In-Home Food Safety Behaviors and Consumer Education: Annual Observational Study

OMB No. 0583-NEW

Supporting Statement

TERMS OF CLEARANCE: The Agency has addressed all terms of clearance. The Agency submitted materials for the additional studies and has addressed all previous terms of clearance.

A. Justification

A.1. Circumstances Making Collection of Information Necessary

The U.S. Department of Agriculture's (USDA's) Food Safety and Inspection Service (FSIS) has been delegated the authority to exercise the functions of the Secretary of Agriculture (7 CFR 2.18, 2.53) as specified in the Federal Meat Inspection Act and the Poultry Products Inspection Act (21 U.S.C. 453 et. seq., 601 et seq.). FSIS protects the public by verifying that meat, poultry, and processed egg products are wholesome; not adulterated; and properly marked, labeled, and packaged.

USDA FSIS' Office of Public Affairs and Consumer Education (OPACE) develops consumer education programs concerning the safe handling, preparation, and storage of meat, poultry, and processed egg products to improve consumer food handling behaviors and minimize the incidence of foodborne illness. OPACE shares its food safety messages through the Food Safe Families campaign (a cooperative effort of the USDA, the Food and Drug Administration [FDA], and the Centers for Disease Control and Prevention [CDC]); social media; Ask USDA (an online database of frequently asked food safety questions); the FSIS website; FoodSafety.gov (the cross-federal website operated by FSIS, FDA, and CDC used to promote safe food handling to consumers); the Meat and Poultry Hotline; and various publications, media releases, blogs, and events. These messages are focused on the four core food safety behaviors: clean, separate, cook, and chill.

The FSIS fiscal years 2017–2021 strategic plan addresses the need to conduct research to inform OPACE's efforts to effectively communicate food safety information to consumers: "[t]he agency will continue to extend and expand [these] food safety messages ... [and] ... will

conduct research on consumer adoption of safe food handling practices to inform the agency about meaningful ways to explain food safety risks to consumers" (USDA, FSIS, 2016). The proposed behavioral research will provide insight into the effect FSIS consumer outreach activities have on consumers' food safety behaviors. The results of this research will be used to enhance messaging and accompanying materials to improve food safety behaviors of consumers. Additionally, this research will provide useful information for tracking progress toward the goals outlined in the FSIS fiscal years 2017–2021 strategic plan (USDA, FSIS, 2016).

FSIS is requesting renewal of an approved information collection (Office of Management and Budget [OMB] Control Number: 0583-0169, expiration date 6/30/2020) to conduct observational studies using an experimental design. Previous research suggests that self-reported data (e.g., surveys) on consumers' food safety practices are unreliable because consumers tend to overreport their behavior (e.g., simply rinsing their hands instead of washing with soap and water for 20 seconds as recommended); thus, observational studies are a preferred approach for collecting information on consumers' actual food safety practices (Mazengia et al., 2015; Sneed et al., 2015; Bruhn 2014; Phang & Bruhn, 2011; Anderson, Shuster, Hansen, Levy, & Volk, 2004). These observational studies will help FSIS assess adherence to the four recommended food safety behaviors of clean, separate, cook, and chill; determine whether food safety messaging focused on those behaviors affects consumer food safety handling behaviors; and determine whether consumers introduce cross-contamination during food preparation. For this 2year study, FSIS plans to conduct separate observational studies each year and focus on a different behavior, food and food preparation task, and food safety communication product each year.

A.2. How, by Whom, and Purpose Information Is to Be Used

FSIS has contracted with RTI International to conduct the annual observational study. FSIS will use the findings from this study to address Objective 1.2.3 of the FSIS fiscal years 2017–2021 strategic plan, which is to "increase public awareness of recalls, foodborne illness, and safe food handling practices" (USDA, FSIS, 2016). This objective includes two measures: (1) "% increase in public awareness of safe food handling guidance and recalls through communication channels" and (2) "% increase of consumers identified who follow safe food handling behaviors." The research findings will help inform the development of strategic

communication and outreach efforts and evaluate the effect of these activities. By testing new consumer messaging and tailoring existing messaging, FSIS can help ensure that it is effectively communicating with the American public; promoting behavior change with a goal of increasing public awareness of foodborne illness and safe food handling practices; and ultimately increasing consumer adherence to the recommended safe food handling behaviors of clean, separate, cook, and chill. The remainder of this section provides an overview of the procedures for the annual observational study.

