USDA

United States Department of Agriculture

FOOD SAFETY AND INSPECTION SERVICE

STRATEGIC PLAN 2017-2021

Table of Contents

Message from the Administrator

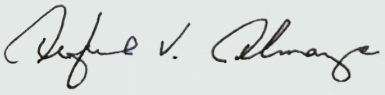
The Food Safety and Inspection Service (FSIS) 2017–2021 Strategic Plan builds on prior successes and reflects emerging issues that FSIS faces in ensuring that the food products we regulate are safe to eat. By using cutting-edge yet practical science, enhanced data capabilities, and our employees' skills and expertise, we will continue to modernize and be more effective in meeting our public health mission.

Our system of inspection is the most reliable and well documented in the world. Among FSIS' greatest accomplishments over the past 5 years is the reduction of pathogens in meat, poultry, and processed egg products. In the past few years, we published several groundbreaking regulations, including the Poultry Slaughter Modernization Rule, which mandates that all poultry establishments take scientifically-based approaches to prevent contamination, rather than addressing contamination after it has occurred. The rule also provides establishments with the option to join the New Poultry Inspection System (NPIS). With NPIS, food safety inspectors are now better equipped to verify that establishments maintain effective Hazard Analysis and Critical Control Point (HACCP) systems by increasing their food safety and sanitation tasks, which is a more effective and efficient way to use our inspection resources.

FSIS also determined that *Salmonella* and *Campylobacter* are hazards reasonably likely to occur in the poultry slaughter process and that establishments should address these pathogens in their hazard analyses. Further, the agency finalized new standards for *Salmonella* and *Campylobacter* in poultry parts and comminuted turkey and chicken. To more effectively identify and remove contaminated ground beef product from commerce, FSIS established new trace back procedures related to *shiga toxin*-producing *E. coli* and set new requirements for establishments and retail stores to keep new supplier and other new production records for ground beef. FSIS also established new labeling requirements for mechanically tenderized raw beef products so that product labels now provide consumers and the food service industry essential information on safe preparation. As we continue to strengthen these and similar approaches, including enhancements to safety-based labeling initiatives, we have also enhanced collaboration in a variety of ways with many domestic and foreign partners in preventing food contamination and resulting illness outbreaks in a variety of ways.

I'm proud of the work that has gone into the 2017-2021 FSIS Strategic Plan from employees throughout the agency. In addition to establishing a clear foundation for our long-range and day-to-day operations, the Plan positions the agency to anticipate future needs and challenges. We will continue to engage and empower our employees as we maintain and further build one team, with one purpose, working diligently every day to protect public health by preventing foodborne illness.

Sincerely,



Acronyms

ADR	Alternative Dispute Resolution
AMS	Agricultural Marketing Service
APHIS	Animal and Plant Health Inspection Service
ARS	Agricultural Research Service
CBP	Customs and Border Protection
CCMS	Consumer Complaint Monitoring System
CDC	Centers for Disease Control and Prevention
DHS	Department of Homeland Security
DNA	Deoxyribonucleic acid
DVMS	District Veterinary Medical Specialists
EEO	Equal Employment Opportunity
EPA	Environmental Protection Agency
ERS	Economic Research Service
FAS	Foreign Agricultural Service
FDA	Food and Drug Administration
FDOSS	Foodborne Disease Outbreak Surveillance System
FNS	Food and Nutrition Service
FEVS	Federal Employee Viewpoint Survey
FSIS	Food Safety and Inspection Service
FSA	Food Safety Assessment
HACCP	Hazard Analysis and Critical Control Point
HMSA	Humane Methods of Slaughter Act
HR	Human Resources
IFSAC	Interagency Food Safety Analytics Collaboration
IT	Information Technology
NARMS	National Antimicrobial Resistance Monitoring System
NACMCF	National Advisory Committee on Microbiological Criteria for Foods
NIFA	National Institute of Food and Agriculture
NRTE	Not-ready-to-eat
PHIS	Public Health Information System
PHRE	Public Health Risk Evaluation
USDA	United States Department of Agriculture
WGS	Whole Genome Sequencing

Introduction

The Food Safety and Inspection Service (FSIS) is the public health agency in the U.S. Department of Agriculture (USDA) responsible for protecting the public's health by ensuring the safety of the Nation's commercial supply of meat, poultry, and processed egg products.[1] FSIS ensures food safety through the authorities of the Federal Meat Inspection Act,[2] the Poultry Products Inspection Act,[3] and the Egg Products Inspection Act, as well as humane animal handling through the Humane Methods of Slaughter Act.[5]

FSIS consists of about 9,600 employees, the majority of whom work on the frontlines in establishments across the country to ensure the production of food is safe. Our workforce leverages tools such as the Public Health Information System (PHIS) to meet existing requirements and anticipate future public health issues and trends. Our personnel possess diverse skill sets and competencies that complement one another. We have a large number of food, consumer safety, and import inspectors; public health veterinarians, enforcement, investigations and analysis officers; chemists, microbiologists, and epidemiologists; and a range of other public health professionals. In addition, we have personnel skilled and trained in policy development; data, scientific, and lab analysis; and a range of financial, administrative, investigative, technical, and communications specialists, as well as in other functions that support FSIS' food safety, public health, and food defense[6] mandates and policies.

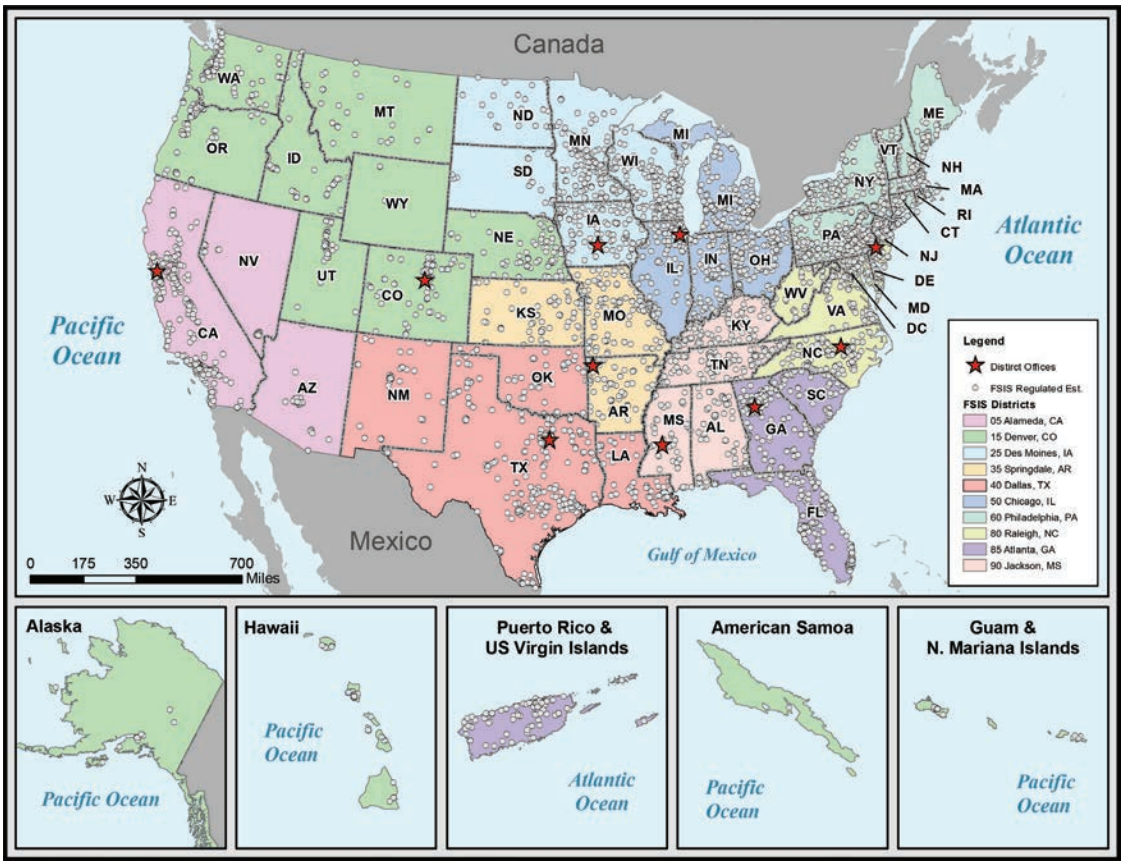


Figure 1. FSIS District Office and Regulated Establishment Locations.

[1] As of December 2015, fish of the order Siluriformes are included in this definition. See 80 Federal Register 75589, December 2, 2015.

[2] Federal Meat Inspection Act (FMIA, P.L. 90-492).

[3] Poultry Products Inspection Act (PPIA, P.L. 90-492).

[4] Egg Products Inspection Act (EPIA, P.L. 91-597).

[5] Humane Methods of Slaughter Act (HMSA, P.L. 85-765).

[6] Food defense is the protection of food products from intentional contamination or adulteration where there is an intent to cause public harm or economic disruption.

Executive Summary

The strategic goals, outcomes, objectives, and measures set forth in this FY2017-2021 Strategic Plan (hereafter Plan or Strategic Plan) provide an integrated framework for understanding how FSIS is fulfilling our mission and addressing 21st-century public health challenges.

FSIS activities contribute to USDA's FY2014-2018 Strategic Goal 4, "Ensure that all of America's children have access to safe, nutritious, and balanced meals," and the outcome, "reduction in total number of *Salmonella*, *Listeria monocytogenes (Lm)*, and *Escherichia coli (E.coli)* illnesses from all USDA-regulated products."

The FSIS Vision and Mission, as well as our Core Values—*Accountable, Collaborative, Empowered, and Solutions-Oriented*—frame the goals, outcomes, objectives, and measures in this Plan.

Vision: Everyone's food is safe

Mission: Protecting the public's health by ensuring the safety of meat, poultry, and processed egg products

	OUTCOME	OBJECTIVE
GOAL 1 Prevent Foodborne Illness and Protect Public Health	1.1—Prevent Contamination 1.2—Limit Illness From Regulated Products	1.1.1—Drive Compliance With Food Safety Statutes and Regulations 1.2.1—Improve Food Safety at In Commerce Facilities 1.2.2—Enhance Response to Foodborne Illness Outbreaks and Adulteration Events 1.2.3—Increase Public Awareness of Recalls, Foodborne Illness, and Safe Food Handling Practices 1.1.2—Strengthen Sampling Programs 1.1.3—Ensure Establishments Are Meeting Pathogen Reduction Performance Standards 1.1.4—Promote Food Defense Practices
GOAL 2 Modernize Inspection Systems, Policies, and the Use of Scientific Approaches	2.1—Improve Food Safety and Humane Handling Practices Through Adoption of Innovative Approaches 2.2—Enhance Access to Complete and Accurate Information to Inform Decisions	2.1.1—Modernize Scientific Techniques and Inspection Procedures 2.1.2—Increase Adoption of Human Handling Best Practices 2.2.1—Improve the Reliability, Access, and Timely Collection and Distribution of Information
GOAL 3 Achieve Operational Excellence	3.1—Maintain A Well-Trained and Engaged Workforce 3.2—Improve Processes and Services	3.1.1—Improve Recruitment and Retention for Mission Critical Positions 3.1.2—Enhance Training and Development Opportunities Across Competency Areas 3.1.3—Ensure Equal Opportunity and a Diverse and Inclusive Environment 3.2.1—Enhance Efficiency and Effectiveness of Key Business Processes and Systems 3.2.2—Improve Service Delivery

ACCOUNTABLE • COLLABORATIVE • EMPOWERED • SOLUTIONS-ORIENTED

Goal 1
Prevent Foodborne Illness and Protect Public Health

Our primary mission goal, "Prevent Foodborne Illness and Protect Public Health," directly represents the day-to-day work of a large majority of our employees. Its outcomes are to prevent contamination and to limit illness from regulated products. FSIS will achieve these outcomes through several objectives aimed at protecting against unintentional and intentional contamination. Specifically, we will:

- Drive compliance with food safety statutes and regulations by
  - Focusing assessments of domestic establishments' food safety systems using tools such as alerts that identify patterns and trends in noncompliance.
  - Enhancing product sampling, outreach, technical assistance, and information sharing with other countries regarding FSIS' regulatory requirements and FSIS' work to ensure public health standards for food safety are established and met.
- Reduce the presence of hazards in food through influencing the behavior of establishments by increasing the percentage of products from FSIS-regulated establishments sampled for microbial or chemical hazards, as well as verifying the effectiveness of establishments' food safety programs and process controls to increase the percent of establishments that meet new pathogen reduction performance standards.
- Improve food safety at in-commerce facilities by using a risk-based approach to target FSIS' resources, including resources used for surveillance activities, investigations, enforcement activities, and other initiatives, with an increased focus on *Lm* in retail delis.
- Enhance response to outbreaks through improved communications and information sharing, and collaborating with partners on investigations and removal of contaminated product from commerce.
- Sustain progress in food defense by assuring that establishments adopt and incorporate food defense practices into their day-to-day operations, and that agency personnel and industry are prepared and able to respond to acts of intentional contamination.
- Increase public awareness of recalls, foodborne illness, and adoption of safe food practices through the execution of more proactive strategies and social science research.

Goal 2
Modernize Inspection Systems, Policies, and the Use of Scientific Approaches

Our secondary mission goal, "Modernize Inspection Systems, Policies, and the Use of Scientific Approaches," represents key methods and approaches we intend to use to enhance how we realize our food safety and public health mission. Its outcomes are to adopt innovative approaches and improve information and data access. FSIS will achieve these outcomes through objectives aimed at modernizing scientific techniques and inspection procedures, increasing awareness of humane handling best practices; and improving the reliability, access, and timely collection and distribution of information and data. Specifically, we will:

- Enhance efforts in rapid in-field screening and whole genome sequencing to aid in accurately identifying and expeditiously responding to outbreaks, conducting trace backs,[7] and studying the environmental influences on pathogens in regulated establishments.
- Use data from our Public Health Information System (PHIS) and new data generated from enhanced scientific techniques to facilitate inspection task scheduling across individual establishments.
- Increase awareness of humane handling best practices through broader and targeted outreach to the livestock industry, specifically on handling and stunning requirements.
- Improve reliability, access, collection, and timely distribution of information and data to facilitate communications among FSIS headquarters and field employees, and external stakeholders, by ensuring employee access to systems and tools and the ability to obtain FSIS data, targeted reports, and other information needed to prioritize and manage work.

[7] "Trace back" is a method used to determine the source and scope of the product/processes associated with the outbreak and document the distribution and production chain of the product that has been implicated in a foodborne illness or outbreak. Additionally, investigators may conduct "trace forward" activities to document the distribution of all implicated lots of food from the source once the source of an implicated food item is established.

Goal 3
Achieve Operational Excellence

Our third goal, "Achieve Operational Excellence," pinpoints key areas where we seek improvement in how we do business to better support achieving our first two goals and our overall mission. Its outcomes focus on recruiting, engaging, and training our workforce, and on improving our processes and services through several objectives. Specifically, we will:

- Improve recruitment and retention for mission-critical positions, primarily through strategies that target key occupations.
- Enhance training and development opportunities in several managerial, inspection, and technical areas through using competency models and expanded training and development approaches.
- Ensure equal opportunity and a diverse and inclusive environment for employees through encouraging model Equal Employment Opportunity approaches as well as continuing to deploy and enhance workplace environment activities.
- Enhance efficiency and effectiveness of key business processes and systems, while also improving service delivery, through analysis of existing processes and services and identification of areas for streamlining and quality improvement.

