

April 25, 2001

Consumer Perceptions of Not-Ready-to-Eat Meat and Poultry Labeling Terminology

Volume 1: Final Report

Contract No. 53-3A94-98-03,
Delivery Order 11

Prepared for

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RTI Project Number 07182.011

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Executive Summary

The features on meat and poultry product labels that tell consumers whether a product is not-ready-to-eat (NRTE) or partially cooked, as opposed to ready-to-eat (RTE) and fully cooked, have become unclear. The U.S. Department of Agriculture's Food Safety and Inspection Service (USDA, FSIS) contracted with the Research Triangle Institute (RTI) to conduct focus groups with consumers on their perception and understanding of labeling terms and features that convey that a product is NRTE and thus requires further cooking for safety before consumption.

RTI conducted eight focus groups—two groups in each of four locations (Raleigh, North Carolina; Phoenix, Arizona; Philadelphia, Pennsylvania, and Cincinnati, Ohio). In each location, we conducted one focus group with individuals who have a high school education or less and one focus group with individuals who have a college education. We conducted focus groups with individuals in the following age groups: 18 to 30 (3 groups), 35 to 55 (3 groups), and 60 years or older (2 groups).

The purpose of the focus groups was to collect information on consumers'

- Z characterization of RTE and NRTE meat and poultry products,
- Z use of labeling terms and features to distinguish between RTE and NRTE products,
- Z use of product attributes (or characteristics) other than labeling to distinguish between RTE and NRTE products,

- Z views on cooking and preparation instructions,
- Z reactions to novel labeling features, and
- Z attitudes toward requiring standardized labeling of NRTE meat and poultry products.

Prior to the focus group discussion, participants independently completed a worksheet on which they indicated whether 12 different meat or poultry products require cooking for safety (i.e., a person might get sick from foodborne illness if the product is not properly or thoroughly cooked before eating). The moderator then led participants in a discussion on how they characterize RTE and NRTE products and how they use labeling terms and features and other product attributes or characteristics to distinguish between RTE and NRTE products. Participants then discussed several novel labeling features, such as standardized phrases or logos, that USDA could require companies to display on NRTE product labeling so that consumers understand that the product requires further cooking on their part. Finally, participants discussed whether they thought it was necessary for USDA to require standardized labeling of NRTE meat and poultry products.

E.1 KEY FINDINGS

The key findings from the focus group discussions are summarized below.

Characterization of RTE and NRTE Meat and Poultry Products

- Z Participants characterized meat and poultry products that require cooking for safety as raw or bloody, yet they also considered many of the frozen products we asked about to require cooking for safety.

Some participants expressed confusion and frustration about the inconsistency in labeling of meat and poultry products with regard to whether they require cooking for safety.

- Z Participants described meat and poultry products that do *not* require cooking for safety as products that are fully cooked, packaged in cans, processed meats, and normally eaten cold or at room temperature.

Use of Labeling Terms and Features to Distinguish between RTE and NRTE Products

- Z Some participants expressed confusion and frustration about the inconsistency in labeling of meat and poultry products with regard to whether they require cooking for safety. Participants were surprised that some products do not provide instructions. Also, participants were confused when one product indicates that cooking is required and a similar product under a different brand name does not. Some participants speculated that manufacturers who provide cooking instructions “*care more*” about consumers, while others expressed the view that companies provide these instructions to protect themselves from potential lawsuits.

When completing the product worksheet, many participants said that they used information on the product label or packaging to determine whether a meat or poultry product requires cooking for safety.

- Z When completing the product worksheet, many participants said that they used information on the product label or packaging to determine whether a meat or poultry product requires cooking for safety. Participants read the instructions (e.g., length of time) and looked for certain labeling terms that indicate whether cooking for safety is required. Several participants looked for the presence of Safe Handling Instructions (SHI) labeling.
- Z Participants said that “cook thoroughly” and “cook until internal temperature...” are labeling terms that indicate that cooking for safety is required. Participants said that “fully cooked,” “ready to eat,” and phrases including the word “serve” (such as “heat and serve” and “ready to serve”) indicate that cooking for safety is *not* required.
- Z Most participants did not rely on descriptive terms (e.g., “baked,” “breaded,” “browned,” “fried,” and “roasted”) in the product name or description, nor did they rely on the presence of handling statements (e.g., “keep refrigerated” and “keep frozen”) to determine if a product requires cooking for safety.
- Z Some participants said that “smoked” in the product name or description implies that the product is fully cooked, while others disagreed or were unsure.
- Z Although most participants did not look for the presence of SHI labeling to determine if cooking for safety is required, many participants were aware of SHI labeling and generally associated it with raw meat and poultry products that must be cooked. Some participants believed that the absence of SHI labeling implies that the product is RTE, while others disagreed or were unsure.

- Z Most participants distinguished between different types of instructions on product packaging. Participants said that products with “heating” instructions do *not* need to be cooked for safety, while products with “cooking” instructions require cooking for safety.

Use of Product Attributes Other than Labeling to Distinguish between RTE and NRTE Products

- Z Participants also used attributes other than product labeling to help them distinguish between RTE and NRTE meat and poultry products. Most participants said that they consider the following factors when deciding whether a product requires cooking for safety:
 - X the appearance of the meat or poultry through the product packaging (e.g., the product looks raw);
 - X type of product packaging (e.g., canned goods do not require cooking for safety); and
 - X the location of the product in the grocery store (e.g., products in the frozen foods section more than likely require cooking for safety).
- Z Most participants said that they do *not* consider the following factors when deciding whether a product requires cooking for safety:
 - X the color of the package;
 - X the picture of the product or serving suggestion shown on the front label;
 - X whether the product has “side dishes” that normally would not be further cooked (e.g., cookies or apple sauce);
 - X whether a fully cooked meat or poultry product is combined with vegetables that are not cooked; and
 - X commercials or printed advertisements.

Views on Cooking and Preparation Instructions

- Z Participants said that they rely on color (juices run clear), texture (feels done), experience, length of time they cook a product, and the cooking instructions on the product packaging when checking for doneness of meat and poultry.
- Z Only a few participants use a food thermometer when checking for doneness of meat and poultry and only do so when cooking large cuts, such as whole turkeys or roasts. No participants said that they would use a food thermometer when cooking packaged products like frozen meals and entrees.

Most participants liked the idea of using a standardized phrase on NRTE product labeling to indicate that cooking for safety is required.

Participants preferred the following phrases:

- Z “Requires cooking”
- Z “Cook thoroughly”

Most participants liked the idea of using a logo or icon on NRTE product labeling to identify them as requiring cooking for safety. Participants preferred the following logos:



- Z Most participants believed that manufacturers verify the cooking instructions displayed on their products. Participants speculated that manufacturers verify cooking instructions to avoid lawsuits and to satisfy consumers by finding the optimal way of cooking their products.

Reactions to Novel Labeling Features

- Z Most participants liked the idea of using a standardized phrase on NRTE meat and poultry product labeling to indicate that cooking for safety is required. The majority of participants preferred the phrases “requires cooking” and “cook thoroughly.”
- Z Many participants did not like the idea of using warning statements on NRTE meat and poultry product labeling. Participants said that warning statements are not necessary, might deter consumers from purchasing the products, and would not be effective (some participants cited the warning statements on cigarette packaging as an example).
- Z Most participants liked the idea of using a logo or icon on NRTE meat and poultry product labeling to identify them as requiring cooking for safety. Participants said that logos would be particularly effective with children, individuals with limited education, and people who do not speak English as their native language. The sidebar shows the logos preferred by most participants.
- Z Participants were split on the need to display a logo on both RTE and NRTE products. Some participants said that it is necessary so consumers could look at the product and know immediately whether it is RTE or NRTE. Others disagreed and said that it is not necessary because RTE products are already fully cooked, so there are no safety concerns.
- Z Most participants did not like the concept of a color-coding scheme for RTE and NRTE products (i.e., using standardized color packaging for RTE and NRTE products), and said it would be too complicated. However, many participants liked the idea of a color-coding scheme with standardized phrases for RTE (“fully cooked” in a green rectangle) and NRTE (“requires cooking” in a red rectangle) products.
- Z Most participants said that a standardized phrase or logo should be displayed on the front of the product packaging so it is visible when the consumer first looks at the product. Participants suggested that the standardized phrase or logo always be displayed in the same location (e.g., top right or left corner or by the net weight) so consumers know where to look for it.

Many participants would like to see the government impose regulations that would ensure consistency in labeling of NRTE products and make it clear to consumers that further cooking is required on their part.

- Z Participants suggested that the standardized phrase or logo be big enough that consumers can easily see it; for example, about the size of a quarter for a logo. Participants suggested that the standardized phrase or logo be in a bold, bright color and that it contrast with the rest of the product packaging.

