

**December 17, 2004**

# **Evaluation of the USDA Food Safety Mobile: Findings from Focus Groups with Visitors**

**Volume 1  
Final Report**

**Contract No. 43-3A94-2-5016**

Prepared for

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\*RTI International is a trade name of Research Triangle Institute.

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# Executive Summary

In March 2003, the U.S. Department of Agriculture's Food Safety and Inspection Service (USDA, FSIS) launched the USDA Food Safety Mobile as part of a consumer education campaign to support local food safety education efforts and reach consumers where they live. The USDA Food Safety Mobile travels the United States visiting local community events to educate consumers about food safety.

FSIS contracted with RTI International (RTI) to conduct a formative evaluation of the USDA Food Safety Mobile. The purpose of the evaluation was to determine the effectiveness of the Mobile to support local food safety education efforts and to improve consumers' food safety awareness, knowledge, and food handling practices. RTI conducted eight focus groups with 61 adults who visited the Mobile and 13 telephone interviews with local educators who planned and volunteered at the Mobile in four locations: Atlanta, Georgia; Southern Pines and Charlotte, North Carolina; and Buffalo, New York. RTI also interviewed individuals from FSIS' Food Safety Education Staff to collect information on the process for planning and implementing a Mobile event.

This report presents the findings from the focus groups with Mobile visitors and our recommendations for improving Mobile events. The findings from the telephone interviews with local educators are reported separately.

## ES.1 KEY FINDINGS

We list the key findings from the focus group discussions below.

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*Participants described the Mobile as “fun,” “engaging,” and “an enjoyable experience.” One participant stated, “The [Mobile] exhibits were hands-on and eye-catching; there were things to touch!”*

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- Participants and their children enjoyed their visit to the Mobile and found the activities and food safety educational materials informative.
- After visiting the Mobile, participants’ awareness of food safety and/or their knowledge of safe food handling practices increased or were reinforced.
- After visiting the Mobile, one or more participants from each focus group reported at least one change in his/her food handling practices.
- Many participants who received promotional items (e.g., refrigerator thermometers, cutting boards, and T-stick thermometers) reported changes in food safety awareness, knowledge, and/or food handling practices.
- Most participants found their conversations with FSIS staff and local university educators (Mobile educators) to be the most informative source of information at Mobile events.
- Participants really liked the Food Safety Wheel Game and suggested other interactive and engaging activities to educate visitors about food safety.
- Some participants, especially in Buffalo, found food safety visuals (e.g., meat model<sup>1</sup>) and statistics that offer “shock value” to be effective mechanisms for educating visitors about food safety.
- Some participants picked up numerous publications, but few reported reading them.
- Many participants liked that USDA and local educators offered a “service to the community” and educated consumers about food safety.

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## ES.2 RECOMMENDATIONS

Based on the findings from the focus group discussions with Mobile visitors, we offer the following recommendations for improving Mobile events and engaging visitors more actively in food safety education:

- Offer more demonstrations and interactive activities that engage visitors in food safety education.

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<sup>1</sup>The meat model included three hamburgers made from modeling clay and used different amounts of lentils to demonstrate bacterial growth over time.



- Consider transforming the Mobile into a traveling exhibit so visitors can walk through the Mobile and see food safety demonstrations.
- Continue to offer promotional items because visitors like and use them, and the items encouraged some visitors to change their food handling practices at home.
- Use some demonstrations or visuals that employ a modest level of “scare tactics” or “shock value.”
- Offer more activities that test visitors’ food safety knowledge using a question-and-answer format (e.g., self-administered, computerized, food safety quiz).
- Organize activities and educational materials around the key food safety messages of clean, separate, cook, and chill.
- Consider developing a food safety consumer reference booklet that highlights and describes the key food safety messages visitors should walk away with.



# 1

## Introduction

In March 2003, the U.S. Department of Agriculture's Food Safety and Inspection Service (USDA, FSIS) launched the USDA Food Safety Mobile as part of a consumer education campaign to support local food safety education efforts and reach consumers where they live. The USDA Food Safety Mobile travels the United States visiting state and county fairs, food festivals, schools, grocery stores, and other community events to educate consumers about food safety. From March 2003 to July 2004, the Mobile visited 155 local events in 41 states.

The USDA Food Safety Mobile is part of a consumer education campaign to support local food safety education efforts and reach consumers where they live.

The purpose of the USDA Food Safety Mobile is to

- increase awareness of food safety and promote the use of the four Fight BAC!® messages;<sup>2</sup>
- assist local food safety educators in their efforts to reach specific audiences by generating positive media attention for food safety education;
- provide important food safety education information to consumers through interaction;
- educate consumers on new food safety technologies, such as irradiation;
- target underserved populations;
- increase collaboration and strengthen or create partnerships with local organizations to foster food safety and food security nationwide; and

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<sup>2</sup>The Fight BAC!® messages are part of a food safety education campaign launched in October 1997 by the Partnership for Food Safety Education. The four messages are clean, separate, cook, and chill.

- inform the public about the role of USDA and FSIS in protecting public health and encourage consumers to do their own part in homeland security.

The Mobile serves as a backdrop for food safety education (see Figure 1-1). Tables in front of the Mobile display food safety educational publications, promotional items, and demonstrations. The inside of the Mobile is not open to visitors but is used for storing educational materials and props.

**Figure 1-1. Food Safety Mobile Display**



For the day of the event, FSIS offers educators the following food safety educational tools (see Appendix A for more details):

- food safety publications in English and Spanish,
- promotional items (e.g., stickers, magnets, cutting boards),
- The Food Safety Wheel Game,
- Thermy™ and Fight BAC!® costumed characters, and
- food safety educational videos.

At Mobile events, FSIS often provides one or more food safety specialists to distribute publications, talk with visitors, and

assist in working the Food Safety Wheel Game. In addition, FSIS provides a table for displaying FSIS publications and a table that local educators can use to display their own educational materials and exhibits. A hand-washing station and food and equipment for cooking demonstrations are available by request.

FSIS maintains a general schedule for the Mobile so that it visits a particular area of the United States every few weeks (e.g., the Mobile was in North and South Carolina on April 3 through May 2, 2004). Local educators with an interest in hosting an event can contact FSIS to schedule the Mobile. In addition, FSIS may contact local educators who previously expressed an interest to host an event in their areas.

Once an event is selected for the Mobile, FSIS sends local educators a CD with information on how to plan and implement an event and a media kit with template press releases, photographs, video, and other materials to help promote the Mobile in their area. Via telephone, FSIS works with local educators to determine what Mobile educational materials are appropriate for their events and how many local volunteers are needed. FSIS manages all the logistics for local events at no charge to local educators (e.g., FSIS pays fees to rent space at local events). FSIS's and local educators' responsibilities for planning and implementing an event are defined at [www.fsis.usda.gov/food\\_safety\\_education/food\\_safety\\_mobile/index.asp](http://www.fsis.usda.gov/food_safety_education/food_safety_mobile/index.asp).

To evaluate the USDA Food Safety Mobile, RTI conducted focus group discussions with adults who visited the Mobile and interviews with local educators who planned events and volunteered at the Mobile.

FSIS contracted with RTI International (RTI) to conduct a formative evaluation of the USDA Food Safety Mobile. The purpose of the evaluation was to determine the effectiveness of the Mobile to support local food safety education efforts and to improve consumers' food safety awareness, knowledge, and food handling practices. RTI conducted focus group discussions with adults who visited the Mobile and telephone interviews with local educators who planned events and volunteered at the Mobile.

This report describes the study design and presents the findings from the focus group discussions with Mobile visitors. The report concludes with recommendations for improving Mobile events and engaging visitors more actively in food safety education. The findings from the telephone interviews with local educators are reported separately.



# 2

## Study Design

In this section, we describe the procedures and materials used to conduct the focus groups with Mobile visitors. RTI conducted the focus groups in four locations determined by FSIS: Atlanta, Georgia; Southern Pines and Charlotte, North Carolina; and Buffalo, New York. Table 2-1 identifies the event held in each location. Appendix B provides a summary of the activities and materials distributed at each event between March and July 2004.

**Table 2-1. Mobile Locations and Events for the Evaluation**

<b>Location</b>	<b>Event</b>
Atlanta, GA	Underground Atlanta during Ag Week Hunger Walk
Southern Pines, NC	Springfest
Charlotte, NC	Taste of Charlotte
Buffalo, NY	Taste of Buffalo

The purpose of the focus groups with visitors was to collect information on

- participants' impressions of the Food Safety Mobile and its activities and materials and
- changes in participants' food safety awareness, knowledge, and food handling and preparation practices after visiting the Mobile.

We conducted two focus groups in each location with adults who visited the Mobile. Each focus group included six to eight participants, for a total of 61 participants, and a mix of

genders, ages, races, and education. Table 2-2 provides information on participants' demographics.

**Table 2-2. Participants' Demographics**

Characteristic	Total (n = 61)	Percentage (%)
Gender		
Male	19	31.1
Female	42	68.9
Age		
18–25	7	11.5
26–35	15	24.6
36–59	35	57.4
60+	4	6.5
Race		
White/Caucasian	34	55.7
Black/African American	27	44.3
Education		
Less than a high school degree	2	3.3
High school graduate or GED	9	14.7
Some college	27	44.3
College graduate	23	37.7

RTI collaborated with state universities and their local extension services to recruit possible focus group participants at each Mobile event. Local educators asked visitors to complete a brief pre-questionnaire to collect contact information, demographics, and information on current food handling and preparation practices. Visitors received a free gift (e.g., cutting board or refrigerator thermometer) for completing the questionnaire. If visitors were uncomfortable providing their contact information, they received a postcard that included a phone number to call and inquire about participating in a group discussion in their area. Appendix C provides the pre-questionnaire and postcard used in recruiting efforts at the events.

RTI contracted with local market research companies in each location to recruit participants and provide facilities for hosting the focus group discussions.<sup>3</sup> Appendix D provides the

<sup>3</sup>A market research facility was not available in Southern Pines, so the focus group discussions were held at a local hotel.



questionnaire used to screen for eligibility and recruit participants for the focus group discussions. To be eligible to participate in a focus group discussion, visitors to the Mobile had to meet the following criteria:

- have primary or shared responsibility for cooking in their household;
- are not vegetarians;
- prepare meat and poultry at home at least three times per week;
- have not participated in a focus group in the past 6 months; and
- have no family member (including self) employed by the federal government; the health care industry; the food industry; or a marketing research, advertising, or public relations company currently or within the past 5 years.

Prior to the focus group discussions, participants completed a post-questionnaire that collected the same information as the pre-questionnaire so that we could compare visitors' food handling practices before and after attending the Mobile. Appendix E provides the post-questionnaire.

Appendix F provides the moderator guide for the focus groups. We customized the moderator guide for each location based on the food safety materials used at each event. The moderator guide addressed the following topics:

- Current knowledge and perceptions: Participants' concerns about foodborne illness and their knowledge and use of safe food handling practices.
- Impressions of the Mobile: Participants' likes and dislikes and what they found most and least informative about the Mobile.
- Knowledge and behavior changes: New information participants learned about safe food handling practices and any changes they made in how they handle and prepare food at home based on their visit.
- Suggestions: Participants offered suggestions on how to make the Mobile more informative, interesting, and attractive and identified other activities the Mobile could offer to encourage the adoption of safe food handling practices at home.

Local educators had the opportunity to suggest additional topics to discuss during the focus group discussions.

For their time and participation, focus group participants received a free gift (a digital food thermometer) and a monetary incentive of \$75 in Atlanta, Charlotte, and Southern Pines and \$50 in Buffalo. The focus groups were conducted within 4 weeks of each event (April to August 2004). Each focus group lasted approximately 90 minutes. Each focus group was audio- and videotaped, and the discussions were transcribed.

We prepared a detailed summary of each focus group discussion. We then reviewed the detailed summaries to identify common themes within and across locations.

# 3

## Key Findings

In this section, we describe the key findings from the focus group discussions with Mobile visitors who attended one of four events in different locations. Appendix G provides a detailed summary of each focus group discussion.

Because the focus group participants were limited to individuals who agreed to complete a questionnaire at a Mobile event, the possibility of selection bias exists. The evaluation findings may not be representative of the opinions of all Mobile visitors; however, the findings do provide useful insights about consumers' impressions of the Mobile, the effectiveness of the Mobile as a food safety education tool, and ways to improve the Mobile.

***Participants and their children enjoyed their visit to the Mobile and found the activities and food safety educational materials informative.*** Most participants really liked playing the Food Safety Wheel Game; receiving the promotional items, such as the cutting board; and interacting with FSIS staff and local university educators (Mobile educators). Participants described the Mobile as "*fun,*" "*engaging,*" and "*an enjoyable experience.*" One participant stated, "*The [Mobile] exhibits were hands-on and eye-catching; there were things to touch!*" Participants liked that the Mobile involved children in learning about food safety. Participants' children and grandchildren really liked receiving the promotional food safety stickers and coloring books and playing the Food Safety Wheel Game.

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*For some participants, their visit to the Mobile, especially completing the pre-questionnaire, reminded them to be “more conscious and careful” when handling and preparing meat and poultry.*

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**After visiting the Mobile, participants’ awareness of food safety and/or their knowledge of safe food handling practices increased or were reinforced.** Participants liked that they learned “something new and useful” during their visit to the Mobile. Several participants said they “learned a lot,” including how to safely thaw meat and poultry, how to safely store leftovers, and the need to use a refrigerator thermometer to check that their refrigerator is set at a safe temperature. For some participants, their visit to the Mobile, especially completing the pre-questionnaire, reminded them to be “more conscious and careful” when handling and preparing meat and poultry. As one participant stated, “It was information I already knew but haven’t thought about in awhile.” After visiting the Mobile, several participants said they were “more conscious” to avoid cross-contamination of raw meats and ready-to-eat foods (e.g., using separate cutting boards for raw meats and vegetables), refrigerate leftovers immediately, and use a food thermometer to check the doneness of meat and poultry. Many participants are using the promotional items (e.g., magnets and cutting boards) they received during their visit and said these items serve as good reminders to handle and prepare food safely.

