

*Towards A*  
**NATIONAL  
LABORATORY SYSTEM**



**CLIAC**  
**Sept. 11, 2002**

# Testing of Public Health Significance Numbers of Laboratories:

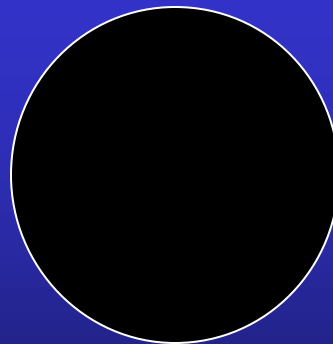
- 4,414 Level A “capable” for Bioterrorism
- 1,959 Mycobacteriology (TB)
- 2,516 HIV Antibody
- 5,074 Syphilis serology
- 824 Blood lead

# Current Paradigm

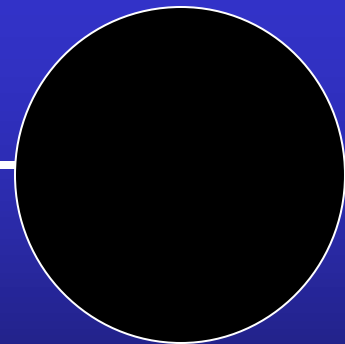
- The current network of laboratories that perform tests of public health significance is a loose association of public health (state, county and city), hospital, and independent laboratories throughout the country.



- Funding
- Consensus Standards
- Technology Transfer
- Training



Inconsistent  
Collaboration



# Program Support

## Technical Capacity

- LRN / BT
- Pulsenet
- ELC / EIP
- TB - HIV - STD
- Blood lead
- Biomonitoring

## System Capacity

•LIP

- NEDSS
- HAN



**50**  
**State Systems  
of  
Public/Private  
Coordination**



# Role of Laboratories

“Provide information for decision making”

## Private Labs

- Diagnostic testing
- Medical management
- Mission = Individual health

## Public Labs

- Some diagnostic testing
- Reference testing
- Surveillance and monitoring
- Mission = Public health

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**Interdependent Network**

**Identify Public Health Threats**

# Statement of Problem

- GAO Report (February '99)  
"Emerging Infectious Diseases"
  - **The nation's public health surveillance of infectious diseases critically needs improvement with Federal leadership**
- GWU Report – (January, 1999)  
"Reporting by Out-of-State Laboratories"
  - **Under-reporting is due to: out-of-state testing, lack of experienced personnel, and cost-shifting under capitation**
- Lewin Group Report (October 1997)  
"Public Health Laboratories & Health System Change"
  - **There has been a lack of proactive leadership from the public sector. The entire system should be carefully reviewed.**

# Barriers To Overcome

**Geographic separation**

**Resource limitations**

**Mission differences**

**Transport difficulties**

**Non-culture methods**

**Out-of-state laboratories**

**Communication disparities**

**Sustainability**







# NLS Consultants Group

- ASM
- ACLA
- ASCP
- APHL
- AAB
- CDC- NCID
- CDC- BPRP
- CSTE
- ASTHO
- CAP

The Consultants Group has met several times and will be expanded to include additional interests

# NLS demonstration projects

## Michigan Bureau of Laboratories

Frances Pouch Downes, DrPH

John Dyke, PhD

## Minnesota Public Health Laboratory

Norman Crouch, Ph.D.

Paula Snippes

## Nebraska Public Health Laboratory

Stephen Hinrichs, M.D.

Tony Sambol

## University of Washington

Jon Counts, DrPH

# Demonstration Project Focal Areas



# Assessment of AST Laboratory Practice

- Majority of labs do not have current NCCLS tables
- Poor understanding of tables
- Inconsistent testing for drug resistance in *Streptococcus pneumoniae*
- Priority training needs were identified
- Interventions
  - CDC staff involvement
  - Teleconference
  - Train-the-Trainer

# Minnesota



## MINNESOTA LABORATORY SYSTEM

A PUBLIC AND PRIVATE COLLABORATION

**Norman Crouch, Ph.D.**  
**Laboratory Director**

**Paula Snippes, MT (ASCP)**  
**Laboratory Program Advisor**

# Minnesota Communications

## MLS Laboratory Alerts

**First Alert!**

**September 11, 2001**

- Encouraged heightened suspicion
- Listed 4 “priority threat agents”
- Provided agent characteristics
- Listed phone number to call



# Minnesota Promotional Poster

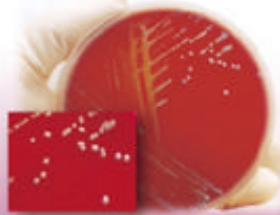


anthrax



*Bacillus anthracis*

- Large, gram positive, spore forming bacilli
- Non-hemolytic
- Non-motile
- Catalase positive



tularemia



*Francisella tularensis*

- Poorly staining, tiny gram negative coccobacilli
- Slow growing, requires cysteine
- Oxidase negative
- Urea negative
- Nitrate negative



plague



*Yersinia pestis*

- Bi-polar gram negative bacilli
- Lactose negative
- Urea negative



brucellosis



*Brucella species*

- Poorly staining, tiny gram negative coccobacilli
- Slow growing
- Oxidase positive
- Urea positive

## BIOTERRORISM



Recognize the agents of bioterrorism.  
You are the first line of defense.

