



Attribution: FSIS Next Steps

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Goals

- Use current science to move beyond the HACCP/Pathogen Reduction regulation expectation
 - *While FSIS cannot quantify the reduction in disease incidence which will occur with specific interim reductions in bacterial contamination of raw product, simply reducing the percentage of product containing a pathogen should result in a reduction on disease incidence**
- Expand use of risk assessments to inform risk management strategies
- Collect relevant and representative regulatory data

*60 FR 6774, February 3, 1995



Vision

- Allocate FSIS inspection resources among and within establishments based on attributable public health risk
 - Ensure that all risk-based inspection algorithms are scientifically-based, objective, and assessed (such as through a sensitivity analysis) to identify establishment characteristics and inspection activities best attributed to reducing the risk of foodborne illness
- Ensure that risk-based activities are effective in protecting public health

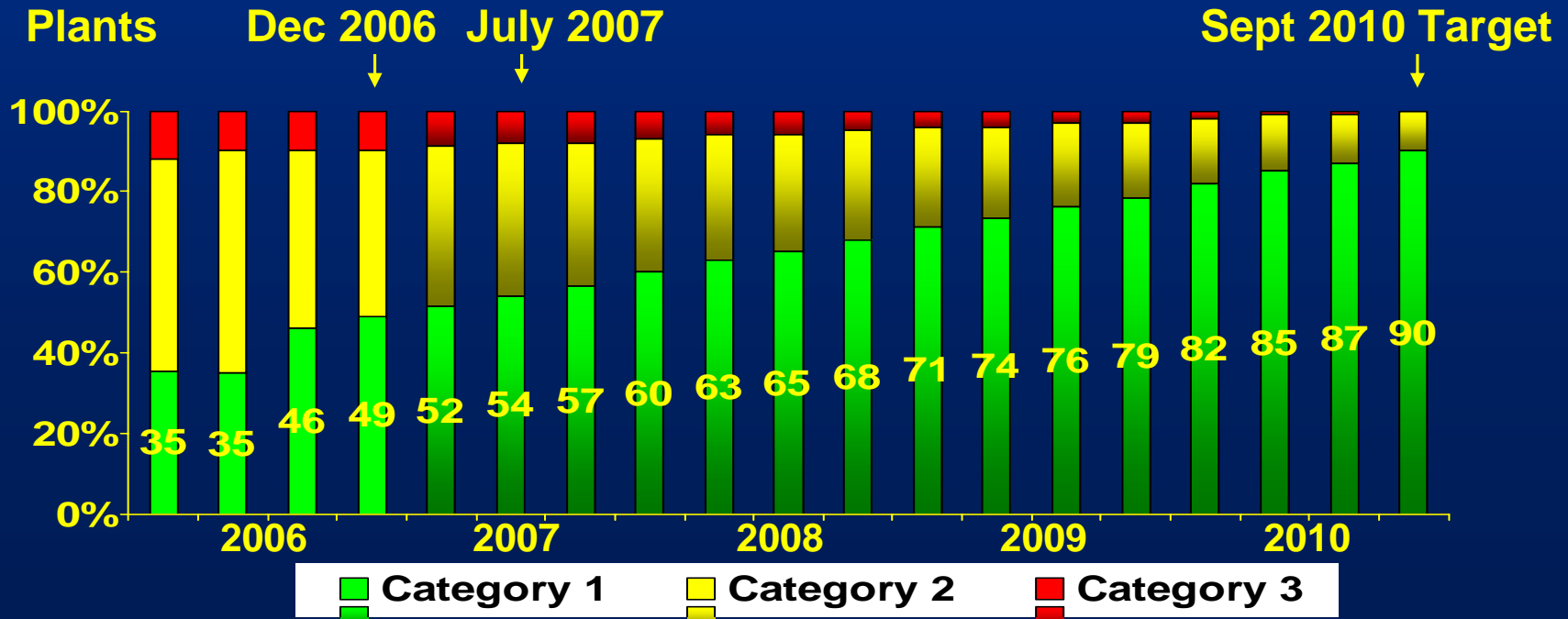
Current Public Health Driven Programs

- FSIS risk-based inspection activities
 - *Listeria monocytogenes* verification sampling in ready-to-eat products (initiated 2005; 0.65% positive target)
 - *Salmonella* verification sampling program for raw product (initiated 2006; 90% Category 1 target)
 - *Escherichia coli* O157:H7 verification sampling program in ground beef and manufacturing trimmings (initiated 2007; 0.20% positive target)