**After visiting the Mobile, one or more participants from each focus group reported at least one change in his/her food handling practices.** Table 3-1 shows the number of participants who reported changes in their use of certain safe handling practices after visiting the Mobile; these changes are based on the analysis of the pre- and post-questionnaire data. Participants reported changes in practices to prevent cross-contamination and ownership and use of food thermometers.<sup>4</sup> Some participants replaced their old wooden cutting boards with the new cutting board they received at the Mobile or started using separate cutting boards for raw meats and vegetables. Several participants have used a food thermometer more often or tried using one for smaller cuts of meat, including trying the T-stick thermometers when cooking hamburgers. Although many participants reported storing

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<sup>4</sup>The increase in food thermometer ownership may be due to participants receiving T-stick thermometers or refrigerator thermometers at the Mobile event.

**Table 3-1. Number of Participants Who Reported Using Safe Food Handling and Preparation Practices Before and After Visiting the Food Safety Mobile**

Practice	Number of Participants (n = 61)		
	Before Mobile <sup>a</sup>	After Mobile <sup>b</sup>	Reported Changes <sup>c</sup>
Wash hands before preparing food	59	60	1
Safely handle cutting boards to prevent cross-contamination	46	54	8
Immediately refrigerate leftovers	48	52	4
Own a food thermometer	29	39	10
Use a food thermometer to check doneness of large cuts of meats	21	26	5
Use a food thermometer to check doneness of hamburgers	3	5	2

<sup>a</sup>Pre-questionnaire (administered at Food Safety Mobile) data.

<sup>b</sup>Post-questionnaire (administered at focus group discussion) data.

<sup>c</sup>Comparison of pre-questionnaire and post-questionnaire data. Participants were considered to have made a behavior change if the practice was reported in the post-questionnaire but not in the pre-questionnaire.

leftovers immediately on the pre-questionnaire, many participants said they now store leftovers *more* promptly after visiting the Mobile.

Some participants identified other changes in their handling and preparation practices since visiting the Mobile. The following behavioral changes were reported by one or more participants: cleaning the refrigerator, checking expiration dates on perishable foods, reheating leftovers, washing utensils with soap and water after preparing meat and poultry instead of rinsing, using a cutting board to cut raw meat instead of the countertop, and thawing meat in the refrigerator instead of at room temperature.

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*One participant said, "The promotional items are an excellent learning tool because visitors will take them home and use them."*

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**Many participants who received promotional items (e.g., refrigerator thermometers, cutting boards, and T-stick thermometers) reported changes in food safety awareness, knowledge, and/or food handling practices.**

Participants liked receiving the promotional items and found the items to be very useful. One participant said, *"The promotional items are an excellent learning tool because visitors will take them home and use them."*

Many participants who received a refrigerator thermometer have either placed them in their home refrigerators or shared them with friends or family. One participant who especially

liked the refrigerator thermometer called all her friends and family members to tell them at what temperature their refrigerators should be kept to safely store perishables. A few participants, however, were unaware of how to properly use a refrigerator thermometer; they were unsure whether the thermometer went on the inside or outside of the refrigerator.

Most of the participants who received a cutting board for completing the questionnaire have used the promotional item. Some participants replaced their wooden cutting boards with the new cutting boards; some participants started using separate cutting boards for raw meat and vegetables because they now have two cutting boards; and at least one participant started using a cutting board instead of the countertop to cut raw meat. One participant said the promotional cutting board reminded him that his old one had too many cuts and grooves to clean it safely. A few participants said they feel safer using the plastic, promotional cutting boards rather than using their wooden cutting boards. Many participants would like to see the Mobile include a demonstration on the safe way to clean cutting boards and utensils, including recommended soaps/detergents and bleach concentrations.

Some of the participants who received T-stick thermometers have tried using them when cooking hamburgers. Others reported that they plan to use them. Several participants suggested the Mobile include a demonstration on how to use T-stick thermometers.

Many of the participants who received Thermy™ or Fight BAC!® magnets placed the magnets on their home refrigerators. Some participants said that the Thermy™ magnet has made them more conscious of the need to use a food thermometer, and they like that the safe internal temperatures for different cuts of meat and poultry are readily available.

***Most participants found their conversations with FSIS staff and local university educators to be the most informative source of information at Mobile events.***

Participants said they enjoyed talking and interacting with Mobile educators. A few participants initially stopped at the Mobile because "*they [the Mobile educators] were so friendly.*" Other participants described the Mobile educators as "*professional,*" "*trustworthy,*" "*reputable,*" "*informative,*" "*knowledgeable,*" "*enthusiastic,*" and "*helpful.*" One participant

stated, *"If I wouldn't have got[ten] any materials [from the Mobile], I would have learned enough from the educators."* One participant said she would rather talk to an educator than read numerous publications to get information. Other participants shared this sentiment.

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*One participant stated, "If I wouldn't have got[ten] any materials [from the Mobile], I would have learned enough from the educators."*

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Some participants said their interactions with the Mobile educators reminded them of basic safe food handling practices. Other participants identified specific information they learned from the Mobile educators, including the importance of

- storing leftovers promptly,
- using a refrigerator thermometer,
- using separate cutting boards for raw meat and vegetables,
- using a food thermometer to check the safe internal temperature of meat and poultry, and
- discarding kitchen sponges that harbor foodborne bacteria.

A few participants learned that stomachaches are a common symptom of foodborne illness, suggesting that foodborne illness may be more common than they previously believed.

***Participants really liked the Food Safety Wheel Game and suggested other interactive and engaging activities to educate visitors about food safety.*** Many participants and their children initially stopped at the Mobile to play the Food Safety Wheel Game because *"it was eye-catching."* Participants described the Wheel as *"fun," "interesting,"* and *"informative."* Several participants liked that the Wheel was *"directed to persons of all ages"* and *"involved children."*

By playing the Wheel, many participants had existing knowledge of food safety reinforced, and some participants acquired new food safety knowledge. Participants learned about the safe internal cooking temperatures of meat and poultry, how to store leftovers promptly, the importance of using a refrigerator thermometer, and how to avoid cross-contamination in the kitchen (e.g., using separate cutting boards for raw meat and vegetables and using bleach to clean cutting boards). After playing the Wheel, several participants discussed their questions with Mobile educators, and a few lingered to learn more about food safety by watching other visitors play the Wheel and answer questions.

Several participants particularly liked the question-and-answer format of the Wheel and suggested the following activities with a similar concept:

- develop a quiz similar to the pre-questionnaire and invite visitors to take the quiz on a touch screen computer so they can independently test their food safety knowledge,
- develop a quiz board that uses door flaps that visitors can open to reveal answers to food safety questions, and
- provide a live demonstration or video on a touch screen computer that presents safe and unsafe food handling practices and have visitors identify the unsafe food handling practices.

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*Participants liked the Wheel because it was “hands-on” and “engaging.” One participant stated “people will be more apt to learn if you get them involved...”*

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Participants liked the Wheel because it was “*hands-on*” and “*engaging.*” One participant stated “*people will be more apt to learn if you get them involved...*” Other participants shared this opinion and suggested the following interactive activities to engage visitors:

- use the inside of the Mobile as a mock kitchen and conduct demonstrations of safe food handling practices;
- provide activities that keep children engaged (e.g., food safety videos, video games, and puppet shows) so parents have time to interact with Mobile educators and peruse the educational material;
- conduct cooking demonstrations to illustrate barbecue food safety using T-sticks and other thermometers with a variety of meats;
- demonstrate the safe way to clean cutting boards and utensils, including recommended soaps/detergents and bleach concentrations, and illustrate the concept of cross-contamination by using ultraviolet light to show bacteria on cutting boards;
- provide a short skit demonstrating unsafe food handling practices that lead to someone getting foodborne illness, and then identify the safe food handling practices to prevent foodborne illness in a repeat performance;
- demonstrate the safe way to wash hands, including proper techniques (e.g., 20-second timer) and recommended soaps, and illustrate bacteria left on hands from improper hand-washing using Glo Germ™; and



- provide a computer so participants can access a Web site for more information on food safety.

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*Participants in Buffalo stated that the meat model “made an impression” and “[it] was worth the trip [to the Mobile].”*

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***Some participants, especially in Buffalo, found food safety visuals (e.g., meat model) and statistics that offer “shock value” to be effective mechanisms for educating visitors about food safety.***

Local educators in Buffalo used a meat model to demonstrate the extent at which bacteria grows when meat is left to thaw at room temperature.<sup>5</sup> Most participants in Buffalo saw the meat model during their visit to the Mobile. Many participants initially stopped at the Mobile to get a closer look at the meat model and found it to be the most informative aspect of the Mobile. Many participants walked away “shocked” or “surprised” because this was either new information to them or they did not realize the extent to which bacteria grows when meat is left at room temperature. Participants stated that the meat model “made an impression” and “[it] was worth the trip [to the Mobile].” The meat model was very effective at engaging visitors and the Mobile educators in conversation, giving educators an opportunity to share additional food safety information.

The meat model increased awareness of the importance of refrigerating leftovers promptly, thawing meats in the refrigerator, and cleaning kitchen surfaces and countertops. Additionally, the meat model motivated behavioral change in some participants. Some participants started refrigerating leftovers more promptly. One participant, who normally leaves food out, described how she refrigerated her daughter’s food when she was going to be late for dinner one night. Additionally, the meat model encouraged at least one participant to thaw meat in the refrigerator rather than at room temperature, clean the inside of the refrigerator, or check expiration dates on perishables.

Participants in other locations discussed the use of “scare tactics” in food safety education materials. Several participants suggested using visuals to illustrate foodborne bacteria and people getting sick from eating contaminated food. Several participants suggested using statistics (e.g., 76 million people contract foodborne illness each year) for “more shock value” or

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<sup>5</sup>The meat model included three hamburgers made from modeling clay and used different amounts of lentils to demonstrate bacterial growth over time.

as a way “to make people think” about the consequences of not handling and preparing food safely.

**Some participants picked up numerous publications, but few reported reading them.** Table 3-2 shows the number of participants who recalled receiving food safety publications distributed at the Mobile and the number of participants who reported reading these materials. Food safety brochures were displayed on a table, and the fact sheets were displayed in a carousel.

**Table 3-2. Number of Participants Who Received and Read Food Safety Publications Distributed at the Mobile**

Publication	Received (n=61)	Read (n=61)
Fight BAC! <sup>®</sup>	28	13
Thermy <sup>™</sup>	31	15
Cooking for Groups	14	1
Safe Handling of Take-Out Foods	19	4
Barbeque Food Safety Fact Sheet	7	3
Egg and Egg Products Safety Fact Sheet	6	4
Keeping Food Safe During an Emergency Fact Sheet	3	0
Basics for Handling Food Safety Fact Sheet	3	3

Some participants, especially in Buffalo, did not pick up any brochures at the Mobile because they assumed the brochures were in the bags distributed at the Mobile. A few participants did not see the carousel of fact sheets at the Mobile and were disappointed they did not receive the “Barbeque Food Safety Fact Sheet.”

Of the participants who did read the brochures, some found the information very informative. A few participants who read the “Thermy<sup>™</sup>” brochure tried or thought about using a food thermometer to check the doneness of smaller cuts of meats (e.g., hamburger or chicken breasts). A few participants who read the “Fight BAC!<sup>®</sup>” brochure learned that home refrigerators should be kept at 40°F or below, and one participant who read the “Safe Handling of Take-Out Foods” brochure now reheats leftovers. A few participants shared the literature they received with friends or family. One participant

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*Many participants thought the Mobile was informative and offered "information [they] already knew but haven't thought about in awhile."*

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distributed the publication "Cooking for Groups: A Volunteer's Guide to Food Safety" to the kitchen volunteers at her church.

**Many participants liked that USDA and local educators offered a "service to the community" and educated consumers about food safety.** Participants really appreciated that the Mobile visited their community. As one participant stated, *"It was a pleasant surprise to see the Mobile at the event."* Participants believed the Mobile provided an excellent opportunity to talk to educators and to learn more about food safety. Many participants thought the Mobile was informative and offered *"information [they] already knew but haven't thought about in awhile."* Many participants liked how the Mobile and its staff of educators engaged local consumers of all ages, including children. Some participants in North Carolina, however, thought the Mobile could have attracted more adults without children (e.g., older adults) if the Mobile had not been located in the children's sections of the events. Participants also believed the Mobile had to compete with many other fun, colorful, and engaging activities in the children's sections.

Participants in all locations suggested the Mobile take advantage of venues that attract a large, diverse gathering of people and identified the following venues in their areas where they would like to see the Mobile visit:

- professional baseball and football games,
- outdoor concerts,
- supermarkets,
- state fairs,
- food festivals (e.g., Taste of Atlanta),
- art festivals (e.g., Charlotte Shout),
- a Southern Women's Show,
- home and garden shows, and
- schools and after-school programs.



# 4

## Recommendations

Offer more demonstrations and interactive activities that engage visitors in food safety education, including

- activities that keep children engaged (e.g., food safety videos, video games, and puppet shows) so parents have time to interact with Mobile educators and peruse the publications;
- a hand-washing station with Glo Germ™ and an ultraviolet light to demonstrate proper hand-washing techniques; and
- demonstrations illustrating the safe way to clean cutting boards and utensils, including recommended soaps/detergents and bleach concentrations.