### 612-676-5253

AFTER REGULAR HOURS CALL 612-676-5414

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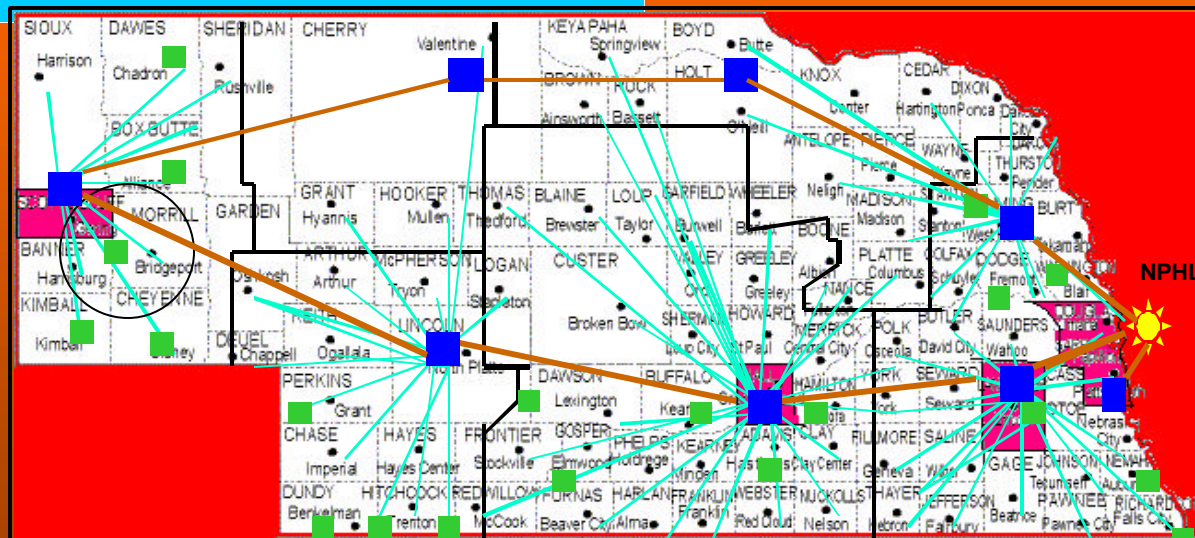


# Minnesota Challenge Set

- 1. Bacillus megaterium**
- 2. Streptococcus pneumoniae**
- 3. E. coli O157:H7**

# NEBRASKA

## Networking of the N-LRS Hub Labs to Regional “Spoke” Labs



Blue: N-LRS Hub Labs    Green: N-LRS “Spoke” Labs



# Public Health Preparedness

Cooperative Agreement Award Guidance for FY  
2002 Supplemental Funds for Public Health  
Preparedness and Response for Bioterrorism

Ensure Nation is Prepared for

Bioterrorism

Other Infectious Disease Outbreaks

Other Public Health Threats and Emergencies

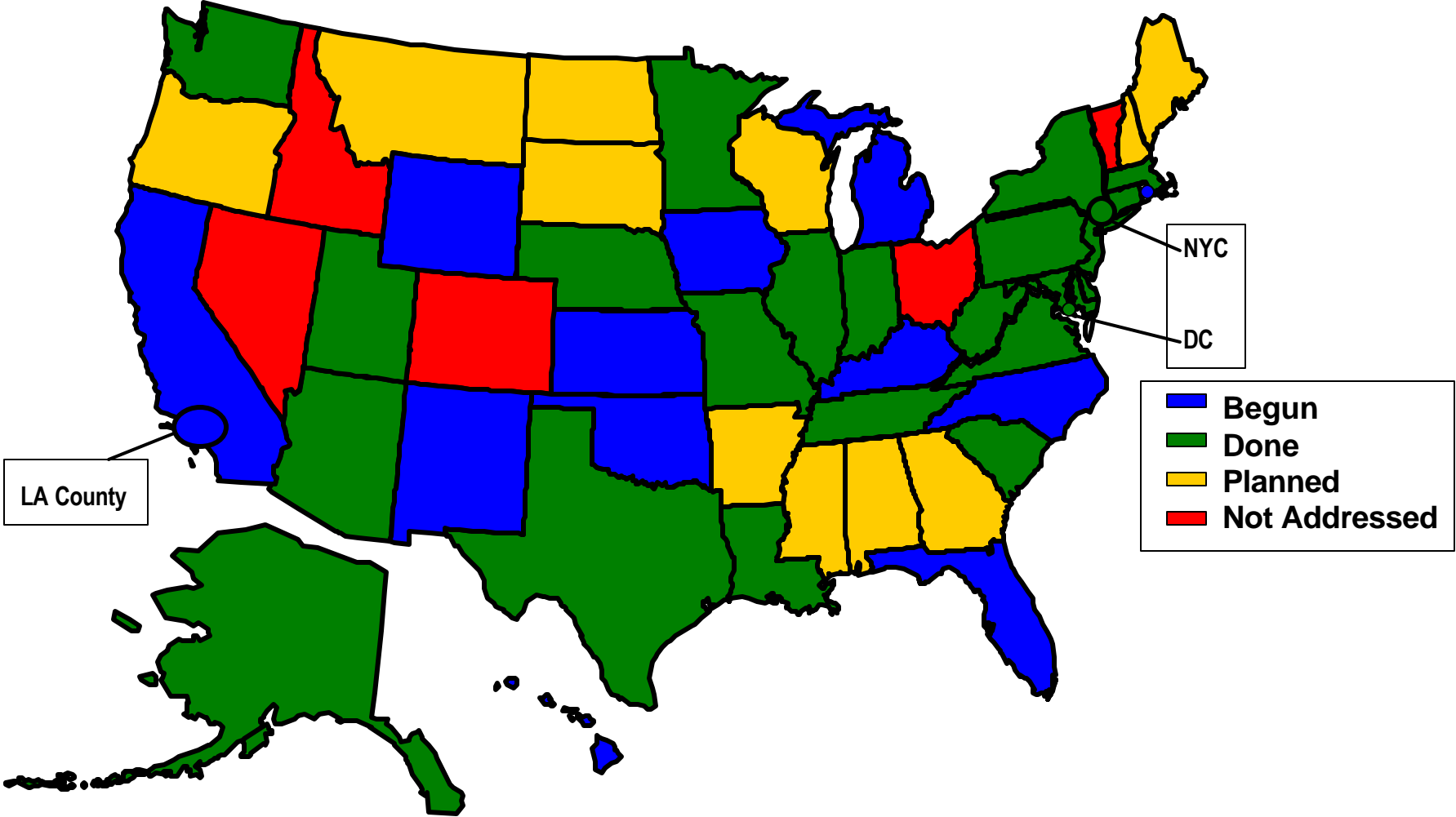
**Focus Area C:  
Laboratory Capacity  
Biologic Agents**

