Meaningful Use: Impacts on Public Health
Electronic Medical Records, Electronic Health Records/ Health and Interoperability Health Information Exchange...

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Agenda

- Review of Meaningful Use and Stage 2 Measures
- Public Health Reporting Requirements Task Force
- ONC Grantees RECs and HIES – how can they help?
- Certification of EHR Products
- Fighting the myth: Public Health isn’t ready for MU
  - More $ for Public Health
- Other ONC Initiatives
  - Consumer Engagement
  - Beacon
  - Structured Data Capture
  - Data Access Framework
  - HealthEDecisions
- Stage 3
• Where are we trying to get to with Meaningful Use? a reminder of what started all this.

• Public Health Reporting Requirements Task Force Four Steps to the Process: Declaration of Capacity -> Registration of Intent -> Onboarding -> Acknowledgement

• Some Specifics on Labs, Immunization, and Syndromic Surveillance; National and WV adoption rates

• How can Public Health afford this? CMS "Advance Planning" funds
  • 90% federal match to 10% state funds.
  • on-boarding support and use of HIE
  • lessons learned

• 3 New Standards for the future
  • structured data capture
  • data access framework - query health
  • healthy decisions
TIP OF THE MU DATA ICEBERG (THE WHAT)
HIE IS JUST TRANSPORT (THE HOW)
Meaningful Use stage 1 2011*

Meaningful Use stage 2 ffy “2014” **

Meaningful Use stage 3 ffy “2016” ***

Health IT

Artwork “3D Iceberg” ©2012 Daniel Mueri  adapted by Bryant Karras w/ permission
Acronym Soup

ARRA: American Recovery and Reinvestment Act; Health Information Technology for Economic and Clinical Health (HITECH) ‘Stimulus Bill’

HIE: Health Information Exchange*

MU: Meaningful Use incentive program

CMS: Centers for Medicaid and Medicare Services

EHR: certified Electronic Health Record technology. (sometime abbreviated EMR or cEHRT)

ONC: Office of the National Coordinator for Health IT

* Not insurance not health care reform
WASHINGTON STATE MEDICAID HEALTH IT ROAD MAP

**Benefits**
- Medicaid has fully integrated MHP with real time clinical data
- Medicaid using data for advanced reporting and analytics
- Medicaid integrating real time clinical data in MHP
- MU Providers provide summary of care record when transitioning patient
- Prescribers receive Medicaid medication history via eRX network
- Patient consent process available for data exchange
- Increased usage of OneHealthPort
- Providers report MU clinical quality measures
- Medicaid outlines data sharing requirements with Health Homes
- Medicaid Health Homes prepare to exchange clinical information and referrals with others in their network
- Rx networks prepare for Medicaid medication history
- OHP oversight model for continued access, affordability and security
- Statewide data exchange tool ready
- Transactions ready
- High EHR adoption

**Here and Now**
- Identify required clinical data requirements and transaction triggers
- Health Home HIE readiness assessment and plan
- MHP Acquisition strategy
- HIE governance model
- Medication history exchange plan

**2012**
- Interoperable Technology AIU
  - AIU Incentives
  - Prepare state HIE

**2013**
- Data Capture and Sharing MU Stage 1

**2014**
- Advance Clinical Processes MU Stage 2
  - Load Medicaid and Medicare data into MHP
  - Consume clinical data into MHP
  - Managed care HIE readiness assessment and plan
  - Medication history out via eRX networks
  - Patient consent policy
  - Analytics Strategy

**2015**
- Improve Outcomes MU Stage 3
  - Integrate behavioral health and social service data into MHP
  - Medicaid generates clinical transactions
  - Implement analytic reports
  - Implement patient consent strategy
  - Explore patient access/portal

**Health Information Exchange Initiatives**

**Acronyms**
- HIE—Health Information Exchange
- EHR—Electronic Health Record
- MU—Meaningful Use (of health care data)
- AIU—Adopt, Implement, or Upgrade (to certified EHR system)
- MHP—Medicaid Health Profile
CMS Medicare and Medicaid EHR Incentive Programs

Milestone Timeline

- **Fall 2010**: Certified EHR technology available and listed on ONC website
- **Winter 2011**: Registration for the EHR Incentive Programs begins
- **Spring 2011**: Attestation for the Medicare EHR Incentive Program begins
- **Fall 2011**: Medicare payment adjustments begin for EPs and eligible hospitals that are not meaningful users of EHR technology
- **Winter 2012**: Last day for EPs to register and attest to receive an Incentive Payment for CY 2011
- **2014**: Last year to initiate participation in the Medicare EHR Incentive Program
- **2015**: Last year to receive a Medicare EHR Incentive Payment
- **2016**: Last year to initiate participation in Medicaid EHR Incentive Program
- **2021**: Last year to receive Medicaid EHR Incentive Payment

- **January 2011**: Certified EHR technology available and listed on ONC website
- **January 2011**: EHR Incentive Payments begin for Medicaid providers, States may launch their programs if they so choose
- **November 30, 2011**: Last day for eligible hospitals and CAHs to register and attest to receive an Incentive Payment for FFY 2011

- **April 2011**: EHR Incentive Payments begin

- **February 29, 2012**: Last day for EPs to register and attest to receive an Incentive Payment for CY 2011
Federal Commitment $44 Billion for Incentives

Vision of Meaningful Use

“To enable significant and measurable improvements in population health through a transformed health care delivery system.”

Key Goals

- Improve quality, safety, & efficiency
- Engage patients & their families
- Improve care coordination
- Improve population and public health
- Reduce disparities
- Ensure privacy and security protections

Capture & Share Data
- Lab Results Delivery
- e-Prescribing
- Claims & Eligibility Data
- Some Quality & Immunization Reporting

Increases volume of transactions most commonly happening today – Infrastructure

Advanced Care Processes Decision Support
- Registry reporting / public health reporting
- Electronic ordering
- Home monitoring, Continuity of Care summaries
- Populate PHRs

Substantially steps up exchange – Starts to Aggregate and Apply Data

Improved Outcomes
- Access comprehensive data
- Experience of Care reporting
- Medical Device Interoperability

Moves toward relatively routine and regular data exchange – Clinical Management & Performance Improvement
Number of Eligible Professionals Registered and Paid as of July 2013

Source: CMS EHR Incentive Program Data as of 7/31/2013

Total Professionals Paid: 312,072 (60%)