Planning, Implementation, and Evaluation

Plan Development: The FSIS strategic planning effort began with documenting our vision, mission, and shared core values, and with establishing an overarching approach to Strategic Plan development. This ensured that this Strategic Plan addresses food safety concerns of today and the future. A guiding principle in the Plan's development included a focus on establishing goals, outcomes, objectives, and performance measures that FSIS can easily use to track success. Plan development included significant internal and external stakeholder engagement, including soliciting input from FSIS employees across the country, as well as FDA, CDC, and others.

Implementation Through Governance: FSIS will implement this Plan by utilizing and enhancing its agency-wide governance approach to deliberation and decisionmaking. FSIS has an evolving and robust governance structure that has changed the agency's culture to be more performance- and results- driven. FSIS will utilize this structure and associated decisionmaking processes to assess short- and longer-term progress toward reaching Plan goals, outcomes, objectives, and associated measure targets. This includes enhancing its review of policies, operational proposals, and scientific proposals before FSIS' Management Council, composed of the agency's senior executives, considers them. FSIS will also identify better approaches to incorporate input from the frontline field workforce on critical issues and needs, and to ensure FSIS develops and refines its initiatives and policies in a collaborative, inclusive, data-driven, and transparent manner. Similarly, FSIS also intends to improve how it disseminates information about its governance processes and decisions. FSIS will continue to develop and publish an annual plan that directly links to the Strategic Plan and highlights the activities the agency plans to conduct in a given year.

Performance Tracking and Monitoring: FSIS will continue to foster a performance-based environment by tracking Plan progress on at least a quarterly basis using an agency-wide Scorecard. FSIS will assign executives and senior staff to monitor progress and ensure FSIS meets intended targets to allow for timely and necessary adjustments to goals, outcomes, objectives, activities, or approaches.

Evaluation: Internal accountability is core to FSIS' culture. The agency conducts ongoing reviews of programs, processes, and policies to assess their efficacy, ensure that relevant management controls are in place, and make sure that our governance processes used to consider and make decisions on changes and improvements to our programs, processes, and policies are working. FSIS plans to conduct a mid-point review of this new Plan to assess its progress, relevancy, and status. The agency will make adjustments in strategies as necessary to achieve desired outcomes and ensure a modern approach to public health protection. FSIS will continue to align its annual executive and employee performance plans to strategic and annual plan activities to ensure accountability in evaluating performance.

Working With Our Partners

A continued focus on collaboration provides an overarching frame for this Strategic Plan.[8] FSIS will build on successes from existing collaborations and public-private partnerships to effectively leverage resources. In the years ahead, public and private sector stakeholders and consumers will continue to benefit from an increasingly integrated network working together toward improved food safety. FSIS works closely with many partners within the USDA, including, but not limited to, the following:

- Agricultural Marketing Service (AMS), on programs to ensure quality and availability of wholesome food across the country, including sharing of data, coordination on recalls and illness outbreaks, and export verification activities.
- Agricultural Research Service (ARS), on conducting research based on FSIS' Research Priorities list to develop and transfer solutions to agency needs.
- Animal and Plant Health Inspection Service (APHIS), on protecting and promoting U.S. agricultural health, specifically related to APHIS' role in administering the Animal Welfare Act, and protecting against agricultural pests and diseases, including biosecurity practices and One Health objectives.
- Economic Research Service (ERS), on informing and enhancing decisionmaking on economic and policy issues, including cost calculation models and risk assessments.
- Food and Nutrition Service (FNS), on ensuring access to healthy and safe food for participants in Federal nutrition assistance programs.
- Foreign Agricultural Service (FAS), on communicating equivalency programs and policy to foreign governments and promoting food safety and food defense capacity building internationally.
- National Institute of Food and Agriculture (NIFA), on advancing knowledge of food safety and food defense by supporting research, education, and extension programs in the Land-Grant University System and other partner organizations.

FSIS also works with several other Federal agency partners outside USDA, including through consortia, advisory committees, task forces, and other fora. Partners include, but are not limited to, the following:

- The Department of Health and Human Services' U.S. Food and Drug Administration (FDA), on protecting consumers against impure, unsafe, and fraudulently labeled food products.[9] FSIS primarily works with the following FDA entities:
  - The Center for Food Safety and Applied Nutrition, on ensuring that the food supply is safe, sanitary, wholesome, and honestly labeled.
  - The Center for Veterinary Medicine, on drug residue tolerances.
  - The Office of Regulatory Affairs, FDA's inspection and regulatory laboratory field force, to coordinate oversight, recalls, and other enforcement activities in dual jurisdiction facilities.

[8] This focus directly supports USDA Strategic Plan FY2014-2018, Goal 4, Objective 4.3, p.29.

[9] See CFSAN. FDA, through CFSAN, regulates foods other than the meat, poultry, and egg products that FSIS regulates.

- The Department of Health and Human Services' Centers for Disease Control and Prevention (CDC), on gathering data on foodborne illnesses, investigating foodborne illnesses and outbreaks, and monitoring the effectiveness of prevention and control efforts in reducing foodborne illnesses. CDC also plays a key role in building State and local health department epidemiology, laboratory, and environmental health capacity to support foodborne disease surveillance and outbreak response.
- The U.S. Department of Homeland Security (DHS), on ensuring that FSIS is able to respond quickly and effectively to any attacks on the food supply, to major disease outbreaks, or to other disasters affecting the national food infrastructure. For example, FSIS collaborates with Customs and Border Protection to identify, target, and stop high-risk, ineligible, and potentially ineligible shipments of food products closer to, if not prior to, the time of entry into the United States.
- The U.S. Environmental Protection Agency (EPA), primarily on reducing risks posed by pesticides through the National Residue Program, and on decontamination of facilities and products.

FSIS' collaborative efforts with its Federal partners continue to include data collection and analytics to facilitate risk-based targeting of FSIS inspection, laboratory, and policy development resources, and activities that focus on better and more harmonized attribution of foodborne illnesses to specific foods. They also include enhanced information sharing to facilitate transparency to the public, and improved policies, procedures and actions through joint development with partners, where practical.

Our collaborative efforts extend beyond Federal agencies, and aim to reduce organizational barriers to cooperation among a growing range of domestic and international public- and private-sector organizations. To improve food safety outcomes in a manner that would be impossible to achieve alone, FSIS also partners with State, local, tribal, and territorial governments, including through Food and Agriculture Government and Sector Coordinating Councils. Specifically, FSIS, together with its public health partners at these levels, works quickly to limit outbreaks and accurately identify products that may cause illness. For example, FSIS will continue to partner with local governments on trace back/trace forward efforts, and will similarly work to increase information sharing across public sector partners, food safety organizations, and industry. Internationally, FSIS leads the interagency partnership known as the U.S. Codex Office,[10] which engages a variety of stakeholders in the development and advancement of science-based food standards for the benefit of the United States and the worldwide community.

[10] Codex Alimentarius (Codex) is a joint program of the United Nations Food and Agriculture Organization and the World Health Organization, with more than 180 country members and observer organizations. The United States is a founding member of Codex and currently hosts three committees. The interagency Codex program involves many key regulatory and trade agencies, including the FDA, CDC, AMS, FAS, EPA, the Office of the U.S. Trade Representative, the U.S. Department of State, and others.

Public Health Indicators

As a public health agency, one of FSIS' primary goals is to reduce foodborne illness in the U.S. population by decreasing exposure to pathogens. FSIS has assessed, and will continue to assess, its progress in reducing contamination of, and illnesses associated with, FSIS-regulated products. Below, we briefly describe the indicators of public health progress using product contamination rates and estimates of FSIS-attributable illnesses.

FSIS Microbiological Contamination Rates

One set of indicators FSIS will use to assess the agency's progress in reducing food-related illnesses are the results from its microbiological sampling programs, which measure the rate of microbial contamination of FSIS-regulated products. A reduction in the microbiological contamination rate should lead to a decrease in illnesses by reducing consumers' exposure to foodborne pathogens. FSIS designed its sampling programs to provide estimates of the prevalence of specific pathogens in a given FSIS-regulated product, and can thus be used to indicate public health progress.

These contamination rates rely solely on testing data from FSIS-regulated establishments, and therefore avoid some of the uncertainties inherent when estimating the contribution of FSIS-regulated foods to illnesses using other measures. Contamination rates do not, however, provide a direct estimate of the foodborne illnesses in the population, and only reflect FSIS' influence on a limited number of product–pathogen pairs for which FSIS can estimate prevalence.

Public Health Indicators

Microbiological Contamination Rates

1) Prevalence rate of *E. coli* O157:H7 in raw ground beef and *E. coli* and non-O157 STEC for specific components
2) Prevalence rate of *Salmonella* in specific raw chicken, turkey, and ground beef products
3) Prevalence rate of *Campylobacter* in certain subsets of raw chicken and turkey products
4) Volume-weighted percent positive of *Lm* and *Salmonella* in RTE products

All Illness

5) # of *Salmonella* illnesses from FSIS-regulated products
6) # of *Campylobacter* illnesses from FSIS-regulated products
7) # of *E. coli* O157:H7 illnesses from FSIS-regulated products
8) # of non-O157 STEC illnesses from FSIS-regulated products
9) # of *Lm* illnesses from FSIS-regulated products

FSIS Illness Estimates

FY 2011-FY 2016 All-Illness Measure

FSIS has used an "All-Illness" measure to monitor, report on, and evaluate its progress in reducing illnesses attributable to FSIS-regulated products since 2010. This measure estimated and tracked the change in the combined number of *Salmonella, Lm*, and *E. coli* O157:H7 illnesses associated with FSIS-regulated products, with targets based on ambitious Healthy People 2020 illness reduction goals.[11] The measure provided an indication of public health progress using human illness data and reflected the contribution of FSIS activities outside of FSIS-regulated establishments to reducing and preventing illnesses—such as the agency's in-commerce, import, recall, outbreak investigation, and consumer outreach activities. However, the measure was subject to large amount of inherent uncertainty[12] and year-to-year variability.

[11] See Healthy People 2020. In the past, FSIS tied illness reduction goals to pathogen-specific Healthy People 2020 illness reduction goals. FSIS calculated the measure using pathogen-specific case rates from CDC's Foodborne Diseases Active Surveillance Network (FoodNet) program; a 3-year window of CDC Foodborne Outbreak Surveillance System (FDOSS) data to estimate the fraction of outbreak illnesses that are attributable to FSIS-regulated products; the 2009 U.S. Census population estimate; and a published scaling factor (Scallan et al., 2011).

[12] Uncertainties stem from the following: 1) issues with the completeness and generalizability of outbreak data, and the attribution estimates derived from these data; 2) a lag in availability of outbreak data, preventing near-term progress monitoring and assessment; and 3) the influence of factors beyond FSIS' control—such as outbreaks not associated with FSIS-regulated products—on the number and fraction of illnesses attributed to FSIS-regulated products.

FY 2017-FY 2021 Illness Estimates

To address some of the limitations of the 2011-2016 All-Illness measure while retaining the strengths of using an indicator based on actual illnesses in the U.S. population, FSIS updated its method for estimating illnesses attributed to FSIS-regulated products. FSIS has done so primarily by incorporating an improved attribution methodology from the Interagency Food Safety Analytics Collaboration (IFSAC)[13] to make the indicator less sensitive to year-to-year fluctuations. In addition, rather than presenting one combined illness estimate, FSIS will develop and review separate illness estimates for *Salmonella*, *Lm*, *E. coli* O157:H7, non-O157 STEC, and *Campylobacter*. These updates will provide greater transparency and understanding regarding the pathogen(s) causing the majority of estimated illnesses, facilitating a more detailed assessment of agency progress. To further improve transparency and provide a more complete picture of the trends related to U.S. illnesses, FSIS will also present and review the most current CDC FoodNet case rate data. Because the case rates are available in a timelier manner than the data needed to estimate illnesses from outbreaks, this should provide a more current view of illness trends.

As a food safety public health agency, FSIS needs to evaluate its progress in decreasing the number of foodborne illnesses. By developing, presenting, and monitoring complementary indicators—contamination rates seen in FSIS sampling programs, illness estimates from FSIS-regulated products for specific pathogens, and CDC FoodNet case rates—FSIS and other interested parties will be able to better recognize near-term and longer term public health progress, and better determine where to focus efforts to improve public health.

[13] See Interagency Food Safety Analytics Collaboration (IFSAC). IFSAC was established in 2011 to improve coordination of Federal food safety analytics efforts and address crosscutting priorities, such as foodborne illness attribution, for food safety data collection, analysis, and use.

Goal 1: Prevent Foodborne Illness and Protect Public Health

Goal 1

Goal 1 directly represents FSIS' public health regulatory mission to ensure that meat, poultry, and egg products are safe and to reduce preventable foodborne illness from FSIS-regulated foods. Thousands of FSIS inspectors across the United States are working to achieve this mission every day by carrying out tasks to verify industry compliance with applicable U.S. food safety regulatory requirements. The agency's regulatory oversight and enforcement extends to both imported and domestically produced food products and assures consistent application of regulations and statutes.

Outcome 1.1
Prevent Contamination

FSIS will strive to protect public health through reducing foodborne illness by preventing contamination in domestic and foreign produced FSIS-regulated food products as follows:

- Drive compliance with food safety statutes and regulations by
  - Using Public Health Risk Evaluations (PHREs)[14] and Food Safety Assessments (FSAs)[15] to ensure that domestic establishments are implementing food safety programs and process controls that facilitate hazard identification and mitigate hazards.
  - Ensuring that imported FSIS-regulated food products produced under foreign inspection systems meet FSIS' level of protection, as determined through our equivalence process, and facilitated through outreach and technical assistance activities.
- Expand sampling programs to address gaps in pathogen testing in FSIS-regulated products, which will serve to influence domestic establishments, and foreign establishments that export to the United States, to decrease the presence of hazards in food and further improve their food safety systems and programs.
- Increase the number of establishments that are meeting pathogen reduction performance standards for all pathogens, including performance standards for *Salmonella* and *Campylobacter* in raw chicken parts and not-ready-to-eat (NRTE) comminuted chicken and turkey products through targeting inspections, PHREs, FSAs, and follow-up sampling to assess whether establishments' process controls are working.
- Promote food defense practices and promote preparedness through continued monitoring to assess whether establishments are implementing defense principles, concepts, and practices as part of their day-to-day activities.

[14] The PHRE is a new decisionmaking process that FSIS will use to determine whether an FSA needs to be scheduled. It is a distinct, separate activity from an FSA. See FSIS Directive 5100.4 Rev. 1.

[15] The purpose of an FSA is to assess and analyze an establishment's food safety system to verify that the establishment is able to produce safe and wholesome meat or poultry products in accordance with FSIS statutory and regulatory requirements. See FSIS Directive 5100.1 Rev. 4.

Objective 1.1.1

Drive Compliance With Food Safety Regulations and Statutes

Domestic Activities

More effective FSIS assessments—that verify establishments are implementing and maintaining food safety and food defense practices—help increase overall industry compliance with regulations and statutes. An establishment's specific compliance history provides a basic understanding of how well it is maintaining process controls and implementing its food safety programs and highlights areas needing particular attention and improvement. Compliance history may also provide insight into an establishment's corrective and preventive actions to enhance process controls and prevent adulterated or mislabeled meat, poultry and processed egg products from entering commerce.

