



November 2017

WORKPLACE SAFETY AND HEALTH

Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants

Accessible Version

GAO Highlights

Highlights of [GAO-18-12](#), a report to congressional requesters

Why GAO Did This Study

Meat and poultry slaughter and processing is one of the most hazardous industries in the United States. GAO was asked to review federal efforts to help ensure meat and poultry worker safety and health.

This report (1) describes the efforts OSHA has made to help ensure worker safety and assesses any challenges to these efforts, (2) examines how OSHA and FSIS have collaborated to ensure worker safety, and (3) assesses factors that may affect OSHA and FSIS efforts to protect workers from chemical hazards. GAO analyzed OSHA inspection data from 2005—when GAO last reported on this issue—through 2016. GAO also interviewed OSHA staff in headquarters and six field offices; officials at four other federal agencies; worker advocates; and industry representatives. GAO visited four plants and interviewed workers at six sites in five states selected based on factors such as meat or poultry production.

What GAO Recommends

GAO is making seven recommendations, including that OSHA encourage workers to disclose sensitive concerns and gather bathroom access information; OSHA and FSIS strengthen their MOU; and FSIS share worker safety information. OSHA had concerns about two of these recommendations and did not address one. FSIS expressed concerns but described planned actions to address the recommendations. GAO believes the recommendations should be fully implemented.

View [GAO-18-12](#). View a video of GAO's [review of meat and poultry worker safety](#). For more information, contact Cindy Brown Barnes at (202) 512-7215 or brownbarnesc@gao.gov.

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What GAO Found

The Department of Labor's Occupational Safety and Health Administration (OSHA) increased its annual inspections of the meat and poultry industry from 177 in 2005 to 244 in 2016. OSHA officials told GAO that this increase was related to several new enforcement programs focusing on the poultry industry, as well as new reporting requirements that prompt additional inspections. However, OSHA faces challenges identifying and addressing worker safety concerns because workers may be reluctant to contact OSHA for fear of employer retaliation, although employers are prohibited from doing so by federal law. If workers are afraid to share concerns, OSHA may not be able to identify or address conditions that endanger them. In particular, OSHA may not be aware of the scope of problems workers could face gaining timely access to bathrooms. When asked by GAO, workers in five selected states cited bathroom access as a concern and said they fear speaking up at work, where OSHA inspectors typically interview them. Taking additional steps to encourage workers to disclose sensitive concerns and gathering additional information to determine the scope of bathroom access issues could enable OSHA to better identify worker safety and health concerns.

OSHA's and the Department of Agriculture's Food Safety and Inspection Service's (FSIS) main vehicle for collaboration on worker safety is their 1994 memorandum of understanding (MOU), but efforts to implement and evaluate the MOU have been limited. The MOU outlines plans for collaboration, such as referrals of plant hazards to OSHA by FSIS inspectors, training of FSIS staff, and information sharing. OSHA and FSIS have taken some steps to implement the policies and procedures outlined in the MOU. However, GAO found issues with the MOU's implementation in these three areas, hampering achievement of the MOU's goals. For example, according to FSIS officials, FSIS inspectors may be reluctant to make referrals to OSHA about hazards in plants because they fear it could trigger an OSHA inspection of FSIS. Further, the agencies have not evaluated the implementation of the MOU. Evaluating the implementation of the MOU and making any needed changes would help ensure the goals of the MOU are met and further protect the safety and health of both plant workers and FSIS inspectors.

Gaps in federal efforts create challenges to protecting workers from certain chemical hazards. For example, depending on a chemical's intended use, it may not undergo a federal review of the risks it poses to worker safety and health before it is used in a plant. FSIS collects information on how to protect its inspectors from new chemicals, but it does not have a process to share this information with OSHA or plants, among others, so that plant workers can be similarly protected. By FSIS establishing a process to regularly share the worker safety information it collects, the federal government will be better positioned to use existing resources to support the safety and health of plant workers and FSIS inspectors.

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Abbreviations

BLS	Bureau of Labor Statistics
CPS	Current Population Survey
DOL	U.S. Department of Labor
EPA	Environmental Protection Agency
FDA	Food and Drug Administration
FFDCA	Federal Food, Drug, and Cosmetic Act
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FSIS	Food Safety and Inspection Service
IDLH	Immediately dangerous to life or health
MOU	Memorandum of understanding
MSD	Musculoskeletal disorders
NAICS	North American Industry Classification System
NIOSH	National Institute for Occupational Safety and Health
OMB	Office of Management and Budget
OSH	Occupational safety and health
OSH Act	Occupational Safety and Health Act of 1970
OSHA	Occupational Safety and Health Administration
PEL	Permissible exposure limit
SOII	Survey of Occupational Injuries and Illnesses
USDA	U.S. Department of Agriculture
VPP	Voluntary Protection Programs

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November 9, 2017

The Honorable Patty Murray
Ranking Member
Committee on Health, Education, Labor, and Pensions
United States Senate

The Honorable Robert C. Scott
Ranking Member
Committee on Education and the Workforce
House of Representatives

The Honorable Robert P. Casey, Jr.
United States Senate

Although injury and illness rates among workers at meat and poultry slaughter and processing plants declined from 2004 through 2015, according to U.S. Department of Labor (DOL) data, in 2015 the meat and poultry industry had the 8th-highest number of severe injury reports of all industries.¹ In 2016, we reported that workers in meat and poultry slaughter and processing plants continue to face hazardous conditions, including sharp knives used in close quarters, slippery floors, and chemical exposures.² In the 2016 report, we found that additional data are needed to address these hazardous conditions and recommended that DOL improve its data on musculoskeletal disorders and sanitation workers in the meat and poultry industry.

DOL's Occupational Safety and Health Administration (OSHA) is the federal agency charged with assuring safe and healthful working

¹ The severe injury report data do not include states that operate their own occupational safety and health programs. For the purposes of this engagement, "meat" generally refers to hog and cattle, and "poultry" generally refers to chicken and turkey. We use the term "meat and poultry industry" to refer to companies in the animal slaughtering and processing industry, North American Industry Classification System (NAICS) code 31161. The animal slaughtering and processing industry code includes animal (except poultry) slaughtering (NAICS code 311611); meat processed from carcasses (NAICS code 311612); rendering and meat byproduct processing (NAICS code 311613); and poultry processing (NAICS code 311615), which covers poultry slaughter and processing.

² GAO, *Workplace Safety and Health: Additional Data Needed to Address Continued Hazards in the Meat and Poultry Industry*, [GAO-16-337](#), (Washington, D.C.: Apr. 25, 2016).

conditions for the nation's workers.³ Some worker advocacy groups have expressed concern that OSHA has not effectively addressed hazards in the meat and poultry industry. Meat and poultry industry representatives have noted that OSHA could do more to support the industry's worker safety efforts. Food safety inspection personnel from the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS), which is responsible for ensuring the food safety of meat and poultry products, are present in most plants and are also potentially vulnerable to workplace hazards. Some FSIS officials and worker safety advocates have expressed concern about the increasing use of antimicrobials such as peracetic acid, which are used to kill microorganisms or stop their growth.

You asked us to review issues related to worker safety in meat and poultry slaughter and processing plants. This report (1) describes the efforts OSHA has made to help ensure meat and poultry workers' safety and health, and assesses what, if any, challenges OSHA faces in carrying out these efforts; (2) examines how OSHA and FSIS have collaborated to help ensure meat and poultry worker safety and health; and (3) assesses any factors that may affect OSHA and FSIS efforts to protect meat and poultry workers from chemical hazards.

To address all three objectives, we reviewed relevant federal laws, regulations, and documentation, and we interviewed officials from OSHA and FSIS. We also interviewed and reviewed information from additional stakeholders, including experts in issues related to worker safety, as well as representatives of worker advocacy groups. We visited four states—Arkansas, Georgia, Minnesota, and Texas—selected based on factors such as high production of meat or poultry and presence of an OSHA regional or area office.⁴ As appropriate for each state visit, we met with either local OSHA or state occupational safety and health (OSH) agency officials, as well as FSIS officials (including inspectors), industry representatives, experts in issues related to worker safety, and representatives of worker advocacy groups. We also visited four meat

³ In this report, we focus on two categories of workers: private sector meat and poultry plant workers, and federal Food Safety and Inspection Service inspectors who are present in the plants.

⁴ In Minnesota, the state is responsible for oversight of safety and health for private sector workers under a state plan approved by OSHA. In Arkansas, Georgia, and Texas, OSHA is responsible for overseeing occupational safety and health for these workers.

and poultry plants.⁵ We also conducted group and individual interviews with meat and poultry workers in six locations in five states: Arkansas, Delaware, Nebraska, North Carolina, and Virginia.⁶ We selected sites based on a variety of factors, such as states with a relatively high level of meat or poultry slaughter, and type of plant (meat or poultry). The information gathered from these interviews is not generalizable to all plants or all meat or poultry workers.

To examine the efforts OSHA has made to help ensure meat and poultry workers' safety and health, we also analyzed enforcement data from two OSHA databases: the OSHA Information System and OSHA Legacy Data. To assess the reliability of the data, we reviewed relevant agency documentation, conducted electronic data testing, and interviewed agency officials knowledgeable about these data. Based on these reviews, we determined that the data were sufficiently reliable for our purposes. We also interviewed representatives of the meat and poultry industry.

To examine how OSHA and FSIS have collaborated to help ensure meat and poultry worker safety and health, we also analyzed information on OSHA inspections of FSIS in meat and poultry plants, using the OSHA Information System and OSHA Legacy Data. In assessing agency efforts, we reviewed the 1994 memorandum of understanding (MOU) agreed to by OSHA and FSIS, and prior GAO reports that highlight interagency collaboration.⁷

To assess any factors that may affect OSHA and FSIS efforts to protect meat and poultry workers from chemical hazards, we reviewed Environmental Protection Agency (EPA), Food and Drug Administration (FDA), and FSIS processes for reviewing new chemicals, including any efforts to coordinate or share information; and reports dealing with chemical hazards. We also reviewed documentation and interviewed

⁵ We visited two plants in Minnesota, and one plant each in Arkansas and Georgia.

⁶ In North Carolina and Virginia, the state is responsible for oversight of safety and health for private sector workers under a state plan approved by OSHA. In Arkansas, Delaware, and Nebraska, OSHA is responsible for overseeing safety and health for these workers.

⁷ Memorandum of Understanding between DOL's OSHA and USDA's FSIS, February 4, 1994; GAO, *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*, [GAO-12-1022](#) (Washington, D.C.: Sept. 27, 2012); and GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005).

officials from OSHA's Salt Lake Technical Center regarding validated sampling and analytical methods for measuring chemicals used in plants. Further, we reviewed the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health's (NIOSH) health hazard evaluations to understand the extent of concerns related to chemicals and we reviewed NIOSH's research agenda and goals for studying chemicals and their potential impact on the safety and health of workers. We also interviewed representatives of the meat and poultry industry. See appendix I for more information on our objectives, scope, and methodology.

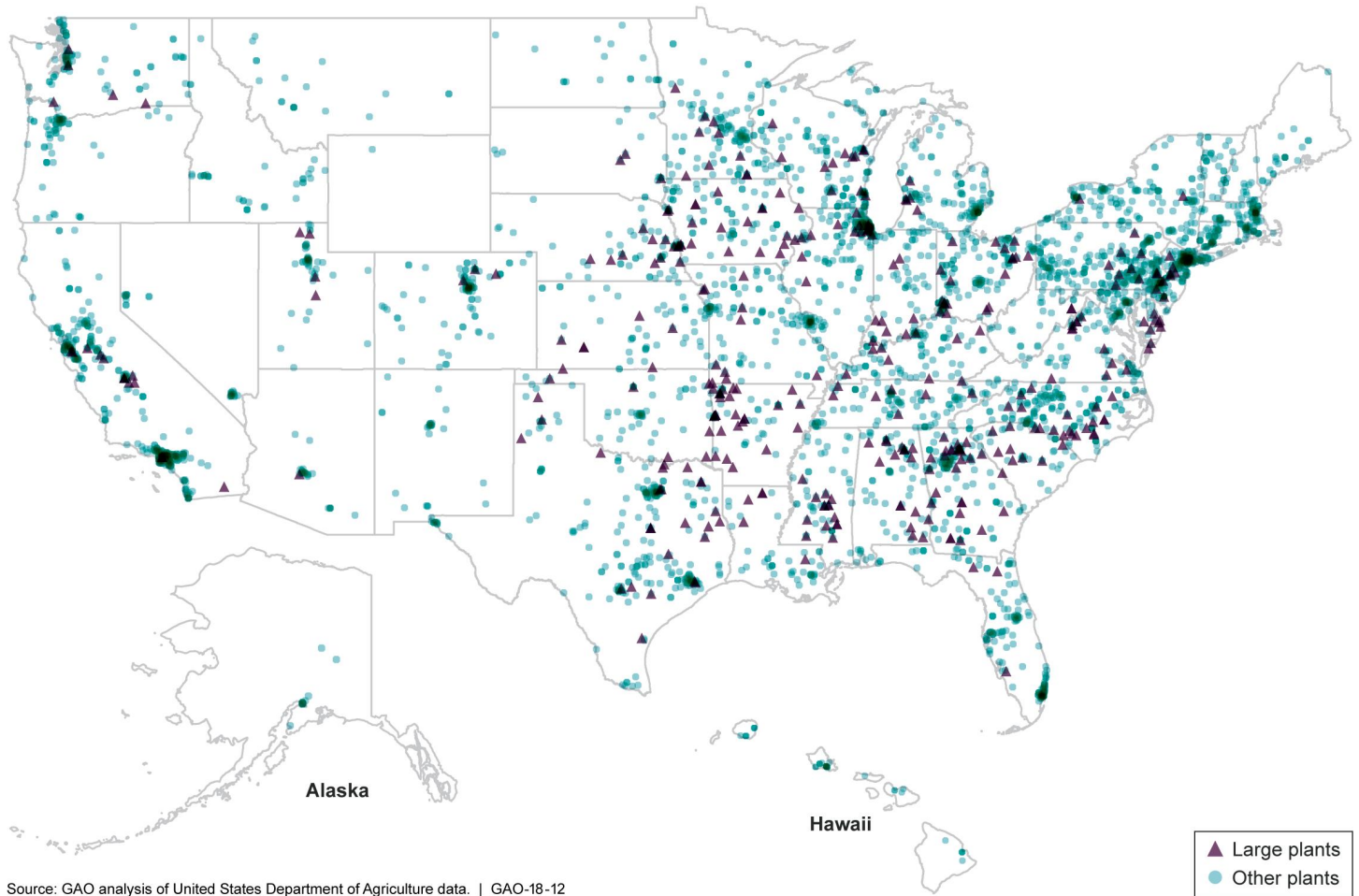
We conducted this performance audit from May 2016 to November 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

An estimated 481,000 workers were employed in the animal slaughtering and processing industry in 2016, according to the Current Population Survey, which is jointly sponsored by DOL's Bureau of Labor Statistics and the U.S. Census Bureau.⁸ There were 5,282 meat and poultry plants in the United States, of which 4,133 conducted processing only, 14 conducted slaughter only, and 1,135 conducted both slaughter and processing, as of February 2017, according to FSIS (see fig. 1). More than 30 million beef cattle, 117 million hogs, 243 million turkeys, and 8 billion chickens were slaughtered in the United States in 2016, according to USDA's National Agricultural Statistics Service data. As of June 2017, almost 7,500 FSIS inspectors worked in meat and poultry plants, according to FSIS. These inspectors are generally exposed to the same types of hazards as plant employees.

⁸ This estimate is an annual average and has a 95 percent confidence interval which ranges from 432,000 to 530,000.

Figure 1: Meat and Poultry Plants in the United States, as of February 2017



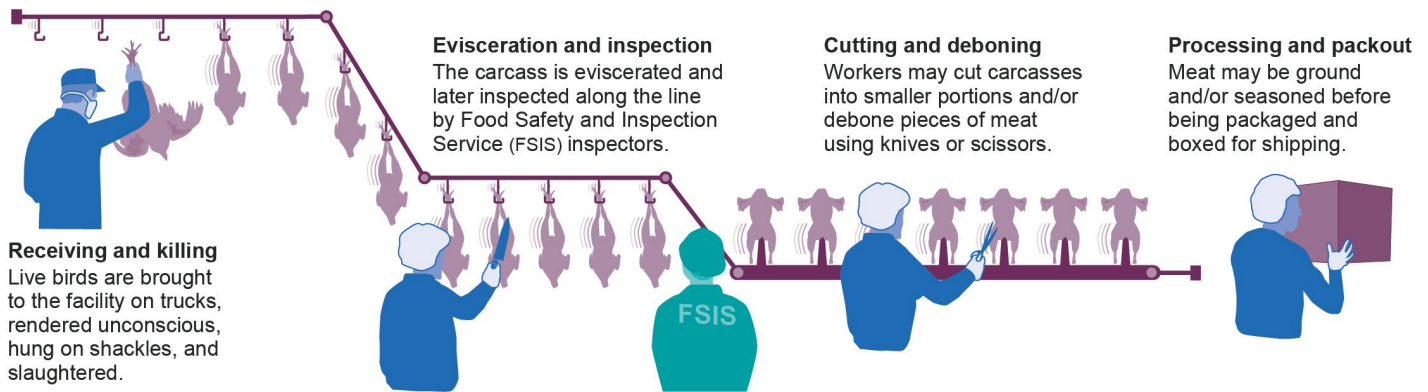
Source: GAO analysis of United States Department of Agriculture data. | GAO-18-12

Note: USDA defines large plants as those that have 500 or more employees.

Meat and poultry plants are generally designed for an orderly flow from point of entry of the living animal to the finished food product (see fig. 2). Typically, the animal is brought to the meat or poultry plant and taken to the kill floor area, where the animal is rendered unconscious and slaughter occurs. Workers and machines behead and eviscerate the animal, among other things, after which it is chilled for several hours. FSIS inspectors ensure that the carcass meets federal food safety standards. Workers and machines then process the carcass and may break it into small portions that can be transported directly to supermarkets. Slaughter and processing of meat and poultry require workers to perform a high number of repetitive motions. Although plants

have increased automation, much of the work is still done by hand using saws, knives, and other tools.

Figure 2: Example of Activities along a Slaughter and Processing Line at a Poultry Plant



Source: GAO analysis of information from Occupational Safety and Health Administration, National Chicken Council, FSIS, and National Institute for Occupational Safety and Health. | GAO-18-12

Federal Roles Related to Meat and Poultry Worker Safety and Health

OSHA helps ensure safe and healthful working conditions for workers in the meat and poultry industry and other industries, in part by setting and enforcing workplace safety and health standards. To carry out its responsibilities under the Occupational Safety and Health Act of 1970, as amended (OSH Act), OSHA establishes workplace safety and health standards; conducts inspections; investigates complaints from workers and reports of fatalities and severe injuries at worksites; and offers cooperative programs, training, and outreach, among other efforts.⁹ OSHA is responsible for enforcing private sector employers' compliance with these standards in about half the states, while the remaining states have assumed that responsibility under a state plan approved by OSHA.¹⁰

⁹ See generally 29 U.S.C. § 651 *et seq.*

¹⁰ The states where OSHA is responsible for enforcing private sector compliance include: Alabama, Arkansas, Colorado, Connecticut, Delaware, Florida, Georgia, Idaho, Illinois, Kansas, Louisiana, Maine, Massachusetts, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Dakota, Texas, West Virginia, and Wisconsin. OSHA is also responsible for private sector enforcement in the District of Columbia and the following territories: American Samoa, Guam, the Northern Mariana Islands, and the U.S. Virgin Islands.

These “state-plan states” adopt and enforce their own standards (which must be “at least as effective” in providing safe and healthful employment conditions as the federal standards).¹¹ With respect to federal employers, federal agencies are generally required to establish and maintain a comprehensive and effective occupational safety and health program that is consistent with OSHA’s standards.¹² OSHA is generally responsible for inspecting federal employers in all states, including state-plan states.

