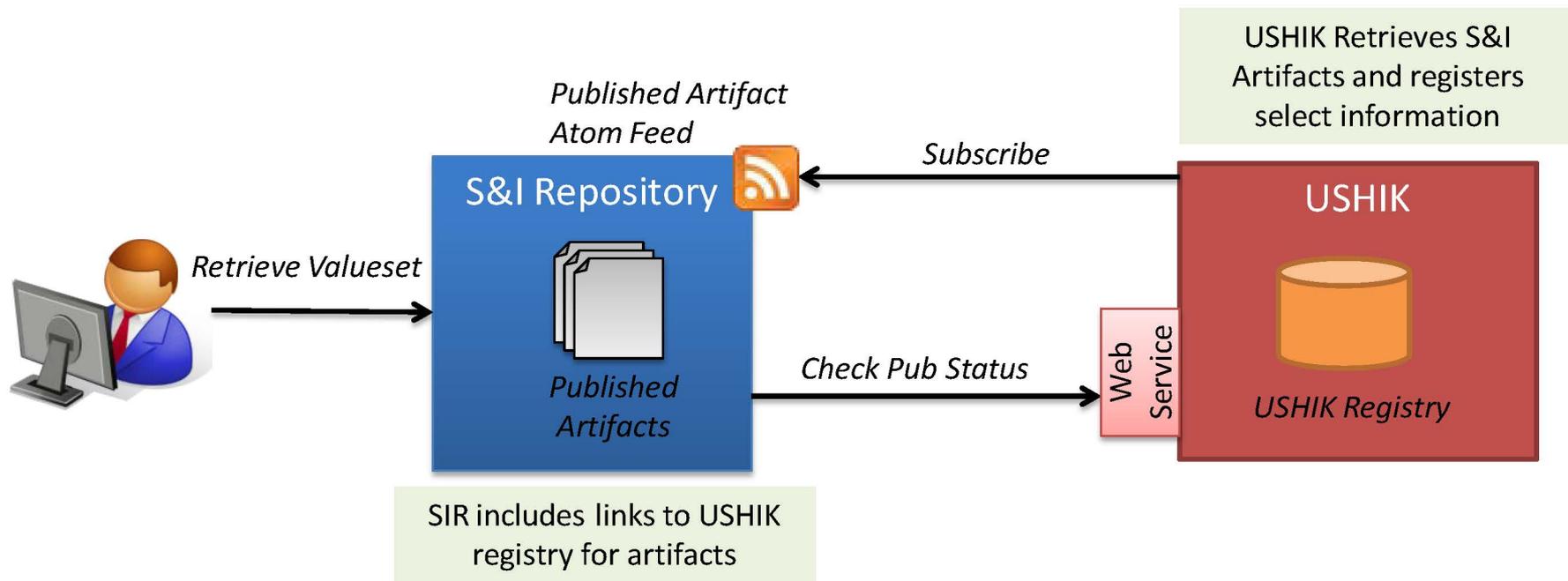
- Documents
 - Searchable information contained in specific “physical” artifacts
 - Examples: PDF, MS Word, Presentations, Spreadsheets, XML, Text)
 - In some cases can be transformed to other forms as part of publishing process
- Multi-Media
 - Image files, Audio, Video
 - Examples: JPEG, TIFF, MP3, MOV
 - Meta-data tagging important to provide context to artifacts
- Links (static and dynamic)
 - URL to information contained in other web sites/systems
 - Examples: HITSP PDF files, UMLS ValueSets, IHE wiki pages
- Models
 - Process Models, Data Models,

- Available as pre-packaged value sets from NLM
 - Most frequently ordered tests
 - Most frequently used test results
 - Core Problem List subset
 - RxNorm: Best approximation of drugs on the marketplace
 - Kaisers Terminology donation (coming soon)
 - API's for UMLS search terms
 - SNOMED \leftrightarrow ICD 10 maps

NLM UMLS Integration



AHRQ USHIK Integration



HITSC Work Plan 2012

- Need strategic long-term view to plan for MU Stage 3
- HITSC should provide input early
- Goal: present a draft 2012 plan at Jan 25th meeting
- Seeking to align HITPC and HITSC
- Will firm up as Stage 2 is finalized and plans for stage 3 crystalize



For discussion (2012): What else do we need to consider?

Q1

- NPRM response
- QM standards
- NWHIN stds criteria
- Value sets/mapping

Q2

- NWHIN portfolio (extended)
- Query Health review
- Radiology Stds
- Governance

Q3

- CEDD/CIMI/CIM
- Consumer-mediated info exchange
- One-stop-shop for resources
- GreenCDA

Q4

- Maintenance strategy for stds
- Public Health
- Data/Practice Portability
- APIs/tools