Presentation 1:
The Public Health Community Platform & Electronic Case Reporting
Presenter: Marcus Rennick

Presentation 2:
APHL Informatics Messaging Services (AIMS)
Presenter: Eduardo Gonzalez Loumiet

Public Health - EHR Vendors Collaboration Initiative
July 19, 2016
Public Health – EHR Vendors Collaboration Initiative

Question and Answer Session
How to submit or ask questions for the panel members?

Submit or Ask Questions
Submit your text question and comments using the Question Panel

Please raise your hand to be unmuted for verbal questions.
The Public Health Community Platform &
Electronic Case Reporting

Marcus Rennick
mrennick@astho.org
Public Health Community Platform

- **Vision**
  Universal access to modernized shared resources that efficiently, securely, and collaboratively transform data into action for a healthier nation.

- **Mission**
  Provide an accessible, flexible, and secure public health information technology platform of interoperable shared solutions governed by and responsive to the public health community that enables user-driven development, implementation, collaboration, and effective use of resources to address public health priorities.
Glossary and Actors

**ASTHO** = Association of State and Territorial Health Officials

**PHCP** = Public Health Community Platform

**APHL** = Association of Public Health Laboratories

**AIMS** = APHL Informatics Messaging Service

**CSTE** = Council of State and Territorial Epidemiologist

**RCKMS** = Reportable Condition Knowledge Management System (Public Health Decision Support)

**eCR** = electronic case reporting of reportable conditions

**eICR** = HL7 CDA document

**RCTC** = Reportable Conditions Trigger Codes
eCR Components

- Standardized initial report for *all jurisdictions* and *all reportable conditions*

- National Trigger Set for *all jurisdictions* and *all reportable conditions* to initiate the case report generation

- Public Health Decision Support to evaluate the initial report against *jurisdiction specific* and *condition specific* rules

- Standard Transport Mechanisms
## Value Proposition

<table>
<thead>
<tr>
<th>Data Senders (Providers and Facilities)</th>
<th>Data Receivers (Public Health Agencies)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>compliance</strong> with public health reporting laws</td>
<td>• disease reporting <strong>timeliness</strong> and <strong>completeness</strong></td>
</tr>
<tr>
<td>• <strong>transparency</strong> of patient data provisioning</td>
<td>• public health intervention and <strong>prevention</strong> activity</td>
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<tr>
<td>• <strong>awareness</strong> of potential public health follow-up</td>
<td>• focus on epidemiologic data (risk factors, exposure)</td>
</tr>
<tr>
<td>• <strong>standardization</strong> of initial reporting data elements</td>
<td>• ability to <strong>share</strong> case information interjurisdictionally</td>
</tr>
<tr>
<td>• <strong>person-resources</strong> for reporting</td>
<td>• <strong>capacity</strong> to leverage shared tools and solutions</td>
</tr>
<tr>
<td>• “one-off” public health reporting tracking process</td>
<td>• <strong>community-driven</strong> platform development</td>
</tr>
<tr>
<td>• interruptions by public health investigators</td>
<td>• <strong>technical solutions</strong> for data reporting process</td>
</tr>
<tr>
<td>• training time of medical record and office staff</td>
<td>• <strong>person-resources</strong> for data collection</td>
</tr>
<tr>
<td></td>
<td>• <strong>redundancy</strong> in system development projects</td>
</tr>
</tbody>
</table>
# eCR Component Status

<table>
<thead>
<tr>
<th>Current State</th>
<th>Next Step</th>
</tr>
</thead>
</table>
| **eICR HL7 Standard:**  
- Draft eICR Standard Published (STU)  
  [http://www.hl7.org/dstUcomments/showdetail.cfm?dstuid=188](http://www.hl7.org/dstUcomments/showdetail.cfm?dstuid=188)  
- Sample eICR documents for select conditions  
  [http://www.thephcp.org/committees/case-reporting](http://www.thephcp.org/committees/case-reporting) | **eICR HL7 Standard:**  
- Notice of Reportability Implementation Guide  
- Update version of CCDA to address “future plans” comments  
- FHIR Implementation Guide for eICR |
| **Reportable Conditions Trigger Codes:**  
- Universal code set for all reportable conditions in all jurisdictions (lab order, result, diagnosis)  
- Pertussis, salmonellosis, gonorrhea, chlamydia, Zika  
- Published in PHIN VADS in May 2016  
  [https://phinvads.cdc.gov/vads/SearchVocab.action](https://phinvads.cdc.gov/vads/SearchVocab.action) | **Reportable Conditions Trigger Codes:**  
- Explore implementation with EHR vendors  
- CSTE continue identify / vet codes  
- Certification guidance from ONC ~summer 2016 |
| **RCKMS:**  
- Decision tool with default criteria for 5 base conditions  
- Draft tool being integrated into PHCP eCR workflow on AIMS  
  [http://www.cste.org/group/RCKMS](http://www.cste.org/group/RCKMS) | **RCKMS:**  
- Launch reporting requirements authoring interface  
- Pilot decisions support tool with 5 conditions |
eCR Implementation Options