# Critical Benchmark

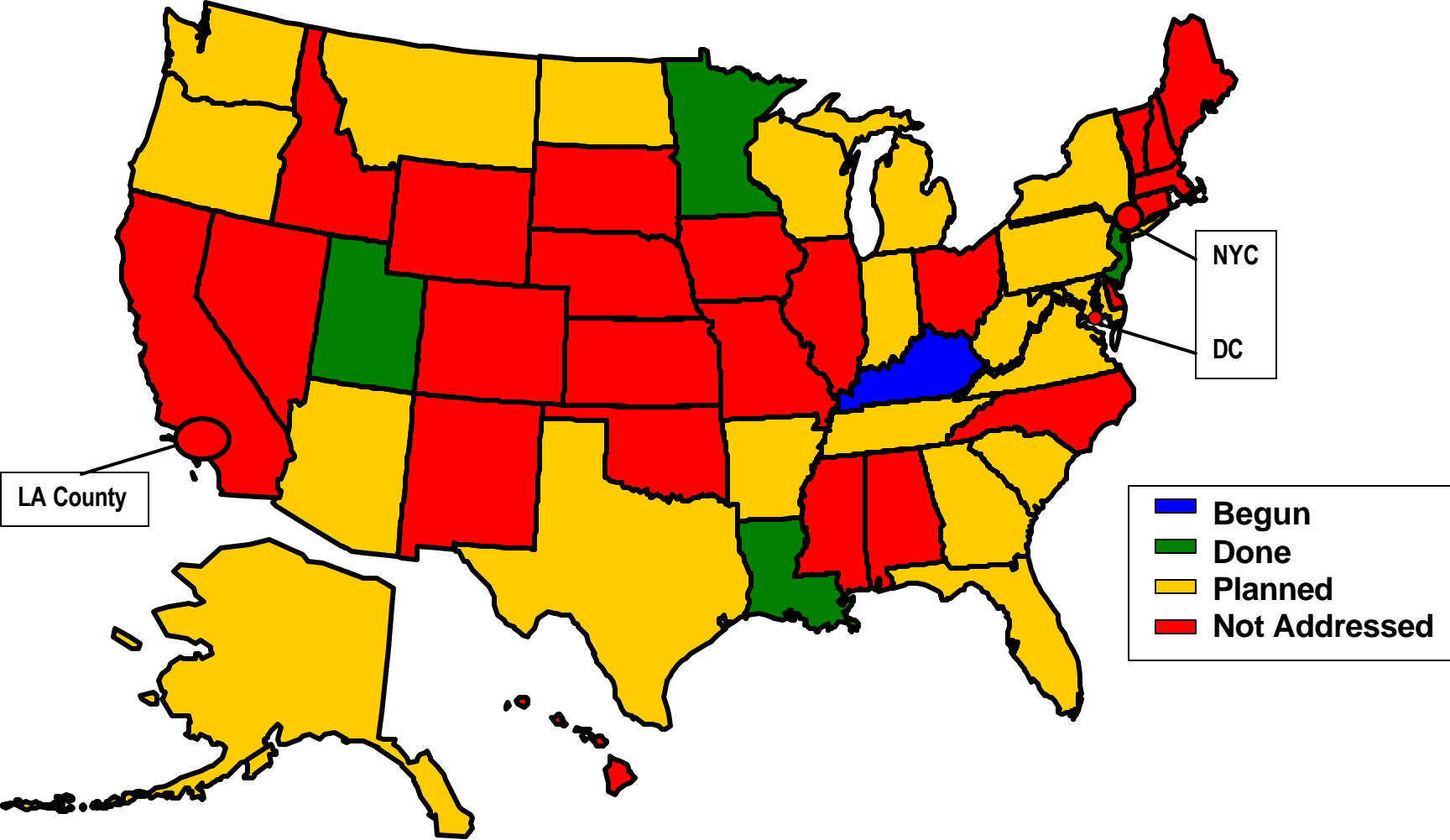
## Laboratory Capacity Biologic Agents

- #10: 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.

