

**Appendix A:
Detailed Study Description for Year 3 Study on the Cook
Message and Preparing Not Ready to Eat (NRTE) Poultry
Products**

The purpose of the observational study is to evaluate adherence to the key behaviors of clean, separate, cook and chill following exposure to food safety messaging and to assess the extent of cross contamination in the kitchen due to failure to follow recommended practices. The purpose of the Year 3 observational study/meal preparation experiment is to evaluate adherence to the key behavior of “cook” following exposure to food safety messaging from USDA FSIS OPACE with a particular focus on not-ready-to-eat (NRTE) products that appear ready-to-eat (RTE).

For the Year 3 study, we will recruit individuals who self-report preparing frozen breaded chicken products (such as chicken nuggets or stuffed chicken breasts) or who report having children who prepare the product. Participants will be randomly assigned to either a control group (no exposure to food safety messaging) or an intervention (treatment) group. The intervention group will receive USDA FSIS OPACE messaging in the form of a news story about frozen NRTE foods that is played as part of a longer news update in the waiting room prior to beginning the meal preparation. The media story will communicate that although frozen NRTE foods may appear RTE, they are not fully cooked and the endpoint temperature should be checked with a food thermometer to ensure safety. The video will show stuffed chicken products and frozen NRTE corn specifically (the foods that the participants will be instructed to cook).

We will recruit 400 participants for the study (200 per study group) using the same approach used for years 1 and year 2 (convenience sampling). The estimated burden and incentive payment are the same as years 1 and 2.

For year 3, we will provide participants with the ingredients needed to prepare a chicken entrée from frozen and a black bean and corn salad made with frozen corn. We are interested in whether participants handle the chicken entrée and frozen corn as if they are uncooked or as if they are fully cooked. Initially, we will tell participants that we are testing a new product formulation. We will begin video recording handling and meal preparation as soon as the participant enters the test kitchen and will end video recording after the participant leaves the test kitchen. Participants will be instructed to prepare the chicken entrée and salad as they would at home.

We considered whether to include a microbiology testing strategy to examine cross-contamination as in previous years, but ultimately decided not to include that component for Year 3. Studies have reported no significant risk for cross-contamination posed by the handling of the frozen chicken products themselves, because there is no liquid matrix associated with these foods (Schaffner and Schaffner, 2007). From a laboratory perspective, breaded products are difficult to inoculate with surrogate microbes (using either a dip or spray inoculation) due to matrix complexity and inconsistency. Further, inoculum drying

and exposure to freezing temperatures can result in reductions in bacterial concentrations (particularly Gram-negative organisms), meaning the stability of the inoculum could be compromised over time, impacting the validity of enumerative results, not to mention the logistical issues posed by the need to inoculate and then repack the product.

We will use notational analysis to assess thermometer use and other behaviors such as handwashing and their frequencies. Notational analysis is a generic tool used to collect observed events and place them in an ordered sequence (Hughes & Franks, 1997); it has been used to track food safety behaviors, because it enables the recording of specific details about events in the order in which they occur by associating a time-stamp with actions (Clayton & Griffith, 2004). This method is especially useful when looking at sanitation steps limiting cross-contamination or the use of common food contact surfaces and equipment. Notational analysis has been used in both nonparticipant and participant consumer food safety behavior observation studies, as well as participant food service observation (Clayton & Griffith, 2004; Green et al., 2006; Redmond et al., 2004).

Supplementing the observations, we will conduct a post-observation interview to provide insight into participants' views, opinions, and experiences of their preparation practices of these products and to collect information on behaviors that we were unable to observe (e.g., thawing) and conduct a content analysis of participant responses. Content analysis provides a means of adapting qualitative (in this case, interview) data into quantitative data to allow for comparison across groups through a consistent and validated coding scheme. Collecting qualitative data will allow the project team to connect the knowledge, attitude, and perceived behavior with actual observed practices, allowing for a more targeted intervention development. The results of these interviews, coupled with observation, will serve as the foundation for message development and delivery.

References

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