Attitudes toward Requiring Standardized Labeling of NRTE Meat and Poultry Products

- Z Many participants would like to see the government impose regulations that would ensure consistency in labeling of NRTE products and make it clear to consumers that further cooking is required on their part. Of the novel labeling features discussed, participants most preferred a logo or a color-coding scheme with standardized phrases.
- Z Participants who did not support government regulations said that labels already provide enough information and that consumers are savvy shoppers, so additional regulations are unnecessary. Several participants were concerned about the cost of such regulations. A few participants said that government regulations are warranted only if there is a significant problem of manufacturers not labeling products as requiring cooking and people getting sick as a result.

We recommend that FSIS conduct analyses to evaluate the costs and benefits of a regulation or policy requiring standardized labeling of NRTE meat and poultry products to convey that cooking for safety is required.

E.2 RECOMMENDATIONS

Although consumer focus group findings should not be generalized to the general population of all consumers in any statistical sense, the findings can be used to help guide policy decisions. The focus group findings suggest that there is some confusion and frustration among consumers regarding the inconsistency in labeling of meat and poultry products with respect to whether they require cooking for safety. Many participants said that there is a need for the government to impose regulations that would require consistency in labeling of NRTE products. Participants said that standardization would “...eliminate the confusion from the consumer’s mind.” Participants said that regulations are necessary because manufacturers would be unlikely to voluntarily adopt standardized labeling of NRTE products because of the expense and lack of interest. Of the novel labeling features discussed, participants most preferred a logo (see page ES-5) or a color-coding scheme with standardized phrases (“fully cooked” in a red rectangle for RTE products and “requires cooking” in a green rectangle for NRTE products).

Participants said that the labeling feature used should be large enough to be easily visible to the consumer and displayed on the front of the product packaging in a standardized location (e.g., top right corner).

While these focus groups indicate that there is currently a considerable degree of confusion about labeling terminology and a desire for more consistent labeling, we do *not* believe that these findings alone are a sufficient basis for regulatory action. We recommend that FSIS conduct analyses to evaluate the costs and benefits of a regulation or policy requiring standardized labeling of NRTE meat and poultry products to convey that cooking for safety is required.¹ If the decision is then made to go forward with standardized labeling, we encourage FSIS to consult with affected industry stakeholders about *their* preferences for the type of labeling feature to use and the formatting and placement of the labeling feature on the product packaging. We also recommend that FSIS implement a consumer education campaign through the general media to make consumers aware of the standardized labeling and to encourage consumers to look for the NRTE labeling feature to determine whether cooking for safety is required.

¹The cost analysis should, minimally, estimate the compliance costs to industry of meeting any proposed labeling requirement. The benefits analysis should at least consider any anticipated reduction in the incidence of foodborne illnesses resulting from consumption of undercooked NRTE products. There may be other benefits to consider, however, such as a reduction in consumer search costs.

1

Introduction

In response to the requirement to reassess their Hazard Analysis Critical Control Point (HACCP) plans for ready-to-eat (RTE) products with respect to *Listeria monocytogenes* (*Lm*) control, some manufacturers have changed their product's processing category. Consequently, the features on meat and poultry product labels that tell the consumer whether a product is not ready to eat (NRTE) or partially cooked, as opposed to RTE and fully cooked, have become unclear. The U.S. Department of Agriculture's Food Safety and Inspection Service (USDA, FSIS) needs data on consumer perceptions and understanding of labeling terms and features that convey that a product is NRTE and thus requires further cooking for safety before consumption. FSIS contracted with the Research Triangle Institute (RTI) to conduct focus group discussions with household grocery shoppers and food preparers. FSIS will use the findings from the focus groups as a basis for rulemaking.

RTI conducted eight focus groups—two groups in each of four locations (Raleigh, North Carolina; Phoenix, Arizona; Philadelphia, Pennsylvania; and Cincinnati, Ohio). The purpose of the focus groups was to collect information on consumers'

- Z characterization of RTE and NRTE meat and poultry products,
- Z use of labeling terms and features to distinguish between RTE and NRTE products,
- Z use of product attributes (or characteristics) other than labeling to distinguish between RTE and NRTE products,
- Z views on cooking and preparation instructions,

- Z reactions to novel labeling features, and
- Z attitudes toward requiring standardized labeling of NRTE meat and poultry products.

This report discusses the design of the focus group study and presents the key findings from the focus group discussions. The report is organized as follows: Section 2 provides a background on the *Lm* reassessment, Section 3 describes the study design, Section 4 presents information on participant demographics, Section 5 presents the findings from the focus group discussions, and Section 6 concludes the report with our recommendations.

2

Background

In recategorizing products from RTE to NRTE, some manufacturers have not modified product labeling sufficiently or have not used clear enough terms to convey to consumers the critical distinction that products they purchased in the past as RTE are now NRTE.

In August 1999, FSIS published “Instructions for Verifying the *Listeria monocytogenes* Reassessment” (FSIS Notice, 23-99). This Notice provides instructions to inspection program employees for verifying that establishments have conducted a reassessment of their HACCP plans for RTE products with respect to control for *Lm*. Attachment 1 of this Notice identified types and classes of products to help distinguish RTE products from NRTE products. On January 24, 2001, FSIS issued Directive 10,240.2, revision 1, amendment 1. This directive attempted to clarify the term ready-to eat (RTE). FSIS realized that an establishment can produce RTE and NRTE products with similar characteristics, such as country ham, dry cured ham, country style pork shoulder, and similar pork products. These items may be either RTE or NRTE based on how the establishment produces and labels these products. Attachment 1 of this directive (included here as Table 2-1) describes the differences between these products, and addresses how each category should be labeled so that consumers can differentiate between RTE and NRTE products.

In response to the *Lm* reassessment, some manufacturers have changed the processing category for their product. Some RTE products have been recategorized as NRTE products because of a process reassessment. For example, an entree including a cooked chicken patty and blanched green beans that was previously categorized as RTE may now be categorized as NRTE because the green beans have not received a lethality treatment to eliminate *Lm*. In recategorizing products from RTE to NRTE, some manufacturers have not modified product labeling sufficiently or have not used

clear enough terms to convey to consumers the critical distinction that

Table 2-1. Types and Classes of NRTE and RTE Products

Type	Class	Processing Category ISP Code	Reg Required Safety Labeling	What the Hazard Analysis/HACCP Plan May Address
A product containing a meat/poultry product (in whole or in part) that has not received an adequate lethality treatment for pathogens (i.e., raw or partially cooked product).	NRTE	<ul style="list-style-type: none"> • Raw Product, Ground—ISP 03B • Raw Product, Not Ground—ISP 03C • Not Heat Treated, Shelf Stable—ISP 03E • Heat Treated, Shelf Stable—ISP 03F • Heat Treated but not Fully Cooked, Not Shelf Stable—ISP 03H • Products with secondary inhibitors, Not Shelf Stable—ISP 03I 	Product must be labeled with statements such as “keep refrigerated,” “keep frozen,” or “refrigerate leftovers.” Use of Safe Handling Instruction (SHI) labeling required.	<ul style="list-style-type: none"> • Use of SHI labeling (Some establishments may have a CCP for SHI labeling application). <p>If it is not obvious that the product is raw and needs to be cooked:</p> <ul style="list-style-type: none"> • Features on labeling are conspicuous so that the intended user is fully aware that the product must be cooked for safety. This is best conveyed through the product name (e.g., “Cook and Serve”) but may also be conveyed by the use of an asterisk on the product name that is associated with a statement on the principle display panel, or by a burst with statements such as “needs to be fully cooked,” “see cooking instructions,” or “cook before eating.” • Validation that: <ol style="list-style-type: none"> a. cooking and preparation instructions on the product are sufficient to destroy pathogens, and b. instructions are realistic for the intended consumer.
A product containing a meat/poultry component that has received a lethality treatment for pathogens in combination with non-meat/poultry components that need to receive a lethality treatment by the intended user. This includes meals, dinners, frozen entrees.	NRTE	<ul style="list-style-type: none"> • Heat Treated but not Fully Cooked, Not Shelf Stable—ISP 03H 	Product must be labeled with statements such as “keep refrigerated” or “keep frozen.” Use of SHI labeling is recommended.	<ul style="list-style-type: none"> • Validation that: <ol style="list-style-type: none"> a. the meat/poultry component received an adequate lethality treatment for pathogens, b. cooking and preparation instructions on the product are sufficient to destroy pathogens, and c. instructions are realistic for the intended consumer. • Features on labeling are conspicuous so that the intended user is fully aware that the product must be cooked for safety. This is best conveyed through the product name (e.g., “Cook and Serve”) but may also be conveyed by the use of an asterisk on the product name that is associated with a statement on the principle display panel, or by a burst with statements such as “needs to be fully cooked,” “see cooking instructions,” or “cook before eating.” • If necessary, a hazard analysis should address whether instructions on the label are needed related to cross-contamination (e.g., avoid contact of contents) and prevention of pathogenic growth (e.g., promptly refrigerate leftovers). <p>NOTE: Inspection program personnel are to collect samples as RTE if the establishment does not follow the guidance above.</p>

(continued)

Table 2-1. Types and Classes of NRTE and RTE Products (continued)

Type	Class	Processing Category ISP Code	Reg Required Safety Labeling	What The Hazard Analysis/HACCP Plan May Address
A product containing a meat/poultry component that has received a lethality treatment for pathogens that may or may not be in combination with a non-meat/poultry component that does not need to receive a lethality treatment by the intended user.	RTE	<ul style="list-style-type: none"> • Not Heat Treated, Shelf Stable—ISP 03E • Heat Treated, Shelf Stable—ISP 03F • Fully Cooked, Not Shelf Stable—ISP 03G • Products with secondary inhibitors, Not Shelf Stable—ISP 03I 	If the product is not shelf stable, labeling such as “keep refrigerated” or “keep frozen” is required.	<ul style="list-style-type: none"> • See part 417 of the meat and poultry regulations.