In this section, we present our recommendations based on the findings from the focus groups with Mobile visitors. These recommendations identify additional activities that FSIS should consider at local Mobile events to more actively engage visitors in food safety education.

***Offer more demonstrations and interactive activities that engage visitors in food safety education.***

Participants really liked the Food Safety Wheel Game and suggested offering more "hands-on" and "engaging" activities as a way to educate visitors about food safety. One participant stated, "People will be more apt to learn if you get them involved in the learning process." Based on these findings, we recommend that FSIS offer more engaging and interactive activities and demonstrations at

events. The sidebar lists some activities suggested by visitors.

***Consider transforming the Mobile into a traveling exhibit.***

Many visitors were disappointed that they could not enter the Mobile; they had anticipated food safety exhibits inside the Mobile. Visitors suggested that the inside of the Mobile be set up as a mock kitchen and that educators demonstrate safe food handling practices inside the Mobile, including demonstrations on proper hand-washing techniques and thermometer use.

***Continue to offer promotional items because visitors like and use them, and the items encouraged some visitors to change their food handling practices at home.*** Visitors

particularly liked and used the refrigerator thermometers, cutting boards, and T-stick thermometers. These items reinforced or increased many participants' food safety awareness or knowledge and led to changes in food handling practices (e.g., using separate cutting boards for raw meat and vegetables) for some participants. As one participant stated, *"The promotional items are an excellent learning tool because visitors will take them home and use them."*

Offer more activities that test participants' food safety knowledge using a question-and-answer format, including

- a quiz board with door flaps visitors can open to reveal answers to food safety questions;
- a quiz similar to the pre-questionnaire that is administered on a touch screen computer; and
- a live demonstration or video on a touch screen computer that presents safe and unsafe food handling practices so visitors can identify the unsafe practices.

***Use some demonstrations or visuals that employ a modest level of "scare tactics" or "shock value."*** In Buffalo, seeing and discussing the meat model with Mobile educators made quite an impression on many participants. The model led to a heightened awareness of cleanliness and hygiene in the kitchen and, for some participants, encouraged behavioral change (e.g., refrigerate leftovers more promptly). Several participants in other groups suggested using demonstrations or visuals to illustrate foodborne bacteria and foodborne illness statistics. They said that the use of such "scare tactics" or "shock value" would encourage consumers to be more cautious when handling meat and poultry.

***Offer more activities that test visitors' food safety knowledge using a question-and-answer format (e.g., self-administered, computerized, food safety quiz).*** Several participants particularly liked the question-and-answer format of the Food Safety Wheel Game and suggested adding more activities with a similar concept. The sidebar lists activities employing a question-and-answer format suggested by visitors.

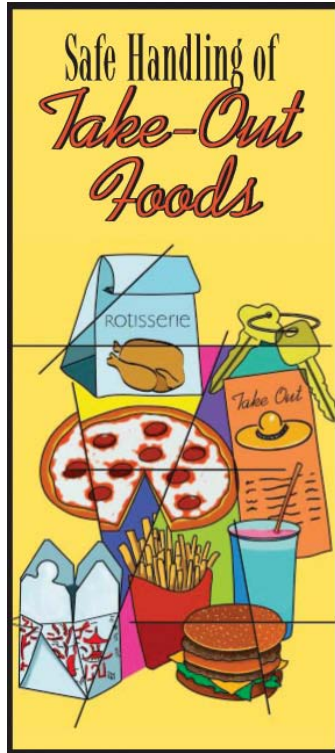
***Organize activities and educational materials around the key food safety messages of clean, separate, cook, and chill.*** Visitors suggested organizing the activities offered at the event so that individual tables or different sections of the Mobile center on a specific food safety message. For example, have one table focus on safe food handling practices that prevent cross-contamination and have corresponding demonstrations, publications, and promotional items. Using individual themes would allow visitors to easily access areas that are of more interest or concern to them.

***Consider developing a food safety consumer reference booklet that highlights and describes the key food safety messages visitors should walk away with.***

Participants who were overwhelmed by the numerous publications suggested condensing the key food safety messages into one publication. We recommend that FSIS consider developing an all-in-one, food safety reference booklet that consumers could easily access for food safety information. Mobile educators could suggest to visitors to keep the booklet in a convenient location (e.g., kitchen drawer with other cookbooks or kitchen manuals) and refer to it when cooking meat and poultry.

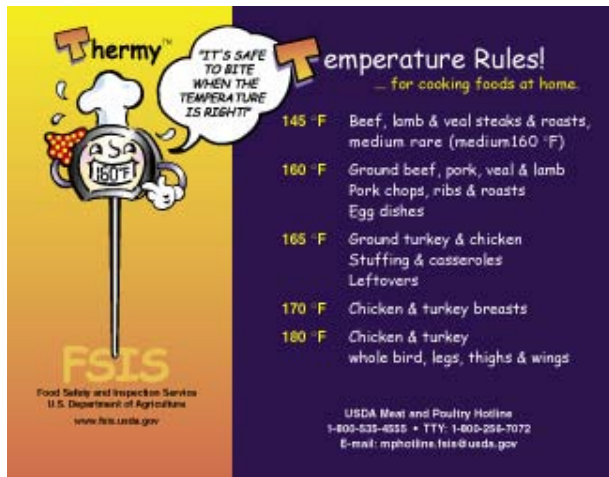
# **Appendix A: Mobile Educational Materials**





**Food Safety Publications**

- Safe Handling of Take-Out Foods (shown)
- Fight BAC!® brochure
- Thermy™ brochure
- Cooking for Groups
- Barbeque Food Safety Fact Sheet



**Food Safety Promotional Items**

- Thermy™ refrigerator magnet (shown)
- Fight BAC!® refrigerator magnet
- Refrigerator thermometer
- T-stick thermometers
- Cutting board
- Coloring book
- Stickers and tattoos
- Coozie
- Mouse pad



**Food Safety Wheel Game**

Mobile visitors spin the wheel and answer food safety questions based on one of the Fight BAC!® messages: clean, separate, cook, or chill. If visitors answer their questions correctly, they win a promotional item (e.g., refrigerator thermometer, coloring book, pen).



### **Costumed Characters**

Thermy™ character (left)

Fight BAC!® character



### **Food Safety Videos**

Smart Kids Fight BAC!® (left)

Fight BAC!® with Allen and Bernie



# **Appendix B: Event Summaries**

## **Atlanta, Georgia**

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### **Events**

Kickoff Event at Underground Atlanta  
Hunger Walk

### **Event Coordinator**

Georgia Department of Agriculture (GADA)

### **Other Groups Involved**

Georgia Food Safety Task Force, Georgia Food & Drug Administration (GAFDA), Georgia State University, Georgia Department of Human Resources, Kroger, Pit-Stop, Safe Rite, Georgia Department of Education, Georgia Egg Commission, and University of Georgia Marine Extension Services

### **Dates**

Thursday, March 18, 2004, 11:00 a.m. to 3:00 p.m.  
Sunday, March 21, 2004, 11:00 a.m. to 5:00 p.m.

### **Numbers Reached and Demographics**

375—children, few Hispanics and seniors  
1,500—mix of age, gender, and race; few seniors

### **Food Safety Messages**

Fight BAC!®: clean, separate, cook, and chill  
Irradiation  
Local regulatory agency responsibilities (i.e., restaurant inspections)  
Food security

### **Activities**

Hand-washing station  
Food Safety Wheel Game  
Cooking demonstration  
Guest speakers  
Thermy™ character

### **Objectives**

- Announce and promote the Food Safety Mobile tour of Atlanta, introduce consumers to Fight BAC!® messages, inform consumers of government and industry roles in maintaining a safe food supply, and inform state legislatures of the importance of food safety education
- Educate consumers about food safety issues and address any concerns

### **Materials**

- FSIS food safety publications in English and Spanish
- FSIS promotional items, including refrigerator thermometers, T-sticks, magnets, and cutting boards
- Georgia Food Safety Taskforce bag, featuring several promotional items (e.g., coloring book) and brochures promoting Georgia's agricultural products and safe food supply
- Georgia Food Safety Taskforce brochure, featuring a list of state public health agencies and their jurisdictional responsibilities
- GAFDA brochures: "Working Globally to Protect the Nation's Food Supply," "Global Food Safety Education Campaign," "Take Time to Care ... about Diabetes," and "Practice Good Food Safety"

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### **Description of Events**

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The Food Safety Mobile was introduced to the community at a kickoff event in downtown Atlanta on the last day of the state legislature's General Assembly during Ag Week, an annual event that recognizes and honors agricultural award recipients. A variety of state agencies, consumer organizations, and industry representatives disseminated educational materials. Kroger chefs presented a cooking and meat thermometer demonstration. Several state agriculture representatives gave presentations on the food safety missions of their agencies and the importance of working together to prevent foodborne illness. Pit-Stop provided the hand-washing station and donated samples of hand sanitizer; local educators used the hand-washing curriculum designed by CDC to demonstrate safe hand-washing techniques.

At the Hunger Walk, the Mobile was located at Turner Field. The Hunger Walk is an annual event that benefits the Atlanta Community Food Bank. Several local agencies distributed educational materials, and Safe Rite donated measuring cups.

At both events, FSIS staff and local educators distributed educational publications and promotional items and engaged visitors in the Food Safety Wheel Game.

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## ***Southern Pines, North Carolina***

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**Event**

Springfest

**Event Coordinator**

Moore County Extension Services

**Other Groups Involved**

Not applicable

**Date**

Saturday, April 24, 2004, 10:00 a.m. to 4:00 p.m.

**Numbers Reached and Demographics**

1,500—general population

**Food Safety Messages**

Fight BAC!<sup>®</sup>: clean, separate, cook, and chill  
Barbecue food safety

**Activities**

FSIS food safety videos  
Food Safety Wheel Game  
Fight BAC!<sup>®</sup> and Thermy<sup>™</sup> characters

**Objective**

- Educate consumers about local county extension services and safe food handling practices through educational materials and personal communications

**Materials**

- FSIS food safety publications in English and Spanish
- FSIS promotional items, including refrigerator thermometers, T-sticks, magnets, cutting boards, mouse pads, coloring books, stickers, tattoos, and coozies
- Moore County Extension bags and brochures on 4-H and the Expanded Food and Nutrition Education Program (EFNEP)

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### **Description of Event**

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The Food Safety Mobile visited Springfest in downtown Southern Pines. The Mobile was located near a stage of entertainers in the children's section of the event. The children's section included crafts, games, gymnastics, and musical entertainment. FSIS staff and local educators distributed educational publications and promotional items and engaged visitors in the Food Safety Wheel Game. Extension volunteers distributed T-sticks along with FSIS's "Barbecue Food Safety Fact Sheet." FSIS staff played two food safety videos: "Smart Kids Fight BAC!<sup>®</sup>" and "Fight BAC!<sup>®</sup> with Allen and Bernie." Costumed characters mingled in the crowd on the hour to attract visitors. The county environmental health inspector answered consumers' questions about restaurants.

The Mobile was featured in the local newspaper prior to the event.

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## Charlotte, North Carolina

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**Event**

Taste of Charlotte

**Event Coordinator**

Mecklenburg County Extension Services

**Other Groups Involved**

Volunteers were from local county extension services, Mecklenburg County Park and Recreation Department, Charlotte Dietetic Association, Steritech, Charlotte-Mecklenburg Schools Child Nutrition Department, Environmental Health Department, and Mecklenburg County Health Department.

**Date**

Friday, April 30 through Sunday, May 2, 2004, 11:00 a.m. to 10:00 p.m.

**Numbers Reached and Demographics**

4,500—general population, mainly parents and children

**Food Safety Messages**

Fight BAC!®: clean, separate, cook, and chill

**Activities**

Food Safety Wheel Game  
Fight BAC!® character

**Objective**

- Educate consumers about safe food handling

**Materials**

- FSIS food safety publications in English and Spanish
- FSIS promotional items, including refrigerator thermometers, T-sticks, magnets, cutting boards, mouse pads, coloring books, stickers, tattoos, coozies, pens, and pencils
- Local cooperative extension service bags and literature, including the Mecklenburg Extension annual report, the “Successful Family” quarterly newsletter, and a bookmark highlighting the Expanded Food and Nutrition Education Program (EFNEP) and Out for Lunch Program
- A food safety bookmark that displayed local food safety contact information and proper temperatures for refrigerators and freezers

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### Description of Event

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Thirty-six individuals from local county extension offices and several county agencies volunteered at the Mobile at the Taste of Charlotte. The Mobile was located at the Children’s Adventure Village, which offered several games, crafts, and art activities for children. FSIS staff and local educators distributed FSIS educational publications and promotional items and engaged visitors in the Food Safety Wheel Game. In addition, local educators distributed local cooperative extension service bags and literature to visitors who completed the pre-questionnaire. Educators also distributed a food safety bookmark with each refrigerator thermometer to visitors who played the Food Safety Wheel Game. The Fight BAC!® character visited the Mobile for approximately 15 minutes on Friday and Saturday.

Prior to the event, the Mobile was featured in the Food Section of the *Charlotte Observer*. During the event, a local television station broadcasted a story about the Mobile at the Taste of Charlotte.

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## **Buffalo, New York**

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### **Event**

Taste of Buffalo

### **Event Coordinator**

Cornell Cooperative County Extension of Erie County

### **Date**

Saturday, July 10 through Sunday, July 11, 2004,  
11:00 a.m. to 7:00 p.m.