MEASURE 1.1.1.1: % of establishments scheduled for a Public Health Risk Evaluation (PHRE) due to public health determinants

The agency conducts PHREs and FSAs to ensure that regulated establishments have developed and implemented food safety systems that prevent food safety hazards from occurring. The agency currently generates a monthly prioritized list of establishments to consider for potential "for cause" FSAs based on public health risk determinants or triggers. PHREs and FSAs often result in improvements to Hazard Analysis and Critical Control Point (HACCP) system design and process controls and/or reduction in n oncompliance, thus helping to reduce hazards present in food.[16]

FSIS will continue to perform activities and take steps to reduce non-compliance related to these public health risk determinants that result in recommendations of "for cause" FSAs.[17] By assessing establishments' food safety systems and using tools such as alerts to identify patterns or trends, FSIS can drive improvements in industry compliance. FSIS will continue to obtain input from industry, consumer groups, and independent external peer reviewers to move forward with strategies that encourage establishments to adopt the measures necessary to avoid, for example, repeat enforcement actions resulting from violations of public health regulations. Continued innovations and improvements in food production require that FSIS increase its agility in ensuring compliance. FSIS will also continue to enhance and utilize science-based tools and approaches and provide inspection personnel with real time inspection data to increase industry compliance with food safety regulations and statutes. (See also 2.1, 2.2.)

[16] Hazard Analysis and Critical Control Points (HACCP) is a process control system designed to identify and prevent microbial and other hazards in food production. It includes steps to address food safety hazards that can be introduced in an establishment, and that occur before, during, and after entry in the establishment, and critical limits that must be met at each control point. It is designed to prevent problems before they occur and to correct deviations as soon as they are detected.

[17] A positive sample result prompts a "for cause" FSA. This includes production and shipment of adulterated product, or any other high priority food safety-related incident. See 9 CFR Part 417.

International Activities

The agency anticipates continued growth in the number of foreign meat and poultry inspection programs seeking an equivalence determination from FSIS,[18] which is necessary to become eligible to export meat, poultry, or processed egg products to the United States. FSIS' equivalence process ensures that imported FSIS-regulated food products produced under foreign inspection systems meet FSIS' level of protection. More specifically, the FSIS process for determining equivalence, as well as for verifying ongoing equivalence, includes three important elements: document review, on-site audits, and once eligible, port-of-entry re-inspection. One component of the port-of-entry inspection process that ensures that FSIS assesses the public health impact of imported meat, poultry, and processed egg products is the collection and analysis of product samples in a manner that accounts for risk to public health and the impact on agency resources.

To strengthen existing efforts in sampling and testing imported products, FSIS will deploy sample collection models that will best inform exposure of the public to food safety hazards from eligible countries and individual certified establishments in those countries.[19] FSIS will also better align its domestic and international program sampling objectives. As part of this effort, FSIS will develop and make available a plan for stakeholder input that includes one or more pilot projects that test options for maximizing data retrieval within practical resource limits. Ultimately, FSIS will implement a more effective mechanism for testing imported product to ensure our equivalence process is aligned with domestic policy and protective of public health.

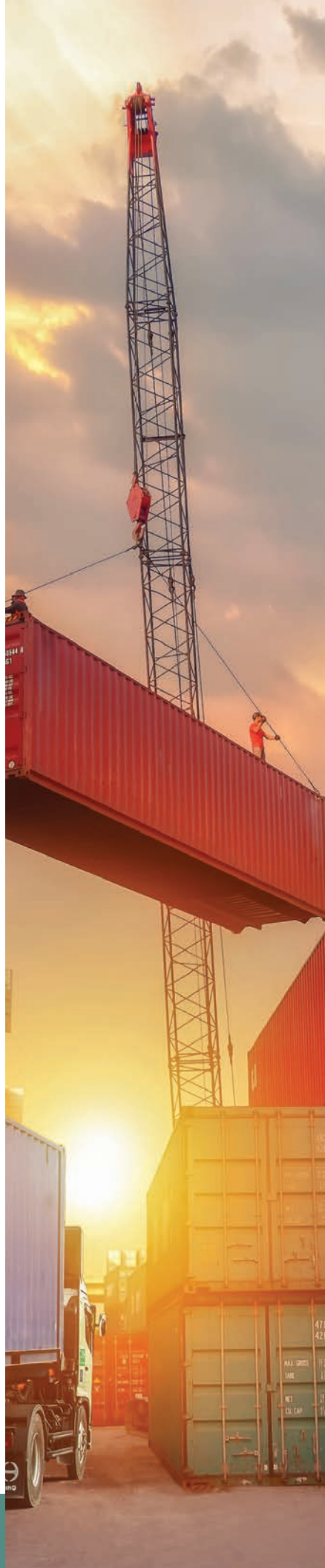
MEASURE 1.1.1.2: % of country/product combinations from equivalent countries that FSIS tests for biological and chemical hazards

In addition, through educational seminars, various technical assistance exchange programs, meetings with FSIS officials and USDA-sponsored visits to U.S. laboratories and regulated establishments, FSIS is working with foreign regulatory counterparts to share information about FSIS regulatory requirements, and about how the agency uses the latest technology to ensure protective public health standards for food safety. A better understanding of the U.S. science-based regulatory system, and hands-on demonstrations of our inspection programs, will expand FSIS' international influence and encourage adoption of equivalent national inspection programs throughout the world. In the next few years, FSIS intends to reach out to international regulatory counterparts who are currently implementing or working to modernize existing food safety inspection programs to inform them of our best practices and technological advances and work with them to improve food safety standards and vital health protections worldwide.

MEASURE 1.1.1.3: % increase in participation in FSIS outreach activities by foreign governments and officials

[18] Equivalence is the acceptance of alternative measures that meet an importing Member's appropriate level of sanitary or phytosanitary protection," not duplication or "sameness" of measures. World Trade Organization.

[19] See also Objective 1.1.2.



FSIS will also continue its important work as the home of the U.S. Codex Office, promoting the development of science-based international food standards that protect the health of consumers, ensure fair practices in the food trade, and promote standards harmonization. Codex outreach work also encourages the adoption of science-based standards and decisionmaking processes by foreign governments to promote food safety.

Objective 1.1.2

Strengthen Sampling Programs

FSIS uses sampling program results as further verification of establishments' food safety programs and process controls, and as a measurement of the effectiveness FSIS regulations, policies, and procedures.

FSIS is expanding the breadth, depth, and frequency of its sampling to better address gaps in testing for pathogens and chemical residues in FSIS-regulated products.[20] Approaches include unifying testing so that FSIS only collects one sample for each product and tests it for multiple microbiological hazards or chemical residues, and leveraging new technology to increase precision, gain efficiencies, and better identify and define hazards and problems. FSIS will use both routine and non-routine sampling to influence the behavior of establishments to decrease the presence of hazards in food, and will continue to use sampling data to make determinations on tightening or expanding current pathogen reduction performance standards.

MEASURE 1.1.2.1: % of products from establishments that FSIS samples

Although a number of FSIS sampling programs include collecting samples of a variety of product types and testing these samples for multiple microbiological hazards and chemical residues, there are some combinations of establishments, hazards, and products that the agency does not currently sample or test. For example, FSIS maintains a number of exclusions or exceptions in a variety of sampling programs for different regulatory and policy reasons. FSIS will continue to use a risk-based approach in closing these exceptions, to the extent practicable. In addition to increasing the percentage of different products FSIS tests, FSIS will also increase the percentage of establishments at which it collects samples to close identified sampling gaps, reduce exceptions to what it samples and tests, and gather knowledge on the relative risk of contamination of regulated products. This approach will allow for improved allocation of resources while closing sampling gaps and will maximize the public health benefit through prioritizing testing by degree of hazard.

[20] See also Objective 1.1.1, and FSIS Data: Analysis and Reporting sampling program links for more information.

Objective 1.1.3

Ensure Establishments Are Meeting Pathogen Reduction Performance Standards

Salmonella and *Campylobacter* bacteria are among the most frequent causes of human foodborne illness attributed to meat, poultry, and egg products in the United States. Current commercial production and slaughter practices the U.S. industry employs do not fully eliminate the pathogens; however, industry can minimize *Salmonella* and *Campylobacter* contamination by employing proper sanitary dressing procedures and applying interventions during slaughter and the fabrication of the carcasses into parts and comminuted product. FSIS uses pathogen reduction performance standards[21] to assess the food safety performance of establishments that prepare meat and poultry products. FSIS implemented the current *Salmonella* and *Campylobacter* performance standards for raw chicken and turkey carcasses in 2011, and in 2016 began the implementation of new pathogen reduction performance standards for those pathogens in raw chicken parts and NRTE comminuted chicken and turkey products. FSIS designed these new performance standards to achieve at least a 30-percent reduction in illnesses from *Salmonella*, and a 33-percent reduction in illnesses from *Campylobacter* for raw chicken parts and comminuted chicken and turkey products in line with the reduction goals in Healthy People 2020.[22]

MEASURE 1.1.3.1: % of establishments that meet pathogen reduction performance standards

FSIS anticipates that establishing the standards, tracking, and posting how each establishment is performing relative to the standards, and targeting inspection activities—PHREs, FSAs, and follow-up sampling to assess whether an establishment maintains sufficient process control—is expected to reduce the occurrence of pathogens in/on poultry products to meet the standards. Tracking the percentage of industry meeting the performance standards provides a measure of product contamination and an indication of public health improvement.

To drive continual improvements moving forward, FSIS will also assess the available data annually and consider developing more stringent pathogen performance standards. In addition, FSIS will continue to collect sampling data to develop raw pork standards and will continue to explore possible standards and guidance for other chicken parts (e.g. giblets, necks, and half and quarter carcasses), ground beef, and other beef products to further reduce *Salmonella* and *Campylobacter* illnesses.

[21] Under a performance standard, each establishment is subject to a series of sampling occasions within a given timeframe. If the number of positive samples during that timeframe is less than or equal to a maximum allowable number of positive samples, then the establishment is considered to be passing the performance standard. If the number of positive samples exceeds the maximum allowable, then the establishment is considered to be failing the performance standard.

[22] These standards are aligned to meet Healthy People 2020 goals to reduce *Salmonella* by about 25 percent and *Campylobacter* by about 33 percent by year 2020.

Objective 1.1.4

Promote Food Defense Practices

FSIS will remain vigilant and will sustain progress made to date in the area of food defense and preparedness to respond to acts of intentional contamination of food. The evolving threat landscape and emerging risks—including natural disasters, extreme weather events, disease pandemics, manmade hazards, terrorist attacks, and cyberattacks—demand that the agency continue to build on significant progress made in increasing its capability and capacity to prevent, protect against, mitigate, respond to, and recover from all hazards.

MEASURE 1.1.4.1: % of establishments that maintain food defense practices

Through collaboration with industry to date, FSIS successfully promoted voluntary adoption of food defense plans by at least 85 percent of regulated establishments, an increase of 51 percent since the start of the effort in 2006. FSIS will continue to promote voluntary adoption of food defense practices by monitoring that establishments have adopted plans and by ensuring the agency increasingly integrates food defense principles, concepts, and practices into daily activities.

FSIS will expand on its existing strategies to encourage establishments to integrate food defense practices into their day-to-day operations. FSIS intends to leverage data collected through monitoring and surveillance, significant incident reporting, and strategic partnerships to prioritize food defense- and preparedness-related outreach to and collaboration with industry and agency personnel. For example, FSIS will use routine analysis of data from its incident management system to identify emerging trends and to prioritize its preparedness efforts. In addition, the agency will seek to integrate and align its food defense-specific policy directives with those for inspection of slaughter and processing activities and products; compliance evaluation and enforcement; exports and imports; laboratory services; and facilities, equipment, and sanitation. The intent of these activities is to have a positive effect on inspection personnel and industry in terms of both utilization of resources and comprehensiveness of protective measures. FSIS will also continue to utilize PHIS and other tools to assess the percentage of FSIS-regulated establishments that maintain food defense practices.

Relatedly, FSIS will continue to promote preparedness of agency and industry personnel to drive toward enhanced capabilities and capacities to respond to and recover from threats and hazards of greatest risk. Preparedness activities will include conducting a larger number of exercises across the country to validate response and recovery plans and to minimize negative public health and economic impacts.

Outcome 1.2
Limit Illness From Regulated Products

In addition to the daily work of food safety inspectors, FSIS conducts extensive investigation and compliance activities at in-commerce facilities, such as warehouses, distributors, food transporters, and retail delicatessens. When illnesses associated with FSIS-regulated products do occur, the agency investigates them to limit the impact of any outbreaks on the population. In doing so, FSIS will continue to rely on and improve its partnerships and communication with Federal, State, local, and industry partners to quickly

and accurately identify the contaminated products, the source establishment from which the product was made, and if possible, the cause of the outbreak so the public health hazard can be eliminated. FSIS further engages in public education and outreach to increase safe food handling practices, providing information through a broad range of communications channels to educate consumers on safe food handling practices, improve overall public awareness, and share best practices with industry.

Objective 1.2.1

Improve Food Safety at In-Commerce Facilities

Without careful handling and regulatory compliance by our Nation's food retail, warehouse, and other "in-commerce" facilities, safely processed products can be temperature-abused or mishandled in ways that cause them to become contaminated and/or adulterated on their way to the consumer. These facilities are more inherently risky due to the volume of the products handled by such establishments, and the hazards they present. With several hundred to thousands of in-commerce facilities that handle FSIS-regulated products in every State, FSIS, with State and local regulatory agencies, must strategically utilize regulatory resources to maximize coverage and efficiencies to ensure that food remains safe as it moves through the supply chain from production to actual consumption. FSIS plans to improve food safety by targeting a larger number of higher risk in-commerce facilities for surveillance and follow-up investigations to reduce the rate of food safety violations.

MEASURE 1.2.1.1: % of in-commerce facilities that are following FSIS Deli *Lm* guidelines

The approach that FSIS will deploy will include, in part, additional emphasis on retail locations that handle FSIS-regulated products, with a particular focus on *Listeria monocytogenes (Lm)* illnesses associated with deli products; *Lm* has a higher fatality rate than other foodborne pathogens,[23] and deli products sliced at retail establishments are the source of many *Lm* illnesses.[24] Safe food handling practices, thorough cleaning and sanitation procedures, maintenance of the facility and equipment, and good employee practices can decrease the likelihood of ready-to-eat (RTE) foods becoming contaminated in retail delis. FSIS will take steps to further educate the industry on its *Lm* compliance guidelines and associated best practices,[25] and to assess progress, compliance investigators will conduct assessments of retail establishments that have delis to determine the extent of industry's adherence to recommendations associated with *Lm* FSIS compliance guidelines. FSIS will also leverage recent interagency work with FDA and the CDC on an *Lm* risk assessment; continue analytic and data support of HHS' agency priority goal to reduce *Lm*; and continue work with FDA, the CDC, and the National Institutes of Health on using genomic methods when *Lm* outbreaks do occur to determine their source.

[23] Scallan, E., Hoekstra, R.M., Angulo, F.J., Tauxe, R. V., Widdowson, M.A., Roy, S.L., Jones, J.L., and P.M. Griffin. (2011) Foodborne illness acquired in the United States—major pathogens. Emerging Infectious Diseases 17(1), 7-15.