# Identify All Clinical Labs

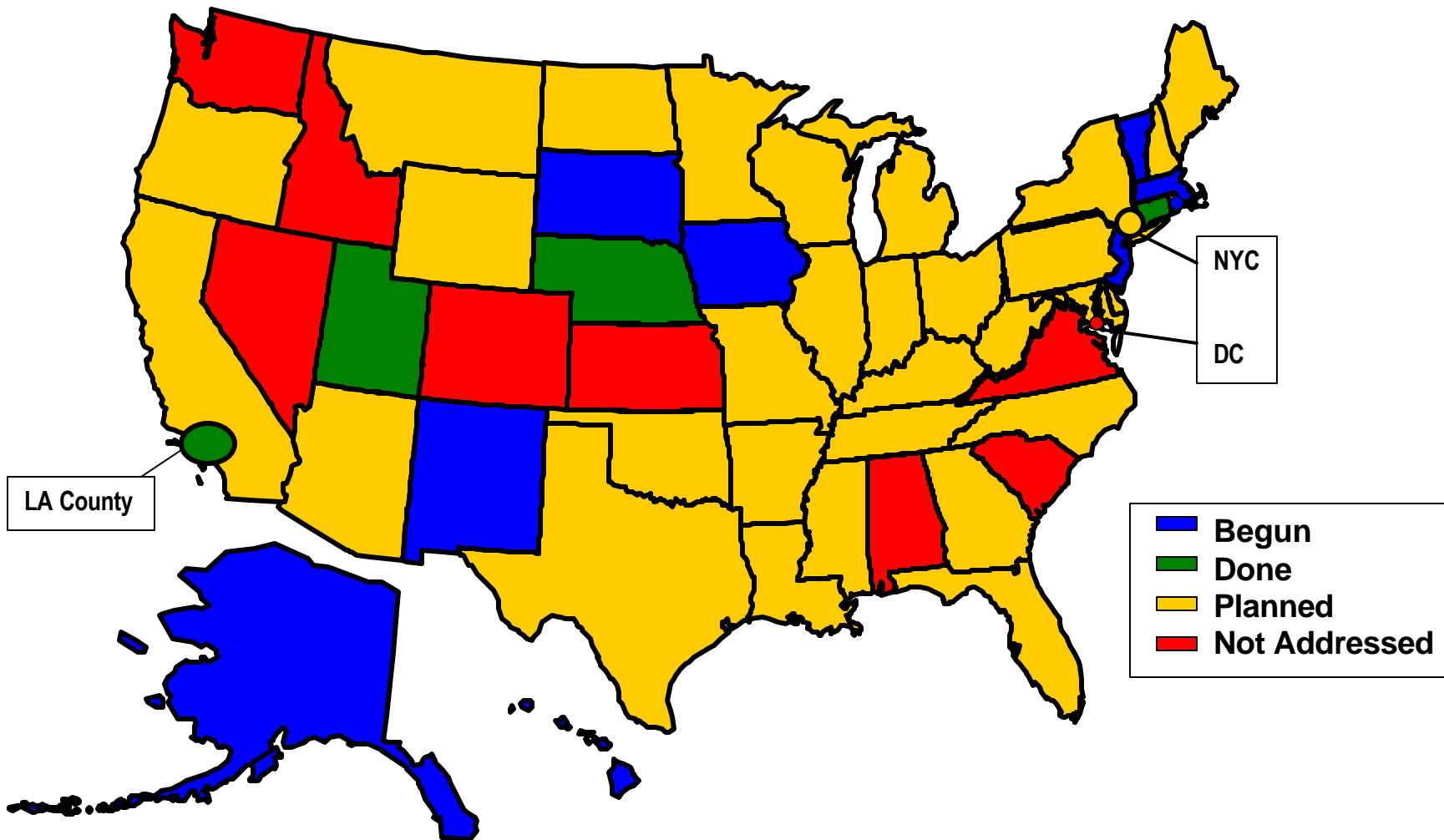


# Searchable Laboratory Database