An observational study will be conducted each year following the approach described below. In each iteration of the observational study, participants will be assigned to a control group (no exposure to food safety messaging) or a treatment (intervention) group that receives the food safety message. Participants will be recruited and asked to come to the test kitchen location and provided with the recipes and ingredients needed to prepare the specific meat or poultry dish and a ready-to-eat dish. Each iteration of the study will focus on one of the four food safety behaviors (clean, separate, cook, or chill) and will also collect data on other food safety behaviors (e.g., washing hands before food preparation, washing hands after handling raw meat/poultry, using a separate or clean cutting board for raw meat/poultry and ready-to-eat foods) and whether cross-contamination occurred during meal preparation.

The fiscal year 2020 study will examine participants' food handling practices for grilling hamburgers and bratwursts (i.e. raw, ground pork sausages) on an indoor grill and preparing a ready-to-eat side salad and assess whether the inclusion of food safety instructions in recipes improves participants' food safety practices (see Appendix A for a detailed description of the 2020 study). The fiscal year 2021 study will examine participants' food safety practices when preparing kabobs and serving them buffet style. The study materials contained in the appendices called out below are for the 2020 study. These materials will be revised and customized for the 2021 study and will be submitted to OMB for review before data collection.

Study participants will be recruited from the Raleigh-Durham area of North Carolina using convenience sampling via social media outlets (see Appendix B) and by sending emails to Expanded Food and Nutrition Education Program participants to reach low-income consumers (see Appendix C). If needed, notices about the study will also be posted in grocery stores; food retailers; Women, Infant, and Children (WIC) clinics; and other organizations throughout the

Raleigh-Durham area of North Carolina (see Appendix D). Recruitment materials, available in English and Spanish (to reach English-speaking Hispanics or Latinos), will direct prospective participants to either call or email a study team member to be screened for eligibility or access a web link that will host the screening questionnaire (see Appendix E). As part of the screening process, we will collect data on participant and household demographics to ensure that the demographics of recruited participants are similar to those of the U.S. population based on Census data. Study enrollment will include contact by phone (see Appendix F) to schedule an appointment with individuals who meet the eligibility criteria followed by an initial confirmation email or letter (see Appendix G) and up to two follow-ups delivered by email or text messaging. If needed, we may also make a reminder call 1 or 2 days before the scheduled appointment (see Appendix H). Participants will be told that study participation involves preparing several recipes and participating in a short interview. English-speaking adults who meet the screening criteria can take part in the study.

Before the observation and food preparation begin, the meat/poultry products will be inoculated with a harmless, realistic, and known amount of tracer bacteria. Under video observation, participants will be asked to prepare two recipes: one made with a raw meat or poultry product and one made with a ready-to-eat product. After receiving the appropriately assigned messaging (the treatment group will receive messaging on food safety specific to the behavior of interest), participants will receive instruction to prepare the recipes as they would at home (see Appendix L).

The study will be conducted in North Carolina State University (NCSU) test kitchens (located in Raleigh, North Carolina) specifically designed for observational studies. Video recording equipment will be set up to record meal preparation. Trained research staff will conduct the video recording. Following the meal preparation and before cleanup, trained sample collectors will conduct surface swab sampling, and study staff will transport the samples to an NCSU testing laboratory.