Total Professionals Registered: 405,329 (78%)

Total Eligible Professionals: 521,600

2012 Goal: 521,600

2013 Goal: 521,600
Number of Eligible Hospitals Registered and Paid as of July 2013

Total Eligible Hospitals: 5,011
- Total Hospitals Registered: 4,510 (90%)
- Total Hospitals Paid: 4,051 (81%)

Source: CMS EHR Incentive Program Data as of 7/31/2013
Meaningful Use
Population and Public Health Measures for MU Stage I* and II**

- Electronic Reportable Laboratory Results* ** (Hospital Based only)
- Immunization Registry* **
- Syndromic Surveillance* **
- Cancer Cases (Clinic Based only)**
- Other Specialized Registries (Clinic Based only)**
## Stage 2 Meaningful Use
### Improve Population and Public Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Ambulatory Measure</th>
<th>Hospital measure</th>
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<tbody>
<tr>
<td>Immunization Registries</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Core)</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Core)</td>
</tr>
<tr>
<td>Reportable Lab Results (ELR)</td>
<td>N/A</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Core)</td>
</tr>
<tr>
<td>Syndromic Surveillance</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Menu)</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Core)</td>
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<td>Cancer Registries</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority (Menu)</td>
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<tr>
<td>Specialized Registry</td>
<td><strong>Ongoing Submission</strong> to Public Health Authority or National Specialty Society (Menu)</td>
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<td>Public Health Domain</td>
<td>Exchange Standards</td>
<td>Vocabulary Standards</td>
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<td>--------------------------------------------------------------------------------------</td>
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<tr>
<td>Immunization Registries (IIS)</td>
<td><strong>Standard - HL7 2.5.1</strong>&lt;br&gt;• HL7 2.5.1 Implementation Guide for Immunization Messaging Release 1.4 - Approved 7/15</td>
<td>HL7 Standard Code Set CVX -- Vaccines Administered, updates through July 11, 2012</td>
</tr>
<tr>
<td>Reportable Lab Results (ELR)</td>
<td><strong>Standard - HL7 2.5.1</strong>&lt;br&gt;• HL7 Version 2.5.1 Implementation Guide: Electronic Laboratory Reporting to Public Health, Release 1 with Errata and Clarifications - Approved 7/15</td>
<td>SNOMED-CT and Logical Observation Identifiers Names and Codes (LOINC®) Database version 2.40</td>
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<tr>
<td>Syndromic Surveillance</td>
<td><strong>Standard - HL7 2.5.1</strong>&lt;br&gt;• PHIN Messaging Guide for Syndromic Surveillance: Emergency Department and Urgent Care Release 1.1 August 2012 (Required for Inpatient and optional for ambulatory) - Approved 7/15 Note: Ambulatory / Inpatient Guide under development</td>
<td></td>
</tr>
<tr>
<td>Cancer Registries</td>
<td>CDA&lt;br&gt;• Implementation Guide for Ambulatory Healthcare Provider Reporting to Central Cancer Registries, August 2012</td>
<td>IHTSDO SNOMED CT® International Release July 2012 and US Extension to SNOMED CT® March 2012 Release and LOINC</td>
</tr>
<tr>
<td>Specialized Registries</td>
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</tr>
</tbody>
</table>
Stage 2 MU PH Reporting Requirements Task Force Update

**Stage 2 MU Public Health Reporting Requirements Task Force**

Formed to discuss and develop consensus guidance around the new processes across domains and across jurisdictions

Representatives from:
- American Immunization Registry Association (AIRA)
- Association of State and Territorial Health Officials (ASTHO)
- Centers for Disease Control and Prevention (CDC)
- Council of State and Territorial Epidemiologists (CSTE)
- International Society of Disease Surveillance (ISDS)
- Joint Public Health Informatics Taskforce (JPHIT)
- National Association of County and City Health Officials (NACCHO)
- North American Association of Central Cancer Registries (NAACCR)
- Office of the National Coordinator for Health Information Technology (ONC)
- Public Health Informatics Institute (PHII)
- State Public Health Agencies
- And Others
Stage 2 MU PH Reporting Requirements Task Force Update

Stage 2 Meaningful Use Public Health Reporting Requirements Task Force Member Representation

Jurisdiction with Task Force Member Representation
Association, Organization, or Agency with Task Force Member Representation
Stage 2 MU PH Reporting Requirements Task Force Update

Stage 2 MU PH Reporting Requirements Task Force

Task Force Focus Areas (Work Lanes)
- Declaration Process
- Business Processes
  - Registration of Intent
  - Onboarding
  - Acknowledgement of ongoing submission
- Transport
- Specialized Registries
- Functional Business Requirements

Inputs to this Task Force include:
- Expanding on work done at the JPHIT Meeting, 10/15-17
Stage 2 MU PH Reporting Requirements Task Force Update

High-Level Deliverables:

- Recommendations to CMS for Centralized Repository
- Guidance for PHAs: Declaration of Readiness, Registration of Intent, Onboarding, & Acknowledgement
- Other Guidance: Transport, Specialized Registries, Business Requirements for Registration/On-Boarding Processes
New Public Health Processes for Stage 2 MU

**Declaration of Readiness**
- **Who:** PHA to CMS
- **When:** Begin in late-summer 2013

Public health agency (PHA) notifies the Centers for Medicare and Medicaid Services (CMS) what public health objectives it can support.

**Registration of Intent**
- **Who:** EPs and EHs to PHAs
- **When:** Before 60th day of reporting period

Eligible professionals (EPs) and eligible hospitals (EHs) notify PHA in writing what public health objectives they seek to meet.

**On-Boarding**
- **Who:** EPs and EHs to PHAs
- **When:** Following registration and in response to PHA requests for action

EPs and EHs work with PHAs to establish on-going MU data submission.

**Acknowledgment**
- **Who:** PHA to EPs and EHs
- **When:** Upon successful submission of public health MU data to PHA

PHAs affirm that EPs and EHs have successfully submission with a written affirmation. EPs and EHs may use the acknowledgment for MU attestation requirements.
Declaration of Readiness
Stage 2 MU PH Reporting Requirements Task Force Update

4. Exemptions
If a public health agency does not declare their MU readiness, then jurisdictional EPs and EHs may receive an automatic exemption.

3. Coordinate
In some cases, an EP or EH may learn that they have two public health agencies that can accept their MU public health data.