Source: FSIS Directive 10, 240.2, revision 1, amendment 1. January 24, 2001.

products they purchased in the past as RTE are now NRTE. Consumers may be unaware that such products require further cooking on their part to ensure that the food is safe to eat.

3

Methods

In this section, we describe focus group methodology, present the study design, and discuss the development of the moderator guide.

3.1 FOCUS GROUP METHODOLOGY

Market researchers often use qualitative research methods to learn more about consumers' preferences and attitudes. Focus groups are one of the most frequently used methods of qualitative research (Greenbaum, 1988). A focus group discussion generally consists of 8 to 10 individuals who discuss selected topics with a skilled moderator for approximately 1 to 2 hours. Recruiters prescreen participants to ensure that they meet certain criteria. In exchange for contributing their time, participants receive a monetary incentive.

The moderator uses a moderator guide to serve as an outline that provides structure for the focus group discussion. The moderator encourages interaction among group members and follows through on responses to ensure that the discussion centers on the main issues. According to Greenbaum (1988), the dynamics of the group process result in the generation of more useful information, on a cost-efficient basis, than would otherwise be available.

As with any qualitative research study, the results of focus group discussions should not be generalized to a larger population in any statistical sense (Kruger, 1988).

3.2 STUDY DESIGN

RTI conducted a total of eight focus groups—two groups in each of four locations, which were selected to provide geographic diversity (Raleigh, North Carolina; Phoenix, Arizona; Philadelphia, Pennsylvania; and Cincinnati, Ohio). In each location, we conducted one focus group with individuals who have a high school education or less and one focus group with individuals who have a college education. We conducted three groups with individuals between the ages of 18 and 30, three groups with individuals between the ages of 35 and 55, and two groups with individuals 60 years of age or older. Table 3-1 shows the population and location for the eight focus groups.

Table 3-1. Focus Group Populations and Locations

Group	Age	Education ^a	Location
1	60+	C	Raleigh, NC
2	35 – 55	HS	Raleigh, NC
3	18 – 30	HS	Phoenix, AZ
4	35 – 55	C	Phoenix, AZ
5	18 – 30	HS	Philadelphia, PA
6	35 - 55	C	Philadelphia, PA
7	60+	HS	Cincinnati, OH
8	18 – 30	C	Cincinnati, OH

^aHS = High school education or less; C = College education.

Each focus group included seven or eight participants, for a total of 63 participants. Each group included a mix of males and females and reflected the racial diversity of the area in which the group was conducted. In addition to the population characteristics specified above, participants met the following additional criteria:

- Z have primary or shared responsibility for cooking in the household;
- Z have primary or shared responsibility for shopping for groceries in the household;
- Z are not vegetarian;
- Z prepare food and cook in the home at least three times a week;

- Z prepared packaged foods containing meat or poultry (e.g., frozen TV dinners, frozen pizza, or frozen breaded chicken patties) in the past week;
- Z have not participated in a focus group in the past 6 months;
- Z do not work for a grocery store, restaurant, or food processing firm (participant or immediate family member);
- Z do not work for a market research, advertising, or public relations firm (participant or immediate family member); and
- Z do not work for the health care industry or federal government (participant or immediate family member).

Appendix A provides a copy of the questionnaire used to screen and recruit participants. Participants received a monetary incentive of \$50 for participating in the focus groups.

3.3 MODERATOR GUIDE

The moderator guide serves as an outline that provides structure for the focus group discussion. Working with FSIS, RTI developed a draft moderator guide that we pretested by conducting a focus group with household cooks and grocery shoppers in Bethesda, Maryland. We revised the moderator guide based on the pretest findings.

The moderator guide was designed to collect information on participants'

- Z characterization of RTE and NRTE meat and poultry products,
- Z use of labeling terms and features to distinguish between RTE and NRTE products,
- Z use of product attributes (or characteristics) other than labeling to distinguish between RTE and NRTE products,
- Z views on cooking and preparation instructions,
- Z reactions to novel labeling features, and
- Z attitudes toward requiring standardized labeling of NRTE meat and poultry products.

Appendix B presents the final moderator guide and the handouts distributed during the group discussion. Table 3-2 provides a brief summary of each section in the moderator guide.

Table 3-2. Moderator Guide Summary

Section	Purpose
Introduction	Moderator described the purpose of the discussion and how it would be conducted; participants introduced themselves.
Complete product worksheet	Participants completed a worksheet on which they indicated whether 12 different meat and poultry products require cooking for safety before eating.
Characterization of RTE and NRTE products	Participants discussed how they classified some of the products on the worksheet and how they characterize RTE and NRTE products.
Use of labeling terms and features to distinguish between RTE and NRTE products	Participants discussed how they use labeling terms and features to distinguish between RTE and NRTE products—words or phrases that indicate whether cooking is required, descriptive terms, SHI labeling, handling statements, and cooking/heating instructions.
Use of product attributes other than labeling to distinguish between RTE and NRTE products	Participants discussed how they use attributes other than labeling to distinguish between RTE and NRTE products—picture of product, type of product packaging, location in the grocery store, etc.
Views on cooking and preparation instructions	Participants discussed how they check for doneness of meat and poultry products and whether they think cooking instructions are verified.
Reactions to novel labeling features and attitudes toward requiring standardized labeling	Participants discussed ways the USDA might standardize the labeling of NRTE meat and poultry products—standardized phrase, warning statement, logo or icon, and color coding. Participants also discussed their attitudes toward USDA requiring standardized labeling of NRTE products.
Additional questions	In the Phoenix, Philadelphia, and Cincinnati focus groups, participants' discussed their understanding and attitudes toward other labeling statements.
Conclusion	Participants shared any final comments.

We conducted the focus groups between December 14, 2000 and February 1, 2001. Each focus group lasted about 90 minutes and was audiotaped and videotaped. Volume 2 of this report provides transcripts of each focus group discussion.

4

Participant Demographics

Prior to the discussion, participants completed a questionnaire that collected demographic information. Appendix C provides a copy of the questionnaire.

A total of 63 individuals ages 18 to over 70 participated in the eight focus groups. All participants have primary or shared responsibility for cooking and grocery shopping in their households, prepare food and cook in the home at least three times a week, and have prepared frozen meat or poultry products in the past week. Demographic information for the focus group participants is summarized in Table 4-1. Table 4-2 provides demographic information by group.

Table 4-1. Participant Demographics—Summary

Gender	
Male:	43%
Female:	57%
Race/Ethnicity	
Caucasian:	64%
African-American:	25%
Other Race/Multiracial:	8%
Asian/Pacific Islander:	2%
No response:	1%
Hispanic or Spanish origin:	16%
Average years of education	
All participants:	14 years
High school education groups:	12 years
College education groups:	17 years
Average income	
All participants:	\$47,016
High school education groups:	\$37,903
College education groups:	\$56,129

NA = not available.

