Fellowship in Food Protection

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IFPTI Fellowship Cohort VII: Research Presentation

Richard Stephens



Contributing Factors in Foodborne Illnesses Linked to Manufactured Foods

Richard Stephens IFPTI 2018-2019 Fellow Florida Department of Agriculture and Consumer Services



- Manufactured Food Regulatory Program Standards (MFRPS)
 - Establish a uniform basis for measuring and improving a manufactured food regulatory program
 - Critical component in establishing a national integrated food safety system







- Standard 5: Food-related Illness and Outbreaks Response
 - Correlate and analyze environmental assessment data to identify contributing factors that led to adulteration causing illness or injury



- FDA Food Code identifies 5 most common risk factors
- No published study specific for FBI's tied to manufactured foods

Food Code

U.S. Public Health Service

DA U.S. FOOD & DRUG

2017

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service • Food and Drug Administration

College Park, MD 20740



The types and prevalence of contributing factors to foodborne illness specific to manufactured foods is not well understood.



Research Questions

- What are the contributing factors identified during environmental assessments carried out as part of foodborne illness investigations linked to ready-to-eat manufactured foods?
- 2. What implications can be drawn from the patterns found in the contributing factors identified?



Methodology - Study Population

- 42 MFRPS States total
- 17 states selected for this research project
 - California, Florida, Georgia, Indiana, Iowa, Maryland, Massachusetts, Michigan, Minnesota, New York, North Carolina, Oregon, Pennsylvania, Texas, Virginia, Washington, and Wisconsin.
- Represent ~63% of U.S. population



Study Population





Methodology – Step 1

- Contact Health and/or Agriculture agencies regarding foodborne illnesses tied to manufactured food products and investigation results.
- Request summary of environmental assessments and investigations pertaining to FBI's linked to manufactured foods





Methodology – Step 2

- Examine data for contributing factors identified during environmental assessments
 - RRT Capability Assessment Tool tables.
 - Summary reports
- Qualifying investigations
 - Foodborne illness linked to a ready to eat manufactured food
 - Occurred between Sept. 2015 Sept. 2018



Methodology – Step 3

- Determine implications and recommendations.
 - Most common contributing factors identified
 - Ways to mitigate them in the manufacturing environment





"No plan survives first contact"





Study Population – Actual

- 8 states were able to provide relevant data
 Represent ~36% of U.S. population
- Reasons other states could not provide data
 - 1. Jurisdictional issues
 - 2. No relevant data
 - 3. Time/Resources
 - 4. Security issues
 - 5. Time to acquire data

Results – 16 Qualifying Investigations

Contributing Factor	Number of Occurrences
Lack of, or improper processing	14
Cross Contamination	6
Unsanitary Conditions	5
Improper Temperature Holding	3
Improper Labeling	2



Conclusions

- Small data set prevents any definitive conclusions regarding foodborne illness risk factors with manufactured foods
- Environmental assessments for Foodborne Illnesses tied to manufactured foods aren't being performed frequently.



Recommendations

- 1. Repeat and Expand study
 - 5 or 10 year period
- 2. Compile RRT data
 - Capability Assessment Tool
- 3. Conduct/follow-up on environmental assessments
 - Required for full conformance with Standard 5 of the MFRPS
- 4. Raw milk considerations



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Questions?

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Additional Info

- CDC Estimates that there are 48 million instances of Foodborne Illness each year. 128,000 of these are hospitalized, and 3,000 people die.
- Top 5 Foodborne Illnesses?
 - Norovirus, Salmonella, Clostridium perfringens, Campylobacter and Staphylococcus aureus.
- Staph. aureus anecdote the real Wedding Crasher