FSIS Establishment-Specific Data Release Strategic Plan

United States Department of Agriculture

Food Safety and Inspection Service

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Executive Summary

The Food Safety and Inspection Service (FSIS) within the United States Department of Agriculture (USDA) inspects meat, poultry and processed egg product establishments to ensure that the food produced in them is safe, wholesome and properly labeled. FSIS inspects these products, verifying that establishments meet regulatory and enforcement requirements, and perform microbiological and chemical residue sampling. These activities, among many other key FSIS functions, produce a large volume of data. For example, FSIS collects data on regulated, domestic slaughter and processing establishments and product from equivalent foreign country inspection systems. Data from most FSIS activities are stored in a multi-dimensional data storage application, known as the FSIS Data Warehouse (DW). FSIS produces reports using this data for internal use, as well as reports and data to be shared publicly through the Agency's website[1] and through other public communication venues. Most of this data is shared with the public in an aggregated and/or summary format.

However, as a result of many factors, including policy documents released by the Obama Administration and the Office of Management and Budget (OMB) that called for increased data sharing and greater transparency, the administrative burden Freedom of Information Act (FOIA) requests place on FSIS, the implementation of the Public Health Inspection System (PHIS), which allows for improved data collection and distribution, and the desire to share, in public fashion, data collected as a part of the Agency's activities, FSIS began exploring in 2010 how best to share establishment-specific data with the public. As a first step, FSIS consulted the National Advisory Committee on Meat and Poultry Inspection (NACMPI). In 2010, based on the NACMPI review, FSIS went on to seek additional review from the National Research Council (NRC) within the National Academies to "conduct a study to examine the potential food-safety benefits and other consequences of making establishment-specific data publicly available on the Internet."[2] The NRC convened the *Committee for a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data* (the NRC Committee) in 2010. In examining this question, the NRC Committee reviewed FSIS's current data sharing activities, explored how other government agencies share data with the public, and recommended an approach for FSIS's release of establishment-specific data that considers the benefits and costs of data sharing. Specifically, the NRC Committee recommended that FSIS develop a strategic plan to guide the Agency's efforts to release establishment-level data.

In light of the NRC Committee's recommendation to develop a data release strategic plan, FSIS convened an internal workgroup through the Agency's Data Coordination Committee (DCC). This workgroup included representatives from nearly all FSIS program areas, along with consultation with the FSIS FOIA office. This work culminated in the development of the draft *FSIS Establishment-Specific Data Release Strategic Plan* (the draft Plan).

In January 2014, as a follow-up to its 2010 meeting, FSIS shared the draft Plan with NACMPI to gather input and seek feedback before the public release and implementation of the draft Plan and this input was incorporated into this version of the Plan.

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[1] For more information, please visit: www.fsis.usda.gov.

[2] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.

1.0 Introduction

FSIS inspects meat, poultry and processed egg product establishments to ensure that the food produced in them is safe, wholesome and properly labeled. FSIS's mission is carried out by performing a variety of important activities, such as conducting establishment inspections, verifying and enforcing FSIS regulations and policies, and performing microbiological and chemical residue sampling. These activities, among many other key FSIS functions, produce a large volume of establishment-specific data. For example, FSIS collects and stores data on all federally-regulated, domestic slaughter and processing establishments, warehouses, transporters, and retail stores, as well as inspection findings at point-of-entry (POE) for product from equivalent foreign government inspection systems.

This Plan was developed, at the recommendation of the National Research Council (NRC) and with input from the National Advisory Committee on Meat and Poultry Inspection (NACMPI), to provide FSIS with a framework under which to responsibly and effectively release establishment-level data collected by the Agency. FSIS also developed the plan to build on FSIS's 2010 *Strategic Data Analysis Plan for Domestic Inspection*.[3] This Plan seeks to achieve the following goals:

1. Describe FSIS's current data collection and release structures and activities
2. Describe Presidential and Office of Management and Budget (OMB) policy documents related to data sharing, as well input and evaluations from NACMPI and the NRC, to determine if and how FSIS should release establishment-specific data
3. Describe FSIS's criteria for evaluating Agency datasets for public posting
4. Present FSIS's prioritization list for data release
5. Present FSIS's data release procedures and limitations
6. Identify potential performance measures to determine the effectiveness of data release

To achieve these goals and develop this Plan, FSIS convened an Agency workgroup through the Agency's Data Coordination Committee (DCC). This workgroup included representatives from the Office of the Chief Information Officer (OCIO), the Office of Data Integration and Food Protection (ODIFP), the Office of Investigations, Enforcement and Audits (OIEA), the Office of Field Operations (OFO), the Office of Public Affairs and Consumer Education (OPACE), the Office of Public Health Science (OPHS), and the Office of Policy and Program Development (OPPD), along with consultation with the FSIS Freedom of Information Act (FOIA) office.