1. Declare
Public health officials declare to CMS their agency’s readiness for each public health MU objective.

2. Determine
EP or EH queries CMS database over the Internet to learn what public health MU data their public health agency is accepting.
Stage 2 MU PH Reporting Requirements Task Force Update

Declaration of Readiness (Centralized CMS Repository)

What this means for PHAs

1. PHAs must provide CMS information regarding their capacity to accept electronic data for the MU objectives
   - PHA does have capacity - technical capability and administrative capacity (resources) to enroll and onboard providers
   - PHA doesn’t have capacity - Provider can claim exclusion

2. PHA must provide information to CMS by deadline
   - Deadline not established yet, but it will be prior to start of Stage 2 MU (10/01/2013 for eligible hospitals)
   - If PHA doesn’t provide information, Providers can claim an exclusion
Stage 2 MU PH Reporting Requirements Task Force

- Provided recommendations for the centralized repository to CMS on 11/13/2012
  - Included recommendations for:
    - Process Rules
    - Data Elements
    - Functionality
Registration of Intent
Stage 2 MU PH Reporting Requirements Task Force Update

Eligible professionals (EPs) and hospitals (EHs) register their intent to attest for a given public health measure with their public health agency (PHA) within the first 60 days of their reporting period.
Registration of Intent

What this means for PHAs

- PHAs must have a process and/or system established to accept provider registrations
  - Determine what information the PHA should capture during registration
  - Method for provider to confirm registration was successful (Provider’s documentation for attestation)

- Some PHAs have existing registration systems
  - Modify systems to add support for Stage 2 registration

- PHA registration process ready for start of Stage 2 MU
Registration of Intent

3-Month 2014 EHR Reporting Periods (Medicare)

EHs/CAHs Reporting Periods **

60-Day Periods for EHs to Register Intent with PHAs

EPs Reporting Periods

60-Day Periods for EPs to Register Intent with PHAs

** EHR reporting periods for Medicare and Medicaid eligible hospitals and CAHs

The measure will not be met if the provider—
- Fails to register their intent by the deadline

** EHR reporting periods for Medicare and Medicaid eligible hospitals and CAHs
Registration of Intent

3-Month or 90-Day 2014 EHR EP Reporting Periods (Medicaid)

Medicaid EPs will attest using an EHR reporting period of any continuous 90-day period between January 1, 2014 and December 1, 2014 as defined by the state Medicaid program, or, if the state so chooses, any 3-month calendar quarter in 2014.
Onboarding
Stage 2 MU PH Reporting Requirements Task Force Update

Onboarding

PHAs will on board Providers that register their intent to submit data for the MU objectives. Separate onboarding is required for each MU objective.

- PHA prioritize Providers that register
- PHA invites Provider to begin testing and validation
- PHA and Provider engage in data testing and validation
- After successful testing and validation Provider initiates ongoing submission


..... successful ongoing submission as electronic submission of reportable data during the normal course of a provider’s operations. This is not to say all data that is reportable is sent to the PHA. A provider who is submitting any reportable data during their normal course of their operations is engaged in ongoing submission.
Stage 2 MU PH Reporting Requirements Task Force Update

Providers Meet the PH MU Measures if:

- Ongoing submission was already achieved for an EHR reporting period in a prior year and continues throughout the current EHR reporting period using either the current standard or the standards included in the 2011 Edition EHR certification criteria adopted by ONC during the prior EHR reporting period when ongoing submission was achieved.

- Registration of intent to initiate ongoing submission was made by the deadline with the PHA or other body to whom the information is being submitted (within 60 days of the start of the EHR reporting period) and ongoing submission was achieved.

- Registration of intent to initiate ongoing submission was made by the deadline and the EP or hospital is still engaged in testing and validation of ongoing electronic submission.

- Registration of intent to initiate ongoing submission was made by the deadline and the EP or hospital is awaiting invitation to begin testing and validation.
Getting to “On-Going”
The measure will not be met if the provider—
• Fails to register their intent by the deadline; or
• Fails to participate in the onboarding process as demonstrated by failure to respond to the PHA written requests for action within 30 days on two separate occasions.
### Stage 2 MU PH Reporting Requirements Task Force Update

#### Onboarding

2014 EHR 3-Month Reporting Period

<table>
<thead>
<tr>
<th>MONTH 1</th>
<th>MONTH 2</th>
<th>MONTH 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60-Day Period for Providers to Register Intent with PHAs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Maximum Onboarding Period (3 Months)</td>
<td></td>
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<tr>
<td></td>
<td>Minimum Onboarding Period (Approx. 1 Month)</td>
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</table>

*Limited timeframe for onboarding during the 1st year of Stage 2*
Stage 2 MU PH Reporting Requirements Task Force Update

Acknowledgement
Acknowledgement

PHAs provide written communications affirming Providers are able to submit relevant public health data to the PHA (Provider achieved ongoing submission). The Providers use this written communication to support their attestation.

Examples of written communications include, but are not limited to:

- Email sent to provider
- Letter mailed to provider
- HL7 Acknowledgement Messages from Immunization/Syndromic submissions
- Posting information on PHA website

CMS Final Rule: [http://www.federalregister.gov/a/2012-21050/p-1018](http://www.federalregister.gov/a/2012-21050/p-1018)

Comment: Commenters suggested that the expectation that public health agencies provide affirmation letters is too restrictive in accomplishing the goal of establishing a record of communication between the provider and the PHA. They maintain that there are simpler and less burdensome ways such as automated acknowledgment messages from immunization submissions.

Response: We agree that our proposal requiring it must be a letter is too restrictive and revise our expectation to allow for any written communication (which may be in electronic format) from the PHA affirming that the EP, eligible hospital or CAH was able to submit the relevant public health data to the PHA.
### Meaningful Use

The Centers for Medicare and Medicaid Services (CMS) established an incentive program using American Recovery and Reinvestment Act (ARRA) funds to encourage eligible providers and hospitals to adopt and use certified Electronic Health Record (EHR) technology. One goal of ARRA is to increase the Meaningful Use of EHR technology among medical providers.

### Receiving Meaningful Use Incentives

To receive Meaningful Use incentives, participating providers and facilities must meet various operational and public health criteria established by CMS with the Office of the National Coordinator for Health Information Technology (ONC).

Below is a summary of the public health objectives described by Meaningful Use. Please select a public health objective for further information about Washington State Department of Health’s activities and on-boarding instructions.

