United States Department of Agriculture
Food Safety and Inspection Service

National Advisory Committee on Meat and Poultry Inspection

August 8-9, 2007

Issue Paper
Data Collection and Analysis at FSIS: Standard Operating Procedures

Overview of presentation

- Purpose of draft document
- Roles and responsibilities of data collection and analysis teams
- Process for data collection and analysis at FSIS
- Stakeholder input
- Independent peer review
- Use of data in decision-making
- Program evaluation

Purpose of Draft Document

- **To describe the standard operating procedure for data collection and analysis at FSIS**
  - **Developed in response to stakeholders' comments**

- **Seeking the Committee's comments:**
  - **Suggestions for improving data collection and analysis strategy?**
  - **Suggestions for additional stakeholder input in this process?**
  - **Suggestions for conducting external peer review?**
  - **Should NACMPI form an on-going Sub-Committee to assist FSIS in evaluating data issues?**

Roles and Responsibilities of the Data Collection and Analysis Teams

- **Data Analysis and Integration Group (DAIG)**
  - **Characterize, coordinate, analyze and integrate data within and across different program areas**
- **Data Coordinating Committee (DCC)**
  - **Senior Agency representatives, serves as a liaison between the various FSIS Program Offices and the DAIG**

Data Analysis and Integration Group

- **Ensure data analyses are relevant to Program Office business processes and the Agency's mission**
- **Ensure data analyses are consistently of high quality**
- **Conduct analyses to inform Agency decisions**
- **Provide automated tools to facilitate data analysis and display**