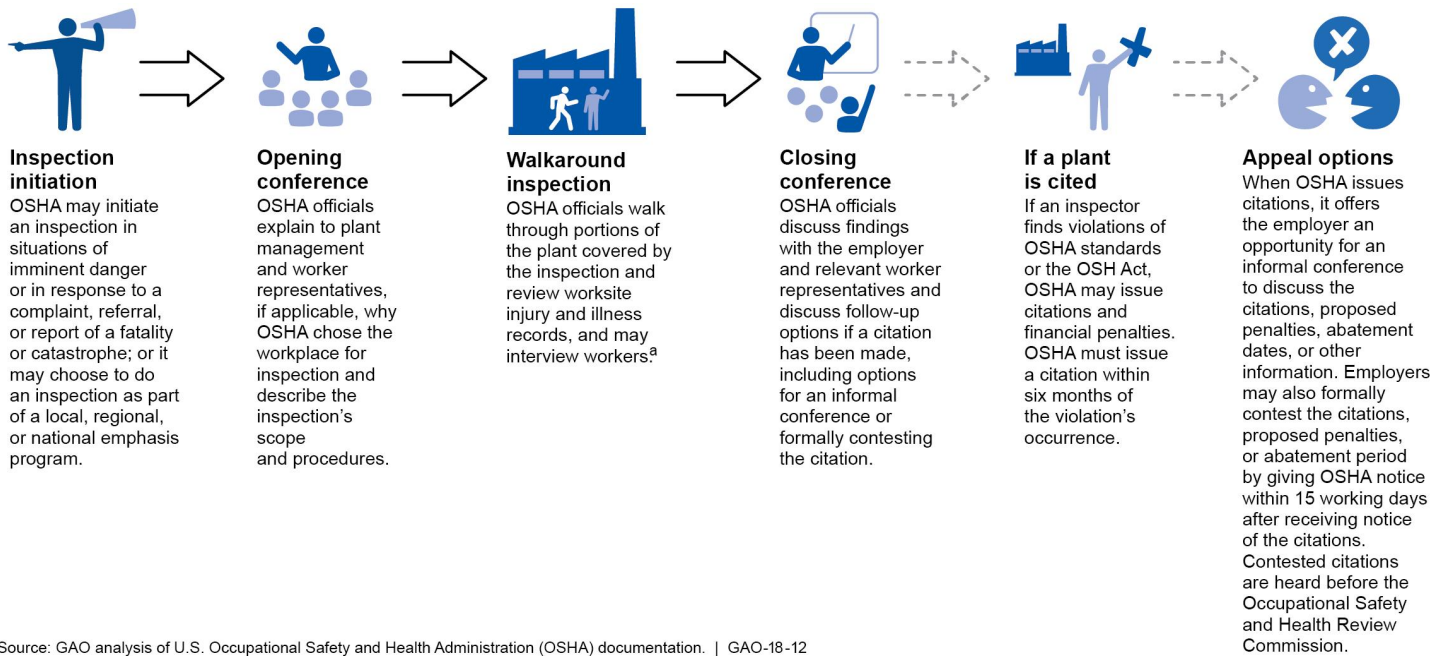
As part of its enforcement, OSHA conducts on-site inspections of federal and non-federal employers, collecting evidence through methods such as observation, document review, and interviews.¹³ Steps in an inspection may include an opening conference, a walkaround by inspectors, worker interviews, and a closing conference. Based on evidence developed during the inspection, OSHA evaluates whether the employer has violated any safety or health standards. The inspection may result in issuance of a citation if appropriate, and possible appeals by the employer (see fig. 3).

¹¹ 29 U.S.C. § 667, 29 C.F.R. pt. 1952. These states include Alaska, Arizona, California, Hawaii, Indiana, Iowa, Kentucky, Maryland, Michigan, Minnesota, Nevada, New Mexico, North Carolina, Oregon, South Carolina, Tennessee, Utah, Vermont, Virginia, Washington, and Wyoming. One territory, Puerto Rico, is responsible for private sector enforcement. In 2016, state-plan states accounted for about 26 percent of chicken production, 59 percent of turkey production, 15 percent of cattle production, and 57 percent of hog production, according to USDA slaughter summary data. (Some state totals were withheld to avoid disclosing data on individual operations.)

¹² 29 U.S.C. § 668. Executive Order 12196, issued on February 26, 1980, 45 Fed. Reg. 12,769 (Feb. 27, 1980), prescribes executive branch agencies’ and OSHA’s responsibilities. 29 C.F.R. Part 1960 contains OSHA’s regulations for federal agency programs.

¹³ See generally 29 U.S.C. §§ 657-659 and 29 C.F.R. pt. 1903.

Figure 3: Steps in and Potential Outcomes of an Occupational Safety and Health Administration (OSHA) Inspection



Source: GAO analysis of U.S. Occupational Safety and Health Administration (OSHA) documentation. | GAO-18-12

Note: OSH Act = Occupational Safety and Health Act of 1970

^aEmployee representatives may accompany inspectors.

Although OSHA does not fine federal agencies, it does monitor these agencies and conducts federal workplace inspections in response to workers' reports of hazards.¹⁴ Since workers at meat and poultry plants include both plant employees and FSIS employees, OSHA officials may inspect FSIS, the plant employer, or both when it receives a complaint or referral about hazards at the plant.¹⁵

OSHA conducts both programmed and unprogrammed inspections. Programmed inspections are planned based on injury incidence rates, previous citation history, or random selection. For example, OSHA's

¹⁴ If OSHA determines, as a result of an inspection, that a federal employer has committed a violation, OSHA issues a Notice of Unsafe or Unhealthful Working Conditions and does not assess a penalty.

¹⁵ For plants located in a state-plan state, OSHA has jurisdiction over the federal employees (FSIS inspectors), while the state agency is responsible for the private sector employees (plant workers). According to OSHA officials, if the agency receives a complaint related to a plant located in a state-plan state, OSHA will make a referral to the state OSH agency.

emphasis programs focus inspections on a particular safety or health hazard or a specific industry. Unprogrammed inspections are conducted in response to imminent danger, fatalities, worker complaints, referrals, and catastrophic events (such as hospitalizations).

FSIS inspects each meat and poultry carcass at the majority of meat and poultry plants throughout the United States. The Federal Meat Inspection Act and the Poultry Products Inspection Act give FSIS responsibility for ensuring the safety and wholesomeness of meat and poultry that enter interstate commerce.¹⁶ As a federal employer, FSIS is also required to establish and maintain a comprehensive and effective occupational safety and health program for its employees that is consistent with OSHA's standards. However, OSHA (or a state agency in a state-plan state) is responsible for overseeing the safety and health of non-federal plant workers. FSIS's Environmental, Safety, and Health Group administers FSIS's occupational safety and health program and investigates safety concerns of FSIS inspectors.¹⁷

Within the Department of Health and Human Services, NIOSH conducts occupational safety and health research and workplace evaluations, and makes recommendations to prevent worker injuries and illnesses.¹⁸ In 2016, we reviewed NIOSH evaluations on hazards in the meat and poultry industry such as those associated with musculoskeletal disorders (MSD), chemical exposure, and pathogens and animals, and recommended in our report that NIOSH conduct a study of the injuries and illnesses experienced by meat and poultry sanitation workers.¹⁹

In 1994, after a workplace fire in 1991 that killed 25 poultry workers in North Carolina, OSHA and FSIS signed an MOU on how the two agencies could work together on worker safety and health at meat and

¹⁶ See 21 U.S.C. § 601 *et seq.* and 21 U.S.C. § 451 *et seq.*

¹⁷ According to FSIS officials, the agency organizes circuit safety committees, made up of FSIS inspectors and supervisors, in each of its 200 circuits. Each circuit safety committee meets twice a year to provide feedback to two plants per year on potential hazards at the plant and ways to address them. The findings are referred to local FSIS management, who work with plant managers to correct the problems.

¹⁸ See generally 29 U.S.C. §§ 669-671.

¹⁹ [GAO-16-337](#). NIOSH concurred with our recommendation.

poultry plants.²⁰ The MOU outlines the policies and procedures the agencies agreed to use, including a process for FSIS to refer serious hazards to OSHA, plans for OSHA and FSIS to develop and implement training on hazard recognition for FSIS staff, an agreement to coordinate on the development of standards and share information on common concerns, and plans for evaluating implementation of the MOU.

Federal Role in Chemical Safety at Meat and Poultry Plants

Meat and poultry plants use chemicals such as antimicrobials to reduce potential contamination on food and machinery during processing. Antimicrobials may be sprayed directly on meat or poultry, or may be used to clean machinery. FSIS officials and worker advocates have raised worker safety concerns about peracetic acid, an antimicrobial chemical that is being used by the meat and poultry industry for both of these purposes. Peracetic acid has recently become the antimicrobial of choice, according to an FSIS official and a representative from an advocacy group. An FSIS official told us that this was because it is cheap and effective at reducing potential contamination on food. In addition, it is safe to use on food because it generally degrades before consumption, according to FDA officials.

FDA, FSIS, EPA, and OSHA all play a role in regulating the use of chemicals at meat and poultry plants. Under the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended, FDA approves food additives, which include antimicrobial food additives, to ensure the food to which they are applied is safe for human consumption.²¹ Antimicrobial food additives such as peracetic acid are applied to meat or poultry to reduce the incidence of human illness from food-borne pathogens, such as *Salmonella* and *Campylobacter*.

²⁰ 1994 Memorandum of Understanding between DOL's Occupational Safety and Health Administration and the Department of Agriculture's Food Safety and Inspection Service.

²¹ See 21 U.S.C. § 301 *et seq.* In general, FDA's approval process seeks to determine the safety of substances used in food, including food additives, and may prescribe safe conditions of use. A food additive is generally defined to include any substance the intended use of which results or may reasonably be expected to result, directly or indirectly, in its becoming a component or otherwise affecting the characteristics of any food (including any substance intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food).

FSIS reviews new ingredients and new technology, including new substances or new applications of substances, to determine whether they are safe and suitable for use in meat and poultry products.²² FSIS's review includes an assessment of whether the substance could affect food safety, FSIS regulations, inspection procedures, or the safety or health of FSIS inspection personnel.²³ FSIS coordinates its reviews of new ingredients with FDA's reviews, in accordance with an MOU between FSIS and FDA, most recently amended in January 2000.²⁴

EPA is responsible for regulating chemicals that meet the definition of a pesticide under the FFDCFA and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.²⁵ Peracetic acid meets the definition of an "antimicrobial pesticide" regulated by EPA when it is used to disinfect, sanitize, or inhibit the growth of microorganisms on surfaces and machinery used in meat and poultry plants.

OSHA may regulate the use of chemicals as part of its responsibility for overseeing workplace safety and health. For example, the hazard communication standard requires chemical manufacturers and importers to develop Safety Data Sheets that describe the chemicals' hazards and include information on safe handling, among other things. The standard also requires employers to ensure their employees have access to these

²² FSIS defines "new technology" to mean new, or new applications of, equipment, substances, methods, processes, or procedures affecting the slaughter of livestock and poultry or processing of meat, poultry, or egg products.

²³ FSIS Procedures for Notification of New Technology, 68 Fed. Reg. 6873 (Feb. 11, 2003). In reviewing new ingredients and technologies (including new or new applications of equipment, substances, methods, processes, or procedures affecting slaughter or processing), FSIS assesses their effectiveness in performing their intended purpose of use, and further reviews to ensure that the conditions of use do not result in an adulterated product, or one that misleads the consumer. FSIS maintains [FSIS Directive 7120.1](#), an up-to-date list of substances that may be used in the production of meat, poultry, and egg products.

²⁴ A copy of the MOU is available at <https://www.fsis.usda.gov/wps/portal/fsis/topics/regulations/directives/7000-series/mou-fsis-fda/>

²⁵ See 7 U.S.C. § 136 *et seq.* Before they may be sold, pesticides are generally required to be registered by EPA, which includes a review of risks to human health and the environment. Pesticides generally include any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.

sheets and to provide training on handling these chemicals appropriately.²⁶

Each agency has a different review or oversight responsibility. The same chemical may undergo different types of review, depending on its intended use in meat or poultry plants.²⁷ For example, as part of EPA's pesticide registration process, EPA conducts risk assessments to estimate the nature and probability of harmful effects on the environment and human health, which may include people who may be exposed to the pesticides through their work. FDA's review of antimicrobial food additives, as mentioned above, focuses on safety to consumers, and does not include a worker safety component.

OSHA Increased Meat and Poultry Industry Inspections Since 2005, but Faces Challenges Identifying Worker Concerns

²⁶ 29 C.F.R. § 1910.1200. OSHA also has a process safety management standard, which establishes requirements for the management of hazards associated with processes involving highly hazardous chemicals. 29 C.F.R § 1910.119. In addition, for some chemicals, OSHA has set a permissible exposure limit (PEL), which establishes the maximum level of the chemical that workers may be exposed to in a workplace. In 2014, OSHA issued a Request for Information, seeking stakeholder input about more effective and efficient approaches that address challenges found with the current regulatory approach, including considering issues related to updating PELs, as well as examining other strategies that could be implemented to address workplace conditions where workers are exposed to chemicals. Chemical Management and Permissible Exposure Limits (PEL), 79 Fed. Reg. 61,384 (Oct. 10, 2014). In the Unified Regulatory Agenda published in July 2017, OSHA stated that it was withdrawing this entry from the agenda while it considers appropriate strategies to address management of chemical hazards in the workplace.

²⁷ In 2014, we found that a number of federal agencies undertake toxicity assessments of chemicals used in the workplace and elsewhere, and that the activities of the five agencies we examined were fragmented and overlapping, but not duplicative. We identified cross-cutting coordination challenges and recommended that the National Science and Technology Council support agencies' efforts to address these challenges. This recommendation was implemented in 2015. GAO, *Chemical Assessments: Agencies Coordinate Activities, but Additional Action Could Enhance Efforts*, [GAO-14-763](#) (Washington, D.C.: Sept. 29, 2014).

OSHA Increased Its Annual Inspections Since 2005 and Provided Compliance Assistance

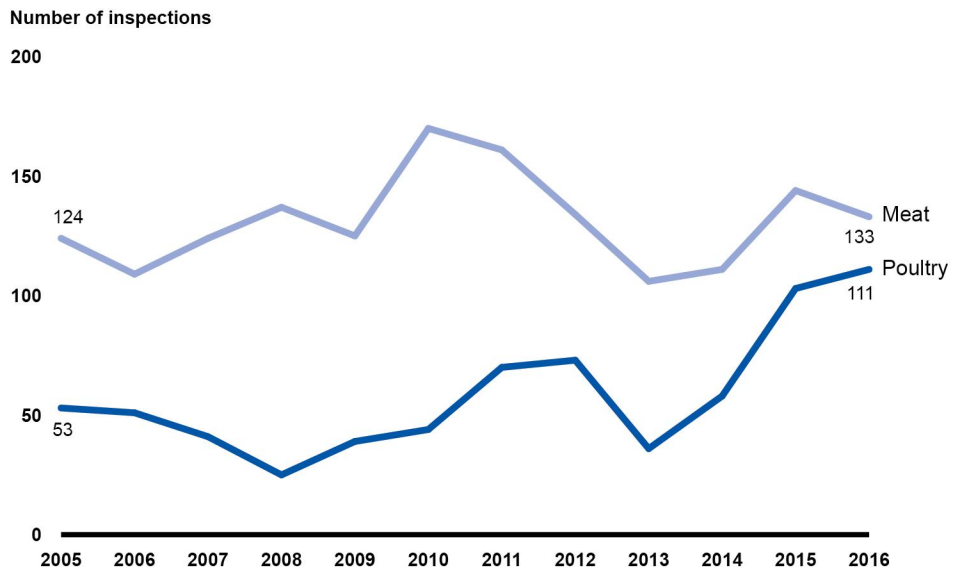
Inspections

OSHA's inspections of the meat and poultry slaughter and processing industry increased from 177 in 2005 to 244 in 2016, due primarily to an increase in poultry inspections (see fig. 4). Officials explained that the increase in meat inspections from 2009 to 2010 and poultry inspections from 2008 to 2012 were associated with increases in complaints during those time periods. OSHA officials said that all inspections decreased in 2013 partly due to the federal government shutdown that year. They added that poultry inspections increased from 2013 to 2016, which officials attributed to the introduction of new severe injury reporting requirements, as well as several emphasis programs focusing inspections on the poultry industry.²⁸ OSHA consistently conducted more meat than poultry inspections, due to the greater number of meat plants than poultry, according to OSHA officials.²⁹

²⁸ As of January 2015, employers covered by federal OSHA are required to report all work-related in-patient hospitalizations, amputations, and losses of an eye directly to OSHA within 24 hours. Occupational Injury and Illness Recording and Reporting Requirements—NAICS Update and Reporting Revisions, 79 Fed. Reg. 56,130 (Sept. 18, 2014) (revising 29 C.F.R. § 1904.39). The previous rule required employers to report hospitalizations of three or more employees directly to OSHA within 8 hours. Under the previous rule, amputations and losses of an eye were required to be recorded, but were not required to be reported to OSHA directly. The revised rule left in place the existing requirement that employers report all work-related fatalities to OSHA within 8 hours. OSHA conducts emphasis programs to focus outreach efforts and inspections on specific industries, hazards, or other workplace characteristics.

²⁹ In 2016, we reported that the meat slaughter and processing industry reports consistently higher rates of injury and illness than the poultry industry. [GAO-16-337](#).

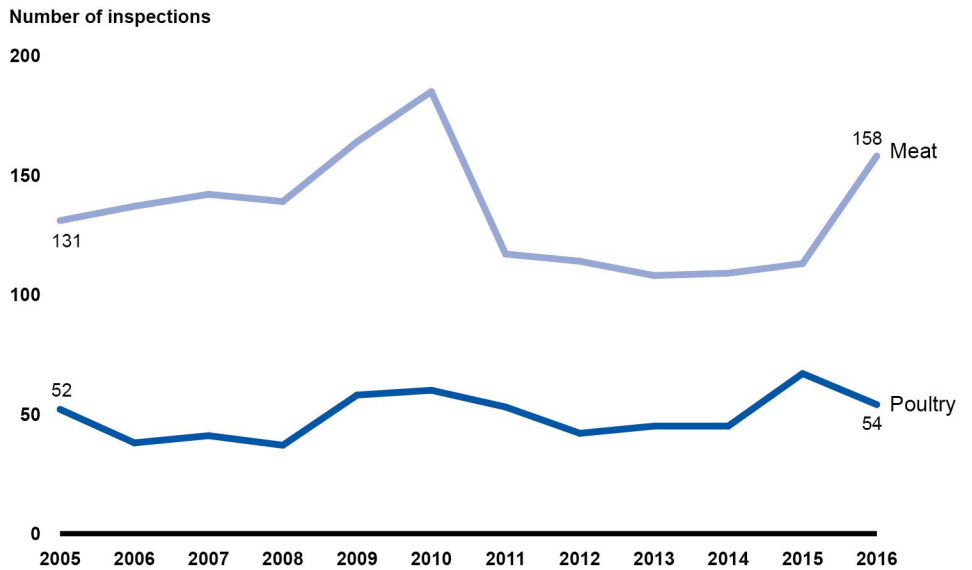
Figure 4: OSHA Meat and Poultry Plant Inspections, 2005-2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

In states with state OSH plans, inspection numbers increased from 183 inspections in 2005 to 212 in 2016, due primarily to an increase in meat inspections (see fig. 5). State-plan states conducted almost three times as many total meat inspections as poultry from 2005 through 2016. The number of state poultry inspections has remained steady over the time period, in contrast with the increase seen in federal OSHA poultry inspections. OSHA officials said they did not believe there is an overarching explanation for the trend in state-plan state inspections, because each state plan is independently run, and added that publicly available data show the increase in meat inspections from 2008 to 2010 could have been driven by a large increase in programmed inspections conducted by state-plan states during that time, along with increases in several types of unprogrammed inspections in 2010.

Figure 5: State Occupational Safety and Health Agency Meat and Poultry Plant Inspections, 2005-2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

Note: We use the term “State Occupational Safety and Health Agency” to describe the state agencies that oversee private sector worker safety and health in state-plan states, which have assumed this responsibility under a state plan approved by OSHA.

From 2005-2016, OSHA applied 76 emphasis programs—which focus on specific industries, hazards, or other workplace characteristics—in meat and poultry plant inspections, including emphasis programs focused on hazards related to amputations, industrial trucks and other vehicles, sanitation workers at food and beverage manufacturing plants, and highly hazardous chemicals.³⁰ In 2015 and 2016, OSHA initiated four regional and local emphasis programs specifically targeting worker safety

³⁰ OSHA may incorporate multiple emphasis programs into a single inspection, when applicable.

Example of a Programmed Inspection

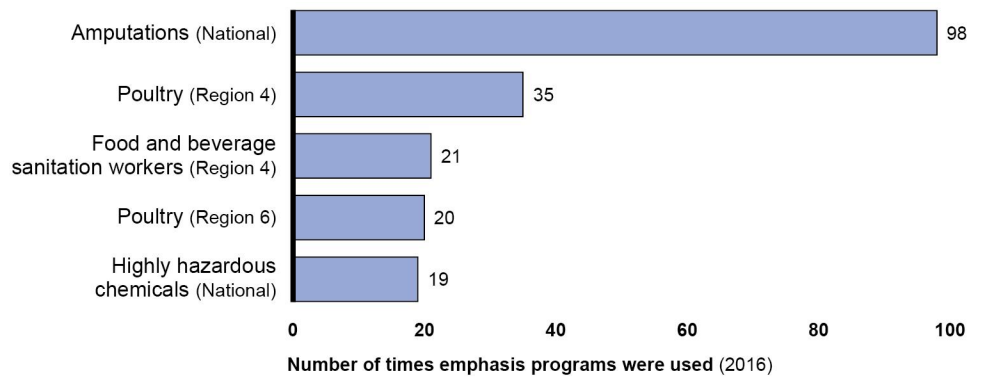
The Occupational Safety and Health Administration (OSHA) inspected a meat plant as part of its Process Safety Management (PSM) Covered Chemical Facilities National Emphasis Program in 2013. The PSM standard establishes procedures employers must follow to address hazards associated with using large amounts of hazardous chemicals. As part of the emphasis program, OSHA randomly selected workplaces from a list of establishments likely to have highly hazardous chemicals in quantities covered by the standard. OSHA cited the plant for 25 violations, including

- failing to inspect and test equipment
- failing to investigate an ammonia leak, and to investigate ammonia vapor releases from pipes and valves within 48 hours
- developing a process hazard analysis without input from at least one employee having experience and knowledge specific to the process being evaluated, and failing to ensure the findings of the process hazard analysis were resolved in a timely manner and actions documented
- failing to provide workers with an appropriate respirator for chlorine and sodium hydroxide releases
- failing to provide workers adequate training and information regarding the hazards of ammonia
- lack of control procedures to protect workers from electrical hazards and being struck or caught by machine parts
- exposing employees to trip hazards and potential electrical hazards by obstructing passageways
- failing to conduct fire, chemical release, and extreme weather evacuation drills.

