# Public Health Update

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Agenda

- ❑ Review Stage 1 Public/Population Health Meaningful Use Measures

- ❑ Review Public Health Efforts Regarding Standards and Interoperability Framework Components

- ❑ Review Readiness for Stage 3 Meaningful Use PH Measures

Hospital 1st v. 2nd v. 3rd year PH Menu Objective Performance
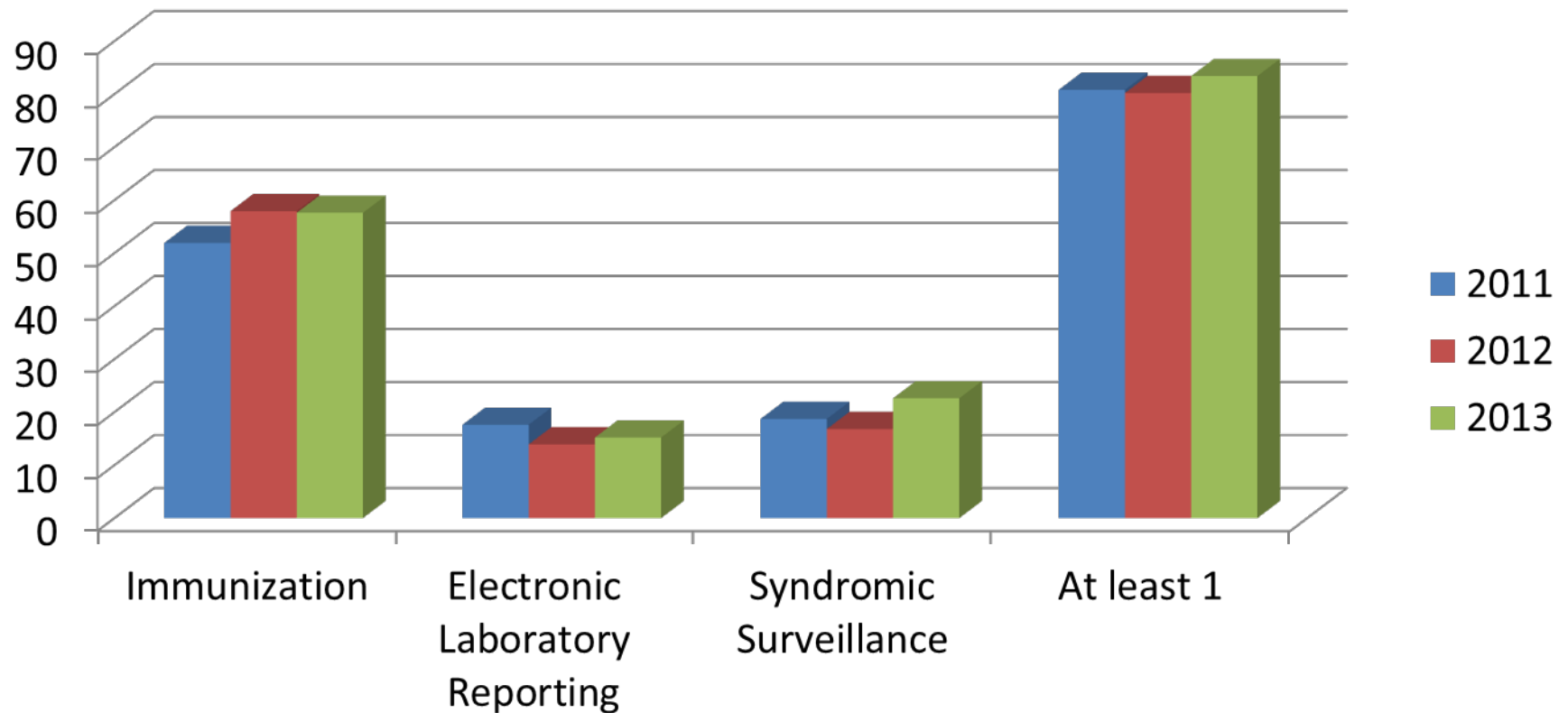
Source: CMS Presentation – Rob Anthony, December 4, 2013

Update on Current Measures:
- *Immunization, ELR, SS*

Immunization
- New, improved implementation guide (IG) (*V2.5.1 – 8/1/2012*)
- Progress with providers is better
- ONC test criteria are making interoperability better
- PH accepting certified product data (*HL7: 58% in 2011 to 77% in 2012*)
- Next IG version (*Feb 2014*) will include bi-directional w/history and forecast back to provider

