

The Role of Clinical Laboratories in Public Health Preparedness and Emergency Response – How the State Public Health Lab Can Help

Bonnie D. Rubin

Iowa Emergency Preparedness and
Terrorism Response Coordinator



HRSA Cooperative Agreement

Priority Area 4.1



Linkages to Public Health Depts.

Implement a hospital lab program that is **coordinated with currently funded CDC** lab capacity efforts, and which provides rapid and effective hospital lab services responding to terrorism and other public health emergencies



Minimal Level of Readiness



- Participating hospital labs will have protocols for rapid referral of clinical samples and associated information to appropriate labs operating **in accordance with guidance in CDC Focus Area C** and associated Critical Benchmarks.
- Participating hospital lab personnel will demonstrate competency in determining what situations warrant the initiation of these protocols as well as competency in following the protocols.

College of American Pathologist's Accrediting Standards and BT Preparedness



- Does the micro lab have policies and procedures for the recognition of isolates that may be used as agents of bioterrorism? (CAP MIC 18968)
- Does the lab participate in the institution's bioterrorism response plan, including utilization of the LRN? (CAP MIC 18976)

Sentinel Indicator #4-1



- Number of participating hospital labs that have personnel who are trained in the protocols for referral of clinical samples and associated information in accordance with CDC Focus Areas and Critical Benchmarks associated with laboratories.



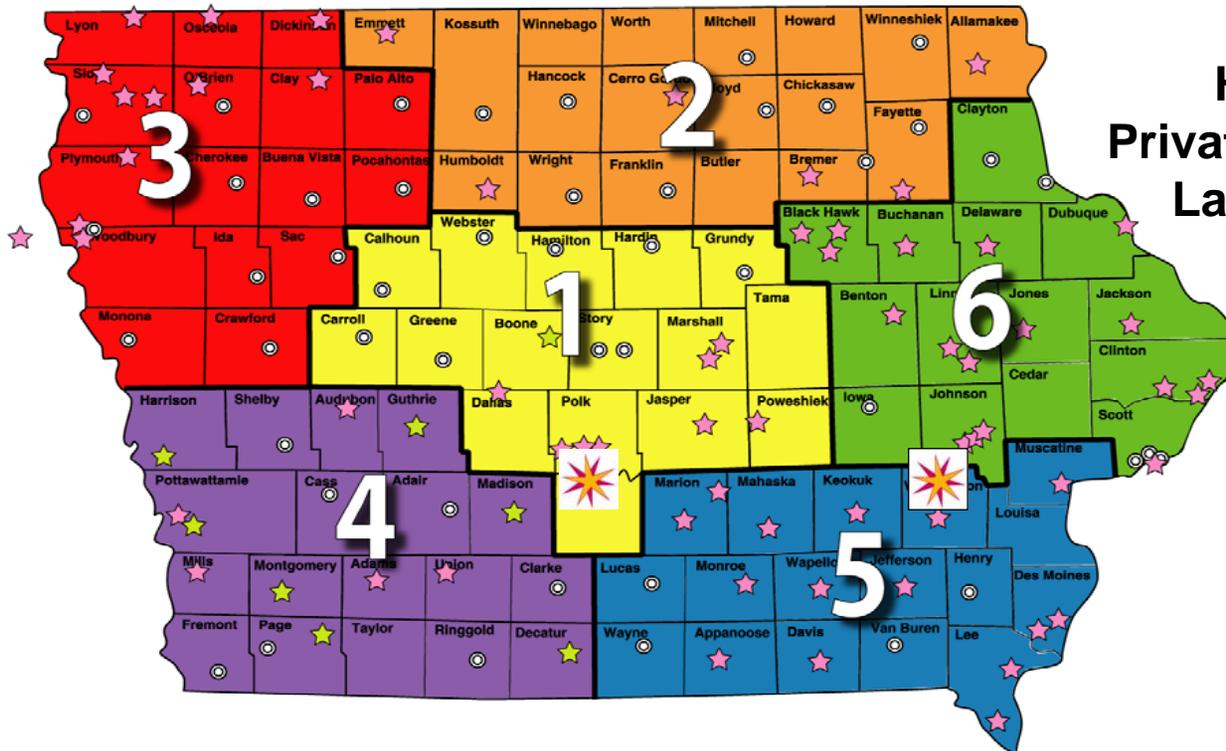
First – An Overview of Iowa



136 Clinical Laboratories in Iowa



54 Basic Capacity Laboratories
82 Sentinel Laboratories



Includes:
Hospital Labs
Private Reference Labs
Large Clinic Labs

Goals of the Iowa Laboratory Response Network (ILRN)