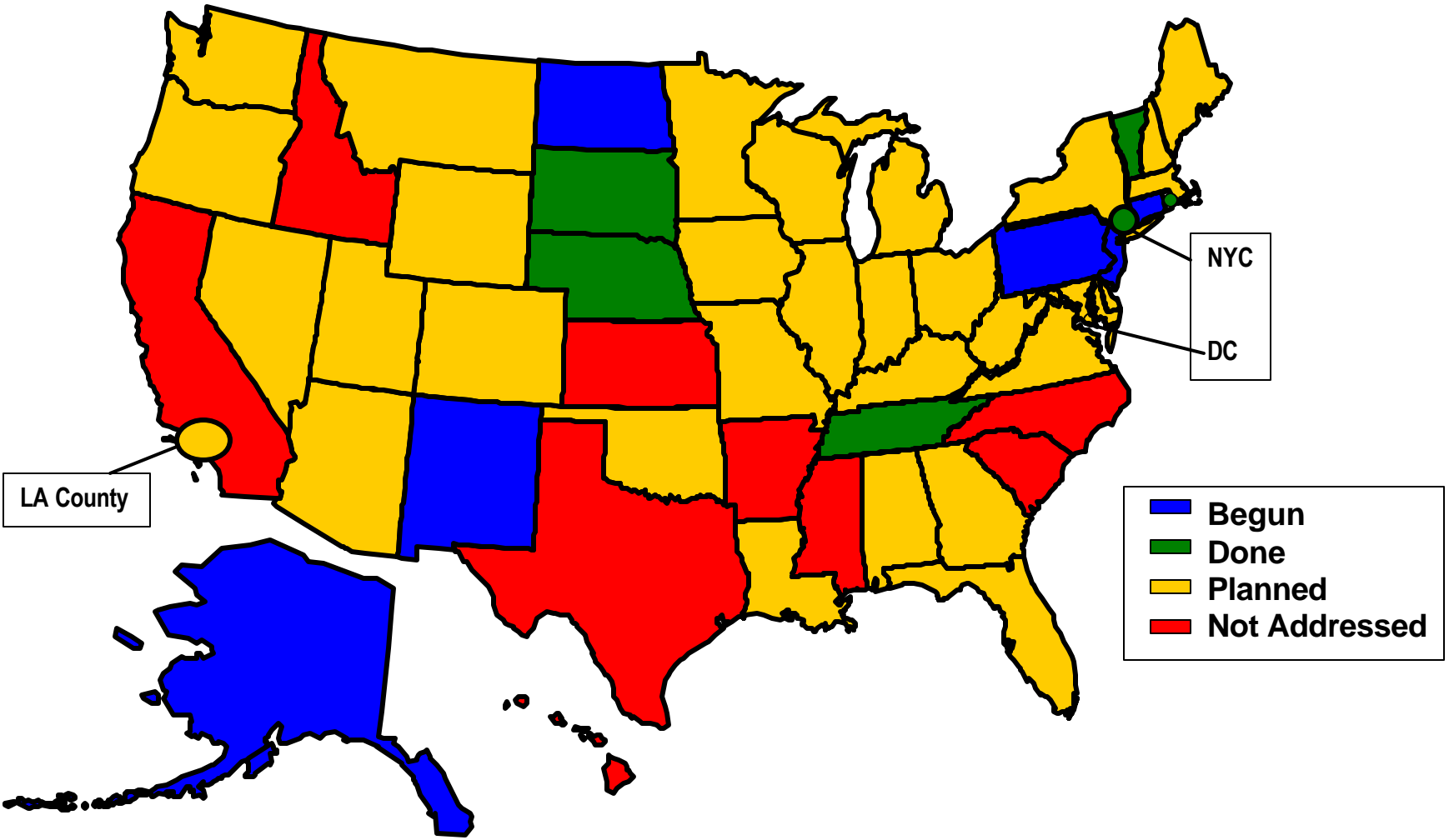




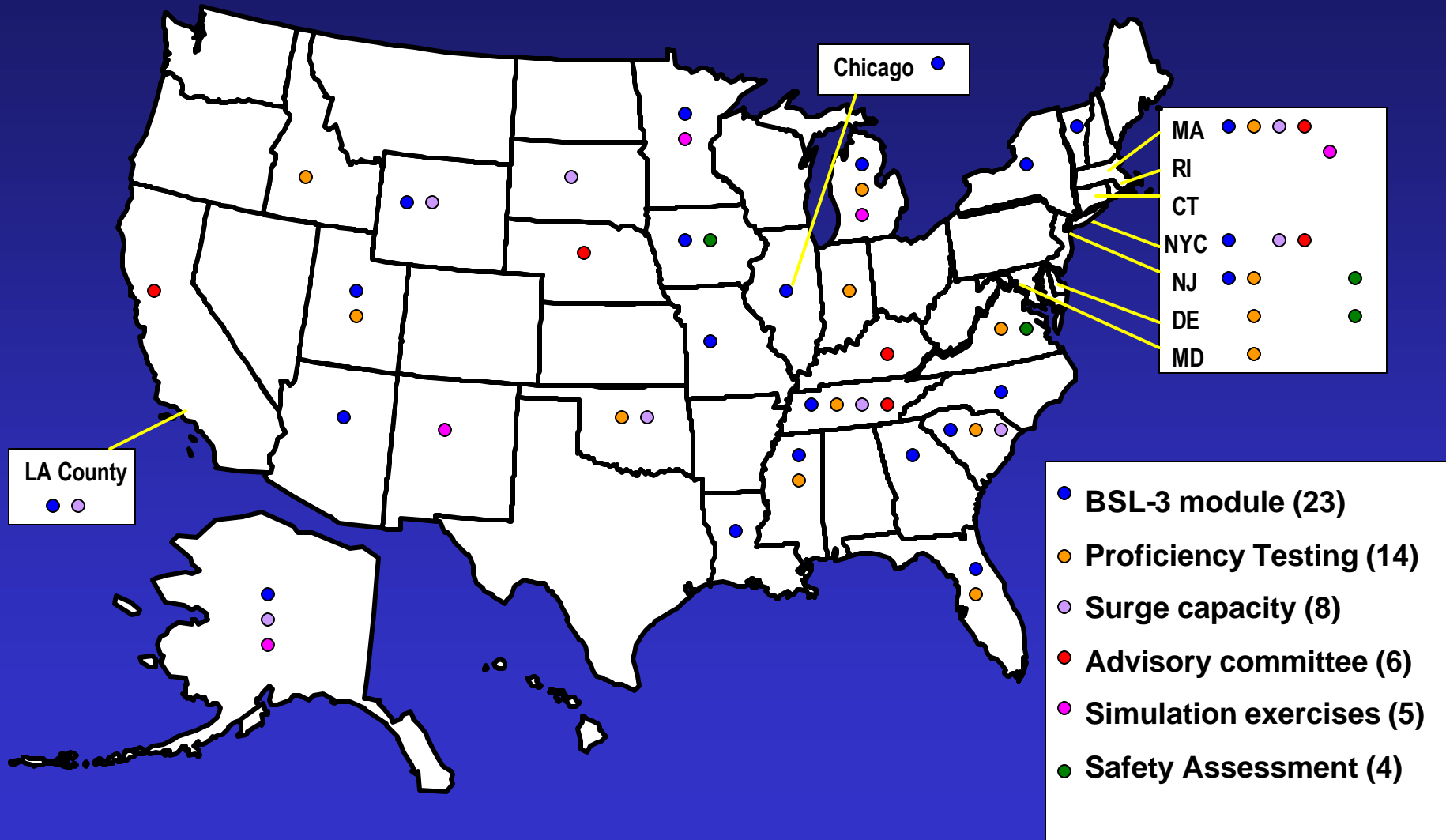
# Enlist Clinical Laboratory Participation