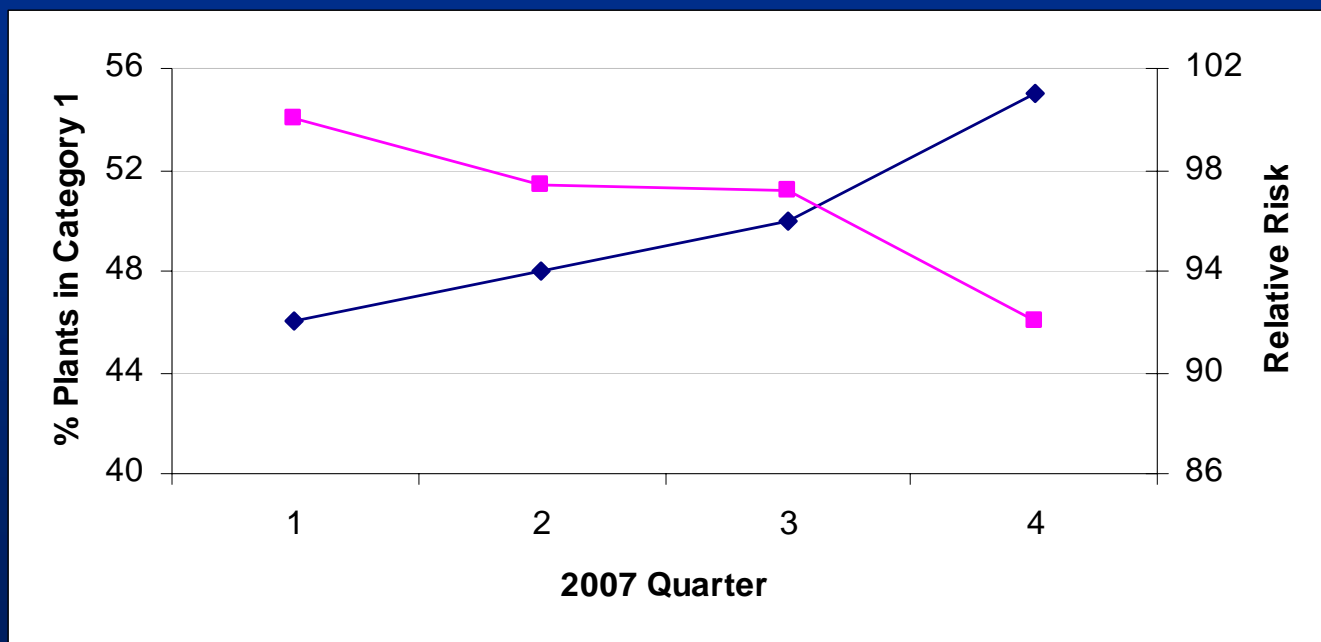


Program effectiveness: *Salmonella* in broilers

FSIS performance measure: 90% of establishments in Category 1 by October 2010 (~ 6 establishments added every three months)



Predicted Public Health Benefits – *Salmonella* on Broiler Carcasses



As the proportion of establishments in Category 1 increases (blue line), the relative risk of illness from *Salmonella* on broiler carcasses decreases (pink line)

Attribution question: “Which ready-to- eat foods pose the greatest risk of listeriosis?”

