

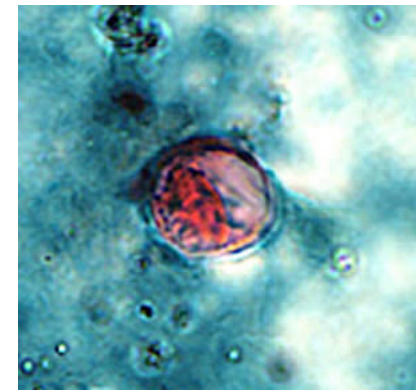
When Your Salad Eats You:

The Tale of Iowa's RRT Response to the Multi-state Cyclospora Outbreak

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Cyclospora – what's that?!



- Rare intestinal parasite (usually in travelers)
- Causes watery diarrhea for weeks to months, if untreated, and relapse
- Hospitalization for dehydration but rarely fatal
- Infection after consumption of contaminated food/water
- Previous outbreaks associated with fresh produce
- Testing not routinely performed on stool samples
- Treatment = antibiotics

In the Beginning...

- 6/27-6/28: 2 ill people had positive lab tests at state public health laboratory (SHL)
- By 7/2, 6 cases reported to public health → outbreak investigation began immediately
- Only 10 total cases of Cyclospora reported in Iowa prior to 2013





Communications, communications,,,,,

- June 28 – Article on 2 cases in weekly electronic newsletter – the Epi-Update (public health officials, health care providers, and some media) This is public domain info.
- July 3 - Alerts about potential outbreak in Epi-Update and HAN (to hospitals, emergency departments, infection preventionists, public health agencies, and health care providers). This is targeted, closed info.
- July 4 - CDC released Epi-X alert to whole country
- July 8 - Alert about outbreak in Epi-Update and HAN
- July 8 - First of 14 Twitter reports sent to >5000 people each



and more communications!

- July 11 - Update on outbreak situation in Epi-Update
- July 18 - Update on situation and testing protocol in HAN
- July 19 - Update on situation and testing protocol in Epi-Update
- August 2- MMWR Notes from the Field: *“Use of Electronic Messaging and News Media to Increase Case Finding During a Cyclospora Outbreak”*
- New Media Releases – July 8, 12, 13, 15, 16, 17, 18, 30, 31, Aug 8
(Aug 8th release included another outbreak of different disease – Cryptosporidiosis)



Houston, We Have a Problem!



- Data analysis began to reveal common restaurants visited by cases in IA & NE
- DIA joined investigation on 7/8
- Restaurant cluster investigations began on 7/9
- By 7/11, 39 cases reported and counting...
- By 7/16, 81 cases reported
- Most with onset of symptoms mid-late June



The Players



- Local Public Health (LPH)
- Iowa Department of Public Health (IDPH)
- Iowa Department of Inspections & Appeals (DIA)
- State Hygienic Laboratory at the University of Iowa (SHL) (State Public Health Laboratory)
- Food & Drug Administration (FDA)
- Centers for Disease Control and Prevention (CDC)
- Also collaborated closely with State of NE/Douglas County, NE