Recording of food handling and meal preparation will begin as soon as the participant enters the test kitchen and will end after the participant leaves. Participants' cleaning and sanitizing of equipment and environment before and after preparing the recipe will also be

recorded to evaluate intrameal and intermeal contamination risks (Redmond, Griffith, Slader, & Humphrey, 2004). Following the observation portion of the study, trained sample collectors will take surface swab samples from locations such as kitchen surfaces, utensils, food containers, appliance handles, cutting boards, and the ready-to-eat dish (up to 15 sites in total). The swabs will be delivered to an NCSU testing laboratory and plated to determine the presence and concentration of the tracer. The presence of the tracer will indicate that cross-contamination occurred during food preparation. The level of cross-contamination will be compared across the sampling sites to determine the highest risk areas. Kitchen surfaces, appliances, and other potentially contaminated sites will be cleaned and sanitized after each participant uses the test kitchen to ensure removal of the tracer.

Supplementing the observations, post-observation interviews (see Appendix I) will be conducted to provide insight into participants' views, opinions, and experiences of their preparation practices of these products and their usual practices for preparing the products at home. Participants in the treatment group will also be asked about their exposure to the intervention. Collecting qualitative data will allow the project team to connect the knowledge, attitudes, and perceived behaviors with actual observed practices, allowing for more targeted intervention refinement or development.

Assuming COVID-19 infection rates do not increase above the current level in Raleigh, North Carolina (the location for the in-person data collection) and as long as North Carolina State University's (NCSU), the subcontractor for the in-person data collection, is permitted to do so by state, local, and university policy, which is based on continuous review of COVID-19 community transmission and adherence to social distancing guidelines, data collection for fiscal year 2020 will take place (starting in October 2020 and continuing through spring 2021).

Procedures will be in place to protect data collectors and study staff from being infected with COVID-19 and to prevent the transmission of COVID-19. Recruiting materials will indicate that COVID-19 screening will be part of the screening and eligibility process. Participants who have tested positive for COVID-19, have symptoms of COVID-19 (including temperature above 100°F), interacted with someone who has been diagnosed with COVID-19, or are age 65 or older will not be eligible to take part in the study. On the day of the observation, a COVID-19 screening tool will be administered, and participants must pass this screening to take part in the

study (Appendix N). Data collectors and participants will be required to follow the COVID-19 procedures specifically established for this study (see Appendix M) and approved by NCSU's Institutional Review Board. These procedures include wearing a mask, practicing social distancing, limiting the number of individuals allowed at the kitchen facility, disinfecting in between observations, and following the other procedures as detailed in Appendix M.

Trained coders will use a coding rubric to evaluate the video observations based on the four food safety handling behaviors of clean, separate, cook, and chill. This rubric will be used to consistently define when a "good" (i.e., the recommended) behavior occurred (e.g., use of a food thermometer) or when one did not occur when it should have (e.g., did not wash hands after handling raw meat). Trained coders will watch the video observations and conduct the coding using the video observation rubric. Additionally, the coders will use notational analysis to assess recorded actions and their frequencies. Notational analysis is a generic tool used to collect observed events and place them in an ordered sequence and has been previously used in food safety research (Clayton & Griffith, 2004).

The agency will use the findings of the observational studies to help FSIS assess adherence to the four recommended food safety behaviors of clean, separate, cook, and chill (based on actual, not self-reported behavior) and to determine whether food safety messaging focused on those behaviors affects consumer food safety handling behaviors and whether consumers introduce cross-contamination during food preparation. The findings from the observational studies will be used to inform the development of new and refined communication materials on food safety and foodborne illness prevention, thus helping to reduce the burden of foodborne illness in the United States.

A.3. Use of Improved Information Technology

Participants have the option of calling or completing a web-based questionnaire to be screen for eligibility. Offering prospective participants the option to complete a web-based questionnaire for screening will be less burdensome and more cost-effective than requiring all prospective participants to call research staff to be screened for eligibility. Prospective

participants who complete the web-based questionnaire and who meet the eligibility requirements for study participation will still need to be contacted via phone by research staff to schedule an appointment for completing the study.

A.4. Efforts to Identify and Avoid Duplication

FSIS reviewed existing research and concluded that the proposed data collection will not duplicate any similar study and the existing knowledge base and literature do not meet the agency's informational needs.