[24] The FSIS Comparative Risk Assessment for *Lm* in Ready-to-Eat Meat and Poultry Deli Meats (May 2010) estimated that of listeriosis illnesses attributed to deli meat, 83 percent are associated with deli meat sliced and packaged at retail Endrikat, S., Gallagher, D., Pouillot, R., Hicks Quesenberry, H., LaBarre, D., Schroeder, C.M., and J. Kause. (2010) A comparative risk assessment for *Listeria monocytogenes* in prepackaged versus retail-sliced deli meat. Journal of Food Protection 73(4), 612-619.

[25] See FSIS Best Practices Guidance for Controlling *Listeria monocytogenes* (*Lm*) in Retail Delicatessens, June 2015.

More broadly, FSIS will enhance its outreach and training through building on established partnerships and initiating new relationships with national and regional associations representing city, county, and State health agencies, food marketers, grocery stores, delis, and restaurants. Outreach activities will include, in part, participation in relevant annual conferences and trade shows attended by State and local government employees and industry where agency staff will provide updates on FSIS rules, regulations, and guidance affecting in-commerce facilities.

Objective 1.2.2

Enhance Response to Foodborne Illness Outbreaks and Adulteration Events

FSIS works in collaboration with public health partners, including CDC, FDA, State-level departments of health and agriculture, and local health departments to quickly and accurately respond to reports of foodborne illness. Initial action steps require gathering information needed from case patients about food history and conducting laboratory diagnostics on human and food isolates. This information is essential to ultimately identify adulterated products and to ensure effective implementation of process controls, while addressing underlying issues that caused the adulteration. The agency will also utilize advances in technology to better understand and respond to foodborne hazards.

MEASURE 1.2.2.1: Number of State and local partners who, because of FSIS outreach efforts, provide information that improves identification of contaminated product

FSIS will enhance information sharing as well—in terms of timeliness and quality, and between partners—to improve the effectiveness of foodborne illness investigation and to reduce the potential for consumer exposure to adulterated products. By leveraging new technologies and improving communication and collaboration with public health partners, FSIS will enhance its capacity to take prompt, effective action toward protecting the public from contaminated products in commerce. Specific actions include the following:

- Develop and implement a coordinated plan each fiscal year to ensure there is an established process among partners to conduct outreach activities and effectively collaborate during outbreaks.
- Create and update Web pages to share foodborne illness resources with partners, including FSIS points of contact, FSIS investigation procedures, and information needed from partners that is useful to FSIS during investigations.
- Ensure that all State and local partners have the contact information needed to report illness/outbreak information required for FSIS to effectively initiate investigative activities.
- Share appropriate investigative information and lessons learned with partners to strengthen relationships and improve public health response.
- Conduct annual surveys of partners to assess trends and identify where improvements are needed to maintain successful partnerships for effective outbreak response.

- Improve access to shopper card data for investigational use by engaging in partner workgroups.
- Maintain open communication with public health partners, using electronic mail, webinars, and by participating in conferences, events, and meetings.
- Continue to strengthen relationships across FSIS program areas to optimize responsiveness during investigations and maximize the use of surveillance data.
- Modernize data systems supporting surveillance and investigation to ensure the systems are inter-operable, to enhance analytic capabilities for detection of associations, trends, and emerging risks.
- Increase use of new technologies, such as whole genome sequencing, to supplement information obtained during an investigation and to improve the effectiveness of responses to outbreaks.

Objective 1.2.3

Increase Public Awareness of Recalls, Foodborne Illness, and Safe Food Handling Practices

FSIS' outreach and educational activities that extend beyond the establishments it regulates to the public can also help prevent or reduce foodborne illness. Strategic communications with the public about FSIS actions, including current recalls and dissemination of information that encourages safe food handling practices through a broad range of channels can help reduce illness from contaminated products that reach the consumer. The agency will continue to extend and expand its food safety message of "Clean, Separate, Cook, and Chill" through using public service advertising, media outreach, events, partnerships development, and campaigns incorporating social media channels, and through tailoring messages during holidays, seasons, and other events.

MEASURE 1.2.3.1a-b: % increase in public awareness of safe food handling guidance and recalls through communications channels

FSIS will continue its strategic communications and outreach efforts using an approach that focuses on adopting more proactive strategies in addition to using traditional media, advertising, events, and social media outreach. The agency also plans to broaden its engagement with key stakeholders to educate the public, including through new digital media outreach tools.

For example, FSIS will:

- Explore innovative information delivery by incorporating recall and safe food handling guidance into mobile applications
- Expand on current initiatives to promote safe food handling behaviors in the media through interviews and proactive outreach to journalists

- Leverage existing partnerships and develop new ones to give others working in public health the tools necessary to promote our safe food handling guidance.

In a limited fashion, FSIS also will conduct research on consumer adoption of safe food handling practices to inform the agency about meaningful ways to explain food safety risks to consumers. FSIS will use data sources that regularly track media coverage and communications channels to gauge success, as well as explore new ways to assess effectiveness of messaging, including with Federal, academic, and other food safety partners.

MEASURE 1.2.3.2: % increase of consumers identified who follow safe food handling behaviors

Goal 2: Modernize Inspection Systems, Policies, and the Use of Scientific Approaches

Goal 2

This Goal focuses on modernizing inspection techniques, methods, and practices. The food industry has seen innovative enhancements in food production, changes in manufacturing practices, expanding product lines, and far-reaching distribution chains—and FSIS continues to adapt to these and other changes. In addition, the American people have increasing expectations from FSIS that animals are treated humanely in food production processes.

Science-based approaches have provided additional insights into the ever-changing and adaptive nature of the foodborne pathogens associated with FSIS-regulated products. To protect public health, FSIS continues to explore new techniques for detecting, tracking, and characterizing these pathogens. At the same time, new information technologies are allowing organizations like FSIS to collect, integrate, distribute, and analyze large amounts of information and data to guide inspection activities. FSIS is using this information to guide and distribute future inspection and surveillance resources across the regulated industry. FSIS plans to take full advantage of this convergence of science, data, information flow, supportive technology, and information processes to protect public health and ensure the humane handling of livestock.

Outcome 2.1: Improve Food Safety and Humane Handling Practices Through Adoption of Innovative Approaches

The variety of potential food-related hazards, the science associated with these hazards, and the number of industry players continue to evolve and grow. FSIS continues to improve its understanding of the introduction and presence of microbial and chemical hazards on regulated products from slaughter through processing in order to reduce these hazards. Laboratory technological advancements, including rapid microbial diagnostics, in-field screening, and whole genome sequencing (WGS), offer FSIS and its partners opportunities to detect, characterize, and track individual food safety hazards along the farm to fork continuum, and to use the information gained from these new techniques to modernize inspection approaches.

FSIS has identified new scientific techniques that it will evaluate and adopt, as appropriate, to meet the agency's goal of enhanced public health protection that should positively affect work flow and decisionmaking. FSIS will consider the costs, ease of use, and training needs associated with these innovations in this evaluation. FSIS will analyze the food safety data that these techniques provide in more innovative ways to determine associations and trends. FSIS will use this analysis to influence how inspectors plan their work at individual establishments. Combining these approaches will assist FSIS in improving policies and procedures.

Objective 2.1.1

Modernize Scientific Techniques and Inspection Procedures

FSIS will continue to focus on how to best use and adapt innovative scientific techniques, modernize and enhance inspection practices and methods, and deliver tailored data and information to facilitate food safety decisionmaking. Doing so will provide our inspectors, regulatory partners, and the public with information to reduce food contamination and foodborne illness outbreaks. Key areas of focus are as follows:

- Rapid in-field screening is one of several inspection activities on which FSIS relies. For hazards such as chemical residues, FSIS conducts in-field screens and sends screen-positive samples to its laboratories for confirmation to expedite compliance decisionmaking. FSIS aims to apply the same approach to microbial hazards by leveraging new scientific techniques and exploring advancements to its current inspection strategy. For on-site microbiological hazard detection at individual establishments, FSIS will develop a new real-time analytical tool for use by FSIS inspection personnel. This new in-field screening tool will provide inspection personnel with more timely information to make regulatory decisions on such areas as the adequacy of sanitary operations at establishments and to identify potential pathogen contamination of regulated products.

MEASURE 2.1.1.1: % of all isolates that FSIS sampling generates that are subject to WGS

- Whole Genome Sequencing (WGS) characterizes bacterial genomes with greater precision and granularity than previous methods. Application of WGS by FSIS will aid in accurately identifying and expeditiously responding to outbreaks, conducting efficient trace backs, and studying the environmental harborage and movement of pathogens in regulated establishments. Additionally, WGS will facilitate an in-depth understanding of harmful traits, such as bacterial virulence and antimicrobial resistance, and further aid in making inspection decisions as well as future policy development. FSIS has started building WGS capacity and intends to have WGS fully implemented into its sampling programs—to generate real-time analysis to inform FSIS' food safety and public health regulatory decisions. Specifically, FSIS will use WGS analytics to help develop individualized inspection strategies for certain food pathogens and to inform the need for establishments to enhance sanitary practices and programs. FSIS will share what it learns about the harmful traits of pathogens with collaborating partners to track and potentially prevent these pathogens from adulterating food throughout the farm to fork continuum. This approach will specifically provide a more in-depth understanding of antimicrobial resistance in bacteria and further help FSIS, APHIS, CDC, and ARS efforts to protect the effectiveness of antibiotics for the U.S. population and animal agriculture.[26]

[26] FSIS also collaborates with ARS, CDC, and FDA under the National Antimicrobial Resistance Monitoring System for Enteric Bacteria (NARMS). Specific steps FSIS will take include continuing to provide data from pathogen sampling it conducts to Federal partners; participating in pilot studies, including through partner collaborations; and initially identifying the appropriate technologies or tools to better understand the movement of antimicrobial resistance along the farm to fork continuum.

- Establishment-Specific Inspection: Since its implementation in 2012, FSIS has used PHIS to assimilate high-quality data collected from establishments by inspectors and through other inspection-related data. FSIS has used these data to develop new broad-based policies and more informed sampling plan designs and inspection task procedures for inspectors in meat, poultry, and egg products establishments across the country. FSIS will better leverage PHIS data, combined with data from use of aforementioned new scientific techniques, to facilitate risk-informed inspection task scheduling across individual establishments. For example, FSIS will use PHIS data to enhance our analysis capabilities to generate Early Warning Alerts[27] for inspectors at the individual establishment level and to deliver data to inspectors in a way that will allow them to use it to plan their day-to-day activities—with a focus on addressing specific emerging food safety concerns at establishments within their purview. This significant focus on providing data gathered through new analytical techniques at the first sign of an emerging concern or non-compliance trend can lead to establishments making necessary corrective actions sooner, and can have the benefit of reducing repetitive non-compliance over time.

MEASURE 2.1.1.2: % of establishments whose non-compliance rate decreases 120 days after receiving an Early Warning Alert

To better equip inspectors to input data into PHIS, FSIS will pilot and institute the use of modern tools, e.g. handheld devices for inspection verification, to enhance the type of, efficiency, and timeliness of data entered into PHIS for further analysis. FSIS will focus inspection modernization on inspector training and development-focused activities, such as enhancing its classroom and on-the-job training courses and other learning activities, and on improving guidance provided to inspectors that is necessary to perform their jobs.

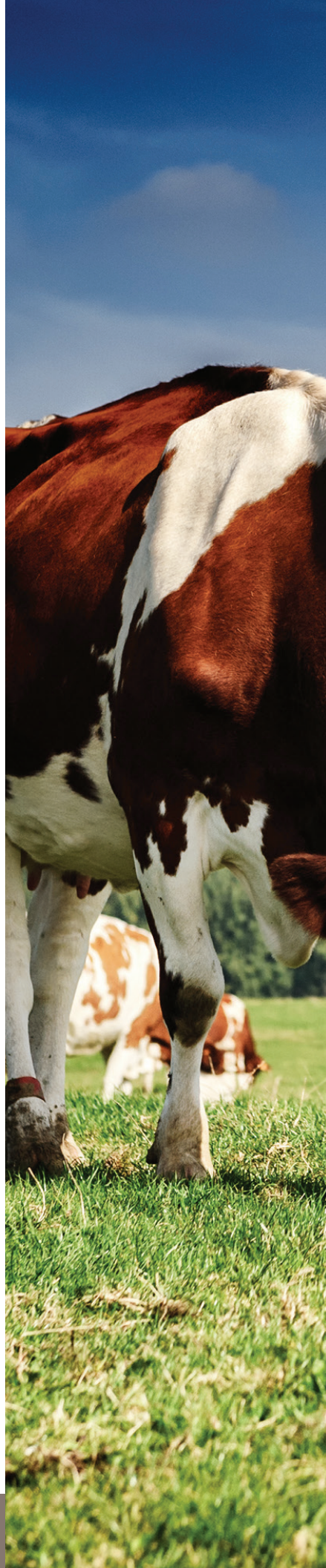
Objective 2.1.2

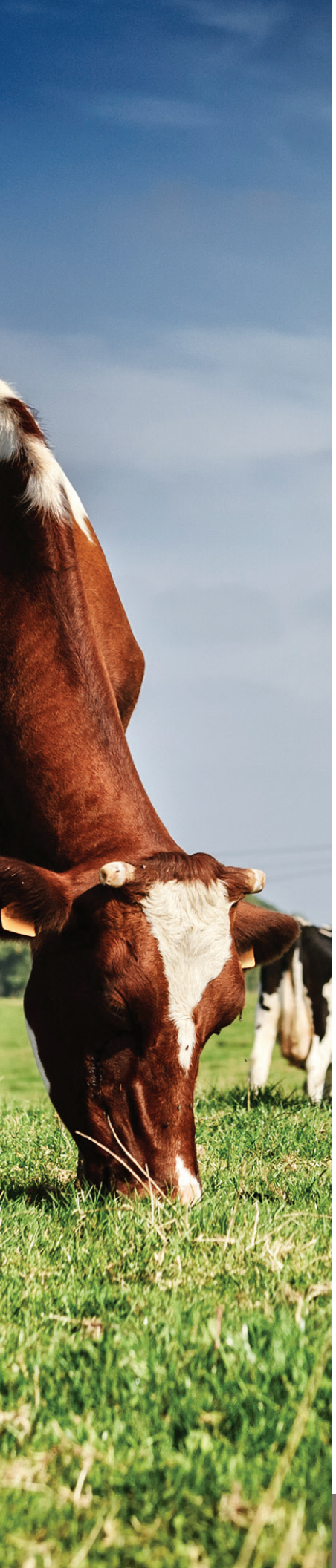
Increase Adoption of Humane Handling Best Practices

The Humane Methods of Slaughter Act (HMSA) requires all livestock to be slaughtered using humane methods. FSIS requires official livestock slaughter establishments to produce a product safe for human consumption and ensure humane treatment throughout the process leading up to slaughter.

A major reason for FSIS humane handling enforcement actions is the ineffective restraint and/or stunning of livestock. Establishments often employ a "one size fits all" approach to stunning and restraint, even though the establishment may be slaughtering several amenable species of varying sizes. As a result, stunning and restraint are areas that need increased attention, including education, outreach, and continued enforcement where warranted, to ensure industry complies with these important requirements in all livestock slaughter situations.

[27] FSIS uses decision criteria that include factors such as pathogen testing results, recalls, outbreaks, regulatory findings, and inspection results to prioritize its FSAs. Public Health Regulations (PHRs), formerly referred to as "W3NRs," are a subset of regulations associated with higher noncompliance rates in establishments in the 3 months before a pathogen-positive (*Salmonella, E. coli* O157:H7, Non-O157 STEC, *Lm*, or *Campylobacter*) or enforcement actions, than in establishments without pathogen-positives or enforcement actions. Using PHIS data, FSIS uses the results of inspection tasks to calculate a PHR non-compliance rate for each regulated establishment. A PHR Early Warning Alert is issued when an establishment has a non-compliance rate that is elevated and is at or exceeds the FSIS Noncompliance Cut Point for Early Warning.