- The 3 C's
 - Communication
 - Cooperation
 - Collaboration
- Improve the safety practices of Iowa's laboratories
- Provide ongoing response training in chemical and biological emergencies
- Improve the quality of microbiological testing outcomes
- Assure other response partners know the role of the clinical laboratories in emergencies
- Improve the relationship between PHL's and clinical labs

University of Iowa Hygienic Laboratory



- **SERVICE**

- Disease Testing
- Environmental Testing

- **RESEARCH**

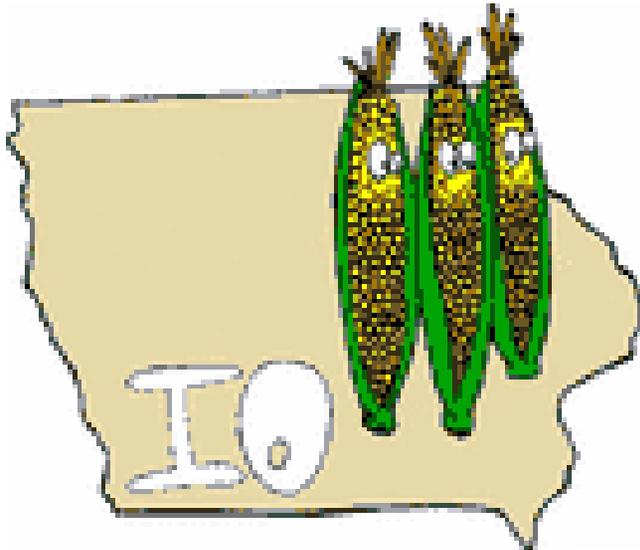
- Applied

- **EDUCATION**

- Laboratories
- Infection Control
- State Agencies
- K-12 and College Level



Funding Administration



HRSA Funding Administration

IOWA



- Funds support activities in 6 HRSA regions
- Iowa Department of Public Health includes UHL in budgeting and grant process
- Funds flow through IDPH to UHL based on budget request and fund availability
- UHL uses funds to support programs and purchases for clinical laboratories and related lab needs

HRSA Funding Administration University Hygienic Laboratory



- Educational and Training Resources
- Information Technology
- On-Demand Courier
- Surge Capacity Volunteer Database
- Instrumentation



HRSA Funding Administration Clinical Laboratories



- Wet Workshops
- Biological Safety Cabinets
 - 38 hoods, \$182,000
- Computer connectivity
- Packaging and Shipping Resources
- Biodefense Kit



HRSA Funding Administration

National Perspective



Are you involved with any HRSA funding or planning discussions at the state level?

YES = 18/21 (86%)

NO = 3/21 (14%)

51 SPHL, BT Coordinators were queried by APHL November, 2004

HRSA Funding Administration

National Perspective



Have you used HRSA funds to purchase BSC for clinical labs?

YES = 8/21 (38%)

NO = 10/21 (48%)

Not Sure = 3/21 (14%)