Source: OSHA. | GAO-18-12

in the meat and poultry industry.³¹ These programs instruct inspectors to investigate potential hazards such as chemical exposure, noise, and ergonomic hazards. Two of the four programs also focus on issues such as bathroom access, temperature of the plant, and employer recording of injuries and illnesses, to check for recordkeeping violations.³² OSHA inspections incorporated three of these emphasis programs in 2016; the remaining program did not have inspections that year.³³ OSHA's most frequently used national and regional emphasis programs in meat and poultry plants in 2016 are shown below (see fig. 6).

Figure 6: Top Five Types of National and Regional Emphasis Programs Used by OSHA in Meat and Poultry Plant Inspections, 2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

Note: OSHA's emphasis programs focus inspections on specific industries, hazards, or other workplace characteristics. More than one emphasis program can apply to a single inspection.

³¹ These consist of three regional and local emphasis programs focused on the poultry processing industry in Regions IV (Atlanta, GA), VI (Dallas, TX), VII (Kansas City, MO), and a local emphasis program focused on the meat processing industry in Omaha, NE. In addition, three state-plan states (Indiana, Iowa, and Minnesota) and Puerto Rico have state emphasis programs in the meat and poultry industry.

³² OSHA regulations require covered employers to prepare and maintain records of certain work-related fatalities, injuries, and illnesses sustained by their workers. See 29 C.F.R. pt. 1904.

³³ According to OSHA officials, the poultry emphasis program in Region VII (Kansas City) did not have any inspections in 2016 because OSHA determined that more outreach was required prior to conducting inspections.

Example of Unprogrammed Inspections

Following the amputation of a worker’s finger at a poultry plant in 2016, the Occupational Safety and Health Administration (OSHA) conducted inspections and cited the company for multiple violations, including

- failing to ensure proper safety guards on moving machine parts, exposing workers to risk of getting caught in the machine
- failing to separate oxygen and fuel-gas cylinders, exposing workers to a fire hazard
- failing to provide personal protective equipment and not training employees on hazards associated with peracetic acid, which can cause burns and respiratory illness if not handled safely
- lack of proper drainage, putting workers at risk to slip and fall
- recessed drains, putting workers at risk to trip and fall.

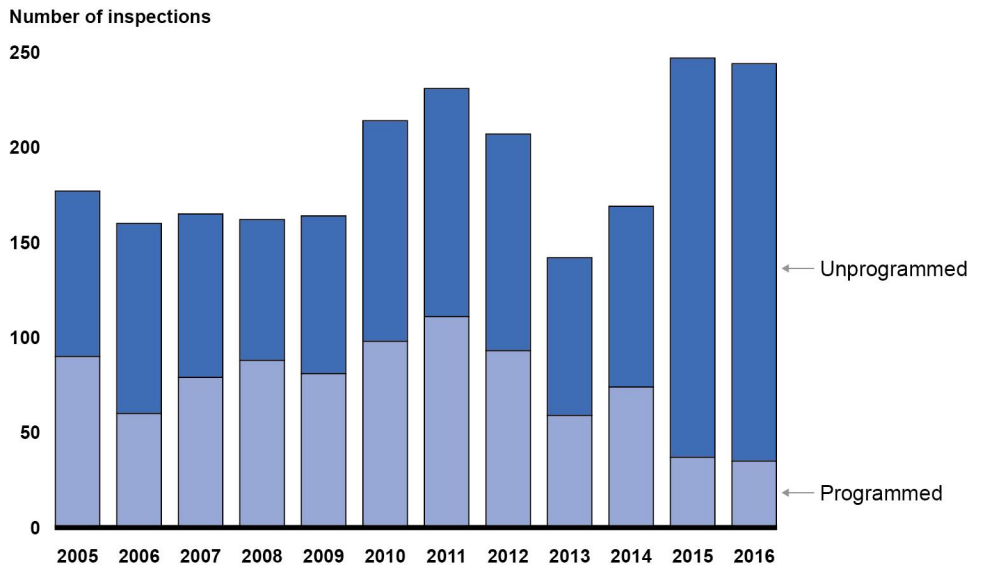
OSHA also issued a hazard alert letter describing workers experiencing respiratory problems and recommending the plant voluntarily take steps to reduce their exposure to peracetic acid.

Note: As of September 15, 2017, one of these cases was still open pending abatement of the violations, according to OSHA officials. After an inspection, OSHA may send an employer a hazard alert letter if the criteria for issuing a citation are not met, yet OSHA determines that the hazard warrants some type of notification.

Source: OSHA. | GAO-18-12

OSHA initiates unprogrammed inspections in response to required employer reporting of fatalities or severe injuries and complaints or referrals from sources such as employees, union representatives, media reports, or others. Unprogrammed inspections may include issues covered by a relevant emphasis program as well. OSHA’s unprogrammed inspections of the meat and poultry industry recently increased sharply—from 95 in 2014 to 210 in 2015—mainly due to the new severe injury reporting requirements (see fig. 7).³⁴ According to agency officials, OSHA decreased the number of planned programmed inspections in order to reallocate resources as the number of unprogrammed inspections increased.

Figure 7: OSHA Meat and Poultry Plant Inspections, by Inspection Type, 2005-2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

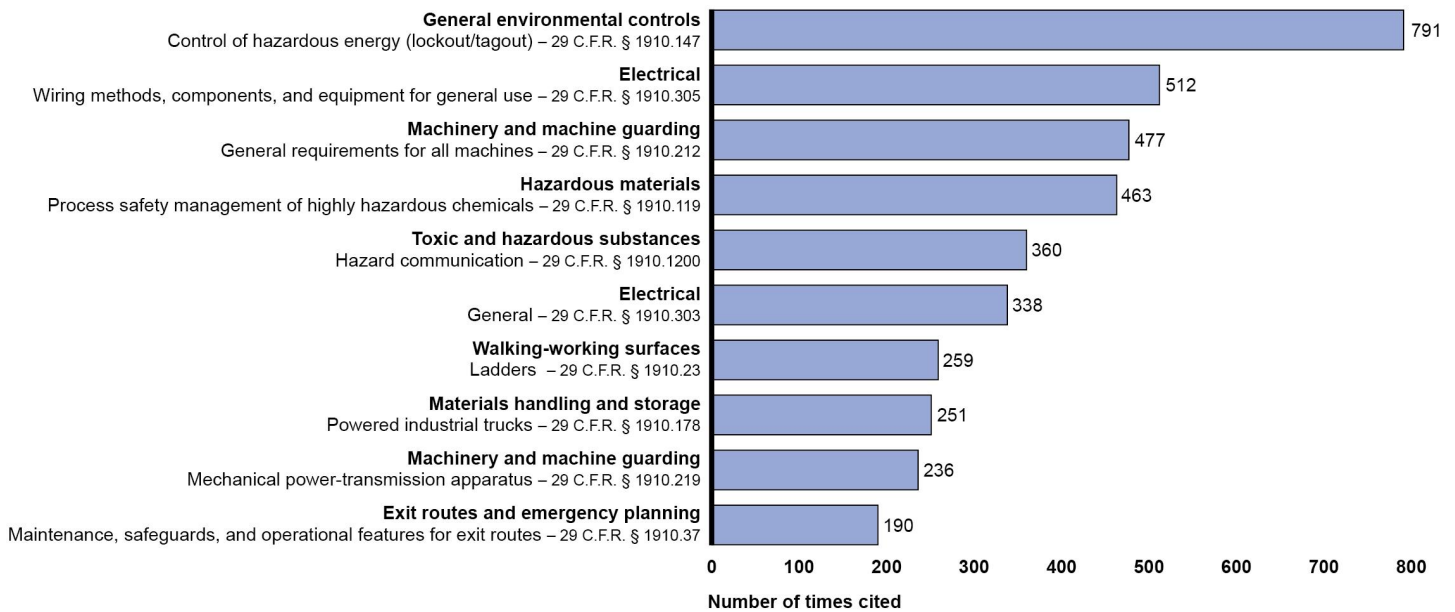
Note: Programmed inspections are planned based on factors such as injury incidence rates or previous citation history. Unprogrammed inspections are conducted in response to imminent danger, fatalities, and catastrophic events such as hospitalizations, worker complaints, and referrals. Changes to OSHA’s regulations, effective January 2015, require employers to report additional types of severe injuries to OSHA within 24 hours.

If OSHA determines that a meat or poultry plant has violated a workplace safety or health standard, it may cite the plant, specifying which standard or standards were violated (see fig. 8). The most frequently cited standard

³⁴ 79 Fed. Reg. 56,130 (Sept. 18, 2014).

for employers in the meat and poultry industry, the control of hazardous energy (lockout/tagout), relates to safely shutting down a machine, and ensuring it remains shut off, while the machine is being serviced.³⁵ OSHA inspects safety controls related to this standard as part of its emphasis program for amputations.³⁶

Figure 8: Top 10 Standards Cited by OSHA in Meat and Poultry Plant Inspections, 2005-2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) data. | GAO-18-12

Note: This figure may include citations that have been contested by the employer and are still pending. The control of hazardous energy (lockout/tagout) standard generally includes requirements related to safely shutting down a machine, and ensuring it remains shut off, while the machine is being serviced. The process safety management of highly hazardous chemicals standard generally includes requirements for preventing or minimizing the consequences of catastrophic releases of toxic, reactive, flammable, or explosive chemicals. The hazard communication standard generally requires employers with hazardous chemicals in their workplaces to provide certain safety information about the chemicals and train employees to use the chemicals safely. Each standard may contain multiple requirements, and this figure does not reflect which specific requirements were violated for each standard.

In cases where an applicable standard does not exist, OSHA may use the general duty clause of the OSH Act to cite a plant for exposing its

³⁵ 29 C.F.R. § 1910.147.

³⁶ We reported previously on meat and poultry workers' risk of experiencing amputations or other traumatic injuries while working with moving machine parts. [GAO-16-337](#).

employees to a hazard.³⁷ For example, OSHA does not have a specific standard related to ergonomic hazards, which may cause MSDs.³⁸ Workers we interviewed in all five states said they frequently experience pain related to postures or movements, and medical experts we interviewed said that meat and poultry workers experience high rates of MSDs.³⁹ Citing the general duty clause can be challenging and resource intensive due to the high burden of proof necessary to establish each element of the violation, such as the difficulty in showing that work hazards caused an injury, according to OSHA officials.

In 2016, OSHA proposed initial meat and poultry plant penalties with a median of \$7,000 and assessed final penalties with a median of \$4,900 for inspections where violations were found (see fig. 9).⁴⁰ Proposed

³⁷ The general duty clause requires employers to provide a workplace free from recognized hazards that are causing or are likely to cause death or serious physical harm to their employees. See 29 U.S.C. § 654(a)(1). OSHA cited meat and poultry plants for violating the general duty clause 144 times from 2005-2016.

³⁸ OSHA issued a final rule establishing an ergonomics standard in November 2000. Ergonomics Program, 65 Fed. Reg. 68,262 (Nov. 14, 2000). However, a joint resolution of disapproval was enacted on March 20, 2001, which invalidated the rule. Pub. L. No. 107-5, 115 Stat. 7 (2001). Under the Congressional Review Act, if a joint resolution of disapproval of a rule is enacted in accordance with certain procedures set forth in the Act, the rule shall not take effect (or shall not continue in effect). Further, the rule may not be reissued in substantially the same form, and a new rule that is substantially the same as such a rule may not be issued, unless specifically authorized by subsequent law. See 5 U.S.C. §§ 801-802.

³⁹ We previously reported on the difficulty of collecting accurate data on the prevalence of MSDs among workers in the meat and poultry industry and recommended that OSHA gather more complete data on MSDs. [GAO-16-337](#). In addition, a 2014 NIOSH health hazard evaluation of workers at one poultry plant found that over two-thirds of workers interviewed reported experiencing pain, burning, numbness, or tingling in their hands over the preceding 12 months. Kristin Musolin, et. al., *Evaluation of Musculoskeletal Disorders and Traumatic Injuries Among Employees at a Poultry Processing Plant* (NIOSH, CDC; March 2014).

⁴⁰ Among other penalty provisions, the OSH Act provides that employers cited for willful or repeated violations may be assessed a penalty of not more than \$70,000 for each violation, but not less than \$5,000 for each willful violation. Employers cited for a serious violation shall be assessed a penalty of up to \$7,000 for each violation, and employers cited for any violation not determined to be serious may be assessed a penalty of up to \$7,000 for each violation. See 29 U.S.C. § 666. The Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015 required agencies to annually adjust their civil penalties for inflation. Pub. L. No. 114-74, § 701, 129 Stat. 584, 599-601. OSHA's adjusted maximum penalties as of January 13, 2017 are \$126,749 per violation for willful or repeated violations, and \$12,675 per violation for serious and other-than-serious violations. See 29 C.F.R. § 1903.15. OSHA does not assign financial penalties to violations incurred by federal agencies.

penalties may be reduced after employers contest them before an administrative law judge, or as a result of negotiating penalty amounts with OSHA through an informal settlement process.⁴¹ A representative of one worker advocacy group we interviewed said lowering penalties weakens OSHA's deterrence capabilities. OSHA officials and one worker advocate said that allowing companies to negotiate lower penalties can benefit workers because it may result in companies agreeing to create safety programs or finding other solutions that improve worker safety.⁴² One OSHA official said that citations may affect a company's workers' compensation insurance rate, magnifying the financial impact of the violation.⁴³ According to OSHA officials, initial and final penalties increased in 2010 due to administrative adjustments that had the effect of raising penalties on average. We previously reported that, according to an OSHA official, OSHA increased penalties in 2010 after it determined that

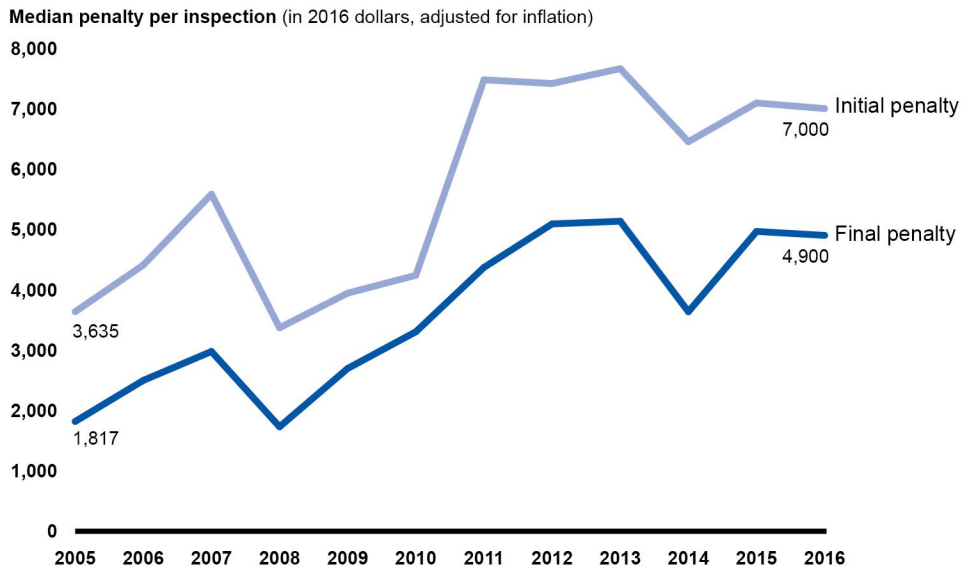
⁴¹ The OSH Act requires OSHA to provide the employer notice of the proposed penalty to be assessed within a reasonable time, and permits the employer 15 working days to notify OSHA of its intent to contest the citation, the proposed penalty, or the abatement period. Contested citations are heard before the Occupational Safety and Health Review Commission, which is an independent federal agency separate from OSHA. See 29 U.S.C. § 659. Under OSHA's regulations, employers or employees may request an informal conference to discuss any issues raised by an inspection, citation, notice of proposed penalty, or notice of intention to contest. See 29 C.F.R. § 1903.20. OSHA's Field Operations Manual sets forth OSHA's process for entering into informal settlement agreements before a citation is contested before the Review Commission. See OSHA, *Field Operations Manual, Directive number CPL 02-00-160*, effective date: August 2, 2016.

⁴² In 2010 the OSHA Inspector General found that OSHA had not effectively evaluated the impact of granting penalty reductions as an incentive for employers to improve workplace safety and health, and it recommended OSHA make a variety of improvements, including conducting such an evaluation. OSHA responded that undertaking this study would be too resource-intensive, given the complexity of the issue and the difficulty in establishing a causal relationship between penalty amounts and illness and injury rates. U.S. Department of Labor Office of Inspector General – Office of Audit, *OSHA Needs to Evaluate the Impact and Use of Hundreds of Millions of Dollars in Penalty Reductions as Incentives for Employers to Improve Workplace Safety and Health*, 02-10-201-10-105 (Washington, D.C.: Sept. 30, 2010).

⁴³ Workers' compensation programs for private sector workers, as well as state and local government workers, are run by workers' compensation boards at the state level, according to OSHA documentation.

penalties were too low to deter employer violations.⁴⁴ In addition, officials said that a few large penalties raised average penalties in 2010-2013.

Figure 9: Initial and Final Median Penalties for Closed OSHA Meat and Poultry Plant Inspections with Violations, 2005-2016



Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

Note: This figure does not include inspections where OSHA found no violations. The median inflation-adjusted penalties provided in this figure vary over time, likely due to a number of factors. First, inspections can take some time to close, and these data include only closed inspections. It is possible that inspections that take longer to close can result in penalties that are systematically different from penalties in other cases. Recent cases are more likely to still be open, which could affect the median penalty per inspection in those years. Second, in 2010, OSHA made administrative adjustments to their penalty adjustment factors, which raised penalties on average. Finally, other factors, such as the number of violations per inspection or the severity of violations, may also vary over time and affect trends in penalties per inspection. The Department of Labor adjusted OSHA penalties for inflation, effective after August 1, 2016, in response to the Federal Civil Penalties Inflation Adjustment Act Improvements Act of 2015.

⁴⁴ In addition, we reported that an OSHA official said that the agency recommended state-plan states match these penalty increases; however only two states had increased their penalties in response. Officials with the Occupational Safety and Health State Plan Association stated that OSHA had failed to provide empirical studies to show increased penalties were effective in deterring employer violations. They also said that state-run programs could achieve greater compliance with safety and health standards by increasing the likelihood of an inspection. GAO, *Workplace Safety and Health: Further Steps by OSHA Would Enhance Monitoring of Enforcement and Effectiveness*, GAO-13-61 (Washington, D.C.: Jan. 24, 2013).

Compliance Assistance

OSHA compliance assistance efforts during the years 2005-2016 included worker outreach through local foreign consulates, support for training meat and poultry workers, administering employer recognition programs, and supporting state consultation programs that provide technical assistance to small and medium-sized businesses. OSHA has not comprehensively tracked its compliance assistance activities in the past, but officials told us the agency launched a database module that started tracking these activities in fiscal year 2017.⁴⁵ Recent examples of OSHA's compliance assistance efforts related to meat and poultry plants include the following:

- OSHA officials stated that in fiscal years 2011-2015, states provided 558 on-site consultation visits, largely funded by OSHA, to small and medium-sized meat and poultry plants. The visits provide confidential safety and occupational health advice to small and medium-sized businesses in all states across the country, according to OSHA, with priority given to high-hazard worksites. These on-site consultation programs, at no cost to employers, work with employers to develop or maintain injury and illness prevention programs, which included assisting employers on identifying potential hazards to prevent injuries, according to OSHA officials.⁴⁶
- OSHA officials stated that, as of July 2016, six meat and poultry plants were participating in the Safety and Health Achievement Recognition Program, which recognizes small and medium-sized businesses that have used OSHA's on-site consultation program

⁴⁵ We previously reported that OSHA's voluntary compliance programs appear to have yielded positive outcomes, but the agency did not have adequate data to assess programs' effectiveness. We recommended that OSHA improve data collection and search for cost-effective approaches to assess the effectiveness of some of its voluntary compliance programs. Although OSHA reported that the agency took steps to do so, such as developing tools to monitor consultation programs' effectiveness, and completing an external evaluation of the Voluntary Protection Program, we determined that the evaluation report was not useful and OSHA had not yet fully implemented our recommendation. GAO, *Workplace Safety and Health: OSHA's Voluntary Compliance Strategies Show Promising Results, but Should Be Fully Evaluated before They Are Expanded*, [GAO-04-378](#) (Washington, D.C.: Mar. 19, 2004).

⁴⁶ The OSH Act provides for OSHA to enter into cooperative agreements with states, under which the states provide on-site consultations to employers upon request, among other things. Under OSHA's regulations, priority in such visits is to be given to requests from small businesses in higher hazard industries. 29 U.S.C. § 670(c) and (d); 29 C.F.R. §§ 1908.1-1908.11.

services and operate an exemplary injury and illness prevention program, according to OSHA officials.