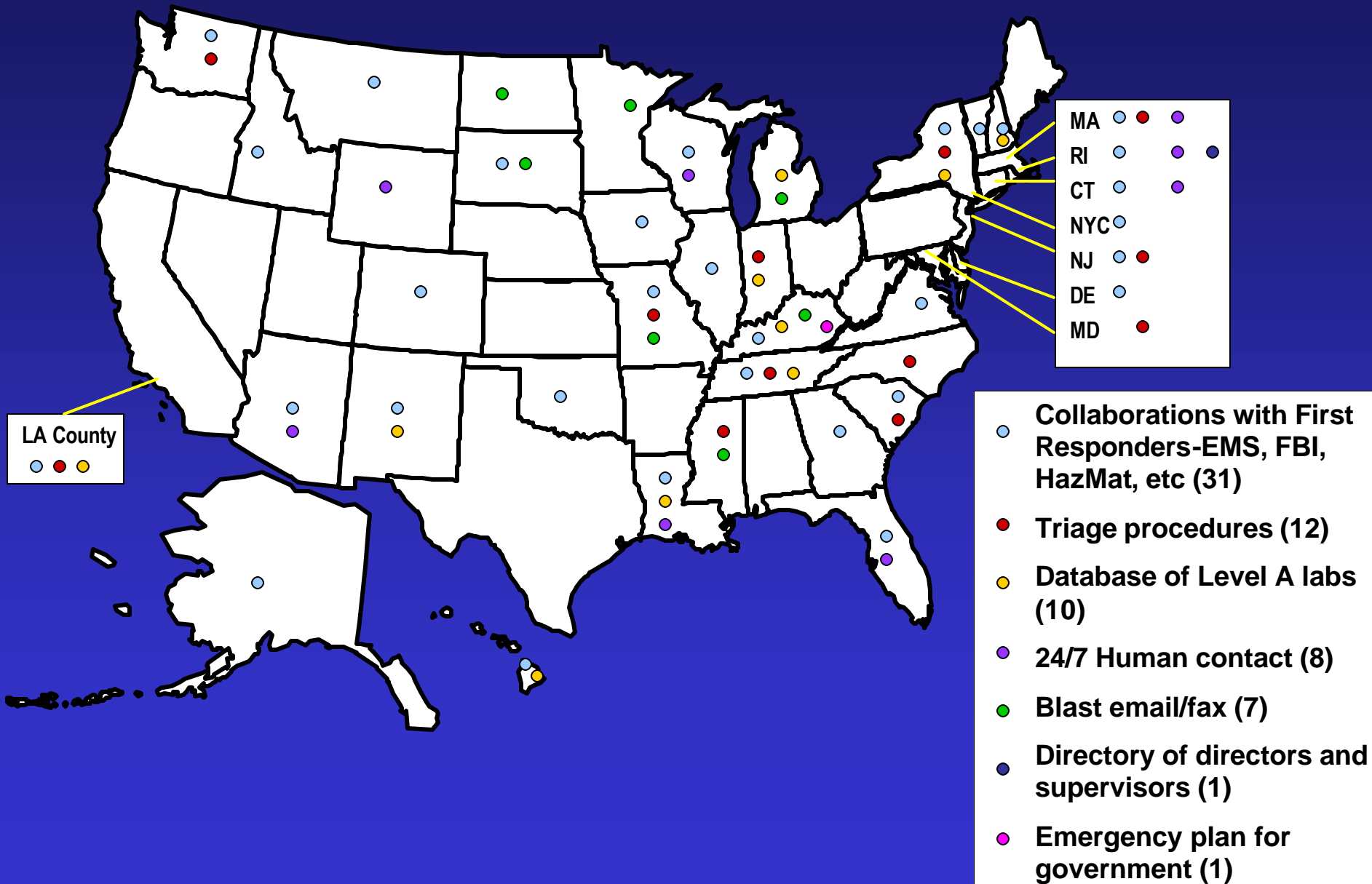
# Convene Laboratory Forum or "Advisory" Committees