<table>
<thead>
<tr>
<th>Public Health Objectives</th>
<th>EH</th>
<th>EP</th>
<th>Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage 1</strong></td>
<td></td>
<td></td>
<td>1 test submission of data</td>
</tr>
<tr>
<td>Electronic Laboratory Reporting (ELR)</td>
<td></td>
<td>N/A</td>
<td>1 test submission of data</td>
</tr>
<tr>
<td>Immunization Information Systems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Syndromic Surveillance</td>
<td></td>
<td></td>
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<tr>
<td><strong>Stage 2</strong></td>
<td></td>
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<td>Ongoing Submission</td>
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<tr>
<td>Electronic Laboratory Reporting (ELR)</td>
<td>Required</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Immunization Information Systems</td>
<td>Required</td>
<td>Required</td>
<td>Ongoing Submission</td>
</tr>
<tr>
<td>Syndromic Surveillance</td>
<td>Required</td>
<td>Menu Option</td>
<td>Ongoing Submission</td>
</tr>
<tr>
<td>Cancer Registry Reporting</td>
<td>N/A</td>
<td>Menu Option</td>
<td>Ongoing Submission</td>
</tr>
<tr>
<td>Specialized Registry†</td>
<td>N/A</td>
<td>Menu Option</td>
<td>Ongoing Submission</td>
</tr>
</tbody>
</table>

* Washington State Department of Health has not yet officially named any registries for this objective. But we are developing Prescription Monitoring Program as a menu option, more information on this will be available soon. There may be registries outside that agency that submission to which will satisfy this reporting objective.

Please report any problems or difficulties to Dr. Bryant Thomas Karras, Washington State Department of Health Meaningful Use Coordinator.
Multi-step process

New process (connecting providers) to DOH...

- **Registration of Intent**
  - **Who**: EPs and EHs to PHAs
  - **When**: Before 60th day of reporting period
  - **Who**: EPs and EHs to PHAs
  - **When**: Following registration and in response to PHA requests for action
  - **Who**: PHA to EPs and EHs
  - **When**: Upon successful submission of public health MU data to PHA

- **On-Boarding**
  - Eligible professionals (EPs) and eligible hospitals (EHs) notify PHA in writing what public health objectives they seek to meet.
  - EPs and EHs work with PHAs to establish on-going MU data submission.

- **Acknowledgment of On-going Submission**
  - PHAs affirm that EPs and EHs have successfully submitted with written affirmation, which may be electronic and/or automatically generated.
Step 1  Registration
Eligible hospital notifies public health of interest in submitting electronic laboratory reporting data for Meaningful Use.

Step 2  Pre-Testing
Eligible hospital generates and evaluates electronic laboratory reporting test messages.

Step 3  Testing
Eligible hospital sets up data transport option and submits test messages to public health.

Step 4  Validation Queue
Eligible hospital is placed on a waitlist for validation.

Step 5  Validation
Eligible hospital establishes an electronic data feed to public health, maintains traditional ‘paper-based’ reporting, and participates in data validation activities.

Step 6  Production
Eligible hospital reports via electronic feed and participates in periodic quality assurance activities.
Registration of Intent

Eligible hospitals starting stage 1 or stage 2 of Meaningful Use after Oct 1 2013 are required to complete the registration form for each state even if they have registered previously. One registration form is required per hospital no later than the 60th day of the start of their continuous 90-day EHR reporting period.

Please note: Eligible hospitals must continue traditional reporting practices (i.e. fax, phone, or mail) during implementation of electronic reporting until they complete all on-boarding and quality assurance processes.
Regional Extension Centers

Paper-Based Practice

Support Network
- Regional Extension Center
- Community College Workforce
- Communities of Practice
- Health Information Technology Research Center (HITRC)

REC-Provider Partnership

Fully Functional EHR

Education and Outreach • Workforce • Vendor Relations • Implementation • Workflow Redesign • Functional Interoperability • Privacy and Security • Meaningful Use

Population Health
- Health Care Efficiency
- Patient Health Outcomes
RECs Cover the Full Range of Services

**Interoperability & HIE**
Assist providers in meeting functional interoperability requirements

**Implementation Support**
Provide EHR project management support

**Meaningful Use**
Assist providers on achieving Meaningful Use objectives

**Practice & Workflow Design**
Assist practices in improvement of daily operations

**Privacy & Security**
Implement best practices to protect patient information

**Outreach & Education**
Share best practices to select, implement, and meaningfully use EHRs

**Vendor Selection**
Assess practice’s IT needs and help select/negotiate vendor contracts

**Workforce**
Provide EHR training to providers and staff
Models for RECs to Help Public Health

- Communication to Providers
  - Requirements/Process for meeting PH Measures
  - Provider training

- Vendor engagement
  - Contract negotiations for PH interfaces

- Provide access to certified EHR modules
  - Ohio

- Provide Transport mechanisms
The EHR Incentive Programs Stage 1 Rule stated that, in order for a Medicaid encounter to count towards the patient volume of an eligible provider, Medicaid had to either pay for all or part of the service, or pay all or part of the premium, deductible or coinsurance for that encounter. The Stage 2 Rule now states that the Medicaid encounter can be counted towards patient volume if the patient is enrolled in the state’s Medicaid program (either through the state’s fee-for-service programs or the state’s Medicaid managed care programs) at the time of service without the requirement of Medicaid payment liability. How will this change affect patient volume calculations for Medicaid eligible providers?
State HIE Program Overview

- Facilitates and expands the secure electronic movement and use of health information
  - Federal-State collaboration
- Prepares States to support their providers in achieving HIE MU goals, objectives and measures
  - Four year program, total funding available $548 million
- 56 states/state designated entities and territories awarded in February and March of 2010
- States need an ONC approved State Plan before Federal funding can be used for implementation
State HIE Program Objectives First Phase Implementation

Ensure ALL eligible providers within every state have at least one option available to them to meet the three program priorities.

