APHL
Current S&I Framework Initiatives and Relevance to Public Health

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Beyond Meaningful Use

- Strategies to engage Public Health
- Promote Interoperability between Electronic Health Records and Public Health

S&I Framework Links: Home   Wiki   Repository Browser   Pilots

S&I FRAMEWORK

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General Information

Introduction & Overview
Processes & Guidelines
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Community Enabling Toolkit (CET)
April Face-to-Face (F2F) Info
FAQs
Wiki User Guide

S&I Initiative Overview, Phases and Outputs

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| Initiative Overview, Outputs & Phases | Steering & Consensus Process | Community Participation | IPR Policy | Wiki Use Guidelines |

initiativeoverview_HL.jpg

The reader is advised to read the S&I Framework Introduction before reading the Initiative Overview, Phases and Outputs.

You may also return to the Community Enabling Toolkit (CET).

1. S&I Initiative

A Standards and Interoperability (S&I) Initiative is a project aimed to solve a particular challenge that hinders interoperability in the healthcare industry. The Initiative organizes work necessary for the development or evolution of S&I Framework deliverables. The Initiative has no formal status outside of that purpose. There are two types of Initiatives within the S&I Framework: Staff Assigned Initiatives and Community Assigned Initiatives.

1.1 Staff Assigned Initiatives

Staff Assigned Initiatives are Initiatives that have formal staff allocations by the S&I Steering Team. The purpose of a Staff Assigned Initiative is to provide additional input and guidance to an area that the Office of the National Coordinator (ONC) and S&I Framework has determined to be an interoperability challenge.

1.2 Community Assigned Initiatives

Community Assigned Initiatives are Initiatives that do not have formal staff allocations by the S&I Steering Team.