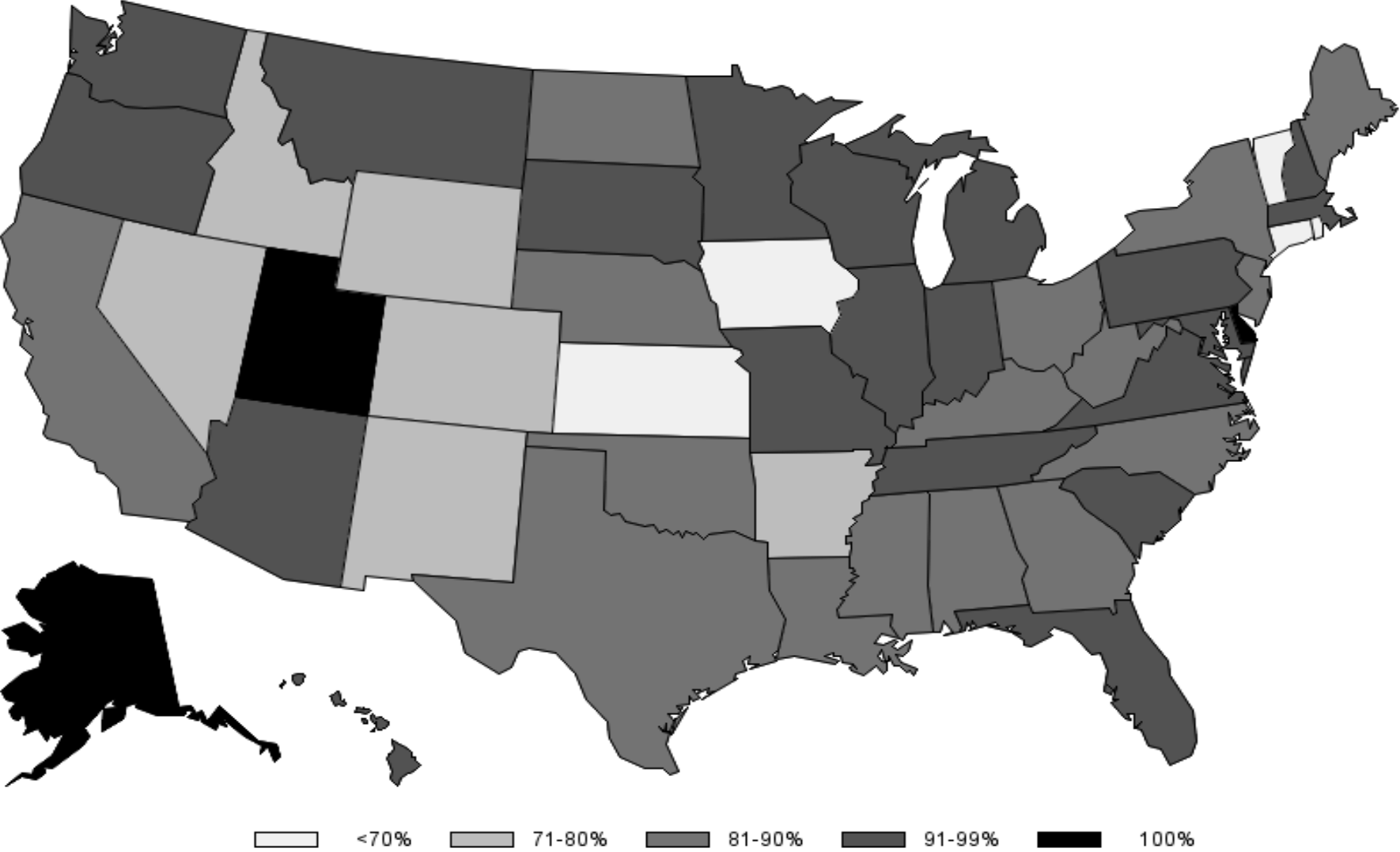Electronic Laboratory Reporting (ELR)
- New, improved IG version generally available through HL7 (*2/26/14*) http://www.hl7.org/dstucomments/showdetail.cfm?dstuid=104

Syndromic Surveillance (SS)
Successful centralized infrastructure utilizing BioSense

Percent of Participating Eligible Hospitals Selecting at Least 1 Public Health Measure*

| | <70% | | 71-80% | | 81-90% | | 91-99% | | 100% |

Electronic Laboratory Reporting (ELR) – *Pattern of Adherence to Standards*

- Public Health consistently makes efforts to abide by standards and in turn minimize impact on clinical partners
- Proof of PH's commitment to build on standards and processes used for other use cases,.
  - ELR Release 1 (HL7 Version 2.5.1: ORU^R01)[1]was built on the HITSP Lab-to-EHR Implementation Guide
  - ELR Release 2 is the current profile for Electronic Laboratory Reporting to Public Health (MU Stage 1 and 2).
- Public health has demonstrated acceptance, readiness for standards, and will credibly achieve that for Stage 3.

[1] http://hie.illinois.gov/assets/hl72521_implguide.pdf

S&I Initiative Portfolio Snapshot

	Pre-Discovery	Use Case	Harmonization	RI, Test & Pilot	Evaluation
Direct Project (S&I Archetype)					*In production*
Transitions of Care				C-CDA Companion Guide for Meaningful Use balloted in September 2013 and is now under ballot reconciliation; Target publication date is early Q2	
Lab Results Interface				IG & Second Errata Published; 2014 CEHRT in Progress, IG preparation for normative ballot 2013	
Query Health				Pilots completed, QRDA III Published, HQMF R2 ballot reconciliation completed and HQMF R2 DSTU publication in progress	
Data Segmentation for Privacy			Pilots in Evaluation; IG in normative 2 balloting with HL7 Security WG; RESTful Supplement adopted by IHE		
Public Health Reporting			Community-Led; RI Framework and CDA guide published; Testing & Pilots in progress; Community will be meeting on a monthly basis		
esMD	IG and UC consensus closed for UC 1, UC 2, AoR L1, and Prov. Dirs. Guidance; UC consensus closed for AoR L2 eDoC Generic Use Case, and eDoC PMD User Story; AoR L2 IG DSTU is now in ballot reconciliation				
Longitudinal Coordination of Care	Community-Led; 1st UC Complete; PAS SWG Complete; Created 'Care Plan' Glossary for HITPC & HL7; Use Case 2: Care Plan Exchange Complete; C-CDA updates for Sept HL7 Ballot in ballot reconciliation; Pilots SWG launched 9/16				
Laboratory Orders Interface		LOI IG published December 2013; eDOS IG published November 2013; eDOS IG ballot reconciliation complete; Lab pilot efforts include LOI and eDOS			
Health eDecisions	Use Case 1: Knowledge Artifact Sharing Model, Schema and IG was approved by HL7, UC1 Pilots Complete; Use Case 2: Balloted 4 HL7 specifications in September 2013 for CDS Guidance Service UC (UC2) and completed ballot reconciliation for each; Preparing for UC2 pilots and re-balloting informative artifacts as DSTU in January 2014				
Blue Button Plus				Push & Pull IG's complete – now focused on implementation; Successful kickoff of both Pilot WG and Payer WG	
Structured Data Capture	Use Case & Standards consensus complete; IG development in progress; Form SWG working on schema development; Public Health SWG in User Story review; IHE Content Profile in progress; Pilots planning has begun; Patient Safety & Adverse Events Content SWG in progress				
EU/US eHealth Cooperation	Interoperability WG – reviewing completed Use Case to begin consensus before the holidays; Workforce Development WG – mapped roles in Acute Care to competencies				
Data Access Framework		Local Data Access Use Case was consensus approved and Targeted Use Case launched on 12/11; IHE PCC white paper in progress			
PDMP – HIT Integration	Working on Charter Review with community; Preparing for UC launch in January, and Winter Concert series where community members present work that solves some or all of the PMDP challenge				