This Plan was also reviewed by NACMPI in 2014 and feedback received was incorporated into this version of the Plan.

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[3] United States Department of Agriculture, Food Safety and Inspection Service. FSIS Strategic Data Analysis Plan for Domestic Inspection. September 2010. Available at: http://www.fsis.usda.gov/wps/wcm/connect/84fa563e-0f5c-4df5-8e04-99a04e9ce102/2010_Strategic_Data_Analysis_Plan.pdf?MOD=AJPERES.

2.0 FSIS Data Collection and Data Structures

FSIS's employees (inspectors, veterinarians, laboratorians, enforcement, investigations, and analysis officers (EIAOs), among other job titles) perform a variety of activities, including conducting inspections, ensuring compliance with existing regulations, and collecting and testing microbiological and chemical residue samples, along with other sample collection programs. These employees routinely collect on behalf of the Agency non-proprietary, establishment-specific Agency data from all federally-regulated processing or slaughter establishments over the course of their inspection, verification, and sampling activities. An example of FSIS inspection data are Hazard Analysis and Critical Control Point (HACCP) verification tasks, which inspectors conduct to determine if an establishment meeting HACCP requirements. Additionally, FSIS microbiological sampling results in the collection of another type of data; namely information on the absence or presence of a pathogen, such as *Salmonella*, on the regulated product, such as chicken, that was sampled. This Plan focuses primarily on two types of FSIS data; 1) Inspection and Enforcement Data and 2) Sampling and Testing Data. While FSIS collects other types of data, such as Microbiological Baseline Study Data and establishment-specific molecular-typing data (pulsed-field gel electrophoresis (PFGE)), these types of data were not included in this version of the Plan.

FSIS Data Systems
Data from most FSIS applications is stored in the FSIS Data Warehouse (DW).[4] FSIS produces reports for internal use, as well as reports and data to be shared publicly through the Agency's website[5] and through other public communication venues. Most of this data is shared in an aggregated or summary format. For example, FSIS posts quarterly progress reports from the Agency's *Salmonella* and *Campylobacter* verification sampling programs on the FSIS website.[6] These reports contain aggregated *Salmonella* and *Campylobacter* sampling results, including positive pathogen testing results, for a variety of product classes. As another example, FSIS posts, on a quarterly basis, summary reports on the enforcement actions the Agency has taken to ensure that products that reach consumers are safe, wholesome, and properly labeled.[7]

In limited situations, FSIS also releases information through the Agency's website on establishment-level characteristics. For example, FSIS has posted on its website the names of young chicken (broiler) establishments that fall into Category 3 based on their *Salmonella* test results as relates to the Agency's performance standards. [8] FSIS also posts on its website official enforcement actions the Agency has taken against establishments that have been found in violation of the Humane Methods of Slaughter Act.[9]

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[4] The FSIS Data Warehouse (DW) is the Agency's primary repository for data from its various information systems. Key data from systems such as PHIS, Laboratory Information Management System (LIMS), In-Commerce System (ICS), Supplier Tracking for *E. coli* Positives system (STEPS), and data from FSIS's legacy systems are stored in the DW. The DW serves as the primary source for data across FSIS for use in data analysis and reporting.

[5] For more information, please visit: www.fsis.usda.gov

[6] For more information, please visit: http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/quarterly-reports-salmonella/quarterly-progress-reports.

[7] For more information, please visit: http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/regulatory-enforcement/quarterly-enforcement-reports/qer-index.

[8] Establishments that produce young chicken and turkeys are sampled for *Salmonella* and *Campylobacter* and then categorized by FSIS based on the number of positive samples identified during a sampling set. For more information, please visit: http://www.fsis.usda.gov/wps/portal/fsis/topics/data-collection-and-reports/microbiology/salmonella-verification-testing-program/salmonella-verification-testing-program.

[9] For more information, please visit: http://www.fsis.usda.gov/wps/portal/fsis/topics/regulatory-compliance/regulatory-enforcement/humane-handling-enforcement-actions/humane-handling-enforcement-actions.