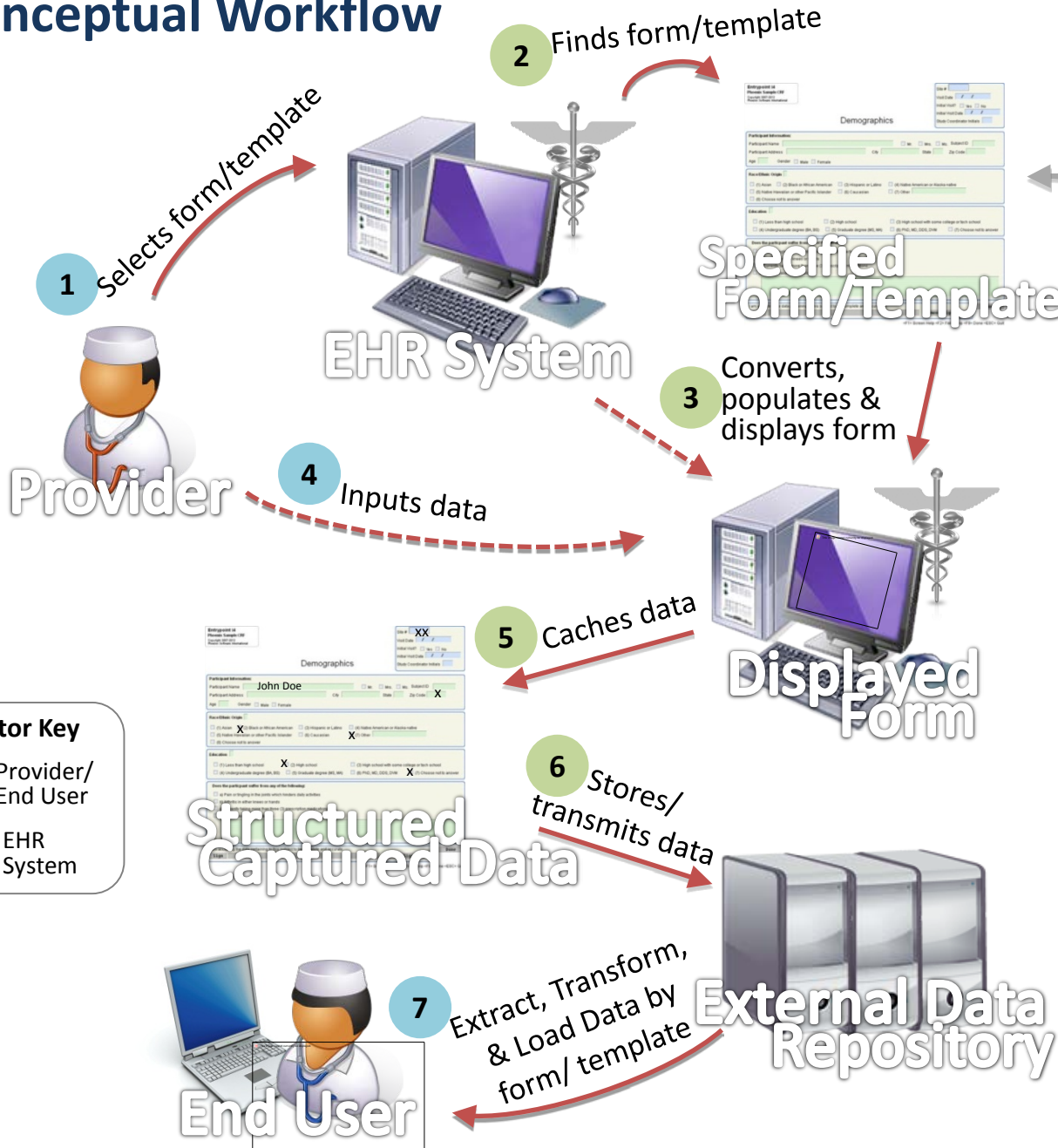## 2. Initiative Terms and Definitions

2.1 Initiative Charters

Structured Data Capture Conceptual Workflow

1 Selects form/template

2 Finds form/template

3 Converts, populates & displays form

4 Inputs data

5 Caches data

6 Stores/ transmits data

7 Extract, Transform, & Load Data by form/ template

Provider

EHR System

Specified Form/Template

Displayed Form

Structured Captured Data

External Data Repository

End User

Actor Key

Provider/ End User

EHR System

CDE Library

Clinical Research CDEs

AHRQ CDEs [Common Formats]

Other domain CDEs

Form Library

Patient Safety Forms [Common Formats]

Other domain-specified Forms

Template Library

Domain-specified Templates

Structured Data Capture Data Architecture

Infrastructure will consist of **four** new standards that will enable EHRs to capture and store structured data:
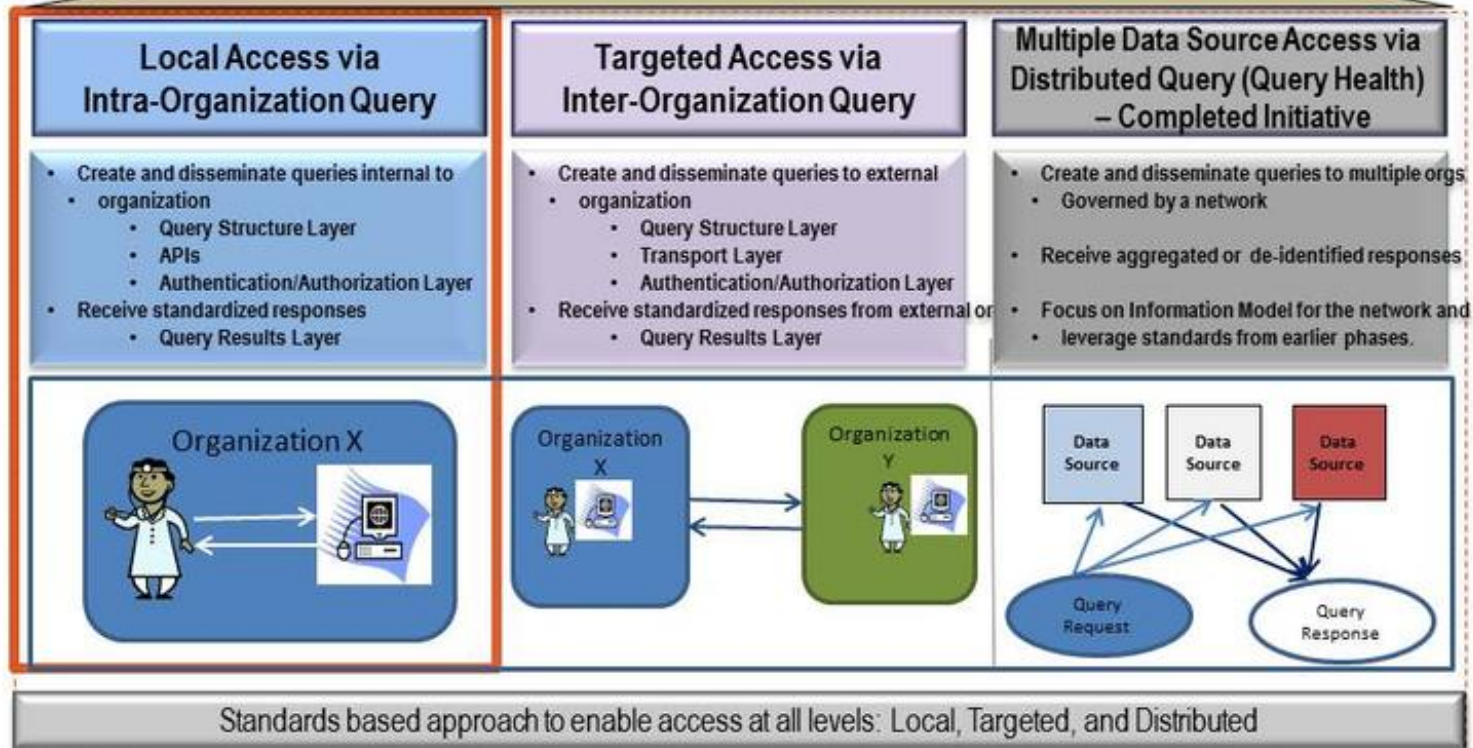
1. Standard for the CDEs that will be used to fill the specified forms or templates
2. Standard for the structure or design of the form or template (container)
3. Standard for how EHRs interact with the form or template
4. Standard to auto-populate form or template

