

Executive Summary

The Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) contracted with RTI International and its subcontractor North Carolina State University (NCSU) to conduct meal preparation experiments to evaluate consumer food handling behaviors in a test kitchen. The research team is conducting five separate iterations of meal preparation experiments to address a specific consumer behavior and to determine the effectiveness of a behavior change intervention. The meal preparation experiments are part of a larger 5-year annual study that also includes focus groups (two iterations) and web surveys (two iterations). This report describes the results of the fourth iteration of the meal preparation experiment.

RTI and NCSU conducted the study in a test kitchen facility located in Raleigh, North Carolina (Wake County), with three identical test kitchens. For this study, we explored the impact of including food safety instructions in recipes on participants' food safety practices. Participants were randomized to one of three conditions: the control group, recipes without food safety instructions; Treatment 1 (T1), recipes with food safety instructions; or Treatment 2 (T2), recipes with food safety instructions and a celebrity endorsement. A total of 200 people participated in the study (66 control, 66 T1, 68 T2). Food safety information was formatted using the Partnership for Food Safety Education's Safe Recipe Style Guide¹ and included instructions on washing hands at the beginning of cooking and after touching uncooked ground beef, using a food thermometer to check for doneness, cleaning and sanitizing surfaces and utensils after touching uncooked ground beef, and washing the apple and carrot by rubbing under cold water. For the outcomes of interest, we conducted statistical testing for the difference between the control vs. T1, control vs. T2, and T1 vs. T2.

In each test kitchen, eight cameras recorded participants' actions at various locations throughout the kitchen and recorded the meal preparation from beginning to end. Participants in the control and treatment groups were observed while grilling bratwurst and hamburgers (inoculated with harmless traceable nonpathogenic *E. coli* strain DH5-Alpha) and preparing a ready-to-eat (RTE) salad (bagged lettuce, carrots, and apples) to determine whether they used a food thermometer, adhered to recommended handwashing practices, safely prepared the RTE salad, and safely handled and stored uncooked ground beef from a chub. Following meal preparation and participants' cleaning and/or sanitizing of the kitchen, the study team collected microbiological samples from surfaces and lettuce from the prepared RTE salad and analyzed the samples for prevalence and level of DH5-Alpha. Participants participated in a post-observation interview to collect information on their usual food preparation practices.