Development of Public-Private Laboratory Systems

Rex Astles, PhD
Senior Health Scientist
Laboratory System Development Branch
Division of Public Health Partnerships- Laboratory Systems
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The Old Paradigm

- A loose association of public health (state, county and city), hospital, and independent laboratories throughout the country.

- Consensus Standards
- Funding
- Training
- Technology Transfer

50 State PHLs

Inconsistent Collaboration

Private Labs
System Design

• Strategic Planning
  ▶ Internal
  ▶ With APHL, ASCP and ACLA

• Guidance
  ▶ Steering Committee
  ▶ CLIAC Updates
  ▶ Comprehensive CDC-wide planning

• Formative Research
Timely Opportunities

• Bioterrorism
  ❖ “Develop a plan to improve working relationships and communication between Level A (clinical) laboratories and Level B/C laboratories, (i.e. Laboratory Response Network laboratories) as well as other public health officials.”

• Threat of Chemical Terrorism
• Emerging Threats
• OIG Report
• OSCAR Database
System Components

- Measurables
  - Core Functions
  - Healthy People 2010
  - OTPER Performance Goals
  - Performance Standards

“What Gets Measured Gets Done”
System Components (cont)

• Tools
  ❖ National Center for PH Laboratory Leadership
  ❖ Laboratory Program Advisor
  ❖ APHL Clearinghouse
  ❖ National Laboratory Database
  ❖ Site visits by CDC staff

• Extrapolations from “lessons learned”
  ❖ Specific
  ❖ General
Leveraging What Works

- Surveying Clinical Labs
- Establishing linkages
- Education
- Proficiency Testing

MINNESOTA LABORATORY SYSTEM
A PUBLIC AND PRIVATE COLLABORATION
Educational Tools

- **anthrax**: Bacillus anthracis
  - Large, gram-positive, spore forming bacilli
  - Nonhemolytic
  - Nonmotile
  - Cattle positive

- **tularemia**: Francisella tularensis
  - Pearl staining, thin, gram negative cocci/filaments
  - Slow growing, requires cystine
  - Oxidase negative
  - Lysine negative
  - Nitrate negative

- **plague**: Yersinia pestis
  - Bipolar gram-negative bacilli
  - Lactose negative
  - Urea negative

- **brucellosis**: Brucella species
  - Yeasts staining, small, gram negative coccobacilli
  - Slow growing
  - Oxidase positive
  - Urea positive

Recognize the agents of bioterrorism. You are the first line of defense.
612-676-5253
AFTER REGULAR HOURS CALL 612-676-5414
Lessons Learned - PPLIP - Information Technology

• Connecticut
  - Plan a new LIMS compatible with the CT electronic disease surveillance system

• Iowa
  - Implement automated fax system to reduce TAT and complement electronic reporting for reportable disease
  - Survey effectiveness of autofax system

• Nebraska
  - Develop and assess communication using secure information exchange (including image transmission of isolates) using STATpack®
  - Add videoconferencing
  - Conduct “challenge” exercise of an event using a bioterrorism mimic

• Rhode Island
  - Create a centralized clearinghouse for electronic reporting
  - Build capacity to link into the National Electronic Disease Surveillance System
Lessons Learned –
PPLI P - Communication

• Arkansas
  ❖ Increase awareness of role of SPHL in 84 hospital-based labs using promotional material and training

• North Dakota
  ❖ Develop and promote SPHL website for laboratory information; post agent specific quizzes and proficiency testing results

• Michigan
  ❖ Promote statewide adoption of glomerular filtration rate calculation to monitor kidney function
  ❖ Improve reporting of diseases identified by non-culture methods (i.e. serology, molecular)
Lessons Learned – PPLIP – Environmental Lab Networks

• Minnesota
  - Improve knowledge and laboratory practices in private and municipal water treatment laboratories
  - Promote epidemiological investigation of coliforms
  - Provide professional development for laboratory personnel

• Wisconsin
  - Establish a public health and environmental protection laboratory system
  - Conduct a survey of laboratory capacity and needs to open dialogue with laboratories
  - Address professional training needs
Lessons Learned - Michigan Integration Program

- Clinical laboratory added or modified an existing procedure due to state laboratory intervention

<table>
<thead>
<tr>
<th>Test</th>
<th>Added N (%)</th>
<th>Changed N (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GBS Screening of pregnant women</td>
<td>7 (9%)</td>
<td>20 (26%)</td>
</tr>
<tr>
<td>GBS AST</td>
<td>9 (12%)</td>
<td>8 (11%)</td>
</tr>
<tr>
<td>Vancomycin screening agar for VRSA</td>
<td>45 (59%)</td>
<td>21 (28%)</td>
</tr>
<tr>
<td>D-zone test for inducible clindamycin resistance in Staphylococcus</td>
<td>29 (38%)</td>
<td>12 (16%)</td>
</tr>
<tr>
<td>Diseases/isolate/test results that are reportable to the state health department</td>
<td>17 (22%)</td>
<td>15 (19%)</td>
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Lessons Learned - Systematic Research - Jon Counts, DrPH

• Laboratory survey
  - Effect of various interventional strategies on AST
  - Utilization of voluntary lab practice guidelines
  - Their opinion of microbiology services provided by the WA laboratory delivery system

• 5000 physicians to be surveyed
  - Use of laboratory practice guidelines
  - ID specialists will be surveyed regarding AST and reporting
Lessons Learned - Systematic Research

• What factors affect implementation of voluntary guidelines?

• Focus groups to explore why labs can or cannot implement MMWR recommendations for prevention of Perinatal Group B Strept Infection

• Capture general lessons to help CDC and others better craft voluntary guidelines in the future
National Laboratory Database

- Updated OSCAR data
- Searchable online
- Registration information
- Proficiency testing enrollment
- New-
  - Patient Treatment Data
  - Testing Capacity Based upon CPT-coded billing
The Future is Bright