51 SPHL, BT Coordinators were queried November, 2004

HRSA Funding Administration

National Perspective



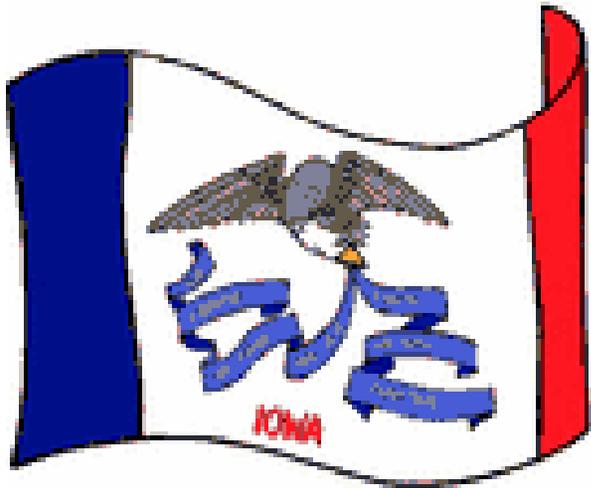
Have you or your clinical lab been able to access HRSA funding for sentinel lab training?

YES = 11/21 (52%)

NO = 10/21 (48%)

51 SPHL, BT Coordinators were queried November, 2004

Communication Initiatives



Communication with Labs Iowa



- ILRN Laboratory Advisory Committee
- ILRN List Serve and Threaded News Group
- Iowa Health Alert Network Access
- HRSA Regional Meetings
- Purchase of LIMS (CDC)
- Web Access for Results
- Automatic Faxing of Results (in progress)
- Development of unidirectional interface
- 800 Megahertz Radio
- Participation in NEDDS development

ILRN Laboratory Advisory Committee



- Consists of laboratorians of each type of laboratory in Iowa including local public health laboratories
- Currently 9 members
- Chaired by Dr. Mike Pentella, Microbiology Program Manager
- Meet quarterly by Iowa Communications Network
- One meeting per year in Iowa City

Iowa Lab Advisory Committee



INPUT AND OUTCOMES

- Write and review grant guidance
- Prioritize annual goals recommended by members and UHL
- Strategy input on projects and initiatives
 - Biosafety Cabinets: specification and vendor recommendations, reviewed bids, selected vendor
 - Reviewed and approved Iowa Sentinel Lab Response Procedure Template
 - Review and comment on UHL CDC related activities to assure relevance to clinical laboratory needs

Communication ILRN List Serve



- All clinical laboratories included in list serve
- Examples of messages:
 - Update on Influenza Virus Testing
 - Citizen Corp Recruitment by HLSEM
 - Guidance on Pertussis Testing
 - IACLS Survey on Phlebotomy Staff
 - West Nile Virus Update



Communication

Iowa Health Alert Network



- IDPH agreed to purchase two user licenses for each hospital, one specifically for laboratory
- Will use document control system for grant writing review and input
- Alert system based on Low, Medium, High
- Laboratories will be able to customize user profile



Communication

Electronic Connectivity - Iowa



- Purchase of LIMS (CDC)
- New Server for Auto Faxing of Results
- Secure Web Based Result Reporting



Communication Electronic Connectivity



Priority Planning Area 4-2

- Funded to develop and implement uni-directional interfaces with five major medical centers in Iowa for result reporting



Value of Active and Routine Communication



- Public health needs invaluable input from our clinical partners
- Builds relationships and trust
- Unified preparedness
- SPHL aware of abilities of each clinical laboratory
- SPHL can better anticipate clinical lab needs during an emergency
- Keeps SPHL based in reality

Education and Training



HRSA Cooperative Agreement

National BHPP – Priority Area 5



Develop education and training programs for adult and pediatric hospital, outpatient and pre-hospital health care professionals responding to a terrorist incident.



Education and Training - Iowa



- On-Site Training of every clinical laboratory
- Wet Workshop
- Iowa Communications Network
- University of Iowa Grand Rounds
- Webcasts
- Study slide sets
- Sentinel Laboratory Response Plan Template
- National Laboratory Training Network and Lending Library