Table 4-2. Participant Demographics, by Group

Question	Number of Participants									Percentage of Participants (%)
	Group 1 (n=8)	Group 2 (n=8)	Group 3 (n=8)	Group 4 (n=8)	Group 5 (n=7)	Group 6 (n=8)	Group 7 (n=8)	Group 8 (n=8)	Total (n=63)	
Gender										
Male	4	4	4	3	2	4	3	3	27	43
Female	4	4	4	5	5	4	5	5	36	57
Age										
18-24	0	0	5	0	2	0	0	1	8	13
25-30	0	0	3	0	5	0	0	7	15	24
35-39	0	4	0	3	0	3	0	0	10	16
40-44	0	2	0	0	0	0	0	0	2	3
45-49	0	1	0	4	0	2	0	0	7	11
50-55	0	1	0	1	0	3	0	0	5	8
60+	8	0	0	0	0	0	8	0	16	25
Hispanic or Spanish origin	0	2	3	3	1	0	1	0	10	16

Note: Group 1 = Raleigh, ages 60+, college education
 Group 2 = Raleigh, ages 35-55, high school education
 Group 3 = Phoenix, ages 18-30, high school education
 Group 4 = Phoenix, ages 35-55, college education

Group 5 = Philadelphia, ages 18-30, high school education
 Group 6 = Philadelphia, ages 35-55, college education
 Group 7 = Cincinnati, ages 60+, high school education
 Group 8 = Cincinnati, ages 18-30, college education

(continued)

Table 4-2. Participant Demographics, by Group (continued)

Question	Number of Participants									Percentage of Participants (%)
	Group 1 (n=8)	Group 2 (n=8)	Group 3 (n=8)	Group 4 (n=8)	Group 5 (n=7)	Group 6 (n=8)	Group 7 (n=8)	Group 8 (n=8)	Total (n=63)	
Race/ethnicity										
White/Caucasian	5	3	5	5	3	7	6	6	40	64
Black/African-American	3	3	1	0	4	1	2	2	16	25
Native American/ Alaskan Native	0	0	0	0	0	0	0	0	0	0
Asian/Pacific Islander	0	0	0	1	0	0	0	0	1	2
Another race or multiracial	0	2	1	2	0	0	0	0	5	8
No answer	0	0	1	0	0	0	0	0	1	1
Education										
11th grade or less	0	0	0	0	1	0	3	0	4	6
High school graduate or GED	0	8	7	0	5	0	5	0	25	40
Some college	0	0	1	0	1	0	0	0	2	3
College graduate	5	0	0	4	0	8	0	5	22	35
Postgraduate	3	0	0	4	0	0	0	3	10	16

Table 4-2. Participant Demographics, by Group (continued)

Question	Number of Participants									Percentage of Participants (%)
	Group 1 (n=8)	Group 2 (n=8)	Group 3 (n=8)	Group 4 (n=8)	Group 5 (n=7)	Group 6 (n=8)	Group 7 (n=8)	Group 8 (n=8)	Total (n=63)	
Total household income before taxes										
\$9,999 or less	0	0	0	0	2	0	1	0	3	5
\$10,000 – \$14,999	0	0	1	0	1	0	0	0	2	3
\$15,000 – \$19,999	0	0	0	0	0	0	2	0	2	3
\$20,000 – \$24,999	0	1	3	1	2	0	1	0	8	13
\$25,000 – \$34,999	0	0	0	2	0	2	2	3	9	14
\$35,000 – \$49,999	1	2	2	0	1	2	1	1	10	16
\$50,000 – \$74,999	1	2	1	2	1	2	1	2	12	19
More than \$75,000	5	3	1	3	0	2	0	2	16	25
No answer	1	0	0	0	0	0	0	0	1	2

5

Results

In this section we present the findings from the eight focus group discussions. Appendix D provides individual summaries for each of the eight focus groups.

5.1 RESPONSES TO PRODUCT WORKSHEET

Before starting the discussion, each participant completed a worksheet on which he or she indicated whether each of the 12 products identified in Table 5-1 requires cooking for safety. The moderator provided the following definitions:

- Z ***Product requires cooking for safety before eating***—“Cooking for safety” means that you might get sick from foodborne illness or food poisoning if the product is not properly or thoroughly cooked before eating.
- Z ***Product does not require cooking for safety before eating***—You can safely eat the product without cooking it because the product is already fully cooked when you purchase it.

The moderator discussed the distinction between heating for taste (e.g., heating up canned soup because it tastes better hot) versus cooking for safety. Also, for the frozen products, participants were asked to consider if the products could safely be eaten without cooking if the electricity went out for a couple of hours and they thawed out. The moderator instructed participants to pick up and examine the products on display as they completed the worksheet. As shown in Table 5-1, two different brands of the same product type (e.g., hot dogs and chicken pot pie) were

sometimes displayed. Participants were instructed to consider both brands when completing the product worksheet.

Table 5-1. Description of Meat and Poultry Products Evaluated

Bologna (refrigerated)	Displayed one product without any instructions (Oscar Mayer).
Bacon (refrigerated)	Displayed one product with SHI labeling and “cooking instructions” (Hormel).
Hot dogs— Frankfurters (refrigerated)	Displayed two products: (1) states on front, “Always cook thoroughly” and provides instructions on how to prepare using stove, grill, and microwave (Ball Park) and (2) no instructions on label (Jesse Jones).
Pepperoni pizza (frozen)	Displayed two products: (1) provides “baking directions,” states on the side, “For food safety and quality, thoroughly cook all frozen pizzas and refrigerate leftovers,” and states on the front, “Cook thoroughly” (Jenos) and (2) provides “baking instructions” (Mr. P’s).
Beef & bean burrito (frozen)	Displayed one product with “heating instructions” (Tina’s).
TV dinner—Fried chicken, potatoes, vegetable (frozen)	Displayed two products: (1) provides “oven” and “microwave” instructions, states on the front, “Simply Cook and Serve” and “Cook thoroughly,” and states on the back, “For food safety and quality, follow these cooking instructions. This product must be cooked to an internal temperature greater than 150°F prior to eating” (Swanson) and (2) provides “microwave” and “oven” instructions (Banquet).
Smoked sausage (refrigerated)	Displayed one product that states on the front “fully cooked” (Thorn Apple).
Ham with natural juices (refrigerated)	Displayed two products: (1) states on the front, “Ready to cook. Cook to an internal temperature of 160°F. See back of label for cooking instructions,” and has SHI labeling (Smithfield) and (2) states on the front, “fully cooked,” and has SHI labeling as part of price sticker applied by grocery store (Hormel).
“Hot Pockets” (frozen)	Displayed one product that has “cooking directions,” states on the back, “This product must be cooked prior to eating,” and states on the front, “Cook thoroughly” (Hot Pockets).
Chicken pot pie (frozen)	Displayed two products: (1) provides “oven” and “microwave” instructions, states on the front, “Cook thoroughly,” and states on the back, “For food safety and quality, follow these cooking instructions. This product must be cooked to an internal temperature greater than 150°F prior to eating” (Swanson) and (2) provides “heating instructions” (Banquet).
Breaded chicken nuggets (frozen)	Displayed two products: (1) provides “cooking instructions” and has SHI labeling (Murry’s) and (2) states on the front “fully cooked” and provides “heating instructions” (Weaver).
Beef stew (canned)	Displayed one product with “heating instructions” (Dinty Moore).

Most participants did not find completing the product worksheet difficult, although some participants had difficulty distinguishing between cooking for safety and heating a product so it tastes better. Some participants carefully read the labels on the products displayed as they completed the worksheet, whereas others completed the worksheet quickly without examining the products.

Some participants expressed confusion when different brands of the same product type displayed conflicting statements/instructions or when one brand displayed instructions and the other did not. Participants speculated that perhaps different ingredients are used in the two products or that one manufacturer provides cooking instructions “*to be on the safe side.*” Also, some participants were surprised to find that some cooking/heating instructions contradicted their experience with the product; for example, the need to thoroughly cook hot dogs (as indicated on the label of one of the hot dog products displayed).

Participants speculated that manufacturers who provide cooking instructions “*care more*” about consumers or provide these instructions to protect themselves from potential lawsuits, or as one participant stated, “*to cover their*”

Participants said that consumers have to look closely at some products to determine if they require cooking for safety. One participant commented about purchasing frozen chicken breasts, “*You have to look real close because the bags all look the same and some just have this tiny little ‘fully cooked’ on them, and some don’t.*” Several participants said that while cooking at home in the past they have been unsure as to whether specific products require cooking for safety. Participants said that they cook products when in doubt.

Some participants expressed the need for consistency in product labeling. They thought it was necessary for all products to provide instructions so consumers know how to properly handle and prepare the products.

Some participants expressed the need for consistency in product labeling. They thought it was necessary for all products to provide instructions so consumers know how to properly handle and prepare the products. As one participant stated, *“It was a bit confusing...to look at one and see the same item but one has a specific instruction and the other one does not...It makes more sense then to have them all labeled so you know what to do.”*

Table 5-2 summarizes participants’ responses to the product worksheet. The majority of participants said that bologna, smoked sausage, and canned beef stew do *not* require cooking for safety.