FSIS does release a large volume of disaggregated, establishment-specific data to the public through formal FOIA requests.[10]   FSIS maintains a FOIA office and has a website that provides information to requestors. This site contains information on how to submit requests, annual reports on the number and type of requests received, as well as a "Reading Room" with information on frequently-requested FOIA records that are of general interest to the public. [11,12] However, the process of responding to FOIA requests is both time-consuming and labor-intensive for FSIS, and oftentimes expensive for requestors. With the exception of data released through FOIA requests, FSIS does not currently routinely share disaggregated, establishment-specific data with the public.

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[10] The Freedom of Information Act 5 USC § 552, As Amended By Public Law 104-231, 110 Stat. 3048. Available at: http://www.justice.gov/oip/amended-foia-redlined.pdf.
[11] For more information, please visit: http://www.fsis.usda.gov/wps/portal/footer/policies-and-links/freedom-of-information-act
[12] For more information, please visit: http://www.fsis.usda.gov/wps/portal/footer/policies-and-links/freedom-of-information-act/fsis-electronic-reading-room/

3.0 Presidential Actions and Advisory Committee and National Academy Reviews

Presidential Administration and Office of Management and Budget Actions

In 2009, the Obama Administration released a *Memorandum on Transparency and Open Government*,[13] which sought to increase public trust in the government through "a system of transparency, public participation, and collaboration." In the same year, OMB released a *Memorandum for Heads of Executive Departments and Agencies* on the President's *Memorandum on Transparency and Open Government - Interagency Collaboration*,[14] which included steps agencies were required to take to support a goal of creating more openness in government. Among those steps was a requirement that "agencies publish information online and in a form that can be easily retrieved, downloaded, indexed, and searched with tools available on the Internet; use modern technology to share information that can be used by the public without the need for FOIA requests; and post high-value data that have not been previously made available to the public via the Internet or in a downloadable format."[15] In 2011, the Obama Administration released a *Memorandum on Regulatory Compliance,* which stated that "agencies with broad regulatory compliance and administrative enforcement responsibilities…develop a plan to make public information concerning their regulatory compliance and enforcement activities accessible, downloadable, and searchable online." [16] Most recently, in May 2013, the Obama Administration released an Executive Order; *Making Open and Machine Readable the New Default for Government Information*[17] and OMB released a memorandum requiring agencies to "collect or create information in a way that supports downstream information processing and dissemination activities. This includes using machine readable and open formats, data standards, and common core and extensible metadata for all new information creation and collection efforts. Additionally, it involves agencies building or modernizing information systems in a way that maximizes interoperability and information accessibility, maintains internal and external data asset inventories, enhances information safeguards, and clarifies information management responsibilities."[18]

FSIS National Advisory Committee on Meat and Poultry Inspection (NACMPI) Consultation

As a result of these policy documents, the administrative burden FOIA requests place on FSIS, and the desire to share, in public fashion, data collected as a part of the Agency's activities, FSIS began exploring in 2010 how best to share establishment-specific data with the public. As a first step, FSIS consulted NACMPI. FSIS requested in September 2010 that the committee provide input on which stakeholders should be considered in the release of data, what the prioritization should be for released data, what criteria should be used for determining that prioritization, at what time intervals data should be released, and at what level of aggregation information should be posted.[19]

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[13] "Transparency and Open Government: Memorandum for the Heads of Executive Departments and Agencies." 74 Federal Register 15 (26 January 2009), pp. 4685-4686.

[14] "Memorandum for the Heads of Executive Departments and Agencies: President's Memorandum on Transparency and Open Government - Interagency Collaboration." Memorandum Number: M-09-12. 24 February, 2009. Available at: http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_fy2009/m09-12.pdf.

[15] "Memorandum for the Heads of Executive Departments and Agencies: President's Memorandum on Transparency and Open Government - Interagency Collaboration." Memorandum Number: M-09-12. 24 February, 2009. Available at: http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_fy2009/m09-12.pdf.

[16] "Memorandum on Regulatory Compliance." 76 Federal Register 14 (21 January 2011), pp. 3825 -3826.

[17] Making Open and Machine Readable the New Default for Government Information." Executive Order 13642. 78 Federal Register 93 (14 May 2013), pp. 28111 -28113.

[18]"Memorandum for the Heads of Executive Departments and Agencies: President's Memorandum on Open Data Policy- Managing Information as an Asset." Memorandum Number M-13-13. 9 May 2013. Available at: http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf.

[19] "The National Advisory Committee on Meat and Poultry Inspection Data Collection, Analysis, and Transparency Subcommittee." 2010. Available at: http://www.fsis.usda.gov/wps/wcm/connect/caa395aa-5f88-467e-b20f-a010e95cb4db/Data_Subcommittee_Final_Report.pdf?MOD=AJPERES.