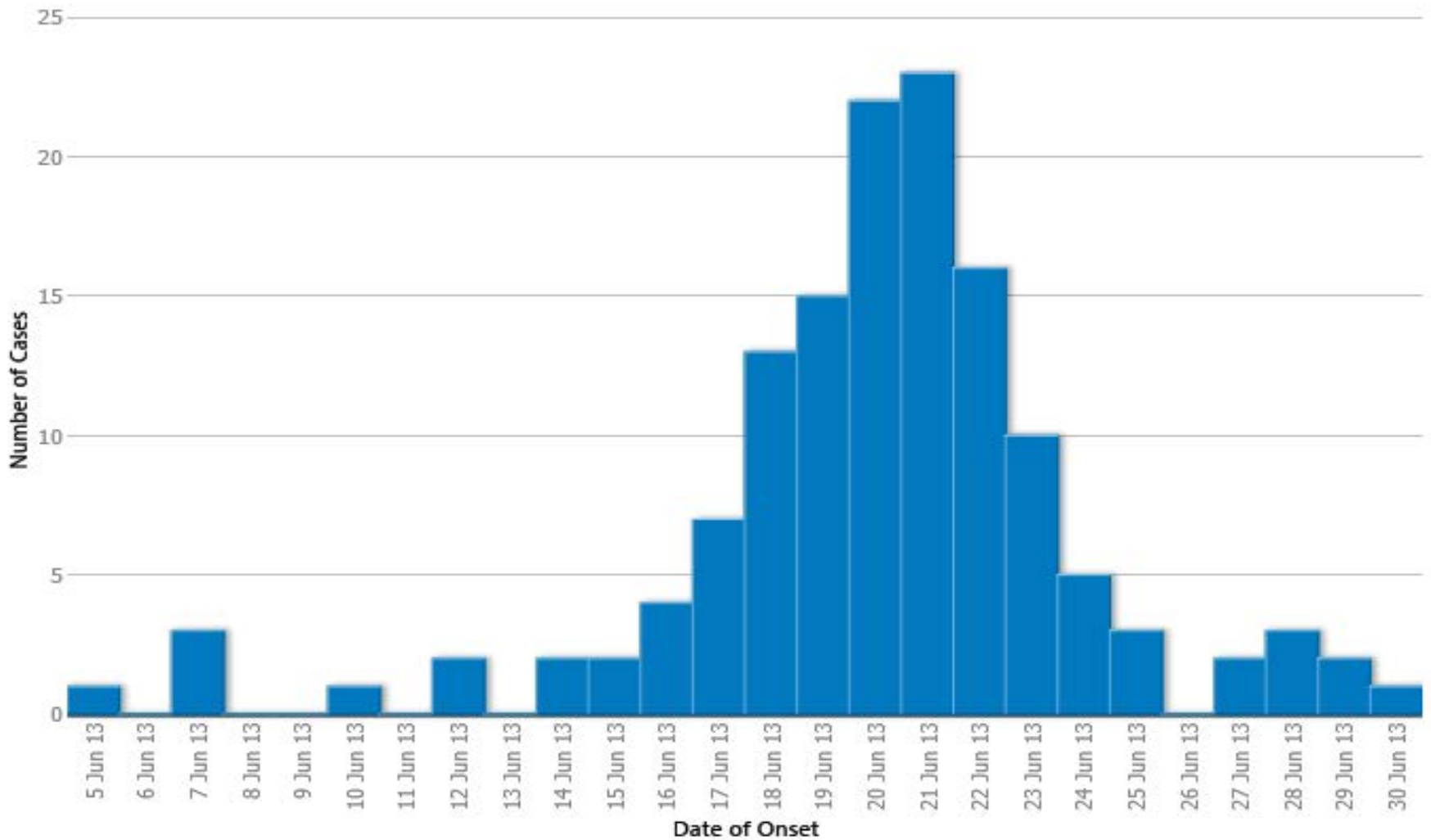


Case Demographics

- **Gender: 84 Female (61%), 53 Male (39%)**
- **Age Range: 10-92 (Mean = 55)**
 - **Over 90% were >35 years of age, and nearly half were between 51-65**
- **7 were hospitalized**



Cyclospora Cases by Date of Onset





Exposures In Iowa Cases

2 weeks prior to onset:

- significant exposure to two restaurants
- same ownership company
- same food production/distribution system
 - 73/137 (53%) ate at Restaurant A
 - 43/137 (31%) ate at Restaurant B
 - 9/137 (7%) ate at both

 - 107/137 (78%) ate at either A or B



Exposures in Iowa Cases, June 2013

- The average incubation period for Cyclospora is 7 days
- The average time from restaurant visit to onset of symptoms:
 - Restaurant A = 7.4 days
 - Restaurant B = 6.5 days



Salad Consumption at Restaurant A or B

(Combined Iowa and Nebraska data)

	ill	well	
Salad	71	59	130
No salad	2	15	17
	73	74	147

OR = 9.0, 95% CI (1.98 – 41.07)

Response Overview

- **LPH:** Continual case interviews and public outreach
- **IDPH/CDC:** Assisted with case interviews (IDPH) and performed analysis of epidemiologic data to ID commonalities/trends among cases
- **DIA/FDA:** Traceback for common foods/facilities identified through data analysis
- **SHL:** Continual sample analysis and confirmation of positive cases
- **Food Protection Rapid Response Team (RRT)** coordinated inter-agency response



Iowa Food and Feed Rapid

Response Team

- In 2012, Iowa was one of 10 states awarded an FDA cooperative agreement to develop a food and feed rapid response team.
- Teams must be based upon ICS principles.
- Team must include:
 - State Manufactured Foods Regulatory Agency
 - State Public Health Agency
 - State Feed Regulatory Agency
 - Food and Drug Administration

Iowa Rapid Response Team



Activation

- The Iowa RRT was activated for this incident on July 10 and deactivated on July 18.
- This was the first activation of the team.



Investigating the Food Source

- DIA joined investigation on 7/8
- Restaurant cluster investigations began on 7/9
- First steps
 - Visit restaurants,
 - Pull records on potential products, and
 - Call corporate parent.
- Analyzing data collected for common ingredients and sourcing



Investigating the Food Source (con.)

- When common sourcing found, moved on to getting detailed records on food sources including:
 - Distribution chain;
 - Processing system; and
 - Growing information.
- Key information received on Friday, July 12, information indicated common source with narrowed down to a handful of potential farms.



Investigating the Food Source (con.)

- Information turned over to federal partners, between July 12 and July 26 verified and confirmed conclusions.
- FDA began the process to initiate on-site visit to processing facility and farms in Mexico.
- Coordination between FDA and States to narrow and determine if there were links between additional states.
- July 30, information for released by Iowa and Nebraska on likely source for the largest portion of the outbreak.



Investigating the Food Source (con.)

- Multi-ingredient fresh produce mix presents significant investigational challenges:
 - Short shelf-life (no product available to test);
 - Different growing locations, processing, for each component; and
 - Same component often inserted into multiple products.
- Lack of research and validated testing protocols for cyclospora presence in food and environment creates significant challenges.



Wrapping Up

- Multiple internal AAR's conducted
- LPH AAR survey distributed via Survey Monkey
- Identified:
 - Successes
 - Challenges
 - Areas for Improvement



After Action Review



- **Successes**
 - Good coordination between response partners
 - Quick identification of probable source with conclusions
- **Challenges**
 - Media communication – giving consistent messages across departments
 - Interaction with and handoff to federal partners
- **Areas for Improvement**
 - Improvements needed toward collaboration/communication/coordination between States and FDA

 Q & A