Table 5-2. Participants’ Responses to Product Worksheet (n = 62)^{a,b}

Product	Percentage of Participants (%) ^c			
	Requires Cooking for Safety (1)	Does NOT Require Cooking for Safety (2)	Not Sure (3)	One Product Requires Cooking and the Other Does Not (Circled 1 and 2)
Bologna	3	95	2	0
Bacon	97	3	0	0
Hot dogs—Frankfurters ^d	50	40	7	3
Pepperoni pizza (frozen) ^d	68	23	6	3
Beef & bean burrito (frozen)	23	50	27	0
TV dinner—Fried chicken, potatoes vegetable (frozen) ^d	66	21	8	5
Smoked sausage	24	74	2	0
Ham with natural juices ^d	49	33	5	13
“Hot Pockets” (frozen)	65	25	10	0
Chicken pot pie (frozen) ^d	71	18	8	3
Breaded chicken nuggets (frozen) ^d	55	27	11	7
Canned beef stew	10	80	10	0

^aThe total number of responses is 62 (instead of 63, the total number of participants) because one participant kept his or her worksheet.

^bThese results should not be generalized to the U.S. population of household grocery shoppers and cooks in any statistical sense.

^cParticipants who selected both (1) and (2) for a product are reported in column 4, “One product requires cooking and the other does not,” so that the percentages for each product sum to 100 percent.

^dDisplayed two different brands: one labeled as requiring cooking and one without such instructions.

- Z Participants said that they know from experience that bologna does not require cooking for safety because it is made to be eaten cold on sandwiches.
- Z Participants said that smoked sausage does not require cooking for safety because it is labeled as “fully cooked.” Those who disagreed said that all pork products should be cooked thoroughly.
- Z Participants said that beef stew does not require cooking for safety because it is cooked during the canning process; warming is only required for taste.

Nearly all participants said that bacon requires cooking for safety.

- Z Participants said that bacon is raw meat and must be cooked. Some participants also noticed SHI labeling on the product with instructions to cook thoroughly.

The majority of participants said that frozen pepperoni pizzas, frozen fried chicken TV dinners, “Hot Pockets,” and frozen chicken pot pies require cooking for safety. With the exception of “Hot Pockets,” two different brands of each product were displayed (one labeled as requiring cooking and one without such instructions).

- Z Participants said that the instructions on the product label indicate that the product requires cooking for safety, although one of the brands displayed did not indicate that cooking is required (with the exception of “Hot Pockets,” for which only one brand was displayed). Some participants said that cooking is required because the ingredients include chicken, meat, or other ingredients (e.g., the crust on the pizza and pot pie) which must be cooked.
- Z Participants who disagreed said that these products do not require cooking for safety because they are already fully cooked when purchased.

Participants were about evenly divided as to whether the other products—hot dogs, ham with natural juices, frozen breaded chicken nuggets, and frozen beef and bean burritos—require cooking for safety. With the exception of frozen burritos, two different brands of each product were displayed (one labeled as requiring cooking and one without such instructions).

- Z Some participants said that hot dogs are labeled as requiring cooking, while others disagreed and said that hot dogs are fully cooked and can be consumed cold out of the package. Several participants were surprised to see cooking instructions on hot dog packaging and were concerned because they have eaten them cold in the past.

- Z Some participants said that ham with natural juices requires cooking for safety because it is pork and one product is labeled as requiring cooking. Others disagreed and said that cooking is not required because one product is labeled as “fully cooked” and looks like lunch meat, which means it is ready to eat. Several participants identified one brand as requiring cooking and the other as not requiring cooking.
- Z Some participants said that frozen breaded chicken nuggets require cooking for safety because they contain uncooked chicken and one product is labeled as requiring cooking. Others disagreed and said that cooking is not required because one product is labeled as “fully cooked.” A few participants identified one brand as requiring cooking and the other as not requiring cooking.
- Z Some participants said that frozen beef and bean burritos do not require cooking for safety because they are fully cooked. Other participants said that cooking is required because of the ingredients and labeling instructions, and some were unsure about the need for cooking.

5.2 CHARACTERIZATION OF RTE AND NRTE MEAT AND POULTRY PRODUCTS

Participants most often characterized meat and poultry products that require cooking for safety as

- Z raw,
- Z bloody, and
- Z containing bacteria.

Several participants characterized meat and poultry products that require cooking for safety as partially cooked or labeled as “cook thoroughly.”

Participants most often characterized meat and poultry products that do *not* require cooking for safety as products that are

- Z fully cooked;
- Z packaged in cans;
- Z processed meats (e.g., bologna); and/or
- Z normally eaten cold or at room temperature.

Some participants characterized meat and poultry products that do not require cooking for safety as products that are dried (e.g., jerky); microwaveable; cured or smoked (in some cases); or vacuum-packed.

Participants said that they would do the following to determine whether a newly introduced product containing meat requires cooking for safety (listed in order of most often mentioned):

- Z read the label/directions;
- Z check the appearance of the meat through the packaging to see if it looks raw;
- Z read the ingredients list;
- Z check the brand name and consider the company's other products;
- Z search for additional information (e.g., check any informative displays around the product, ask the grocer or butcher, or call the manufacturer); and/or
- Z look at the type of packaging (e.g., canned products do not require cooking).

5.3 USE OF LABELING TERMS AND FEATURES TO DISTINGUISH BETWEEN RTE AND NRTE PRODUCTS

Many participants used information on the product label or packaging to determine whether the products on the worksheet require cooking for safety. Participants read the instructions on product packaging (e.g., length of time and internal temperature specifications) to determine if cooking (versus heating) is required. Participants also looked for specific labeling terms that indicate whether the product requires cooking for safety. Several participants looked for the presence of SHI labeling to determine if cooking for safety is required.

5.3.1 Labeling Terms

Participants most often said that the following labeling terms indicate that a product requires cooking for safety:

- Z “cook thoroughly,” and
- Z “cook until internal temperature....”

Participants most often said that the following labeling terms indicate that a product does *not* require cooking for safety:

- Z “fully cooked;”
- Z “ready to eat;” and

Z phrases including the word “serve” such as “heat and serve,” “ready to serve,” “just serve,” and “brown and serve.”

While one participant associated the word “precooked” with NRTE products, a participant in another group noted that “precooked” is misleading because it does not indicate how long the product has been cooked and how much further cooking, if any, is required.

5.3.2 RTE vs. NRTE

The moderator asked participants about using the phrase “ready to eat” to refer to products that do not require cooking for safety and the phrase “not ready to eat” to refer to products that require cooking for safety. Some participants were familiar with “ready to eat” and found the phrase meaningful. Most participants were not familiar with “not ready to eat” and did not like the phrase. They found it awkward, comical, and thought it might deter consumers from purchasing the product. One participant stated, *“If it’s not ready to eat, why do I want to buy it?”* Participants said that “not ready to eat” was negative and suggested using a positive statement, such as “must be cooked” or “requires cooking.” Participants who liked the phrase “not ready to eat” said that it was simple, easy to remember, and got the point across.

5.3.3 Descriptive Terms

Most participants said that descriptive terms like “baked,” “breaded,” “browned,” “fried,” or “roasted” in the product name or description do *not* provide any information as to whether a product requires cooking for safety. They said that these terms indicate the “style” of the product and do not necessarily indicate that the product is fully cooked. A few participants disagreed, saying that “fried” and “breaded” imply that a product has been cooked and that they relied on these terms when completing the product worksheet.

Some participants said that “smoked” in the product name or description implies that the product is fully cooked. Other participants disagreed and said that “smoked” describes the product flavoring (e.g., smoked bacon) and does not necessarily mean that a product is fully cooked. Some participants were unsure about the meaning of “smoked.”

5.3.4 Safe Handling Instructions (SHI) Labeling

Level of SHI labeling awareness varied by group. In some groups most participants were familiar with SHI labeling, while in other groups only some participants were familiar with SHI labeling. Several participants said that they looked for SHI labeling to determine if cooking is required when completing the product worksheet.

Participants generally associated SHI labeling with raw meat and poultry products. Many participants believed that the presence of SHI labeling indicates that cooking for safety is required. Those who disagreed believed that SHI labeling provides information on how to handle the product and does not necessarily imply that cooking is required. One participant stated, *“I don’t think the safe handling label means ‘cook,’ ‘not cook,’ ‘raw,’ ‘frozen.’ I think it’s there for the consumers’ information.”* Some participants believed that the absence of SHI labeling on the product packaging implies that the product is RTE, while others disagreed or were unsure.

A few participants found it confusing that ham with natural juices was labeled as “fully cooked” and also displayed SHI labeling (as part of the price sticker applied by the grocery store), while most participants did not notice this inconsistency in labeling. Most participants did not notice that one box of chicken nuggets displayed SHI labeling and when asked about it were surprised to see SHI labeling on a product that they did not consider to be raw.

5.3.5 Handling Statements

Nearly all participants said that they do not rely on handling statements like “keep refrigerated” or “keep frozen” to determine if a product requires cooking for safety. Participants said that because refrigeration is required does not imply that cooking for safety is required and cited bologna as an example. Despite saying they do not rely on handling statements, many participants considered most frozen foods to require cooking for safety.