A.5. Methods to Minimize Burden on Small Business Entities

No small businesses will be involved in this collection.

A.6. Consequences of Less Frequent Data Collection

FSIS will conduct an observational study each year to allow the evaluation of a specific behavior and related food safety communication material each year. A different set of individuals will participate in the study each year. If the data collection is conducted less frequently, then FSIS would be limited to evaluating only one specific behavior and related food safety communication. Proper safe food handling encompasses a variety of behaviors as evidenced by the number of behaviors asked about in the Food Safety Survey, an ongoing survey conducted by FDA with support from FSIS to characterize consumers' food safety practices when cooking at home. The most recent iteration of the survey (conducted in 2015–2016) found that some behaviors, such as handwashing, have remained constant or decreased in recent years after increasing for several years (FDA, 2016). Thus, there is the continued need to educate consumers about recommended food safety practices to increase knowledge and adoption of recommended behaviors. By conducting the annual observation study, FSIS will have a better understanding of whether food safety messaging focused on specific behaviors affects consumer behaviors.

A.7. Special Circumstances Relating to the Guidelines of 5 CFR 1320.5 that Would Cause the Information Collection to be Conducted in a Manner:

- requiring respondents to report information to the agency more often than quarterly;
- requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;
- requiring respondents to submit more than an original and two copies of any document;
- requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than 3 years;
- in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;
- requiring the use of a statistical data classification that has not been reviewed and approved by OMB;
- that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or that unnecessarily impedes sharing of data with other agencies for compatible confidential use; or
- requiring respondents to submit proprietary trade secret or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.

This information collection fully complies with 5 CFR 1320.5(d) (2). There are no special circumstances associated with this information collection that would be inconsistent with the regulation.

A.8. Consultations with Persons Outside the Agency

In accordance with the Paperwork Reduction Act, FSIS published a 60-day notice requesting comments regarding this information collection request (85 FR14455; 3/12/2020). The agency received four responses in response to Docket No. FSIS-2020–0008. Two comments were not relevant; one comment was from Ms. Jeanne Blankenship, Ms. Liz Campbell, and Ms. Emily Kranias of the Academy of Nutrition and Dietetics (the Academy) and one comment was from Dr. Mandy Carr Johnson of the National Cattlemen's Beef Association (NCBA), both in support of the information collection. The Academy suggested three items FSIS should consider for the information collection. The Academy suggested we explore the Safe Recipe Style Guide that was created by the Partnership for Food Safety Education with funding from the Food and Marketing Institute to improve food safety behaviors. In our response, we indicated that we will be utilizing this resource as part of the observational study. The Academy also suggested we continue studying the frequency of handwashing in food preparation. In our response, we agreed this was an important component and we will continue to explore this as part of the postobservation interview. In their final comment, the Academy suggested conducting in-home observations due to social distancing recommendations of COVID-19. In our response, we stated that we will be unable to include in-home observations in this study due to the large sample size. However, we will ensure social distancing and sanitization procedures are in place to help prevent transmission as recommended by the Centers for Disease Control and Prevention. The NCBA shared research conducted in 2020 to help inform consumer behavior. In our response, we thanked the NCBA and will consider their insights for future research.

Three individuals tested the instruments for the observation study to estimate respondent burden. The names, phone numbers, and length of time to take part in the meal preparation and post-observation interview are provided below:

- Geri Bushel, 919-515-9136, 80 minutes
- Lydia Goodson, 919-589-6857, 105 minutes
- Catherine Sander, 909-809-4010, 100 minutes

This corroborates our estimated burden of up to 2 hours.

A.9. Payments to Respondents

We understand that the OMB guidance about incentives for participation in research is based on the principles of the 2006 memo "Guidance on Agency Survey and Statistical Information Collections." We propose providing each participant a \$75 cash incentive and a small gift (food thermometer valued at \$5.38) to ensure a high show rate for the observational studies and to improve data quality. Additionally, participation in observational studies requires substantial commitment and investment of time on the part of the participant, in that they must make a commitment to attend the study at a certain time on a specific date. Participation also requires participants to travel to a designated location, with the average commute in the U.S. metropolitan areas estimated at about 26.1 minutes (U.S. Census Bureau, 2017) and may also require that the participant obtain child care for a fee. Thus, providing incentives has long been considered a standard practice in conducting research such as observational studies.

