Background

The Texas Administrative Code requires that Salmonella infections be reported to the appropriate local health department (LHD) with jurisdictional oversight within one week. The LHD conducts investigations and provides timely intervention. Jurisdiction is based mainly on the domicile of the affected individual(s) and or associated institutions. The Texas Department of State Health Services, Health Service Region 6/5 South (DSHS, HSR6/5S) in conjunction with a LHD, investigated a report of Salmonella outbreak in a federal correctional complex (FCC) that was not reported in a timely manner because the issue of jurisdiction was not clear, resulting in significant delay in outbreak investigation. The setting of a FCC posed additional and uncommon challenges to this outbreak investigation.

Objectives

- To highlight the fact some entities within the jurisdiction of a LHD might not feel obligated to report notifiable conditions to the LHD
- To emphasize how correctional facilities might pose peculiar challenges to disease investigation not encountered in the general population
- To encourage LHDs to identify special population groups like the FCCs, and develop working relationship in advance for effective public health response

Methodology

- Review of prison protocols
- Review of food menu items and process
- Site visit by epidemiologists and sanitarians
- Interview of prison officials and inmates
- Inspection of Kitchen and Cafeteria

Initial Notification

- DSHS, HSR6/5S received a call from an epidemiologist at a LHD that there was an outbreak of Salmonella infection in a FCC in his area of coverage
- He sought advice on who had jurisdiction and how best to proceed

Timeline and Response

Day

- First Known onset date
- First case presentation at clinic
- LHD first notified
- Prison authorities invited in to investigate
- Visit to the Correctional Complex
- Prison authorities declined offer to conduct outbreak investigation
- 35 inmates ill

Results and Findings

- Proper case control study could not be conducted due to limited access to inmates
- Nineteen (19) interviews of mainly ill and kitchen workers were completed
- Main symptoms were fever (72%), Diarrhea (67%), Nausea/Vomiting (56%) and abdominal cramps (33%)
- Earliest known onset date was 11 days prior to initial report to LHD
- There were no consistent or significant associations between food items and the development of illness
- The sanitarians did not observe any violations
- Only 2 of 13 stool specimens that tested positive for Salmonella were available for serotyping and PFGE analysis. Both were S. Typhimurium and were indistinguishable on PFGE analysis.

Challenges in Investigation and Response

- Delay in Reporting: LHD was not informed until 11 days after first known onset date
- Delay in Response: Site visit was delayed for 6 days after report due to issues of jurisdiction and security clearance
- Incomplete specimen collection: 35 inmates sick, only 14 specimens collected
- Incomplete specimen possessing: Only two of 13 positive stool samples were available for serotyping and PFGE analysis
- Incomplete access to inmates for interview: Not all 35 sick inmates were available for interview and no well inmates for comparison.
- Incomplete access to prison environment
- Initial evidence(s) hampered investigation: Initial onset dates provided were not accurate and impacted timeline for food history
- Possible food items not available for testing

Conclusion

The source of the Salmonella infection and the full extent of the outbreak could not be determined. The mitigating factors have been described above. It is recommended that LHD and the FCC in the same localities work together to create an advance protocol in public health oversight and response. They need to operate as community health partners in contrast to last resort stopgap.