Development
Of A
Rapid Response Team
(RRT)
For
Food Protection
RI Department of Health

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Supervising Environmental Health Food Specialists
In 2008, The US FDA initiated a cooperative agreement with 6 states to develop food protection Rapid Response Teams (RRTs).

In 2009, 3 states were added.

In 2012, 10 additional states were added including Rhode Island!
RI received a 3 year grant of 300,000 per year to build a RRT.

Team activities include prevention, detection, investigation, and response to hazards.

RRT response should be followed by an evaluation for continuous improvement.
Partners

Integrated Food Safety System

- Health
  - FOOD PROTECTION
    - LAB
    - DWQ
    - BEACHES
    - IDE
    - CEPR

- State
  - POLICE
  - EMA
  - DEM

- Federal Partners
  - CDC
  - FDA
  - FEMA
  - FBI
  - USDA
  - EPA
Rapid Response Teams (RRT)

- Multi-year Cooperative Agreement
- 9 States/10 Districts
- RFA issued in May 2012 to add 5 new States
- Activities:
  - Collaboration
  - Communications
  - Policies/Procedures
  - Resources/Training
Funding Opportunity

- Develop Rapid Response Capabilities
- Put Best Practices into Place
- Improve Program Infrastructure
- Strengthen Federal/State/Local Collaboration for an Integrated National Food Safety System
Team Concept in Health

- **Epidemiology** *Infectious Disease and Epidemiology*
  - Gather case information
    - Who, where, what foods were eaten, symptoms experienced, onset time, duration, diagnosis?

- **Environmental** *Food Protection*
  - Conduct investigation of suspect establishment

- **Laboratory** *RI State Health Lab*
  - Analysis of food and clinical samples

- **Emergency Preparedness and Response**
  - Incident Command System
Incident Command System

- Activated by the Director of Health
- Managed by Center for Emergency Preparedness & Response
- Large Scale Event
- Additional Resources Needed
- Scalable and Flexible Structure
- Sections: Planning, Operations, Logistics, Finances
- Unity of Command
Food Protection’s Activities

- Surveillance
- Environmental Assessment
- Control Measures
- Food and Environmental Sampling
- Traceback and Traceforward
- Recalls
Weather Emergencies

- Flooding, tidal surge
- Water control, dam/levee failure
- Snow, ice, hail, sleet, arctic freeze
- Windstorm, tropical cyclone, hurricane, tornado
- Extreme temperatures
- Lightning strikes (fires following)

So what hazards are we talking about?
Utility Failures

- Electric Power
- Water
- Gas
- Steam
- Sewage System
Weather in Recent Years

- Flood (2010)
- Hurricane Irene (2011)
- Hurricane Sandy (2012)
- Blizzard (2013)
- Heat Wave (2013)
Foodborne Illnesses Triggers

- How many people are ill?
- How severe are the illnesses?
- How rapidly are the numbers of ill increasing?
- Is there an unusual pathogen involved?
- How widespread are the illnesses?
- Does the illness seem to be related to another outbreak?
2009 PCA Peanut Butter Recall

- 3,907 products were recalled in approximately 2,100 sub-recalls

- Estimated $1 billion in economic impact

- Peanut product sales from all producers dropped due to loss of consumer confidence

- Driving factor in Food Safety Modernization Act and FDA funding of RRTs
Ground Pepper

- Starting in Summer 2009, an increase in persons infected with *Salmonella montevideo* was observed

- Cases appeared across the country (see map at right)

Source: Centers for Disease Control
Daniele Brand

- Public Health analysis indicated consumption of Daniele brand sausage and salami linked to illnesses

- Follow-up testing found *Salmonella* in salami products

- FDA, USDA and State regulatory agencies began investigating salami manufacturer
Recall of Products

- Investigation led to recall of approximately 1.3 million pounds of meat products

- Three-month investigation suggested pepper used in sausages source of *Salmonella*