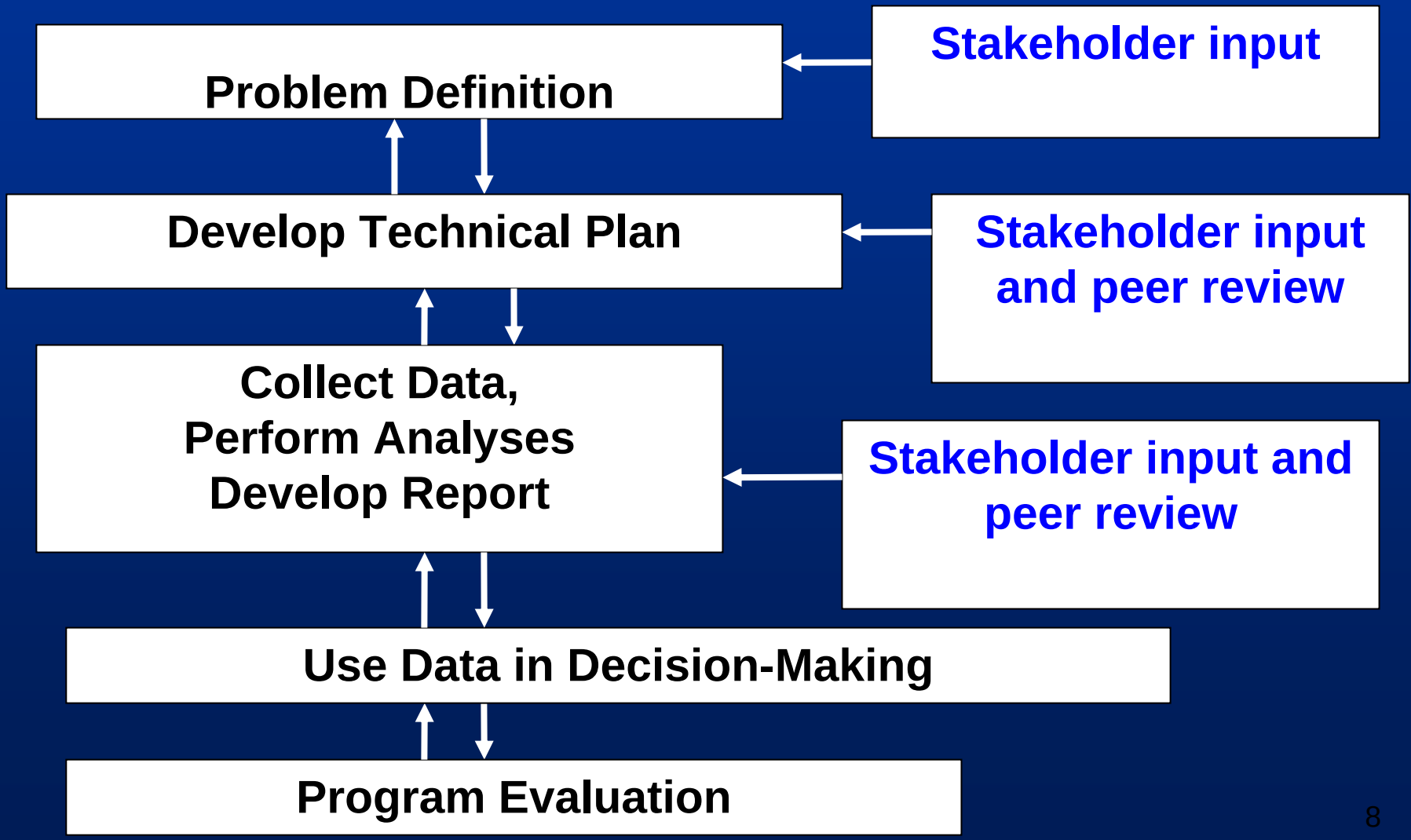
Data Analysis and Integration Group

- **Conduct analyses to identify data gaps/needs within and across Program Offices**
- **Develop sophisticated analytical models to integrate data streams and rapidly identify events, trends and anomalies**
- **Ensure data analyses are consistent with FSIS policies and OMB guidelines**

Process for Data Collection and Analysis

- In response to stakeholder comments, FSIS is formalizing an overall process for data analysis
- Involves the development of a technical plan, and subsequent technical paper that describes:
  - the problem to be addressed
  - the data collection and analysis strategy
  - the results and interpretation of data analysis
- Leverage updated IT systems (e.g., PHS)
- Stakeholder input and peer review incorporated into the process

Overview of The Process



Problem Definition

- **Define issues in terms of questions to be answered**
  - **Inform decision-making to improve public health**
- **Identified by policy managers, data analysts and other Agency officials**
- **Purpose and justification for each type of analysis should be stated**
- **Include impacts on Agency resources.**
- **Stakeholder input**

Develop Technical Plan

- Summary of issues/questions to be addressed
- Identify, collect and review existing data
- Describe data collection strategy
  - Standard/ validated methodology
  - Statistically valid sampling plan
  - Expert elicitation
- Describe data analysis methods
  - Descriptive statistics
  - Probabilistic methods
- Program evaluation
- Stakeholder input and independent peer review

Collect and analyze data

- Follow methods described in the technical plan
- Consider sources of uncertainty and variability in data
- Discuss validity of assumptions made
- Determine whether additional data or other analytical techniques are needed

Technical Report

- Policy issues driving the analysis
- The sources and quality of the data
- Methodology used
- Results
- Sources of uncertainty and variability
- Data gaps and assumptions
- Internal review
- External peer review

Stakeholder input

- Integral part of data collection and analysis
- Problem definition
  - Input into framing and context of issue
  - Review questions to be addressed
  - Purpose and justification for analysis
- Technical plan
  - Additional sources of existing data
  - Review proposed methods of data collection and analysis
- Technical report
  - Results of data analysis

External Peer Review

- Ensure scientifically sound data collection/ analysis
- Peer Reviewers could include:
  - NACMPI
  - NACMCF
  - National Academy of Sciences
  - Subject matter experts
- Technical plan
  - Data quality issues, e.g., avoid bias in data sets
  - Appropriate methods of analysis used
  - Validity of assumptions
- Results of data analysis

Use data in decision-making

- **Based on the results of the analyses, make recommendations how to best address the policy issues/questions identified during the problem definition phase**

Program evaluation

- Evaluate outcome of program compared with control
  - Consider type of data needed for comparison
- How well is program achieving its objectives?
- Is there a need to improve the program?
- Ideally, measure improvements in public health outcomes
  - E.g., reduction in illness attributable to specific foods
- Surrogate:
  - Reduction in pathogen prevalence/ levels
  - Reduction in product recalls
- Use to refining program planning, development, and accountability

Questions

- **Do you have any suggestions for improving our strategy for data collection and analysis?**
- **Do you have other suggestions for stakeholder input in this process?**
- **Do you have any other suggestions for conducting peer review?**
- **Do you believe it would be worthwhile to form an on-going Sub-Committee to assist FSIS in evaluating various data issues?**
- **If so, please provide a rationale as to why it would be useful and recommendations on how it would be structured and should operate.**

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