Interpretive Summary:

Quantitative Assessment of the Relative Risk to Public Health from Foodborne *Listeria monocytogenes* Among Selected Categories of Ready-to-Eat Foods

Center for Food Safety and Applied Nutrition
Food and Drug Administration
U.S. Department of Health and Human Services

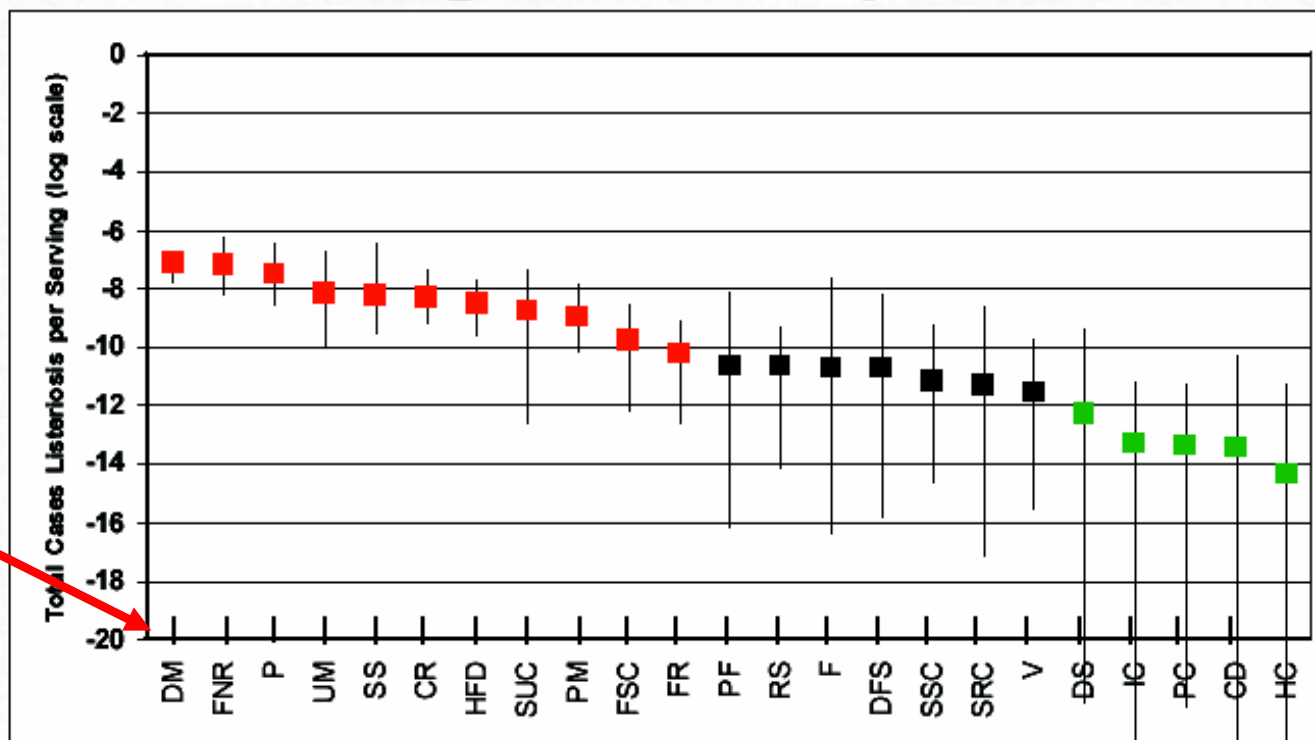
Food Safety and Inspection Service
U.S. Department of Agriculture

September 2003

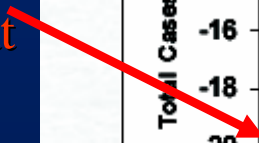


Predicted Cases of Listeriosis

Predicted Cases of Listeriosis per Serving—Total Population



Deli
Meat



Attribution question:

**“How can FSIS
effectively reduce
that risk for the
consumer through
the regulation of
meat and poultry
production?”**

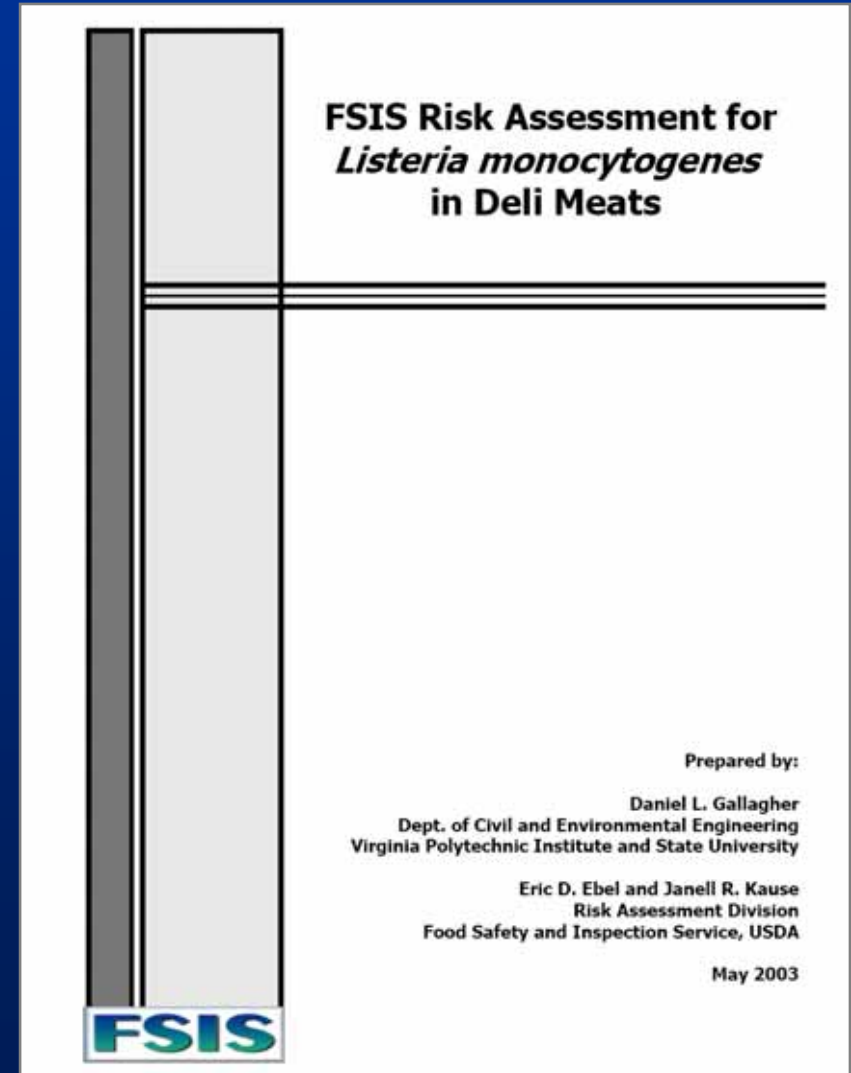
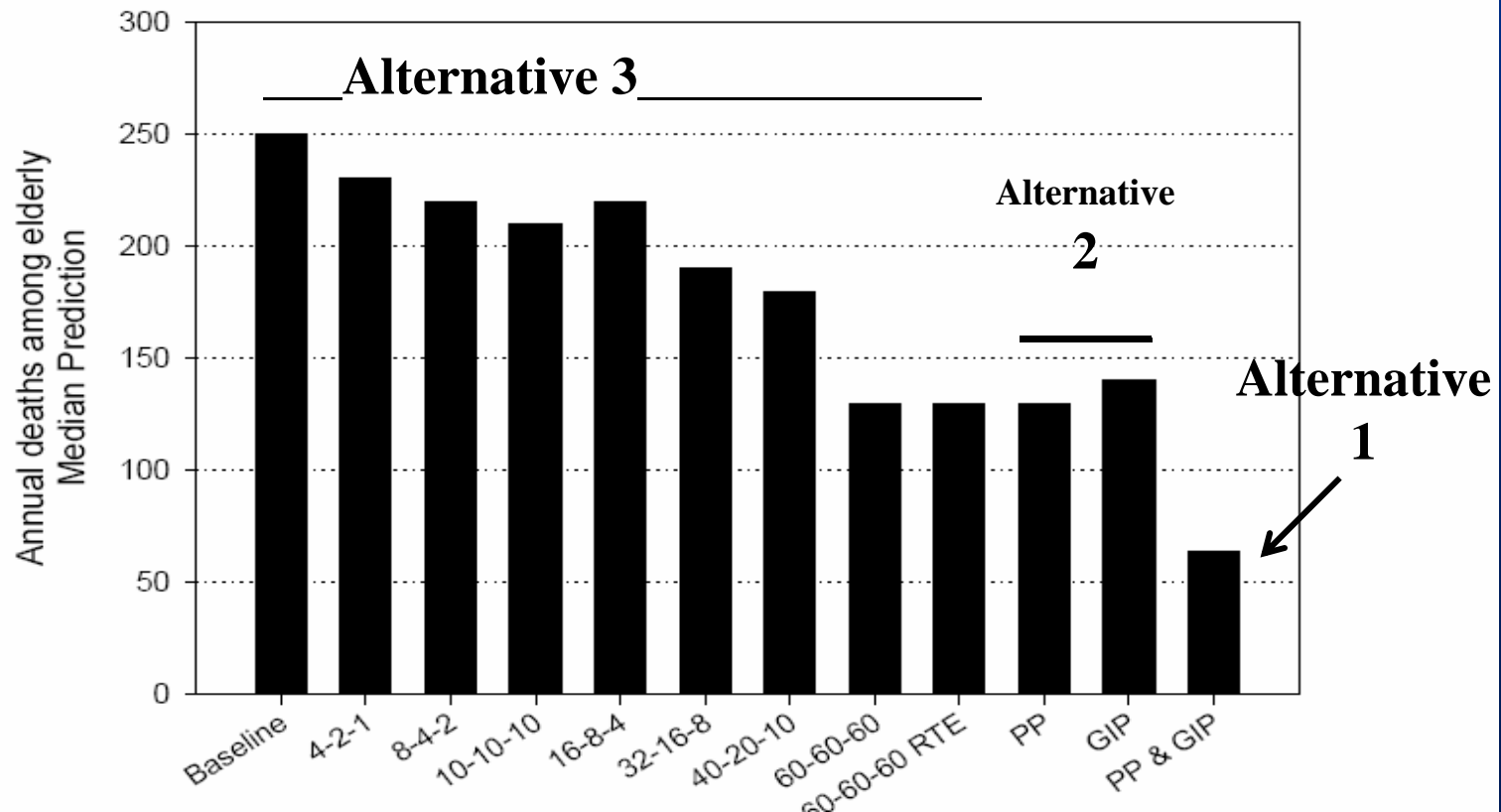
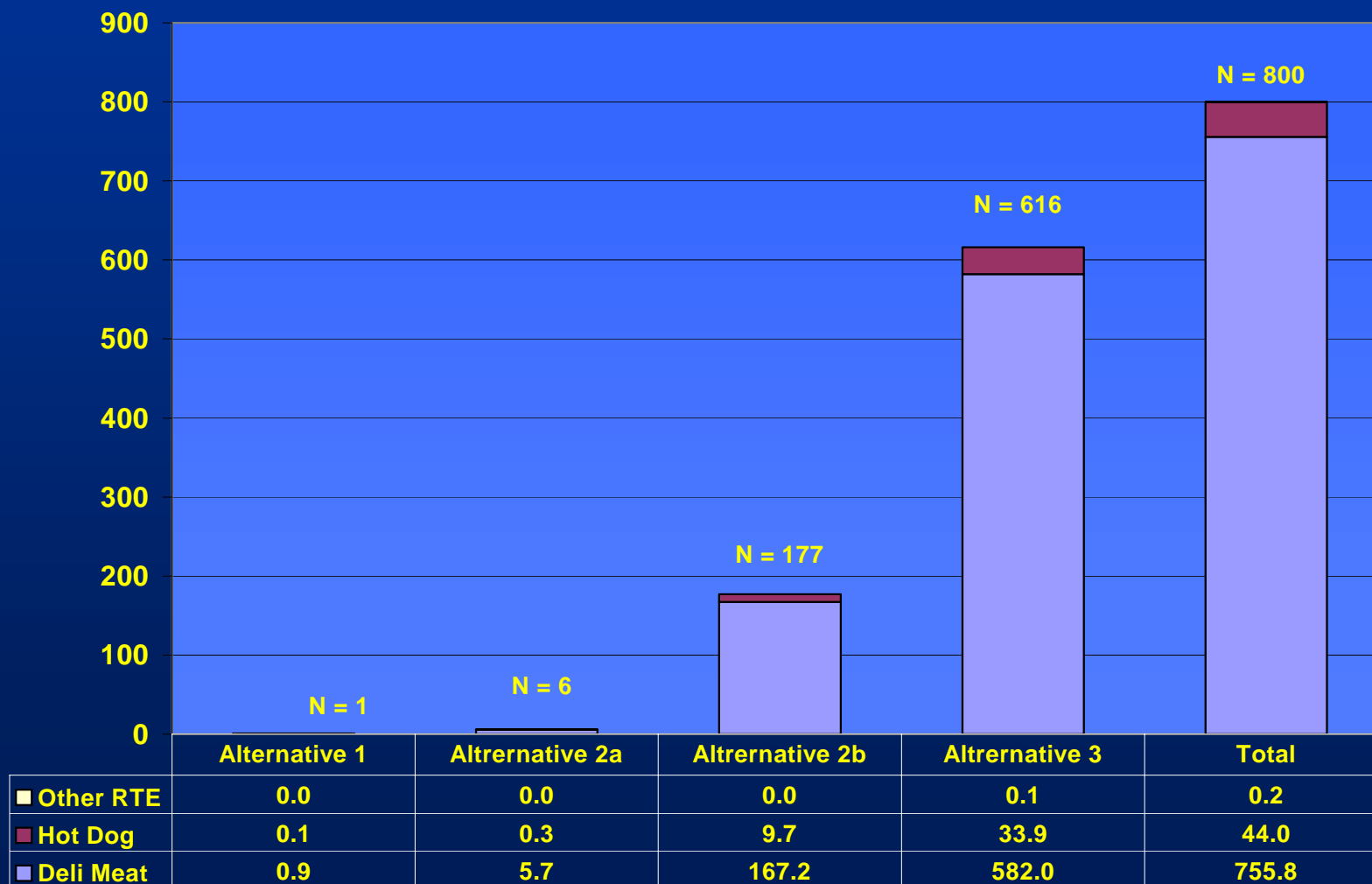