MEASURE 2.1.2.1: % of slaughter establishments that are compliant with all livestock restraint and/or stunning requirements

FSIS plans to develop and implement an education and outreach campaign, targeting small and very small establishments, to ensure more consistent application of humane handling best practices and compliance with humane handling regulatory requirements. FSIS will track progress by measuring the increase in the percentage of establishments that are compliant with livestock restraint and/or stunning requirements and implement enforcement actions as necessary to improve how animals are treated.

District Veterinary Medical Specialists (DVMS) will deliver educational materials and guidance during their routine assessment visits, focusing on the latest knowledge and recommendations for effective animal restraint and stunning. The DVMS can work individually with establishments, for example, to stress the importance of a well-planned and implemented systematic approach that includes restraint and stunning tactics that are effective almost 100 percent of the time. FSIS may develop this campaign in partnership with other stakeholders, including industry associations. After a sufficient period has elapsed to allow industry to incorporate recommendations, FSIS will then consider whether to intensify regulatory actions taken when repeat humane restraint incidents occur at specific establishments. FSIS will support these regulatory actions with increased analysis of enforcement actions taken, monitoring of corrective action plans put in place, and other activities.

By working one-on-one with establishments on the areas of restraint and stunning, and in proactively partnering with industry to communicate key information on effective practices, FSIS will encourage greater use of appropriate techniques by industry to ensure that restraint and stunning practices, in establishments of all types and sizes, meet the intent of the law.

Outcome 2.2
Enhance Access to Complete and Accurate Information to Inform Decisions

Over the past decade, FSIS has increasingly relied on science, data, and risk analysis to develop well-supported and implementable regulations, policies, and procedures. The agency has been able to do so by increasing the amount of data it collects and analyzes and developing new reporting and analytical tools for data. The agency needs to continue to increase and improve data and information flow and associated tools, to ensure information is available and accessible to the inspector for daily decisionmaking, and to management and senior leadership to assess agency performance. As the volume and quality of data available to analysts increases, FSIS will use advanced analytics and tools to provide more targeted, real-time information for use in both operational and policymaking activities, and will enhance mechanisms to make these more available to both internal and external audiences, as appropriate, in a manner that is easier to access and understand.

Objective 2.2.1

Improve the Reliability, Access, and Timely Collection and Distribution of Information

FSIS intends to foster enhanced communication of key information and analysis among FSIS employees, and with external stakeholders. These activities underscore the importance of effective and efficient information flow throughout the agency and with stakeholders to harness data for day-to-day work and to answer important questions about programs, policies, and intended outcomes.

During this strategic planning cycle, FSIS will increasingly identify and deploy more effective, timely approaches and tools that provide data and actionable information to FSIS employees. Having data available in readily usable formats will help reduce the amount of time needed to make regulatory enforcement determinations and to use data to inform the development of policies that improve the agency's ability to protect public health.

MEASURE 2.2.1.1: % of analysts able to access, analyze, and visualize FSIS data

FSIS will also place particular emphasis on leveraging and enhancing PHIS, as well as increasing both the scope and quality of FSIS connectivity—including expanding the availability of handheld devices to support the needs of the agency's field workforce. These actions will allow inspectors and field employees to more easily access specific, actionable, and available information—including enhanced and streamlined PHIS reports and alerts. Similarly, FSIS will improve its ability to analyze field data to generate more informed, individualized inspection task scheduling on a daily basis.

MEASURE 2.2.1.2: % of employees with online access to FSIS-approved systems

For regulatory decisionmaking, FSIS will conduct targeted pilots that involve presenting information in a variety of forms, including instructional media, videos, sketches, illustrations, graphics, and other visual tools, and soliciting input from our employees and regulatory and public partners to improve policy development and implementation outcomes. From these activities,

FSIS plans to better tailor agency communications on policy using strategies that work for different populations and will also aim to reduce any inconsistencies in policy understanding and applications, which can happen when FSIS uses less up-to-date or single-mode communication strategies. For example, whenever possible, FSIS will utilize communication technologies that aim to minimize long, text-only formats—to help improve understanding and application, and to assist in decisionmaking and behavior change central to successful food safety regulatory policy implementation.

MEASURE 2.2.1.3: # of establishment-specific and other FSIS datasets made publicly available

Beyond information and data sharing within the agency, FSIS will identify and employ effective mechanisms to make both data and analyses more available and accessible to external stakeholders by publishing establishment-specific and other datasets and providing timelier access to data, and clearer and more thorough technical documentation.[28] These activities aim to improve FSIS personnel and stakeholder abilities to utilize FSIS data, gain a deeper understanding of changing trends in data, and increase the sharing of quality analyses that contribute to policy development.

[28] FSIS Establishment-Specific Data Release Strategic Plan.

Goal 3: Achieve Operational Excellence

Goal 3

FSIS heavily relies on its workforce and support systems to achieve success and accomplish its food safety mission. To sustain success in continuing to recruit and retain a talented and motivated workforce, FSIS is committed to investing in its workforce at both the individual and organizational level, from recruitment through retirement. FSIS continues to focus on human capital planning objectives as a critical part of its long-term strategy to recruit and retain a high-caliber workforce, and the agency is better anticipating new information technology (IT) requirements that support the FSIS workforce. An increasingly vital part of our mission is to better equip our knowledgeable and capable employees with the data, information, and training they need to perform their jobs in an efficient and effective way, and in a manner that unites the workforce to fulfill its mission across the country.

FSIS recognizes the need to deploy process and service enhancements to the workforce in a way that helps the agency work smarter in executing its food safety programs more effectively. In an increasingly competitive and changing landscape, FSIS will place particular emphasis on human resources, IT, and procurement to ensure processes are well understood and supportive of overall operational and mission success. Improving alignment within each of these systems can often drive a better return on FSIS investment, while ensuring sound personnel and resource management. The agency will take a more holistic approach to its service delivery, utilizing both standard and tailored approaches and metrics to improve overall quality customer and stakeholder satisfaction.

Outcome 3.1 Maintain a Well-Trained and Engaged Workforce

Feedback from previous Federal Employee Viewpoint Surveys (FEVS)[29] has shown that FSIS employees feel their work is meaningful and relates to FSIS goals, that they are dedicated to the FSIS mission, and that they are constantly looking for better ways to do their jobs. By investing in our workforce—at the beginning of careers through training and development opportunities, and in later career stages through maintaining, enhancing, and broadening key job skills and abilities—FSIS should be able to enhance job satisfaction, and keep employees engaged, contributing, and making a difference in the agency's public health and food safety mission. FSIS will continue current initiatives that focus on workforce planning; on defining and closing competency gaps; and on expanding diversity to better reflect the civilian labor force; and meaningfully improve the organizational climate and employee engagement.

[29] For more information, see FEVS.

Objective 3.1.1

Improve Recruitment and Retention for Mission Critical Positions

FSIS' commitment to its mission of protecting public health is dependent upon attracting and retaining a qualified and competent workforce. More than 85 percent of FSIS' employees, including all inspectors, are in mission critical occupations.[30] In recruitment, FSIS plans to build on recent progress in addressing shortage categories by implementing an expanded set of recruitment, retention, and relocation incentives in certain occupations, and using multiple grade positions to establish career development opportunities throughout its organizational structure.

FSIS Mission Critical Positions

GS-1863 Food Inspectors

GS-1862 Consumer Safety Inspectors

GS-0701 Veterinarians

GS-0696 Enforcement Investigations and Analysis Officers

GS-1102 Contracting Specialists

GS-0201 Human Resources Specialists

GS-2210 Information Technology (IT) Management Specialists

GS-0110 Economists

GS-0511 Auditors

FSIS is also taking several steps to improve employee retention in addition to addressing employee engagement and satisfaction. The agency is currently expanding its detail opportunities program, job shadowing, job swaps, and apprenticeship concepts. FSIS has also tracked several specific occupational series and while overall retention statistics are not outside of the government norm, certain positions are of concern; FSIS will pilot new and innovative initiatives in these areas. For example, public health veterinarians continue to be hard to recruit and retain in certain areas of the country, and these aforementioned initiatives may meet their needs.

- MEASURE 3.1.1.1: % mission critical positions filled
- MEASURE 3.1.1.2: % of employees who remain with FSIS for 2 years or more

[30] FSIS, USDA, and the Office of Personnel Management (OPM) designate mission critical occupations. FSIS-designated mission critical occupations include GS-1863; GS-1862; GS-701, and GS-696. OPM/Government-wide designated mission critical occupations include GS-0110, GS-0201, GS-0511, GS-1102, and GS-2210.

FSIS will also continue to place additional emphasis on hard-to-fill positions. Retention of food inspectors presents challenges in certain locations; some advance into consumer safety inspector positions, but because those positions require additional higher level education, FSIS aims to improve its efforts to better allow for career advancement.[31] Human resources and information technology specialists also have higher-than-average attrition rates during the first 2 years of employment with FSIS, thus FSIS intends to identify and deploy specific strategies for recruitment and retention in these areas. For example, FSIS will fully participate in USDA's IT Fellows program, partner on and pilot evolving training and certification programs, and better utilize other existing programs, internship and fellowship opportunities, and social media channels. For specific populations such as veterans new to Government, where the agency also sees a higher-than-average attrition rate, FSIS will collaborate with other agencies, such as the Departments of Defense, Veterans Affairs, and Labor, to establish programs to benefit veterans.

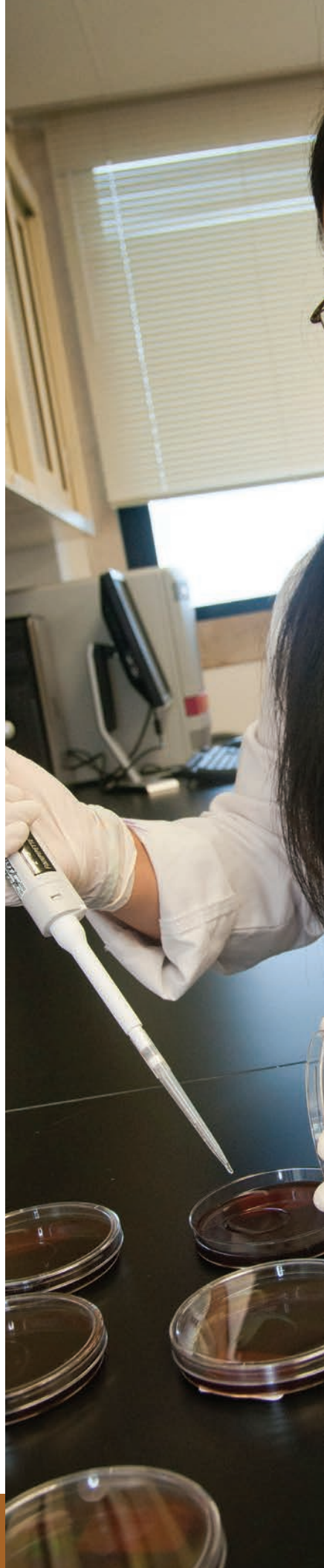
Objective 3.1.2

Enhance Training and Development Opportunities Across Competency Areas

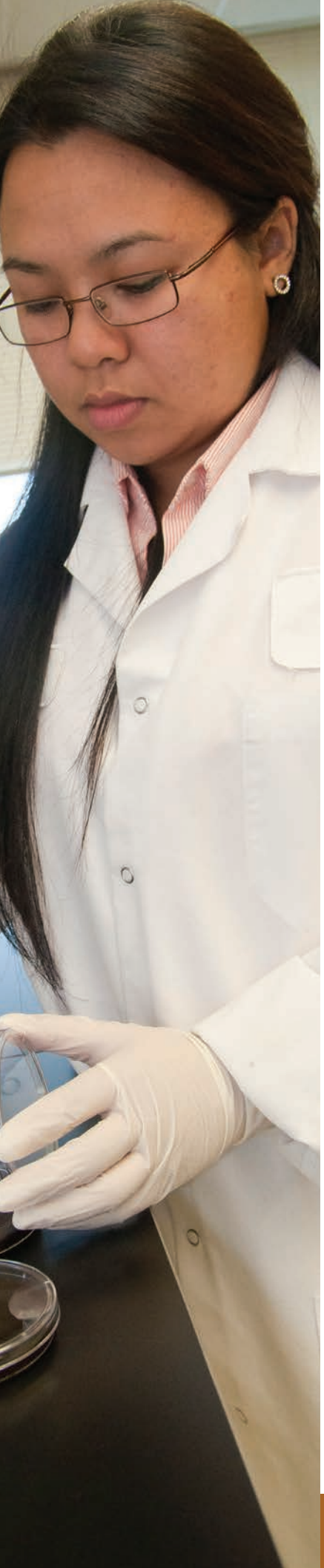
A highly skilled and diverse workforce is an organization's most important asset. Without training and retaining the right people, in the right jobs, with the right skills, an organization cannot succeed. FSIS intends to maintain and enhance its already talented and skilled workforce by using several strategies focused on training the workforce of today and tomorrow. To this end, FSIS recently initiated a leadership assessment program and developed FSIS-specific technical and leadership competency models to serve as a springboard for enhanced training development.

- MEASURE 3.1.2.1: % increase in knowledge gained in key occupations within 180 days
- MEASURE 3.1.2.2: % of the workforce for which skill gaps have been assessed

To date, FSIS has established formalized expectations and certifications, where appropriate, in mission critical occupations, either because of Government-wide or specific occupational requirements. FSIS will maintain these training expectations while expanding programming to additional critical and non-mission critical occupations, and by utilizing best practices and internal and Departmental resources to develop traditional and innovative training modules that equate to more formalized training certification programs. To measure progress, FSIS will implement approaches to assess knowledge gained from these efforts.



[31] See Objectives 2.1.2 and 3.1.2 for related strategies.



As FSIS continues its work on identifying key competency gaps, it will support a range of training and development activities, including formal programs, refresher trainings, developmental assignments and details, annual recertification as required, and supporting external offerings to both maintain competencies and fill key gaps. This includes the following:

- Provide more innovative training and development offerings/ opportunities to improve leadership and management competencies in the areas of accountability, vision, problem-solving, and leveraging diversity.
- Further develop inspection and technical competencies in staff through new and expanded offerings, such as in data and information analysis, animal pathology, regulation compliance, consumer safety knowledge, and critical thinking.
- Provide opportunities through alternative delivery methods and approaches that are suitable to content and the audiences, such as through using Virtual Reality approaches and other new learning platforms that bring interactive elements to the classroom or workplace environment.

FSIS will continue to analyze and use FEVS results and employee responses to training, to advance content development and training delivery, and to accompany course development and delivery enhancements with improvements in analyzing training results to better interpret and measure actual training outcomes.

Objective 3.1.3

Ensure Equal Opportunity and a Diverse and Inclusive Environment

FSIS recognizes that its ability to ensure food safety depends on its workforce environment—and places great emphasis on building and maintaining a safe and fair work environment that ensures equal employment opportunity, values diversity and inclusion, and engages its employees. FSIS will promote Equal Employment Opportunity (EEO), civil rights, and diversity by striving towards achieving Model EEO Program status.[32] Key activities include the following:

MEASURE 3.1.3.1: % Alternative Dispute Resolution acceptance rate for formal and informal EEO complaints

MEASURE 3.1.3.2: % of employees completing mandatory training who satisfy EEO/CR competency requirements

[32] See Model EEO Programs.

