Connecting Labs in the Digital Age

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Speaker Disclosure

The Association of Public Health Laboratories adheres to established standards regarding industry support of continuing education for healthcare professionals. The following disclosures of personal financial relationships with commercial interests within the last 12 months as relative to this presentation have been made by the speaker(s):

Phil Lee: Nothing to disclose
Presentation: Connecting Labs in the Digital Age
Bureau of Public Health Laboratories

- 67 Counties
Historical Perspective

- BPHL 10 Years ago
  - All labs using DOS-based LIMS
    - MUMPS - Massachusetts General Hospital Utility Multi-Programming System
      - Established 1966
      - BPHL 1995-2007
    - Limited connectivity within FL DOH only
  - Laboratory Response Network - BT
    - Microsoft Access and Excel
    - No connectivity
Historical Perspective

• 2001 Anthrax events highlighted need for standardized data exchange
• Need for state health departments to coordinate with sentinel clinical laboratories
  o Developed FL Database
    • > 400 clinical labs, 256 meeting sentinel lab definition
• Clinical laboratories had limited connectivity to their sister organizations
• Laboratory Response Network
  o Results Messenger developed
Public Health Information Network

• National initiative to increase the capacity of public health agencies to electronically exchange data and information across organizations and jurisdictions
  o Clinical care to public health,
  o Public health to public health
  o Public health to other federal agencies

• Promote the use of standards and defines functional and technical requirements for public health information exchange
  o Public Health Laboratory Interoperability Project
HL7

• Health Level 7
• Nationally accredited and recognized standard of electronic data exchange in healthcare environments
  o Unambiguously identifies specific tests and results
  o LOINC and SNOMED
• Allows communication between separate and different types of information systems
• Describes the order and structure of data fields for sharing test results
Electronic Laboratory Reporting

- Hospital System A
- Hospital System B
- Hospital System C
- Hospital System D
- Public Health Lab

Connects to:
- Hospital System A
- Hospital System C
- Public Health Lab
- Hospital System B
- Hospital System D
Benefits of ELR

• Results go out electronically within an hour after release
  o Reduces turnaround time
• Eliminates need to mail/fax reports to program offices (TB, STD, etc...)
• Providers can ‘opt-out’ from receiving paper results
  o “Greener” operation
Benefits of ELO

- Reduces accessioning errors
  - Correct test ordered
- Eliminates patient demographic entry errors
  - Barcoded sample linked to ELO
- Reduces turnaround time
  - Expedites triage of samples
- Eliminates need for paper requisitions
  - “Greener”
Notifiable Diseases

Electronic Reporting from Hospital and Commercial Labs

Environmental Health
Merlin: Epidemiology
PRISM: STD

Cloverleaf Integration Broker
ELR Database
Electronic Health Records

- Electronic record of health-related information on an individual that is created, gathered, managed, and consulted by authorized health care providers from across more than one health care organization.
EHR 2014 Mandate

• 2009 HITECH Act
  o Health Information Technology for Economic and Clinical Health
  o Set Meaningful Use of interoperable EHR adoption as a critical national goal
    • Measurable improvement in quality of health care
    • “...more coordination of patient care, reduced medical errors, elimination of duplicate screenings and tests and greater patient engagement in their own care,” HHS Secretary Kathleen Sebelius, August 23, 2012
  o January 1st, 2015, health care providers subject to financial penalties for not using EHR
Challenges

- MSH | ^~\& | ^2.16.840.1.114222.4.1.34^ISO | CDC^2.16.840.1.114222^ISO | 20071127095207 | OUL^R22^OUL_R22 | 200700000801 | P | 2.3 || || || | LRNB-V1.0^^2.16.840.1.114222.4^ISO|
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Challenges

• Stakeholder cooperation
  o Public health and private sector
• Numerous different systems
• ELO Provider errors – eliminated by EHR use?
• Volume of data
• Privacy
• Security
• Cost!
Solutions

• Laboratory Efficiencies Initiative
  o Created to help laboratories maintain their public health testing services despite decreased funding
    • Sharing of testing services across states
    • Application of informatics

• Increased Public Health-Private sector partnerships
  o Shared resources
  o Outsourcing
    • Private sector labs performing analyses of public health importance
Future

• Expansion of PHIN?
  o Exchange public health data with Nationwide Health Information Network
    • Integrate healthcare and public health to advance population health
  o Syndromic surveillance
    • Laboratory test orders
    • BioSense, ESSENCE
  o National Notifiable Diseases Surveillance System
    • National Electronic Disease Surveillance System

• Reduction in databases
  o Everything linked to EHR?
  o Patient-centric vs. specimen-centric
    • Populations
Essential Connections

National Broadband Map: http://www.broadbandmap.gov
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