A Rapid One Week Response Salmonella Braenderup in Potato Salad

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Iowa Department of Inspections and Appeals

Potato Salad Outbreak the story begins...



- Health departments identified an increase in *Salmonella* cases in Iowa County via routine surveillance.
- Investigation started.



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Investigation started..

July 19, 2016

• County alerted area healthcare providers of the increase in Salmonella cases.



July 22, 2016

- Cases were re-interviewed using Iowa's hypothesis generating questionnaire.
- Big G Food Store Traditional or Zesty Potato Salad was identified as the common exposure.

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- IA RRT contacted Big G Food Store and requested that all Traditional and Zesty potato salad be removed from retail sale and held for product testing.



Food sampling considerations

- Epi investigation leads to suspect food(s)
 - Incubation period
 - Duration of illness, if known
 - Suspect causative agent
- Availability of suspected food
- Consultation with lab
 - Availability of lab testing for the suspect causative agent
 - Appropriate collection and storage procedure
 - Transport and receipt
 - Chain of custody and lab forms

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- Case interviews continued.



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- Approximately 34/100 people who attended the funeral were ill.

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July 25, 2016

- IDPH and DIA in collaboration with Big G Food Store to issue a consumer advisory.
- Big G Food Store deli and kitchen production was ceased and • environmental samples were collected.



July 25, 2016

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Environmental sampling considerations

- Suspected causative agent is conducive to sampling
- Food samples are unavailable
- Method of contamination is unclear
- Trained sampling personnel
 - Environmental sampling
 - Pathogen specific locations
- Availability of sampling materials (sponges, broth, gloves)
- Lab testing capability
- Verification of cleaning of the implicated facility

Environmental Investigation



Potato salad in walk-in cooler



Sample of potato salad



Sprayer at compartment sink



Stacked buckets in walk-in







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Laboratory Testing

- Salmonella Braenderup Pulsed Filled Gel Electrophoresis (PFGE)
 - Patient and potato salad samples
 - All isolates indistinguishable by PFGE



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 - the **stacked buckets** in the walk-in cooler and
 - the **handle of the sprayer** at the 3 compartment sink
 - The stacked buckets were used to hold raw chicken.
- The buckets were also used to hold the potato salad. •

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 Whole Genome Sequencing (WGS) showed that isolates from five clinical specimens and the potato salad were highly related with 0-5 SNPs difference.



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Salmonella ser. Braenderup 1605MLJBP-1 (JBPX01.0039)



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In summary...

- In total 55 cases (32 related to funeral) were part of this investigation
- SHL identified *Salmonella* Braenderup with PFGE pattern JBPX01.0039 in 23 clinical isolates and seven food samples
- Whole genome sequencing performed on five clinical isolates and potato salad sample were highly related with 0-5SNPs difference