Table A-1 provides a breakdown of the cost to participate in the observational study by subpopulation. Although the cost to participate varies depending on whether child care is needed (from \$30.02 to \$82.17), we propose to offer all participants the same incentive amount (\$75) to avoid introducing selection bias that might occur by offering different incentive amounts to individuals with and without children in their households.

The proposed \$75 incentive amount is in line with the industry standard. These industrystandard stipends help ensure that respondents can be recruited efficiently and ensure their arrival and participation in the study. These standards also exist to provide fair compensation for costs incurred by participants while participating in the study (i.e., travel and child care expenses). In addition to covering reasonable costs of participation, payment to participants is necessary to ensure that a sufficient number of respondents from the target population participate

in the study. Payment to participants must encourage potential participants to agree to allocate their time to the study and maintain that commitment on the day of the research.

Offering no incentive or a smaller incentive could potentially exclude sections of the population who cannot participate in the study, either due to the cost of child care and/or travel or the cost of missing work. Excluding sections of the population would limit the information that would be gained through the observational studies and potentially bias the information needed to address the research questions of interest, thus negatively affecting data quality.

The \$75 incentive payment proposed is the amount that was previously approved and is consistent with what OMB has approved for studies with a participant burden of 90 to 120 minutes, for example, OMB No. 0583-0166: *Professional Services to Support Requirements Gathering Sessions for Safe Food Handling Instructions (SHI)*; OMB No. 0583-0141: *Consumer Research, Assessing the Effectiveness and Application of Public Health Messages Affecting Consumer Behavior Regarding Food Safety;* OMB No. 0920-0910: *Perceptions of Health Risk from Smokeless Tobacco Products and Nicotine Replacement Therapy among Pregnant Women and Women Planning a Pregnancy;* and OMB No. 0584-0561: *Healthy Incentives Pilot Evaluation.*

We anticipate that without the cash incentive and gift, we would need to screen more people to achieve the desired cooperation rate. The current estimated annualized burden for the participant screening is about 111 hours for each iteration of the study. Without any incentive, we expect that twice the number of individuals would need to be screened so that the total burden for screening would be about 222 hours for each iteration of the study. The cost to respondents and the federal government would increase accordingly.

Estimated Cost to Participants of Taking Part in the Observational Study by Table A-1.

Households with children			
Cost Component	Estimated Number of Units	Unit Cost	Total Cost
Cost to travel to/from test kitchen	52.2 miles ^{a,b}	\$0.575/mile ^c	\$30.02
Cost of child care during travel time (1 hour round trip) and attending study (15 minutes before appointment to park and check in, 2 hours for study, 15 minutes after group to check out and receive incentive)	3.5 hours	\$14.90/hour ^d	\$52.15
Total			\$82.17
Households without children			
Cost Component	Estimated Number of Units	Unit Cost	Total Cost
Cost to travel to/from test kitchen	52.2 miles ^{a,b}	\$0.575/mile ^c	\$30.02
Total			\$30.02

Households With and Without Children

^a Source: <u>https://www.census.gov/library/visualizations/interactive/travel-time.html</u>

^b The average commute in a U.S. metropolitan area is an estimated 26.1 minutes to a designated location. Assuming participants travel 60 miles per hour, the total number of roundtrip miles is 52.2 miles.

^c Source: <u>http://www.gsa.gov/portal/content/100715</u>

^d Source: <u>https://www.care.com/c/stories/2423/how-much-does-child-care-cost/</u>. 2018 hourly rate for nanny, in-home care.

A.10.Assurance of Confidentiality

The privacy of the study participants will be assured by using an independent contractor to collect the information, by enacting procedures to prevent unauthorized access to respondent data, and by preventing the public disclosure of the responses of individual participants.