- E-prescribing—the ability to generate and transmit permissible prescriptions electronically (eRx)
- Receipt of structured lab results—the ability to incorporate clinical lab test results into EHR as structured data
- Sharing of patient care summaries across unaffiliated organizations—the ability for every provider to provide a summary care record for each transition of care or referral
Models for HIEs to Help Public Health

- Filtering results
  - New Mexico ELR

- Incorporate structured lab results
  - New Mexico

- Provide access to certified EHR modules
  - Ohio

- Provide Transport mechanisms
  - Direct (Matches well with needs of Cancer Registries)
Immunization

• Publication Date
  – Published 9/2/2012

• Documents Published with Regulation

• Documents Published post-regulation
  – Conformance Clarification for EHR Certification of Immunization Messaging – (VXU MESSAGES V04 HL7 Version 2.5.1)
Immunization

• Post-regulatory issues identified
  – Order Group is shown with blank usage and should be RE usage
  – RXA-6 (administered amount)

• Clarified conformance statement to:
  – If RXA-9.1 is not valued “00” then RXA.6 SHALL BE valued “999”.
  – RXA-9.1 “00” means that the immunization was administered by sender. This is the only time that the amount administered can be known.
Immunization-Scenarios

- Scenarios for Testing
  - Record administration of one immunization to a child
  - Record administration of one immunization to an adult
  - Record one immunization to a child from a historical record
  - Record one immunization to a child who consents to share records
  - Record refusal of immunization for a toddler
  - Record history of varicella for a child
  - Record complete immunization history for a child with both historical records and administered vaccines
Immunization Test Data

• Test Data
  – 1 set of test data for each scenario will be published for comment
  – 3 sets of test data for each scenario will be available for ATCBs
Reportable Lab Results

• **Publication Date**
  – October 15\textsuperscript{th}, 2012

• **Documents Published with Regulation Available on the HL7 Site**

• **Documents Published post-regulation – CDC.gov**
  – [ELR 2.5.1 Clarification Document for EHR Technology Certification](#), July 16, 2012; to be updated with publication of test scenarios
Reportable Lab Results

• Post-regulatory issues identified*
  – OBR.2 (Placer Order Number) Cardinality should be 
    [0..1] instead of [1..1] as published.
  – HD.2 (Universal ID): Comment should read: Must be an 
    OID except for ELR Sending Facility for MSH-4 where a 
    CLIA identifier is allowed, instead of “for ELR Receiver 
    for MSH-3 where a CLIA identifier is allowed.”
  – HD.3 (Universal ID Type): Comment should read: 
    Constrained to the value ‘ISO’ except for ELR Sending 
    Facility for MSH-4 where the value ‘CLIA’ is allowed, 
    instead of “for ELR Receiver for MSH-4 where the value 
    ‘CLIA’ is allowed.”

*There are additional errata identified. These have been brought to the attention of the HL7 Public Health Emergency Response (PHER) working group in order to ballot and publish a second Errata document.
# Reportable Lab Results - Scenarios

<table>
<thead>
<tr>
<th>Scenario*</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Final Result, Single Quantitative w/Guardian maximally populated message</td>
</tr>
<tr>
<td>2</td>
<td>Final Result, Single Quantitative - ORC segment</td>
</tr>
<tr>
<td>3</td>
<td>Prelim, Lab Test with Multiple Organism Results</td>
</tr>
<tr>
<td>4</td>
<td>Final Result, Culture Lab Tests Single Organism w/ Susceptibilities</td>
</tr>
<tr>
<td>5</td>
<td>Final, Screen and Reflex Result</td>
</tr>
<tr>
<td>6</td>
<td>Final, Screen and Reflex Result</td>
</tr>
<tr>
<td>7</td>
<td>Final, Single Quantitative Titer Result</td>
</tr>
<tr>
<td>8</td>
<td>Final, Single Qualitative Results w/Guardian</td>
</tr>
<tr>
<td>9</td>
<td>Final, Multiple Qualitative Results</td>
</tr>
</tbody>
</table>

* Each scenario has 3 stories, representing different disease/conditions
Reportable Lab Results Test Data

- Test Data*
  - 3 sets of test data for each scenario published for comment
  - 3 sets of test data for each scenario available for ATCBs

*Each scenario has 3 stories, representing different disease/conditions and objective that the scenario requires.
PH Readiness

- Challenges to perception of PH Readiness for Stage 1
- How can we better demonstrate PH Readiness and how PH uses the data
EP Improve Care Coordination

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance</th>
<th>Exclusion</th>
<th>Deferral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medication reconciliation</td>
<td>88%</td>
<td>3%</td>
<td>53%</td>
</tr>
<tr>
<td>Summary of care at transitions</td>
<td>89%</td>
<td>3%</td>
<td>82%</td>
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</table>
EP Improve Population and Public Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance*</th>
<th>Exclusion</th>
<th>Deferral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunizations</td>
<td>37%</td>
<td>44%</td>
<td>19%</td>
</tr>
<tr>
<td>Syndromic Surveillance</td>
<td>6%</td>
<td>24%</td>
<td>70%</td>
</tr>
</tbody>
</table>

*Performance is percentage of attesting providers who conducted test
# EH Quality, Safety, Efficiency, and Reduce Health Disparities

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance</th>
<th>Exclusion</th>
<th>Deferral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Problem List</td>
<td>95%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Medication List</td>
<td>98%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Medication Allergy List</td>
<td>98%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Demographics</td>
<td>97%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Vital Signs</td>
<td>93%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Smoking Status</td>
<td>93%</td>
<td>0.6%</td>
<td>N/A</td>
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</table>
## EH Quality, Safety, Efficiency, and Reduce Health Disparities

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance</th>
<th>Exclusion</th>
<th>Deferral</th>
</tr>
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<tbody>
<tr>
<td>CPOE</td>
<td>85%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Advance directives</td>
<td>96%</td>
<td>0.5%</td>
<td>9%</td>
</tr>
<tr>
<td>Incorporate lab results</td>
<td>95%</td>
<td>N/A</td>
<td>14%</td>
</tr>
<tr>
<td>Drug-formulary checks</td>
<td>N/A</td>
<td>N/A</td>
<td>18%</td>
</tr>
<tr>
<td>Patient lists</td>
<td>N/A</td>
<td>N/A</td>
<td>43%</td>
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</table>
## EH Improve Population and Public Health

<table>
<thead>
<tr>
<th>Objective</th>
<th>Performance*</th>
<th>Exclusion</th>
<th>Deferral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immunizations</td>
<td>53%</td>
<td>13%</td>
<td>34%</td>
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<tr>
<td>Reportable Lab Results</td>
<td>14%</td>
<td>5%</td>
<td>80%</td>
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<tr>
<td>Syndromic Surveillance</td>
<td>19%</td>
<td>3%</td>
<td>78%</td>
</tr>
</tbody>
</table>