- Ensure agency leadership is committed to EEO and that it is integrated into the agency's strategic mission and core values, including through annually issuing EEO and civil rights policy statements, and ensuring FSIS' Civil Rights staff is included in agency deliberations on strategic, human capital, and other key policy planning
- Continue to regularly review EEO programs and personnel policies and practices to ensure that FSIS complies with EEO laws and to identify potential barriers to equal employment, by conducting annual agency-wide barrier analyses and EEO compliance reviews of all program areas
- Enhance strategies related to ensuring fair, timely, and efficient processing of all EEO informal and formal complaints by continuing to properly resource its complaint management program.

A key focus will be to encourage early resolution of EEO complaints through additional Alternative Dispute Resolution (ADR) Program marketing and by including additional steps in the EEO process to offer ADR more aggressively to employees. In building on its efforts to regularly educate the workforce on EEO and civil rights and the benefits of diversity and inclusion, FSIS will also add to its existing training approach by assessing how employees have retained their learnings.

MEASURE 3.1.3.3: % improvement on key employee engagement FEVS questions

In addition to the above, FSIS will leverage and further implement strategies and activities that have been identified by cross-agency teams as well as management, and are aimed at increasing and enhancing employee engagement at all levels of the organization. To this end, FSIS will continue to utilize, communicate, and solicit feedback on annual FEVS results, and use an index of key questions from FEVS to measure progress. FSIS will also adopt relevant best practices to ensure meaningful leadership actions are taken on a regular basis, conduct additional analysis to pinpoint possible issues, and develop action plans each year that continue to push toward results that are more favorable. In addition, FSIS will continue to explore and implement activities that encourage an empowered and engaged culture, including through its "i-Impact FSIS" campaign, which aims to communicate each individual's "line of sight" from daily work activities to the FSIS mission.

Outcome 3.2
Improve Processes and Services

FSIS is committed to integrating continuous process improvement practices to ensure that it uses limited resources efficiently and effectively. FSIS intends to focus its efforts on streamlining human resources, acquisition, IT processes, records management, and associated services. This approach will include leveraging and expanding on existing efforts that FSIS has taken to improve internal processes and services, and efforts to acquire, collect, and maintain the data necessary to properly assess services across the business management landscape.

Objective 3.2.1

Enhance Efficiency and Effectiveness of Key Business Processes and Systems

Achieving excellence in business and management is key to FSIS' success. It is critical that FSIS has supportive practices and systems in place that are efficient and effective, and increasingly enable FSIS personnel—in particular its frontline workforce—to dedicate more of their time to day-to-day mission activities. Overall, FSIS will seek an improved understanding of, and rigorous alignment of, organizational business and management processes, data flows, and technology that support sound operations. FSIS will review its practices and systems to identify areas for improvements in human resources, IT, procurement, and records management processes while continuing to monitor other important functions to ensure high operational performance. FSIS will measure its success by assessing the time it takes to complete these processes effectively, recognizing variations in schedules set for different procurements and IT investments.

MEASURE 3.2.1.1a-c: % of defined process times met for hiring, procurement, and IT

Human resources: FSIS will continue to pursue hiring excellence goals through improving the end-to-end hiring process and time to hire. Activities will include assessing hiring timeframes and processes; and further developing materials, tools, and training that enable communications across programs and HR staff; and identifying any occupations or programs that are experiencing hiring process challenges and focusing on developing and implementing solutions in those areas. More broadly, FSIS will place special emphasis on better aligning strategic human capital management activities with government performance and results guidance, focusing on four key human capital systems—strategic planning and alignment, talent management, performance culture, and evaluation. Sound HR infrastructure will support these systems and enable enhanced communication, implementation, and assessment of associated policy, guidance, standard operating procedures, tools, information systems and education to promote continuous improvement.

Procurement: The agency will focus on improving long-term acquisition planning for investments necessary to facilitate efficiencies, timely execution, and quality outcomes. This will include developing and deploying a more comprehensive process that increases collaboration among program managers, contracting officers, and executive sponsors to achieve organizational goals. This will also include providing tools for managers to incorporate advance planning into the budget process by identifying appropriate project needs, timelines, success indicators and performance metrics, and procurement methods for known actions early in the program and budget development process.

IT: Timely strategic planning, monitoring, and performance evaluation are critical to developing and deploying successful and mission-supportive

systems and infrastructure. FSIS will work to deliver top-rated IT investments that leverage opportunities for shared service and cloud delivery, and will evaluate these investments and systems to ensure the agency makes needed improvements and keeps pace with key priorities. More modern systems will successfully provide technology platforms that leverage current and historical data, properly depict workflow and controls, are logically organized, and allow for data analysis that is supportive of many mission needs. In some cases, the agency will combine the functionality of multiple systems, and in other cases, will retire systems with little to no future organizational value.

FSIS will also employ an enterprise approach to manage all of the agency's electronic records as the agency transitions to electronic records management as its primary method of records preservation. This approach will involve IT staff, senior management, records managers, and all staff who create, receive, or handle electronic records to ensure compliance regarding information creation, maintenance (i.e., use, storage, and retrieval), and disposal, regardless of media.

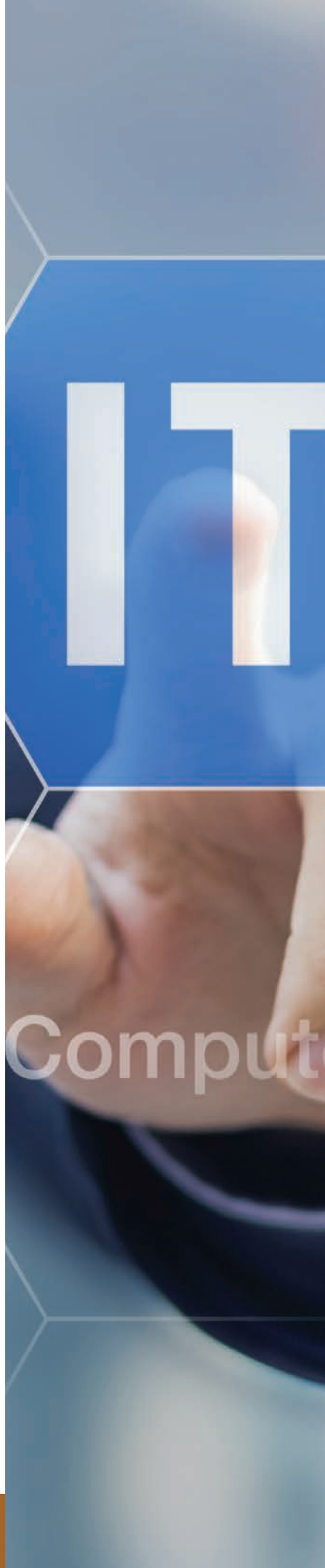
Objective 3.2.2

Improve Service Delivery

In parallel with the prior objective, FSIS recognizes that not only do efficient and effective systems, practices, and processes need to be in place, yet also that the delivery of high-quality services in a responsive manner—particularly, but not only, in acquisition management, human resources, and IT—is a critical component of achieving organizational excellence.

MEASURE 3.2.2.1a-d: % satisfaction with key FSIS services

Ensuring FSIS' employees—who are all over the country and at any given time can be found in several hundred or more locations—get what they need when they need it is not an easy task, regardless of organizational level. It is



paramount, at the field and in headquarters, that policy, process, and tools facilitate the accomplishment of efficient and effective results—FSIS must be able to get the right things done, at the right time, in the right way.

The agency will develop a more robust service standard with service and product delivery components and customer-facing roles and responsibilities that enable better responses to organizational needs, to facilitate the FSIS workforce being able to obtain the information and support its needs, while advancing productive working relationships. This service standard will promote collaboration and resolution for mutual benefit when conflicts or challenges arise.

FSIS will also provide tools for managers to incorporate these expectations into program and position standards, scorecards, accomplishment reports, and program briefings to better integrate service satisfaction into FSIS' organizational systems and business procedures, and will analyze and report on the results of customer satisfaction and employee surveys.

IT operations, including the FSIS Service Desk, are also vital in providing necessary support to agency employees. Customer satisfaction data will continue to help identify underperforming areas for quality and timely service improvements. Beyond FSIS Service Desk operations, FSIS will also work on key areas of improvement in governance, budgeting, program management, and organization and workforce as part of USDA's implementation of the Federal IT Acquisition Reform Act.[33]

FSIS will measure its progress in this area through a satisfaction index focused on hiring, procurement, IT, and training and development services derived from both internal and best practice survey mechanisms, as well as evaluating specific functional areas, when necessary, to identify potential improvements.[34]

[33] See P.L. 113-291, Subtitle D—Federal Information Technology Acquisition Reform (FITARA), for more information.

[34] Relevant measures in other objectives include percent of employees with online access to FSIS using approved equipment (2.2.1), and percent Alternative Dispute Resolution acceptance rate for formal and informal EEO complaints (3.1.3).

Appendix 1 Glossary

Terms and Definitions

Alternative Dispute Resolution (ADR)

ADR is a procedure designed to bring together the disputing parties in a complaint in order to provide them an opportunity to resolve the dispute themselves with the assistance of a neutral third party.

Antimicrobial Resistance

Antimicrobial resistance occurs when microorganisms such as bacteria, viruses, fungi, and parasites change in ways that render the medications used to cure the infections they cause ineffective. In other words, it is the ability of microbes to resist the effects of drugs – that is, the germs are not killed, and their growth is not stopped.

Campylobacter

Campylobacter is a bacterium that causes intestinal infections that are generally mild but can be fatal among very young children, elderly, and immunosuppressed individuals.

E. coli O157:H7 (***Escherichia coli*** O157:H7)

E.coli is a bacterium that, if transmitted in humans by foods, animal contact, or drinking water, can cause bloody diarrhea, and can also lead to hemolytic uremic syndrome, a life-threatening disease.

Establishment

An establishment is any slaughtering, cutting, boning, meat canning, curing, smoking, salting, packing, rendering, or similar facility at which inspection is maintained under regulations of the Federal Meat Inspection Act, Poultry Products Inspection Act, Egg Products Inspection Act, and the Humane Methods of Slaughter Act.

Food Safety Assessments (FSAs)

An FSA assesses and analyzes an establishment's food safety system to verify that the establishment is able to produce safe and wholesome meat or poultry products in accordance with FSIS statutory and regulatory requirements.

Foodborne Illnesses

Foodborne illnesses are illnesses caused by pathogens that enter the human body through foods.

Foodborne Outbreak

A foodborne outbreak is an occurrence of two or more people experiencing the same illness after eating the same food.

Foodborne Pathogens

Foodborne pathogens are disease-causing microorganisms found in food—usually bacteria, fungi, parasites, protozoans, and viruses.

Hazard Analysis and Critical Control Points (HACCP)

HACCP is a scientific system for process control that has long been used in food production to prevent problems by applying controls at points in a food production process where hazards could be controlled, reduced or eliminated.

Humane Handling

Per the Humane Methods of Slaughter Act, the slaughtering of livestock and the handling of livestock in connection with slaughter shall be carried out only by humane methods. The Code of Federal Regulations (9 CFR 313) requires that animals are cared for in a manner identified as humane during the holding, movement, and handling of livestock in slaughter facilities leading up to slaughter. The Act requires that animals are rendered insensible to pain by a single blow or gunshot or an electrical, chemical or other means that is rapid and effective, before being shackled, hoisted, thrown, cast, or cut; or by slaughtering in accordance with the ritual requirements of the Jewish faith or any other religious faith that prescribes a method of slaughter whereby the animal suffers loss of consciousness by anemia of the brain caused by the simultaneous and instantaneous severance of the carotid arteries with a sharp instrument and handling in connection with such slaughtering.

Listeria monocytogenes (Lm)

Lm is a pathogenic bacterium that can be carried in a variety of foods such as dairy products, red meat, poultry, seafood, and vegetables.

Not-ready-to-eat (NRTE)

NRTE is a meat or poultry product that is in a form that is not safe to consume without additional preparation to achieve food safety. NRTE product is required to bear safe-handling instruction (as required for non-RTE products by 9 CFR 317.2(1) and 381.125(b)) or other labeling that directs that the product must be cooked or otherwise treated for safety and can include frozen meat or poultry products (9 CFR 430.1).

Public Health Regulation (PHR) Early Warning Alert

FSIS uses decision criteria that include factors such as pathogen testing results, recalls, outbreaks, regulatory findings, and inspection results to prioritize its FSAs. Public Health Regulations (PHRs), formerly referred to as "W3NRs," are a subset of regulations associated with higher noncompliance rates in establishments in the 3 months before a pathogen-positive (*Salmonella*, *E. coli* O157:H7, Non-O157 STEC, *Lm*, or *Campylobacter*) or enforcement actions, than in establishments without pathogen-positives or enforcement actions. Using PHIS data, FSIS uses the results of inspection tasks to calculate a PHR non-compliance rate for each regulated establishment. A PHR Early Warning Alert is issued when an establishment has a noncompliance rate that is elevated and is at or exceeds the FSIS Noncompliance Cut Point for Early Warning.

Public Health Risk Evaluations (PHREs)

The PHRE is a new decisionmaking process that FSIS staff use to determine whether the FSIS District Office needs to schedule an FSA. The PHRE is a distinct, separate activity from the Food Safety Assessment (FSA). FSIS has a process whereby the District Office is provided a prioritized list of establishments for scheduling FSAs. The list is based on public health risk triggers, including whether an establishment has produced adulterated product, or whether an establishment has produced product associated with an outbreak.

Salmonella

Salmonella, the name of a group of bacteria, is one of the most common causes of food poisoning in the United States. The *Salmonella* family includes more than 2,300 serotypes of bacteria, which are one-celled organisms too small to be seen without a microscope. Two serotypes, *Salmonella Enteritidis* and *Salmonella Typhimurium*, are the most common in the United States. Strains that cause no symptoms in animals can make people sick, and vice versa. If present in food, *Salmonella* does not usually affect the taste, smell, or appearance of the food. The bacteria live in the intestinal tracts of infected animals and humans. Usually, symptoms last 4 to 7 days, and most people get better without treatment. However, *Salmonella* can cause more serious illness in older adults, infants, and persons with chronic diseases. *Salmonella* are killed by cooking and pasteurization.

Trace back

Trace back is a method used to determine the source and scope of the product/processes associated with the outbreak and document the distribution and production chain of the product that has been implicated in a foodborne illness or outbreak.

Trace forward

Once the source of an implicated food item is established, investigators may do a "trace forward," which is a method used to document the distribution of all implicated lots of food from the source.

Whole Genome Sequencing (WGS)

Whole genome sequencing is an advanced technique that determines the DNA sequence of microorganisms, and helps to differentiate them with greater detail than other contemporary technologies. In recent years, FSIS and other public health and regulatory partners in the United States began using whole genome sequencing as part of basic foodborne pathogen surveillance and strain identification during foodborne illness outbreaks. Similar to pulsed-field gel electrophoresis (PFGE), FSIS intends to implement the use of this technology for characterization of all FSIS isolates.

