TECHNICAL ASSISTANCE STORIES FROM THE FIELD

Tools for Successful Electronic Reporting and Surveillance Data Messaging

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CSTE 2013

Outline

• APHL Informatics Projects
• Technical Assistance Model
• Stories from the Field
• Resources, Tools & Best Practices
Association of Public Health Laboratories Informatics Program

- Promoting technologies that continuously improve the quality of laboratory practices

Reporting Scenarios
APHL Technical Assistance Projects

**PHLIP**
Public Health Laboratory Interoperability Project

**ELR TA**
Electronic Laboratory Reporting Technical Assistance

**VPD**
Vaccine Preventable Diseases

**LTIAPH**
Laboratory Technical Interoperability Assistance for Public Health

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**PHLIP ELSM for Influenza**

- Electronic Laboratory Surveillance Message (ELSM)
- PHL → CDC
- Influenza surveillance data
- HL7 2.3.1 format
- LOINC, SNOMED

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Message Format: HL7 2.3.1 ORU
Contents: Influenza Laboratory Results (WHO Global Influenza Surveillance Network)
PHLIP Current Status

Flu Surveillance Data [PHL to CDC]

| 41 sending production data | 13 in development | 4 TBD | Project Goal 58 PHLs |

Technical Assistance Visits to Date: 33

ELR Technical Assistance

- Electronic Laboratory Reporting (ELR)
- Enable ELR with partner(s)
  - Receiver: PHA
  - Sender: PHL, commercial labs, hospitals, HIE
- Enhance ELR capabilities
ELR TA Current Status

Electronic Laboratory Reporting [Provider/Lab to PHA]

- 22 requests completed/closed
- 18 in development
- 24 on hold/out of scope
- 64 requests to date

Technical Assistance Visits to Date: 3
ELR TA is engaged in Requests in >20 jurisdictions

Outline

- APHL Informatics Background
- Technical Assistance Model
- Stories from the Field
- Reusable Tools & Best Practices
Why Technical Assistance?

• Provides a focused, accelerated approach
• Supplies customized plan & expertise for project implementation
• Facilitates stakeholder involvement
• Promotes interoperability & reusable components
• Eases time and resource strain on hard-working PHLs & PHAs

Technical Assistance Components

• Areas of expertise
  o Project Management
  o Vocabulary Harmonization
  o Technical Architecture
• On-site & Virtual support
• Tools & Resources
• Knowledge transfer
Technical Assistance Approach

- Involve stakeholders
- Identify data needs & existing capabilities of sender & receiver
- Develop implementation plan
- Map vocabulary & create message route
- Set up message transport
- Validate & migrate to Production!

Technical Assistance in Practice

Find a messaging solution that eases the burden of reporting for PHLs & PHAs and lays the groundwork for expanding messaging capabilities through knowledge transfer & reusable components.
Technical Assistance in Action!

PHLIP ELSM PROGRESS
YR 2010-CURRENT - Yes!! Technical Assistance

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Arkansas PHLIP

Background

• Reported flu surveillance data to CDC via fax
• Lab personnel spent 1-2 hours per week preparing report
• Flu report was aggregated data, provided limited information

Arkansas PHLIP

• AR is now sending automated HL7 flu surveillance messages to CDC
• Lab personnel rarely spend time on reporting
• CDC receives granular, analysis-ready data via flu ELSM
Washington PHLIP

Background

- Reported flu surveillance data to CDC via manual data entry into a web portal
- Aggregate data, limited information for CDC
- Customized approach to generate HL7 2.5.1 message and convert to PHLIP HL7 2.3.1 ELSM
- WA DOH Informatics involved to ensure interoperable message format

Washington PHLIP

- WA is sending automated HL7 flu surveillance messages to CDC
- Currently in development with enhanced ELSM to include pyrosequencing results
- HL7 2.5.1 message serves as a basis for developing electronic data exchange with additional partners (e.g., ELR)
- Rhapsody architecture can be replicated for future messaging initiatives
Kansas ELR TA

**Request:** Implement ELR between KDHE and multiple partners & route to programs

- Technical assessment of KDHE ELR capabilities
- Use approved ELR profile to build ELR Receiving profile
- **KDHE now receives ELR messages, parses and routes:**
  - Trisano – DSS (Full production)
  - eHars – STD (Final testing stage)

Kansas ELR Partners

- Kansas PHL to KDHE – Full Production
- Lab Corp to KDHE – Full Production
- Cerner hospital to KDHE – Full Production
- Partnered with Surescripts/LIC to translate SFTP to PHINMS and transmit to KDHE from Critical Access Hospital
- Working with several other hospital partners
Maine ELR TA

**Request:** set up ELR from Maine HealthInfoNet (HIE) to Maine CDC

- Technical assessment
- Create route to receive ELR 2.5.1 and downconvert to 2.3.1 for entry to DSS
- Develop vocabulary on both sender and receiver side
- Work with HIE to develop data export
- **MCDC now receives ELR from HIE and parses to DSS**

Virginia ELR TA - Solstas

**Request:** ELR from Regional Commercial lab to PHA

- Rhapsody route to format/send ELR data (in partnership with Orion)
- Vocabulary development
- **Solstas is now actively sending both micro and non-micro results to Virginia DOH**
- Preparing to work with Solstas to send ELR to additional jurisdictions
Outline

• APHL Informatics Background
• Technical Assistance Model
• Case Scenarios
• Resources, Tools & Best Practices

Implementation Resources

• HL7 v2.5.1 Implementation Guide
• ELR Implementable Profile (HL7 2.5.1 ORU)
• PHLIP HL7 v2.3.1 ELSM Implementation Guide
• PHLIP Message Spec Workbook
Messaging Tools

• MQF Validation Tool
  https://phinmqf.cdc.gov/

• NIST Validation Tool
  http://hl7v2-elr-testing.nist.gov/mu-elr/

Conference Calls

<table>
<thead>
<tr>
<th></th>
<th>Every other Tuesday 3:00 – 4:00 PM ET</th>
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<tbody>
<tr>
<td>ELR Vocabulary</td>
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<tr>
<td>LabMCoP</td>
<td>2nd and 4th Thursday 10:00 AM – 12:00 PM ET</td>
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<tr>
<td>National ELR Call</td>
<td>1st Tuesday 1:00 – 2:00 PM ET</td>
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Technical Assistance
Best Practices

• Stakeholder involvement
  o Laboratorians, Epidemiologists, IT & Network Administrators, Leadership…
  o Sender & Receiver side

• Short-term project, Long-term solutions
  o Build route architecture & vocabulary to be flexible to accommodate future initiatives
  o Consider maintenance of message route & vocabulary while planning

Technical Assistance
Best Practices

• Knowledge-based approach
  o Equip PHLs & PHAs with tools, resources, and training sessions to continue to build capabilities & expertise

• And most importantly…
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Thank You!

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