Triggers - Any reportable condition in any jurisdiction

Deploy PH Decision Support Tool (e.g., RCKMS, ESP) to determine reportability before sending eICR to PH

Use decision support housed on intermediary to confirm reportability:
Option 1: Centralized PH Decision Support tool (RCKMS)
Option 2: External PH decision support/tool (e.g., RCKMS, ESP @ HIE)

Route eICR to appropriate jurisdiction(s)

Receive eICR directly and confirm reportability
Options to confirm reportability
- Option 1: Run PH decision support tool (e.g., RCKMS, ESP) locally at PH
- Option 2: Manual inspection
- Option 3: Call PH decision support as a centralized web service

From CDC presentation to CSTE ELDERS WG on 4/20/2016
eCR Implementation Options

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From CDC presentation to CSTE ELDRS WG on 4/20/2016
eCR Pilots
eCR Pilot Scope

- Define the requirements for system integration between the PHCP, EHR system and the PHA system.
- The pilot teams will help to identify the requirements, test the integration points, and validate success.
- Additionally, this project scope will align with the emerging standards in Meaningful Use Stage 3, allowing for vendor certification to MU stage 3 requirements.
eCR Pilot Objectives

- Define and document the requirements for system connectivity between the PHCP, EHR system and the PHA system.
- Demonstrate the integration of subset of trigger codes into EHR.
- Test data transmission with test data from EHR to PHCP and PHCP to PHA.
- Securely transport case reports for selected diseases from production EHR system in a CCDA format to the PHCP/AIMS containing agreed upon data elements and then successful transport the electronic initial case report to the PHA.
- Validate received cases at PHA against normal reporting.
eCR Pilots

- Initial Pilot - Complete Framework of transporting case report from clinical EHR to PHA
  - Utah DOH/Intermountain Healthcare/Cerner
  - Illinois DPH/Northshore Medical Group/Epic

- Secondary Pilot - Transport and integration of eICR from PHCP to PHA
Next Steps

Continue discussion of topics with EHR implementers on calls over the Summer

Email ehrmeaningfuluse@cdc.gov to request participation
Implementation Topics in EHRs

1. Where in the EHR workflow would codes be looked for?
2. Timing of when the EHR looks for a match to the RCTC?
3. What defines an encounter, does it differ based on care setting.
4. Generation of eICR – how many reports will be generated for each condition, one for all conditions?
5. Once an eICR is sent for an encounter, what should initiate an updated report?
6. More…. 
APHL Informatics Messaging Services (AIMS)  July 19, 2016
APHL Informatics Messaging Services

A secure, cloud based environment that accelerates the implementation of health messaging by providing shared services to aid in the transport, validation, translation and routing of electronic data.
Today: A National Resource for Interoperability

50 states

AIMS

Influenza
NREVSS
NMI
VPD
LRN
Animal
Rabies
AMD

Priorities

Legal • Continuity • Security • Compliance • Technical Support

- Speed and Agility
- Elasticity
- Low cost of experimentation
- Easily deployable solutions
Automated continuous configuration and monitoring provides cybersecurity and information assurance capabilities to information technology environments on AIMS.
Compliance

✓ HIPAA-compliant, HITRUST-certified environment on the AWS Cloud.

✓ FedRAMP and NIST 800-53

✓ Business Associate Agreements

✓ Shared Responsibility Model

✓ System Security Plan (SSP) in place

✓ Security Assessment (ST&E) and Audit conducted in 2013 by RTI International and in 2016 by A-LIGN.