In its final report, the NACMPI committee stated that while it generally recommended that FSIS pursue posting of data with a high public health value, it acknowledged that several of the questions raised were beyond the committee's capability, given the limited time available to complete the task. Thus, the committee recommended that "FSIS obtain guidance from NAS [the National Academy of Sciences], NACMCF [the National Advisory Committee on Microbiological Criteria for Foods], or other entities with recognized expertise in data management and analysis to improve data accessibility and usefulness for internal as well as external stakeholders."[20]

National Research Council (NRC) Study

As a result of the NACMPI review, FSIS asked the NRC in 2010 to "conduct a study to examine the potential food-safety benefits and other consequences of making establishment-specific data publicly available on the Internet."[21] The NRC convened the *Committee for a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data* (the NRC Committee). In examining this question, the NRC Committee reviewed FSIS's current data sharing activities, explored how other government agencies share data with the public, and laid out an approach for FSIS's release of establishment-specific data that considers the benefits and costs of data sharing.

In general, the NRC Committee found that public release of regulatory data is motivated by two broad purposes:
1. The public's "right to know": The committee concluded that "public access to information about the activities of government is basic to democratic governance."[22]
2. Targeted Transparency: The committee concluded that "disclosure may serve as a means of achieving specific public policy objectives."[23]

In exploring how other government agencies share data with the public, the NRC Committee selected for review a number of regulatory and non-regulatory agencies that currently share data with the public on their activities, including the following agencies: U.S. Department of Labor (DOL), U.S. Environmental Protection Agency (EPA), Food and Drug Administration (FDA), the Centers for Disease Control and Prevention (CDC), USDA's Agricultural Marketing Service (USDA-AMS), and State and local public health agencies. Information about data sharing within and from these agencies is available in the NRC report.

Based on its review of the design and implementation of data release efforts by other these agencies, the NRC Committee concluded that FSIS could "benefit from consultation with *[sic]* these agencies and could build on their effective practices when designing a public data release program." Additionally, the NRC Committee conducted a review of the available literature to determine what, if any, effects were reported by these and other agencies when they released establishment-specific data. The NRC

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[20] "The National Advisory Committee on Meat and Poultry Inspection Data Collection, Analysis, and Transparency Subcommittee." 2010. Available at: http://www.fsis.usda.gov/wps/wcm/connect/caa395aa-5f88-467e-b20f-a010e95cb4db/Data_Subcommittee_Final_Report.pdf?MOD=AJPERES..
[21] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.
[22] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.
[23] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.

Committee found that important potential benefits and costs were reported. Potential benefits identified by the NRC Committee include:

- Allowing consumers to make more informed choices
- Motivating firms to improve performance, which may lead to:
  - Incentives to protect brand reputation in food safety or to protect or enhance customer base and profitability
  - Economic pressure to improve food safety
  - Enhanced performance benchmarking
- Providing better insights into strengths and weaknesses of different processing practices which could lead to industry-wide improvements in food safety practices
- Improving the consistency of inspector performance
- Generating research opportunities

Potential costs or unintended consequences include:

- Potential for end users to draw inappropriate conclusions because of data misinterpretation; especially if appropriate context is not provided
- Potential to encourage firms to improve in the reported areas, at the expense of unreported outcomes
- Additional financial commitment for the reporting agency associated with designing and maintaining a useful data disclosure system
- Potential adverse effects on:
  - Inspector performance
  - Brand reputation
  - International trade
- The unintended release of proprietary or confidential information.

On the whole, the NRC Committee concluded that there are "strong arguments supporting public release of establishment-specific FSIS data, especially data that are subject to release under FOIA." To maximize its effectiveness and minimize potential adverse unintended consequences, FSIS's "data disclosure should be guided by a carefully designed information-disclosure strategy."[24]

In addition to the research conducted by the NRC Committee, the FSIS DCC workgroup conducted its own in-depth review of federal data sharing procedures and resources to supplement the information conducted by the NRC Committee. This review focused on both regulatory and non-regulatory agencies and identified model websites, data sharing portals, and other public data sharing resources.

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[24] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.

4.0 Criteria for Evaluating FSIS Datasets for Public Posting

In its final report, the NRC Committee stated that "the criteria for choosing which datasets to make public are directly related to the potential users. The many parties that may use the data will use them in different and creative ways that agency planners themselves might not foresee. Although the committee believes that it will be difficult for FSIS to predict the full array of users and uses of the data, it also recognizes the importance of determining the utility of data for different users."[25]

Therefore, FSIS developed a number of criteria to evaluate potential datasets for public release. An outline of the criteria is provided below, presented in no specific order, with a more extensive discussion of each criterion provided in the sections below.