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**News Releases**

Rhode Island Firm Recalls Italian Sausage Products Due to Possible *Salmonella* Contamination

<table>
<thead>
<tr>
<th>Recall Release</th>
<th>CLASS I RECALL HEALTH RISK: HIGH</th>
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<tr>
<td>FSIS-RC-006-2010</td>
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Congressional and Public Affairs
(202) 720-9113
Atiya Khan

**Editor's Note, February 4, 2010:** As part of the continuing investigation, this recall release is being updated on February 4, 2010, to include two additional products*, adding approximately 23,754 pounds to the January 23 recall. It should be noted that these additional products are separate from those listed on the *January 31 expansion.*

**WASHINGTON, January 23, 2010** - Daniele International Inc., an establishment with operations in Pascoag and Mapleville, R.I., is recalling approximately 1,263,754* pounds of ready-to-eat (RTE) varieties of Italian sausage products, including salami/salame, in commerce and potentially available to customers in retail locations because they may be contaminated with *Salmonella*, the U.S. Department of Agriculture’s Food Safety and Inspection Service (FSIS) announced today.
Final Tally

- 272 confirmed illnesses from contaminated products; 11 additional possible illnesses
- 2 Ground Pepper Recalls
- 6 Sub-Recalls from spice company customers
- 75 products removed from market
The Spectrum of Food Contamination

ACCIDENTAL Contamination

Disgruntled Employees / Sabotage*

Counterfeit/ Diversion/ Tampering*

Economic Adulteration*

INTENTIONAL* Contamination

*Denotes mode of human interference with wrongful intent
Food Contamination

- Food Defense vs Food Safety
  (intentional) (unintentional)

- Human is the Source

- Biological, Chemical, Physical, or Radiological Agents

- RRT prevents, detect, and responds to intentional contamination of the Food Supply
Why Are We Concerned?

- Intentional contamination does happen

2010
US uncovers plot to poison hotels and restaurants at multiple locations

2007
Beijing - The food poisoning of 203 hospital patients in northeast China was an intentional act, police said...

2007
JOURNAL OF FORENSIC SCIENCES
Arsenic Poisoning Caused by Intentional Contamination of Coffee at a Church Gathering

2003
61 Students felled by rat poison in central China

2003
BBC NEWS
Italy on alert for water poisoner

2002
The Independent
'Al-Qa'ida' attempt to poison Rome's water supply foiled

2003
Telegraph.co.uk
Milk alert as poison terror strikes

2002
Associated Press
Grocery store worker accused of poisoning beef
Recent Emergency Responses in RI

- Just since this Summer…
  - Histamine in Tuna
  - Olive Recall
  - Spring Lake Beach
  - South County Balloon Festival Pig Roast
  - Heat Wave
  - Kent County Water Contamination
  - Noro Outbreaks, 1 confirmed, 2 suspected at local places
Kent County Water Event 9/22/13

- Kent County Water Authority Contacted After Hours Emergency Answering Service

- RI Department of Health (DWQ, Food, Director)

- Boiled Water Advisory due to Ecoli +

- Map Provided

- Press Release Issued

- Inspectors Dispatched to Establishments
Boiled Water Advisory Map
Press Release

- Boil Water Advisory
- SEPTEMBER 22, 2013
- DRINKING WATER WARNING TO ALL CONSUMERS OF KENT COUNTY WATER AUTHORITY & CITY OF WARWICK WATER CONSUMERS OF THE POTOWOMUT SECTION OF WARWICK
- TOTAL COLI FORM AND E. COLI BACTERIA PRESENT IN DRINKING WATER SUPPLY EXCEEDING THE MICROBIOLOGICAL MAXIMUM CONTAMINANT LEVEL
Swimming in Freshwater Ponds and Lakes, RI, July 2013
(A Different Kind of Grand Finale)
On 7/7/13 Infectious Disease received report from Hasbro Hospital ER

19 cases of bloody diarrhea from people who had swam at Spring Lake Beach in Burrilville, RI on 7/4/13.

