



# FERN

Uniting Federal, State and Local Laboratories for Food Emergency Response

# Food Emergency Response Network (FERN) A Model for Vet-LRN?

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Vet-LRN Meeting

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# Mission of FERN

- Integrate the nation's multilevel food-testing laboratories to detect, identify, respond to and recover from a **bioterrorism** or public health **emergency/outbreaks** involving the food supply
  - HSPD-5: Management of Domestic Incidents
  - HSPD-7: Critical Infrastructure Identification, Prioritization, and Protection
  - HSPD-8: National Preparedness
  - HSPD-9: Defense of U.S. Food and Agriculture

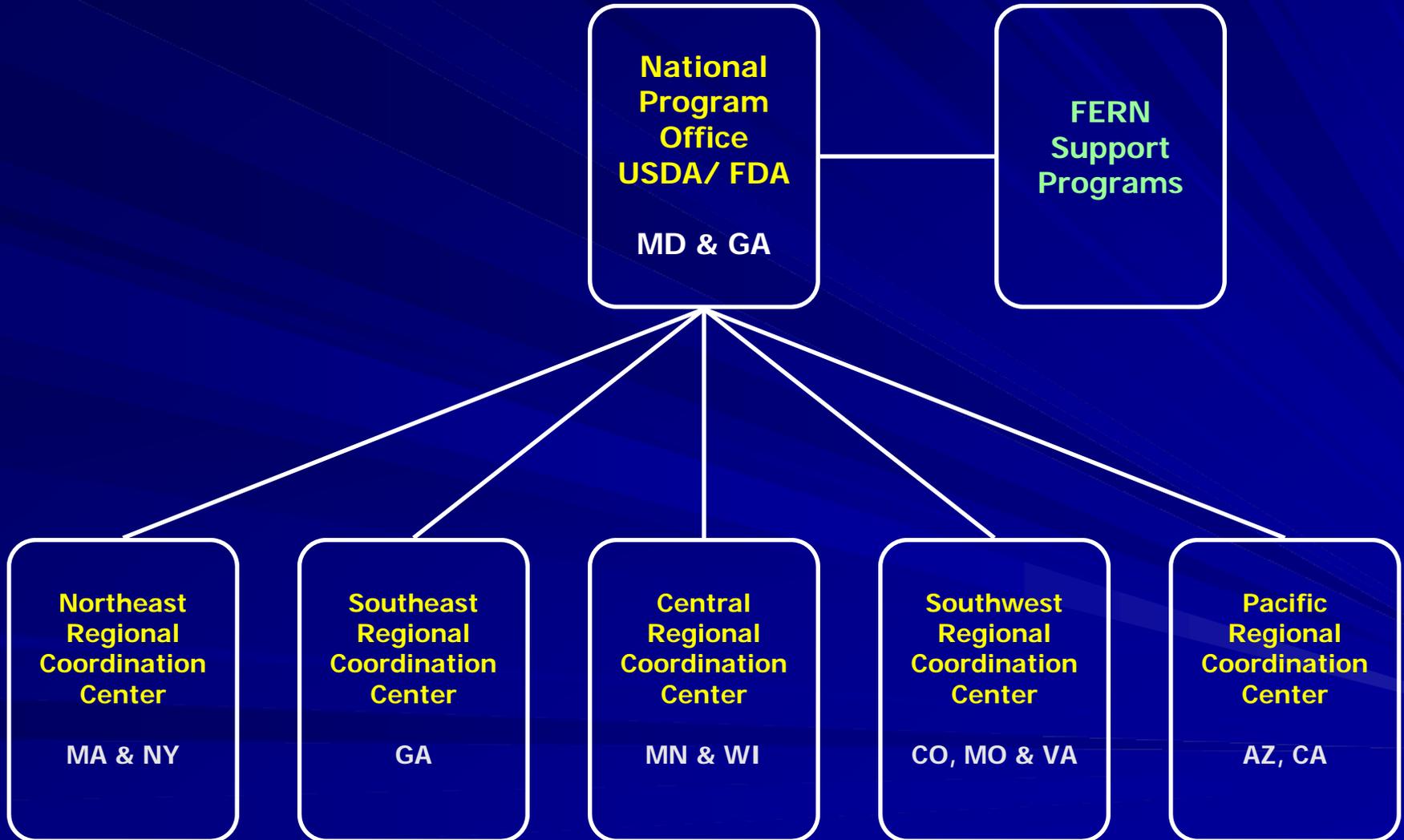
# FERN Objectives

- **Detection** and identification of biological, chemical, and radiological threat agents
- **Prevention:** operate targeted federal/state surveillance sampling programs
- **Preparedness:** strengthen lab capacities and capabilities
- **Response:** surge capacity
- **Recovery:** assure consumer of safety via food testing