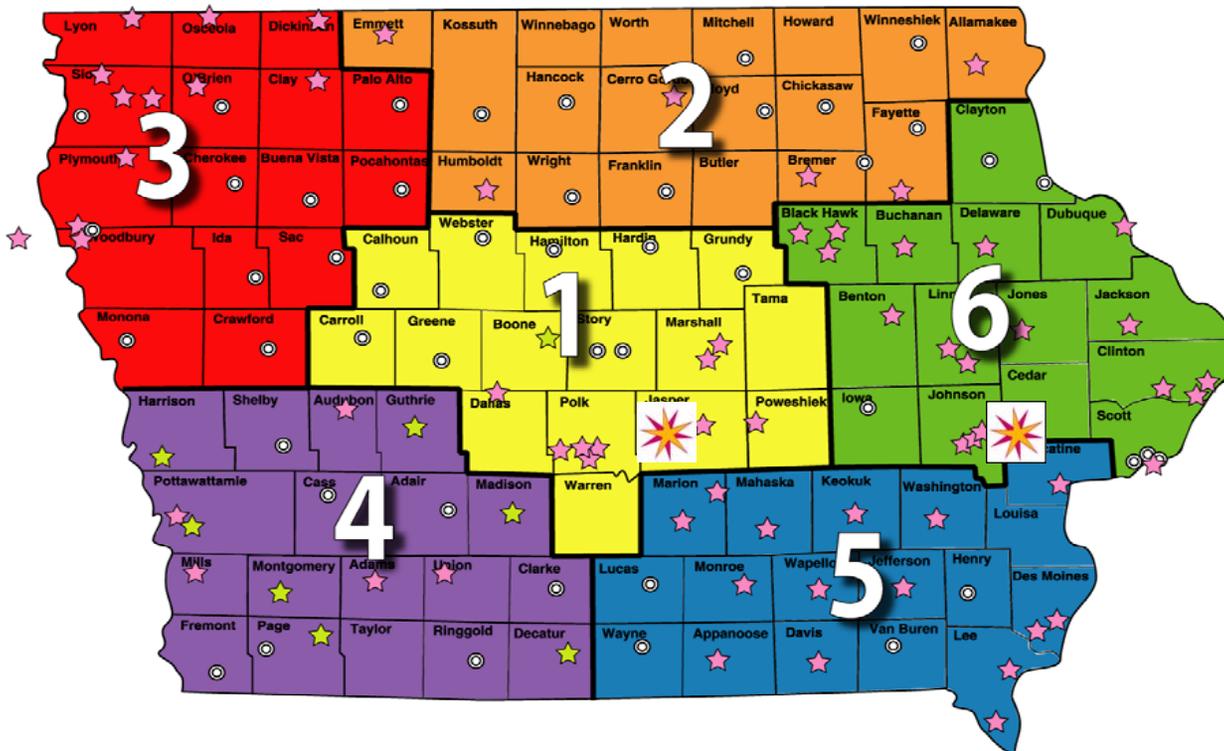
On-Site Training Program for Clinical Laboratories

77 labs trained 718 participants
19,500 miles



Only 59 more
labs to go!!

Includes:
Laboratorians
County Public Health
County Emergency Mgr.
Infection Control
Hospital Administrators
Hosp. Safety & Security



BioDefense Kit with Chemical Terrorism and Smallpox Collection Kit



Delivered to every Sentinel Lab and Basic Capacity Lab in Iowa with training done at each laboratory

Wet Workshops



**Invited to
Conduct in
Kansas**



**5 Workshops
60 Participants**

**Observers:
Homeland Security
71st CST**

**UI Health Protection Office
Kirkwood Training Center
Nebraska PHL**



**4 Workshops
Scheduled
in 2005**



Education and Training - Iowa



- Professional Meetings:
 - Iowa Association of Clinical Laboratory Scientists
 - UHL provided over 50% of last year's presentations
 - Iowa Association of Medical Technicians
 - Clinical Laboratory Managers Association, Iowa Chapter



Usually a lecture followed by a table-top exercise

Educational and Training

National Laboratory Training Network



NLTN

- **Instructor led on-site workshops**
- **Workshops-in-a-box**
- **Audio and Video conferences**
- **Audionet**
- **Online Lending Library**

Educational and Training National Laboratory Training Network



*Improving Laboratory Practice
of Public Health Significance
Through Quality Continuing Education*

(800) 536-NLTN (6586)

www.nltn.org

LABORATORY
NATIONAL TRAINING
NETWORK

What Happens With Suspect Organisms?