- Standards will facilitate the collection of data so that any researcher, clinical trial sponsor, reporting and/or oversight entity can access and interpret the data in electronic format
- Will leverage existing standards such as XML and CDISC Retrieve Form for Data Capture (RFD)

Pilots

- Potential Pilots
  - Case Reports (STD, TB, Pertussis)
  - EHDI
  - EP Cancer Reporting
- Next Steps
  - Common Data Elements
  - Identify Partners/Funding

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.

- Transport Layer—establishing a protocol for getting patient data from one place to another. Transport needs could include getting pathology results from a hospital lab to the office of a treating physician or getting immunization records from a clinic to a public health agency.

  Candidate standards include: HTTP, SMTP, Direct, RESTful (IHE mHealth), SOAP (IHE SOAP), MU2 ModSpec RTM

- Security Layer—ensuring that patient data will only be accessible to authorized parties.

  Candidate standards include: TLS+SAML, TLS+OAuth2, S/MIME

- Query Structure—making sure the "question" being asked is phrased appropriately for the data to answer it. "Questions" could include "what were the pathology results of this patient's last test" and "how many immunizations has this clinic provided each month in the past year."

  Candidate standards include: ebRIM/ebRS, HL7 FHIR, HL7 HQMF

- Query Results—appropriately formatting the "answer" to the question posed. Pathology results may need to conform to clinical document architecture, while an answer about immunization counts could be presented as a simple bar graph.