5.3.6 Instructions

Many participants distinguished between different types of instructions on product packaging—“heating,” “cooking,” “baking,” and “preparation.”

- Z Most participants said that products with “heating” instructions do *not* need to be cooked for safety. They said that only warming is needed, primarily for taste, and that these products could be safely eaten cold.
- Z Most participants said that products with “cooking” instructions require cooking for safety.
- Z Many participants said that products with “baking” instructions require cooking for safety.
- Z Some participants related “preparation” instructions to SHI labeling or described these instructions as referring to the whole process of preparing a product. Others considered “preparation” instructions to be synonymous with cooking or heating instructions.

Participants said that “cooking” times are generally longer than “heating” times. One participant wondered if USDA has definitions for “heating” and “cooking.”

5.4 USE OF PRODUCT ATTRIBUTES OTHER THAN LABELING TO DISTINGUISH BETWEEN RTE AND NRTE PRODUCTS

Participants discussed product attributes or characteristics other than product labeling that help them to distinguish between RTE and NRTE meat and poultry products. Participants identified factors that they consider, as well as factors that they do not consider, when deciding whether a meat or poultry product requires cooking for safety.

5.4.1 Factors Considered by Participants

Most participants said that they consider the following factors when deciding whether a product requires cooking for safety:

- Z the appearance of the meat or poultry through the product packaging,
- Z type of product packaging, and
- Z the location of the product in the grocery store.

Participants said that for some products the appearance of the meat or poultry through the product packaging helps to determine whether cooking for safety is required. Participants said that meat or poultry that looks raw, such as bacon, requires cooking for safety.

Participants said that the type of product packaging helps to determine whether cooking for safety is required; for example, canned products do not require cooking for safety.

Participants said that the location of the product in the grocery store helps to determine whether cooking for safety is required. Participants said that foods requiring cooking for safety would generally be found at meat counters or in the refrigerated section, with the exception of processed meats like luncheon meats or deli meats. Participants said that foods found in the deli section or on nonrefrigerated shelves (such as canned goods) would not require cooking for safety. Some participants said that products in the frozen section would more than likely require cooking for safety, while others said that one would have to read the label or instructions to determine if cooking is required.

5.4.2 Factors Not Considered by Participants

Most participants said that they do *not* consider the following factors when deciding whether a product requires cooking for safety:

- Z the color of the package;
- Z picture of the product or serving suggestion shown on the front label;
- Z whether the product has “side dishes” that normally would not be further cooked (e.g., cookies or apple sauce);
- Z whether a fully cooked meat or poultry product is combined with vegetables that are not cooked; and
- Z commercials or printed advertisements.

Most participants said that these factors do not provide any information as to whether cooking for safety is required.

Only a few participants said that they consider the picture on the product packaging when determining whether cooking for safety is required. These participants said that they looked at the picture on the TV dinners when completing the product worksheet to determine whether cooking for safety is required. Other participants disagreed and said that pictures could be misleading because they portray the product as it should be served.

Participants emphasized that consumers should always read and follow the instructions on the product packaging when in doubt.

Several participants commented that even if a product does not say it must be cooked, they would do so anyway to be on the safe side.

5.5 VIEWS ON COOKING AND PREPARATION INSTRUCTIONS

Participants discussed how they check for doneness of meat and poultry products and whether someone verifies that the cooking instructions displayed on meat and poultry product packaging will ensure a safe product if properly followed.

5.5.1 Checking for Doneness of Meat and Poultry Products

Participants said that they rely on color (juices run clear) and texture (feels done) when checking for doneness of meat and poultry. Other participants said that they rely on experience, the length of time they cook a product, or the cooking instructions on the product packaging to determine if a product is cooked and safe to eat.

Only a few participants in each group use a food thermometer to check for a safe internal temperature. Most participants who use a food thermometer only do so when cooking large cuts of meat or poultry, such as whole turkeys or roasts. No participants said that they would use a food thermometer when cooking packaged products like frozen meals and entrees. They said it would be too time consuming, the products are too small, the products do not require cooking to a certain internal temperature, and many of the products are already partially cooked.

5.5.2 Verification of Cooking Instructions

The moderator asked participants if they think someone verifies that the cooking instructions displayed on meat and poultry product packaging will ensure a safe product if properly followed. Most participants believed that the manufacturer verifies the cooking instructions displayed on their products. Participants said that companies verify cooking instructions to avoid lawsuits and to satisfy the consumer by finding the optimal way of cooking their products. One participant commented, *“I think they’ve tested the product enough that they know to put that on there. They’re going*

to feel a lot better about it if you heat that product at that temperature before you eat it.”

Several participants speculated that the government plays a role in verifying cooking instructions by establishing guidelines or requiring companies to verify their instructions. Only a few participants did not think anyone checked to ensure that instructions were absolutely correct.

5.6 REACTIONS TO NOVEL LABELING FEATURES

Participants discussed a variety of ways to improve the labeling of meat and poultry products so consumers can easily distinguish between RTE and NRTE meat and poultry products. Participants discussed the use of a standardized phrase, a warning statement, a logo or icon for NRTE products, and color coding for both RTE and NRTE products.

5.6.1 Standardized Phrase

Most participants liked the idea of using a standardized phrase on NRTE meat and poultry product labeling to indicate that cooking for safety is required. Participants liked the following phrases (ranked in order of preference):

- Z “requires cooking,”
- Z “cook thoroughly,”
- Z “must be fully cooked,”
- Z “cook before eating,”
- Z “must be cooked,” and
- Z “cook for safety.”

The majority of participants preferred the standardized phrases “requires cooking” and “cook thoroughly.”

The majority of participants preferred the standardized phrases “requires cooking” and “cook thoroughly.”

Several participants did not like the phrase “cook for safety,” saying that “safety” sounds “scary” and implies that the product is unsafe or harmful to consumers. One participant pointed out that the term “cooked” in the phrases “must be fully cooked” and “must be cooked” could be misinterpreted, especially among nonnative English speakers, to mean that the product is already cooked, which led several other participants to change their opinions on their preferred phrase.

Most participants said that the standardized phrase should be displayed on the front of the product packaging so it is visible when the consumer picks up the product or views it from the shelf or case. A few participants suggested that the phrase be displayed on the back or instruct the consumer to see the back of the package for cooking instructions.

Participants suggested that the phrase always be displayed in the same location on the product packaging so consumers would know where to look. Suggested locations included the top right or left corner or next to the brand name, the Ingredients List, or net weight.

Participants said that the standardized phrase should be formatted to grab consumers' attention. Participants suggested that the standardized phrase be in large type so it stands out from the other text on the package, in a bright color (red or orange), or in a color that contrasts with the rest of the product packaging. Regarding the size of the type used for the standardized phrase, one participant stated, *"If you can read the brand and the kind of food that's inside the package, you should be able to read that as well."*

5.6.2 Warning Statement

The moderator asked participants about using warning statements on NRTE product labeling to identify these products as requiring cooking for safety. The warning statement now used for unpasteurized juices and the warning statement that will be used on shell egg cartons were provided as examples.

Many participants did not like the idea of using warning statements on NRTE product labeling.

Many participants did not like the idea of using warning statements on NRTE product labeling. Some participants said that warning statements are not necessary, and described them as *"overkill"* and *"over-regulation."* Some participants described warning statements as *"scary"* and were concerned that they might deter consumers from purchasing NRTE products. Several participants said that warning statements would not be effective, citing the warning statements on cigarette packaging as an example. Another participant commented that he drinks raw milk and fruit juices in spite of the warning statements displayed on

those products. In response to warning statements, he said, “*If you see it everywhere, it kind of loses its punch for me.*”

Several participants supported warning statements, particularly if used in addition to a standardized phrase. One participant stated, “*I think the more information you can give to consumers and their families, the better.*” One participant suggested using the statement, “Warning: Cook thoroughly.”

Attitudes on Warning and Handling Statements Currently Used on Some Products

In most of the Phoenix, Philadelphia, and Cincinnati groups, we asked participants about their understanding of the following statement that is currently displayed on the labeling of partially cooked meat patties:

“Partially cooked: For safety cook until well done—internal temperature of 160°F.”

Some participants found the statement confusing and described it as “*too complicated.*” Participants doubted that consumers would have and use a thermometer to check for doneness. Many participants did not like the idea of using this statement for partially cooked frozen meals and entrees; they suggested using a logo instead.

In one Phoenix group and one Philadelphia group, we asked participants about their understanding of the following statements and whether they should be displayed on the labeling of all meat and poultry products requiring refrigeration:

- Z “IMPORTANT: Must be kept refrigerated to maintain safety,” and
- Z “IMPORTANT: Must be refrigerated after opening to maintain safety.”

While they understood these instructions, most participants did not think it is necessary to display these statements on all meat and poultry products. They said that refrigerating products containing meat or poultry is common sense, and such labeling is unnecessary.