### **Numbers Reached and Demographics**

1,000—majority Caucasians, ages 25 to 49

### **Food Safety Messages**

Fight BAC!<sup>®</sup>: clean, separate, cook, and chill

### **Activities**

Food Safety Wheel Game

Fight BAC!<sup>®</sup> and Thermy<sup>™</sup> characters

Cooking display of outdoor grill with plastic meats  
and meat thermometers

Meat model (provided by local educators)

### **Objective**

- Familiarize consumers about food safety issues and address any consumer concerns

### **Materials**

- FSIS food safety publications in English and Spanish
- FSIS promotional items included refrigerator thermometers, T-sticks, magnets, cutting boards, mouse pads, coloring books, stickers, tattoos, coozies, and Buffalo pen
- Cornell Cooperative County Extension of Erie County brochure featuring proper internal cooking temperatures and local food safety contact information
- Cornell Cooperative County Extension of Erie County brochure on a local food safety class

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### **Description of Event**

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The Food Safety Mobile was located on the Main Street Metro line in downtown Buffalo. Unlike the other events, the Mobile and its activities were located on opposite sides of the track. Five or six extension staff volunteered each day of the event. FSIS staff and local educators distributed FSIS educational publications and promotional items and engaged visitors in the Food Safety Wheel Game. Either the Thermy<sup>™</sup> character or the Fight BAC!<sup>®</sup> character help with the Food Safety Wheel Game. FSIS staff used a display of an outdoor grill with thermometers and plastic meats to demonstrate cooking to safe internal temperatures; however, no staff were available to work the demonstration. To educate consumers about the importance of thawing meat in their refrigerators, extension volunteers used meat models to demonstrate the extent at which bacteria grows when meat is left to thaw at room temperature.

A local television station broadcasted a story on the Food Safety Mobile on the 11:00 news on the first night of the Taste of Buffalo.

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# **Appendix C: Recruiting Materials**



## **PRE-QUESTIONNAIRE**

**COMPLETE THIS QUESTIONNAIRE AND RECEIVE A FREE GIFT.**

1. Think about the last time you prepared food at home, did you wash your hands with soap and water before you handled the food? *(Circle one.)*
  1. Yes
  2. No
2. Think about the last time you prepared raw meat or poultry using a cutting board. Which of the following did you do before preparing the next food product? *(Circle all that apply.)*
  1. Used cutting board again without wiping, rinsing, or washing it
  2. Wiped or rinsed cutting board without using soap and/or bleach and continued to use it
  3. Washed cutting board with soap and/or bleach and continued to use it
  4. Used different cutting board, not the original, to prepare the next food product
  5. Do not prepare raw meat or poultry
3. The last time you had leftovers (including soups and stews) containing meat or poultry, how long were the leftovers at room temperature before you refrigerated them or ate them later in the day without refrigeration? *(Circle one.)*
  1. 4 hours or more
  2. More than 2 hours, but less than 4 hours
  3. 2 hours or less
  4. Do not save leftovers containing meat or poultry
4. Do you own a food thermometer? *(Circle one.)*
  1. Yes
  2. No → **Go to Question 7**
5. Did you use a food thermometer the last time you cooked a turkey, roast, or other large piece of meat? *(Circle one.)*
  1. Yes
  2. No
  3. Do not cook such foods
6. Did you use a food thermometer the last time you cooked hamburgers? *(Circle one.)*
  1. Yes
  2. No
  3. Do not cook hamburgers
7. What is your age? *(Circle one.)*
  1. 18–25
  2. 26–35
  3. 36–59
  4. 60 years or older
8. What is the last year of school you completed? *(Circle one.)*
  1. Less than a high school degree
  2. High school graduate or GED
  3. Some college or 2-year college degree
  4. College graduate (4-year or postgraduate study)
9. Would you like to participate in a discussion group on cooking and receive \$XX and a free gift for your time? *(Circle one.)*
  1. Yes → **Please provide your contact information**
  2. No

**Contact Information\***

<b>Name:</b> _____
<b>Address:</b> _____
<b>City:</b> _____ <b>State:</b> _____ <b>Zip:</b> _____
<b>Home Phone:</b> _____

\*This information will be used for research purposes only and will not be shared with individuals outside the research team.

**POSTCARD**



***If you visited the USDA Food Safety Mobile and would like to participate in a paid discussion group on cooking, please contact (research facility) at (telephone number). Please call before (date) between the hours of 9:00 a.m. and 4:00 p.m. EST and inform the researcher you are inquiring about the discussion group on cooking.***

***The discussion will be held in (city) and, if you participate, you will receive \$XX and a free gift for your time.***

# **Appendix D: Screening Questionnaire**

**Evaluation of the USDA Food Safety Mobile  
Screening Questionnaire  
Location—Date, 6:00 pm and 8:00 pm**

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Home Phone: \_\_\_\_\_

**USE WHEN A POTENTIAL PARTICIPANT CALLS:**

Thanks for your interest in the upcoming group discussion. We are working with RTI, a nonprofit research organization, on a research study and would like to include your opinions about your recent visit to the USDA Food Safety Mobile.

**USE WHEN CALLING A POTENTIAL PARTICIPANT:**

Hello, this is \_\_\_\_\_ from [FACILITY], a local market research firm. May I please speak to \_\_\_\_\_?

(Hello, this is \_\_\_\_\_ from [FACILITY], a local market research firm.) We are working with RTI, a nonprofit research organization, on a research study and would like to include your opinions about your recent visit to the USDA Food Safety Mobile. *(If necessary: You recently completed a brief questionnaire while visiting the Food Safety Mobile at [LOCATION] and agreed to be contacted to participate in a discussion group at a later date.)*

**--- CONTINUE ---**

We are holding a group discussion on [DATE] at our office here in [CITY] with seven other people like yourself. The discussion group starts at 6:00/8:00 p.m. and will last no longer than an hour and a half. This discussion group is for research purposes only and is in no way sales related. As a token of our appreciation, you will receive \$xx and a free gift for participating in this study.

Are you available to participate in the group discussion on the evening of [DATE]?

Yes

***Continue.***

No

***Thank the respondent and terminate.***

Great! Before I schedule a time, I need to ask you a few questions to see if you qualify for the study.

**Record Gender – Do not ask. (Recruit 3-4 males to show.)**

- Male
- Female

1. Did you volunteer your time and work at the USDA Food Safety Mobile?<sup>1</sup>
  - Yes **Thank the respondent and terminate.**
  - No **Continue.**
  
2. Do you have primary or shared responsibility for cooking in your household?
  - Yes **Continue.**
  - No **Ask to speak with that person. Repeat introduction.**
  
3. Are you currently a vegetarian, that is, you do not eat meat or poultry?
  - Yes **Thank the respondent and terminate.**
  - No **Continue.**
  
4. About how many times a week do you prepare meat and poultry at home? Would you say... **(Read list.)**
  - Less than once a week **Thank the respondent and terminate.**
  - At least once a week **Thank the respondent and terminate.**
  - About twice a week **Thank the respondent and terminate.**
  - Three or more times a week **Continue.**
  
5. In the past 5 years, have you or has any member of your household worked for any of the following? **(Read list. If YES to any of these, thank the respondent and terminate.)**
  - A market research, advertising, or public relations firm
  - A grocery store, restaurant, food processing company, or a food service kitchen
  - The federal government
  - The health care industry
  
6. In the past 6 months, have you participated in a focus group or paid research discussion?
  - Yes **Thank the respondent and terminate.**
  - No **Continue.**

---

<sup>1</sup>This question was added after two North Carolina participants stated they volunteered at the Mobile.

7. Which of the following categories best describes your age? **(Read list. Recruit a mix of ages.)**
- 18 to 25
  - 26 to 35
  - 36 to 59
  - 60 or older
8. What is the last year of school you completed? **(Read list. Recruit a mix of education levels.)**
- Less than a high school degree
  - High school graduate or GED
  - Some college or 2-year college degree
  - College graduate, that is, 4-year degree or postgraduate study

Great! You qualify for our study.

The discussion group is [DATE] and begins promptly at 6:00/8:00 p.m. The discussion will last no longer than 2 hours. For your time and opinions, you will receive a \$XX cash honorarium and a free gift.

Please arrive at least 15 minutes prior to the group.

We will send you a confirmation letter with directions to our offices and a reminder call a day or two before the group discussion. May I please confirm your name and address? **(Confirm address and phone number.)**

If you have any questions or find that you are unable to attend, please call us at [PHONE] as soon as possible. Thank you very much. We look forward to seeing you on [DATE] at 6:00/8:00 p.m.



# **Appendix E: Post-questionnaire**

1. Think about the last time you prepared food at home, did you wash your hands with soap and water before you handled the food? (*Circle one.*)
  1. Yes
  2. No
2. Think about the last time you prepared raw meat or poultry using a cutting board. Which of the following did you do before preparing the next food product? (*Circle all that apply.*)
  1. Used cutting board again without wiping, rinsing, or washing it
  2. Wiped or rinsed cutting board without using soap and/or bleach and continued to use it
  3. Washed cutting board with soap and/or bleach and continued to use it
  4. Used different cutting board, not the original, to prepare the next food product
  5. Do not prepare raw meat or poultry
3. The last time you had leftovers (including soups and stews) containing meat or poultry, how long were the leftovers at room temperature before you refrigerated them or ate them later in the day without refrigeration? (*Circle one.*)
  1. 4 hours or more
  2. More than 2 hours, but less than 4 hours
  3. 2 hours or less
  4. Do not save leftovers containing meat or poultry
4. Do you own a food thermometer? (*Circle one.*)
  1. Yes
  2. No → **Go to Question 7**
5. Did you use a food thermometer the last time you cooked a turkey, roast, or other large piece of meat? (*Circle one.*)
  1. Yes
  2. No
  3. Do not cook such foods
6. Did you use a food thermometer the last time you cooked hamburgers? (*Circle one.*)
  1. Yes
  2. No
  3. Do not cook hamburgers
7. What is the phone number for USDA's Meat and Poultry Hotline?  
\_\_\_\_\_
8. Are you male or female? (*Circle one.*)
  1. Male
  2. Female
9. What is your age? (*Circle one.*)
  1. 18–25
  2. 26–35
  3. 36–59
  4. 60 years or older
10. What is the last year of school you completed? (*Circle one.*)
  1. Less than a high school degree
  2. High school graduate or GED
  3. Some college or 2-year college degree
  4. College graduate (4-year or postgraduate study)
11. Are you of Hispanic or Spanish origin? (*Circle one.*)
  1. Yes
  2. No
12. How would you describe your race? (*Circle one.*)
  1. Caucasian or White
  2. African-American or Black
  3. Alaskan native or American Indian
  4. Asian or Pacific Islander
  5. Multiracial
  6. Other (*specify*)  
\_\_\_\_\_

**Thank you!**

# **Appendix F: Moderator Guide for Focus Groups**

## Evaluation of the USDA Food Safety Mobile

### Moderator Guide

#### I. Introduction—Welcome Group and Establish Tone (5 minutes)

- Who we are and who we represent
  - Introduce moderator and co-moderator
  - Study being sponsored by USDA, FSIS (sponsor of the Food Safety Mobile)
- Why you have been asked to participate
  - You visited the USDA Food Safety Mobile at [LOCATION] and completed a questionnaire
  - You have primary or shared responsibility in household for preparing meals
- The purpose of tonight’s discussion is to discuss your opinions of the USDA Food Safety Mobile.
- We did not develop any aspects of the USDA Food Safety Mobile, so we will not be offended if you have criticisms of the Mobile. We encourage you to be honest and share your opinions.
- How the discussion group will work
  - Session will last about an hour and a half.
  - Session is being audiotaped and videotaped, but in summary reports no names will be attached to responses.
  - Government and university representatives viewing behind one-way mirror.
  - We would like the discussion to be open and informal and encourage interaction.
  - We would like to hear from everyone in the group.
  - No right or wrong answers or ideas—we want to hear all YOUR opinions.
  - One person talk at a time.
  - Turn off cellular phones.
- Participant introductions—first name and one thing you remember about your visit to the USDA Food Safety Mobile.

## II. Current Knowledge and Perceptions (10 minutes)

Let's begin by talking about foodborne illness, also referred to as food poisoning.

Foodborne illness is illness cause by food being handled improperly either before or after you buy it.

- How concerned are you about getting foodborne illness from eating food that you prepare at home—very concerned, somewhat concerned, or not very concerned? *[Ask each participant to explain their response.]*
- What practices do you follow when cooking at home to prevent foodborne illness?
- How knowledgeable would you say you are about food safety—very knowledgeable, somewhat knowledgeable, or not very knowledgeable? *[Ask each participant to explain their response.]*

## III. Impressions of the Mobile (20 minutes)

Now let's talk about your visit to the Mobile.

- First of all, why did you stop at the Mobile/What attracted you to the Mobile? *[Probe: looked interesting, kids wanted to stop, demonstrations]*
- *[Go around the table and ask each participant.]* Tell me about your visit to the Mobile...
  - About how long did you stay at the Mobile?
  - Did you pick up any materials? If so, which ones?
  - Did you view any demonstrations? If so, which ones?
  - Did you participate in any other activities?
- What, in particular, did you or your family **like** about the Mobile?
- What, in particular, did you or your family **not like** about the Mobile?
- What aspects of the Mobile did you find **most** informative? *[Probe: publications, characters, demonstrations, talking with educators]*
- What aspects of the Mobile did you find **least** informative? *[Probe: publications, characters, demonstrations, talking with educators]*

## IV. Knowledge and Behavior Changes (55 minutes)

Now, let's talk about what you learned during your visit to the Mobile.