Organizations and Collaborations

FoodNet

The Foodborne Diseases Active Surveillance Network (FoodNet) conducts surveillance for *Campylobacter*, *Cryptosporidium*, *Cyclospora*, *Listeria*, *Salmonella, Shiga toxin-producing E. coli* (STEC) O157 and non-O157, *Shigella*, *Vibrio*, and *Yersinia* infections diagnosed by laboratory testing of samples from patients. The network was established in July 1995 and is a collaborative program among the Centers for Disease Control and Prevention (CDC); 10 State health departments—Connecticut, Georgia, Maryland, Minnesota, New Mexico, Oregon, Tennessee, and selected counties in California, Colorado, and New York; FSIS; and the U.S. Food and Drug Administration (FDA). FoodNet accomplishes its work through active surveillance; surveys of laboratories, physicians, and the general population; and population-based epidemiologic studies.

Food and Agriculture Government and Sector Coordinating Councils

In 2003, the Federal Government designated the Food and Agriculture Sector as a critical infrastructure sector, recognizing its significant contribution to national security and the economy. Since then, the sector has successfully built public-private partnerships that improved information sharing, created forums to share best practices, and developed tools and exercises to improve incident response and recovery. FSIS will continue to work with partners from the private sector, academia, and Federal, State, local, tribal, and territorial governments through the Food and Agriculture Government and Sector Coordinating Councils to promote voluntary adoption of food defense practices by FSIS-regulated establishments.

Interagency Food Safety Analytics Collaboration (IFSAC)

To enhance the safety of our food, three Federal agencies—CDC, FDA, and FSIS—teamed up in 2011 to create the Interagency Food Safety Analytics Collaboration (IFSAC). The goal of this collaboration is to improve coordination of Federal food safety analytic efforts and address crosscutting priorities for food safety data collection, analysis, and use. The current focus of IFSAC's activities is foodborne illness source attribution, defined as the process of estimating the most common food sources responsible for specific foodborne illnesses.

Interagency Risk Assessment Consortium (IRAC)

This consortium consists of representatives from U.S. Government agencies, institutes and centers with food safety responsibilities. Through the IRAC, the agencies collectively work to enhance communication and coordination among the member agencies and promote the conduct of scientific research that facilitate risk assessments. Such research assists the regulatory agencies in fulfilling their specific food-safety risk management mandates.

The National Advisory Committee on Meat and Poultry Inspection (NACMPI)

This committee advises the Secretary of Agriculture on matters affecting Federal and State inspection program activities, including on food safety policies that will contribute to USDA's regulatory policy development.

National Advisory Committee on Microbiological Criteria for Foods (NACMCF)

This committee provides impartial scientific advice to Federal agencies to use in developing integrated food safety systems from farm to table and to ensure food safety in domestic and imported foods.

PulseNet

PulseNet is a national laboratory network, consisting of more than 83 laboratories in 7 U.S. regions and headquartered at the Centers for Disease Control and Prevention (CDC), that connects foodborne illness cases to detect outbreaks. PulseNet uses DNA fingerprinting, or patterns of bacteria making people sick, to detect thousands of local and multistate outbreaks. Since the network began in 1996, PulseNet has improved our food safety systems through identifying outbreaks early. This allows investigators to find the source, alert the public sooner, and identify gaps in our food safety systems that would not otherwise be recognized.

Laws

Egg Products Inspection Act (EPIA)

The Egg Products Inspection Act, passed by Congress in 1970, provides for the mandatory continuous inspection of the processing of liquid, frozen, and dried egg products.

Federal Meat Inspection Act of 1906 (FMIA)

Enacted June 30, 1906, as chapter 3913, 34 Stat. 674, and substantially amended by the Wholesome Meat Act 1967 (P.L. 90-201), the FMIA requires USDA to inspect all cattle, sheep, swine, goats, and horses when slaughtered and processed into products for human consumption.

Poultry Products Inspection Act of 1957 (PPIA)

Public Law (P.L. 85-172 dated August 28, 1957), amended by the Wholesome Poultry Products Act of 1968 (P.L. 90-492, August 18, 1968), requires USDA to inspect all "domesticated birds" (such as chickens, turkeys, ducks, geese, and guineas) when slaughtered and processed into products for human consumption.

Humane Methods of Slaughter Act (HMSA)

This Act amended the FMIA by requiring that all meat inspected at Federal establishments by FSIS, for use as human food, be produced from livestock slaughtered by humane methods in accordance with the Humane Slaughter Act of 1958. The 1958 Act required all livestock in the United States to be slaughtered humanely, except for Kosher, Halal, and other religious slaughter.

Tools and Systems

Consumer Complaint Monitoring System (CCMS)

CCMS is an electronic database used to record, triage, coordinate, and track all consumer complaints reported to the agency.

International Trade Data System (ITDS)

ITDS is an electronic information exchange capability or "single window" through which businesses will transmit data required by U.S. Government agencies for the importation or exportation of cargo.

National Antimicrobial Resistance Monitoring System (NARMS)

NARMS is a national public health surveillance system that tracks antimicrobial susceptibility among enteric bacteria from humans, retail meats, and food animals.

Public Health Information System (PHIS)

PHIS is FSIS' system designed to integrate data from all Agency systems and program areas for use as a tool that supports decisionmaking about inspection, sampling, policy, and other food safety activities to protect public health.

Appendix II Public Health Indicators

FSIS Contamination Rate Indicator

Definition of the Contamination Rate Indicator

The Contamination Rate Indicator measures the rate of microbial contamination in FSIS-regulated products.

Data FSIS Uses To Estimate the Contamination Rate Indicator

FSIS uses two primary data inputs to estimate the Contamination Rate Indicator:

- Results from FSIS' sampling programs provide the percentage of positive samples for individual establishments. The results are sufficiently representative of national rates to evaluate the following:
  - Prevalence rate of *Escherichia coli (E. coli)* O157:H7 in raw ground beef and *E. coli* and non-O157 STEC for specific components
  - Prevalence rate of *Salmonella* in specific raw chicken, turkey, and ground beef products
  - Prevalence rate of *Campylobacter* in certain subsets of raw chicken and turkey products
  - Volume-weighted percent positive of *Listeria monocytogenes (Lm)* and *Salmonella* in ready-to-eat (RTE) products
- An establishment's production volume, provided by FSIS inspectors, is used to weight the percentage of positive samples. Volume-weighted data are more representative of the national levels of contamination because the larger an establishment's production volume, the more it contributes to the overall national contamination rate.

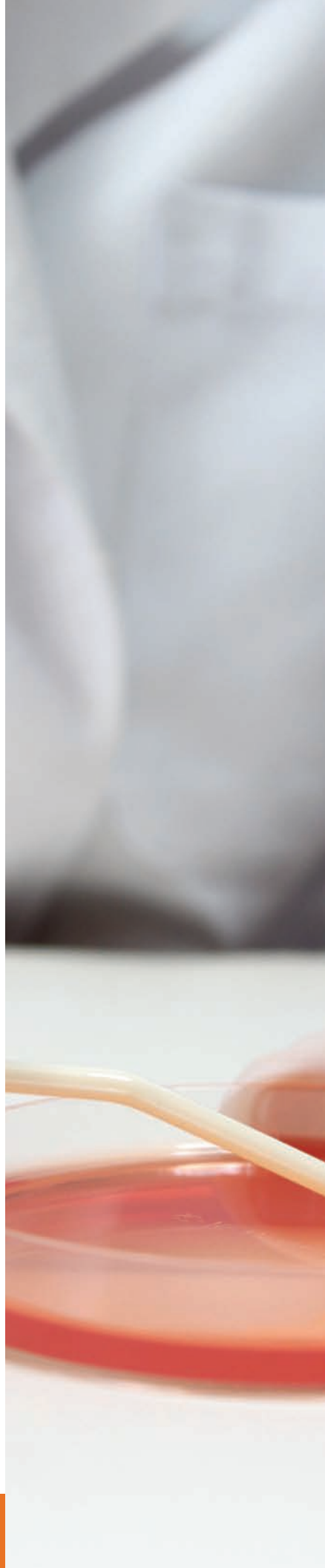
How FSIS Estimates the Contamination Rate Indicator

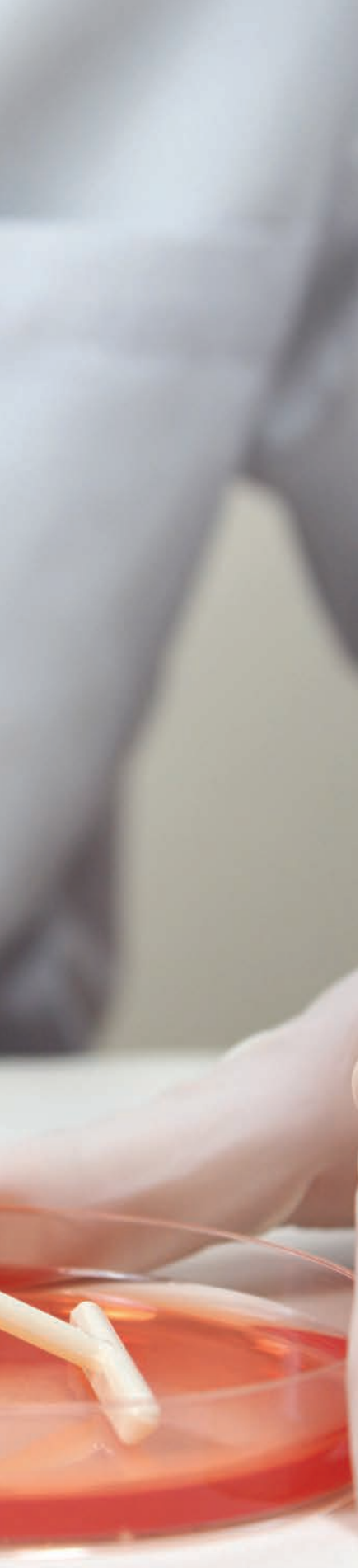
The Contamination Rate Indicator is calculated for individual product–pathogen pairs using the results from FSIS sampling programs. The percentage of positive samples for individual establishments are weighted by the establishment's product volume to estimate either the volume-weighted percent positive or, when the sampling is designed to be nationally representative, prevalence of a specific pathogen in a specific product. Year-to-year changes in the contamination rate can then be evaluated.

How FSIS Is Using the Contamination Rate Indicator During This 2017-2021 Strategic Plan Cycle

FSIS will use the Contamination Rate Indicator to track, on a quarterly or annual basis, changes in the contamination of FSIS-regulated products over time. A reduction in the microbiological contamination rate should lead to a decrease in illnesses by reducing consumers' exposure to foodborne pathogens and, therefore, provides FSIS with an indication of how it could be affecting public health. FSIS will continue to track contamination rates internally and to report those rates publicly on its website.

FSIS will continue to track progress in reducing contamination rates over time for the product–pathogen pairs listed above, and FSIS will track additional product–pathogen pairs as results from more sampling programs provide nationally representative results.





FSIS Illness Indicator

Definition of the Illness Indicator
The Illness Indicator is a suite of individual estimates of foodborne illnesses attributed to FSIS-regulated products.

- Number (estimate) of *Salmonella* illnesses from FSIS-regulated products.
- Number (estimate) of *Campylobacter* illnesses from FSIS-regulated products.
- Number (estimate) of *Listeria monocytogenes (Lm)* illnesses from FSIS-regulated products.
- Number (estimate) of *Escherichia coli (E. coli)* O157:H7 illnesses from FSIS-regulated products.
- Number (estimate) of non-O157 STEC illnesses from FSIS-regulated products.

Data FSIS Uses To Estimate the Illness Indicator
FSIS uses four primary data inputs to estimate the Illness Indicator:

- Centers for Disease Control and Prevention (CDC) FoodNet case rates.
- Attribution estimates using CDC Foodborne Disease Outbreak Surveillance System (FDOSS) data and two methodological approaches; the Interagency Food Safety Analytics Collaboration (IFSAC) harmonized attribution method for *Salmonella, Campylobacter, E. coli* O157:H7, and *Lm*; and the Painter et al., 2013 attribution estimate for non-O157 STEC illnesses, as IFSAC did not estimate an attribution fraction for non-O157 STEC in the analysis.
- U.S. Census Population Estimate.
- Scaling Factors, Scallan et al. 2011, which provides a pathogen-specific, fixed scaling factor.

How FSIS Estimates the Illness Indicator

FSIS calculates, for each pathogen, how many cases can be attributed to FSIS-regulated products using pathogen-specific CDC case rates and attribution fractions. Once the total number of foodborne illness cases associated with FSIS-regulated products is estimated, it is multiplied by the population estimate and the pathogen-specific FSIS scaling factor to arrive at a nationally representative estimate of foodborne illnesses associated with FSIS-regulated products. The illness estimates utilized at baseline were calculated using calendar year (CY) 2012 data, as that was the most recent year of data used in the IFSAC attribution methodology. New illness estimates for each pathogen will be produced annually. Data used will correspond to the most recent year of data utilized for the IFSAC attribution estimate. As a result, it is likely that FSIS will report illness estimates that lag at least 1 year behind the actual reporting year.

Limitations of the Data and Methods

The data and methods used to estimate foodborne illnesses are generally considered reliable, though limitations do exist, as with any data source or approach, with the CDC's FoodNet and FDOSS data and the IFSAC and Painter methodologies. Further, while FSIS' approach to only estimate illnesses for years in which the agency has all the available data it needs to perform the calculation allows for greater transparency, but it affects the timeliness of the indicator for performance measurement and decision-making. Given previous experience in using data inputs from various time periods to represent current year estimates, FSIS believes it is essential that all data are from the same time period to estimate illnesses.

FSIS will provide annual illness estimates associated with individual pathogens rather than a summary measure to ensure greater transparency on the pathogens causing the majority of estimated illnesses and provide a more granular assessment of agency progress.

How FSIS Is Using the Illness Indicator During This 2017-2021 Strategic Plan Cycle

FSIS will use the Illness Indicator to track, on an annual basis, foodborne illnesses associated with FSIS-regulated products, yet will not use it as a performance measure. That said, this indicator is an improvement from FSIS' previous All Illness Measure, as it utilizes new information—such as the IFSAC harmonized attribution methodology, and includes additional pathogens, such as non-O157 STECs and *Campylobacter*. FSIS must use multiple data sources as no one surveillance system captures all the needed information to estimate the percent of illnesses attributable to specific food products. As a result of these improvements, the new illness indicator estimates cannot be directly compared to the previous All Illness Measure estimates.

Appendix III: FSIS 2017-2021 Strategic Plan Performance Measures

Goal 1: Prevent Foodborne Illness and Protect Public Health

Outcome 1.1
Prevent Contamination

Objective 1.1.1

Drive Compliance with Food Safety Statutes and Regulations

MEASURE 1.1.1.1 % of establishments scheduled for a Public Health Risk Evaluation due to public health risk determinants

Agency Key Performance Indicator

This measure calculates the percentage of establishments scheduled for a Public Health Risk Evaluation (PHRE) out of the total number of establishments that are eligible for a PHRE. Establishments are scheduled based on specific public health criteria. Establishments are eligible for a PHRE by having at least one (1) performed Hazard Analysis Critical Control Point (HACCP) related task within the measurement timeframe, and an Establishment Status of "Active" in the FSIS Public Health Information System (PHIS). This measure was established because of the importance of PHREs as a tool to reduce and/or prevent contamination of regulated product.

MEASURE 1.1.1.2 % of country/product combinations from equivalent countries that FSIS tests for biological and chemical hazards

This measure calculates the percentage of all country/product combinations submitted through import reinspection. This measure is for re-inspections that are assigned lab analyses for biological and chemical hazards through PHIS. FSIS developed this measure because of the importance it places on sampling imports for microbiological and chemical hazards to reduce and/or prevent contamination of regulated product.