5.6.3 Logo or Icon

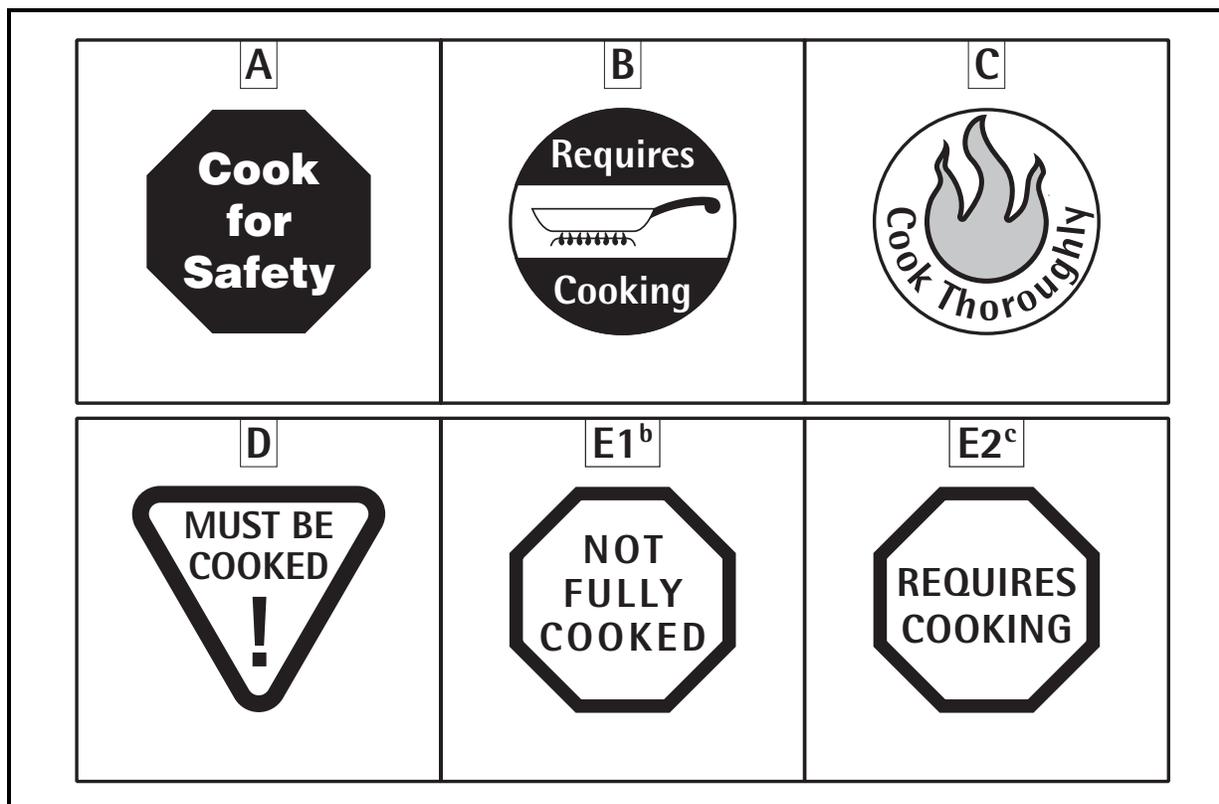
Most participants liked the idea of using a logo or icon on NRTE product labeling to identify the products as requiring cooking for safety.

Participants most preferred Logos C and B.

Most participants liked the idea of using a logo or icon on all NRTE product labeling to identify the products as requiring cooking for safety. Participants said that logos would be particularly effective with children, individuals with limited education, and people who do not speak English as their native language. Figure 5-1 presents the logo concepts evaluated by participants. Participants ranked their first, second, and third most preferred logos. Table 5-3 summarizes participants' preferences for the logo concepts evaluated.

Participants most preferred Logos C and B. About 38 percent of participants rated Logo C as their most preferred logo (first choice), and 21 percent rated Logo B as their most preferred logo. Logo C also garnered more first and second choice votes combined than any other logo—including Logo B. Participants also liked Logos D and A.

Figure 5-1. Logo Concepts Evaluated^a



^aParticipants could also design their own logo (option F).

^bLogo E1 was evaluated in the Raleigh groups only.

^cLogo E2 was evaluated in the Phoenix, Philadelphia, and Cincinnati groups.

Table 5-3. Participants' Preferences for Logo Concepts (n = 63)^{a, b}

Logo	Number of Votes			Total
	First	Second	Third	
A	9	5	16	30
B	13	22	15	50
C	24	16	9	49
D	7	13	15	35
E1	1	0	3	4
E2	3	5	3	11
F ^c	6	2	2	10

^aParticipants ranked their first, second, and third most preferred logos.

^b These results should not be generalized to the U.S. population of household grocery shoppers and cooks in any statistical sense.

^cLogo F includes logos designed by participants.

Participants liked Logo C because of the phrase “cook thoroughly” and the flame symbol. As one participant stated, “*It stands out the best.*” Participants believed that people who do not speak English would understand that the flame symbol means to cook. Participants suggested that the flame be in red.

Participants liked Logo B because it gives specific information to cook the product (“requires cooking”) and they liked the frying pan symbol. One participant stated about Logo B, “*There’s no question about what they want you to do.*” Many participants were not deterred by the fact that Logo B presents a frying pan symbol, although some participants were concerned that it might confuse consumers because frozen products are often prepared in a microwave. One participant pointed out that the word “requires” translates into several Romance languages.

Participants who liked Logo D liked its simplicity and the phrase “must be cooked” with an exclamation point. They liked that this phrase is “*emphatic*” and “*a command.*” Participants liked the use of a yield sign because it implies caution and suggested that the logo be in a bright color (e.g., yellow, red, or orange) with black lettering.

Participants who liked Logo A liked the stop sign shape, the phrase “cook for safety,” and the bold lettering. Participants who did *not* like Logo A did not like the use of the word “safety.” These participants said that the word “safety,” when associated with cooking, is ineffective and that consumers would likely ignore such a message. One participant commented about Logo A, “‘Cook for safety’ is a little more dubious. You know you have to cook it, but you don’t know how much.”

Most participants said that the logo should be displayed on the front of the product packaging so it is visible when the consumer first looks at the product. Several participants suggested displaying the logo on the back near the instructions because consumers generally turn the product to the back to read the instructions, or displaying the logo on the front *and* the back of the product packaging.

Participants suggested that the logo always be displayed in the same location (e.g., top right or left corner) on the product packaging so consumers would know where to look for it. Participants suggested that the logo be about the size of a quarter (bigger than the USDA seal of inspection) to be easily visible. Some participants, particularly seniors, suggested that the logo be bigger (about the size of a half-dollar). In one group, participants suggested that the logo be proportional to the size of the product packaging.

Participants suggested that the logo be in a bold, bright color like red or orange, in a color that contrasts with the product packaging, and outlined in black.

Using a Logo for Both NRTE and RTE Products

The moderator asked participants about the need to use a standardized logo for RTE products as well as NRTE products to convey whether cooking for safety is required. Participants in several of the focus groups liked this idea, while participants in other groups did not.

Some participants thought that displaying a logo on both NRTE and RTE product packaging would help consumers easily distinguish between products that do and do not require cooking for safety. Participants said that if one product has a logo and

another does not, consumers might question the difference and be unsure as to how to prepare products without a logo. Participants said that if all meat and poultry product packaging displayed a logo, then consumers could simply look at the product packaging and know immediately whether it is RTE or NRTE. One participant stated, *“You want to know what you can just grab right then and just take with you and you don’t have to cook or anything. That way it’s just simple. It’s on there, ready to eat.”*

Some participants did *not* think it is necessary to display a logo on both NRTE and RTE product packaging. Participants said that manufacturers already emphasize that products are RTE (as a selling point) and that RTE products are fully cooked so there are no safety concerns. One participant commented, *“If it’s already cooked it’s not dangerous, there’s nothing to worry about, so I would say it’s not necessary.”*

In the first focus group (Raleigh seniors), one participant suggested the idea of using the NRTE logo with a slash through it as the RTE logo (see Figure 5-2). Other participants in the group liked this idea so we tested this concept in the remaining focus groups. Most participants did not like this concept, saying that it looked negative

Figure 5-2. RTE Logo Concept Evaluated



and might deter consumers from purchasing the product. They suggested using a distinctly different logo for RTE products or a color-coding scheme with standardized phrases for RTE and NRTE products. Participants who liked the RTE logo shown in