- OSHA officials stated that, as of July 2016, eleven meat and poultry plants participated in OSHA's Voluntary Protection Programs (VPP), which aim to recognize employers that implement effective safety and health management systems and maintain worker injury and illness rates below average for their industry.⁴⁷
- OSHA has published guidance and other resources related to safety and health in the meat and poultry industry, such as a 2013 publication on preventing musculoskeletal injuries in poultry processing, and a poultry processing safety and health topics web page.⁴⁸
- OSHA provided grants for worker safety and health education to nonprofit organizations through the Susan Harwood Training Grant Program. These grants target underserved or low-literacy workers and workers in high-hazard industries. For example, in fiscal year 2016, OSHA awarded a grant to the Western North Carolina Workers Center to train poultry workers on topics including personal protective equipment, hazard mapping, ergonomics, and sanitation worker safety.
- OSHA officials stated that the agency conducted outreach with poultry industry representatives to discuss common hazards, such as MSDs and infectious pathogens, among others. For example, according to OSHA officials, in support of a Regional Emphasis Program on poultry processing, OSHA's Dallas Regional Office conducted workshops in the southwestern United States in December 2015 to share safety

⁴⁷ We reported in 2009 that OSHA's internal controls were not sufficient to ensure that only qualified worksites participate in the VPP. OSHA made improvements in response to the recommendations in our report. However, in 2013 the Department of Labor Office of the Inspector General found that OSHA lacked sufficient controls to ensure VPP worksites maintained exemplary occupational health and safety systems. Specifically, the Inspector General found that OSHA retained participants with above average worker illness and injury rates in the program, did not reliably track the universe of participants, and used unreliable illness and injury data to evaluate participants. GAO, *OSHA's Voluntary Protection Programs: Improved Oversight and Controls Would Better Ensure Program Quality*, [GAO-09-395](#) (Washington, D.C.: May 20, 2009) and U.S. Department of Labor Office of Inspector General – Office of Audit, *Voluntary Protection Program: Controls Are Not Sufficient to Ensure Only Worksites with Exemplary Safety and Health Systems Remain in the Program*, 02-14-201-10-105 (Washington, D.C.: Dec. 16, 2013).

⁴⁸ OSHA, *Prevention of Musculoskeletal Injuries in Poultry Processing*, OSHA 3213-12R 2013 (Washington, D.C.: updated 2013).

and health information with employers in the poultry processing industry.

- OSHA worked with groups such as unions, trade or professional organizations, and educational institutions through its Alliance program to develop compliance assistance tools and share information with employers and workers to help prevent injuries, illnesses, and fatalities in the workplace. For example, OSHA officials said that the agency has formed alliances with foreign consulates to reach workers with limited English proficiency. Also, OSHA's Omaha Area Office has an alliance with local organizations to help protect workers in the meat packing industry.

OSHA Faces Challenges Identifying Worker Concerns, Responding to Medical Mismanagement, and Gaining Entry to Some Plants

Identifying Worker Concerns

OSHA faces challenges identifying and addressing meat and poultry worker safety and health concerns because workers may be reluctant to speak with inspectors, according to workers we interviewed in four states, as well as worker advocates.⁴⁹ Workers we interviewed in four states said they fear dismissal or other punishment if they complain to OSHA or their state OSH agency about their workplace concerns, such as sustaining injuries or being discouraged from using the bathroom. We reported in 2016 that meat and poultry worker vulnerability may hinder reporting of work-related illnesses and injuries, according to federal officials and worker advocacy groups. In particular, these officials and advocates said that some meat and poultry workers may be less likely to report or seek treatment for injuries and illnesses because of their vulnerable status as

⁴⁹ Section 11(c) of the OSH Act prohibits employers from discriminating against their employees for exercising their rights under the Act, which include filing an OSHA complaint, participating in an inspection, reporting an injury or illness, and raising a safety or health complaint with the employer. 29 U.S.C. § 660(c) and 29 C.F.R. pt. 1977.

undocumented or foreign-born workers and because of their economic vulnerability.⁵⁰

Meat and poultry workers may also be reluctant to share information with OSHA at their workplace, as on-site interviews often do not allow workers to remain anonymous, even when conducted in private, according to workers in one state, as well as worker advocates we interviewed. According to OSHA officials, OSHA generally conducts worker interviews on-site during inspections. Officials added that, when OSHA conducts on-site interviews, inspectors tell plant supervisors which workers they wish to speak with, so the supervisors can find replacements for these workers on the production line. Therefore, the supervisor knows the identities of interviewed workers, even if the interview itself is private. Officials added that if workers cannot be pulled from the line, they are sometimes interviewed in front of other workers as they continue working. The OSH Act prohibits employers from retaliating against employees for filing complaints with OSHA.⁵¹ However, OSHA officials, workers from two states, and worker advocates we spoke with noted that workers may feel more comfortable sharing concerns about hazards if they are interviewed off-site.

The OSHA Field Operations Manual, which sets forth OSHA's enforcement policies and procedures, allows inspectors to interview workers in locations other than the workplace, and states that, "a free and open exchange of information between OSHA inspectors and employees is essential to effective inspections."⁵² OSHA's performance goals in DOL's Strategic Plan include preventing discrimination against workers who report hazards.⁵³ According to OSHA officials, they will try to

⁵⁰ We noted in the report that about 28.7 percent of meat and poultry workers were foreign-born noncitizens in 2015 compared to about 9.5 percent of all manufacturing workers, according to CPS data. [GAO-16-337](#). In addition, we reported in 2005 that the workforce in the meat and poultry industry tended to be more often younger, foreign born, belonging to racial minorities, and earned substantially less than workers in manufacturing overall. GAO, *Workplace Safety and Health: Safety in the Meat and Poultry Industry, While Improving, Could Be Further Strengthened*, [GAO-05-96](#) (Washington, D.C.: Jan. 12, 2005).

⁵¹ See 29 U.S.C. § 660(c) and 29 C.F.R. pt. 1977. In particular, OSHA regulations specify that employees interviewed by OSHA during the course of an inspection may not be subsequently discriminated against because of their cooperation. 29 C.F.R. § 1977.12(a).

⁵² OSHA, *Field Operations Manual. Directive number CPL 02-00-160*, effective date: August 2, 2016.

⁵³ DOL, *Strategic Plan: Fiscal Years 2014-2018*.

schedule an interview off-site if an employee expresses discomfort or if a union arranges it. Officials stated that they do not automatically offer off-site interviews to each employee; rather, inspectors should consult with their Area Directors before offering to conduct an interview off-site. However, OSHA officials told us that inspectors interview meat and poultry workers off-site infrequently, since off-site interviews can be challenging and take additional time, as workers may be difficult to contact or may have ceased working with the company. OSHA also may be challenged to find an acceptable venue when the employee is available. They added that conducting interviews off-site is more feasible in cases when unions or worker advocacy groups have facilitated these meetings, and that interviewing workers on the production line may be advantageous in some cases, as it allows workers to clarify some uncertainties by showing the inspector how their work is done. According to federal internal control standards, agencies should use quality information to achieve their objectives.⁵⁴ Although OSHA officials stated that OSHA has taken steps to enable the collection of quality information from workers, such as conducting a representative number of interviews and refraining from reporting information from specific interviews to employers, officials acknowledged that some workers may feel more comfortable sharing concerns about hazards if they are interviewed off-site. Taking additional steps to encourage workers to disclose sensitive concerns, such as by considering off-site interviews or exploring other options to obtain the information anonymously, would help OSHA learn details about hazards, injuries, and illnesses during an inspection and provide additional information to help improve the agency's efforts to identify or address conditions that endanger worker safety and health.

In particular, OSHA may not be aware of the scope of bathroom access issues, which meat and poultry workers we interviewed in all five states said was a concern, because the agency's reliance on interviewing workers on-site may cause it to miss concerns of workers who are afraid to speak up. In addition, OSHA inspectors do not always ask specifically about bathroom access, and workers who experience bathroom access problems may not volunteer this information. OSHA's sanitation standard provides that "toilet facilities, in toilet rooms separate for each sex, shall be provided in all places of employment," based on the number of employees of each sex.⁵⁵ According to OSHA guidance, this standard

⁵⁴ [GAO-14-704G](#).

⁵⁵ 29 C.F.R. § 1910.141(c)(1)(i). The standard further provides that "lavatories shall be made available in all places of employment." 29 C.F.R. § 1910.141(d)(2)(i).

requires employers to make toilet facilities available so that employees can use them when they need to, and may not impose unreasonable restrictions on employee use of the facilities.⁵⁶ OSHA guidance also states that denial or delay of bathroom access can result in various serious health effects, such as urinary tract infections, constipation, abdominal pain, and hemorrhoids.⁵⁷

Meat and poultry workers may be denied timely bathroom breaks because they work in an assembly line environment, which generally requires workers to be replaced if they leave their station. Workers we interviewed in all five states said their requests to use the bathroom are often delayed or denied, and workers in two states said they fear punishment if they ask to use the bathroom too frequently or complain about lack of bathroom access to their supervisors or to OSHA. Worker advocates we spoke with reported hearing similar concerns on a frequent basis and four worker advocacy groups in different regions of the country reported concerns related to the timeliness of workers' access to bathrooms based on non-generalizable interviews of poultry workers.⁵⁸ For example, workers we interviewed in three states said they had suffered negative health effects, such as kidney problems, from delayed or denied bathroom breaks. One worker said she refrained from eating or drinking until she had completed her shift, to avoid needing a bathroom break. Also, workers we interviewed in all five states said that long lines at the bathroom further limited bathroom access.

Meat and poultry industry representatives we interviewed said that bathroom access is not a problem because companies provide bathroom access when needed. They said companies take different approaches to ensuring bathroom access, such as having a supervisor fill in for a worker who leaves the line, establishing scheduled breaks, or allowing workers to

⁵⁶ See OSHA, *Memorandum for Regional Administrators and State Designees on the Interpretation of 29 CFR 1910.141(c)(1)(i): Toilet Facilities*. (April 6, 1998).

⁵⁷ Ibid.

⁵⁸ Greater Minnesota Worker Center Organizing Committee, *Greater Minnesota Worker Center, Striving for a Just and Safer Workplace: Central Minnesota's Poultry Industry and its Disposable Workers* (St. Cloud, MN: April 1, 2016); Northwest Arkansas Workers' Justice Center, *Wages and Working Conditions in Arkansas Poultry Plants* (Springdale, AR: February 1, 2016); Public Justice Center, *The Disposable Workforce: A Worker's Perspective*, accessed September 5, 2017, www.upc-online.org/workers/Poultrystudy.pdf; and OXFAM America, *No Relief: Denial of Bathroom Breaks in the Poultry Industry* (Boston, MA: 2016).

leave the line as needed, even without a replacement. However, according to worker advocates, supervisors may vary in implementing plant policy and may feel pressure to fulfill production quotas. One industry representative told us they believe some supervisors in meat and poultry plants deny bathroom access in order to maximize production output.

OSHA officials said they did not believe lack of bathroom access was a widespread problem in the meat and poultry industry. However, OSHA officials said they have not compared bathroom access practices in the meat and poultry industry with other industries involving moving production lines because they vary by establishment even within a single industry. OSHA issued a citation in March 2016 to a meat plant related to bathroom access, although that citation is currently being contested by the employer, and is pending as of September 15, 2017, according to officials. From 2005 through 2016, OSHA issued three additional citations to meat and poultry plants related to bathroom access; however, these citations were withdrawn after the employers reached formal or informal settlements with OSHA. OSHA guidance for inspecting poultry plants allows inspectors to ask specifically about bathroom access when there are complaints about it or prior problems, or in the context of specific regional emphasis programs, such as the poultry emphasis program in the southeast United States.⁵⁹ In addition, OSHA's poultry processing regional emphasis programs in regions IV and VI require the inspector to assess the adequacy of toilet and sanitary facilities, and of worker access to them.⁶⁰ If there are no prior complaints or relevant emphasis programs, OSHA officials said inspectors ask workers about any other concerns, but do not always specifically ask about bathroom access. Officials said that requiring inspectors to investigate bathroom access would divert inspectors' limited resources from higher-priority hazards and could result in companies' claiming that the line of questioning is unsubstantiated. OSHA requires inspectors at poultry plants to consistently investigate other specific hazards, such as ergonomics hazards. According to OSHA officials, the agency selected these hazards based on prior inspection and illness and injury data showing the hazards to be widespread in the

⁵⁹ OSHA, *Memorandum for Regional Administrators and State Designees on Inspection Guidance for Poultry Slaughtering and Poultry Processing Establishments*. (Oct. 28, 2015).

⁶⁰ OSHA, *Regional Emphasis Programs for Poultry Processing Facilities*, Directive numbers CPL 17/09 and CPL 02-02-030.

industry. Officials contrasted these with the small number of citations issued related to bathroom access.

However, given that workers whom we asked about bathroom access during off-site interviews in all five states said that bathroom access is a problem, and worker advocates we interviewed stated it was as well, it is possible that OSHA is missing instances of this hazard, resulting in incomplete data to guide its inspections. According to federal internal control standards, managers should use quality information to achieve the agency's objectives.⁶¹ While officials stated they believe that inspectors' open-ended questions will prompt workers to share any concerns they have with bathroom access, workers may not volunteer this information unless specifically asked. For example, workers may not be aware that they have the right to access bathrooms and so may not realize that such information would be of interest to OSHA, according to one worker advocate we interviewed. Gathering additional information about whether meat and poultry workers experience delayed or denied access to bathrooms could help OSHA determine the extent of the problem and be better positioned to protect worker safety and health.

Addressing Medical Mismanagement at Plant Health Units

OSHA officials told us that addressing medical mismanagement at meat and poultry plants is challenging because of the complex issues involved and OSHA's limited oversight of plants' health unit staff. Specifically, they said that ensuring proper certification for medical providers is the responsibility of state authorities. In hazard alert letters to four meat and poultry plants, OSHA noted its concern that plant health unit staff were or may have been inappropriately supervised and working beyond the scope of their medical license. Officials said OSHA contacted state authorities who oversee health unit staff in one state about licensing concerns, and they planned to contact additional states.

OSHA officials we interviewed expressed concern about meat and poultry workers' access to plant first aid stations or health units and the quality of medical treatment workers receive.⁶² OSHA issued one general duty

⁶¹ [GAO-14-704G](#).

⁶² OSHA's Medical Services and First Aid Standard requires that, in the absence of an infirmary, clinic, or hospital in near proximity to the workplace that is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid and adequate first aid supplies shall be readily available. 29 C.F.R. § 1910.151(b).

clause citation and four hazard alert letters to five meat and poultry plants in 2015-2016 related to medical mismanagement issues, which describe OSHA's findings or concerns about inappropriate medical treatment, lack of worker access to health care, underqualified practitioners, and challenges to reporting (see sidebar).⁶³

- In the citation, OSHA found that the plant delayed care for injured workers, stating these actions could result in risk of further injury or exacerbated pain, among other conditions.⁶⁴
- In a 2015 hazard alert letter to a poultry plant, OSHA noted that it appeared the plant used its first aid station to prevent injuries from appearing on the plant's OSHA log, such as by failing to refer workers to a physician for evaluation or treatment when appropriate.⁶⁵ In addition, OSHA noted that a number of workers were fired after suffering MSDs, sometimes on the same day of the MSD occurrence, and further noted workers' fears of being fired for visiting the first aid station.⁶⁶ OSHA recommended voluntary improvements to the plant's medical management practices.

⁶³ After an inspection, OSHA may send an employer a hazard alert letter if the criteria for issuing a citation are not met, yet OSHA determines that the hazard warrants some type of notification.

⁶⁴ This citation has been contested by the employer and as of September 15, 2017 is still pending, according to OSHA officials.

⁶⁵ OSHA's regulations generally require covered employers to record information about each new work-related injury or illness that results in death, loss of consciousness, days away from work, restricted work or transfer to another job, or medical treatment beyond first aid. First aid consists of specified types of treatment, including cleaning, flushing, or soaking wounds on the surface of the skin; using wound coverings, such as bandages; using non-prescription medications; draining fluids from blisters; using irrigation or a cotton swab to remove foreign bodies from the eyes; massage; and drinking fluids to relieve heat stress. 29 C.F.R. § 1904.7.

⁶⁶ We reported in 2016 that some employers may underreport workplace injuries to avoid triggering OSHA inspections or promote the image of a safe workplace, according to stakeholders we interviewed. At one meat plant we visited, workers recalled incidents in which supervisors told injured workers they were not hurt and to go back to work rather than report their injury. We also reported that in an effort to maintain a clean safety record and avoid recording injuries in their OSHA logs, some plant health units may repeatedly offer first aid treatments—for example, compresses and over-the-counter painkillers and ointments—rather than refer workers to a doctor. OSHA officials relayed concerns that employer-sponsored safety programs with incentives—such as those that offer rewards for no injuries over time—may pressure meat and poultry workers to not report work-related injuries and illnesses. [GAO-16-337](#). We reported in 2005 that safety programs that reward low illness and injury rates may incentivize underreporting by workers or managers in the meat and poultry industry. [GAO-05-96](#).

- In a 2014 hazard alert letter to another poultry plant, OSHA identified practices that it determined were contrary to good medical practice for managing work-related MSDs, including prolonged treatment by nursing station staff without referral to a physician. The letter included one example in which a worker made over 90 visits to the nursing station before referral to a physician.

Meat and poultry workers we interviewed in all five states reported problems with on-site medical care; for example, workers said their supervisor or plant nurse may not take appropriate steps when a worker is injured or ill, such as not referring the worker to a doctor or failing to move the worker to a different work station on the line. Worker advocates we spoke with reported hearing similar concerns. One worker we interviewed said that she experienced severe pain in her wrist and visited the on-site medical unit over the course of 3 months before they referred her to a doctor affiliated with the plant, during which time she continued to work. When the doctor did not find any problems on her X-ray, she went to a doctor unaffiliated with the plant, who found a bone fracture. Meat and poultry workers in three states also said that fear of being reprimanded or losing their jobs sometimes compels them to refrain from accessing care at a plant health unit, or from complaining about inadequate medical care. Workers in one state said they are penalized every time they visit their plant health unit.⁶⁷

⁶⁷ We also reported in 2016 that meat and poultry workers may be punished for visiting the health unit too often, according to two OSHA hazard alert letters, a representative of a worker advocacy group, and a worker we interviewed. [GAO-16-337](#).

Amputation Leads to OSHA Detection of Medical Mismanagement and Other Hazards

Following the amputation of a worker's finger at a poultry plant in 2016, the Occupational Safety and Health Administration (OSHA) conducted inspections and cited the plant for violations related to:

- deficiencies with the procedures meant to prevent accidental machine start-up or movement, which contributed to the amputation
- exposing workers to musculoskeletal stressors as they performed tasks requiring repetitive, forceful motion for extended periods of time, often in awkward positions
- failure to comply with generally accepted good engineering practices with respect to exhaust systems, ammonia sensors, and alarms, exposing workers to the hazards posed by a potential ammonia release
- failure to provide free personal protective equipment to workers
- failure to repair or replace damaged electrical equipment, exposing workers to the risk of electrical shock.

OSHA also issued hazard alert letters recommending the plant take steps to address the following hazards:

- medical management practices that prevent appropriate standards of care, increase the likelihood of workers developing serious musculoskeletal disorders, restrict referrals to physicians, and discourage employees from reporting symptoms and injuries.
- exposing workers to the risk of violent chemical reactions by storing peracetic acid alongside a strong base, sodium hydroxide, without protections to ensure the chemicals didn't spill and mix.

Note: These citations have been contested by the employer and as of September 15, 2017, are still pending, according to OSHA officials. After an inspection, OSHA may send an employer a hazard alert letter if the criteria for issuing a citation are not met, yet OSHA determines that the hazard warrants some type of notification.

Source: OSHA | GAO-18-12

According to one industry representative, plants do not have enough guidance on how to ensure their health units are properly staffed and operated. OSHA issued guidance in 1999 about occupational health professionals' qualifications and scope of practice, as well as a 2006 best practices guide on the fundamentals of a workplace first aid program.⁶⁸ However, OSHA officials told us these guidance documents do not address many of the medical management issues they are currently observing in plant health units, which include lack of supervision of medical personnel, personnel working outside their scope of practice, out-of-date health unit protocols, inappropriate response to injuries and illness, lack of quality assurance, poor worker access to health units, and inadequate recordkeeping. OSHA officials told us that the agency has recently begun updating its guidance related to health units to help clarify employers' responsibilities with regard to the personnel in these units and the services they provide. However, these updates have not been completed, according to officials. Federal internal control standards call for agencies to externally communicate the information needed to achieve their objectives.⁶⁹ By updating and issuing its guidance, OSHA could help plant health units be better positioned to provide appropriate care to injured and ill workers.

⁶⁸ U.S. Department of Labor, Occupational Safety and Health Administration, *The Occupational Health Professional's Services and Qualifications: Questions and Answers*, OSHA 3160, (1999) (revised). See also U.S. Department of Labor, Occupational Safety and Health Administration, *Best Practices Guide: Fundamentals of a Workplace First-Aid Program*, OSHA 3317-06N (2006).

⁶⁹ [GAO-14-704G](#).

Gaining Entry to Some Plants

In some cases, plant management may deny entry to OSHA inspectors attempting to conduct an inspection, and resolving these issues can create delays.⁷⁰ Although the OSH Act authorizes OSHA inspectors to enter plants “without delay” at reasonable times to conduct inspections, employers have the right to refuse entry, in which case OSHA may seek an inspection warrant.⁷¹ If the employer denies entry after OSHA obtains a warrant, OSHA determines its response on a case-by-case basis. Denials of OSHA inspector entry to meat and poultry plants increased in 2016. All 15 denials in that year occurred in region IV, which includes the Southeast United States. In contrast, from 2005-2015, there were 16 denials of entry in the meat and poultry industry. The denials in 2016 took place in Georgia (6), Alabama (5), Florida (2) and Mississippi (2). According to OSHA officials, the agency experienced denials in all 15 cases when it inspected a plant in response to a complaint or referral and moved to expand the inspection to incorporate its regional emphasis program for the poultry industry. OSHA has not been able to expand its inspections in any of these cases, according to OSHA officials. These denials of entry have the potential to limit OSHA’s understanding of worker safety and health in plants during the days or months prior to gaining entry, and addressing denials is resource-intensive, according to OSHA officials. There is currently ongoing litigation in a case in which OSHA was inspecting a plant after an employee was burned by an electrical fire. OSHA attempted to expand the inspection under a relevant emphasis program, and the plant contested the expansion in court. OSHA officials said that the case is pending as of September 15, 2017, and they will consider the outcome of the case when determining their response to any similar denials of entry in the future.