Criteria
- Are the data already eligible for release through a formal FOIA request to FSIS? This includes consideration of the frequency of past requests for this information via FOIA
- Does the data contain Personally Identifiable Information (PII) for FSIS personnel?
- What is the potential impact on the public's health?
- What is the potential impact on the regulated industry?
- Does the data contain corporate proprietary data?
- What are the expected personnel and monetary costs to FSIS to release and maintain the data?
- What is the estimated utility of releasing the data? This includes consideration of:
    a. The estimated utility for this information to positively contribute to scientific research and endeavors
    b. The estimated utility of this information for the regulated industry
    c. Whether releasing the data increases FSIS's ability to be transparent to stakeholders
- What is the potential for misunderstanding/misuse of the data? This includes consideration of:
    a. The completeness of the data
    b. The quality of the data
    c. The complexity of the data
    d. The availability of context for the variables (definitions for each field plus text that describes the methods of data collection, sources of variability, and changes in procedures that affect data consistency)
    e. The potential difficulties associated with adequately describing the data
- What are the security implications to FSIS and the regulated industry in releasing the data?

FOIA Requests
As mentioned in Section 2.0, FSIS releases a large volume of disaggregated, establishment-specific Agency data to the public through FOIA requests, and FSIS sometimes posts data that has been requested multiple times on the FSIS FOIA webpage for general public use. To eliminate duplication of effort, FSIS will determine whether data being considered for public release have been previously released on the FSIS FOIA webpage (or through another venue). If not, the frequency of past FOIA requests for this information will help FSIS determine the relative demand for the data being considered for release.

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[25] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.

<u>Personally Identifiable Information (PII) for FSIS Personnel</u>
Candidate datasets for release will be thoroughly examined by multiple FSIS personnel to determine whether the dataset contains any PII. Included in, but not limited to, FSIS's definition of PII are the addresses of, and specific work assignments for, FSIS field inspectors. Any data fields that contain PII will not be released because of the high personnel costs for FSIS associated with manually redacting PII. It is important to note that if data from a variable cannot be released because of concerns over PII within a text field, FSIS will still consider releasing general information about the variable. For example, while the text in an noncompliance report (NR) may not be released due to the presence of PII, information about whether or not a NR was recorded, the date it was issued, and what regulations were cited in relation to the NR can be released. In the future, FSIS will consider requests to release manually redacted, high-value data fields that potentially contain PII on a case-by-case basis, but only after careful consideration of the potential benefits and consequences of release.

<u>Impact on Public Health</u>
Given FSIS's primary mission is to protect the public's health and ensure a safe food supply, it is important that FSIS release data that will be used to benefit the public's health and reduce foodborne illness. Therefore, this criterion will be evaluated separately from other criteria given its elevated importance.

<u>Impact on Industry and Corporate Proprietary Data</u>
Candidate datasets for release will be thoroughly examined to determine whether the dataset could have an adverse impact on the industry, such as potential impacts on international trade. Additionally, FSIS will thoroughly examine, using multiple FSIS personnel, the data to ensure it does not contain any corporate proprietary information. FSIS will also seek to ensure that released data are properly explained to decrease the possibility that data will be misused or misunderstood, as described in Section 6.0.

<u>FSIS Personnel and Monetary Costs</u>
FSIS will consider both the Agency's personnel and monetary costs associated with releasing and maintaining data. Primary among these considerations are the burden of releasing historical FSIS data and the effort required to release certain types of data.

FSIS implemented PHIS in 2012 and it replaced several older data collection and management systems used to record inspection data, in particular the Performance-Based Inspection System (PBIS). PHIS contains completely redesigned forms for data collection, as well as completely new data structures for storing the data. Analyses that combine data collected under PHIS with data collected in older data systems requires significant contextual knowledge of the changes in both data collection and storage structure. The level of documentation required for datasets from older data systems is significantly higher than that for PHIS datasets. For this reason, at this time, only FSIS data collected and stored since the implementation of PHIS will be considered for release. If FSIS resources permit, historical data from older data systems stored in the FSIS DW will be considered for release at a later date.

FSIS collects establishment-level data in a variety of formats, including in free-text fields. Free-text fields are entries into data systems where users are allowed to type any text desired. This is in contrast to other fields where the user must select a specific value from a drop-down list of choices or must enter a date or numeric value. Examples of free-text fields in FSIS's data structure include certain fields in inspection records where inspection personnel record their observations, problem descriptions in NRs, and many fields in Food Safety Assessments (FSAs) where detailed descriptions are recorded. It is not currently possible for FSIS to use software to automatically redact these free-text entries to remove any PII or industry proprietary information. FSIS currently believes that to manually redact these data would require resources beyond the value of the information. For these reasons, no free-text data fields will be released.