Figure 21 depicts estimated numbers of deaths among the elderly for the scenarios tested. For the proposed minimal amount of food contact surface testing (i.e., the 4-2-1 scenario ; FSIS, 66 FR 12589, February 27, 2001), the estimated median number of deaths among the elderly is reduced by about 20 per year.



Samples Taken According to *Listeria monocytogenes* RTE Product and Alternative Risk - February 2007



Program Effectiveness: *Listeria monocytogenes* in RTE Meat and Poultry

- FSIS predicts that ~118 lives have been saved since adoption of the FSIS interim final rule*
 - ~800 risk-based samples collected monthly
 - Risk is defined quantitatively for each facility
 - Program is designed to ensure that adulterated product is prevented from entering commerce

* ~286 deaths per year prior to implementation of the rule

Where are we going?

- Development of a broad-based, “global” risk assessment model (attribution among all regulated establishments)
 - Multiple microbial hazards (*Campylobacter*, *Escherichia coli* O157:H7, *Listeria monocytogenes*, *Salmonella*); pursue enhanced use of serotype, subtype, genomic, and other attributable public health linkages
 - Multiple products
 - Commodity – beef, poultry, pork, minor species
 - Raw/RTE – associate the 24 finished product types from the expert elicitation(s) with the regulated 9 HACCP process categories
 - Intact, non-intact
 - Slaughter - Processing - Retail (attribute along farm-to-table continuum)
 - Associate inspection findings with pathogen control
- Conduct timely, continuous baseline studies to measure national changes

What do we need?

- On-going communication with all stakeholders, State, and local partners in order to have a shared understanding about attribution
- Purposeful and timely closure of the gaps associated with attribution

United States Department of Agriculture
Food Safety and Inspection Service



Thank you