Key Principle for PH Stage 3 MU

- *Adhere to Standards and Interoperability Framework Components Whenever Feasible*

Component	Purpose
Consolidated CDA	Standard message format
Query Health	Population based queries
Structured Data Capture	Populate standard forms
Health eDecisions	Clinical decision support (e.g., triggers for PH screening or collecting data)
Data Access Framework	Query data: 1) locally, 2) to targeted organization and 3) distributed across multiple organizations

Cancer Reporting

- Stage 3 MU Cancer Implementation Guide (IG) should move to consolidated clinical document architecture (c-CDA) because:

  – EHR vendors are required to use this format for Transition of Care documents in Stage 2 MU

  – eliminates burden of supporting two different formats for cancer reporting

  – c-CDA has harmonized and improved templates across multiple sources

  – cancer program is ready to move to this new standard

Cancer consolidated-CDA:
- Next Steps

- Align Cancer IG sections with c-CDA sections (high level completed)

- Add a new document-level template c-CDA R2: "Ambulatory Healthcare Provider Cancer Event Report"

- Add Cancer Diagnosis Section to c-CDA

- Perform Gap and Overlap analysis of entries, data elements, attributes, and value sets

- Put new document through HL7 ballot process

    Timeline

    – High level gap analysis performed in November 2013

    – Detailed gap/overlap analysis work starting in January 2014

    – Ballot in May 2014

Public Health and consolidated-CDA - *Progression for <u>some</u> areas*

2012	2013	2014+
Pertussis (NY State)	EHDI (N. Dakota)	Cancer Registry
Pertussis (San Diego)	EHDI (Oregon)	
Tuberculosis (Delaware)		
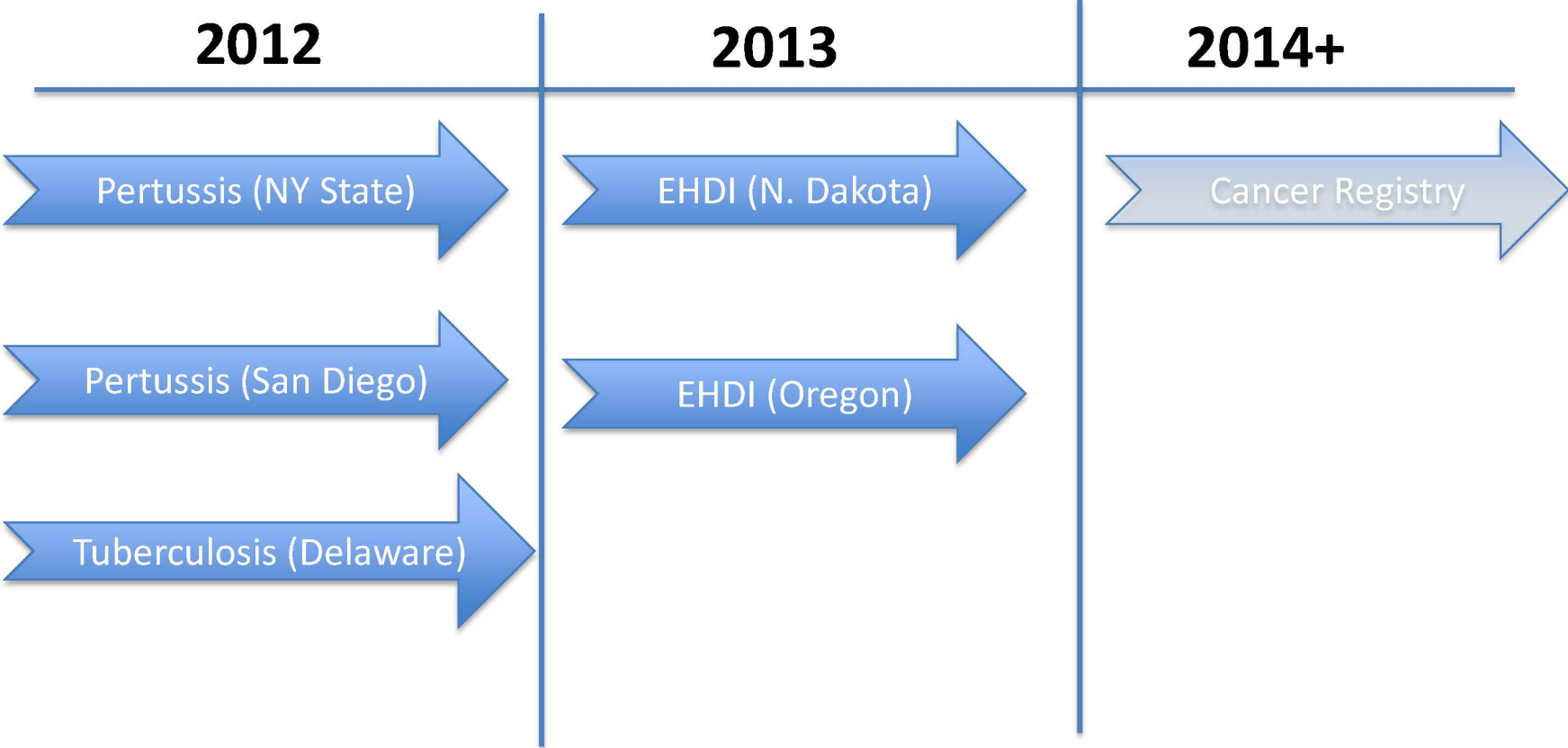
Electronic Healthcare Associated Infection (HAI) Detection and Reporting: *Supporting Patient Safety*
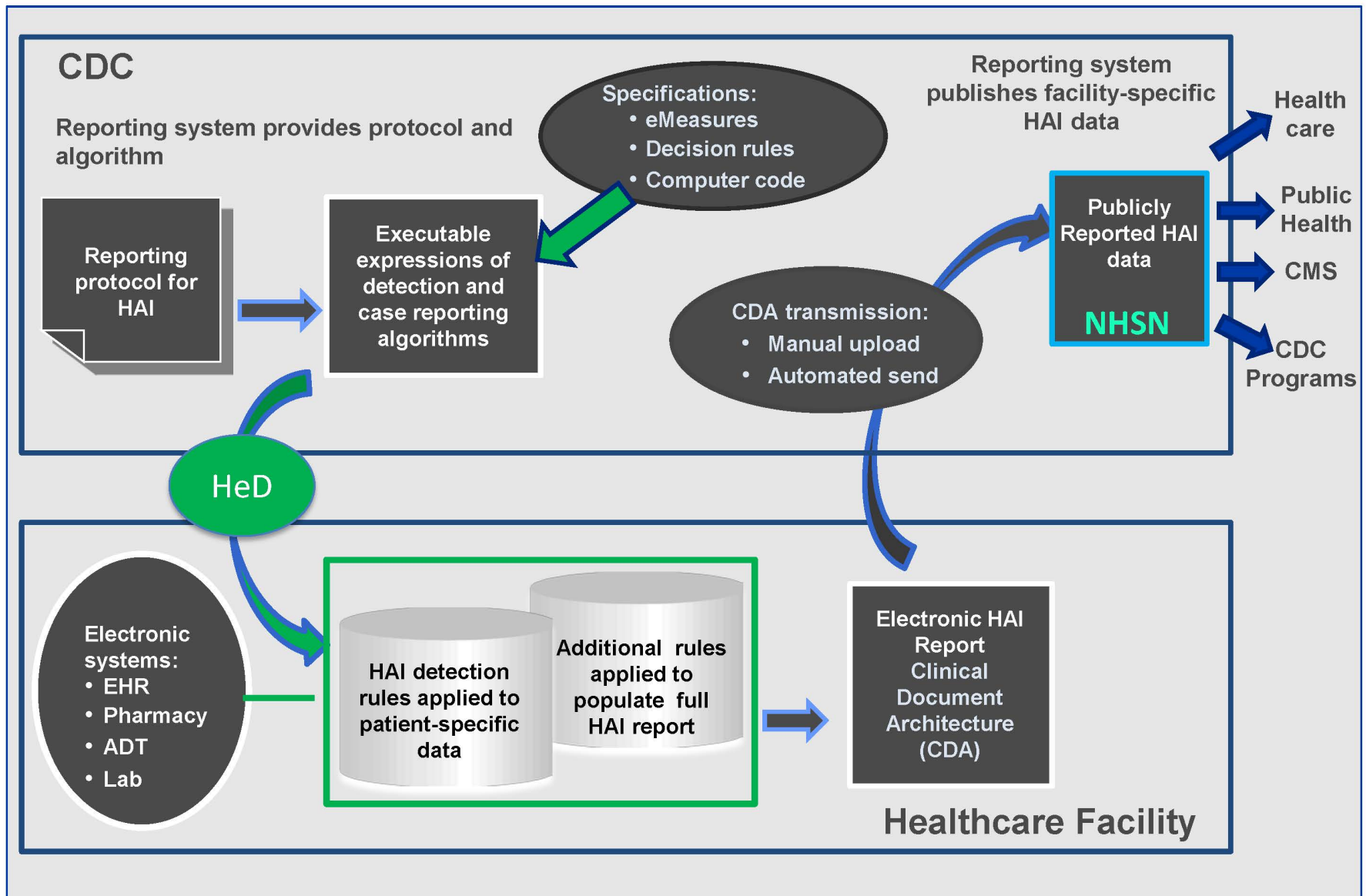
Progress : What's been completed
Clinical Document Architecture(CDA)/Structure Data Capture (SDC)
Public Health Pilot Projects
Public Health Reporting Architecture

