Electronic Laboratory Reporting (ELR) in Oregon

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NEDSS – National Electronic Disease Surveillance System

- CDC-funded project, framework for development of integrated, electronic, internet-based surveillance systems

- Elements of data security, transmission, entry, exchange, format, management, access. Also business logic capabilities and PH directory.
Oregon Reportable Disease Data Flow
- THE PAST -

Lab/Doc

CDC/Federal

State HD

County HD

Investigation
Oregon Reportable Disease Data Flow
- THE FUTURE -

Lab/Doc

CDC/Federal

State HD

Investigation

County HD

DHS
Office of Disease Prevention & Epidemiology
Bi-directional data flow – counties able to edit/access data via Internet
Web access to public data files
ELR Development Process

Multi-Stage Process

1. Trading Partner Identification
2. HL7 Message Development
3. Transmission Protocol Development
4. Pilot – Blood Lead
1. Trading Partner ID

Potential Trade Partner

Not Currently Eligible

Future Participation

Examples:
- LIS upgrade or installation
- Lack of resources
- Converting to electronic

Currently Eligible

Message Development

Contact

OHS
2. HL7 Message Development

HL7 Formatting Standard

- HL7 = Health Level Seven
- ANSI approved standard for Electronic health care Data Interchange (EDI). Format protocols
- Encourages utilization of other standards, such as LOINC (test codes) and SNOMED (result codes)
3. Transmission Protocol

- Determine partner’s capabilities/preferences

- Design secure transmission protocol. Currently using -
  - VPN-FTP
  - Zmodem
  - Web options

- Test and refine transmission protocol

- Determine future changes required
State ELR Tools

Commercial off-the-shelf – in keeping with NEDSS Open Architecture goal

Sybase Software

- Data Mapping Component – data translation and parsing
- Messaging Component – file management, remote procedures, scheduling, archiving, notification
4. Pilot – Blood Lead
Optional

- Retrieve by Lead assigned code
- Export in DBF format
Benefits to Labs
(Once Established)

- Automation of reporting - Reduces lab person hours, duplicate data entry
- Single data depository – Removes need for multiple county faxes and phone calls
- Faster, more timely reporting
- Reduces human errors
- Improves public health efficacy, reduces duplicate data entry
QC Plan - Objective

Create plan for quality control of electronic reports that satisfies requirements of all partners -
- Counties
- Laboratories
- State
Four Stages of QC

I. Development
II. Testing
III. Review
IV. Maintenance
Responsibilities

I
Development

ELR and Lab

II
Testing

ELR and Lab

III
Review

ELR, Counties, State

IV
Maintenance

ELR, Lab, Counties, State
Sources of Information

- J.A. Magnuson, Health Informatics
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- ELR website
  (http://www.dhs.state.or.us/publichealth/elr/)
  Lab Page includes:
  - Oregon’s HL7 Implementation Guide
  - Full info on Quality Control Plan
  - Form to request participation
  - Presentations, reporting info, etc.