Estimated Utility of Data Release

FSIS will evaluate the estimated utility of each potential data release to determine which datasets will be most beneficial to the Agency's stakeholders. Therefore, among the factors that FSIS will consider are the utility of the data to the regulated industry and other stakeholders, the potential of the data to positively contribute to scientific research and endeavors, and the impact the data release has on Agency transparency.

Potential for Misunderstanding and/or Misuse of FSIS Data

FSIS intends to publish a data dictionary and a user guide for data use, interpretation, and limitations for each data set released. Additionally, each dataset will be evaluated to determine the potential for misunderstanding or misuse of the information. If it is highly likely that the released data could be misinterpreted by the public, or if the potential difficulties associated with adequately describing the data are considerable, the dataset will be reviewed to determine if additional explanatory information or contextual information could reduce the potential for misinterpretation. If FSIS determines additional information will not alleviate the potential for misunderstanding or misuse, that dataset will be removed from consideration for public release.

Additionally, because there is a high likelihood that incomplete data will be misunderstood or misused, FSIS will not release any partial or preliminary datasets. The Agency intends to release only data that is at least six months old to ensure that any known errors have been corrected. FSIS will establish an internal review process to ensure that datasets are quality-checked and suitable for release.

Finally, FSIS will utilize the established Information Quality Process set forth in the USDA Quality of Information Guidelines[26] for correction of information disseminated by the Agency, if required.[27]

Security Implications

FSIS will not release data that poses significant security implications to the Agency, FSIS staff, or the regulated industry. Therefore, FSIS will evaluate the security risk posed by each potential data release to determine which datasets should not be released.

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[26] For more information about the USDA Information Quality Guidelines, please visit the following website: http://www.ocio.usda.gov/policy-directives-records-forms/information-quality-activities.

[27] For more information about the USDA Quality Information Guidelines and the FSIS Information Quality Process, please visit the following website: http://www.fsis.usda.gov/wps/portal/footer/policies-and-links/information-quality.

5.0 FSIS Prioritization for Data Release

Using the criteria developed and considering the procedures established by FSIS, the Agency has developed a preliminary list of datasets for public release. The order in which this list is presented is not final and is subject to change based on assessments of the data and other considerations. Sampling project codes are included for reference, though these codes are subject to change over time. For each dataset listed below, FSIS intends to release establishment-specific information, including the establishment's name and individual sampling results, though the specific variables released may vary and are subject to change. A sample dataset has been included as Table 1 to indicate what data fields FSIS intends to release with each dataset.

Datasets (with associated FSIS sampling project codes) initially identified by FSIS for public release include the following:
- Demographic dataset for all regulated establishments
  - Data included will be an expansion of data currently available through the FSIS Meat, Poultry, and Egg Inspection Directory (MPI) Directory.[28]
- STEC and *Salmonella* sampling data for raw ground beef (RGB) (MT43/MT43S/HC01_GB)
- STEC and *Salmonella* sampling data for beef trim (MT55/MT65 and MT60)
- STEC and *Salmonella* follow-up sampling data (MT44, MT52, and MT53)
- STEC and *Salmonella* sampling data for beef components (MT54/MT64)
- *Listeria monocytogenes* (*Lm*) and *Salmonella* sampling data for Ready-To-Eat (RTE) (RTE001/RTEPROD_RISK and ALLRTE/RTEPROD_RAND)
- *Listeria monocytogenes* (*Lm*) and *Salmonella* sampling data for processed egg products (EM)
- *Salmonella* and *Campylobacter* sampling and serotype data for young chicken carcasses (HC_CH_CARC01/HC11_BR)
- *Salmonella* and *Campylobacter* sampling and serotype data for young turkey carcasses(HC_TU_CARC01/HC11_TU)*Salmonella* and *Campylobacter* sampling and serotype data for chicken parts- legs, breasts, and wings (HC_CPT_LBW01)
- *Salmonella* and *Campylobacter* sampling and serotype data for comminuted chicken (HC_CH_COM01/HC01_GC &)
- *Salmonella* and *Campylobacter* sampling and serotype data for comminuted turkey*(* HC_TU_COM01/HC01_GT)Chemical residue sampling data—routine testing (NRP)
- Advanced Meat Recovery (AMR) sampling data (AMR01) and follow-up sampling (FAMR01)

Other data sources to be considered for future release:
- Inspection task data: task completion status, regulations verified, and the compliance status for each verified regulation
- Humane handling task data: information about all tasks performed and when these tasks are noncompliant[29]
- Import inspection task and sampling data
- Food Safety Assessments: general information about the FSA, but not free-text narratives that may contain PII or proprietary information

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[28] For more information about the FSIS Meat, Poultry, and Egg Inspection Directory, please visit the following website: http://www.fsis.usda.gov/wps/portal/fsis/topics/inspection/mpi-directory.
[29] When evaluating the potential release of humane handling data, however, FSIS will not preclude the data for release solely on the basis of failing to meet this standard.