Sources: Communicable Disease CDA Pilot Project Report. 2012. URL: https://wiki.phdsc.org/index.php/CDA
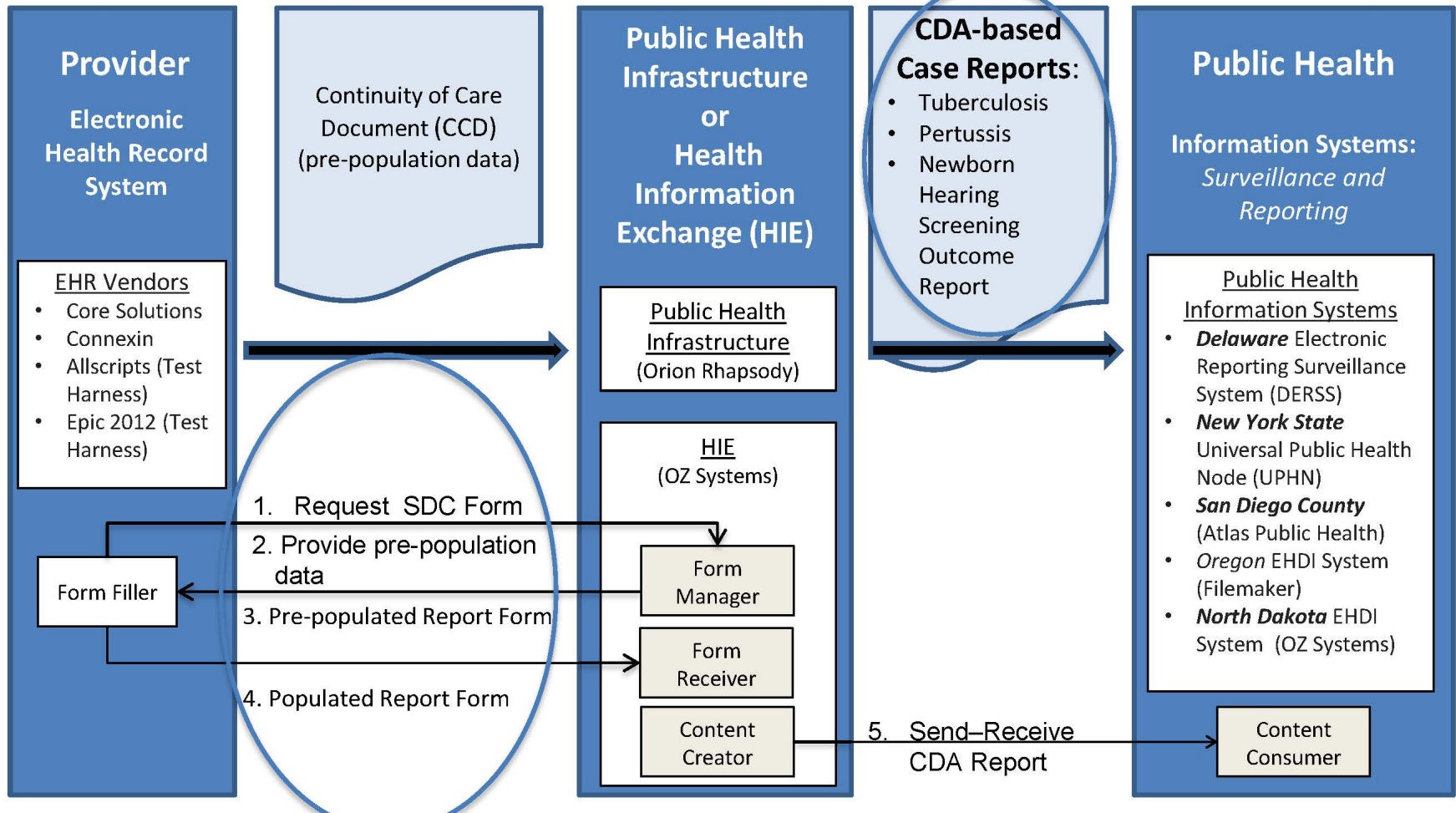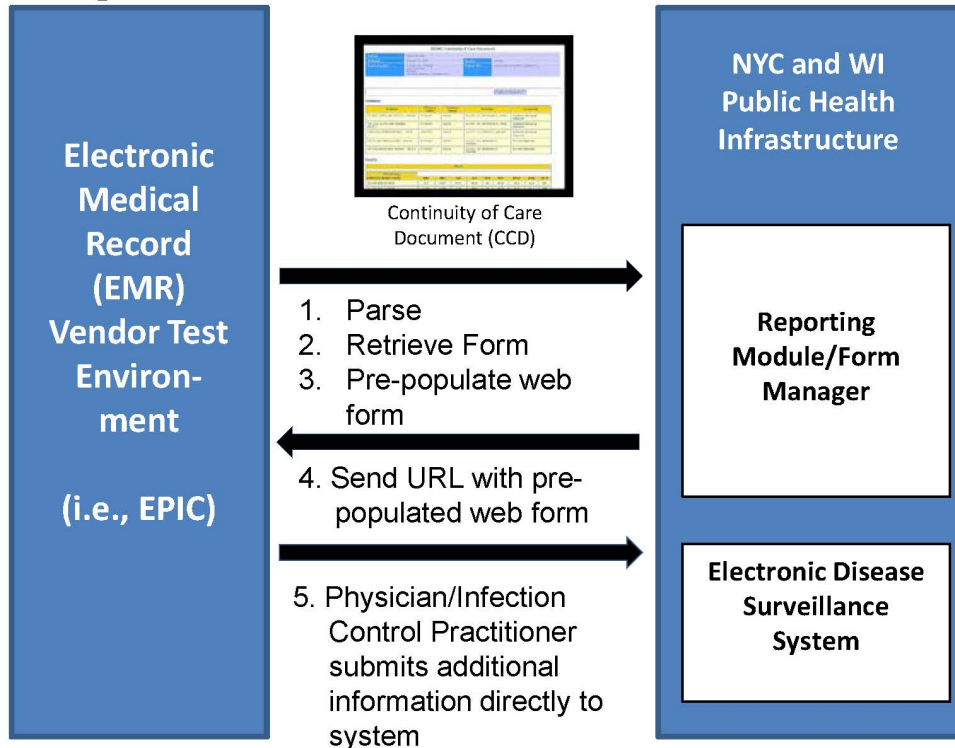*EHDI CDA Pilot Project Report.* 2013. URL: https://wiki.phdsc.org/index.php/EHDI_Pilot
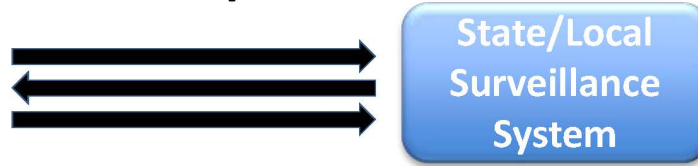
Communicable Disease Reporting
Clinical Document Architecture/Structure Data Capture
Pilots: NYC and WI