- In general, did you learn anything new about food safety during your visit to the Mobile? Explain. *[Probe: clean, separate, cook, chill, thermometer use, irradiation]*
- Have you made any specific changes in the way you handle and prepare food since your visit to the Mobile?
- If yes, what changes have you made? *[Probe: clean, separate, cook, chill, thermometer use]*

- If yes, what prompted you to make those changes? *[Probe for specific brochure or activity]*
- If no, why didn't you make any changes?

Let's talk about some specific aspects of the Mobile that you might remember seeing during your visit.

### **Food Safety Publications**

*[Ask about each of the brochures separately.]*

- Fight BAC!<sup>®</sup> brochure
- Thermy<sup>™</sup> brochure
- Cooking for Groups
- Safe Handling of Take-Out Foods
- Barbeque Food Safety Fact Sheet
- Others
- Did you pick up this brochure during your visit? *[Hand count]*
- Did you read the brochure? *[Hand count]*
- Was any information in this brochure new to you? If yes, explain.
- Did you consider making any changes in the way you handle or prepare food based on this information? *[Specify the brochure]* Why or why not?
- Did you actually make any changes based on what you learned from this brochure? What changes?
- Did you share this brochure with others? *[Probe: college students (Take-Out Foods) or church members (Cooking for Groups)]*

### **Food Safety Publications and Materials Provided by Local Educators**

- Questions from local educators

### **Food Safety Promotional Items**

*[Ask about each of the items separately.]*

- Thermy<sup>™</sup> refrigerator magnet
- Fight BAC!<sup>®</sup> refrigerator magnet
- Refrigerator thermometer
- T-sticks
- Cutting boards
- Coloring book
- Stickers and tattoos
- Coozie

- Mouse pad
- Did you get this item during your visit? [*Hand count*]
- Are you currently using this item at home? [*Hand count*]
- Did this item encourage you to change the way you handle or prepare food at home? Why or why not? [*Probe: Do you use the refrigerator thermometer or T-sticks? Do you use the Thermy™ magnet to check the proper temperature for cooking meat/poultry? Do you wash the cutting board?*]

### **Interactions with Food Safety Educators**

- Did you talk with any of the educators working at the Mobile? [*Hand count*]
- What did you talk about?
- Did you learn anything new from your conversations with educators?
- Did you consider making any changes in the way you handle or prepare food based on this information? [*Specify the brochure*] Why or why not?
- Did you actually make any changes based on what you learned? What changes?

### **Costumed Characters**

- [*Show a picture of Thermy and BAC.*] Did you see these characters during your visit? [*Hand count*]
- What did you and your children think about these characters?

### **Food Safety Wheel Game**

- [*Show picture of the game.*] Did you or your children play the game? [*Hand count*]
- What did you think about the game?
- Did you learn anything new from playing the game? What did you learn?
- Did playing the game confirm something you already knew (i.e., did you answer correctly)?

### **Other Demonstrations**

- Did you see the XXXX demonstration? [*Hand count*]
- Why did you stop and watch the XXXX demonstration? [*Probe: attracted you to Mobile, saw people standing around, wanted to see what was going on.*]
- Did you learn anything new from the demonstration? If yes, explain.
- Did you consider making any changes in the way you handle or prepare food based on the demonstration? Why or why not?
- Did you actually make any changes based on what you learned from the demonstration? What changes?

### **V. Suggestions for Improving the Mobile**

- Do you have any suggestions for making the Mobile more informative, interesting, and attractive?

- Are there other activities the Mobile could offer that would encourage visitors to practice safer food handling and preparation at home?

## **VI. Additional Questions from Local Educators**

- Questions from local educators

## **VII. Wrap Up**

That's all our questions.

- Any other comments or questions?
- Thank you for participating.
  - Pass out information packets and free gifts
  - Cash incentive



# **Appendix G: Focus Group Summaries**

**ATLANTA FOCUS GROUP FINDINGS  
(GROUPS 1 AND 2)**



This appendix section summarizes the key findings from the two focus group discussions conducted in Atlanta, Georgia, on April 19, 2004. We conducted the discussions with two participants in Group 1 who visited the USDA Food Safety Mobile at the Underground in downtown Atlanta on March 18, 2004, and participants who visited the Mobile at Atlanta's Hunger Walk on March 21, 2004. All participants have primary or shared responsibility in their households for cooking and preparing meat and poultry at home three or more times a week. Table 1 provides information on the participants' demographics.

**Table 1. Participants' Demographics**

Characteristic	Group 1 (n = 7)	Group 2 (n = 6)
Gender		
Male	3	0
Female	4	6
Age		
18–25	1	2
26–35	0	1
36–59	6	3
60+	0	0
Race/ethnicity		
White/Caucasian	1	0
Black/African American	6	6
Education		
Less than a high school degree	0	0
High school graduate or GED	3	1
Some college	1	3
College graduate	3	2

## **Description of Events**

### ***Underground***

Local educators held a kickoff event for the Food Safety Mobile during Ag Week, a week established by the Georgia Department of Agriculture (GADA) to annually recognize and honor agricultural award recipients. Because a primary objective of this event was to promote food safety education to the state legislature, the event was held on the last day of the

state legislature's assembly. The event was held at the Underground in downtown Atlanta from 11:00 a.m. to 3:00 p.m. The event was organized by the Georgia Food Safety Task Force and headed by GADA. Various agencies and organizations were present at the Mobile, including GADA, the GA Food and Drug Administration (GA FDA), the GA USDA, Georgia State University (GSU), consumer organizations, and industry representatives. Local food safety agencies distributed a bag with printed materials on food safety and state agriculture, including the Georgia "Food Safety Task Force" brochure, regulatory information, and information on food security. Other activities included

- a hand-washing station,
- the Food Safety Wheel Game,
- cooking demonstrations sponsored by a local grocery store,
- the distribution of FSIS educational materials and promotional items,
- Fight BAC!<sup>®</sup> and Thermy<sup>™</sup> costumed characters, and
- presentations made by state agriculture representatives that tied food safety to the missions of different agencies.

### ***Hunger Walk***

The Food Safety Mobile was also present at Atlanta's annual Hunger Walk, which benefits the Atlanta Community Food Bank. The Mobile was located at the end of the walk, near the refreshments. Various agencies and organizations were present at the Mobile, including GADA, GA FDA, GA USDA, and GSU. Activities included the

- Food Safety Wheel Game,
- distribution of FSIS educational materials and promotional items,
- distribution of a bag with printed materials on food safety and state agriculture, and
- distribution of adjustable measuring spoons (provided by a local grocery store that sponsored the event).

### **Current Knowledge and Perceptions of Food Safety**

Participants discussed their level of concern about contracting foodborne illness from food prepared at home, their level of

food safety knowledge, and practices they follow when cooking at home to prevent foodborne illness.

**Group 1**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were very concerned, particularly with regard to leftovers, while others were either somewhat or not very concerned. A few of these participants were more concerned about getting foodborne illness from food prepared at restaurants.
- Most participants stated that they are somewhat knowledgeable about food safety; one participant, who previously worked in the fast food industry, believes he is very knowledgeable.
- Participants identified a variety of activities they perform at home to prevent foodborne illness:
  - use bleach to clean their cutting boards and/or kitchen surfaces after preparing meat and poultry;
  - thaw meat in cold water, refrigerator, or microwave;
  - wash hands often; and,
  - keep kitchen surfaces clean.

**Group 2**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were very concerned, a few participants were somewhat concerned, and one participant was not very concerned.
- Some participants stated that they are very knowledgeable about food safety—one participant prepares food for the elderly and takes special precautions because this population is more susceptible to foodborne illness, and one participant has young children and a husband who is diabetic. A few participants stated they are somewhat knowledgeable about foodborne illness, and the one participant who was not very concerned about foodborne illness said she is not very knowledgeable.
- To prevent foodborne illness when cooking at home, at least four participants said they "*keep a clean kitchen.*" Participants also mentioned they perform the following activities at home:
  - thaw meats in cold water,
  - use soap and/or bleach to clean cutting boards,
  - keep kitchen surfaces clean,

- clean kitchen surfaces before preparing food,
  - cook foods thoroughly,
  - clean or use different utensils and cutting boards after preparing meat and poultry, and
  - use disposable cutting boards.
- Some participants have the misperception that cooling leftovers at room temperature before storing them in the refrigerator is a safe practice.

### **General Impressions of the USDA Food Safety Mobile**

Participants discussed their visit to the Mobile, what they liked and disliked about the Mobile, and the aspects of the Mobile they found most and least informative.

#### **Group 1**

- Participants mentioned a variety of reasons for stopping at the Mobile. Of the two participants who attended the Mobile at the Underground, one participant stopped to see the cooking demonstrations by local chefs and listen to the dignitaries, and the other stopped to “check out” the Mobile itself. Of the participants who attended the Walk, one participant stopped to play the Food Safety Wheel Game, one participant stopped after being approached by a Mobile volunteer, and three participants said they stopped primarily because of the Mobile’s location at the event (near refreshments).
- On average, participants visited the Mobile for about 15 minutes.
- The two participants who attend the Mobile at the Underground watched the cooking demonstrations and said they liked them. The demonstrations included the safe use of digital instant-read thermometers and T-stick disposable thermometers.
- The two participants who attend the Mobile at the Underground saw the hand-washing station but did not participate.
- Most participants played the Food Safety Wheel Game and picked up a variety of food safety publications and promotional items.
- Overall, most participants liked that the Mobile was present at each event. They described the Mobile as “*engaging*” and liked that they learned something new and useful from their visit. Participants also enjoyed playing the Food Safety Wheel Game. A few participants liked how the Mobile involved children in food safety.

- Many participants found the volunteers and the food safety publications informative, especially the information on how to handle leftovers safely. A few participants would have liked to receive more information on refrigerator thermometers.
- Many participants received materials (e.g., Thermo™ magnet and brochure) in Spanish but would have preferred the materials in English. According to educators at the event, both Spanish and English materials were available.
- Participants did not particularly dislike anything at either event.

### **Group 2**

- Participants mentioned a variety of reasons for stopping at the Mobile. Some of the participants said they stopped primarily to get free promotional items (e.g., measuring spoons and cutting boards) and food safety publications. A participant who plans to open a daycare center stopped to learn about Georgia's food regulations and food safety. A participant who runs her church kitchen to feed the hungry stopped to look for food safety information to share with her volunteers. One participant stopped because her children wanted to play the Food Safety Wheel Game.
- On average, participants visited the Mobile for about 10 minutes.
- All participants picked up a variety of food safety publications and promotional items, some participants and their children played the Food Safety Wheel Game, and some participants talked to volunteers about food safety in the home and/or in restaurants.
- All participants really liked the free promotional items (e.g., magnets, cutting board, and T-stick thermometers). One participant especially liked the refrigerator thermometer; she called all her friends and family to tell them at what temperature their refrigerators should be set to safely store their perishables.
- Participants enjoyed playing the Food Safety Wheel Game, and participants who spoke to the volunteers *"learned a lot."*
- A few participants complained that there was too much information to read. One participant, a novice cook, suggested compiling the main points from each brochure into a single brochure. Another participant suggested distributing the various brochures in a bag and having



an educator available to identify and discuss the key points in each brochure.

- Two participants wanted to talk to an educator rather than read the brochures, but the educators were busy. These participants believed the staff could have been more organized. They suggested staff members specialize in a certain topic; that is, each volunteer could talk about one of the four Fights BAC!<sup>®</sup> messages.
- A few participants received materials (e.g., Thermo<sup>™</sup> magnet and brochure) in Spanish but would have preferred the materials in English. According to educators at the event, both Spanish and English materials were available.
- Participants found the following items most informative:
  - the Food Safety Wheel Game;
  - promotional items (e.g., refrigerator thermometer, T-stick thermometers, magnets, and cutting boards);
  - questionnaire on safe handling practices (administered to collect contact information for recruiting focus group participants); and
  - “Egg and Egg Products Safety Fact Sheet.”
- A few participants said the brochures were not very informative because they did not take the time to read them. Although participants really liked the adjustable measuring spoons provided by a local grocery store, they did not find them very informative because they did not provide a food safety message.

### **Knowledge and Behavior Changes after Visiting the USDA Food Safety Mobile**

Table 2 shows participants’ reported use of safe food handling and preparation practices in the home prior to their visit to the Mobile. All participants wash their hands before preparing food. Many participants in Group 1 handle cutting boards safely to prevent cross-contamination and immediately refrigerate leftovers; fewer participants in Group 2 follow these safe practices. Few participants own or use a food thermometer.

**Table 2. Number of Participants Who Reported Using Safe Food Handling and Preparation Practices Prior to Visiting the Food Safety Mobile**

Practice	Group 1 (n = 7)	Group 2 (n = 6)
Wash hands before preparing food	7	6
Safely handle cutting boards to prevent cross-contamination	5	3
Immediately refrigerate leftovers	6	2
Own a food thermometer	3	3
Use a food thermometer for large cuts of meats	0	2
Use a food thermometer for hamburgers	0	0

Source: Pre-questionnaire administered at Food Safety Mobile.

Table 3 shows the number of participants who reported changing their handling and preparation practices after visiting the Mobile. A few participants reported behavioral changes with regard to practices to the prevention of cross-contamination and the safe storage of leftovers. Several participants reported using a food thermometer after receiving T-sticks at the Mobile.