Table 1: Sample _E. coli_ O157:H7 dataset for Public Release

Establishment Number	Establishment Name	FormID	Collect Date	Analysis	Sample Result
XXXXX	Company A	100051332	1/3/2012	_E. coli_ O157:H7	Negative
XXXXX	Company B	100051347	1/3/2012	_E. coli_ O157:H7	Negative
XXXXX	Company C	100051357	1/3/2012	_E. coli_ O157:H7	Negative
XXXXX	Company D	100051493	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company E	100051971	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company F	100051643	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company G	100051982	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company H	100051704	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company I	100052187	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company J	100051985	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company K	100051525	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company L	100051426	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company M	100051631	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company N	100052483	1/4/2012	_E. coli_ O157:H7	Negative
XXXXX	Company O	100052569	1/5/2012	_E. coli_ O157:H7	Negative
XXXXX	Company P	100052153	1/5/2012	_E. coli_ O157:H7	Negative
XXXXX	Company Q	100051930	1/5/2012	_E. coli_ O157:H7	Negative
XXXXX	Company R	100052246	1/5/2012	_E. coli_ O157:H7	Negative

Note: FSIS anticipates using similar variable fields for other pathogen dataset releases, with accommodations made for variables that are important to include for specific pathogens, such as SetID for _Salmonella_ microbiological testing data.

6.0 FSIS Data Release Procedures

It is FSIS's intention to follow the process outlined below for releasing datasets:

- FSIS intends to release one new dataset from the Priority List no more frequently than on a quarterly basis, although initial releases may be less frequent to start. FSIS intends to release the first dataset after the publication of a *Federal Register* Notice on the Plan. This schedule is subject to change, however, based on any challenges that may arise.
- For each dataset, FSIS intends to first release through an FSIS Constituent Update a sample data set, with all associated documentation, to interested stakeholders for review.
- Once a review of the sample dataset has occurred, and any necessary changes are made, FSIS will release the full dataset on Data.gov, along with a link to the data on the FSIS public website.
- Datasets will be released in a format that is compatible for analysis with existing FSIS public datasets, such as the MPI Directory and existing FSIS datasets on Data.gov.

Additionally, given the complexity of releasing FSIS data and the findings and recommendations of both the NACMPI and the NRC committee, FSIS developed a number of data release procedures.

Location of Data
FSIS intends to use Data.gov as a repository and point-of-access for released data. Data.gov is a Federal, government-sponsored website designed to "increase the ability of the public to easily find, download, and use datasets that are generated and held by the Federal Government."[30] Data.gov was selected as the point-of-access for FSIS establishment-specific data because it is a centralized platform for secure data storage and downloads. FSIS currently has several datasets on Data.gov, including the MPI Directory by Establishment Number and Establishment Name.[31]

Data Documentation
Providing proper documentation along with the release of any dataset is critical. In general, FSIS will provide a description of the data quality procedures the Agency uses before releasing data. This documentation will provide context for the data and guide users on the proper interpretation of the values. Additionally, no FSIS dataset will be released without specific documentation describing and/or including, at a minimum:
1. Dataset overview and explanation
2. The meaning of all fields (database-specific dictionaries)
3. Historical information on changes to sampling methods and scheduling or collection to inform changes to time-series
4. The context under which the data was collected
5. Sources of variability and specificity of methods used
6. Relationship to other released datasets
7. Data use limitations
8. Links, if available, to analyses conducting using the data to be released

Availability of this background information for each dataset and the ability to quickly produce the required documentation will weigh on the prioritization of FSIS datasets for release. FSIS will share this

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[30] "About Data.gov." Data.gov. Available at: http://www.data.gov/about.
[31] For more information, please visit http://catalog.data.gov/dataset/meat-poultry-and-egg-inspection-directory-by-establishment-name-4db72 and http://catalog.data.gov/dataset/meat-poultry-and-egg-inspection-directory-by-establishment-number-1cfc7 and http://catalog.data.gov/dataset/quarterly-progress-reports-on-salmonella-and-campylobacter-testing

documentation with industry stakeholders prior to the release of datasets to ensure that no proprietary information will be compromised and the information to be posted is accurate.