Current Progress (as December 2, 2013) – Finalize Testing in Vendor Environment

Electronic Medical Record (EMR) Vendor Test Environ-ment

(i.e., EPIC)

Continuity of Care Document (CCD)

1. Parse
2. Retrieve Form
3. Pre-populate web form

4. Send URL with pre-populated web form

5. Physician/Infection Control Practitioner submits additional information directly to system

NYC and WI Public Health Infrastructure

Reporting Module/Form Manager

Electronic Disease Surveillance System

Next Steps – Identify, Recruit, and Implement in Hospital using EPIC EMR System

State/Local Surveillance System

Key Outcomes
- Shift in traditional public health case report (PHCR) use case
  - Leverage existing standard (i.e., CCD -> cCDA)
- Light-weight service for EMR vendors to connect to various jurisdiction reporting end-points
  - Minimize development in EMR System
- Extensibility/ portability to other EMR vendors
- State and Local Health Department configure forms based on reporting and business needs specific to jurisdiction

Structured Data Capture (SDC)
- *Tiger Team and Selected Pilots*

- Public Health Tiger Team
  - Community based effort to identify, develop, and implement Public Health SDC Pilots

- Proposed Public Health SDC Pilot Projects
  - Cancer Reporting
  - Notifiable Disease Case Reporting
  - Early Hearing Detection and Intervention (EHDI) Reporting

http://wiki.siframework.org/Public+Health+Tiger+Team+Meeting+Archives

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EHR and SDC Model

Example Types of Reporting
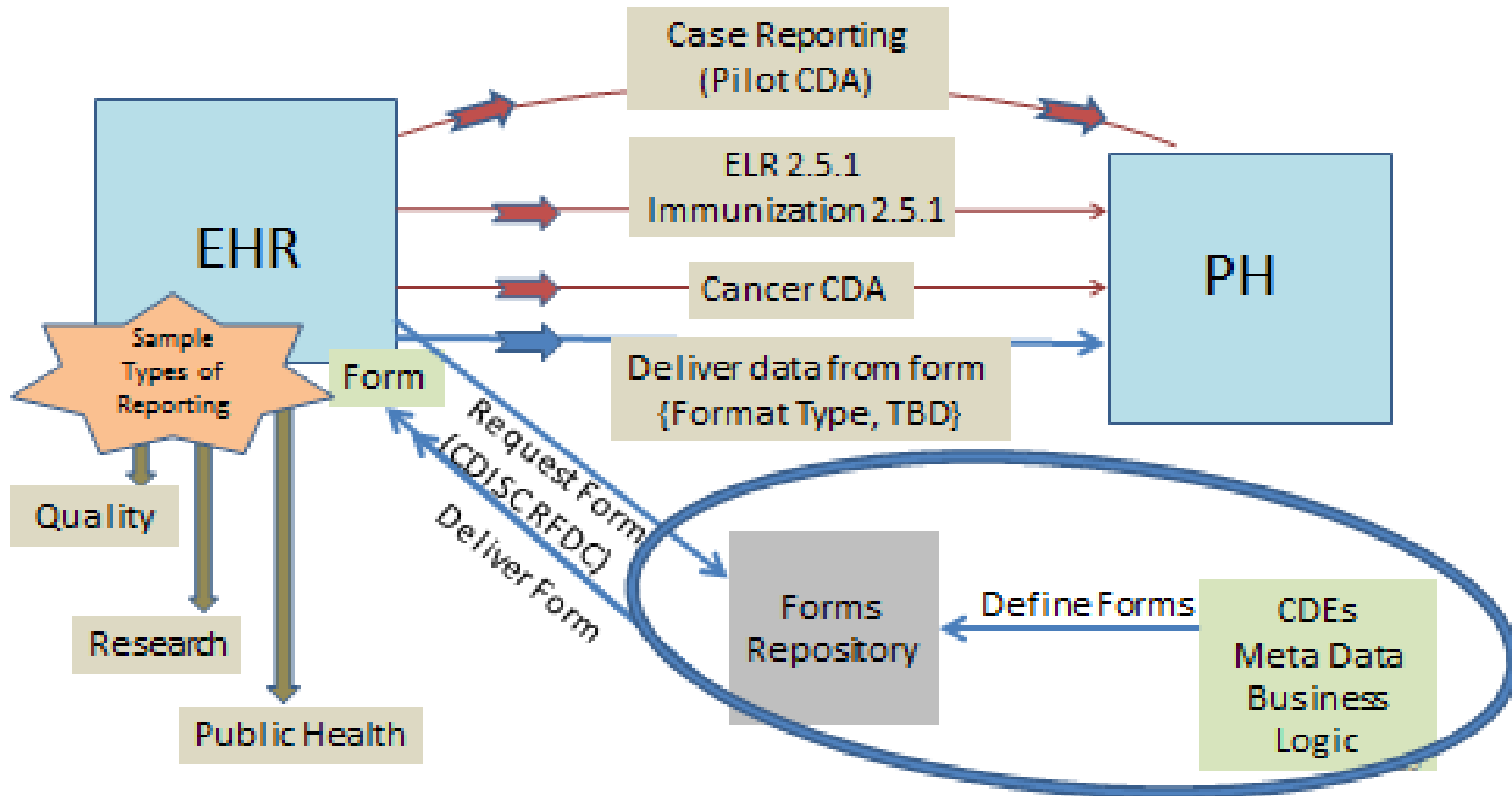
CDISC: Clinical Data Interchange Standards Consortium
RFDC: Request Form for Data Capture
CDE: Clinical Data Elements

Health eDecisions
- *Use Cases*

- <u>Use Case 1</u>: standard format for sharing Clinical Decision Support (CDS) knowledge artifacts

  - Rules, order sets and documentation templates

  - Goal: CDS knowledge authored in standard format can be imported and used in any EHR system

- <u>Use Case 2</u>: standard interface for accessing CDS Web services

  - Goal: CDS capability encapsulated using standard interface can be integrated with any EHR system

Health eDecisions
Use Case 1 (Clinical Decision Support [CDS] Artifact Sharing)

CDS Knowledge Artifact Supplier

CDS Artifact Integrator

Out of Scope
- Authoring, Creation and Maintenance of Clinical Decision Support Knowledge
- Search Mechanisms
- Knowledge Repository Design

Out of Scope
- Queries
- Implementation in Systems
- User Presentation
- Transport