⁷⁰For ease of reference, we refer to situations where a plant initially denies entry to OSHA inspectors as “denials of entry,” regardless of how these cases are ultimately resolved.

⁷¹29 U.S.C. § 657(a); 29 C.F.R. § 1903.4.

OSHA and FSIS Have Not Fully Implemented MOU That Outlines Collaboration on Worker Safety and Health

OSHA and FSIS's main vehicle for collaboration on worker safety and health is their 1994 MOU, but efforts to implement and evaluate this agreement have been limited. The MOU outlines the policies and procedures the agencies agreed to use, including (1) a process for FSIS to refer serious hazards facing plant workers or FSIS inspectors to OSHA, (2) plans for OSHA and FSIS to develop and implement training for FSIS staff in hazard recognition, and (3) an agreement to coordinate standards development and exchange information on matters of common concern.⁷² In 2005, we found that agency efforts to implement this MOU had lapsed, and we recommended that OSHA and FSIS revisit and update certain aspects of their MOU, as discussed below.⁷³ OSHA and FSIS have taken some steps to implement the policies and procedures outlined in the MOU. However, we found issues with the MOU's implementation in these three areas, hampering achievement of the MOU's goals. Further, OSHA and FSIS have not evaluated the implementation of the MOU.

Making Referrals to OSHA

The 1994 MOU calls for FSIS inspectors—who may observe hazards to both plant workers and inspectors—to refer serious workplace hazards to OSHA, via FSIS headquarters.⁷⁴ Serious hazards are defined in the MOU as those for which there is a substantial probability that death or serious physical harm could result. The two agencies have established a process for these referrals, but according to FSIS officials its inspectors are reluctant to make them, as discussed below. Until 2014, FSIS inspectors were to refer these hazards to OSHA by sending a referral to OSHA via FSIS headquarters, but, according to FSIS officials, inspectors rarely made referrals under the former system. In 2014, FSIS established a procedure for its inspectors to notify OSHA directly of serious workplace

⁷² A copy of the MOU is available at https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=MOU&p_id=262.

⁷³ [GAO-05-96](#).

⁷⁴ FSIS inspectors are present at slaughter facilities on a daily basis and at processing-only facilities on a regular basis.

hazards that may affect both FSIS inspectors and plant workers and issued a notice that provides instructions for inspectors to use OSHA's nationwide public toll-free number to report such hazards.⁷⁵ Because the agencies are not able to track all of these referrals, as callers can remain anonymous, it is not possible to assess the extent to which FSIS inspectors are making them, according to OSHA officials. OSHA data show that since 2012, OSHA had received 14 complaints and 2 referrals about FSIS, of which 5 phone calls were from FSIS current or former employees, but these data are likely incomplete.⁷⁶

According to FSIS officials, its inspectors may be reluctant to make these referrals because they fear it could trigger an OSHA inspection of FSIS.⁷⁷ As a federal employer, FSIS is responsible for ensuring its own employees are protected from plant hazards, and is subject to OSHA inspection and notification of safety and health hazards faced by its employees. OSHA data show that from 2005 to 2016, OSHA inspected FSIS in meat and poultry plants 105 times, of which 14 were in response to complaints and referrals. FSIS occupational safety and health specialists said these inspections can be a drain on their resources because they are time-consuming and there are very few FSIS safety and health specialists to respond to them. FSIS employs three occupational safety and health specialists, along with one team lead, resulting in a ratio of one specialist for every 3,100 employees, according to FSIS officials.⁷⁸ FSIS inspectors we contacted did not report communicating with OSHA,

⁷⁵ FSIS Notice 37-14 (Aug. 2014). OSHA officials told us their agency had suggested the change to FSIS because using the toll-free number fit in better with OSHA's process for receiving complaints.

⁷⁶ OSHA provided us with these data retrieved from the OSHA Information System on May 25, 2017.

⁷⁷ FSIS occupational safety and health specialists further told us that in some cases referrals made to OSHA by FSIS inspectors working in state-plan states—in which the state OSH agencies are not responsible for federal employees—resulted in inspections of FSIS by OSHA but not of the plant. As previously discussed, for plants located in a state-plan state, OSHA has jurisdiction over the safety and health of federal employees (FSIS inspectors), while the state OSH agency is responsible for the private sector employees (plant workers). According to OSHA officials, if the agency receives a complaint about hazards faced by plant workers in a plant located in a state-plan state, OSHA will make a referral to the state agency.

⁷⁸ An audit conducted in 2014 recommended an increase in FSIS safety and health staff. PRIZIM Inc., a subsidiary of Hitachi Consulting Corporation, *Food Safety and Inspection Service Safety and Health Program Evaluation*, prepared under the direction of the FSIS Environmental, Safety, and Health Group, January 2014.

and stated that they share any worker safety concerns they might have with their management or with plant contacts. FSIS occupational safety and health specialists told us that FSIS requests technical assistance from OSHA to address hazards that may affect both plant workers and FSIS inspectors. However, they said that OSHA may inspect FSIS instead of providing assistance, even though OSHA has other ways of offering technical assistance to federal agencies.⁷⁹ For example, FSIS occupational safety and health specialists told us that when they reached out to OSHA for assistance with hazards posed by peracetic acid, OSHA instead inspected FSIS for what FSIS considered to be unrelated hazards.

According to OSHA officials, their enforcement team is obligated to respond to complaints and referrals, including calls to their toll-free number, and may inspect FSIS if there is a report of a hazard at a meat or poultry plant to which FSIS employees are exposed. OSHA officials noted that FSIS employees should not be reluctant to report hazards because OSHA inspections can protect FSIS workers. OSHA officials told us that they are able to provide assistance with hazards if FSIS contacts OSHA's area offices, but if in the process, OSHA learns about a potential hazard that is FSIS's responsibility, then OSHA may investigate the agency. FSIS officials told us they did not believe this process would ensure a quick enough response by OSHA to provide FSIS assistance with urgent hazards that could be harming FSIS inspectors and plant workers.

Training FSIS Staff

OSHA and FSIS agreed under the 1994 MOU to provide training to FSIS inspectors so that they could recognize serious workplace hazards faced by plant workers and FSIS inspectors. OSHA officials told us they developed such training for FSIS in the mid to late 1990s, but according to FSIS officials the course was too excessive and burdensome for FSIS inspectors, whose main responsibility is food safety. In 2005, we recommended that OSHA and FSIS revisit and update their MOU to ensure that FSIS inspectors receive training in recognizing and referring workplace hazards to OSHA. The two agencies did not update their MOU,

⁷⁹ OSHA offers technical assistance to federal agencies in the form of Agency Technical Assistance Requests. In responding to such a request, OSHA may offer abatement assistance, training, an assistance inspection, or program assistance. According to OSHA's Field Operations Manual, an Agency Technical Assistance Request is not an enforcement inspection.

but FSIS officials told us the agency strengthened its training of FSIS inspectors and OSHA officials told us that the agency planned to cooperate with FSIS to encourage revitalization of FSIS's inspector training. According to FSIS officials, in 2013, FSIS began requiring its inspectors whose duties were not limited to being on the line to take AgLearn 8500, an FSIS course on identifying and reporting hazards that was reviewed by OSHA. This course—which is now available only on CD—is required for inspectors who do not work on the line and is optional for those who do. In 2014, OSHA provided three training sessions on identifying workplace hazards to FSIS managers, according to OSHA officials. However, FSIS was not able to provide information on whether or how the managers who received the training had shared what they learned with FSIS inspectors because it did not track this information.

Coordinating Standards Development

The MOU calls for OSHA and FSIS to coordinate the development of standards and consult on matters of common concern related to worker safety, but officials at both agencies told us this has not occurred. For example, FSIS did not specifically reach out to OSHA as it developed a proposed rule that would have, among other things, permitted plants to operate at a faster maximum line speed than the maximum line speeds authorized under the agency's other poultry inspection systems.⁸⁰ According to OSHA officials, there was no collaboration with FSIS on this proposed rule prior to the Office of Management and Budget's (OMB) review of the proposed rule, and OSHA found out about the proposed new maximum line speed for the new poultry inspection system during the OMB review.⁸¹ OSHA officials told us that worker safety should be a design consideration in this type of rulemaking. As we noted in 2016, line

⁸⁰ Modernization of Poultry Slaughter Inspection, 77 Fed. Reg. 4408 (Jan. 27, 2012).

⁸¹ Under Executive Order 12866, as reaffirmed and amended by Executive Order 13563, the Office of Information and Regulatory Affairs within the Office of Management and Budget reviews hundreds of significant proposed and final rules from federal agencies before they are published in the *Federal Register*. See Regulatory Planning and Review, Exec. Order No. 12866, 58 Fed. Reg. 51,735 (Oct. 4, 1993) and Improving Regulation and Regulatory Review, Exec. Order No. 13563, 76 Fed. Reg. 3821 (Jan. 21, 2011).

Line Speed

Meat and poultry slaughter and processing generally occurs along a “disassembly line,” on which workers and machines produce various cuts of meat. These lines can include live hang in poultry plants, evisceration lines, and “cone” lines where deboning occurs. The Food Safety and Inspection Service (FSIS) sets maximum evisceration line speed in order to ensure its inspectors can effectively perform their inspection procedures.

According to FSIS officials, FSIS does not regulate the speed of other lines, which may run slower than evisceration lines due to complex worker tasks. The Occupational Safety and Health Administration (OSHA)—which is responsible for overseeing worker safety and health—does not play a role in regulating line speed, according to FSIS and OSHA officials.

GAO reported in 2016 on concerns that high line speeds may exacerbate existing hazards that can cause musculoskeletal disorders (MSD). OSHA and National Institute for Occupational Safety and Health (NIOSH) officials told us that line speed—in conjunction with forceful exertions, awkward postures, and other factors—affects the risk of MSDs. When plants increase line speed, they may address worker safety by increasing staffing or creating new lines.

Source: GAO-16-337, GAO-05-96, FSIS, and OSHA. | GAO-18-12

speed may affect worker safety (see sidebar).⁸² FSIS officials told us that OSHA provided comments after the proposed poultry modernization rule was published in the *Federal Register*.⁸³ According to the fall 2016 unified regulatory agenda, FSIS is working on a proposed rule to amend the federal meat inspection regulations to establish a new inspection system for hog slaughter establishments.⁸⁴ FSIS officials told us they consulted with OSHA officials about the possible worker safety implications of the proposed rule on hog slaughter prior to the rule being sent to OMB. However, they also stated that—contrary to the OSHA officials cited above—they believed the OMB review process was sufficient for addressing any worker safety implications in rules proposed by FSIS.

⁸² GAO-16-337. Workers we interviewed in all five states said increased line speed is an issue of concern to them, for reasons such as increased pain or injuries, not having time to sharpen knives, and not being able to keep up with the pace of work.

⁸³ According to FSIS officials, in April 2012, FSIS published a *Federal Register* notice, after consultation with OSHA and NIOSH, to extend the comment period on the proposed poultry slaughter modernization rule and to request specific comments on the availability of data that NIOSH could use to analyze the potential effects of line speed on worker safety and health. Modernization of Poultry Slaughter Inspection, 77 Fed. Reg. 24,873 (April 26, 2012). In the final rule, published on August 21, 2014, FSIS described its discussions with OSHA on how best to address potential issues related to line speeds and worker safety. For example, under the final rule, each plant participating in the new poultry inspection system is required to submit to the local circuit safety committee, on an annual basis, an attestation stating that it maintains a program to monitor and document any work-related conditions of establishment workers. According to FSIS officials, the agency has shared a number of these attestations with OSHA. In the final rule, FSIS decided not to increase the maximum line speeds for chicken plants, and slightly increased maximum line speeds for turkey plants. Further, poultry slaughter plants may choose to operate under the new poultry inspection system in the final rule, or may continue to operate under the pre-existing inspection system. For those poultry slaughter plants that choose to operate under the new poultry inspection system, plant employees assume more responsibility for conducting the types of activities currently performed by USDA inspectors on the slaughter line. Modernization of Poultry Slaughter Inspection, 79 Fed. Reg. 49,566 (Aug. 21, 2014). In September 2017, the National Chicken Council, a non-profit trade association whose primary purpose is to advocate for the chicken industry, submitted a petition to FSIS that the agency implement a waiver system to permit chicken plants participating in both the new poultry inspection system and the Salmonella Initiative Program, and meeting certain other criteria, to operate without line speed limitations. FSIS regulations allow the Administrator of FSIS to waive provisions of the regulations to, among other things, test new procedures to facilitate definite improvements. 9 C.F.R. § 381.3(b).

⁸⁴ Introduction to the Unified Agenda of Federal Regulatory and Deregulatory Actions—Fall 2016, 81 Fed. Reg. 94,496, 94,520 (Dec. 23, 2016).

Evaluating the Implementation of the MOU

FSIS and OSHA agreed to jointly evaluate the effectiveness and impact of the actions taken under the MOU—in part by tracking the number of FSIS referrals to OSHA, inspections made in response to these referrals, and the number and types of hazards cited in these inspections—and to make adjustments to the MOU as appropriate. According to FSIS and OSHA officials we spoke with, this has not been done. Neither OSHA nor FSIS was able to tell us why these evaluations did not take place. For example, the MOU states that when training has been completed, OSHA and FSIS will analyze field-level evaluations to assess whether the training has raised FSIS inspectors' awareness and reporting of serious workplace hazards. OSHA officials said they do not know if FSIS used the training materials they provided to FSIS to train FSIS field inspectors. FSIS officials said the training OSHA provided was too time-consuming, so they did not use it. Further, FSIS officials told us the agency does not formally survey staff who complete AgLearn 8500 because it is available only on CD. Our prior work has noted that developing mechanisms to monitor, evaluate, and report results can help enhance and sustain collaboration.⁸⁵ Evaluating the implementation of the MOU and making any needed changes, including setting specific timeframes for periodic evaluations of actions taken under the MOU, would help ensure the goals of collaboration are fully met.

⁸⁵ GAO, *Results Oriented Government: Practices that Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005).

Gaps in Federal Review, Safety Information, Measurement, and Research May Put Meat and Poultry Workers at Risk of Harm from Certain Chemicals

Federal Reviews of Certain Chemicals Leave Gaps Related to Plant Worker Safety

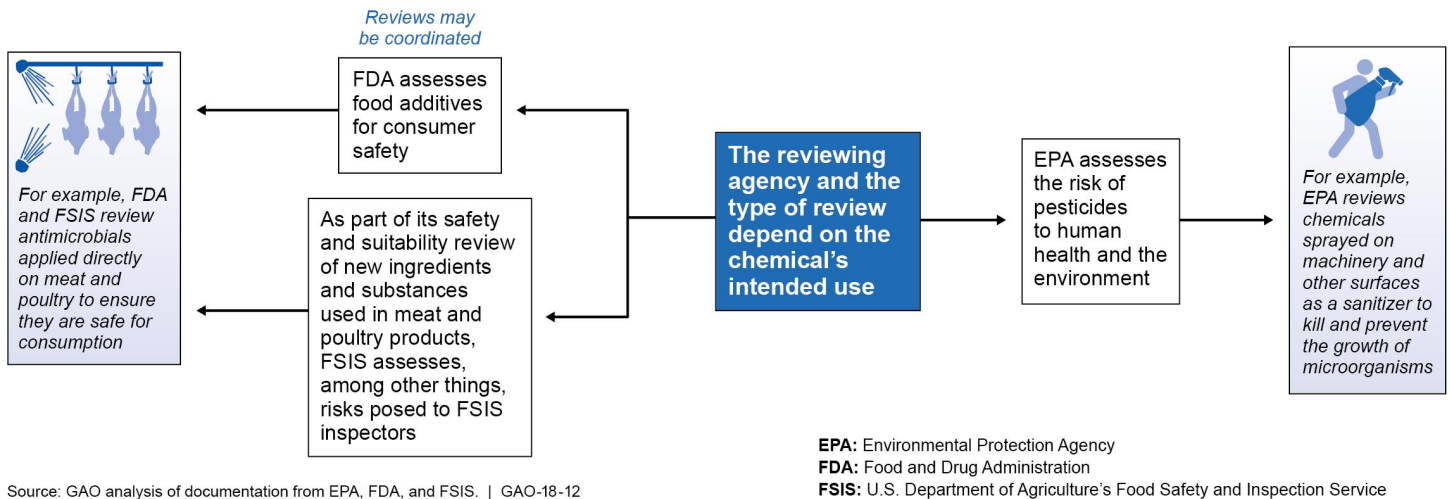
Federal reviews of certain antimicrobial chemicals before they are used in meat and poultry plants leave gaps with respect to worker safety and health. FSIS inspectors and workers in meat and poultry plants are exposed to antimicrobial chemicals every day, as they are commonly used during all work shifts, both on animal and bird carcasses and on work surfaces and machinery. In general, the potential for chemical exposure is greater for plant workers than for FSIS inspectors. According to officials we spoke with at various plants, plant workers handle these chemicals by receiving shipments, opening containers, and filling machines with the chemical, among other ways, while FSIS inspectors are generally not present at various times that workers are using the chemical, most notably, when the plant is being cleaned between shifts.

Depending on a chemical's intended use, it may or may not undergo a federal review of the risks it poses to worker safety and health before it is used in the plant. The regulation of chemicals used in meat and poultry plants is complex, as several federal agencies have their own specific areas of jurisdiction with regard to their oversight. OSHA does not conduct reviews of chemicals before they are used in the workplace, according to OSHA officials. OSHA officials stated that the agency is limited from taking such an approach, because doing so would overwhelm the agency's resources. In addition, OSHA is charged with oversight of workers in multiple industries—not just the meat and poultry

industry—which would make it difficult for them to utilize a review process that examines all chemicals before they are used in the workplace.⁸⁶

Antimicrobial chemicals intended for use as sanitizers in plants to clean machines and surfaces are generally subject to EPA’s pesticide registration process, which considers user or worker safety (see fig. 10).⁸⁷ This review does not generally include antimicrobial chemicals applied directly to meat and poultry in plants.

Figure 10: Assessment of Worker Safety during the EPA, FDA, and FSIS Reviews of Certain Chemicals Before They Are Used in Meat and Poultry Plants



Source: GAO analysis of documentation from EPA, FDA, and FSIS. | GAO-18-12

Note: This figure excludes any oversight of chemical use conducted by the Occupational Safety and Health Administration (OSHA), the federal agency responsible for assuring safe and healthful working conditions for workers in this and other industries, because, according to OSHA officials, the agency does not review chemicals before they are used in the workplace. This figure is intended to present a summary of how chemicals may be reviewed; the actual review a particular chemical undergoes may differ depending on the circumstances.

⁸⁶ OSHA uses the term "general industry" to refer to all industries not included in agriculture, construction, or maritime. Each of these categories of industry is subject to separate OSHA standards. As previously discussed, OSHA has issued several standards that regulate chemicals in the workplace, including the process safety management standard, the hazard communication standard, and permissible exposure limits (PEL) for certain chemicals.

⁸⁷ EPA regulates chemicals that meet the definition of a pesticide under FFDCA and FIFRA, as amended. Peracetic acid meets the definition of an "antimicrobial pesticide" regulated by EPA when it is used to disinfect, sanitize, or inhibit the growth of microorganisms, such as on surfaces and machinery used in meat and poultry plants.

When antimicrobials are proposed for use directly on meat or poultry to combat foodborne pathogens, FDA and FSIS both conduct reviews before they are used in the plant, but neither review specifically focuses on plant worker safety or health.⁸⁸ FDA's review of antimicrobial food additives is focused on ensuring they are safe for consumers to eat. FSIS's review is focused on ensuring that the antimicrobials do not affect the safety of meat and poultry products or interfere with inspections and that they comply with other FSIS regulations; it also includes an assessment of any adverse effects on FSIS inspector safety and health as they perform their duties. Since these federal reviews do not generally take into consideration the occupational risk of chemicals to plant workers, who make up the majority of personnel in a plant, these chemicals could be used in plants directly on meat or poultry to combat foodborne pathogens without a federal assessment of their potential effects on plant worker safety and health or how these effects may be prevented or addressed.⁸⁹ As a result, plant workers may be put at risk of chemical hazards.

During its review of antimicrobial chemicals proposed for use directly on meat or poultry, FSIS receives information from chemical manufacturers that could be relevant to chemical safety for both FSIS plant-level officials and meat and poultry workers. FSIS occupational safety and health officials told us that the information they request goes beyond what is included in the chemicals' Safety Data Sheets, and may include directions for use or safety information that is specific for dilution levels and

⁸⁸ Depending on the circumstances, FDA may also have oversight responsibility for antimicrobials used in chiller water, according to FDA officials.