**Table 3. Number of Participants Who Reported Changes in Their Use of Safe Food Handling and Preparation Practices After Visiting the Food Safety Mobile**

Practice	Group 1 (n = 7)	Group 2 (n = 6)
Wash hands before preparing food	0	0
Safely handle cutting boards to prevent cross-contamination	2	0
Immediately refrigerate leftovers	1	0
Own a food thermometer	2	3
Use a food thermometer for large cuts of meats	1	1
Use a food thermometer for hamburgers	1	0

Source: Comparison of pre-questionnaire (administered at Food Safety Mobile) and post-questionnaire (administered at focus group discussion) data. Participants were considered to have made a behavior change if the practice was reported in the post-questionnaire but not in the pre-questionnaire.

Participants discussed what they learned about food safety and whether they made any changes in their food handling and preparation practices based on what they learned.

### **Group 1**

- At least three participants "*learned a lot*" from the Mobile, and one participant was "*more concerned*" about getting foodborne illness from eating food prepared at home after visiting the Mobile.
- Participants learned how to store and reheat leftovers safely, about the need to use a food thermometer to check the internal temperature of meat and poultry, and about the need to use a refrigerator thermometer to check that the home refrigerator is at a safe temperature.
- A few participants are more conscious to immediately refrigerate leftovers.
- After visiting the Mobile, some participants are more aware of the need to use a food thermometer to check the safe internal temperature of meat and poultry. Despite this increased awareness, most said they continue to rely on their previous experience to determine doneness instead of using a food thermometer. A participant who frequently uses a food thermometer to check the doneness of large cuts of meat used a food thermometer to check the doneness of a small cut of meat (turkey breast) after visiting the Mobile.

### **Group 2**

- Participants learned to prevent cross-contamination, clean cutting boards with bleach, monitor the temperature of home refrigerators, and use a food thermometer to check the doneness of hamburgers.
- Two participants are more conscious of keeping meat and poultry separate from raw vegetables; one participant now uses two different cutting boards—one for meat and poultry and one for vegetables.

### **Food Safety Publications**

Table 4 shows the number of participants who received FSIS and other food safety publications distributed at the Mobile and the number of participants who read these materials.

Participants discussed their reaction to the publications and what they learned.

**Table 4. Number of Participants Who Received and Read Food Safety Publications Distributed at the Food Safety Mobile**

Publication	Group 1 (n = 7)		Group 2 (n = 6)	
	Received	Read	Received	Read
Fight BAC!®	2	0	5	2
Thermy™	5	2	5	2
Cooking for Groups	2	0	1	1
Safe Handling of Take-Out Foods	3	1	3	2
Irradiation	3	1	0	0
Georgia Food Safety Task Force	5	0	2	0

**Group 1**

Although all participants received a variety of food safety publications and still have the materials at home, only a few took the time to read the publications. Two participants read the “Thermy™” brochure, one participant read the “Safe Handling of Take-Out Foods” brochure, and one participant read the information sheet on food irradiation. Two participants said this information prompted them to try a food thermometer on smaller cuts of meat and reheat leftovers in the microwave.

Five participants received GADA’s bag of materials, which included the “Food Safety Task Force” brochure. This brochure provides contact information for different food safety agencies so consumers can report foodborne illnesses and complaints, learn about food recalls, and easily identify the appropriate agency for food safety questions. No participants read the “Food Safety Task Force” brochure. Most participants stated they were unaware of the appropriate agency to contact about issues concerning food safety, and some participants said that they would report a food safety concern in the future.

**Group 2**

Although most participants received the “Fight BAC®” and “Thermy™” brochures and still have them at home, many have not taken the time to read the brochures. Of the two participants who read the brochures, one learned about cooking meat to the safe internal temperature, and one participant shared the brochures with volunteers at her church food bank. The participant who read the “Cooking for Groups” brochure

learned about the importance of cleaning kitchen surfaces before preparing meals and shared the “ with other volunteers at her church. Two participants read the Safe Handling of Take-Out Foods” brochure.

Two participants received but did not read the “Food Safety Task Force” brochure. Although no participants were aware of the appropriate agency to contact about food safety issues, most participants said they would report a food safety concern.

**Food Safety Promotional Items**

Table 5 shows the number of participants who received food safety promotional items at the Mobile. Participants discussed their reaction to the promotional items and their use of the items .

**Table 5. Number of Participants Who Received Food Safety Promotional Items Distributed at the Food Safety Mobile**

<b>Item</b>	<b>Group 1 (n = 7)</b>	<b>Group 2 (n = 6)</b>
Fight BAC! <sup>®</sup> refrigerator magnet	3	6
Thermy <sup>™</sup> refrigerator magnet	3	6
Refrigerator thermometer	4	4
T-stick thermometers	2	3
Cutting board	7	5
Coloring book	2	4

**Group 1**

- Three participants received both the Fight BAC!<sup>®</sup> and Thermy<sup>™</sup> magnets, and one participant placed the magnets on his/her refrigerator; four participants also received the magnets and have them on their refrigerators, but the magnets are in Spanish. A few participants who received these Spanish magnets did note that the Meat and Poultry Hotline number is readable.
- Four participants received a refrigerator thermometer; two are using it, and one gave hers to a friend who is using it.
- All participants received a cutting board, and two participants have used it.
- Two participants received the coloring books, and at least one participant’s granddaughter really liked it.

### **Group 2**

- All participants received both the Fight BAC!® and Thermy™ magnets, and most participants placed the magnets on their refrigerators.
- Four participants received a refrigerator thermometer, and two are using it. Two participants incorrectly believed the refrigerator thermometer goes on the outside of the refrigerator.
- Three participants received T-sticks, and because they were curious, two participants tried them with the help of their 12-year old son and 13-year old granddaughter.
- Five participants received a cutting board, and two participants have used it.
- Four participants received the coloring books, and two participants' daughter and granddaughter really liked it.

### **Food Safety Wheel Game**

Participants discussed their reaction to the Food Safety Wheel Game and what they learned from participating in the game.

### **Group 1**

All five participants at the Walk played and liked the Food Safety Wheel Game. Participants described the game as "*fun*" and "*interesting*." Participants found the game informative; a few participants learned how to handle leftovers safely. One participant liked the game because it involved children.

### **Group 2**

All six participants or their children played and liked the Food Safety Wheel Game. Participants described the game as "*fun*." Many participants learned the importance of using bleach to clean their cutting boards.

### **Suggestions for Improving the USDA Food Safety Mobile**

Participants offered numerous suggestions on how to make the Mobile more informative, interesting, and attractive to help encourage Mobile visitors to adopt safer food handling practices at home. Participants suggested having more interactive, "hands-on" activities, such as the Food Safety Wheel Game. Some participants said that the numerous brochures distract visitors from talking with the educators. Many visitors will not take the time to read the brochures, so it is important that information on food safety is provided during the consumer's visit to the Mobile.

### **Group 1**

Participants liked the Mobile and suggested having it at more local events and at elementary schools. Participants offered the following suggestions for improving the Mobile:

- conduct activities targeted to young children who are learning to cook,
- distribute recipes,
- limit the number of brochures or condense information into one brochure to avoid overwhelming visitors with too much information,
- demonstrate good and bad food handling practices in a short skit, and
- use venues that attract a large gathering of people (e.g., the Taste of Atlanta, ball games, concerts).

### **Group 2**

Some participants felt overwhelmed by the amount of information available and suggested a more targeted approach; for example, concentrate on different topics (e.g., cook, clean, separate, chill) or target separate audiences (e.g., children, novice cooks, adults). Participants offered the following suggestions for improving the Mobile:

- place all food safety brochures and promotional items in a bag and display one copy of each brochure and item, so educators can discuss with visitors;
- condense the key food safety information into one brochure;
- provide short presentations that focus on the most important food safety practices;
- use the costumed characters at all events;
- play videos that provide information on food safety;
- provide information on safe vs. unsafe storage and handling practices and follow up with a Q&A session; and
- use the inside of the Mobile as a mock kitchen (e.g., display a thermometer in a piece of meat or place a refrigerator thermometer inside the refrigerator).

Several participants offered suggestions for improving food safety publications. Participants wanted information on the symptoms of food poisoning and the recommended type of

cutting board (e.g., wooden, plastic). A few participants suggested using “scare tactics” in educational materials.

**Recall of Telephone Number for the USDA Meat & Poultry Hotline**

No participants in either group recalled the telephone number for the USDA Meat & Poultry Hotline. A few participants mentioned that the telephone number is on the magnets they received and that they would call the Hotline to get food safety information. Participants said that the telephone number was not very memorable and suggested changing it to something “catchier.” A few participants suggested playing a food safety jingle at Mobile events that includes the telephone number.





**CHARLOTTE FOCUS GROUP FINDINGS  
(GROUPS 3 AND 4)**



This appendix section summarizes the key findings from the two focus group discussions conducted in Charlotte, North Carolina, on May 24, 2004. We conducted the discussions with participants who visited the USDA Food Safety Mobile at the Taste of Charlotte on April 30 through May 2, 2004. All participants have primary or shared responsibility in their households for cooking and preparing meat and poultry at home three or more times a week. Table 1 provides information on participant demographics.

**Table 1. Participants' Demographics**

<b>Characteristic</b>	<b>Group 3 (n = 8)</b>	<b>Group 4 (n = 8)</b>
Gender		
Male	4	3
Female	4	5
Age		
18–25	0	0
26–35	3	3
36–59	4	5
60+	1	0
Race/ethnicity		
White/Caucasian	3	3
Black/African American	5	5
Education		
Less than a high school degree	1	0
High school graduate or GED	0	1
Some college	6	4
College graduate	1	3

### **Description of Events**

The Food Safety Mobile visited the Taste of Charlotte on April 30 through May 2, 2004, and was hosted by the Mecklenburg County Extension office with the help of 36 local educators. Educators distributed FSIS educational materials and promotional items. Other activities included the Food Safety Wheel Game and brief appearances by the Fight BAC!<sup>®</sup> costumed character. Additionally, local extension volunteers distributed a bag with cooperative extensive publications to visitors who completed the questionnaire (to collect information

on baseline practices and contact information). They also passed out bookmarks with local food safety contact information and safe temperatures for refrigerators and freezers to visitors who won refrigerator thermometers at the Food Safety Wheel Game.

It was estimated that more than 500 people per day visited the Mobile from 11:00 a.m. to 6:00 p.m. The Mobile was parked at the Children's Adventure Village, which attracted many families with young children and offered games, crafts, and art activities.

### **Current Knowledge and Perceptions of Food Safety**

Participants discussed their level of concern about contracting foodborne illness from food prepared at home, their level of food safety knowledge, and practices they follow when cooking at home to prevent foodborne illness.

#### **Group 3**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were somewhat concerned, a few were very concerned, and a few were not very concerned. Several participants expressed concern about country of origin for meat and poultry products.
- Participants consider themselves to be very or somewhat knowledgeable about food safety. Participants acknowledge that they *"know the basics but that there is more out there to learn."*
- Most participants reported receiving information about food safety from family members or that their knowledge is based on common sense.
- Participants identified the following activities they perform at home to prevent foodborne illness:
  - wash hands,
  - clean counter tops prior to preparing meals,
  - wash utensils and cutting boards after preparing meat or poultry, and
  - thaw meat and poultry in refrigerator.

#### **Group 4**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were very concerned, while others were only somewhat

concerned. Participants who were very concerned are worried about their or their children's health.

- Most participants stated they are somewhat knowledgeable about food safety and that they continue to learn more about food safety from a variety of sources. Participants' sources of food safety information include the following:
  - family members,
  - cookbooks,
  - television news, and
  - cooking shows.
- One participant learned more about food safety after reading the book, *Fast Food Nation*.
- To prevent foodborne illness when preparing food at home, participants said they perform the following activities:
  - wash hands often,
  - use soap to clean utensils after preparing meat and poultry,
  - cook meats thoroughly,
  - use a food thermometer to check the doneness of meat and poultry,
  - refrigerate leftovers promptly,
  - store raw meats on bottom shelf of refrigerator,
  - use separate cutting boards for meats and vegetables,
  - do not use wooden cutting boards, and
  - occasionally clean cutting boards with bleach.

### **General Impressions of the USDA Food Safety Mobile**

Participants discussed their visit to the Mobile, what they liked and disliked about the Mobile, and the aspects of the Mobile they found most and least informative.

#### **Group 3**

- Some participants stopped at the Mobile because the Mobile volunteers actively recruited them to visit or complete the questionnaire. A few participants stopped at the Mobile to play the Food Safety Wheel Game, and one participant stopped to see if there was a cooking

demonstration. One participant who stopped to play the game initially thought the Wheel had recipes on it.

- On average, participants visited the Mobile for about 10 to 15 minutes.
- Participants had very favorable impressions of the Mobile volunteers; they described the volunteers as "*professional*," "*friendly*," and "*informative*." A few participants liked playing the Food Safety Wheel Game, and a few liked the "*uniqueness*" of the Mobile. A few participants liked the information they received from the brochures.
- Most participants found the food safety publications and the Food Safety Wheel Game informative. One participant said the conversation with a volunteer about the importance of using a refrigerator thermometer was very informative.
- Participants did not particularly dislike anything at the event.

#### **Group 4**

- Participants stopped at the Mobile for a variety of reasons. Some stopped because the Mobile volunteers actively recruited them to visit or complete the survey. A few participants stopped to play the Food Safety Wheel Game or receive promotional items.
- On average, participants visited the Mobile for about 5 to 10 minutes.
- Overall, participants liked interacting with the volunteers, the publications, and the promotional items. Participants said their visit to the Mobile was an enjoyable experience; as one participant stated, "*it was fun*."
- Most participants said the publications on safe handling practices were informative. One participant found the "Barbeque Food Safety Fact Sheet" particularly informative. Some participants said that completing the questionnaire was informative because it asked about safe handling practices.
- Although participants did not particularly dislike anything at the event, some participants said that they would have liked to have watched some sort of demonstration.