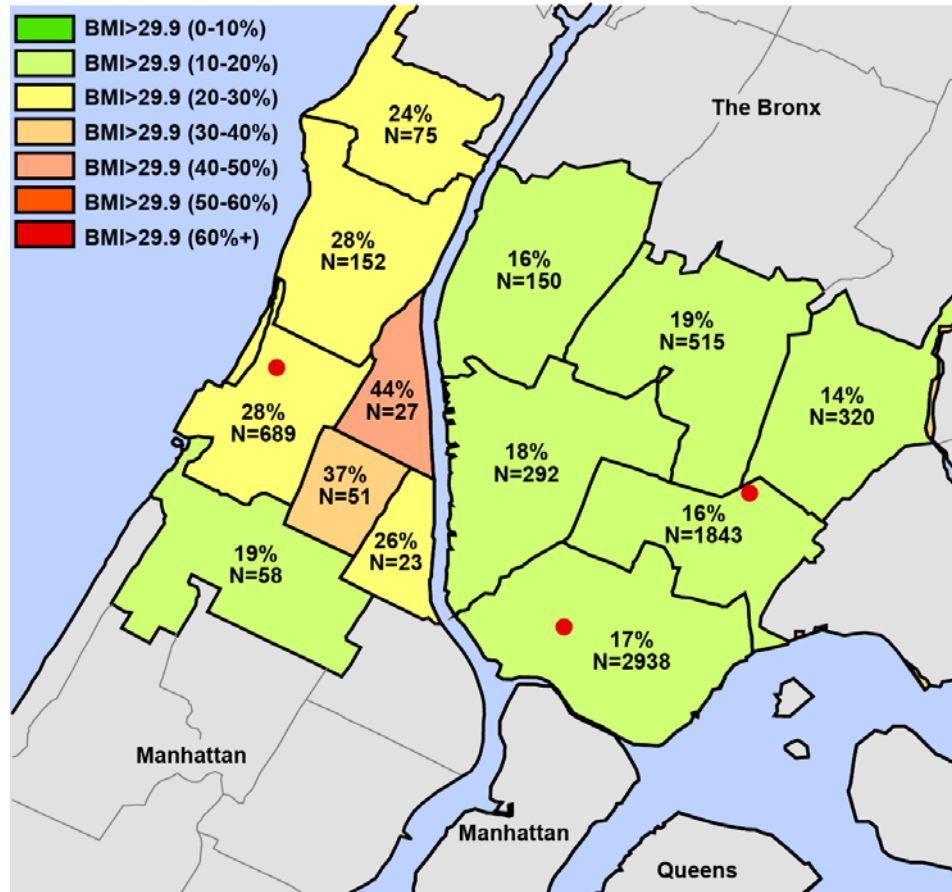 Candidate standards include: C-CDA; HL7 v2.5.1; QRDA I, II, III

- Data Model to Support Queries—information models that define concepts used in clinical care.

Active Query Health Pilots:

New York City Primary Care Information Project (PCIP)

Massachusetts Department of Public Health

Obesity Prevalence in the NYC Pilot

BMI>29.9 (0-10%)
BMI>29.9 (10-20%)
BMI>29.9 (20-30%)
BMI>29.9 (30-40%)
BMI>29.9 (40-50%)
BMI>29.9 (50-60%)
BMI>29.9 (60%+)

24%
N=75

28%
N=152

16%
N=150

19%
N=515

14%
N=320

28%
N=689

44%
N=27

18%
N=292

37%
N=51

26%
N=23

16%
N=1843

19%
N=58

17%
N=2938

The Bronx

Manhattan

Manhattan

Queens

Buck, Michael. "Population Health Transformation Using Data-Driven Distributed Analytics." *HIMSS12* (2012): n. pag. Web. 10 Oct. 2013. <http://69.59.162.218/HIMSS 2012/Venetian%20Sands%20Expo%20Center/2.22.12_Wed/Lido%203103/Wed_1415/124_Michael_Buck_Lido%203103 /124BuckPowell.pdf>.

Active Query Health Pilots:

Massachusetts Department of Public Health

Total Number of Flu Vaccinations and ILI Visits September 2009-March 2012
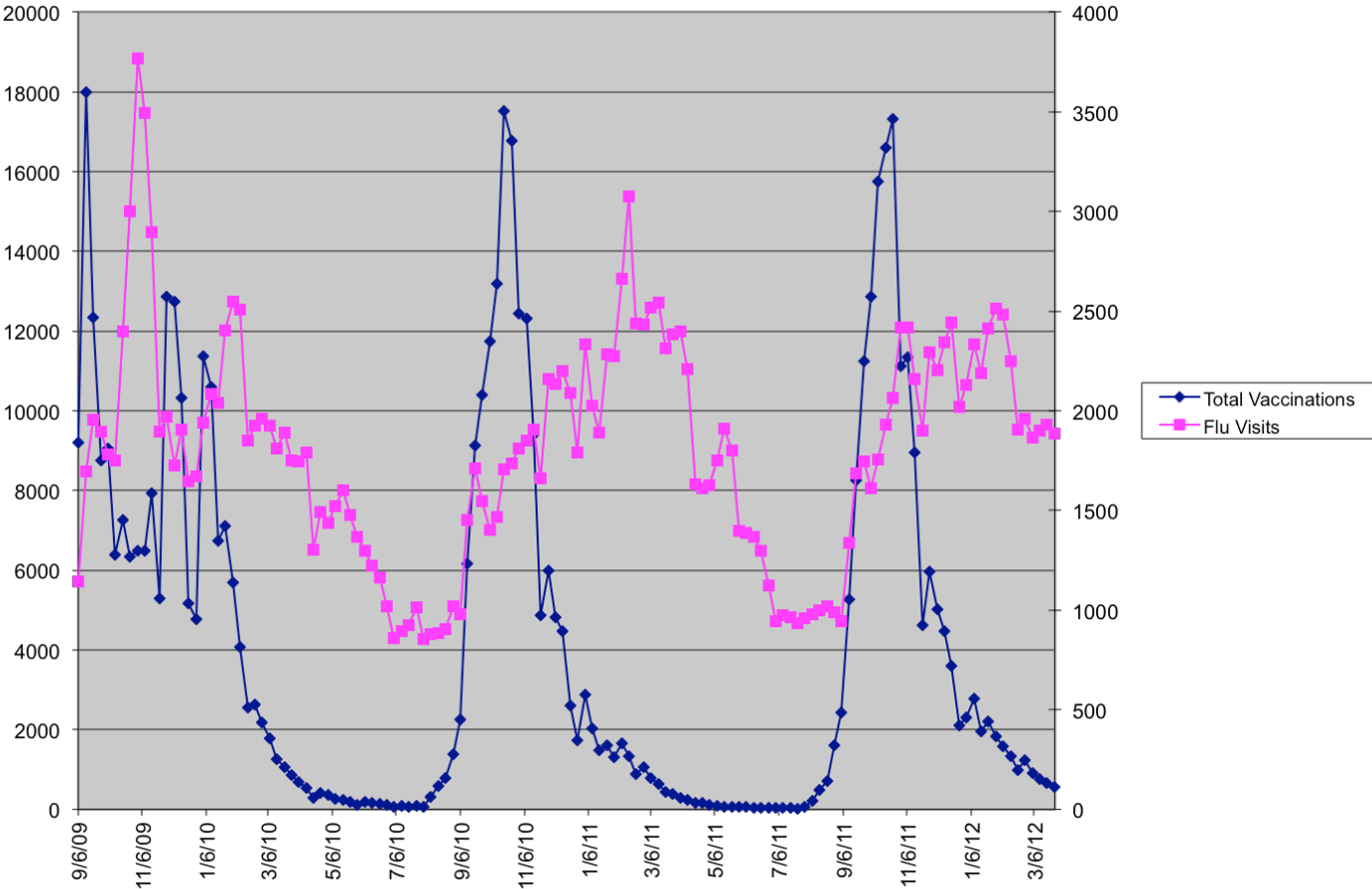
Gestational Diabetes

- Outreach to encourage pregnant women to get tested for gestational diabetes mellitus (GDM)
- Massachusetts State

- June 1-25, 2011: Media campaign

- Collect aggregated data via Query Health before and after the campaign
  - Massachusetts League of Community Health C
  - Atrius Health
- Use the number of HbA1c tests requested per month as a way to assess the campaign's effectiveness

Communication: GDM Media Campaign
- TV ads (Spanish)
- Poster (Spanish & English) for CHCs and WIC offices