Iowa



- Sentinel lab contacts UHL of suspect organisms
- On-Demand courier brings specimen to UHL
- If not a select agent, lab contacted with results
- If a select agent, UHL contacts Lab, local public health and Iowa Department of Public Health and HLSEM
- Iowa Biological and Chemical Threat Agent Protocol activated

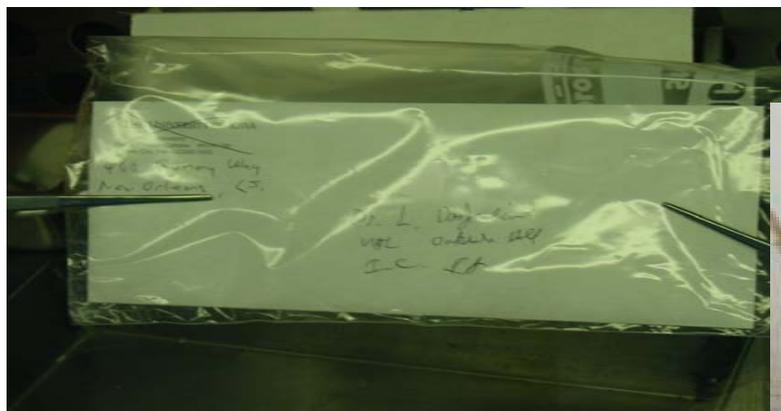
Handling the Suspicious Unknown Material - Iowa



Since November 2003, UHL has performed biological and chemical testing on 19 unknown materials.

Most of these were suspicious and deemed credible threats.

Average turn-around-time is 6 hours for PCR biological results and chemical results.



Iowa's Environmental Sample Collection Kit



Developed in collaboration with 71st CST and Kirkwood Community College

Training presented at Annual HazMat Symposium

Where do specimens go?



| | Clinical Samples | Powders and Hoaxes | Environmental Samples |
|--------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| LRN Sentinel Labs | <input checked="" type="checkbox"/> | | |
| LRN Reference Labs | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| LRN National Labs | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Future Goals and Plans



Future Plans and Goals - Iowa



- Bioterrorism Reagent Kit
- Threaded news group for Q&A and share best practices
- Statewide courier for routine samples
- Web-based supply ordering system
- Infrared Instrument for Unknowns
- FAX machines and internet access for clinical laboratories in need
- Sentinel and SPHL Competencies on LMS (www.PreparedIowa.Com)
- Proficiency Survey for Sentinel Laboratories
- Regional Exercises
- Exercise Chemical Terrorism Sample Collection with a large hospital laboratory

Concerns and Issues



The SPHL Needs to be at the Table!



- **HRSA Coordinators MUST know their SPHLs – not all SPHLs are created equal**
- **Involvement in grant writing and funding decisions**
- **Authority to disperse funds for clinical laboratories**
- **Rapid result notification from border reference laboratories**
- **Lack of surge capacity in rural laboratories**

The Value of Involving the SPHL



- Enhances the strength of the HRSA funding
- Advocate for clinical laboratories and laboratorians at state level
- Assures continuity of response for laboratory testing
- Strengthens public-private Interactions and collaborations
- Put a face to the name
- United purpose



Barriers To Success

Hospital/Clinical Labs



- Hospital lab staff might not be included in the response loop, but **NEED** to be
- Hospital lab staff are busy, difficult to get them to the table
- Funding is spread thin, may not be getting to hospital labs



Barriers To Success

State Public Health Labs



- **SPHLs not at the table in all states**
 - Need to give input on funding decisions
- **HRSA needs to work closer with SPHLs**
 - Deliver similar messages
 - Deliver training programs to clinical labs





Bonnie D. Rubin

Iowa Laboratory Response Network,
Terrorism Response and Emergency
Preparedness Coordinator

319-335-4861

bonnie-rubin@uiowa.edu

Paula M. Snippes

Minnesota Laboratory System (MLS),
Program Advisor

612-676-5258

paula.snippes@health.state.mn.us