### Knowledge and Behavior Changes after Visiting the USDA Food Safety Mobile

Table 2 shows participants' reported use of safe food handling and preparation practices in the home prior to visiting the Mobile. Most participants wash their hands before preparing food, safely handle cutting boards to prevent cross-contamination, and immediately refrigerate leftovers. Some participants own a food thermometer, but few participants routinely use it to check the doneness of meat and poultry.

**Table 2. Number of Participants Who Reported Using Safe Food Handling and Preparation Practices Prior to Visiting the Food Safety Mobile**

Practice	Group 3 (n = 8)	Group 4 (n = 8)
Wash hands before preparing food	8	7
Safely handle cutting boards to prevent cross-contamination	7	7
Immediately refrigerate leftovers	7	8
Own a food thermometer	4	3
Use a food thermometer for large cuts of meats	2	3
Use a food thermometer for hamburgers	1	0

Source: Pre-questionnaire administered at Food Safety Mobile.

Table 3 shows the number of participants who reported changing their handling and preparation practices after visiting the Mobile. Participants reported changes in the prevention of cross-contamination (handling cutting boards) and thermometer usage.

Participants discussed what they learned about food safety during their visit and whether they made any changes in their food handling and preparation practices based on what they learned.



**Table 3. Number of Participants Who Reported Changes in Their Use of Safe Food Handling and Preparation Practices After Visiting the Food Safety Mobile**

Practice	Group 3 (n = 8)	Group 4 (n = 8)
Wash hands before preparing food	0	0
Safely handle cutting boards to prevent cross-contamination	1	1
Immediately refrigerate leftovers	0	0
Own a food thermometer	1	1
Use a food thermometer for large cuts of meats	3	0
Use a food thermometer for hamburgers	1	0

Source: Comparison of pre-questionnaire (administered at Food Safety Mobile) and post-questionnaire (administered at focus group discussion) data. Participants were considered to have made a behavior change if the practice was reported in the post-questionnaire but not in the pre-questionnaire.

**Group 3**

- Some participants learned new information about how to safely handle and prepare foods and improved their safe handling practices.
  - A few participants learned to wash their cutting boards either with hot soapy water or in the dishwasher after preparing meat or poultry.
  - One participant uses a refrigerator thermometer to improve the storage time of her fruits and vegetables based on the information from a Mobile volunteer.
  - Participants who read the “Basics for Handling Food Safety Fact Sheet” learned to wash utensils after preparing meat or poultry to prevent cross-contamination and how to safely store leftovers; at least one participant now washes his utensils instead of rinsing them after preparing meat and poultry.
  - One participant who played the Food Safety Wheel Game learned the safe internal temperatures of meat and poultry.

**Group 4**

- Most participants said their visit to the Mobile, especially the questionnaire, reminded them to be more conscious when handling meat and poultry safely.
- A few participants learned new information on safe handling practices, such as how to safely handle cutting boards to prevent cross-contamination, the importance

of using a food thermometer to determine doneness, and the need to refrigerate leftovers promptly.

- Since visiting the Mobile, one participant started using a cutting board instead of using the counter to prepare meats, and another participant is more conscious about storing leftovers promptly.

### Food Safety Publications

Table 4 shows the number of participants who received food safety publications distributed at the Mobile and the number of participants who read these materials. Participants discussed their reaction to the publications and what they learned.

**Table 4. Number of Participants Who Received and Read Food Safety Publications Distributed at the Food Safety Mobile**

Publication	Group 3 (n = 8)		Group 4 (n = 8)	
	Received	Read	Received	Read
"Fight BAC!®"	0	0	2	2
"Thermy™"	2	0	4	4
"Cooking for Groups"	0	0	1	0
"Safe Handling of Take-Out Foods"	0	0	1	0
"Barbeque Food Safety Fact Sheet"	1	0	4	1
"Egg and Egg Products Safety Fact Sheet"	3	1	1	1
"Keeping Food Safe During an Emergency Fact Sheet"	3	0	NA	NA
"Basics for Handling Food Safely Fact Sheet"	3	3	NA	NA

NA: Did not discuss this publication with participants in Group 4.

### Group 3

Although participants in Charlotte received fewer publications compared to participants from other groups, participants in this group seemed to have picked up more fact sheets from the carousel of publications. Few participants, however, read any of the publications. The participants who picked up and read the "Basics for Handling Food Safely Fact Sheet" learned how to safely store leftovers and safely clean utensils after preparing raw meat and poultry.

### Group 4

Participants who read the "Fight BAC!®" brochure said it reminded them to be more conscious of safe food handling

practices, and one participant who read the “Thermy™” brochure learned about the safe internal temperatures of cooked meat. One participant who read the “Barbeque Food Safety Fact Sheet” shared it with a friend who helps him with barbeques for large groups. Another participant shared the “Egg and Egg Products Safety Fact Sheet” with her husband who is originally from the United Kingdom, where they do not refrigerate eggs.

**Food Safety Promotional Items**

Table 5 shows the number of participants who received food safety promotional items at the Mobile. Participants discussed their reaction to the promotional items and their use of the items.

**Table 5. Number of Participants Who Received Food Safety Promotional Items Distributed at the Food Safety Mobile**

Item	Group 3 (n = 8)	Group 4 (n = 8)
Fight BAC!® refrigerator magnet	1	2
Thermy™ refrigerator magnet	0	1
Refrigerator thermometer	4	2
T-stick thermometers	2	3
Cutting board	4	4
Coloring book	2	1
Mouse pad	4	2
Stickers and tattoos	5	1

**Group 3**

- Participants received either a cutting board or mouse pad for completing the questionnaire. Participants who received a cutting board have used it when cooking at home. One participant said that the new cutting board reminds him to be more cautious when handling raw meat and poultry, and one participant now uses the cutting board instead of the countertop to cut raw meat and poultry.
- Several participants received stickers and tattoos and said their children or grandchildren really enjoyed them.
- Four participants received a refrigerator thermometer, and three put the thermometers in their refrigerators.

- Two participants and/or their children received and enjoyed the coloring books; a few participants suggested providing a small box of crayons.
- Two male participants received T-sticks and plan to use them.
- Only one participant reported receiving the Fight BAC!<sup>®</sup> magnet, and no participants reported receiving the Thermy<sup>™</sup> magnet.

#### **Group 4**

- Participants who received a cutting board for completing the questionnaire have used it when cooking at home.
- A few participants received T-sticks. One participant was unaware of the proper usage of a T-stick thermometer and used it when cooking a pork tenderloin.
- Two participants received a refrigerator thermometer, and one placed it in his refrigerator.
- One participant who received the mouse pad framed it and placed it on her kitchen countertop.

#### **Food Safety Wheel Game**

Participants discussed their reaction to the Food Safety Wheel Game and what they learned from participating in the game.

#### **Group 3**

Five participants or their children played and liked the Food Safety Wheel Game. One participant learned the safe internal temperatures of meat and poultry, and another participant learned the importance of using a refrigerator thermometer.

#### **Group 4**

Two participants played and liked the Food Safety Wheel Game. Both participants did not learn anything new, but their questions at the Wheel reinforced their existing knowledge about safe food handling practices.

#### **Interactions with Food Safety Educators**

Participants in both groups had positive interactions with food safety educators. Participants described them as "*enthusiastic,*" "*friendly,*" and "*very informative.*" One participant from Group 3 stated, "*If I wouldn't have got[ten] any materials [from the Mobile], I would have learned enough from the educators.*" A few participants in Group 3 also

emphasized that the volunteers were "*very professional*," more so than any other exhibit at the Taste of Charlotte. Most participants in Group 4 said their conversations with educators reminded them of the basic food handling practices, and a few learned some new information, including storing leftovers promptly in the refrigerator, using different cutting boards for raw meats and vegetables, and using a thermometer to check the internal temperature of meat and poultry.

### **Suggestions for Improving the USDA Food Safety Mobile**

Participants offered numerous suggestions on how to make the Mobile more informative, interesting, and attractive to help encourage Mobile visitors to adopt safer food handling practices at home. Participants in both groups believed the Mobile could have reached more consumers if it had *not* been located in the children's section of the event (e.g., a section that would attract seniors and other individuals without children). Also, Group 3 participants concurred that the Mobile did not stand out in the children's section because everything in the children's section was big and colorful. Participants suggested more interactive activities, as one participant in Group 3 stated "*people will be more apt to learn if you get them involved in a process.*"

### **Group 3**

Participants offered the following suggestions for improving the Mobile:

- demonstrate the safe way to clean cutting boards and utensils to avoid cross-contamination,
- illustrate cross-contamination by using ultra-violet light to show bacteria on cutting boards,
- use costumed characters to attract children and adults,
- offer food thermometers to visitors,
- demonstrate safe hand-washing techniques and recommend safe soaps,
- develop an information card that identifies the main food safety topics and directs visitors to the appropriate brochure for more information,
- offer statistics (e.g., the percentage of consumers who annually suffer from foodborne illness) for more shock value, and

- offer monetary gift certificates to spend at local grocery stores.

#### **Group 4**

Participants liked the Mobile and believed it would attract consumers at other local events, such as the Southern Women's Show and the Charlotte Shout. Participants offered the following suggestions for improving the Mobile:

- use costumed characters to attract children and adults;
- demonstrate safe cleaning of cutting boards and utensils to avoid cross-contamination;
- demonstrate the safe way to use T-sticks and other thermometers with a variety of meats;
- provide a short skit with volunteers or puppets showing unsafe food handling practices that result in someone getting sick; then "rewind" and show safe practices to avoid foodborne illness; and
- use a video to illustrate where safe handling practices should be used in the kitchen.

#### **Recall of Telephone Number for the USDA Meat & Poultry Hotline**

No participants in either group recalled the telephone number for the USDA Meat & Poultry Hotline. A few participants in Group 3 did not know what the "MP" in the phone number denotes; instead, they suggested that "USDA" be a part of the phone number. When asked, a few participants in each group said they would call the Hotline to get food safety information.



**SOUTHERN PINES FOCUS GROUP FINDINGS  
(GROUPS 5 AND 6)**





This appendix section summarizes the key findings from the two focus group discussions conducted in Southern Pines, North Carolina, on May 25, 2004. We conducted the discussions with participants who visited the USDA Food Safety Mobile at Springfest in downtown Southern Pines on Saturday, April 24, 2004. All participants have primary or shared responsibility in their households for cooking and preparing meat and poultry at home three or more times a week. Table 1 provides information on participant demographics.

**Table 1. Participants' Demographics**

Characteristic	Group 5 (n = 8)	Group 6 (n = 8)
Gender		
Male	1	3
Female	7	5
Age		
18–25	0	1
26–35	2	3
36–59	5	4
60+	1	0
Race/ethnicity		
White/Caucasian	6	6
Black/African American	2	2
Education		
Less than a high school degree	0	0
High school graduate or GED	1	0
Some college	2	4
College graduate	5	4

### **Description of Events**

The Food Safety Mobile visited Springfest in downtown Southern Pines, North Carolina, on Saturday, April 24, 2004, from 10:00 a.m. to 4:00 p.m. The Mobile was located near a stage of entertainers in the children's section of the event. The children's section included crafts, games, gymnastic demonstrations, and musical entertainment. The event was organized by the Moore County Extension Services, and local food safety educators distributed bags with printed materials from their Expanded Food and Nutrition Education Program

(EFNEP) and 4-H programs as well as FSIS educational materials and promotional items. At the event, food safety educators emphasized the use of food thermometers, including T-sticks, and safe handling and preparation practices when cooking outdoors. Also, the county environmental health inspector was available to answer consumer questions about restaurants. Other activities included the Food Safety Wheel Game, Fight BAC<sup>®</sup> and Thermo™ costumed characters, and FSIS videos on food safety.

### **Current Knowledge and Perceptions of Food Safety**

Participants discussed their level of concern about contracting foodborne illness from food prepared at home, their level of food safety knowledge, and practices they follow when cooking at home to prevent foodborne illness.

#### **Group 5**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were very concerned, while others were either somewhat or not very concerned. Of the participants who were very concerned, two participants had foodborne illness, and one participant's 2-year old granddaughter had foodborne illness after eating hamburger at a barbeque.
- Most participants are somewhat knowledgeable about food safety; one participant, who is a registered nurse, is very knowledgeable.
- Participants get information about food safety from television news shows, cooking shows, family members, and their local Cooperative Extension Services.
- Participants identified a variety of activities they perform at home to prevent foodborne illness:
  - use bleach to clean cutting boards and/or kitchen surfaces after preparing meat and poultry;
  - cook meat, especially ground beef, thoroughly;
  - wash hands often; and,
  - refrigerate leftovers immediately.

#### **Group 6**

- The level of concern about contracting foodborne illness from food prepared at home varied. Some participants were somewhat concerned, and a few were not very

concerned. One participant, who has two young children and is an emergency room nurse, was very concerned.

- To prevent foodborne illness when cooking at home, participants said they perform the following activities:
  - wash hands often,
  - wash cutting boards and utensils with soap after preparing meat and poultry, and
  - cook meats thoroughly.
- Many participants are fairly knowledgeable about food safety. One participant is more knowledgeable now than in the past because of recent television news coverage on food safety. Two of the younger participants were not very knowledgeable about food safety.
- Participants rely on the following sources for information about food safety:
  - the Internet,
  - recipes and cookbooks,
  - cooking shows,
  - television news shows,
  - food product labels, and
  - local Cooperative Extension Services.

### **General Impressions of the USDA Food Safety Mobile**

Participants discussed their visit to the Mobile, what they liked and disliked about the Mobile, and the aspects of the Mobile they found most and least informative.