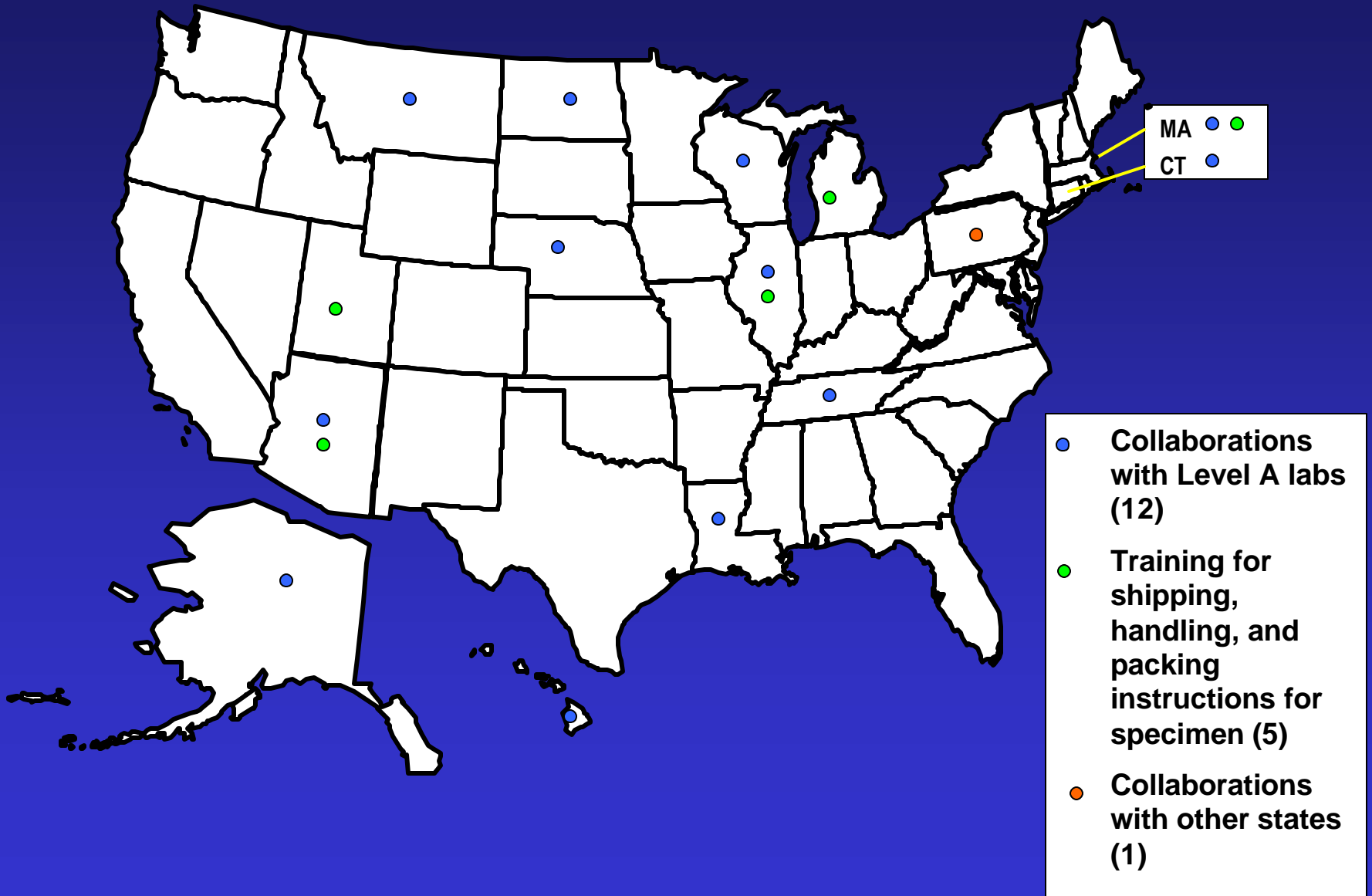
# Best Practices: Assessment



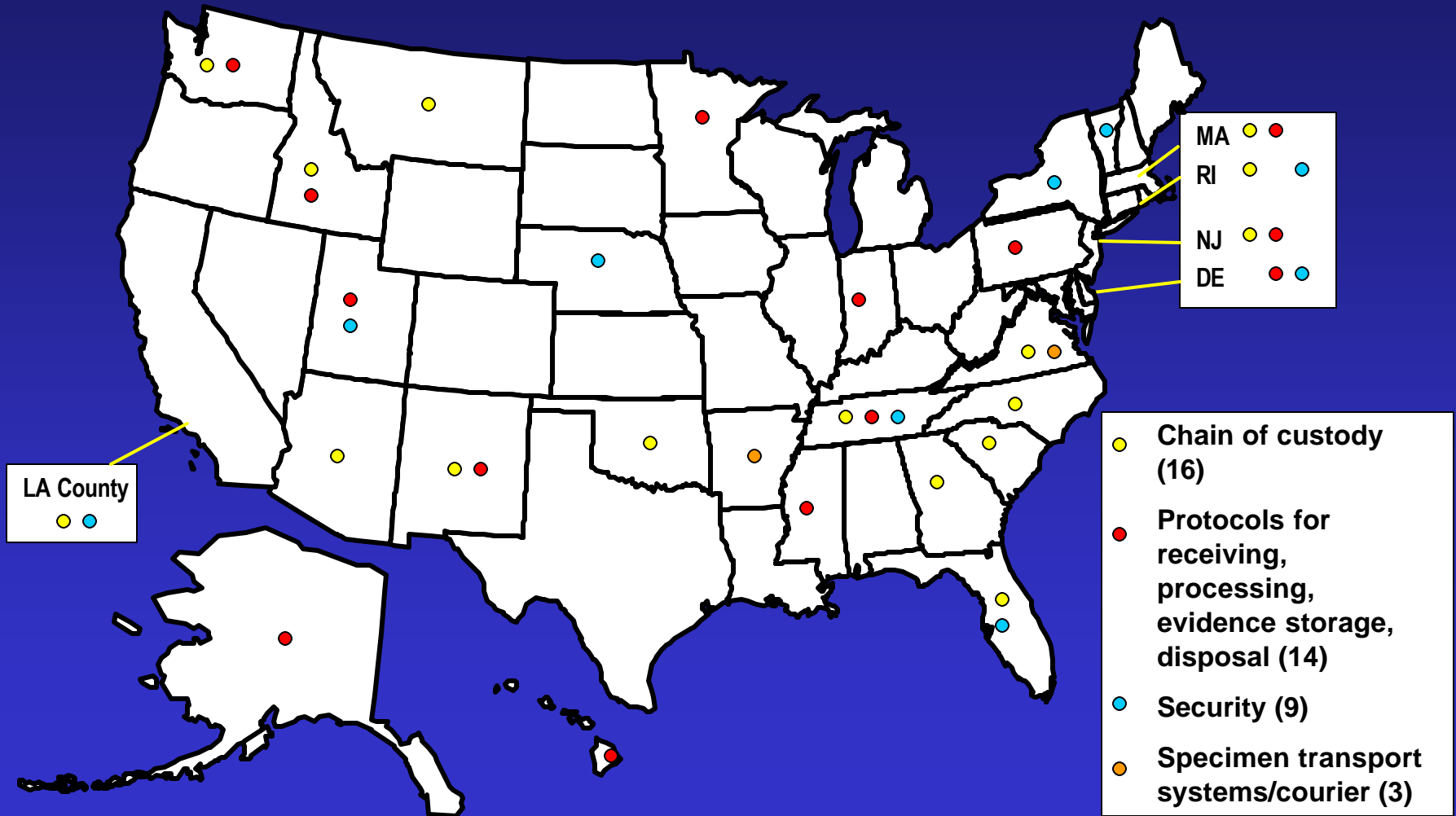
# Best Practices: Communication



# Best Practices: Training



# Best Practices: Specimen Transportation

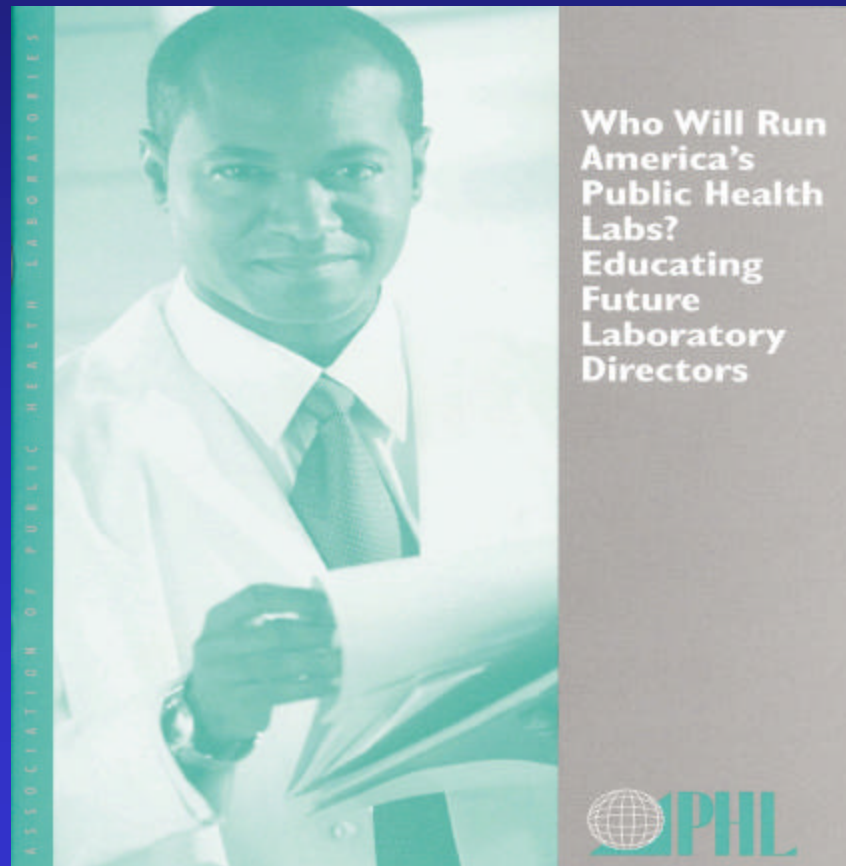


# Laboratory Integration Program

## Activities

- Convene the NLS Consultants Group
- Maintain the National Laboratory Database of laboratories and their testing services and assist with development of state databases
- Convene regular national conference calls between CDC, the LPC's & SLTC's
- With APHL, through the Leadership Institute, provide leadership training

# Leadership for Public Health Laboratories





# Laboratory Integration Program

## Activities

- Support dissemination of state's model activities
- Provide advice on the creation and maintenance of PT programs
- Provide consultation on laboratory management and administration
- With APHL and other stakeholders, create performance standards for PH laboratories

# Expected Outcomes

- Formalized relationships between clinical and public health laboratories
- Coordination of activities
- Development of Intra- and Inter-state Collaborations
- Improved PH surveillance and response

# What are the next steps?

- Promote successful state models
- Develop connectivity and standardization for state-based assessments
- Foster the support of national organizations for state systems
- Support a leadership role for state public health laboratories