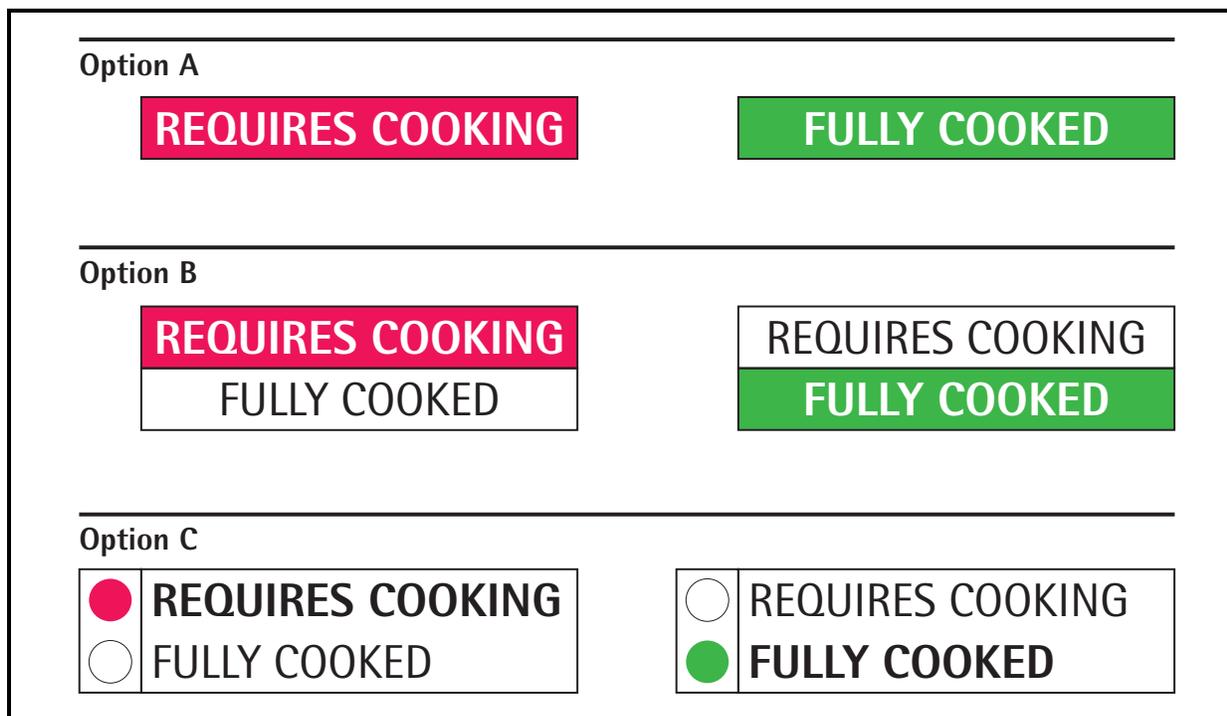
Figure 5-2 said that it is simple and consumers would not have to remember two different logos.

5.6.4 Color Coding

We asked participants about using a color-coding scheme for RTE and NRTE products similar to the one that is used for milk cartons (different color caps indicate different levels of milk fat); that is, use standardized color packaging for RTE and NRTE products. Most participants did not like this concept. They were concerned that it would be too complicated and would be one more thing that they would have to remember. Participants also said that color coding would not be effective with color-blind consumers, and in their experience color-coding schemes (like the one used with milk) vary from store to store.

Many participants liked the idea of a color-coding scheme when used with standardized phrases.

In one of the Phoenix groups (ages 35-55, college educated), one participant suggested a color-coding scheme in which the NRTE standardized phrase is displayed in a red rectangle and the RTE standardized phrase is displayed in a green rectangle. Other participants liked this idea so we tested this concept and several alternatives in the remaining focus groups (see Figure 5-3; shown in color in Appendix B). Participants who supported color coding with standardized phrases said that it would make shopping easier

Figure 5-3. Color-coding Schemes Evaluated^a

^aTested in the Philadelphia and Cincinnati groups only.

because consumers would not have to read the instructions on each package, and teenagers could shop easily using the colored blocks.

Many participants liked the idea of a color-coding scheme when used with standardized phrases. Most participants preferred Option A for its simplicity. Participants found Options B and C confusing. Participants said that it is universally accepted that red means “stop” (i.e., cook) and green means “go” (i.e., fully cooked). Some participants preferred the use of a color-coding scheme with standardized phrases for RTE and NRTE products to a logo for NRTE products.

5.7 ATTITUDES TOWARD REQUIRING STANDARDIZED LABELING OF NRTE PRODUCTS

Throughout the discussion, some participants expressed confusion and frustration about the inconsistency in labeling of meat and poultry products with regard to whether they require cooking for safety. Some participants were surprised that some

products do not provide any cooking or heating instructions. Also, there was some confusion when one product indicated that cooking is required and a similar product under a different brand name did not. One participant said, *“The people that don’t have anything on their package need to put something on there.”* Participants admitted to not knowing how to prepare some items without instructions, particularly new items or products they had not purchased before. Most participants said that they would thoroughly cook a product when in doubt.

Participants said that standardization would “...eliminate the confusion from the consumer’s mind.”

Many participants would like to see the government impose regulations that would ensure consistency in labeling of NRTE products and make it clear to consumers that cooking for safety is required. Participants said that standardization would *“...eliminate the confusion from the consumer’s mind.”* While some participants thought adults could make an informed decision as to how to prepare foods, most agreed that children might not. Participants did not think that manufacturers would voluntarily adopt standardized labeling of NRTE products because of the cost and because they do not *“care enough.”*

Some participants did not think such regulations are necessary. These participants said that labels already provide enough information, consumers are savvy shoppers, and it is the parents’ responsibility to protect children. Several participants were concerned about the cost of such regulations, and one participant stated, *“Every time they do something like this it automatically raises the prices of things because it is costing them more.”* A few participants said that government regulations are warranted only if there is a significant problem of manufacturers not labeling products as requiring cooking and people getting sick as a result.

Of the novel labeling features discussed, participants most preferred the use of logos for NRTE products or a color-coding scheme with standardized phrases for both RTE and NRTE products.

Participants said that the labeling requirement adopted by the government needs to be simple and easy to understand. Of the novel labeling features discussed, participants most preferred the use of logos for NRTE products or a color-coding scheme with standardized phrases for both RTE and NRTE products. Participants who preferred using a logo said that children, individuals with limited education, and individuals who do not speak English as their native language could understand it. One participant likened logos to the symbols used on laundry directions for dry, bleach, and iron, and said, "...*you have to spell things out. You have to show people.*" Participants who preferred the use of color coding liked that all meat and poultry products would be labeled as to whether cooking is required and said that it would be simple and easy to understand.

6

Conclusion and Recommendations

The focus groups provided information on consumers' current understanding of the labeling of NRTE meat and poultry products and how consumers decide whether a product must be cooked for safety. In addition, we collected information on participants' reactions to several novel labeling features, such as standardized phrases or logos, that USDA could require companies to display on NRTE product packaging so that consumers understand that the product requires further cooking on their part.

We recommend that FSIS conduct analyses to evaluate the costs and benefits of a regulation or policy requiring standardized labeling of NRTE meat and poultry products to convey that cooking for safety is required.

Although consumer focus group findings should not be generalized to the general population of all consumers in any statistical sense, the findings can be used to help guide policy decisions. The focus group findings suggest that there is some confusion and frustration among consumers regarding the inconsistency in labeling of meat and poultry products with respect to whether they require cooking for safety. Many participants said that there is a need for the government to impose regulations that would require consistency in labeling of NRTE products. Participants said that standardization would "...eliminate the confusion from the consumer's mind." Participants said that regulations are necessary because manufacturers would be unlikely to voluntarily adopt standardized labeling of NRTE products because of the expense and lack of interest. Of the novel labeling features discussed, participants most preferred a logo for NRTE products or a color-coding scheme with standardized phrases for RTE and NRTE products. Participants said that the labeling feature used should be large enough to be easily visible to the consumer and displayed on the front of the

product packaging in a standardized location (e.g., top right corner).

While these focus groups indicate that there is currently a considerable degree of confusion about labeling terminology and a desire for more consistent labeling, we do *not* believe that these findings alone are a sufficient basis for regulatory action. We recommend that FSIS conduct analyses to evaluate the costs and benefits of a regulation or policy requiring standardized labeling of NRTE meat and poultry products to convey that cooking for safety is required.¹ If the decision is then made to go forward with standardized labeling, we encourage FSIS to consult with affected industry stakeholders about *their* preferences for the type of labeling feature to use and the formatting and placement of the labeling feature on the product packaging. We also recommend that FSIS implement a consumer education campaign through the general media to make consumers aware of the standardized labeling and to encourage consumers to look for the NRTE labeling feature to determine whether cooking for safety is required.

¹The cost analysis should, minimally, estimate the compliance costs to industry of meeting any proposed labeling requirement. The benefits analysis should at least consider any anticipated reduction in the incidence of foodborne illnesses resulting from consumption of under-cooked NRTE products. There may be other benefits to consider, however, such as a reduction in consumer search costs.

References

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