Data Format
It is expected that released data will be analyzed by researchers using analytical software and frequently combined with other data to elicit new insights. For this reason, it is impractical to release data in formats (such as PDF) that cannot be readily imported into data analysis programs. Therefore, all data will initially be released in the most up-to-date machine-readable format to facilitate user analysis (e.g., OpenXML, comma-separated values (CSV)). In the future, FSIS will likely utilize other technologies, such as application programming interfaces (APIs) to release data.[32] Further, as stated previously, given the challenges, complexity, and the time considerations involved in reviewing data that is captured and stored in a free-text format, FSIS will not release data from free-text fields.

Level of Aggregation
To support the recommendation that FSIS release data at the most disaggregated level, the NRC Committee stated that "users can always aggregate data for their analytic needs, but they cannot access disaggregate detail from aggregated data."[33] However, when consulting with stakeholders, FSIS found that many potential users are not data analysts and may not possess the skills and technology needed to aggregate raw data. Therefore, FSIS will determine, on a case by case basis, the most appropriate level(s) of aggregation for each dataset as a part of the review process. For datasets that are currently released at a national level of aggregation, FSIS will continue to do so. For other datasets, FSIS intends to assess feedback from stakeholders and other users of the data to determine if additional levels of aggregation would be useful.

Data Security
FSIS selected Data.gov as the location for released data for several reasons, one of which was the security Data.gov provides for datasets. Data.gov maintains a number of data policies that ensure that data posted on the website follow Federal guidelines for data sharing. Specifically, all information available through Data.gov is "in compliance with the required confidentiality, integrity, and availability controls mandated by Federal Information Processing Standard (FIPS) 199 as promulgated by the National Institute of Standards and Technology (NIST) and the associated NIST publications supporting the Certification and Accreditation (C&A) process. Submitting Agencies are required to follow NIST guidelines and OMB guidance (including C&A requirements)."[34] Additional data release consideration specific to Data.gov can be found at http://www.data.gov/data-policy.

Maintenance and Future Updates
FSIS is aware that data may need to be updated on occasion due to errors or inconsistencies. To ensure proper maintenance of released datasets, FSIS will implement a periodic review of released datasets to ensure accuracy. In this process, FSIS will work with stakeholders to ensure recorded data is correct and accurate. If needed, new datasets will be loaded to Data.gov to replace outdated datasets.

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[32] An Application Programming Interface, or API, is a set of software instructions and standards that allows machine to machine communication.

[33] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.

[34] "Data Policy Statements." Data.gov. Available at: http://www.data.gov/data-policy

7.0 FSIS Measurement of Effectiveness of Data Release

Measuring the impact of releasing establishment-specific data to the public is an important piece of this Plan. However, as noted by the NRC Committee, it is methodologically challenging to establish a causal link or statistical association between posting establishment-specific data and specific public health outcomes, such as a reduction in foodborne illnesses. Further, as the Committee stated, it "recognizes that the United States does not have the data or intervention analysis systems in place that could directly measure the potential public-health (or other) effects of specific activities in the FSIS food-safety programs."[35] Therefore, until such an analysis system is established, FSIS intends to use indirect measures of public health impact to determine the effectiveness of this data release effort. As recommended by the NRC Committee, FSIS is considering using the following quantitative metrics to measure effectiveness:

1. Number of FSIS datasets released
2. Number of visits to FSIS Web data locations, including number of web downloads of each FSIS dataset posted
3. Change in the number of FOIA requests by type of data released
4. Cost-savings to FOIA office, if any, as a result of public posting of data
5. Number of peer-reviewed reports generated using FSIS establishment-specific data
6. Number of presentations at professional and invited meetings by senior management and staff on related data
7. Volume of data shared through FSIS Constituent Updates and internal FSIS meetings with industry and consumer groups

FSIS also intends to use qualitative measures to assess the effectiveness of the data release. These measures include an assessment of how data are interpreted and used by stakeholders. FSIS intends to use these performance measures to inform future data releases, including the type and level of aggregation of the data released. The FSIS DCC workgroup will review these metrics and use them to guide future choices for data release.

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[35] National Research Council, Committee on a Study of Food Safety and Other Consequences of Publishing Establishment-Specific Data. The Potential Consequences of Public Release of Food Safety and Inspection Service Establishment-Specific Data. 2011. Available at: http://www.nap.edu/catalog.php?record_id=13304.