

Salmonella Enteritidis Illness Outbreaks Associated with Raw, Frozen, Stuffed Chicken Products, 2015

After-Action Review Report 2015-11/2015-12

December 6, 2016

Overview

The Minnesota Department of Health, Minnesota Department of Agriculture (MDA), Centers for Disease Control and Prevention (CDC), and FSIS investigated two *Salmonella* Enteritidis outbreaks from June 2015 through October 2015. Both resulted in recalls of frozen, raw, stuffed and breaded chicken products. In both outbreaks, FSIS took enforcement actions and the implicated establishments introduced interventions to control the hazard. FSIS verified each establishment's corrective actions prior to their beginning production of these products again, including an assessment of their control of *Salmonella* in this type of product and in source materials used for their production through intensified sampling.

Epidemiology

Outbreak A

Outbreak A included 5 case-patients from Minnesota with onset dates from May 9, 2015, through July 22, 2015. 60% (3/5) were male; the median age was 30 years (range: 14–68); and 40% (2/5) were hospitalized. Case-patients were infected with *Salmonella* Enteritidis with either PFGE pattern combination JEGX01.0005/JEGA26.0037 or JEGX01.0004/JEGA26.0002. Antimicrobial susceptibility testing was conducted on three clinical isolates and all were pansusceptible. 100% (5/5) case-patients consumed raw, frozen, stuffed, breaded chicken products produced by Establishment A; 60% (3/5) consumed chicken cordon bleu; 20% (1/5) consumed chicken Kiev; and 20% (1/5) consumed both types. Case-patients were asked how they cooked the products: 67% (2/3) case-patients were aware that the product was raw; 60% (3/5) cooked the chicken in an oven at 350°F or higher for 30-60 minutes; 20% (1/5) used a convection oven/microwave and took the internal temperature at 165°F when done; and 20% (1/5) were not aware the product was raw and cooked it in a microwave.

Outbreak B

Outbreak B included 15 case-patients from 7 states (CT, IL, MN, NH, NY, OK, and WI) with onset dates from April 5, 2015, through July 27, 2015. 40% (6/15) were male; the median age was 32 years (range: 4–82); and 40% (4/10) were hospitalized. Case-patients were infected with *Salmonella* Enteritidis with either PFGE pattern combination JEGX01.0004/JEGA26.0203 or JEGX01.0253/JEGA26.0203. Antimicrobial susceptibility testing was conducted on four clinical isolates and all were resistant to ampicillin and tetracycline. 77% (10/13) of case-patients consumed chicken Kiev, cordon bleu, or broccoli and cheese products prior to illness onset; 90% (9/10) specifically mentioned consuming stuffed chicken products produced by Establishment B.

NOTE: Denominators are based on available information so may differ throughout the summary (unknowns are excluded). For example, the hospitalization status of case-patients in Outbreak B was known for only 10/15 case-patients, so the denominator for the hospitalization rate is 10.

Regulatory Investigation and Actions

Sampling

- MDA collected retail samples for similar products from both investigations. *Salmonella* Enteritidis isolates with indistinguishable PFGE from one of the outbreak strains were found in products similar to those associated with each outbreak and establishment.
- FSIS intensified sampling at each establishment found the following *Salmonella* percent positives:
 - Establishment A: 34% (37/110) *Salmonella* positive for frozen stuffed chicken products; 27% (10/37) of the positive isolates were *Salmonella* Enteritidis with a PFGE pattern combination indistinguishable from the outbreak strain; and,
 - Establishment B: 36% (219/607) *Salmonella* positive for frozen stuffed chicken products; while 11% (23/219) of the positive isolates were *Salmonella* Enteritidis, none of the isolates had a PFGE pattern combination the same as the outbreak strain.

Traceback

- In both investigations, shopper card information from case-patients was used to determine the production dates of the products associated with illnesses.

Regulatory Actions

- In both investigations, FSIS announced both an initial recall, followed by a recall expansion.
- FSIS issued Notices of Intended Enforcement (NOIE) to both involved establishments; an NOIE notifies an establishment that FSIS may withhold marks of inspection or suspend the establishment unless the establishment responds to FSIS within three business days regarding how it has or will implement corrective actions and achieve compliance.

Establishment Actions

- Both establishments associated with these outbreaks implemented various corrective actions that were validated and verified by FSIS. These include source product testing and the application of new interventions during processing. Establishment B also implemented product labeling changes.

Related FSIS Policy

- In 2015, FSIS proposed new [Salmonella performance standards](#) with a threshold of 25% *Salmonella* positive for comminuted chicken, which was the source material for a majority of these types of products produced at each establishment. This performance standard was not implemented until 2016.
- [FSIS Notice 15-16](#), “Profile update in establishments that produce not-ready-to-eat stuffed chicken products that appear ready-to-eat,” was issued on February 18, 2016. This notice instructs inspection program personnel to update the Public Health Information System profile for establishments that produce raw and heat-treated but not fully cooked, not shelf stable stuffed chicken products. This will allow FSIS to verify which establishments produce this type of product and then schedule a public health risk evaluation and if necessary, a food safety assessment at these establishments. FSIS also will use this information to identify establishments to include in an upcoming exploratory sampling program to verify industry’s level of process control for these types of products.

Available Guidance for Industry

- [Supplemental Q’s and A’s to Address Products Affected by FSIS Notice 75-06 Verification Instructions for Changes in Label Requirements for Uncooked and Raw, Frozen, Breaded, Boneless Poultry Products](#)
- [Information on Validation of Labeled Cooking Instructions for Products Containing Raw or Partially Cooked Poultry](#)

Additional Information for Consumers

- [FSIS Public Health Alert, July 1, 2015](#): FSIS Issues Public Health Alert for Frozen, Raw Stuffed Chicken Products due to Possible *Salmonella* Contamination
- Outbreak A
 - [Recall 101-2015, July 15, 2015](#)
 - [Recall 101-2015 expansion, October 2, 2015](#)
- Outbreak B
 - [Recall 096-2015, July 12, 2015](#)
- [Minnesota Department of Health News Release, July 2, 2015](#) : *Salmonella* cases linked to raw, frozen, stuffed chicken products
- [CDC infographic on frozen, raw, stuffed and breaded chicken products](#)
- [CDC Final Update](#) : Outbreak A
- [CDC Final Update](#) : Outbreak B

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