# Laboratory Makeup

- 172 Laboratories representing 50 US States and Puerto Rico have satisfactorily completed FERN Laboratory Qualification Checklists
  - Affiliations:
    - 39 Federal (FDA, USDA/FSIS, USDA/AMS, DHS, CBP)
    - 116 State
    - 17 Local
  - Disciplines:
    - 134 Microbiological
    - 110 Chemistry
    - 34 Radiochemistry

# FERN Organizational Chart



# FERN National Program Office (FERN NPO)

- Responsible for day to day operation of FERN
- Manage and coordinate FERN Support Programs
- Coordinate national laboratory emergency response
- Coordinate Regional Coordination Center (RCC) activities

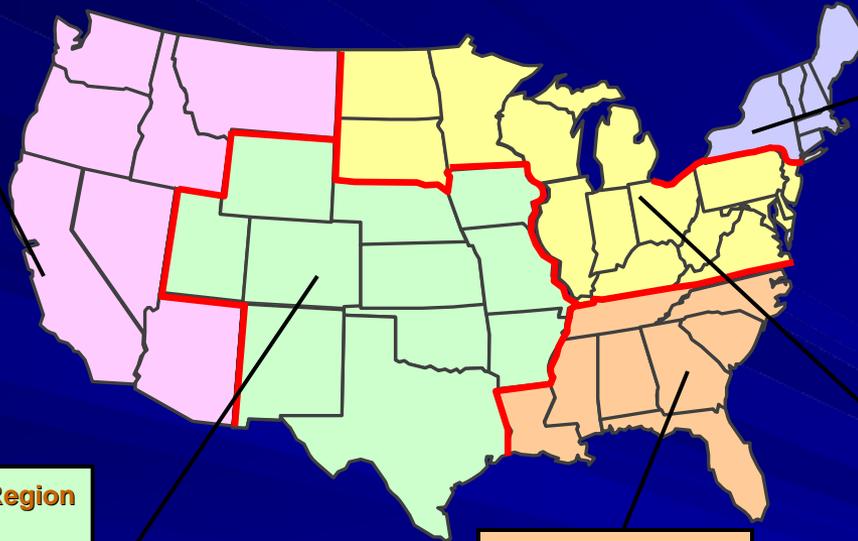
# Regional Coordination Centers (RCC): an Integrated Approach

- Five RCCs are located through the U.S., one in each region and are staffed by FDA and FSIS.
- RCC Activities:
  - Identify laboratory capabilities (screening and confirmatory for all analytical areas) within the region
  - Identify needs of the region and convey those needs to the NPO
  - Coordinate regional response of laboratories during an emergency

# Food Emergency Response Network Regions

**Pacific Region**

- Alaska
- Arizona
- California
- Hawaii
- Idaho
- Montana
- Nevada
- Oregon
- Washington



**Northeast Region**

- Connecticut
- Maine
- Massachusetts
- New Hampshire
- New York
- Rhode Island
- Vermont

**Southwest Region**

- Arkansas
- Colorado
- Iowa
- Kansas
- Missouri
- Nebraska
- New Mexico
- Oklahoma
- Texas
- Utah
- Wyoming

**Southeast Region**

- Alabama
- Florida
- Georgia
- Louisiana
- Mississippi
- North Carolina
- South Carolina
- Tennessee

**Central Region**

- Delaware
- Illinois
- Indiana
- Kentucky
- Maryland
- Michigan
- Minnesota
- New Jersey
- North Dakota
- Ohio
- Pennsylvania
- South Dakota
- Virginia
- West Virginia
- Wisconsin

# FERN Support Programs

## ■ Method Development/Validation

- FERN Methods have been evaluated and shared with CDC/LRN, and harmonized with other lab networks
- Work continues on method development, validation, and harmonization in all analytical areas

## ■ Training

- Training provided in all disciplines
- Over 600 people trained from all 50 states
- 6 Training Centers throughout the country
- Select agent training
- Rapid detection methodology training
- Utilization of web-based training courses

## ■ Proficiency Testing

- Joint PT exercises with LRN, ICLN conducted when possible
- All three disciplines (Rad, Chem, Micro) tested