*Performance is percentage of attesting providers who conducted test
How could Public Health Get more $
Other ONC Initiatives

- Consumer Engagement
- Beacons
- S&I Framework Initiatives
  - Structured Data Framework
  - Data Access Framework
  - HealthEDecisions
**Goal:** Collaborate with a vanguard group of State HIE grantees to empower consumers to be partners in their care by implementing innovative approaches to sharing electronic information with consumers and enabling consumer-mediated exchange, through which patients can aggregate, use, and re-share their own information.
The Three A’s Approach to Consumer eHealth

Increase consumer Access to *their* health information

Enable consumers to take Action with *their* information

Shift Attitudes to support patient-provider partnership
Better Engagement => Better Outcomes

- Hospital Readmit within 30 Days
  - More Activated Patient: 13%
  - Less Activated Patient: 28%

- Experience a Medical Error
  - More Activated Patient: 19%
  - Less Activated Patient: 36%

- Suffer a health consequence from poor communication among providers
  - More Activated Patient: 13%
  - Less Activated Patient: 49%

Source: AARP Survey of patients over 50 with 2 or more chronic conditions
Patient engagement continues to be big news. Meaningful Use’s Stage 2 final rule has patient and family engagement at its very core. And, based on solicited feedback, the ONC reduced patient engagement measures from 10% to 5%, showing it may be the hardest goal of Meaningful Use to achieve.

So why, oh why, is patient engagement such a big part of MU and the Medicare shared-savings program for ACOs?

All this is so different for healthcare providers. It’s like a great restaurant learning that their new business is going to be – in addition to continuing to provide a great in-restaurant experience – teaching people how to cook at home. What? This isn’t what we do! It’s impossible!

Actually, it’s surprising that it has taken us this long to focus on patient engagement because the results we have thus far are nothing short of astounding. If patient engagement were a drug, it would be the blockbuster drug of the century and malpractice not to use it.
Consumer Engagement

• **Immunization Registries** - Enables families to access immunization registries and download or send them to a PHR

• **Blue Button** - Allows consumers to obtain a copy of their health information through a simple web-based download

• **Direct to Consumers** - Encourages patients and their providers to get Direct addresses and for consumers to begin receiving, aggregating and using their health information and sharing it with caregivers and providers

• **Cancer Care Coordination** - Focuses on improving cancer care coordination by sharing electronic health information including radiology images, discharge summaries and medication lists with cancer patients to support more coordinated care, patient engagement and better transitions
Immunization Registries Indiana created a consumer portal myVAX that allows patients to access their records in the state immunization registry the Children and Hoosier’s Immunization Registry Program (CHIRP). They developed a portal that provides multiple delivery options including an on screen view and download capability via “Blue Button”, a CCD export option, and the ability to print out a copy.
Crescent City Beacon Community

- Greater New Orleans ~1.2 million
- Louisiana Public Health Institute (LPHI) as convening entity – 501 (c)(3)
- Safety Net System based on a network of community health clinics with high adoption of electronic medical records
- Focus on improving chronic disease management due to high prevalence of Diabetes and Cardiovascular disease
Solution Offering And Value Proposition

Care Management & Coordination System

Solution Offering

• Patient/Person Centered Medical Home
• Health Information Exchange
• Chronic Care Management System

Value Proposition

Improve Quality
• HEDIS measures for diabetes and cardiovascular

Improve Efficiency
• Reduce hospital readmissions
• Reduce Emergency Room Visits
• Reduce Avoidable Hospital Admissions
• Reduce duplicate testing (e.g. imaging)
• Medication management

Bend the Medical Cost Trend
• Reduction in per member per month cost
Positive Trends on Adoption & Outcomes

**Number of Sites Using Care Management Processes - 2012**

<table>
<thead>
<tr>
<th>Service</th>
<th>January</th>
<th>July</th>
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</thead>
<tbody>
<tr>
<td>Care Management Staff</td>
<td>11</td>
<td>14</td>
</tr>
<tr>
<td>Individual Care Plans</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Registries</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>Stratify DM Patients</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>Care Management for DM Patients</td>
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<td>14</td>
</tr>
<tr>
<td>Care Management for CVD Patients</td>
<td>7</td>
<td>10</td>
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</tbody>
</table>

**Number of Patients**

Quality Outcomes

<table>
<thead>
<tr>
<th>Disease</th>
<th>Outcome</th>
<th>Trend</th>
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</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>A1C testing</td>
<td>Up</td>
</tr>
<tr>
<td>Diabetes</td>
<td>A1C control (&lt;8.0%)</td>
<td>Up</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Lipid testing</td>
<td>No change</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Lipid control (&lt;100mg/dL)</td>
<td>Up</td>
</tr>
<tr>
<td>Diabetes</td>
<td>Blood Pressure Control (&lt;130/80)</td>
<td>Up</td>
</tr>
<tr>
<td>Ischemic Vascular Disease</td>
<td>Blood Pressure Control (&lt;140/90)</td>
<td>No change</td>
</tr>
<tr>
<td>Ischemic Vascular Disease</td>
<td>Complete Lipid Profile</td>
<td>No change</td>
</tr>
<tr>
<td>Coronary Artery Disease</td>
<td>Drug Therapy for Lowering LDL-C</td>
<td>Up</td>
</tr>
</tbody>
</table>

*All data from QI Outcome Measure Reports*
I Love it and so do my colleagues! The ED notifications have improved our ability to maintain a continuum of care for our patients, especially those with chronic diseases. These notifications provide us with an awareness that we wouldn’t have otherwise had.

Abigail, a RN from Daughters of Charity, shares a ED/IP notification success story.