The only Information in Identifiable Form (IIF) that will be obtained is the participants'

names, phone numbers, and email or mailing addresses for scheduling the appointment for the

observational study, mailing confirmation letters, and making reminder phone calls. This IIF will

be maintained by NCSU. These personal identifiers will not be linked to data and will not be shared with FSIS or RTI.

Participation in the observational study and the post-observation interview are voluntary, and participants will be advised that their responses will be treated in a secure manner and will not be linked to their names. The digital video tapes will be stored on a password-protected share drive, accessible only to project staff.

Assurances of data privacy and security are documented in the informed consent form (see Appendix J). The study protocol and instruments were reviewed and approved by NCSU's Institutional Review Board (see Appendix K).

RTI and FSIS will not have access to participants' personal information. No personally identifying information will be included in the data files delivered to the agency. In accordance with the Privacy Threshold Analysis, a Privacy Impact Analysis was prepared.

A.11. Justification for Questions of Sensitive Nature

During the observational study and post-observation interview, participants will not be asked any questions that are personal or sensitive in nature. However, during recruitment, prospective participants will be asked if they or household members have been diagnosed with cancer, diabetes, or other conditions that weaken the immune system. Individuals will not be asked for a specific diagnosis. Immunocompromised individuals are considered at risk for foodborne illness; thus, it is important to collect information on their or their caregivers' food handling behaviors.

A.12. Estimates of Respondent Burden

FSIS has reduced the total burden estimate for three years in the renewal collection by 878 hours because FSIS plans to conclude its research in two years, after the renewal. The original burden estimate of 2,950 hours was for three years.

The total estimated burden for the two iterations of the observational study is 1,036 hours (see Table A-2), for a total burden of 2,072 hours for 2 years. The study will be advertised via social media, emails, and postings in grocery stores and other locations (if needed), and prospective participants will complete a screening questionnaire by phone or via a web link to determine eligibility. We estimate that 833 individuals will complete the screener and 625 (75%) will be eligible and subsequently contacted by phone to schedule an appointment. Of these, we estimate that 500 (80%) will agree to take part in the study and an appointment will be scheduled. Of these, we estimate that 400 (80%) will show up and complete the observational study and post-observational interview. Each screening is expected to take 8 minutes (0.133 hour), each appointment call/confirmation email/reminder call is expected to take 7 minutes (0.116 hour), and each observation is expected to last 1.5 hours. Before the observation, each participant will read and sign the study's consent form and watch one or more short videos related to the study, which will take no more than 10 minutes (0.17 hour) to complete. After each observation, participants will be asked to complete a short interview that will take up to 20 minutes (0.33 hour) to complete.

Table A-2. Estimated Annual Reporting Burden for Each Iteration of the Obse	ervational
Study	

Portion of Study	Appendix(s) for Data Collection Instrument or Form	No. of Respondents	Annual Frequency per Response	Total Annual Responses	Hours per Response	Total Hours
Recruitment information	B, C, D	1,600	1	1,600	0.033 (2 min.)	52.8
Screening questionnaire	Е	833	1	833	0.133 (8 min.)	110.789

Portion of Study	Appendix(s) for Data Collection Instrument or Form	No. of Respondents	Annual Frequency per Response	Total Annual Responses	Hours per Response	Total Hours
Appointment phone script, confirmation email, reminder phone script	F, G, H	625	1	625	0.116 (7 min.)	72.5
Check-in and consent form	J	400	1	400	0.17 (10 min.)	68.0
Food preparation task/observation	L	400	1	400	1.5 (90 min.)	600.0
Post-observation interview	Ι	400	1	400	0.33 (20 min.)	132.0
Total						1,036.08

The annualized cost to all respondents for the collection of information is \$18,773.93 for each year of the 2-year study (1,036.089 x \$18.12) at \$18.12 per hour, including fringe benefits. The hourly rate for the respondents was attained from the Department of Labor Bureau of Labor and Statistics wage data, May, 2019.