Computable CDS Knowledge Artifact

In Scope
- Format of the CDS Knowledge Artifact
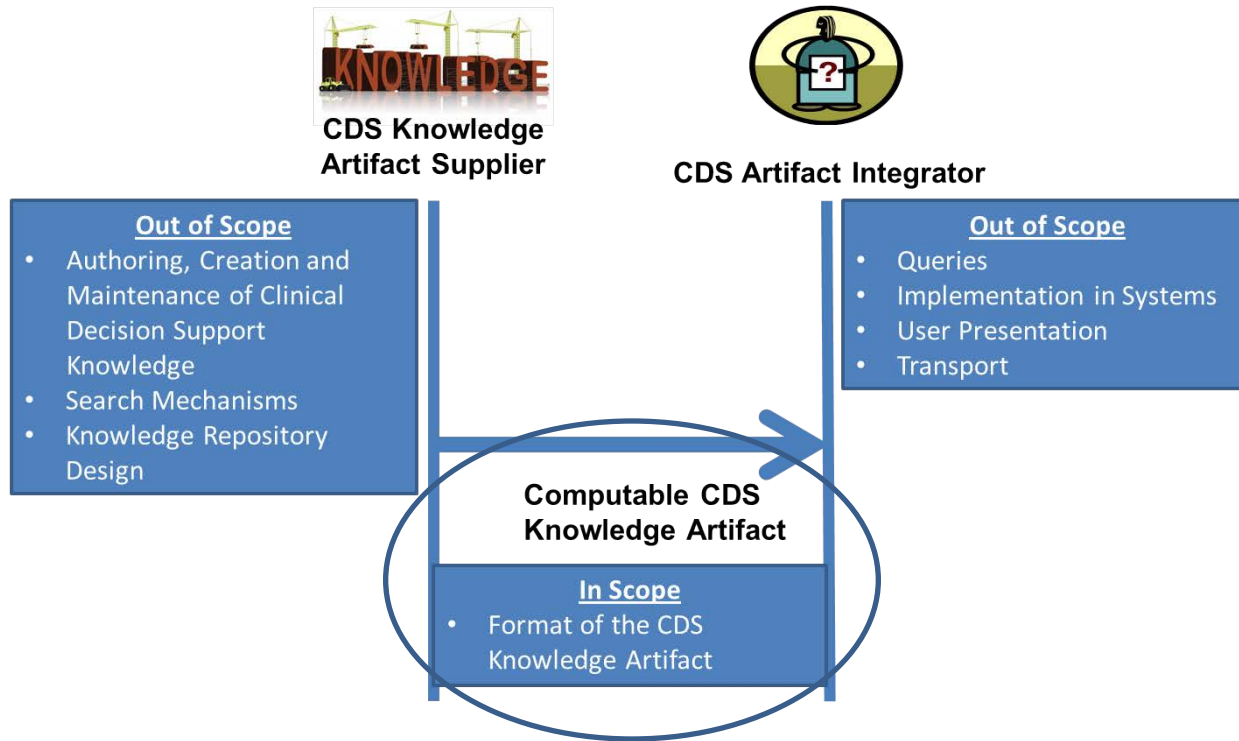
Use Case 1 Focuses on three artifact types:
1. Event Condition Action Rules (***e.g., positive lab test***)
2. Order Sets
3. Documentation Templates

Health eDecision
- *Use Case 1: Pilot Partnerships*

EHR	Pilot	Content Supplier
Design Clinicals	Order Set – Heart Failure	Zynx Health
Allscripts	Rule – NQF 068 (Million Hearts)	newMentor
Allscripts	RCKMS - San Diego Pertussis	CDC/CSTE
VA	Documentation Template – UTI	Wolters Kluwer Health

RCKMS: Reportable Condition Knowledge Management System

RCKMS *Long term Scope*

PH Reports

Public Health State, Local, Territorial Agencies

Reportable Condition Knowledge Management System (RCKMS)

Authoring Framework

PH Reporters (Clinicians)

Hospital Labs

LIMS

EHR

Web Service

Query/View

Subscription Management
Including Notifications

Database
Who, What, When, Where, How

National, Clinical & Public Health Laboratories

LIMS

(3) Open CDS Local

Other Web Services

Structured Output Generator

Ambulatory Care

EHR

HeD

DSS Web Service

(2) Open CDS

HeD Compliant format
- Triggering Criteria
- Reporting Actions
- Links

(1) Health eDecision (Hed)

Output file Options
1) HeD file download
2) OpenCDS in Cloud
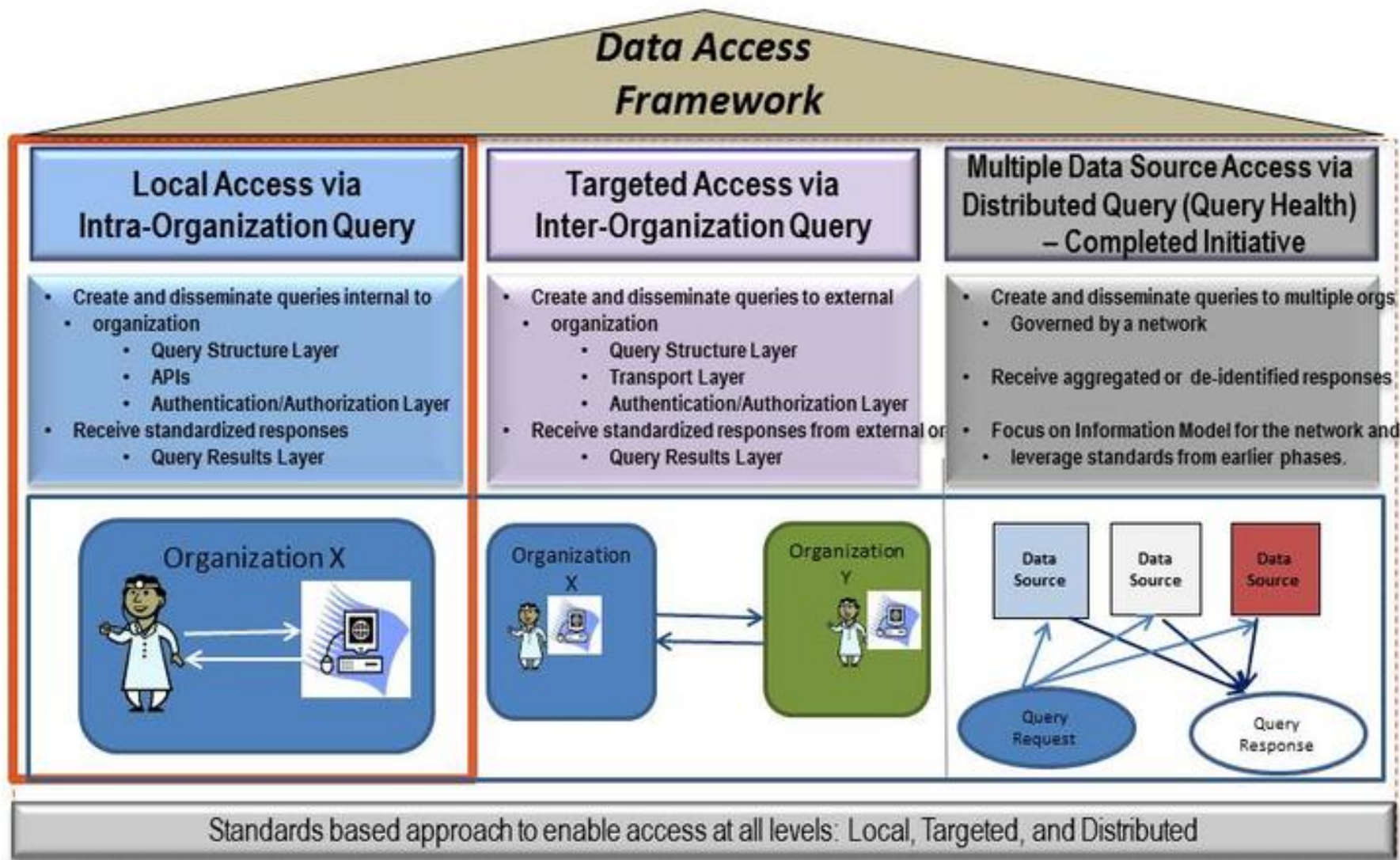3) OpenCDS Locally Deployed