# FERN Support Programs

## ■ Surveillance Testing Program Goals

- Assessing and demonstrating the effectiveness and capabilities of FERN
- Testing operating mechanism and protocols of FERN
- Demonstrating coordinated communication and data reporting

## ■ Electronic communications and collaboration

- Data capture & exchange mechanism for FERN is the Electronic Laboratory Exchange Network (eLEXNET)
- FERN Website contains public information, member directory as well as laboratory capability & assessment information (LabDIR)
- FERN Website houses registration modules for trainings, meetings and PTs

# FERN Cooperative Agreements

Cooperative Agreements - administered by FDA and USDA/FSIS to support FERN's mission and objectives. The FY11 Cooperative Agreement Program (CAP) funds:

- **25 State Laboratories (FSIS CAP)**
  - Method development/validation
  - Increase capability/capacity (micro and chem focus)
  - Training Centers
- **3 Cooperative Agreements (FSIS CAP)**
  - Development & support of the FERN Website
  - PT Program & Post-Training Check Samples
  - Planning & hosting Annual FERN National Training Conference
- **15 State Microbiology Laboratories (FDA CAP)**
  - Analyze samples for FDA/FERN (e.g. surveillance/emergency)
  - Some method development/validation work
- **14 State Chemistry Laboratories (FDA CAP)**
  - “Go-to” labs: PT’s, surveillance, emergencies (Melamine, Oil Spill)
- **5 State Radiochemistry Laboratories (FDA CAP)**
  - “Go-to” labs: PTs, surveillance, emergencies

# FERN Tools for Emergency Response Testing Efforts

- FERN Website LabDIR
  - Stores laboratory capability and capacity data for common analytes of concern
  - All FERN labs required to complete this data and verify on a yearly basis
  - Used by FERN NPO & RCC to assess FERN capacity and capability to respond to an emergency
- eLEXNET
  - Data reporting
  - Document management & storage related to emergency testing

# FERN Laboratory Response

- Examples of recent events where FERN member laboratories have assisted with method technical expertise and results/information sharing:
  - *E. coli* O157:H7 in spinach, 2006
  - *Salmonella* in peppers, Summer 2008
  - Melamine, Fall 2008
  - *Salmonella* in peanut butter, 2009
  - Deepwater Horizon Oil Spill, 2010

# Examples of FERN Laboratory Response

- *Salmonella saintpaul* Outbreak response activities (Summer, 2008)
  - FERN was activated in response to this outbreak 12 FERN Microbiology Labs tested 290 pepper/cilantro/basil samples collected by the states in a FDA coordinated effort
  - FERN testing augmented and complemented concurrent FDA testing efforts (~550 samples)

# Examples of FERN Laboratory Response

- Melamine Outbreak response activities
  - FERN Chemistry Cooperative Agreement Program labs analyzed over 200 samples of protein products in 2007
  - FERN Chemistry laboratories participated in the #09-06 CFSAN Melamine Import Assignment (2008-2009), assisting FDA in the analysis of milk and protein samples
    - Analyzed 340 samples, or ~20% of the total sample collection to date
    - Were a key factor in clearing an FDA sample backlog, which arose due to very high collection rates

