

Laboratory Exercises

The “Not Jack LaLanne” Guide to
Exercising Laboratory Preparedness

Kris Clothier

Iowa State University Veterinary Diagnostic Laboratory

Patricia Blanchard

California Animal Health & Food Safety Laboratory

Background

HHS & CDC created Laboratory Response Network-1998

- To enhance lab emergency preparedness
 - *Links state and local public health, veterinary, military, water- and food-testing labs*
 - *Respond to bioterrorism, chemical terrorism and other public health emergencies*
 - *Expanded to include emerging infectious diseases*
- Multiple partners including USDA & AAVLD

APHIS/CSREES/AAVLD formed NAHLN-2002

- To provide laboratory support of routine and emergency animal **disease diagnosis, including bioterrorism events**
 - *Enhance lab emergency preparedness*
 - *multifaceted network of laboratories*
 - *Respond to FAD and toxicological emergencies*
 - *protecting human health by decreasing the risk of zoonotic diseases*

Exercises in Other Networks

LRN

- LRN notification drills, two per year:
 - Emergency Ops Center contacts 24/7 lab phone and records time to respond to standard questions
 - One linked to proficiency test involves reporting and response to finding suspect select agent
- Developing template for continuity of operations planning exercise for state labs to use
- CDC sponsored full scale Pandemic exercise and a terrorism preparedness exercise

FERN (2007-2008)

- Four surveillance activations for real concerns which also exercises turnaround time, communications, reporting and testing activities.

National Plant Laboratory Network

National Lab Training Network (NLTN) Lending Library

- Searchable by topic and training medium
- Included links to other sites websites for on-line training, DVD, videos, slides, computer-based training, course packages, printed material
- <http://www.bt.cdc.gov/training/#lab>
- <http://www2a.cdc.gov/libnltn>
- Now looking at using sharepoint drills

NAHLN interested in hosting similar site

NAHLN “Virtual Library” Ideas

Focus on Laboratory Preparedness collaboration

Modeled after National Lab Training Network

- secure site with limited access
- post Lab Preparedness Plans for sharing ideas
- post communication plans, lessons learned, who should be contacted and when
- provide links to training resources, relevant source materials, archived webcasts
- collection of scenarios used for lab exercises

i.e. Click to download [FOREIGN ANIMAL DISEASE \(FAD\) OUTBREAK.ppt](#) ISU
[HPAI scenario](#)
WSU

Exercises & Drills Working Group

Members worked with CNA and provided input on development of the HPAI board game

- Brought input from past exercise experience
- Posed questions to NAHLN and NVSL so that details could be covered in the game
 - Reagent sources
 - Stockpile requests
 - Overflow testing and reporting (re-routed samples)
 - How quickly will proficiency panels be available
 - How will prioritizing of samples be done: diagnostic vs. surveillance vs. “freedom from disease”
- Got input from labs on previous exercise experiences

Feedback on Drills

- In conjunction with regulatory agencies: FBI, Dept. of Ag, Dept of Health, Emergency Services, DHS, Area Emergency Coordinators
- With laboratory personnel: ISU Molecular Diagnostic Section
- With veterinarians: working on clinic response planning and biosecurity, call-in HPAI outbreak with private vets as part of the Iowa Veterinary Rapid Response Team
- Field exercises with mock sample collection



NAHLN Exercise Collection

- Exercises organized by type (table-top, lab-wide, bench-top based) or disease agent
- Labs that have completed exercises provide scenario and contact person if questions
- Participants fill out short survey to provide feedback on materials used from site
- Materials for posting would be reviewed by NAHLN staff as received
- Quarterly review by Exercises & Drills Working Group for content, applicability, survey responses
- Each NAHLN lab report the # of exercises drills/year to NAHLN coordinator

Possible Examples

Scenario for Lab Exercise

1. Submitting vet examined herd of dairy cows with severe test lesions
2. Milk production in the herd down 50% over the last 3 days
3. 60% of cows in the herd have lesions
4. Tissue swabs submitted for viral & bacterial culture; tissues submitted for histopathology

How does the lab proceed? Who gets notified? How are samples tracked?

Who should be included:

- sample-receiving technicians
- necropsy technicians
- lab technicians
- section/division chief
- lab decision makers



What are the most important details to share with additional personnel being rotated through the lab after “activation of the NAHLN”?

Possible Examples

CSF confirmed in 3000-sow operation in adjacent state

1. State Vet in your state notifies Lab Director
2. How does communication proceed?
3. What actions will be taken? What priorities will be given? How will the lab proceed?
4. Determine lab activities each week for the next three months: scheduling personnel, changing job responsibilities, using equipment to maximize testing numbers; handling or re-routing routine diagnostics

Who should be included:

- Lab Director
- Section Leaders
- State Vet/AVIC
- Area Emergency Coordinator
- technician representative



Figure 4. Conjunctivitis in a pregnant gilt at IP09. Rectal temperature 41.7°C



Feedback on Future Exercises

- Regional : Multi-state, multi-lab
- International HPAI response (Kabul 2009)
- Full-scale, functional exercise—deploy collection teams, assemble supplies, create schedules
- Exercising supply chains
- Additional games with different focal points
 - TB, Brucellosis
 - FMD with focus on food/meat safety/public reassurance
 - FAD field operations, Indemnity preparedness
 - Wildlife-based

Feedback & Discussion