MEASURE 1.1.1.3 % increase in participation in FSIS outreach activities by foreign governments and officials

This measure counts the number of countries, and the number of foreign officials, that FSIS reaches with FSIS U.S. Codex Office (FSIS/USCO) outreach and education activities aimed at encouraging the adoption of science-based standards at the international level and in individual countries. Data is collected from participation records from FSIS/USCO-sponsored outreach events, educational seminars, and surveys of participants. FSIS developed this measure to assess the number of countries and foreign officials it is reaching with its outreach and education activities.

Objective 1.1.2

Strengthen Sampling Programs

MEASURE 1.1.2.1 % of products from establishments that FSIS samples

Agency Key Performance Indicator

This measure calculates the percent of product/establishment pairs in domestic production that are subject to sampling. Sampling directly informs FSIS about microbiological contamination rates and, by increasing the percentage of sampling, FSIS will have better data to pinpoint and prevent contamination.

Objective 1.1.3

Ensure Establishments Are Meeting Pathogen Reduction Performance Standards

MEASURE 1.1.3.1 % of establishments that meet pathogen reduction performance standards

Department and Agency Key Performance Indicator

This measure calculates the percentage of establishments meeting FSIS' pathogen reduction performance standards. For each pathogen/product pair with a performance standard, this measure is calculated by dividing the number of establishments that passed all of their included moving windows by the total number of establishments with at least one completed moving window that either passed or failed. Consistent with FSIS' approach to posting aggregate performance standard results for chicken parts and comminuted poultry, initial calculations will incorporate pre-verification sampling data from exploratory sampling through PHIS during completion of the first 52-week moving window. FSIS developed this measure because of the importance it places on using performance standards to help reduce and/or prevent the contamination of regulated product.

Objective 1.1.4

Promote Food Defense Practices

MEASURE 1.1.4.1 % of establishments that maintain food defense practices

This measure calculates the percentage of FSIS-regulated establishments that maintain food defense practices. This includes policies, procedures, and/or countermeasures that establishments put in place to mitigate the vulnerability to intentional adulteration at actionable steps in processing and manufacturing (or re-inspection and staging for import establishments), storage, and shipping and receiving. For import establishments, these tasks will include re-inspection and staging rather than processing/manufacturing. FSIS inspectors complete verification tasks to confirm that food defense practices are in place at establishments. FSIS developed this measure to reflect a modification to FSIS' approach to conducting food defense

verification tasks, both in terms of frequency and specificity, and aims to more directly consider the practices that establishments have in place to prevent intentional contamination of the food supply.

Outcome 1.2
Limit Illness From Regulated Products

Objective 1.2.1

Improve Food Safety at In-Commerce Facilities

MEASURE 1.2.1.1 % of in-commerce facilities that are following FSIS Deli Lm guidelines

This measure calculates the percentage of in-commerce firms that are following the eight most important public health actions (based on a September 2013 Interagency Risk Assessment of Lm in Retail Delicatessens) that retailers can take in the delicatessen (deli) area to control Listeria monocytogenes (Lm) contamination of ready-to-eat (RTE) meat and poultry products. FSIS compliance personnel determine how many delis are following FSIS recommendations through surveillance activities. This measure was developed due to the importance of the retail environment--and the potential positive impact of FSIS' in-commerce activities--in reducing Lm illnesses in the population.

Objective 1.2.2

Enhance Response to Foodborne Illness Outbreaks and Adulteration Events

MEASURE 1.2.2.1 # of State and local partners who, because of FSIS outreach efforts, can provide information that improves identification of contaminated product

This measure calculates how many State and local partners, as a result of FSIS' outreach efforts, indicate through questionnaire responses and other measurable communications that they have necessary information from FSIS—such as whom to contact and what information FSIS requires to launch and successfully carry out an outbreak investigation. To initially assess progress in achieving this measure, the agency developed and will use a questionnaire, intended for State partners, to gauge FSIS' effectiveness in providing partners the tools that they need to ensure early reporting for a rapid response. FSIS developed this measure because receiving adequate and timely epidemiologic information from State and local partners is critical for FSIS to advance its investigations or take other actions needed to identify and eliminate the source of contamination.

Objective 1.2.3

Increase Public Awareness of Recalls, Foodborne Illness, and Safe Food Handling Practices

MEASURE 1.2.3.1a-b % increase in public awareness of safe food handling guidance and recalls through communication channels

Agency Key Performance Indicator

This indexed measure tracks the public outreach that FSIS conducts to communicate recalls and the importance of safe food handling practices. Data are collected from a variety of impression and engagement statistics, including from stories in the media, FSIS Meat and Poultry Hotline inquiries, website traffic, social media, publications distributed, and applications downloaded. The measure counts impressions or engagements by type and a total is calculated, with a higher emphasis placed on high-impact activities. This measure is used to assess FSIS' outreach to consumers and helps the agency refine how best to reach consumers to prevent illness.

MEASURE 1.2.3.2 % increase in consumers identified who follow safe food handling behaviors

This measures calculates the percent increase in consumers who follow the safe food handling practice of "Clean, Separate, Cook, Chill"—the key food handling message that FSIS promotes to the public. FSIS will assess progress for this measure using data from consumer research studies, specifically a study of participants in a test kitchen, to assess how FSIS' educational messages on "Clean, Separate, Cook, Chill" impact how well consumers prepare FSIS-regulated products. FSIS developed this measure to better understand how FSIS education and outreach activities directly impact how consumers handle food and to inform and guide future education and outreach efforts.

Goal 2: Modernize Inspection Systems, Policies, and the Use of Scientific Approaches

Outcome 2.1
Improve Food Safety and Humane Handling Practices Through Adoption of Innovative Approaches

Objective 2.1.1

Modernize Scientific Techniques and Inspection Procedures

MEASURE 2.1.1.1 % of all isolates that FSIS sampling generates that are subject to Whole Genome Sequencing (WGS)

This measure calculates the percentage of isolates (the pure form of the pathogen) from FSIS samples that are sequenced using whole genome sequencing (WGS). WGS is a laboratory process that determines the complete DNA sequence of an organism's genome, which FSIS can use to inform inspection activities as well as improve the identification of food responsible for outbreaks. FSIS includes in this measure laboratory samples sequenced for regulatory sampling programs, the National Antimicrobial Resistance Monitoring System (NARMS) surveillance sampling program, special studies, and partner requests. FSIS developed this measure because the increased use of WGS will provide greater understanding of bacterial genomes and thus inform inspection activities as well as outbreak traceback activities.

MEASURE 2.1.1.2 % of establishments whose noncompliance rate decreases 120 days after receiving an Early Warning Alert

Department and Agency Key Performance Indicator

This measure calculates the percentage of establishments that improve their performance (fewer non-compliances) within 120 days of receiving a Public Health Regulation (PHR) Early Warning Alert. PHRs are a subset of regulations associated with higher noncompliance rates in establishments in the 3 months before a positive pathogen sampling result or enforcement actions, than in establishments without pathogen-positives or enforcement actions. FSIS uses the results of inspection tasks to calculate a PHR non-compliance rate for each regulated establishment and issues a PHR Early Warning Alert when an establishment has a non-compliance rate that is elevated and is at or exceeds the FSIS Noncompliance Cut Point for Early Warning. This measure was selected because of the importance FSIS places on the PHRs to prioritize Food Safety Assessments (FSAs) and track how effectively FSIS's inspection workforce reacts to and resolves public health issues, which should help reduce non-compliance.

Objective 2.1.2

Increase Adoption of Humane Handling Best Practices

MEASURE 2.1.2.1 % of slaughter establishments that are compliant with all livestock restraint and/or stunning requirements

This measure calculates the percentage of slaughter facilities that are 100 percent compliant with livestock handling and stunning requirements. To be 100 percent compliant, an establishment must not have any of the three enforcement actions: a Notice of Intended Enforcement (NOIE), a Suspension, or a Reinstatement of Suspension within the past fiscal year. Evaluating a shift in enforcement actions, rather than non-compliance reports (NRs), is the most effective measure for the humane handling goals because the agency is committed to reducing the occurrences of egregious acts (captured in enforcement action documents). FSIS developed this measure to assess continued efforts in enhancing awareness and adoption of humane handling best practices, in particular by small and very small plants, and track the

effectiveness of FSIS educational outreach, guidance, and enforcement actions. The target was designed to promote the full compliance of humane handling regulations.

Outcome 2.2
Enhance Access to Complete and Accurate Information to Inform Decisions

Objective 2.2.1

Improve the Reliability, Access, and Timely Collection and Distribution of Information

MEASURE 2.2.1.1 % of data analysts able to access, analyze, and visualize FSIS data

This measure calculates the percentage of FSIS data analysts who have access to and use FSIS' major data systems, such as PHIS, can and do analyze and visualize FSIS data using statistical or other software. FSIS will assess progress in achieving this measure through an annual survey of FSIS analysts. FSIS developed this measure because of its focus on continually modernizing the agency's use of scientific approaches.

MEASURE 2.2.1.2 % of employees with online access to FSIS-approved systems

This measure calculates the percentage of FSIS Federal employees with online access, such as connectivity or email services, to FSIS-approved systems. FSIS established this measure to reflect the importance of both field and headquarters employees having high-quality and reliable email and Web access.

MEASURE 2.2.1.3 # of establishment-specific and other FSIS datasets made publicly available

Agency Key Performance Indicator
This measure counts the number of establishment-specific, and other FSIS datasets, made publicly available on data.gov and the FSIS website, which at baseline, includes the Progress Reports on *Salmonella* and *Campylobacter* Testing, Summary of Recall Cases iand the Meat, Poultry, and Egg Inspection Directory. FSIS developed this measure to track progress in meeting the FSIS Establishment-Specific Data Release Strategic Plan and highlight the importance of FSIS' efforts to increase transparency through sharing agency data with the public.

Goal 3: Achieve Operational Excellence

Outcome 3.1
Maintain a Well-Trained and Engaged Workforce

Objective 3.1.1

Improve Recruitment and Retention for Mission Critical Positions

MEASURE 3.1.1.1 % mission critical positions filled

This measure calculates the percentage of mission critical positions FSIS has filled. FSIS is seeking an improvement in the percent of positions filled that also allow for enhancements in processes, training of new staff, and implementation of new initiatives to acquire and retain the workforce.

MEASURE 3.1.1.2 % of employees who remain with FSIS for 2 years or more

This measure calculates employee retention rate after 2 years, excluding retirements and terminations. FSIS developed this measure to help assess the effectiveness of retention incentives, to inform management views regarding overall employee satisfaction and engagement, and to monitor trends, including in specific occupations or demographic groups that may require new solutions to improve retention.

Objective 3.1.2

Enhance Training and Development Opportunities Across Competency Areas

MEASURE 3.1.2.1 % increase in knowledge gained in key occupations within 180 days

This measure calculates the increase in knowledge gained through training for mission critical occupations, including for Consumer Safety Inspectors (CSI), Public Health Veterinarians (PHV), and Enforcement Investigations and Analysis Officers (EIAO). FSIS will assess progress in achieving this measure through pre- and post-training assessments and surveys of employees and supervisors. FSIS developed this measure to better gauge training effectiveness.

MEASURE 3.1.2.2 % of the workforce for which skill gaps have been assessed

This indexed measure calculates the percentage of the FSIS workforce for which skill gaps have been assessed, as well as those being addressed. Indices include 1) % increase of the workforce having competency models;

2) % increase of the workforce for which skill gaps have been assessed, and 3) % increase of the workforce for which skill gaps have been addressed. FSIS selected this measure because of the importance of maintaining a well-trained workforce.

Objective 3.1.3

Ensure Equal Opportunity and a Diverse and Inclusive Envent

MEASURE 3.1.3.1 % Alternative Dispute Resolution acceptance rate for formal and informal EEO complaints

This measure calculates the percentage of Equal Employment Opportunity (EEO) cases where the aggrieved party or the complainant chooses to use Alternative Dispute Resolution (ADR) in an attempt to resolve the complaint. This measure is known as the ADR participation rate. For this measure, FSIS includes both informal and formal cases, weighted 3-to-1, respectively, as there are more informal complaints than formal complaints. FSIS developed this measure to assess its effectiveness in promoting ADR as a means to resolve complaints.

MEASURE 3.1.3.2 % of employees completing mandatory training who demonstrate EEO/CR competency requirements

This measure indexes the % of employees completing mandatory training with those who demonstrate Equal Employment Opportunity/Civil Rights (EEO/CR) competency requirements, with a far heavier weight on the latter component. FSIS will assess progress in achieving this measure through scenario-based and other assessment questions for employees to assess understanding of the material. FSIS developed this measure to help assess workforce comprehension and adoption of EEO/CR behaviors.

MEASURE 3.1.3.3 % improvement on key employee engagement FEVS questions

This measure indexes and weights eight key questions from the annual, Government-wide Federal Employee Viewpoint Survey (FEVS), as a proxy, to measure FSIS employee inclusion and employee engagement. The index blends questions from the FEVS Engagement, New IQ, and Satisfaction indices to inform the FSIS population on engagement, internal communications, satisfaction, and inclusion trends.

Outcome 3.2
Improve Processes and Services

Objective 3.2.1

Enhance Efficiency and Effectiveness of Key Business Processes and Systems

MEASURE 3.2.1.1a-c % of defined process times met for hiring, procurement, and IT

This indexed measure focuses on improving process times met for three business processes: hiring, procurement, and information technology (IT) projects. The hiring process component of this index measure focuses on increasing the percentage of hiring actions that meet the process time, while using a definition of process time that includes critical activities before a hiring action is submitted, such as development of a position description and vacancy announcement. The procurement process component of this index measure focuses on increasing the number of procurement projects that meet the target processing times. The IT process component calculates the process times for which the percentage of development, modernization, and enhancement investments are met. A range of FSIS, departmental, and third party data sources will be used in assessing process times. There are also several sub-components and assumptions for these measures. For example, FSIS anticipates new baselines and targets each year for procurement process measures. For IT process measures, FSIS intends to calculate the percentage of relevant IT development projects for which Earned Value Management (EVM) is maintained within the Department's required range, FSIS developed this measure to improve the execution of several key business processes.

Objective 3.2.2

Improve Service Delivery

MEASURE 3.2.2.1a-d % satisfaction with key FSIS services

This measure indexes information regarding employee satisfaction levels on key services—hiring, procurement, IT, and training. A range of FSIS, departmental, and third party data sources will be used in assessing services. FSIS will assess progress in achieving this measure through an FSIS-wide customer service survey, which will measure employees' perceptions of key aspects of services performance, such as timeliness, knowledge, and quality. FSIS developed this measure to promote future improvements or changes to FSIS' service performance in these key services areas, and to provide management with the necessary information and tools to make decisions that will lead to higher levels of employee satisfaction.

ACCOUNTABLE

FSIS holds itself accountable in fulfilling its regulatory mission and in serving the public interest.

COLLABORATIVE

FSIS actively promotes and encourages collaboration within our agency and with our partners to prevent illness and protect public health.

EMPOWERED

FSIS employees are empowered with the necessary training, tools, and approaches they need to make and carry out informed decisions that protect public health and promote food safety.

SOLUTIONS-ORIENTED

FSIS is committed to deploying effective, evidence-based solutions to ensure that the nation's food supply is safe.

October 2016