www.massclearinghouse.ehs.state.ma.us/

Number of HbA1c Tests Requested from
Atrius Health, January 2011- July 2012
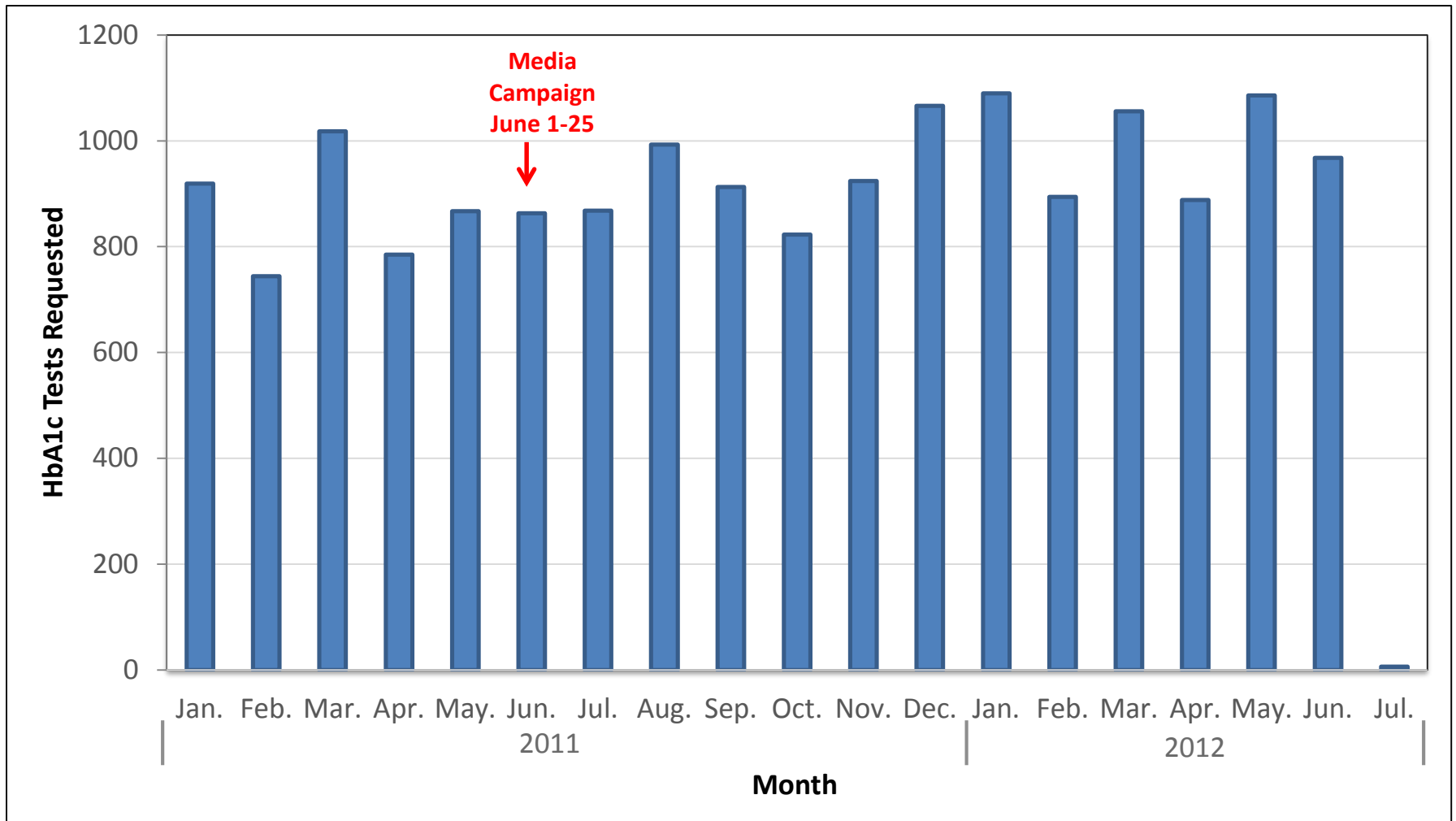
Conceptual Use Case Diagram: CDS Guidance Service Diagram (Use Case 2)

CDS Guidance Requestor

CDS Guidance Supplier

CDS Request
(*patient data + context*)

CDS Guidance
(*guidance + service structure*)

Out of Scope
- Workflow Integration
- User Presentation
- Direct Interaction with the User
- How the Guidance Integrator will utilize the information
- Deciding what guidance is subscribed to

Out of Scope
- Authoring, Creation and Maintenan Clinical Decision Support Knowledge
- Internal Intervention Format of CDS services supplier

In Scope
- **Interface Definitions for Sending Patient Data & CDS Guidance**
  - Patient Data Input to Service
  - Format of the CDS Guidance (output from CDS service)
  - Requirements to Support Service Transactions, Transport & Security

Pilots

- Planned
  - Pertussis reporting triggers
  - Reportable Condition Knowledge Management System

- Potential Joint S&I Pilots
  - Trigger SDC Report
  - Trigger Community Resource Referral (in conjunction with SDC)

How to get involved

- Public Health Tiger Team
  - Tuesdays at 2PM EST weekly

- Partner with State Medicaid
  - 90/10 Funding
    - HITECH and MMIS
  - State Innovation Models

Questions?

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