✓ FISMA Moderate Compliance ATO granted in 2013

✓ FedRAMP certified environment
Empowering States: Cross-Jurisdictional Data Exchange

Organic ELR Data Exchange

LEGEND

Bi-directional Data Flow
Private Sector Adoption

10 States receiving ELR via AIMS
Traction

>3.5M Messages and Counting

>5M Securely Monitored Log files

80 AIMS Trading Partners

AIMSPlatform.com
AIMS Functional Architecture

Platform Applications
- Route-Not-Read
- Web Services
- SFTP
- ELR
- Hosting
- Transport Interop

Hosted Solutions
- Message Routing
- Message Transform
- DB
- Backups
- Disaster Recovery

Services

Systems Management

Security & Information Assurance
eICR Workflow

Step 1 - Initial Case Report
Vendor/Provider

Step 2
Inbound
Direct/XDR
PhinMS
SFTP
AIMS S3
VPN
Web Service
FHIR (beta)
More

AIMS Services

AIMS Platform

Step 3
RCKMS (placeholder)

Step 4

Step 5
Outbound
Direct/XDR
PhinMS
SFTP
AIMS S3
VPN
Web Service
FHIR (beta)
More

Step 6 - Notice of Reportability (Not Defined)

Step 7 - Initial Case Report
Public Health

Test Cases

- Chlamydia
- Gonorrhea
- Pertussis
- Salmonellosis
- Zika*
Working with:

1. Utah
2. Illinois
3. Washington
4. Michigan
5. Idaho
6. Tennessee
7. Southern Nevada
8. Virginia
9. Houston
Working with: Cerner

Working with:

REPORTABLE CONDITION KNOWLEDGE MANAGEMENT SYSTEM (RCKMS)

Links and References

Pertussis
Colorado | Reporting Requirements for Healthcare provider | Release Date 2012-10-01

Why

References:

<table>
<thead>
<tr>
<th>Reference Name</th>
<th>URL</th>
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<tr>
<td>Communicable Disease Epidemiology Program</td>
<td><a href="http://www.colorado.gov/csl/Satellite/CDPHE-DCEED/CBON/12516077554708.c7">http://www.colorado.gov/csl/Satellite/CDPHE-DCEED/CBON/12516077554708.c7</a></td>
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Working with:

- eHealth Exchange
- DirectTrust
- DataMotion
Step 1 - Send

- Example - Direct Protocol
- Compose new message
- Attach eICR
- Send to ecr@...
Step 2 – Receive by AIMS Services

- Receive from ecr@... Mailbox monitor
- Process with sender specific transformation rules
- Route to RCKMS (placeholder)
Step 3/4 - RCKMS

- Placeholder – Very Simple Decision Support
- Routes to Jurisdictions based on patient state
- Sends positive results based on problem or test and/or result codes (Eric Haas):
  
  /ClinicalDocument/component/structuredBody/component/section/entry/act/entryRelationship/observation/value/@code
  /ClinicalDocument/component/structuredBody/component/section/entry/encounter/entryRelationship/act/entryRelationship/observation/value/@code
  /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/code/@code
  /ClinicalDocument/component/structuredBody/component/section/entry/organizer/component/observation/value/@code

- RCKMS Placeholder sends:
  - Notice of Reportability to Sender (always with yes/no)
  - eICR to appropriate Jurisdiction
### Step 5, 6 and 7 – Route/Deliver

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<td>eCR - Inbound Processing</td>
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<td>eCR - RCKMS PH Decision Support</td>
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<td>eICR - Outbound Processing</td>
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<td>PHINMSRN - eCR from DemoEHR2</td>
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<td>PHINMSRN - To APHL-UT_UTDOH</td>
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</tbody>
</table>

- Receive from RCKMS
- Route Notice of Reportability to Original Sender
- Route eICR to Jurisdiction
Negative Results

- Negative Results do not generate an eICR to the jurisdiction
- Do generate a Notice of Reportability (Negative)
Working with: Utah
Working with: Utah
Contact Information

Eduardo Gonzalez Loumiet | Project Manager
Uber Operations | eddie@uberops.com | 850-766-5338
Questions?

Contact:

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Director, Informatics
ASTHO

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www.ThePHCP.org
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