Now, we do not need to rely on patients to report all of their visits and remember all of the details the system does it for them.”
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

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 Captured Data

Actor Key
- Provider/End User
- EHR System
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
- Create and disseminate queries internal to organization
  - Query Structure Layer
  - APIs
  - Authentication/Authorization Layer
- Receive standardized responses
  - Query Results Layer

Targeted Access via Inter-Organization Query
- Create and disseminate queries to external organization
  - Query Structure Layer
  - Transport Layer
  - Authentication/Authorization Layer
- Receive standardized responses from external organization
  - Query Results Layer

Multiple Data Source Access via Distributed Query (Query Health) - Completed Initiative
- Create and disseminate queries to multiple organizations
  - 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 a 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.
## Query Health Pilots

<table>
<thead>
<tr>
<th>Pilot</th>
<th>Focus</th>
<th>RI Queries</th>
<th>RI Policy Layer</th>
<th>Data Sources</th>
<th>Kickoff</th>
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</thead>
<tbody>
<tr>
<td>NYC &amp; NYS Depts. of Public Health</td>
<td>Diabetes (NYC) Hypertension (NYS)</td>
<td>i2b2</td>
<td>PMN</td>
<td>RHIOs EHR Vendor</td>
<td>May 2012</td>
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<tr>
<td>FDA Mini-Sentinel</td>
<td>Use of clinical data sources for FDA questions</td>
<td>PMN</td>
<td>PMN</td>
<td>i2b2/Beth Israel</td>
<td>June 2012</td>
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<tr>
<td>CDC</td>
<td>National / regional: - Disease syndromes - Situation awareness</td>
<td>i2b2</td>
<td>PMN</td>
<td>Bio-Sense 2</td>
<td>July 2012</td>
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<td>Mass. Dept. of Public Health</td>
<td>Diabetes</td>
<td>PMN</td>
<td>PMN</td>
<td>MDPHNet</td>
<td>July 2012</td>
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<td>CQM</td>
<td>Quality Measures</td>
<td>hQuery</td>
<td>PMN</td>
<td>EHR Vendor</td>
<td>August 2012</td>
</tr>
</tbody>
</table>

HeD - Use Case 1

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

In Scope
- Format of the CDS Knowledge Artifact

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

CDS Knowledge Artifact Supplier

CDS Artifact Integrator

Computable CDS Knowledge Artifact
Conceptual Use Case Diagram: CDS Guidance Service Diagram (Use Case 2)

CDS Guidance Requestor

CDS Guidance Supplier

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

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

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

CDS Request
(patient data + context)

CDS Guidance
(guidance + service structure)
Pilots

- Planned
  - Pertussis reporting triggers

- Potential
  - Trigger SDC Report
  - Trigger Community Resource Referral (in conjunction with SDC)
Opportunity for the public to inform the process

- ONC provides support to two Federal advisory committees
  - HIT Policy Committee (HITPC) and HIT Standards Committee (HITSC)
  - Provide a direct means for private and public sector health IT leaders as well as the public to provide input
- HITPC and HITPC workgroup meetings are public
  - The public has an opportunity to comment
  - All meetings are posted on the HealthIT.gov website
- HITPC’s Request for Comment (RFC) will signal concepts that may be included in the stage 3 NPRM
- The NPRM provides an additional opportunity for the public to inform the process
Thank You and Questions

HealthIT/

Contact Information:
Bryant.Karras@doh.wa.gov
James.Daniel@hhs.gov

Artwork “3D Iceberg” ©2012 Daniel Mueri adapted by Bryant Karras w/ permission
Pennsylvania ELR Profile

The information contained in this profile is a summary of the information you provided the ELR Implementation Support and Monitoring team and the national ELR information collected from all other jurisdictions. The report is divided into several sections:
- Jurisdictional summary of all information provided compared to national averages
- Jurisdictional summary of production ELR labs by ELR format and disease category
- Jurisdictional list of ELR laboratories—testing or in production

If you have questions or additional changes to this information after you review the profile, please do not hesitate to contact elrstatus@cdc.gov.

<table>
<thead>
<tr>
<th>STD</th>
<th>HIV</th>
<th>Hepatitis</th>
<th>Lead/Toxic</th>
<th>Enteric</th>
<th>General</th>
<th>Zoonotic</th>
<th>VFD</th>
<th>Influenza</th>
<th>TB/Myc</th>
<th>Total</th>
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<tbody>
<tr>
<td>40,137</td>
<td>9</td>
<td>32,656</td>
<td>13</td>
<td>44,473</td>
<td>10</td>
<td>162,938</td>
<td>16</td>
<td>8,626</td>
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<tr>
<td>40,137</td>
<td>33,297</td>
<td>44,473</td>
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<td>14,259</td>
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<td>5,101</td>
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</table>

