

Issue

National Advisory Committee on Meat and Poultry Inspection August 8-9, 2007

Linking FSIS Activities to its Public Health Goals

Purpose

FSIS continues to analyze available data to determine the link between its activities and its public health goals. FSIS is seeking the Committee's recommendations with regards to analyses or approaches to determine the relationship between FSIS' activities and contamination rates in FSIS-regulated foods, between contamination rates in FSIS-regulated foods and food-related human illness, and how to directly link FSIS activities to changes in the incidence of human illness.

Background

Context

FSIS' mission is to protect public health through food safety and food defense. To work toward accomplishing that mission, FSIS' Data Analysis and Integration Group (DAIG) has been working with other FSIS program offices to explore ways to allocate FSIS resources based on sound science and risk, and is currently developing a technical plan that outlines the potential basis for such an allocation system. Some portions of the plan will address the question of how to assess the links between FSIS' activities and the agency's public health goals. This issue paper is designed to gather input from the Committee that will assist in the preparation of that section of the technical plan.

FSIS has established public health goals it is working toward. In Healthy People 2010, for which FSIS and the Food and Drug Administration (FDA) are the food safety co-leads, the goal has been set to decrease *Salmonella* species, *Campylobacter* species, *Escherichia coli* O157:H7 (O157:H7), and *Listeria monocytogenes* (*Lm*) infections each by 50%. Subsequent to the publication of Healthy People, President Clinton established the Council on Food Safety which set forth a Food Safety Strategic Plan. That plan set targets of reducing *Lm* cases by 50% by 2005 (from 0.5 cases per 100,000 people in 1997 to 0.25 cases per 100,000 people by 2005), *Salmonella enteritidis* cases associated with eggs by 50% by 2005 (from 1.9 cases per 100,000 in 1998 to 0.95 cases per 100,000 by 2005), O157:H7 by 25% by 2005 (from 2.1 cases per 100,000 in 1997 to 1.6 cases per 100,000 by 2005), and *Campylobacter* by 25% (from 21.6 cases per 100,000 in 1997 to 18.5 cases per 100,000 by 2005). FSIS' has focused on three microorganisms that can impact public health—*Escherichia coli* O157:H7, *Salmonella*, and *Lm*. Some progress has been made toward those goals, but FSIS must continuously evaluate how to most effectively use its resources to meet those goals. Determining the links between FSIS' activities and its public health goals will help FSIS focus its resources on those areas that can have the greatest impact on public health.

Approaches to Linking FSIS Activities to its Public Health Goals

To link its activities to public health goals, FSIS has been conducting analyses and risk assessments examining the relationships between its activities and microbial contamination of FSIS-regulated products, and the relationships between microbial contamination of FSIS-regulated products and human illness (i.e., public health impacts).

Approaches considered for linking its activities to microbial contamination include correlation analyses between FSIS inspection results (e.g., noncompliance records, recall data, consumer complaints, etc.) and microbial testing results, and risk assessments. To link microbial contamination to public health measures, FSIS has been exploring correlation analyses, the use of expert elicitation, and risk assessment methods. If links are demonstrated between FSIS activities ('A') and microbial contamination ('B'), and between microbial contamination ('B') and public health ('C'), FSIS believes it could then conclude that a link between its activities ('A') and the public health ('C') exists and it could estimate the magnitude of that link ('A' to 'C'). FSIS would also like to explore whether there is a more direct way to link its activities to public health outcomes.

If those links are established through analyses, FSIS could use the results of those analyses to help guide resource allocation. That could be accomplished by developing an algorithm that incorporates the results of each facility in FSIS' inspection and laboratory data, and focusing on the results most related to public health.

Questions

FSIS is presenting this approach to examining the relationship between its activities and its progress towards its public health goals to NACMPI to receive recommendations around the following questions:

1. What analyses or approaches would you propose to determine the relationship between FSIS' activities and contamination rates in FSIS-regulated foods (e.g., correlation analyses, etc.)?
2. What analyses or approaches would you propose to determine the relationship between contamination rates in FSIS-regulated foods and food-related human illness (e.g., expert elicitation, risk assessment, etc.)?
3. Do you have any suggestions to directly link FSIS activities to changes in the incidence of human illness or are indirect linkages most appropriate?

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