

Salmonella Outbreak in HSR 2/3



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Introduction

- On November 19, 2006 an epidemiologist of DSHS, HSR 2/3 received a phone call from ICP of a local hospital in Granbury. She notified of an outbreak of gastroenteritis among attendees of a Thanksgiving luncheon at a local elementary school.
- The epidemiology department conducted an investigation.



Background

- Granbury – a city in Hood County
- Population: 5718 (2000 census)
- Elementary School A: 505 students
- Thanksgiving luncheon on Nov 16,2006
- 600 people were served
- Nov 16,2006 at 6:30 PM first patient arrived at Hospital A in Granbury



Background (cont.)

- Patient A had nausea, vomiting, diarrhea, abdominal cramps and fever.
- On Nov 20; 54 patients with similar symptoms treated at Hospital A.
- By Nov 22; 8 more patients (62 total) with same complaints were seen.



Methods

- **Outbreak Investigation:**
 - Interviewed patients (hypothesis generating questions)
 - Laboratory testing
 - Case control study
 - Findings



Laboratory Testing

- A total of 9 patients were laboratory tested
- Food Samples collected
- Results of lab testing



Case Control Study 1 of 2

- What Happened? What would cause a Thanksgiving celebration to be not so thankful?
- Testing our hypothesis
- Case definition: How did we define a case?



Case Control Study 2 of 2

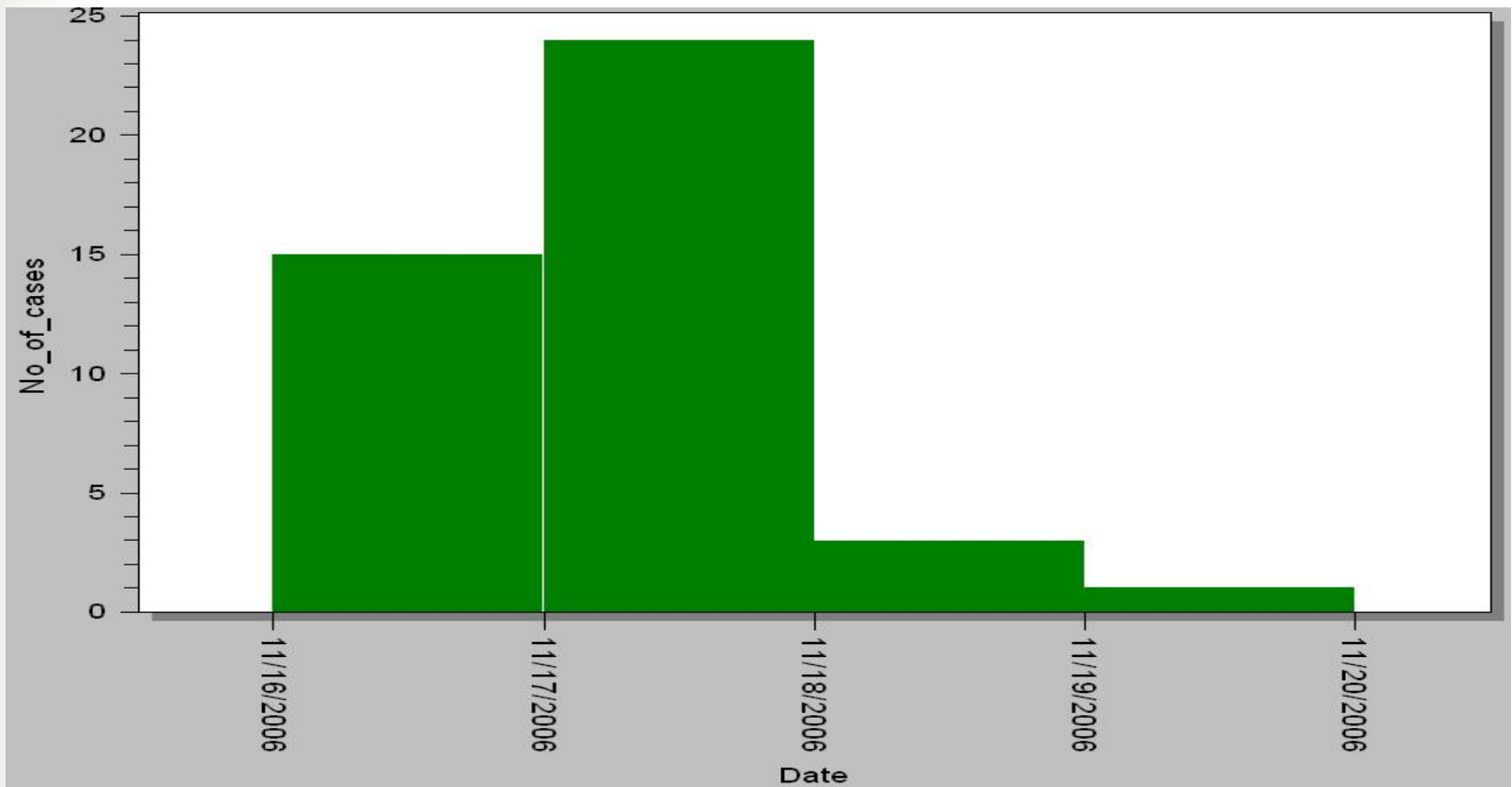
- Number of controls and cases used...
- The questionnaire included demographics, signs and symptoms, laboratory results, treatment history and food exposure items.
- The data was analyzed using 2x2 table and chi square statistical testing.



Results 1 of 5

- As a result of these interviews we identified a total of 77 cases. Age range: 9 months – 70 years (mean 23, median 27).

Results (Epidemic curve) 2 of 5





Results 3 of 5

■ Laboratory Results

- 9 patients were tested positive for salmonella
- 4 adults and 5 children.
- *Salmonella newport*.
- PFGE was performed on 5 isolates

■ Food sample results



Results 5 of 5

- Gravy:
 - OR = 3.27; CI (1.09-10.02)
- Iced Tea:
 - OR = 6.67; CI (2.20-20.85)
- Dressing:
 - OR = 1; CI (0.15-6.76)
- Turkey:
 - OR = 4.03; CI (0.69-30.37)



Discussion

The iced tea and gravy were statistically significant so far as food items consumed. However laboratory confirmation was not completed for these items. The food service workers were identified but they became ill after eating the same food.



Control Measures

- Excluded symptomatic food service workers
 - No food handling duties
- Other Control Measures



Conclusion

There were 9 laboratory confirmed cases of *Salmonella newport*. The food service workers who were positive for salmonella infection became symptomatic after eating the same food. Therefore we cannot assume that they were sources of contaminating the food items. We implicated two food items after statistical analysis but samples of these items were inadequate and not tested.



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