⁸⁹ The gap in oversight extends beyond the meat and poultry industry and even beyond antimicrobials. For example, diacetyl, which had been used to flavor microwave popcorn, was tentatively linked with bronchiolitis obliterans (or "popcorn lung")—an inflammatory obstruction of the lung's tiniest airways that can lead to extensive scarring—in industrial workers. While FDA had found the chemical to be safe for consumers, there had been no specific assessment of its potential dangers to workers who produced the microwave popcorn. In response to reports of serious respiratory illness in popcorn factory workers, in 2007, four microwave popcorn producers announced they were working to remove diacetyl from their microwave popcorn recipes. In 2016, NIOSH published a document that provides information about protecting workers from diacetyl (McKernan, Niemeier, et al., *Criteria for a Recommended Standard: Occupational Exposure to Diacetyl and 2,3-Pentanedione*, HHS (NIOSH) Publication No. 2016-111 (Cincinnati, Ohio: October 2016)).

conditions of use at plants.⁹⁰ However, this information is not shared with OSHA, NIOSH, at the local level with FSIS in-plant inspectors, or with plant management because FSIS does not have a process for doing so. OSHA and FSIS occupational safety and health officials and an industry representative we interviewed told us that this information would be useful to them when it is available. OSHA officials told us that information on chemical hazards, employee exposure, and safety controls and practices would enable it to strengthen its response to protecting all workers from these chemical hazards and develop outreach and technical assistance for the meat and poultry industry.

An FSIS safety and health official told us that this information would have been useful at one plant, because neither plant management nor FSIS inspectors at the plant had received information to adequately protect FSIS employees from the effects of peracetic acid, and there had been complaints from inspectors about the chemical.⁹¹ In addition, NIOSH conducts occupational safety and health research, among other things, and could benefit from such information. Federal internal control standards call for agencies to internally and externally communicate the necessary quality information to achieve the entity's objectives.⁹² By FSIS establishing a process to regularly share the worker safety information it collects during reviews of new chemicals—internally with FSIS inspectors and externally with plant management, OSHA, and NIOSH—the federal government will be better positioned to use existing resources to support the safety and health of plant workers and FSIS inspectors.

Gaps in Inspector Safety Information

As discussed above, FSIS conducts reviews of new ingredients and technologies, including antimicrobial chemicals, proposed for use on meat

⁹⁰ OSHA's hazard communication standard requires that chemical manufacturers develop Safety Data Sheets that describe the hazards of their chemicals. Employers are required to maintain these Safety Data Sheets and make the information available to workers. 29 C.F.R. § 1910.1200. OSHA does not review Safety Data Sheets before a chemical is used in the workplace, because, according to OSHA officials, the agency lacks the resources that would be needed to conduct Safety Data Sheet reviews for all chemicals in all industries.

⁹¹ To address this problem, the FSIS occupational safety and health official told us he contacted the manufacturer directly and worked with plant management to implement changes.

⁹² [GAO-14-704G](#).

and poultry products⁸. However, there may be information gaps in FSIS's examination of the potential risks these new chemicals may pose to inspector safety and health. As part of this review, FSIS requests information from chemical manufacturers or plants describing how the new chemicals will not adversely affect the safety and health of FSIS inspectors. As FSIS's Environmental, Safety, and Health Group reviews this information, other program areas within FSIS also review the submission to determine whether the chemical is otherwise safe and suitable under the conditions of its intended use—i.e., that it will not adversely affect product safety, violate FSIS regulations, or interfere with inspection procedures. If FSIS determines that the chemical will not have these effects, the agency will issue a letter of “no objection” for the use of the new chemical.⁹³

It is unclear whether FSIS consistently reviews these chemicals to ensure they will not adversely affect inspector safety and health because the agency does not have a robust process for tracking and sharing information needed to make this determination among the various program areas within the agency participating in the review. Officials in FSIS's Environmental, Safety, and Health Group told us that they often initially receive inadequate information to make this determination, despite new guidance developed in 2015 on the type of information that chemical manufacturers and plants may submit to enable FSIS to evaluate potential adverse effects to inspector safety.⁹⁴ In cases where they do not receive sufficient information, the Environmental, Safety, and Health Group will ask the FSIS program area that is leading the review to request additional information from the manufacturer or plant.⁹⁵ However,

⁹³ According to the *Federal Register* notice published by FSIS explaining this review process, FSIS will make every effort to review the information and notify the manufacturer or plant within 60 calendar days as to whether the agency needs to review the new substance, or whether the plant or manufacturer may proceed to use or sell it. If the plant proceeds with the use of the new substance before the 60-day period has expired or without receiving a “no objection letter” from FSIS, then the agency will take appropriate action, as the product processed using the new substance could be deemed to be adulterated. FSIS Procedures for Notification of New Technology, 68 *Fed. Reg.* 6873 (Feb. 11, 2003). Substances determined to be safe and suitable are added to [FSIS Directive 7120.1](#).

⁹⁴ FSIS, *Compliance Guideline Procedures for New Technology Notifications and Protocols, Appendix A: Workplace Safety and Health Criteria* (April 2015).

⁹⁵ If the agency determines that the proposed use of the new chemical could jeopardize the safety of FSIS inspectors, the agency will similarly notify the plant or manufacturer and may ask for additional information to conduct a more detailed review. FSIS Procedures for Notification of New Technology, 68 *Fed. Reg.* 6873 (Feb. 11, 2003).

FSIS does not have a process that seamlessly tracks the worker safety information it receives as part of its review process, and FSIS occupational safety and health officials told us it is not clear whether submissions contain complete inspector safety information before a “no objection” letter is issued. In response, other FSIS officials told us that they would not approve a new chemical until they have adequate information that shows it will not adversely affect the safety and health of FSIS inspectors, among other things.

Improving communication within FSIS about this review process is one goal of FSIS’s 2017 Annual Plan. To help implement this goal, FSIS formed a working group in April 2017 that is developing a draft directive to facilitate improved coordination among the program areas involved in the review process, including the Environmental, Safety, and Health Group. More specifically, the draft directive provides procedures and protocols and describes an electronic system for tracking information submitted. According to FSIS officials coordinating reviews, the electronic system will replace the current manual system and will be accessible to all program areas involved in the review process. Further, the draft of a “no objection” letter will be distributed to the program areas involved in the review to ensure that all remaining outstanding questions or issues related to the notification have been addressed prior to issuing the letter to the submitter. According to an FSIS official, the agency plans to finalize and issue the draft directive by the end of calendar year 2017 and anticipates converting to the electronic tracking system in fiscal year 2018.

Gaps in Measurement

OSHA and FSIS officials told us that they have faced challenges responding to complaints about air quality in meat and poultry plants, because it is hard to measure airborne peracetic acid. According to OSHA, FSIS, and NIOSH officials, there is no sufficiently reliable method to measure peracetic acid in plants, in part because peracetic acid is not stable and breaks down quickly.⁹⁶ As a result, it is harder to assess the extent of worker exposure to this chemical and plan for an appropriate response. Some plants currently use monitors to sample for the

⁹⁶ According to NIOSH officials, there is a method for airborne sampling of peracetic acid as published in G. Hecht, M. Hery, G. Hubert, and I. Subra, “Simultaneous Sampling of Peroxyacetic Acid and Hydrogen Peroxide in Workplace Atmospheres,” *Annals of Occupational Hygiene* 48(8): 715-21 (2004). NIOSH officials told us that the method can be difficult to implement.

components of commercial peracetic acid (acetic acid and hydrogen peroxide); however, the effects of peracetic acid exposure on workers can be different than those caused by either of these individual chemicals or by mixtures of peracetic acid with other chemicals.

In 2013, OSHA's Salt Lake Technical Center began working to develop a validated sampling and analytical method that would permit measurement of airborne peracetic acid with a high degree of confidence.⁹⁷ Work on the method continues, according to OSHA officials. NIOSH has begun evaluating a range of commercially available peracetic acid monitors and is planning to evaluate an air sampling method for peracetic acid.⁹⁸ The lack of a reliable way to measure peracetic acid could also affect any efforts by OSHA to develop a permissible exposure limit (PEL), a type of workplace safety and health standard that officials said would enable the agency to more easily cite employers for exposing their workers to peracetic acid hazards, compared to using the general duty clause.⁹⁹ According to OSHA officials, the process for developing PELs is arduous, and peracetic acid is one of many chemicals without such a limit or with

⁹⁷ OSHA's Salt Lake Technical Center is one of two technical centers operated by OSHA's Directorate of Technical Support and Emergency Management, which provides expertise in a number of areas to help ensure that OSHA's occupational safety and health capabilities are state-of-the-art, according to OSHA.

⁹⁸ Hecht et al., 2004.

⁹⁹ As previously mentioned, a PEL is a workplace safety or health standard that establishes the maximum level of the chemical that workers may be exposed to in a workplace. Although there is no PEL for peracetic acid, OSHA's process safety management standard applies to processes involving peracetic acid in quantities of 1,000 pounds or more. See 29 C.F.R. § 1910.119, app. A. Other entities have developed voluntary occupational exposure limits for peracetic acid. For example, the American Conference of Governmental Industrial Hygienists developed the Threshold Limit Value—a level, determined by an expert panel review of peer-reviewed literature, to which it is believed a worker can be exposed on a regular basis without adverse effects. NIOSH develops immediately dangerous to life or health (IDLH) values that are intended to protect workers from escape-impairing effects, irreversible effects, or death associated with acute (less than 30-minute) exposures. IDLH values are not occupational exposure limits, but are exposure recommendations that represent the maximum airborne concentration above which a highly reliable breathing apparatus is necessary. NIOSH, *Current Intelligence Bulletin 66: Derivation of Immediately Dangerous to Life or Health (IDLH) Values*, Publication 2014-100 (Cincinnati, OH: 2013).

one that is outdated.¹⁰⁰ In response to our 2012 report, which found OSHA's standard-setting process to be challenging and lengthy, OSHA and NIOSH developed an MOU to support their research on developing potential standards.¹⁰¹

Gaps in Peracetic Acid Research

In March 2017, NIOSH announced its intent to initiate a study of workplace uses of and occupational exposure to peracetic acid, but this study will not examine the safety and health hazards this chemical may pose if it is combined with other chemicals, as can happen in slaughter plants. The NIOSH study aims to develop an immediately dangerous to life or health (IDLH) value and an effective workplace measurement method, among other things.¹⁰² While the focus of this research is the characterization of workplace exposure to peracetic acid, the study is not intended to address the extent and consequences of mixing peracetic acid with other substances, which can occur in several ways in meat and poultry plants. As carcasses move from one stage of processing to another, peracetic acid can come into contact with other substances,

¹⁰⁰ According to OSHA, many existing PELs for chemicals are outdated and inadequate for ensuring protection of worker health, and most of OSHA's PELs were issued shortly after adoption of the OSH Act in 1970 and have not been updated since that time. In 1989, OSHA attempted to update or set new PELs for almost 400 chemicals in a single rulemaking; however, the rulemaking was subsequently vacated by a court in 1992. *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir. 1992). OSHA has posted on its website a list of occupational exposure limits developed by other entities and recommends that employers consider using them.

¹⁰¹ GAO, *Workplace Safety and Health: Multiple Challenges Lengthen OSHA's Standard Setting*, GAO-12-330 (Washington, D.C.: Apr. 2, 2012).

¹⁰² According to a 2017 Request for Information published by NIOSH in the *Federal Register*, the study will collect information on: 1) workplace exposure data for peracetic acid; 2) possible health effects observed in workers exposed to peracetic acid; 3) workplaces and products in which peracetic acid may be found; 4) descriptions of work tasks and scenarios with a potential for exposure to peracetic acid; 5) reports and findings from in vitro and in vivo toxicity studies with peracetic acid; 6) data applicable to the quantitative risk assessment of health effects associated with acute, subchronic, and chronic workplace exposures to peracetic acid; 7) sampling and analytical methods for peracetic acid; and 8) control measures, including engineering controls, work practices, and personal protective equipment that are being used in workplaces where there is potential for exposure to peracetic acid. *Health Risks to Workers Associated With Occupational Exposures to Peracetic Acid*; Request for Information, 82 Fed. Reg. 12,819 (Mar. 7, 2017).

such as when there are spills or in drainage systems.¹⁰³ FSIS officials, a worker advocate, and plant workers we interviewed expressed concern that the mixing of chemicals can create new safety and health risks for workers. For example, an FSIS official said that an inspector at a poultry plant complained about effects from airborne chemicals that appeared to be related to the location of her work station, directly over a drain in which multiple substances were pooling. In 2011, 152 workers at an Arkansas poultry plant reported being hospitalized from effects of chlorine gas created after a supervisor added sodium hypochlorite (bleach) into a container holding a residual acidic antimicrobial solution, creating a chemical reaction.¹⁰⁴

NIOSH officials told us they are aware that chemicals can be used in plants alongside peracetic acid and result in a mixed exposure, and that this may be a serious problem. Although the focus of the current peracetic acid study is primarily on the health effects of and exposures to peracetic acid alone, NIOSH officials said that NIOSH has the capability to assist in characterizing worker exposures of concern, and could consider such research in a follow-on study, depending on available resources. In addition, NIOSH officials told us that the agency will consider whether potential health hazards exist from other chemicals in the environment, particularly if they interfere with measuring peracetic acid exposures and assessing health effects in workers. Moreover, officials told us that their current study could provide the basis of follow-on research into other workplace chemical hazards, including mixtures.

In 2004, NIOSH recognized mixed exposures as a priority area for the occupational safety and health research community and identified significant gaps and research needs.¹⁰⁵ According to the report, workers from agriculture, construction, mining, and other industries are commonly exposed to combinations of chemical substances, biological or physical agents, and other stressors, and knowledge is limited regarding the potential health effects of mixed exposures. Identifying these effects can

¹⁰³ Peracetic acid, ammonia, carbon dioxide, chlorine, sodium hydrochlorite (bleach), sodium hydroxide (lye), acidified sodium chloride, and citric acid are some commonly used chemicals that could come into contact with each other in meat and poultry plants.

¹⁰⁴ Francisco Meza, Charles Mueller, and Bradley King, *Evaluation of Health Effects of a Chlorine Gas Release in a Poultry Processing Plant—Arkansas*, NIOSH, CDC, HETA No. 2011-0128-3166 (Cincinnati, OH: September 2012/ revised February 2013).

¹⁰⁵ HHS (NIOSH) *Mixed Exposures Research Agenda: A Report by the NORA Mixed Exposures Team*, Publication No. 2005-106 (Cincinnati, OH: Dec. 2004).

help characterize worker exposure and develop hazard controls that take into account the components of the mixtures. According to NIOSH officials, mixed exposures continue to be important to study because they may represent a health hazard to workers, and employers should prevent or control workplace exposures to such mixtures. By considering the addition to the agency's research agenda of a proposal to examine peracetic acid's use in combination with other chemicals, NIOSH will be better able to characterize worker exposure to such scenarios and develop controls to reduce this hazard for workers.

Conclusions

While OSHA's enforcement efforts in the meat and poultry industry have increased since we reported in 2005, worker safety and health problems persist and improvements are needed in identifying worker concerns, strengthening federal collaboration, and protecting workers from certain chemicals. Workers we spoke with reported they are reluctant to report injuries, illnesses, and hazards because they fear losing their jobs. There is a mismatch between concerns we heard from workers and the problems reported by OSHA, particularly in the area of bathroom access. Taking additional steps to encourage workers to disclose sensitive concerns and gathering additional information to determine the scope of bathroom access issues could enable OSHA to better identify worker safety and health concerns. OSHA's efforts to address medical mismanagement at plants—which has resulted in poor medical care for workers—could be improved by issuing updated guidance for employers on how to manage their health units. Collaboration between OSHA and FSIS is limited and has improved little since we recommended in 2005 that the two agencies strengthen their 1994 MOU on worker safety. Since FSIS is already present in many plants, the federal government is missing out on a cost-effective opportunity to further protect the safety and health of both plant workers and FSIS inspectors by leveraging resources in this fiscally constrained environment. Evaluating the implementation of the MOU and making any needed changes would help ensure the agencies improve their collaboration. With regard to chemicals, there are gaps in information sharing and research that have heightened the risk of chemical hazards for plant workers and FSIS inspectors. In particular, FSIS collects information on how to protect its inspectors from new chemicals, but it does not have a process to share this information with its own inspectors, plant management, OSHA, or NIOSH. By FSIS establishing a process to regularly share the worker safety information it collects during reviews of new chemicals, the federal government will be

better positioned to use existing resources to support the safety and health of plant workers and FSIS inspectors. Finally, NIOSH's plan to conduct a study on peracetic acid will likely yield useful information for meat and poultry worker safety, but it is not intended to address the potential consequences of mixing peracetic acid with other substances, which can occur in several ways in meat and poultry plants. By considering the addition to the agency's research agenda of a proposal to examine peracetic acid's use in combination with other chemicals in meat and poultry plants, NIOSH will be better able to characterize worker exposure to such scenarios and develop controls to reduce this hazard for workers.

Recommendations for Executive Action

We are making seven recommendations, including four to OSHA, two to FSIS, and one to NIOSH. Specifically:

The Assistant Secretary of Labor for Occupational Safety and Health should take additional steps to encourage workers to disclose sensitive concerns during OSHA inspections of meat and poultry plants; for example, by considering additional off-site interviews or exploring other options to obtain information anonymously. (Recommendation 1)

The Assistant Secretary of Labor for Occupational Safety and Health should gather more information, such as by asking workers during meat and poultry plant inspections, to determine the extent to which bathroom access is a problem and how to address any identified issues. (Recommendation 2)

The Assistant Secretary of Labor for Occupational Safety and Health should update its guidance for employers on how to manage their health units to address the challenges of managing these units. (Recommendation 3)

The Assistant Secretary of Labor for Occupational Safety and Health should work with FSIS to assess the implementation of the MOU and make any needed changes to ensure improved collaboration; and set specific timeframes for periodic evaluations of the MOU. (Recommendation 4)

The FSIS Administrator should work with OSHA to assess the implementation of the MOU and make any needed changes to ensure

improved collaboration; and set specific timeframes for periodic evaluations of the MOU. (Recommendation 5)

The FSIS Administrator should develop a process to regularly share the worker safety information it collects during its review of new chemicals with FSIS inspectors, plant management, OSHA, and NIOSH. (Recommendation 6)

The Director of NIOSH should consider including in the agency's research agenda a proposal for examining the extent of peracetic acid's use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers. (Recommendation 7)

Agency Comments and Our Evaluation

We provided a draft of this report to the U.S. Department of Labor (DOL), the U.S. Department of Agriculture (USDA), the U.S. Department of Health and Human Services (HHS), and the Environmental Protection Agency (EPA) for their review. DOL's Occupational Safety and Health Administration (OSHA), USDA's Food Safety and Inspection Service (FSIS), and HHS provided written comments that are reprinted in appendixes II, III, and IV, respectively. In an e-mail dated October 5, 2017, an EPA audit liaison indicated that EPA had no comments. OSHA did not state whether it concurred or not with the four recommendations made to it. USDA expressed concern with the draft report's characterization of FSIS's collaborative efforts and also described planned actions to address the two recommendations we made to it. HHS agreed with the one recommendation we made to it. DOL and HHS provided technical comments, which we incorporated as appropriate.

With respect to our first recommendation that OSHA take additional steps to encourage workers to share information during meat and poultry inspections, OSHA stated that it fully supports the idea of continuous improvement of its processes that would expand its ability to identify and address hazards before an injury, illness, or fatality occurs. However, OSHA noted that it would be challenging to conduct offsite interviews in terms of witness cooperation, resources, and inspector safety. We continue to believe that OSHA should take steps to enhance reporting by meat and poultry workers. Our report describes meat and poultry workers' reluctance to report injuries, illnesses, and hazards to OSHA because of their fear of employer retaliation. OSHA's Field Operations Manual

highlights the importance of a free and open exchange of information between OSHA inspectors and employees for conducting effective inspections. Conducting additional offsite interviews is one way to encourage employee reporting. However, there may be alternative additional steps OSHA could take to better position it to encourage workers to disclose sensitive concerns, consistent with our recommendation.

With respect to our second recommendation that OSHA gather additional information to determine the extent to which bathroom access is a problem in meat and poultry plants, OSHA stated it could not commit to routinely asking about bathroom access at each meat and poultry inspection. OSHA stated that each inspection requires a flexible approach to address unique worksite hazards. It further stated that OSHA does not routinely ask questions about any potential hazards that go beyond the scope of a complaint inspection, unless those hazards are in plain sight. However, as noted in the report, OSHA does require inspectors at poultry plants to consistently investigate other specific hazards, such as ergonomics hazards. Our report highlights the challenges meat and poultry workers may face gaining timely access to bathrooms. However, workers might not volunteer access information to OSHA. Our work identified a mismatch between the concerns we heard from workers and the problems reported by OSHA. Better understanding the scope of bathroom access problems would better position OSHA to respond appropriately. Further, OSHA may choose to address this issue without routinely asking workers about bathroom access, such as by selectively querying workers based on criteria determined by the agency.

With respect to our third recommendation to update its guidance for employers on management of plant health units, OSHA stated that it intends to revisit its guidance.

With respect to our fourth and fifth recommendations for OSHA and FSIS to work together to assess the MOU's implementation, make changes to improve collaboration, and set timeframes for periodic evaluations of the MOU, neither agency stated whether it agreed or not. OSHA stated that meat and poultry plants provide an opportunity for the two agencies to work collaboratively to identify employee hazards and promote safety and health, but OSHA did not comment specifically on the recommendation. FSIS stated that it already has directives in place to recognize and report hazards affecting FSIS employees, and acknowledged that the MOU was designed to additionally have FSIS employees report hazards affecting plant employees due to the regular presence of its inspectors in plants.

FSIS noted that in collaborating with OSHA, FSIS will need to ensure its primary mission is not compromised by undertaking activities that take time and resources away from its food safety inspection responsibilities. We continue to believe that strengthening the MOU and developing a mechanism to regularly evaluate it would help ensure that the goals of the MOU are met, and that leveraging FSIS's presence in plants provides the federal government with a cost-effective opportunity to protect worker safety and health.