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Stage 3 MU Registry Participation
One of three potential methods

1. Standard message structured data capture enhanced consolidated-CDA message
   - e.g., early hearing detection and intervention, cancer, or healthcare associated infections,
2. A modified consolidated-CDA to limit protected health information release to community-based, high priority condition registries
   - e.g., obesity or hypertension, or
3. Leverage national or local networks
   - e.g., FDA Mini-sentinel or DARTNet Institute
   - e.g., NYC Primary Care Information Project federated query technologies .

S&I Data Access Framework Use Cases

Data Access Framework

Local Access via Intra-Organization Query	Targeted Access via Inter-Organization Query	Multiple Data Source Access via Distributed Query (Query Health) – Completed Initiative

• Create and disseminate queries internal to
  • organization
    • Query Structure Layer
    • APIs
    • Authentication/Authorization Layer
• Receive standardized responses
    • Query Results Layer
	• Create and disseminate queries to external
	  • organization
	    • Query Structure Layer
	    • Transport Layer
	    • Authentication/Authorization Layer
	• Receive standardized responses from external or
	    • Query Results Layer
		• Create and disseminate queries to multiple orgs
		  • Governed by a network
		• Receive aggregated or de-identified responses
		• Focus on Information Model for the network and
		• leverage standards from earlier phases.

Standards based approach to enable access at all levels: Local, Targeted, and Distributed

Note: An organization can be a hospital that is part of larger organization and can also include HIEs, RIOs, other types of organizations etc.
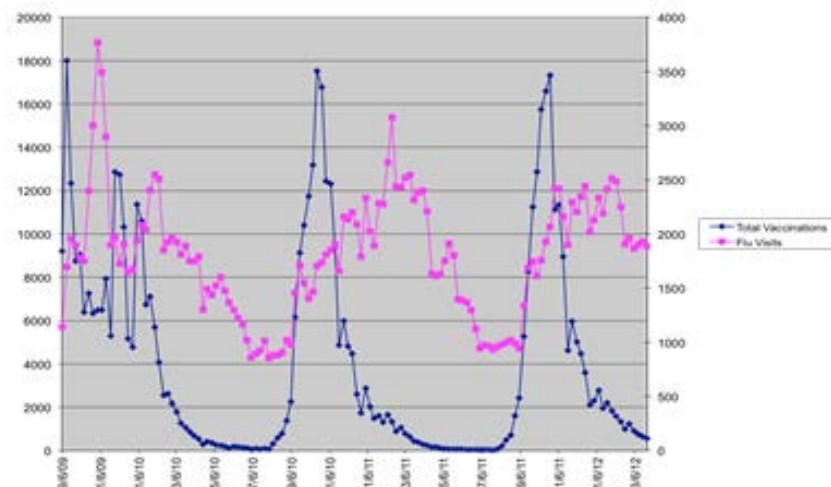
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Data Access Framework
- *examples*

Obesity Prevalence in the NYC Pilot
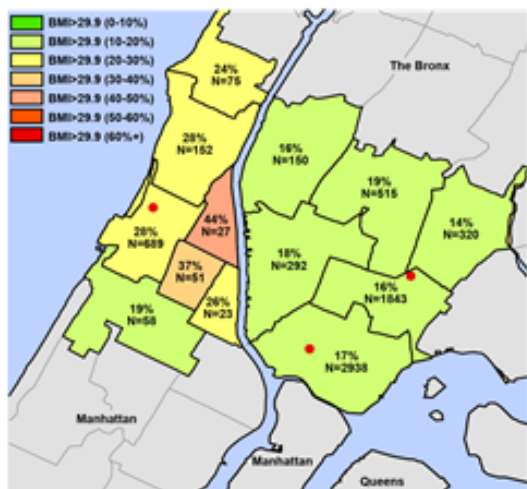
Total Number of Flu Vaccinations and ILI Visits
September 2009-March 2012

Conclusions

- **Stage 1 Public/Population Health meaningful use measures**
  - Advancing well
- **Public Health efforts regarding Standards and Interoperability Framework Components**
  - Adopting, and testing with significant progress
- **Prospects for Stage 3 meaningful use measure readiness**
  - Excellent progress using S&I Framework components, bodes well for readiness
  - Need to complete end-to-end testing for comprehensive implementation guide development