A.13. Capital and Start-Up Cost and Subsequent Maintenance

There are no capital, start-up, operating, or maintenance costs associated with this

information collection.

A.14. Annual Cost to Federal Government

The estimated total cost to the federal government, including fringe benefits, for this information collection is \$386,000. The costs arise from the time spent by the contractor to develop and conduct the study, analyze the data, and prepare and deliver a final report for the two iterations of the observational study.

A.15. Reasons for Changes in Burden

This is a renewal of an information collection. FSIS has reduced the total burden estimate for the renewal collection by 878 hours because FSIS plans to conclude its research in two years, instead of three years, after the renewal.

A.16. Tabulation, Analysis, and Publication

The planned schedule for the initial observational study is shown in Table A-3. Once OMB approval is received, it will take up to 30 days to begin recruiting individuals. The data collection will be completed within 150 days after the start of recruiting. The contractor will provide FSIS a report that summarizes the study methods and results within 120 days of the last observation. Following the conclusion of the observational study, the contractor will conduct statistical analyses comparing the differences in handling behavior scores between the control and treatment groups for the four food handling behaviors. A comparative analysis will also be conducted on the samples collected from the designated kitchen sites and food samples to determine whether levels of cross-contamination differed between the two groups and to identify the kitchen sites with the highest levels of contamination. There are no plans to publish the data for statistical use. Dissemination of the study results may include internal briefings, presentations, reports and posting on FSIS' website, and peer-reviewed manuscripts.

Date	Activity
Within 30 days following OMB approval	Begin observational study
Within 150 days following OMB approval	Complete data collection for observational study and post-observation interviews
Within 270 days following OMB approval	Complete summary report

A.17.OMB Approval Number Display

The OMB approval and expiration date will be displayed on all materials associated with the study. No exemption is requested.

A.18. Exceptions to the Certification

There are no exceptions to the certification.

References

- Anderson, J. B., Shuster, T. A., Hansen, K. E., Levy, A. S. & Volk, A. (2004). A camera's view of consumer food-handling behaviors. *Journal of the American Dietetic Association*, 104(2), 186–191.
- Bruhn, C. M. (2014). Chicken preparation in the home: An observational study. *Food Protection Trends*, *34*(5), 318–330.
- Clayton, D. A., & Griffith, C. J. (2004). Observation of food safety practices in catering using notational analysis. *British Food Journal*, *106*(3), 211–227.
- Mazengia, E., Fisk, C., Liao, G., Huang, H., & Meschke, J. (2015). Direct observational study of the risk of cross-contamination during raw poultry handling: Practices in private homes *Food Protection Trends*, 35(1), 8–23.
- Phang, H. S., & Bruhn, C. M. (2011). Burger preparation: What consumers say and do in the home. *Journal of Food Protection*, *74*(10), 1708–1716.
- Redmond, E. C., Griffith, C. J., Slader, J., & Humphrey, T. J. (2004). Microbiological and observational analysis of cross contamination risks during domestic food preparation.
 British Food Journal, *106*(8), 581–97.
- Sneed, J., Phebus R., Duncan-Goldsmith, D., Milke, D., Sauer, K., Roberts, K. R., & Johnson, D. (2015). Consumer food handling practices lead to cross-contamination. *Food Protection Trends*, 35(1), 36–48.

- U.S. Census Bureau. (2017). Average one-way commuting time by metropolitan areas. Retrieved from https://www.census.gov/library/visualizations/interactive/travel-time.html
- U.S. Department of Agriculture, Food Safety and Inspection Service. (2016). *Food Safety and Inspection Service (FSIS) 2017–2021 strategic plan*. Retrieved from <u>https://www.fsis.usda.gov/wps/wcm/connect/317d14d6-1759-448e-941a-de3cbff289e5/</u> <u>Strategic-Plan-2017-2021.pdf?MOD=AJPERES</u>
- U.S. Food and Drug Administration. (2016). 2016 Food Safety Survey. Retrieved from http://www.fda.gov/downloads/Food/FoodScienceResearch/ConsumerBehaviorResearch/ UCM529481.pdf