With respect to our sixth recommendation that FSIS regularly share the worker safety information it collects during its review of new chemicals with FSIS inspectors, plant managers, OSHA, and National Institute for Occupational Safety and Health (NIOSH), FSIS stated that the agency already has a process for sharing chemical safety information with its inspectors. However, FSIS has not provided us with evidence that it has shared the worker safety information it collects related to new chemicals, such as safety information that is specific for dilution levels and conditions of use at plants, as noted in the report. FSIS also stated that it would take certain steps to share information about approval of chemicals with other agencies such as OSHA and NIOSH, but the steps identified did not include sharing worker safety information. Incorporating worker safety information would further help enhance this information sharing. FSIS further stated that some of the information collected during its review of new chemicals may be proprietary.

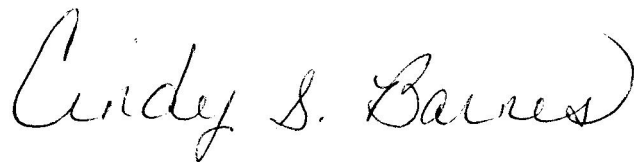
In addition, FSIS also expressed concern with how we characterized its collaboration with OSHA and NIOSH on worker safety. Specifically, in reference to the report's discussion of the development of the poultry inspection modernization rule, FSIS stated that it consulted with and included OSHA and NIOSH during the appropriate step of the rulemaking process, and that the agency followed the Administrative Procedure Act in proposing the rule. We do not intend to suggest any deficiencies with FSIS's rulemaking procedures. Rather, our report points out possible opportunities for earlier and enhanced collaboration with OSHA on standards development. FSIS also requested that GAO include information in the report about the directive FSIS issued to implement the annual attestation on work-related conditions required by the poultry modernization final rule, and that the agency is sharing the information it receives as part of this process with OSHA. We have incorporated this information into the report.

In its written comments, HHS agreed with our seventh recommendation that it consider including in NIOSH's research agenda a proposal for

examining the extent of peracetic acid's use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers.

As agreed with your office, unless you publicly announce the comments of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies of this report to the appropriate congressional committees; the secretaries of Labor, Agriculture, and Health and Human Services; and the Administrator of EPA. In addition, the report is available at no charge on the GAO website at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-7215 or brownbarnesc@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made key contributions to this report are listed in appendix V.



Cindy Brown Barnes, Director
Education, Workforce, and Income Security Issues

Appendix I: Objectives, Scope, and Methodology

This report (1) describes the efforts the Occupational Safety and Health Administration (OSHA) in the U.S. Department of Labor (DOL) has made to help ensure meat and poultry workers' safety and health, and assesses what, if any, challenges OSHA faces in carrying out these efforts; (2) examines how OSHA and the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service (FSIS) have collaborated to help ensure meat and poultry worker safety and health; and (3) assesses any factors that may affect OSHA and FSIS efforts to protect meat and poultry workers from chemical hazards.

The estimated total employment for the animal slaughtering and processing industry in this report is an annual average calculated from household data collected by the Current Population Survey (CPS) in 2016. The CPS is a probability sample and estimates derived from its data have sampling errors associated with them. We followed the DOL Bureau of Labor Statistics (BLS) technical guidance for estimating the standard error of annual average totals from CPS data. We express our confidence in the precision of our estimate as a 95 percent confidence interval. This is the interval that would contain the actual population value for 95 percent of the CPS samples that the U.S. Census Bureau could have drawn.

To describe injury and illness rates in the meat and poultry industry, we analyzed and reported survey data from the BLS Survey of Occupational Injuries and Illnesses (SOII) for calendar years 2004 through 2015 (the most recent year for which data were available).¹ The SOII provides estimates of the number and frequency (incidence rates) of workplace injuries and illnesses by industry and also by detailed case circumstances, such as injury type and event, and worker characteristics for cases that result in days away from work, based on data from logs kept by employers (survey respondents)—private industry and state and

¹ We reported the estimated incidence rates of total recordable cases of injuries and illnesses per 100 workers from calendar years 2004 through 2015. For illnesses, we reported the estimated incidence rates per 10,000 workers. For injuries and illnesses with days away from work, we also reported the estimated incidence rates per 10,000 workers.

local governments. Survey respondents provide counts for all recordable injuries and illnesses under OSHA recordkeeping regulations.

To report SOII data from the meat and poultry industry (using North American Industry Classification System (NAICS) code 31161 for the animal slaughtering and processing industry), BLS provided estimates of each industry's injury and illness incidence rates and their associated relative standard errors. All estimates produced from the analysis of the SOII data are subject to sampling errors. We express our confidence in the precision of the results as a 95 percent confidence interval. This is the interval that would contain the actual population value for 95 percent of the samples the respective agency could have drawn. For estimates derived from BLS's SOII data, we used the agency-provided relative standard errors to estimate the associated confidence intervals. All estimates we report have the associated 95 percent confidence interval provided.

To assess the reliability of BLS SOII data, we reviewed documents related to the data sources, such as BLS's Handbook of Methods, and we interviewed agency officials knowledgeable about these data. We found that SOII data were sufficiently reliable for our purposes in generally reporting estimated incidence rates of injuries and illnesses in the meat and poultry industry.

To address all three objectives, we reviewed relevant federal laws and regulations and interviewed officials from OSHA and FSIS. We also visited four states—Arkansas, Georgia, Minnesota, and Texas—selected based on factors such as high production of meat or poultry; regional emphasis programs focusing on meat or poultry; presence of an OSHA regional or area office; presence of industry and worker advocate contacts; and access to meat or poultry plants participating in the Voluntary Protection Program or the Safety and Health Achievement Recognition Program.² We used USDA statistics on the numbers of cattle, hogs, chicken, and turkeys slaughtered annually in the United States as a proxy for meat and poultry production for each state.³ As appropriate for

² In Minnesota, the state is responsible for oversight of safety and health for private sector workers under a state plan approved by OSHA. In Georgia, Texas, and Arkansas, OSHA is responsible for overseeing safety and health for these workers.

³ USDA, National Agriculture Statistics Service, *Poultry Slaughter: 2015 Summary* (February 2016). See also USDA, National Agriculture Statistics Service. *Livestock Slaughter: 2015 Summary* (April 2016).

each site visit, we met with either local OSHA or state Occupational Safety and Health (OSH) agency officials, as well as FSIS officials (including inspectors, supervisors, and an occupational safety and health official), industry representatives, experts in issues related to worker safety, and representatives of worker advocacy groups; and we visited four meat and poultry plants.⁴ At each plant, we met with plant management, FSIS management and inspectors, and plant safety and health staff, as available. The information gathered from these interviews is not generalizable to all plants or meat or poultry workers.

We also interviewed and reviewed information from additional stakeholders, including experts in issues related to worker safety, as well as representatives of worker advocacy groups. We identified and interviewed these stakeholders based on previous work and on referrals from other stakeholders. We also attended worker safety conferences hosted by the meat industry, the poultry industry, and worker advocates.

We also conducted group and individual interviews with meat and poultry workers in six locations in five states: Arkansas, Delaware, Nebraska, North Carolina, and Virginia.⁵ We interviewed between six and approximately 30 workers per state, totaling approximately 72 workers across all 5 interviews.⁶ We selected sites based on a variety of factors, such as states with a relatively high level of meat or poultry slaughter, according to USDA data; type of plant (meat or poultry); and geographic diversity. We also considered resource availability and the ability of supporting organizations to coordinate worker interviews. We coordinated with worker advocacy groups or worker centers to identify meat and poultry workers who were available and willing to meet with us. Interviews were conducted in English or Spanish. The information gathered from these interviews is not generalizable to all meat or poultry workers.

⁴ In Minnesota, we visited two plants, and in Arkansas and Georgia, we visited one plant each.

⁵ In North Carolina and Virginia, the state is responsible for oversight of safety and health for private sector workers under state plans approved by OSHA. In Arkansas, Delaware, and Nebraska, OSHA is responsible for overseeing safety and health for these workers.

⁶ In Nebraska we interviewed one group of workers and conducted two interviews with individual workers; in the other states we interviewed one group each. We interviewed workers in Arkansas prior to developing the selection process and questions list that we utilized for the other worker interviews. The questions we asked workers in Arkansas were similar to questions we asked workers in other states. In Arkansas, we did not obtain an exact count of worker participants, but estimated attendance to be 30.

To describe the efforts OSHA has made to help ensure meat and poultry workers' safety and health and assess any challenges, we reviewed relevant documentation, such as agency guidance and information about enforcement and compliance assistance activities. We interviewed officials from OSHA and FSIS, as well as representatives of the meat and poultry industry. We also analyzed enforcement data from calendar years 2005-2016 from two OSHA databases: the OSHA Information System and OSHA Legacy Data. We examined data starting in 2005 because our previous report on OSHA inspections in the meat and poultry industry examined inspections data through 2004.⁷ We analyzed enforcement data on federal and state inspections of meat and poultry plants, including data on the type of inspection, violations found, standards cited, penalties assessed, and whether inspectors were denied entry into the plant. To analyze the number of inspections and the results of OSHA inspections of meat and poultry plants, we analyzed inspections of plants with NAICS codes 311611, 311612, and 311613 for meat plants, and NAICS code 311615 for poultry plants. To assess the reliability of the data, we reviewed relevant agency documentation, conducted electronic data testing, and interviewed agency officials knowledgeable about these data. Based on these reviews, we determined that the data were sufficiently reliable for our purposes. To assess OSHA's efforts, we compared information we learned to internal controls from *Standards for Internal Control in the Federal Government* that call for agencies to use quality information and to internally and externally communicate the necessary quality information to achieve the entity's objectives.⁸

To examine how OSHA and FSIS have collaborated to help ensure meat and poultry worker safety and health, we reviewed relevant documentation, such as information about OSHA's and FSIS's collaborative activities, and we interviewed officials from OSHA and FSIS. To analyze information on OSHA inspections of FSIS in meat and poultry plants, we used the most recent data available for calendar years 2005-2016 from the OSHA Information System and OSHA Legacy Data. We also requested FSIS confirm which establishments pertained to the meat and poultry industry. In assessing agency efforts, we reviewed the 1994 memorandum of understanding (MOU) agreed to by OSHA and FSIS,

⁷ GAO, *Workplace Safety and Health: Safety in the Meat and Poultry Industry, While Improving, Could Be Further Strengthened*, GAO-05-96 (Washington, D.C.: Jan. 12, 2005).

⁸ GAO, *Standards for Internal Control in the Federal Government*, [GAO-14-704G](#) (Washington, D.C.: Sept. 2014).

and prior GAO reports that highlight interagency collaboration.⁹ We also compared information we learned from officials to internal controls from *Standards for Internal Control in the Federal Government* that call for agencies to internally and externally communicate the necessary quality information to achieve the entity's objectives.¹⁰

To assess any factors that may affect OSHA and FSIS efforts to protect meat and poultry workers from chemical hazards, we reviewed relevant documentation, such as Environmental Protection Agency (EPA), Food and Drug Administration (FDA), and FSIS processes for reviewing new workplace chemicals, including FSIS's *Compliance Guideline Procedures for New Technology Notifications and Protocols*. We interviewed officials from OSHA, EPA, FDA, and FSIS to understand how these reviews are carried out and the extent to which agencies coordinate and share information. We also interviewed representatives of the meat and poultry industry. We compared information we learned from our review of documents and interviews with officials to internal controls from *Standards for Internal Control in the Federal Government* that call for agencies to internally and externally communicate the necessary quality information to achieve the entity's objectives.¹¹ To understand efforts underway to develop tools to measure the presence of chemicals used in plants, we reviewed scientific information on chemicals, such as peracetic acid, and interviewed officials from OSHA's Salt Lake Technical Center regarding validated sampling and analytical methods.

Focus shifted to peracetic acid during the course of our review because it was identified by FSIS officials and worker advocates as a chemical commonly used in plants for which OSHA had no permissible exposure limit, and FSIS officials told us there were complaints the new chemical was causing illnesses. We reviewed National Institute for Occupational Safety and Health (NIOSH) health hazard evaluations to understand the extent of concerns related to chemicals, including peracetic acid. To identify any gaps in peracetic acid research, we reviewed documents,

⁹ Memorandum of Understanding between DOL's OSHA and USDA's FSIS, February 4, 1994; GAO: *Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms*; [GAO-12-1022](#) (Washington, D.C.: Sept. 27, 2012); and GAO: *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#) (Washington, D.C.: Oct. 21, 2005).

¹⁰ [GAO-14-704G](#).

¹¹ [GAO-14-704G](#).

including NIOSH's 2017 Request for Information on peracetic acid, as well as NIOSH's research agenda and goals for studying the mixture of chemicals, including its 2004 *Mixed Exposures Research Agenda*.¹² We also interviewed officials from NIOSH's Education and Information Division.

We conducted this performance audit from May 2016 to November 2017 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

¹² Health Risks to Workers Associated With Occupational Exposures to Peracetic Acid; Request for Information, 82 Fed. Reg. 12,819 (Mar. 7, 2017), and HHS (NIOSH) *Mixed Exposures Research Agenda: A Report by the NORA Mixed Exposures Team*, Publication No. 2005-106 (Cincinnati, OH: Dec. 2004).

Appendix II: Comments from the Department of Labor

U.S. Department of Labor

Occupational Safety and Health Administration
Washington, D.C. 20210



Reply to the attention of:

OCT - 5 2017

Ms. Cindy Brown Barnes, Director
Education, Workforce and Income Security Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Brown Barnes:

Thank you for the opportunity to comment on the Government Accountability Office's (GAO) draft report, *Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants*. The following comments are submitted on behalf of the Department of Labor's Occupational Safety and Health Administration (OSHA).

As you note in your report, serious hazards have been found in the meat and poultry processing industries, such as amputations, chemical exposures, and repetitive motion injuries. OSHA appreciates the attention to these issues through GAO's review. As you also note, these workplaces provide an opportunity for OSHA to work collaboratively with representatives from the Department of Agriculture's Food Safety and Inspection Service (FSIS) to identify employee exposures and promote safety and health. Additionally, OSHA intends to revisit its guidance on the management of health units as recommended.

OSHA fully supports the idea of continuous improvement to the Agency's processes that will expand the ability to identify and address hazards before an injury, illness, or fatality occurs. For example, ensuring that we address hazards that are common to a particular industry, or encouraging employees to openly communicate their concerns, are both important to a successful inspection process. GAO's recommendation to conduct additional offsite interviews, however, is challenging in terms of witness cooperation, resources, and CSHO safety. Moreover, each inspection requires a flexible approach to address unique workplace hazards. OSHA cannot commit to routinely asking about bathroom access during each inspection at a meat or poultry processing facility. As we mentioned, OSHA does not routinely ask questions about any potential hazards that go beyond the scope of a complaint inspection, unless those hazards are in plain sight.

OSHA welcomes this process review, and appreciates the opportunity to respond to GAO's draft report.

Sincerely,

A handwritten signature in black ink, appearing to read "Loren Sweatt", is written over a light blue horizontal line.

Loren Sweatt
Deputy Assistant Secretary

Appendix III: Comments from the Department of Agriculture



United States Department of Agriculture

Food Safety and
Inspection Service

1400 Independence
Avenue, SW,
Washington, D.C.
20250

Cindy Brown Barnes
Director
Education, Workforce, and Income Security
United States Government Accountability Office
441 G Street, N.W.
Washington, DC

OCT 12 2017

Dear Ms. Barnes,

The United States Department of Agriculture (USDA) appreciates the opportunity to review the U.S. Government Accountability Office's (GAO) draft report entitled *Workplace Safety and Health: Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants* (GAO-18-12). The USDA Food Safety and Inspection Service (FSIS) has some concerns regarding the draft report's characterization of the Agency's collaborative efforts regarding worker safety and address those in the General Comments below. We have also provided our planned corrective actions for each of the recommendations for executive action that are directed at USDA.

General Comments

FSIS' mission is to protect the public's health by ensuring the safety of meat, poultry, and processed egg products. FSIS takes the issue of worker safety seriously. Highlighted below are additional collaborative efforts with the Department of Labor's Occupational Safety and Health Administration (OSHA) and the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health (NIOSH) that were not discussed in detail in the GAO report.

FSIS' proposed rule on the Modernization of Poultry Slaughter Inspection was issued in April 2012 (77 Fed. Reg., 24,873). After the proposed rule published, FSIS had several discussions with OSHA on how to best address potential issues related to line speeds and worker safety. FSIS, in consultation with OSHA and NIOSH, published a Federal Register notice in April 2012 to extend the comment period on the proposed poultry slaughter modernization rule, and to request specific comments on the availability of data that NIOSH could use to analyze the potential effects of line speed on worker safety. FSIS maintains this was the appropriate time to engage with OSHA, and that the agency properly followed the Administrative Procedures Act in proposing the rule. FSIS consulted with and included OSHA and NIOSH during the appropriate step of the rulemaking process when they could comment on the proposed rule.

The GAO draft report mentions in a footnote the final rule "Modernization of Poultry Slaughter Inspection," (79 FR 49566) which established the New Poultry Inspection System (NPIS) as an additional voluntary inspection system for young chickens and all

Page 2

turkey slaughter establishments. In addition to establishing the NPIS, the final rule amended the poultry inspection regulations in 9 CFR part 381 to add a new subpart H "Attestation on Work-Related Conditions." Subpart H includes an attestation requirement for establishments operating under the NPIS.

On October 6, 2016, FSIS Issued Directive 4791.16, which provides instructions related to the annual attestation on work-related conditions that establishments operating under NPIS are required to submit. The Directive states that after the management member of the circuit safety committee receives the attestation, he or she is to forward to the FSIS District Office, and, in turn, the District Office will forward the attestation to the OSHA regional contact. FSIS wants it noted in the GAO report that the agency is sharing this worker safety information with OSHA as a result of new provisions in the final rule.

FSIS also issued Notice 35-15, which accompanied the distribution of two OSHA posters to all poultry slaughter establishments, and Notice 37-14, informing Inspection Program Personnel (IPP) of their options and how to contact OSHA directly whenever they observe workplace hazards that may affect workers (both FSIS and Non-FSIS plant employees) in FSIS-inspected meat, poultry, and egg products establishments. In addition, in 2012, FSIS requested OSHA's review of AgLearn course 8500, Recognizing and Reporting Workplace Safety and Health Hazards. The course was finalized and rolled out as a mandatory training to all off-line IPPs. IPP in establishments that have opted into the New Poultry Inspection System (NPIS) and HACCP Inspection Models Project (HIMP) for Market Hogs all work off-line thus cover the entire plant in the course of conducting inspection activities and can help identify possible safety concerns throughout the facility.

USDA Responses to GAO Recommendations for Executive Action

GAO Recommendation:

The FSIS Administrator should work with the Occupational Safety and Health Administration (OSHA) to: (a) assess the implementation of the 1994 Memorandum of Understanding (MOU) with OSHA and make any needed changes to ensure improved collaboration; and (b) set specific timeframes for periodic evaluations of the MOU.

USDA Response:

As noted in the general comments, FSIS already has Directives in place for the recognition and reporting of hazards affecting FSIS employees. The MOU was designed to additionally have FSIS employees report potential hazards affecting establishment employees. This is primarily due to the fact that FSIS employees are present and work in private entity establishments on a daily basis. However, as already mentioned, FSIS' stated mission is protecting the public's health by ensuring the safety of meat, poultry, and processed egg products. In collaborating with OSHA, FSIS will need to ensure its primary mission is not compromised by undertaking activities that take FSIS time and resources away from our food safety inspection responsibilities.

Page 3

GAO Recommendation:

The FSIS Administrator should develop a process to regularly share the worker safety information it collects during its review of new chemicals with FSIS inspectors, plant management, OSHA and the Centers for Disease Control and Prevention's National Institute for Occupational Safety and Health (NIOSH).

USDA Response:

As part of the review of new chemicals, FSIS requires the chemical manufacturer to address the potential exposure questions outlined in the FSIS New Technology Guidance, Appendix A, *Workplace Safety and Health Criteria*, which is available on the FSIS website. As required by the OSHA Hazard Communication Standard, FSIS regularly shares worker safety information with FSIS inspectors. Under the OSHA Hazard Communication Standard, it is the establishment's responsibility to obtain similar information for the chemicals that are used and provide training to their employees.

Through frequent updates to FSIS Directive 7120.1, *Safe and Suitable Ingredients*, the agency provides up-to-date lists of substances that may be used in the production of meat, poultry, and egg products. FSIS will take the additional step of proactively alerting appropriate OSHA and NIOSH officials when revisions to the Directive are issued. FSIS already regularly communicates policy updates, important notices, alerts and other issues of concern to industry (including plant management) via the weekly Constituent Update. For example, on August 25, 2017, FSIS issued a Constituent Update announcing the most recent revision to Directive 7120.1, as well as a new dynamic web-based lookup table available for the listing of safe and suitable ingredients. The web-based table provides the most up-to-date list of substances that may be used, and allows users to electronically search ingredients by name. In addition, the previous revision of 7120.1 issued on May 12, 2017, was announced the same day in the FSIS Constituent Update dated May 12, 2017.

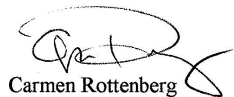
It is important to note that some of the information for the application and use of chemicals received by FSIS is proprietary. Additionally, once a chemical is added to FSIS Directive 7120.1, any establishment can use the chemicals so long as they are within the scope of use outlined in the Directive. Establishments do not need to seek FSIS approval to change their use of chemicals, and in fact may change their configuration and use of chemicals frequently as they work to develop effective food safety controls specific to their operations.