Pennsylvania

<table>
<thead>
<tr>
<th>Facility Name</th>
<th>ID</th>
<th>City</th>
<th>Target</th>
<th>Lab Type</th>
<th>Production</th>
<th>Production Format</th>
<th>Volume Testing</th>
<th>Testing Format</th>
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<tbody>
<tr>
<td>A. E. KIRBY MEMORIAL HEALTH CENTER</td>
<td>PA2</td>
<td>Wilkes Barre</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
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<tr>
<td>ACL INC - AURORA HEALTH CARE</td>
<td>PA5</td>
<td>West Allis, WI</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
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<td>3,765</td>
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<td>ARUP</td>
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<td>Large</td>
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<tr>
<td>BIOSERVICES LABORATORIES, INC.</td>
<td>PA58</td>
<td>Elmwood Park, NJ</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
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<tr>
<td>BROOKVILLE HOSPITAL</td>
<td>PA472</td>
<td>Brookville</td>
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<td>Hospital</td>
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<tr>
<td>CENTER FOR DISEASE DETECTION, LLC</td>
<td>PA73</td>
<td>San Antonio, TX</td>
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<td>Other</td>
<td>Yes</td>
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<tr>
<td>DUBOS REGIONAL MEDICAL CENTER</td>
<td>PA119</td>
<td>Du Bois</td>
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<td>ELLWOOD CITY HOSPITAL</td>
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<td>Hospital</td>
<td>No</td>
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<td>Mayo Clinic Department or Lab Med Pathology</td>
<td>240404292</td>
<td>Rochester, MN</td>
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<td>PA262</td>
<td>St. Paul</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>1,047</td>
<td>No</td>
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<tr>
<td>PA DEPT. OF HEALTH, BUREAU OF EPI, ENVIRONMENTAL HEALTH</td>
<td>PA299</td>
<td>Harrisburg, PA</td>
<td>Yes</td>
<td>Public Health</td>
<td>Yes</td>
<td>Other Forma</td>
<td>35,476</td>
<td>No</td>
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<td>PA DEPT. OF HEALTH, BUREAU OF FAMILY HEALTH</td>
<td>PA299</td>
<td>Harrisburg</td>
<td>Yes</td>
<td>Public Health</td>
<td>Yes</td>
<td>Other Forma</td>
<td>5,873</td>
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<td>PA DEPT. OF HEALTH, BUREAU OF LABORATORIES</td>
<td>PA300</td>
<td>Limerick</td>
<td>Yes</td>
<td>Public Health</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>792</td>
<td>Yes</td>
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<tr>
<td>PHILADELPHIA CLIPPED CLINIC</td>
<td>PA310</td>
<td>Philadelphia</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>8,400</td>
<td>Yes</td>
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<tr>
<td>Quest Diagnostics -</td>
<td>PA473</td>
<td>Erie, PA</td>
<td>Yes</td>
<td>Large</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>120,253</td>
<td>No</td>
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<tr>
<td>Quest Diagnostics - Chantilly (Nichols Institute)</td>
<td>4800218001</td>
<td>Chantilly, VA</td>
<td>Yes</td>
<td>Large</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>Quest Diagnostics - Horsham</td>
<td>PA352</td>
<td>Horsham, PA</td>
<td>Yes</td>
<td>Large</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>23,520</td>
<td>Yes</td>
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<tr>
<td>Quest Diagnostics - Pittsburgh</td>
<td>3506566978</td>
<td>Pittsburgh, PA</td>
<td>Yes</td>
<td>Large</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>0</td>
<td>No</td>
</tr>
<tr>
<td>SOMERSET HOSPITAL</td>
<td>PA473</td>
<td>Somerset</td>
<td>Yes</td>
<td>Hospital</td>
<td>No</td>
<td>HL7 2.3.1/1</td>
<td>1,148</td>
<td>No</td>
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<tr>
<td>SPECIALTY LABORATORIES</td>
<td>PA373</td>
<td>Santa Monica</td>
<td>Yes</td>
<td>Other</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>9,566</td>
<td>No</td>
</tr>
<tr>
<td>THE CHILDREN'S HOSPITAL OF PHILADELPHIA</td>
<td>PA406</td>
<td>Philadelphia</td>
<td>Yes</td>
<td>Hospital</td>
<td>Yes</td>
<td>Other Forma</td>
<td>17,745</td>
<td>No</td>
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<tr>
<td>THE READING HOSPITAL AND MEDICAL CENTER</td>
<td>PA409</td>
<td>Reading</td>
<td>Yes</td>
<td>Hospital</td>
<td>Yes</td>
<td>HL7 2.3.1/1</td>
<td>8,579</td>
<td>No</td>
</tr>
</tbody>
</table>
ELR Volume and Total Labs By Lab Type
June 2012

- **Large**: 41% ELR Volume (53 Jurisdictions Reporting), 4% Total Labs (57 Jurisdictions Reporting)
- **Hospital**: 10% ELR Volume (53 Jurisdictions Reporting), 52% Total Labs (57 Jurisdictions Reporting)
- **VA**: 0% ELR Volume (53 Jurisdictions Reporting), 1% Total Labs (57 Jurisdictions Reporting)
- **Federal**: 0% ELR Volume (53 Jurisdictions Reporting), 1% Total Labs (57 Jurisdictions Reporting)
- **Public Health**: 32% ELR Volume (53 Jurisdictions Reporting), 4% Total Labs (57 Jurisdictions Reporting)
- **Other**: 17% ELR Volume (53 Jurisdictions Reporting), 38% Total Labs (57 Jurisdictions Reporting)
Volume of Lab Reports and % via ELR, by Disease Category
June 2012

# of Lab Reports for 12 month period

Notes:
• 47 Jurisdictions reporting
### Outcome Measure 2

**Number of HL7 Transactions**

<table>
<thead>
<tr>
<th></th>
<th>Sites w/ Prior HL7 Interfaces</th>
<th>Sites w/o Prior HL7 Interfaces</th>
<th>Met OM2?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Weekly Avg Pre</td>
<td>Weekly Avg Post</td>
<td>% Increase</td>
</tr>
<tr>
<td>A</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>B</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>C</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>D</td>
<td>109</td>
<td>173</td>
<td>58.7%</td>
</tr>
<tr>
<td>E</td>
<td>428</td>
<td>1277</td>
<td>198.4%</td>
</tr>
<tr>
<td>F</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>G</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>H</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>TOTAL</td>
<td>594</td>
<td>2,764</td>
<td>365%</td>
</tr>
</tbody>
</table>

**Source:** Data reported to EHR-IIS Evaluation Online Tool as of July 31, 2012.
Outcome Measure 3

**Timeliness**

“Increase the number/proportion of practice-based immunization data received and recorded in the IIS within 30 days or less by 25%”
H) FOA Outcome measure 3:
Number of vaccinations for kids at least 4 months of age and under six years of age received by the
IIS within days of administration by each provider site (provide timeliness data for each
category) Guidance

<table>
<thead>
<tr>
<th>Category</th>
<th>Administered</th>
<th>Historical</th>
<th>Total</th>
<th>Proportion of Total Vx Received</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) less than or equal to 1 day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) greater than 1 day - equal to or less than 7 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) greater than 7 days - equal to or less than 14 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) greater than 14 days - equal to or less than 30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) greater than 30 days</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totals</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Outcome Measure 3

**Timeliness – Administered Vx Only**

<table>
<thead>
<tr>
<th>Grantee</th>
<th>Vx &lt;30d Pre-Enh</th>
<th>Vx &lt;30d Post-Enh</th>
<th>Absolute % Point Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>100%</td>
<td>100%</td>
<td>0%</td>
</tr>
<tr>
<td>B</td>
<td>99.4%</td>
<td>99.0%</td>
<td>-0.4%</td>
</tr>
<tr>
<td>C</td>
<td>-</td>
<td>90.3%</td>
<td>-</td>
</tr>
<tr>
<td>D</td>
<td>98.7%</td>
<td>93.2%</td>
<td>-5.5%</td>
</tr>
<tr>
<td>E</td>
<td>43.8%</td>
<td>33.9%</td>
<td>-9.9%</td>
</tr>
<tr>
<td>F</td>
<td>87.6%</td>
<td>99.2%</td>
<td>11.6%</td>
</tr>
<tr>
<td>G</td>
<td>93.1%</td>
<td>60.3%</td>
<td>-32.8%</td>
</tr>
<tr>
<td>H</td>
<td>22.2%</td>
<td>57.8%</td>
<td>35.6%</td>
</tr>
</tbody>
</table>

Source: Data reported to EHR-IIS Evaluation Online Tool as of July 31, 2012.