# Examples of FERN Laboratory Response

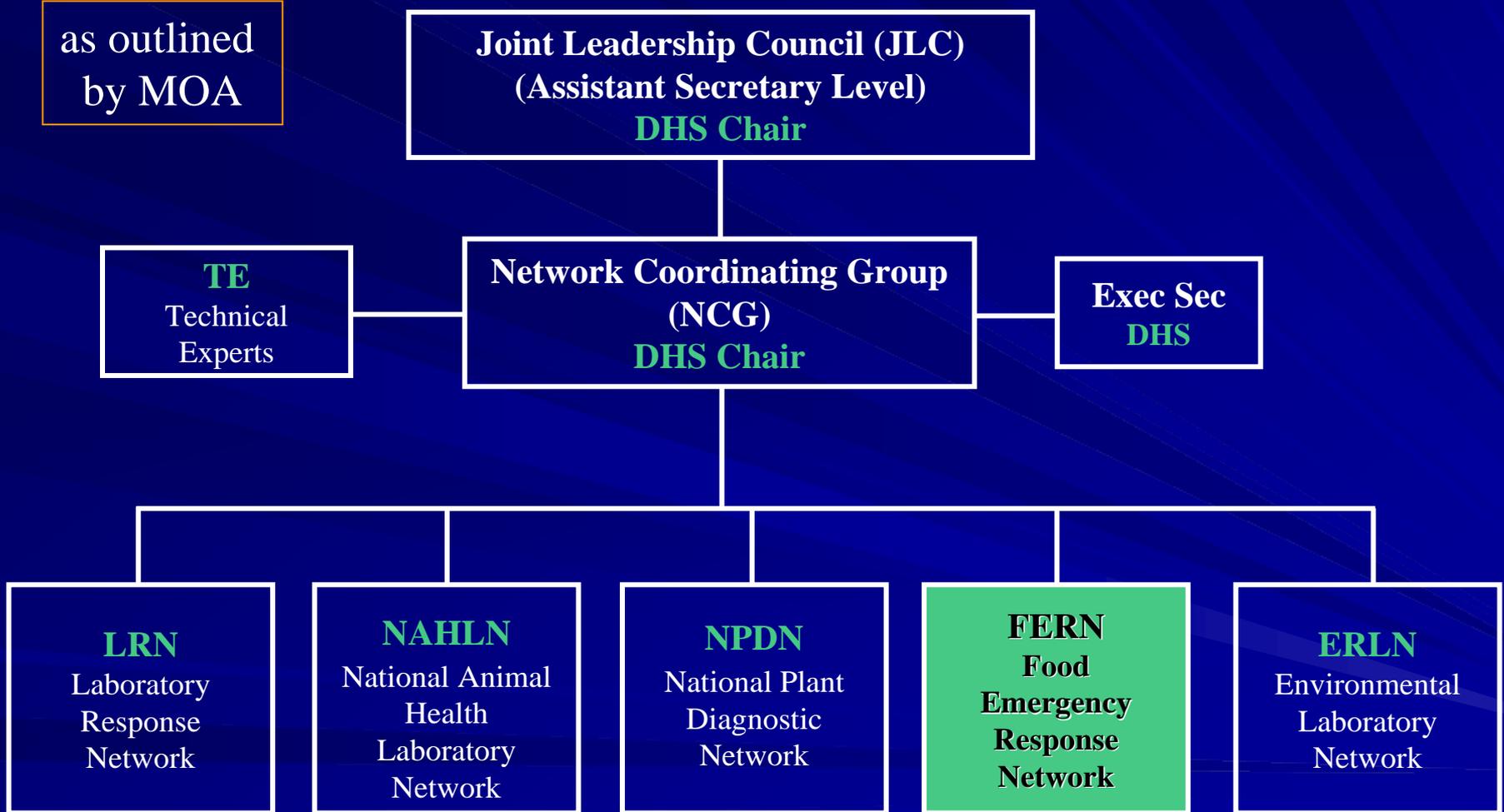
- PAH analysis for Deepwater Horizon Oil Spill (Summer, 2010)
  - FERN was activated in response to this emergency.
  - Chemistry CAP laboratories stood up for NOAA (GCMS) and Alternative (LCMS) Methodologies
  - 2 FERN Chemistry CAP Labs (MN Dept of Ag and CT Agricultural Experiment Station) assisted FDA FCC in validation/development of Alternative LCMS PAH method.
  - FERN provided surge capacity testing to augment and complement concurrent FDA testing efforts for Reopening of State Waters for shrimp, crab, finfish and oysters, as well as baseline sample testing.

# FERN Interaction with other National Laboratory Networks

- Coordinated through the Integrated Consortium of Laboratory Networks (ICLN)
- Mission of the ICLN:
  - Improved coordination of laboratory response to incidents
  - Assess, fill gaps in coverage across multiple sample types, potential victim groups (human, animal, plant), all WMD, all response phases
  - Promote common standards of performance across all lab response assets to ensure data supporting homeland security decisions is best quality and defensible

# ICLN Organizational Structure

as outlined  
by MOA



# Lessons From FERN

- Dual Agency Direction & Coordination
  - Issues & Communication
- Development of Oversight Groups & SOPs
- Collaboration with Other Networks
  - ICLN
- Constant Evolution- Be Flexible!!

# Next steps for FERN

- Continue to establish criteria for FERN Activation and National emergency response coordination
- Communicate FERN objectives, policies and current activities with ICLN & other networks
- Enhance collaboration among FERN labs within a region, i.e. tailored response plans
- Expand FERN capacity and capability
- Leverage existing resources, responsibilities, and roles to maximize cost effectiveness
- Continue to align FERN with a risk-based approach

# For Further FERN Information

- <http://www.fernlab.org/>
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# FERN

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# FERN Regional Coordinators

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