Where the application of a new chemical appears to result in irritation or adverse health effects, FSIS will and does share this information. In fact, FSIS has sought assistance from both OSHA and NIOSH in an attempt to identify effective methods for air sampling and controls for chemicals including peracetic acid, chlorine, chlorine dioxide, and others.

Page 4

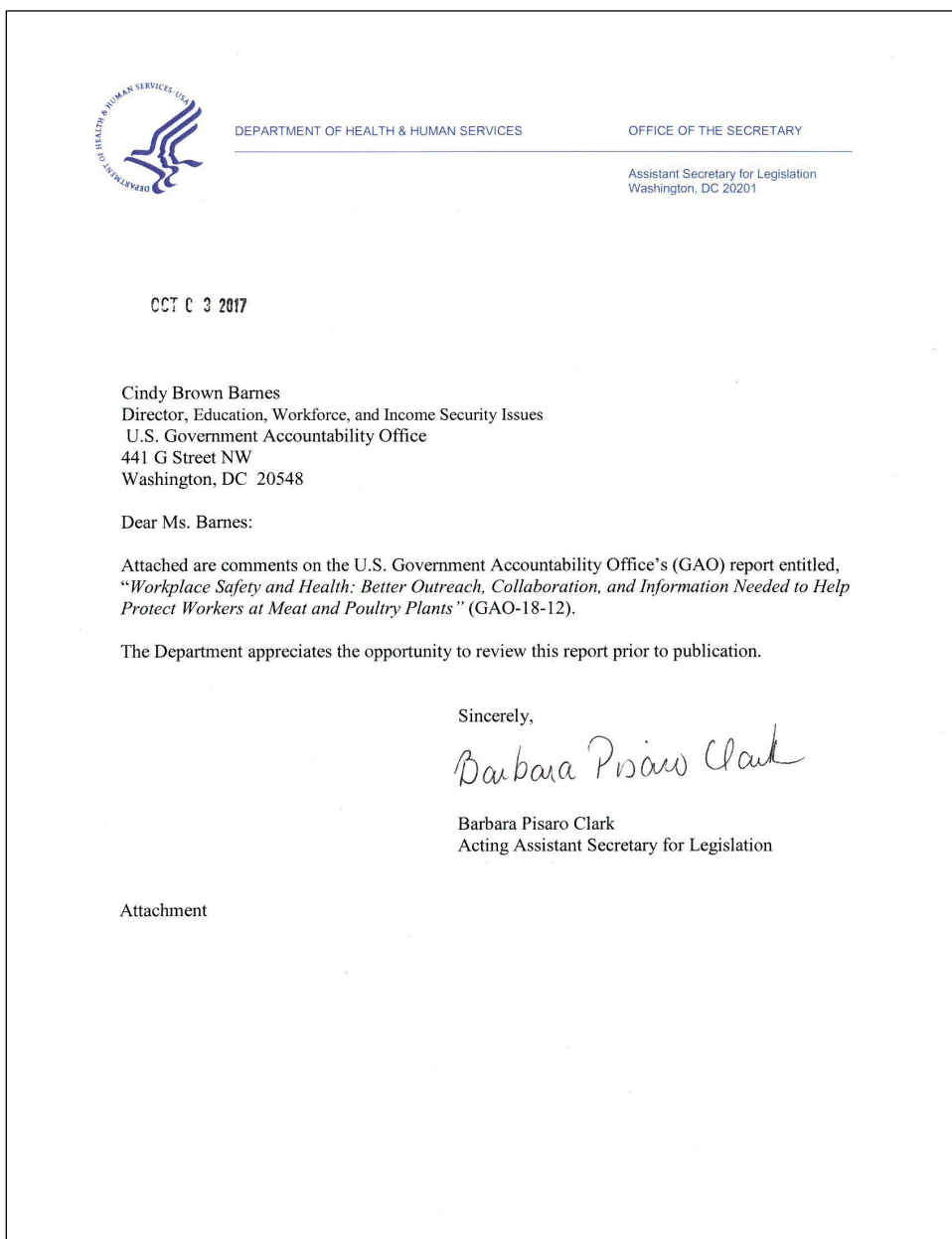
Again, thank you for the opportunity to review and comment on this draft report.

Sincerely,



Carmen Rottenberg
Acting Deputy Under Secretary
Office of Food Safety

Appendix IV: Comments from the Department of Health and Human Services



GENERAL COMMENTS OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES ON THE GOVERNMENT ACCOUNTABILITY OFFICE'S DRAFT REPORT: WORKPLACE SAFETY AND HEALTH: BETTER OUTREACH, COORDINATION, AND INFORMATION NEEDED TO HELP PROTECT WORKERS AT MEAT AND POULTRY PLANTS (GAO-18-12)

The U.S. Department of Health and Human Services (HHS) appreciates the opportunity from the Government Accountability Office (GAO) to review and comment on this draft report.

GAO Recommendation

The Director of the National Institute for Occupational Safety and Health (NIOSH) should consider including in the agency's research agenda a proposal for examining the extent of peracetic acid's use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers (Recommendation 7).

HHS Response

HHS concurs with this GAO recommendation. The Director of NIOSH will consider including in the agency's research agenda a proposal for examining the extent of peracetic acid's use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Cindy Brown Barnes, (202) 512-7215 or brownbarnesc@gao.gov

Staff Acknowledgments

In addition to the contact named above, Blake Ainsworth, (Assistant Director), Mary Denigan-Macauley, Eve Weisberg (Analyst-in-Charge), Rosemary Torres Lerma, Monika Gomez, Linda Collins, Erik Kjeldgaard, Cathy Roark, Susan Aschoff, James Bennett, Almeta Spencer, Sarah Cornetto, Monica Savoy, and Hiwotte Amare made significant contributions to this report.

Also contributing to this report were Ivelisse Aviles, Carl Barden, Tim Bober, Kevin Bray, Marcia Crosse, John Mingus, Steve Morris, Ardith Spence, and Mark Ward.

Appendix VI: Accessible Data

Data Tables

Data Table for Figure 2: Example of Activities along a Slaughter and Processing Line at a Poultry Plant

1. **Receiving and killing:** Live birds are brought to the facility on trucks, rendered unconscious, hung on shackles, and slaughtered.
2. **Evisceration and inspection:** The carcass is eviscerated and later inspected along the line by Food Safety and Inspection Service (FSIS) inspectors.
3. **Cutting and deboning:** Workers may cut carcasses into smaller portions and/or debone pieces of meat using knives or scissors.
4. **Processing and packout:** Meat may be ground and/or seasoned before being packaged and boxed for shipping.

Source: GAO analysis of information from Occupational Safety and Health Administration, National Chicken Council, FSIS, and National Institute for Occupational Safety and Health. | GAO-18-12

Data Table for Figure 3: Steps in and Potential Outcomes of an Occupational Safety and Health Administration (OSHA) Inspection

1. **Inspection initiation:** OSHA may initiate an inspection in situations of imminent danger or in response to a complaint, referral, or report of a fatality or catastrophe; or it may choose to do an inspection as part of a local, regional, or national emphasis program.
2. **Opening conference:** OSHA officials explain to plant management and worker representatives, if applicable, why OSHA chose the workplace for inspection and describe the inspection's scope and procedures.
3. **Walkaround inspection:** OSHA officials walk through portions of the plant covered by the inspection and review worksite injury and illness records, and may interview workers.^a
4. **Closing conference:** OSHA officials discuss findings with the employer and relevant worker representatives and discuss follow-up options if a citation has been made, including options for an informal conference or formally contesting the citation.
5. **If a plant is cited:** If an inspector finds violations of OSHA

standards or the OSH Act, OSHA may issue citations and financial penalties. OSHA must issue a citation within six months of the violation's occurrence.

6. **Options for appeal:** When OSHA issues citations, it offers the employer an opportunity for an informal conference to discuss the citations, proposed penalties, abatement dates, or other information. Employers may also formally contest the citations, proposed penalties, or abatement period by giving OSHA notice within 15 working days after receiving notice of the citations. Contested citations are heard before the Occupational Safety and Health Review Commission.

Source: GAO analysis of U.S. Occupational Safety and Health Administration (OSHA) documentation. | GAO-18-12

Data Table for Figure 4: OSHA Meat and Poultry Plant Inspections, 2005-2016

	Meat	Poultry
2005	124	53
2006	109	51
2007	124	41
2008	137	25
2009	125	39
2010	170	44
2011	161	70
2012	134	73
2013	106	36
2014	111	58
2015	144	103
2016	133	111

Source: GAO analysis of Occupational Safety and Health Administration (OSHA) enforcement data. | GAO-18-12

Data Table for Figure 5: State Occupational Safety and Health Agency Meat and Poultry Plant Inspections, 2005-2016

	Meat	Poultry
2005	131	52
2006	137	38
2007	142	41
2008	139	37
2009	164	58
2010	185	60
2011	117	53
2012	114	42
2013	108	45
2014	109	45
2015	113	67
2016	158	54

Data Table for Figure 6: Top Five Types of National and Regional Emphasis Programs Used by OSHA in Meat and Poultry Plant Inspections, 2016

	Number of times emphasis programs were used (2016)
Amputations (National)	98
Poultry (Region 4)	35
Food and beverage sanitation workers (Region 4)	21
Poultry (Region 6)	20
Highly hazardous chemicals (National)	19

Data Table for Figure 7: OSHA Meat and Poultry Plant Inspections, by Inspection Type, 2005-2016

	Programmed	Unprogrammed
2005	90	87
2006	60	100
2007	79	86
2008	88	74
2009	81	83
2010	98	116
2011	111	120
2012	93	114
2013	59	83
2014	74	95
2015	37	210
2016	35	209

Data Table for Figure 8: Top 10 Standards Cited by OSHA in Meat and Poultry Plant Inspections, 2005-2016

	Number of times cited
General environmental controls: Control of hazardous energy (lockout/tagout) – 29 C.F.R. § 1910.147	791
Electrical: Wiring methods, components, and equipment for general use – 29 C.F.R. § 1910.305	512
Machinery and machine guarding: General requirements for all machines – 29 C.F.R. § 1910.212	477
Hazardous materials: Process safety management of highly hazardous chemicals – 29 C.F.R. § 1910.119	463
Toxic and hazardous substances: Hazard communication – 29 C.F.R. § 1910.1200	360
Electrical: General – 29 C.F.R. § 1910.303	338
Walking-working surfaces: Ladders – 29 C.F.R. § 1910.23	259
Materials handling and storage: Powered industrial trucks – 29 C.F.R. § 1910.178	251
Machinery and machine guarding: Mechanical power-transmission apparatus – 29 C.F.R. § 1910.219	236
Exit routes and emergency planning: Maintenance, safeguards, and operational features for exit routes – 29 C.F.R. § 1910.37	190

Data Table for Figure 9: Initial and Final Median Penalties for Closed OSHA Meat and Poultry Plant Inspections with Violations, 2005-2016

	Initial penalty	Final penalty
2005	3,634	1,817
2006	4,408	2,497
2007	5,581	2,976
2008	3,369	1,729
2009	3,943	2,696
2010	4,238	3,303
2011	7,475	4,368
2012	7,414	5,089
2013	7,661	5,133
2014	6,451	3,635
2015	7,092	4,964
2016	7,000	4,900

Data Table for Figure 10: Assessment of Worker Safety during the EPA, FDA, and FSIS Reviews of Certain Chemicals Before They Are Used in Meat and Poultry Plants

1. The reviewing agency and the type of review depend on the chemical’s intended use
2. EPA assesses the risk of pesticides to human health and the environment (For example, EPA reviews chemicals sprayed on machinery and other surfaces as a sanitizer to kill and prevent the growth of microorganisms)
3. Reviews may be coordinated
4. FDA assesses food additives for consumer safety
5. As part of its safety and suitability review of new ingredients and substances used in meat and poultry products, FSIS assesses, among other things, risks posed to FSIS inspectors

(For example, FDA and FSIS review antimicrobials applied directly on meat and poultry to ensure they are safe for consumption)

Source: GAO analysis of documentation from EPA, FDA, and FSIS. | GAO-18-12

Agency Comment Letters

Text of Appendix II: Comments from the Department of Labor

Ms. Cindy Brown Barnes, Director

Education, Workforce and Income Security Issues

U.S. Government Accountability Office

441 G Street, NW Washington, DC 20548

Dear Ms. Brown Barnes:

Thank you for the opportunity to comment on the Government Accountability Office's (GAO) draft report, Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants. The following comments are submitted on behalf of the Department of Labor's Occupational Safety and Health Administration (OSHA).

As you note in your report, serious hazards have been found in the meat and poultry processing industries, such as amputations, chemical exposures, and repetitive motion injuries. OSHA appreciates the attention to these issues through GAO's review. As you also note, these workplaces provide an opportunity for OSHA to work collaboratively with representatives from the Department of Agriculture's Food Safety and Inspection Service (FSIS) to identify employee exposures and promote safety and health. Additionally, OSHA intends to revisit its guidance on the management of health units as recommended.

OSHA fully supports the idea of continuous improvement to the Agency's processes that will expand the ability to identify and address hazards before an injury, illness, or fatality occurs. For example, ensuring that we address hazards that are common to a particular industry, or encouraging employees to openly communicate their concerns, are both important to a successful inspection process. GAO's recommendation to conduct additional offsite interviews, however, is challenging in terms of witness cooperation, resources, and CSHO safety. Moreover, each inspection requires a flexible approach to address unique workplace hazards. OSHA

cannot commit to routinely asking about bathroom access during each inspection at a meat or poultry processing facility. As we mentioned, OSHA does not routinely ask questions about any potential hazards that go beyond the scope of a complaint inspection, unless those hazards are in plain sight.

OSHA welcomes this process review, and appreciates the opportunity to respond to GAO's draft report.

Loren Sweatt

Deputy Assistant Secretary

Text of Appendix III: Comments from the Department of Agriculture

Page 1

Cindy Brown Barnes Director

Education, Workforce, and Income Security United States Government
Accountability Office 441 G Street, N.W.

Washington, DC

OCT 12 2011

Dear Ms. Barnes,

The United States Department of Agriculture (USDA) appreciates the opportunity to review the U.S. Government Accountability Office's (GAO) draft report entitled *Workplace Safety and Health: Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants* (GAO-18-12). The USDA Food Safety and Inspection Service (FSIS) has some concerns regarding the draft report's characterization of the Agency's collaborative efforts regarding worker safety and address those in the General Comments below. We have also

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Page 3

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USDA Response:

As part of the review of new chemicals, FSIS requires the chemical manufacturer to address the potential exposure questions outlined in the FSIS New Technology Guidance, Appendix A, Workplace Safety and Health Criteria, which is available on the FSIS website. As required by the OSHA Hazard Communication Standard, FSIS regularly shares worker safety information with FSIS inspectors. Under the OSHA Hazard Communication Standard, it is the establishment's responsibility to obtain similar information for the chemicals that are used and provide training to their employees.

Through frequent updates to FSIS Directive 7120.1, Safe and Suitable Ingredients, the agency provides up-to-date lists of substances that may be used in the production of meat, poultry, and egg products. FSIS will take the additional step of proactively alerting appropriate OSHA and NIOSH officials when revisions to the Directive are issued. FSIS already regularly communicates policy updates, important notices, alerts and other issues of concern to industry (including plant management) via the weekly Constituent Update. For example, on August 25, 2017, FSIS issued a Constituent Update announcing the most recent revision to Directive 7120.1, as well as a new dynamic web-based lookup table available for the listing of safe and suitable ingredients. The web-based table provides the most up-to-date list of substances that may be used, and allows users to electronically search ingredients by name. In addition,

the previous revision of 7120.1 issued on May 12, 2017, was announced the same day in the FSIS Constituent Update dated May 12, 2017.

It is important to note that some of the information for the application and use of chemicals received by FSIS is proprietary. Additionally, once a chemical is added to FSIS Directive 7120.1, any establishment can use the chemicals so long as they are within the scope of use outlined in the Directive. Establishments do not need to seek FSIS approval to change their use of chemicals, and in fact may change their configuration and use of chemicals frequently as they work to develop effective food safety controls specific to their operations.

Where the application of a new chemical appears to result in irritation or adverse health effects, FSIS will and does share this information. In fact, FSIS has sought assistance from both OSHA and NIOSH in an attempt to identify effective methods for air sampling and controls for chemicals including peracetic acid, chlorine, chlorine dioxide, and others.

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Again, thank you for the opportunity to review and comment on this draft report.

Sincerely,

Carmen Rottenberg

Acting Deputy Under Secretary Office of Food Safety

Text of Appendix IV: Comments from the Department of Health and Human Services

Page 1

Cindy Brown Barnes

Director, Education, Workforce, and Income Security Issues

U.S. Government Accountability Office 441 G Street NW

Washington, DC 20548

Dear Ms. Barnes:

Attached are comments on the U.S. Government Accountability Office's (GAO) report entitled, " Workplace Safety and Health: Better Outreach, Collaboration, and Information Needed to Help Protect Workers at Meat and Poultry Plants" (GAO-I 8-12).

The Department appreciates the opportunity to review this report prior to publication.

Sincerely,

Barbara Pisaro Clark

Acting Assistant Secretary for Legislation

Attachment

Page 2

The U.S. Department of Health and Human Services (HHS) appreciates the opportunity from the Government Accountability Office (GAO) to review and comment on this draft report.

GAO Recommendation

The Director of the National Institute for Occupational Safety and Health (NIOSH) should consider including in the agency's research agenda a proposal for examining the extent of peracetic acid ' s use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers (Recommendation 7).

HHS Response

HHS concurs with this GAO recommendation. The Director of NIOSH will consider including in the agency's research agenda a proposal for examining the extent of peracetic acid's use in combination with other chemicals in meat and poultry plants, and any safety and health hazards these combinations may pose to workers.

Related GAO Products

Workplace Safety and Health: Additional Data Needed to Address Continued Hazards in the Meat and Poultry Industry. [GAO-16-337](#). Washington, D.C.: April 25, 2016.

Regulatory Guidance Processes: Selected Departments Could Strengthen Internal Control and Dissemination Practices. [GAO-15-368](#). Washington, D.C.: April 16, 2015.

Chemical Assessments: Agencies Coordinate Activities, But Additional Action Could Enhance Efforts. [GAO-14-763](#). Washington, D.C.: September 29, 2014.

Food Safety: USDA Needs to Strengthen Its Approach to Protecting Human Health from Pathogens in Poultry Products. [GAO-14-744](#). Washington, D.C.: September 30, 2014.

Food Safety: More Disclosure and Data Needed to Clarify Impact of Changes to Poultry and Hog Inspections. [GAO-13-775](#). Washington, D.C.: August 22, 2013.

Workplace Safety and Health: OSHA Can Better Respond to State-Run Programs Facing Challenges. [GAO-13-320](#). Washington, D.C.: April 16, 2013.

Workplace Safety and Health: Further Steps by OSHA Would Enhance Monitoring of Enforcement and Effectiveness. [GAO-13-61](#). Washington, D.C.: January 24, 2013.

Managing for Results: Key Considerations for Implementing Interagency Collaborative Mechanisms. [GAO-12-1022](#). Washington, D.C.: September 27, 2012.

Workplace Safety and Health: Multiple Challenges Lengthen OSHA's Standard Setting. [GAO-12-330](#). Washington, D.C.: April 2, 2012.

Workplace Safety and Health: Better OSHA Guidance Needed on Safety Incentive Programs. [GAO-12-329](#). Washington, D.C.: April 9, 2012.

Workplace Safety and Health: Enhancing OSHA's Records Audit Process Could Improve the Accuracy of Worker Injury and Illness Data. [GAO-10-10](#). Washington, D.C.: October 15, 2009.

OSHA's Voluntary Protection Programs: Improved Oversight and Controls Would Better Ensure Program Quality. [GAO-09-395](#). Washington, D.C.: May 20, 2009.

Whistleblower Protection Program: Better Data and Improved Oversight Would Help Ensure Program Quality and Consistency. [GAO-09-106](#). Washington, D.C.: January 27, 2009.

Workplace Safety and Health: OSHA Could Improve Federal Agencies' Safety Programs with a More Strategic Approach to Its Oversight. [GAO-06-379](#). Washington, D.C.: April 21, 2006.

Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies. [GAO-06-15](#). Washington, D.C.: October 21, 2005.

Workplace Safety and Health: Safety in the Meat and Poultry Industry, While Improving, Could Be Further Strengthened. [GAO-05-96](#). Washington, D.C.: January 12, 2005.

Workplace Safety and Health: OSHA's Voluntary Compliance Strategies Show Promising Results, But Should Be Fully Evaluated before They Are Expanded, [GAO-04-378](#). Washington, D.C.: March 19, 2004.

Workplace Safety and Health: OSHA Can Strengthen Enforcement through Improved Program Management. [GAO-03-45](#). Washington, D.C.: November 22, 2002.

Workplace Safety and Health: OSHA Should Strengthen the Management of Its Consultation Program. [GAO-02-60](#). Washington, D.C.: October 12, 2001.

Food Safety: Weaknesses in Meat and Poultry Inspection Pilot Should Be Addressed Before Implementation. [GAO-02-59](#). Washington, D.C.: December 17, 2001.

Worker Protection: Better Coordination Can Improve Safety at Hazardous Material Facilities. [GAO-01-62](#). Washington, D.C.: October 26, 2000.

Community Development: Changes in Nebraska's and Iowa's Counties with Large Meatpacking Plant Workforces. [GAO/RCED-98-62](#).
Washington, D.C.: February 27, 1998.

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