

## BACKGROUND

- Shigellosis is a diarrheal illness requiring few organisms for transmission
- An average of 9 cases/year were reported in Maine during 2000-2004
- Maine State Health Department was notified of a positive *Shigella* culture 9/12/05
- Reportedly  $\geq 11$  persons became ill after participating in a golf tournament held in Maine and catered by New Hampshire establishment on 9/1/05



## METHODS

### Case Finding

- Attendee: Any guest, volunteer, or employee who participated in any part of the golf event
- Obtained list of attendees from event organizer
- Interviewed attendees
- Asked persons interviewed to identify other attendees

### Environmental Investigation

- Golf facility inspected by Maine Health Department sanitarians
- Catering establishment inspected by New Hampshire Health Department sanitarians
- Site visits to both facilities by Maine epidemiologists

### Case Definition

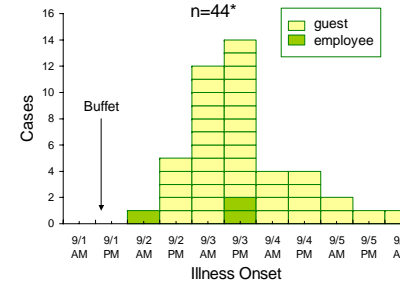
- $\geq 3$  loose stools in an attendee during 24-hour period  $\leq 4$  days following event

### Laboratory Analysis

- Stool specimens requested from
  - Symptomatic individuals
  - Employees of golf course and caterer
- Specimens cultured, serotyped, and tested by pulsed field gel electrophoresis (PFGE)
- Antibiotic susceptibility testing done on cultures
- Water samples from golf course tested for coliforms

## RESULTS

- 117 (91%) of 128 attendees were interviewed
  - 92 guests
  - 13 volunteers
  - 12 employees
- Median age 49 years (range 8 – 88 years)
- 49 cases (attack rate 42%)
  - 18 (37%) persons sought medical attention
  - 1 (2%) hospitalized
- Most common symptoms:
  - Diarrhea n = 49 (100%)
  - Bloody stool n = 19 (39%)
  - Vomiting n = 13 (27%)



## Food and Beverage Consumption

Major Food Exposures	RR	95% CI
<b>Sandwiches</b>	1.1	0.7–1.8
Prepared by Club House staff		
<b>Water</b>	1.3	0.8–2.1
In coolers at various locations		
<b>Ice</b>	1.4	0.8–2.5
Provided by golf course		
<b>Fruit Cups</b>	1.8	1.0–3.0
Prepared by a volunteer		
<b>Buffet</b>	17.6	1.1–273.3
Catered by NH establishment		

Buffet Items	RR	95% CI
Fresh Fruit	1.0	0.6–1.5
Dinner Rolls	1.1	0.7–1.6
Baby Greens Salad	1.2	0.7–1.9
Grilled Vegetables	1.4	0.8–2.4
Rice and Peas	1.4	0.9–2.1
Chicken Skewer	1.6	0.8–2.4
Cheese	1.6	0.9–2.7
Shrimp Skewer	1.6	0.9–2.8
<b>Beef Skewer</b>	<b>4.5</b>	<b>1.2–16.8</b>

### Environmental Findings

- Inspection of golf course food services revealed 2 critical violations
- Inspection of catering establishment found 2 critical violations and 11 other violations

### Laboratory Findings

- Four stool specimens from guests were positive for *Shigella flexneri* 2a
- PFGE revealed indistinguishable patterns
- Isolates were sensitive to drugs commonly used to treat shigellosis, except for Trimethoprim-Sulfamethoxazole
- Water samples revealed 1 cooler (+) for coliforms

## LIMITATIONS

- Delayed reporting
- Missing data for certain exposures
- No food available for testing

## CONCLUSIONS

- Most likely cause of outbreak was beef skewer served during buffet
- How beef was contaminated could not be determined

## RECOMMENDATIONS

- Educate medical community about importance of prompt reporting
- Restrict symptomatic individuals in sensitive occupations
- Educate staff about correct food handling practices
- Advise golf course to stop using caterers not licensed in Maine

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