5400 visitors at lake 7/4-7/6!
By 1:30 PM on Sunday, July 7th

- Environmental inspection completed
  - Concessions looked good
  - 4 water samples were obtained

- Report from the Beach Monitoring Program on past water sampling was provided…
  - Water sampled and tested once a month
    - Results from samples were always within normal limits
  - Water last sampled and tested on Monday, July 1st, 2013
What we did...

- Snack Bar was inspected and was OK (no ill workers).
- It was determined that a food item was not the cause of the illness.
- Drinking water tests returned normal.
- There were no reported septic system or sewage system leaks or issues.
- State Beach Program CLOSED THE SWIMMING AREA
- The HEALTH Laboratory was alerted that clinical and environmental testing may be needed.
RI Issues Press Release

Highlighting proper measures to prevent its spread

• Hand washing
• Cleaning
• Exclusion from group activities for 48 hours after diarrhea has ended
Spring Lake Summary

Case Count: 140 Primary (39 Lab Confirmed)
10 Secondary (5 Lab Confirmed)

Severity: No Deaths
20 Hospitalizations
42 ER Visits

Incubation: Median of 2 days

Duration: Range of 1 day – 13 days

Age: > 50% of cases were between 1-9 years old
Decision Making: When do we Re-open Spring Lake?

- There were no hard and fast rules available...
- So we used the following info as a guide:
  - Shigella does not live outside the body for long
  - Shigella does not survive in high temperatures
  - Water tests from Sunday, July 7th and Monday, July 8th showed no evidence of fecal coliform bacteria
FIREWORKS

It's only fun if EVERYONE has fun.
Salmonella Outbreak – Pig Roast
July 2013

- Received reports from Hospital on 7/29
- Started with 2 cases positive for Salmonella (same genetic pattern)
- An additional case received 7/31
- 5 cases with matching genetic patterns confirmed 8/1
- 16 total became ill, all had eaten pork at a pig roast for volunteers at the South County Balloon Festival
- Pork is not usually associated with Salmonella ??
Illness Onset of Salmonella I 4,5,12:i:- Cases Associated with a Pig Roast at the South County Balloon Festival, July 20, 2013

Pig Roast served in the late afternoon.

Number of Cases

Date


0
1
2
3
4
5
6

Case with a Matching PFGE Pattern
Probable Case

Legend:

Case with a Matching PFGE Pattern
Probable Case
RI DOH Response

- Ill persons interviewed
- Pig roaster was contacted and interviewed
- Procedures and handling practices were reviewed
- Leftover pork was sampled
- Lab results for pork matched the isolates from those that were reported ill
We thought we were done, but...

- August 13th, 2013
  - An epidemiologist receives a phone call from CDC
  - CDC has been monitoring pattern since February 2013
  - Recommended that we investigate a livestock source and try to trace back the source of the pig to the farm
Traceback begins

- Tracked the pig

  Farm  Slaughterhouse  Roaster’s truck  Balloon Festival

Multiple opportunities for cross contamination
Where to look?

- Looking at past research on this pattern from CDC, decided to focus on animal feed

- Completed traceback on feed and sampled several types

- All samples were negative for Salmonella
In Conclusion

- Never identified the source beyond the pig
- The ill all recovered
- The Pig Roaster vowed never to do a pig roast again!
Lessons Learned

- Cooperation between Food, Infectious Disease, and the Lab is essential for a RRT
- Outside partners including the State Vet and CDC were key
- Food Protection expanded the investigation to include animal feed in this case
- Food Protection developed additional sampling procedures
- The hotwash was important in evaluating our response
Moving Forward

- Revise Policies and Procedures such as recall plans, sampling etc.
- Improved communication – 800 mhz radios, notification process including alerts, press releases, blast faxes
- Better coordination with partners
- Advanced training on ICS, etc.