#### **Group 5**

- Most participants stopped at the Mobile because its size and color grabbed their or their children's attention. A few participants visited the Mobile because they had heard about it through the Moore County Extension Services.
- On average, participants visited the Mobile for about 15 minutes.
- Overall, participants liked the Mobile and were glad that it was present at Springfest. As one participant stated, it was a "*pleasant surprise*" to see the Mobile at a local event. Participants believed the Mobile provided an excellent opportunity to talk to educators and to learn more about food safety. Participants with children

especially liked how the Mobile attracted and involved children in food safety.

- Most participants found the food safety publications informative, especially the information and magnets on safe internal temperatures for meat and poultry.
- Participants did not particularly dislike anything at the event; however, they did mention they would like to see it frequent the local area more often.

### **Group 6**

- Most participants stopped at the Mobile because its color grabbed their or their children's attention. One participant stopped at the Mobile because a friend at the event recommended it.
- On average, participants visited the Mobile for about 15 to 20 minutes.
- Overall, participants liked the fact that the Mobile was providing a service to their community. They also enjoyed talking with food safety educators.
- Most participants believed that the educators and the publications were very informative.
- Although participants did not particularly dislike anything at the event, some participants believed the Mobile could have reached more consumers if it had been located in the middle of the event instead of near the children's section.

### **Knowledge and Behavior Changes after Visiting the USDA Food Safety Mobile**

Table 2 shows participants' reported use of safe food handling and preparation practices in the home prior to their visit to the Mobile. Most participants wash their hands before preparing food. All participants in Group 5 handle cutting boards safely to prevent cross-contamination and immediately refrigerate leftovers; fewer participants in Group 6 follow these safe practices. Some participants in both groups own or use a food thermometer.

**Table 2. Number of Participants Who Reported Using Safe Food Handling and Preparation Practices Prior to Visiting the Food Safety Mobile**

Practice	Group 5 (n = 8)	Group 6 (n = 8)
Wash hands before preparing food	7	8
Safely handle cutting boards to prevent cross-contamination	8	5
Immediately refrigerate leftovers	8	5
Own a food thermometer	5	3
Use a food thermometer for large cuts of meats	5	3
Use a food thermometer for hamburgers	0	1

Source: Pre-questionnaire administered at Food Safety Mobile.

Table 3 shows the number of participants who reported changing their handling and preparation practices after visiting the Mobile. A few participants reported behavioral changes with regard to the prevention of cross-contamination and safe storage of leftovers. One participant reported owning a food thermometer after visiting the Mobile.

**Table 3. Number of Participants Who Reported Changes in Their Use of Safe Food Handling and Preparation Practices After Visiting the Food Safety Mobile**

Practice	Group 5 (n = 8)	Group 6 (n = 8)
Wash hands before preparing food	1	0
Safely handle cutting boards to prevent cross-contamination	0	1
Immediately refrigerate leftovers	0	2
Own a food thermometer	0	1
Use a food thermometer for large cuts of meats	0	0
Use a food thermometer for hamburgers	0	0

Source: Comparison of pre-questionnaire (administered at Food Safety Mobile) and post-questionnaire (administered at focus group discussion) data. Participants were considered to have made a behavior change if the practice was reported in the post-questionnaire but not in the pre-questionnaire.

Participants discussed what they learned about food safety and whether they made any changes in their food handling and preparation practices based on what they learned.

#### **Group 5**

- Most participants said their visit reminded them to be more conscious and careful when handling meat and poultry, especially when using cutting boards to avoid

cross-contamination of raw meats and ready-to-eat (RTE) foods.

- A few participants are more conscious to refrigerate leftovers promptly instead of leaving them out on the table or counter to be consumed later that day.
- One participant said the Thermy™ magnet prompted her to think about using a food thermometer once she now has the safe internal temperatures readily available.
- One participant said he plans to use a food thermometer more often to set a good example for his teenage children.

**Group 6**

- Most participants are more conscious and careful when handling meat and poultry.
- A few participants improved their safe handling practices after visiting the Mobile. At least two participants stopped using wooden cutting boards, and at least two participants no longer leave leftovers out at room temperature.

**Food Safety Publications**

Table 4 shows the number of participants who received FSIS food safety publications distributed at the Mobile and the number of participants who read these materials. Participants discussed their reaction to the publications and what they learned.

**Table 4. Number of Participants Who Received and Read Food Safety Publications Distributed at the Food Safety Mobile**

Publication	Group 5 (n = 8)		Group 6 (n = 8)	
	Received	Read	Received	Read
“Fight BAC!®”	5	1	8	8
“Thermy™”	4	1	7	5
“Cooking for Groups”	0	0	1	0
“Safe Handling of Take-Out Foods”	0	0	3	1
“Barbeque Food Safety Fact Sheet”	1	1	1	1
“Egg and Egg Products Safety Fact Sheet”	1	1	1	1

**Group 5**

Although many participants received a variety of food safety publications and still have the materials at home, only a few have taken the time to read them. Four participants skimmed the “Thermy™” and “Fight BAC!®” brochures, while one participant read the “Thermy™” brochure and learned that the internal color of meat is not a good indicator of doneness, and another read the “Fight BAC!®” brochure and learned the safe refrigerator temperature. One participant picked up several food safety publications, including the fact sheets on barbecuing and egg and egg products, to teach his Boy Scout troop about food safety.

**Group 6**

Most participants received and read the “Fight BAC!®” and “Thermy™” brochures. Many participants said the “Fight BAC!®” brochure reminded them to wash their hands and cutting boards after handling raw meat and poultry. A few participants who read the “Thermy™” brochure stated the brochure prompted them to think about using a food thermometer to check the doneness of meat and poultry. One participant read the “Barbeque Food Safety Fact Sheet” and shared it with his father because he believed it was very informative. The same participant also read the “Egg and Egg Products Safety Fact Sheet” and was reminded that it is unsafe to eat batter made with raw egg.

**Food Safety Promotional Items**

Table 5 shows the number of participants who received food safety promotional items at the Mobile. Participants discussed their reaction to the promotional items and their use of the items.

**Table 5. Number of Participants Who Received Food Safety Promotional Items Distributed at the Food Safety Mobile**

Item	Group 5 (n = 8)	Group 6 (n = 8)
Fight BAC!® refrigerator magnet	3	5
Thermy™ refrigerator magnet	5	7
Refrigerator thermometer	3	6
T-stick thermometers	6	5
Cutting board	8	8
Coloring book	5	8



### **Group 5**

- All participants received a cutting board for completing the questionnaire and use it. One participant said the new cutting board reminded him that his old cutting board has too many cuts and grooves to safely clean. Another participant said the new cutting board reinforced her belief that plastic or glass cutting boards are safer than wooden ones.
- Six participants received T-sticks and a few plan to use them.
- Some participants received the Thermy™ and Fight BAC!® magnets and have placed them on their refrigerators. At least one participant reported that she is more conscious of the need to use a food thermometer since receiving the Thermy™ magnet.
- Five participants and/or their children received and enjoyed the coloring books. A few participants suggested providing a small box of crayons with the coloring book.
- Three participants received a refrigerator thermometer, and two placed the thermometer in their refrigerators, but neither has checked to see if their refrigerator is at a safe temperature.
- A few participants also received stickers, tattoos, and coozies. Parents said that their children really enjoyed the stickers.
- One participant said that the promotional items were excellent learning tools because visitors would take them home and use them; she believes that in the long run, visitors will keep the promotional items but discard the publications.

### **Group 6**

- All participants received a cutting board for completing the questionnaire and use the cutting board. Two participants feel safer using the new cutting board instead of their wooden cutting board.
- Many participants received both the Fight BAC!® and Thermy™ magnets, and most participants have placed the magnets on their refrigerators.
- Six participants received a refrigerator thermometer and placed it in their refrigerator. Three participants had to adjust their thermostats because their refrigerators were too warm.

- Five participants received T-sticks. One participant used the T-sticks, and a few plan to use them.
- All participants or their children received a coloring book. One participant will use pages from the coloring book during story time at the local library to teach food safety to the children.
- A few participants or their children received and liked the stickers and tattoos.

### **Food Safety Wheel Game**

Participants discussed their reaction to the Food Safety Wheel Game and what they learned from participating in the game.

#### **Group 5**

Seven participants or their children played and liked the Food Safety Wheel Game. Participants' children really enjoyed spinning the wheel and winning prizes.

#### **Group 6**

Seven participants or their children played and liked the Food Safety Wheel Game. A few participants said their children were very drawn to the colors on the game.

### **Food Safety Costumed Characters**

Several participants in each group saw the Fight BAC!<sup>®</sup> or Themy<sup>™</sup> costumed characters during their visit or in the crowd. Participants enjoyed the characters' presence at the event.

### **Interactions with Food Safety Educators**

Participants in both groups had positive interactions with food safety educators. Participants described them as "*enthusiastic,*" "*knowledgeable,*" "*helpful,*" "*outgoing,*" and "*friendly.*" Participants in both groups said the educators encouraged them to take the free promotional items and brochures, and two participants said they learned new information about safe handling practices from conversations with educators.

### **Food Safety Videos**

Only one participant from Group 5 watched the food safety videos at the event. She really enjoyed the cartoon video and said that the children seemed to enjoy and learn from it too; however, she did not like the video involving the two men

acting like children. A few participants from Group 6 saw the video playing at the Mobile, but no one watched it.

### **Suggestions for Improving the USDA Food Safety Mobile**

Participants offered suggestions on how to make the Mobile more informative, interesting, and attractive to help encourage Mobile visitors to adopt safer food handling practices at home.

#### **Group 5**

Participants liked the Mobile and suggested having it at more local events and at elementary schools. Participants believed the Mobile was very educational, especially for children. Participants suggested that the Mobile offer demonstrations and interactive activities. Specific suggestions for additional activities include the following:

- demonstrate the safe way to clean cutting boards,
- demonstrate safe hand-washing technique and illustrate bacteria on hands using Glo Germ™, and
- demonstrate safe and unsafe food handling practices in a short skit.

#### **Group 6**

Participants liked the Mobile but believed that it could have reached more consumers (e.g., seniors and couples with no children) if it had been located outside the children's section of the event. Participants offered the following suggestions for improving the Mobile:

- provide short presentations on how to safely clean cutting boards, including recommended soaps and bleach concentration;
- use visuals to illustrate foodborne bacteria;
- demonstrate safe hand-washing techniques (i.e., use timer or Glo Germ™);
- provide cooking demonstrations;
- play videos that provide useful information on food safety;
- provide activities that are hands-on and engaging; and
- provide activities that keep children engaged so their parents have time to interact with the educators and peruse the literature.

**Recall of Telephone Number for the USDA Meat & Poultry Hotline**

No participants recalled the telephone number for the USDA Meat & Poultry Hotline. When asked, a few participants in each group said they would call the Hotline to get food safety information.



**BUFFALO FOCUS GROUP FINDINGS  
(GROUPS 7 AND 8)**



This appendix section summarizes the key findings from the two focus group discussions conducted in Buffalo, New York, on August 19, 2004. We conducted the discussions with participants who visited the USDA Food Safety Mobile at the Taste of Buffalo on July 10 and 11, 2004. All participants have primary or shared responsibility in their households for cooking and preparing meat and poultry at home three or more times a week. Table 1 provides information on participant demographics.

**Table 1. Participants' Demographics**

<b>Characteristic</b>	<b>Group 7 (n = 8)</b>	<b>Group 8 (n = 8)</b>
Gender		
Male	3	2
Female	5	6
Age		
18–25	1	2
26–35	2	1
36–59	4	4
60+	1	1
Race/ethnicity		
White/Caucasian	7	8
Black/African American	1	0
Education		
Less than a high school degree	1	0
High school graduate or GED	2	1
Some college	3	4
College graduate	3	3

### **Description of Events**

The Food Safety Mobile visited the Taste of Buffalo on July 10 and 11, 2004, and was hosted by the Cornell Cooperative County Extension of Erie County. The Mobile was located on the Metro line (Main Street) in downtown Buffalo, New York. Because of logistical issues, the Mobile and its activities and volunteers were located on opposite sides of the Metro tracks. Educators distributed FSIS educational materials and promotional items. Other activities included the Food Safety Wheel Game, the Fight BAC!® and Thermy™ costumed characters, and a cooking display of an outdoor grill with plastic meat and cooking thermometers (to illustrate grilling meat to



the safe internal temperature). In addition, Extension volunteers distributed Extension bags, recipes, information on a local food safety class, and Extension program brochures. They also hosted a demonstration featuring a “meat model,” which demonstrated bacterial growth when meat is left to thaw at room temperature. The model included three hamburgers made from modeling clay and used different amounts of lentils to demonstrate bacterial growth over time.

Approximately 500,000 people attended the Taste of Buffalo. The majority were Caucasians between the ages of 25 and 49 years old. Approximately 43 percent of those who attended have a household income in excess of \$50,000 (see [www.tasteofbuffalo.com](http://www.tasteofbuffalo.com)).

### **Current Knowledge and Perceptions of Food Safety**

Participants discussed their level of concern about contracting foodborne illness from food prepared at home, their level of food safety knowledge, and practices they follow when cooking at home to prevent foodborne illness.

#### **Group 7**

- Most participants were somewhat or not very concerned about contracting foodborne illness from food prepared at home. A few participants who are not very concerned rely on their senses to determine if food is safe; as one participant stated, *“as long as it looks good, tastes good, I’ll eat it.”* One participant who is somewhat concerned had a friend die of foodborne illness. Another participant is somewhat concerned because she has young children at home.
- Most participants considered themselves to be not very knowledgeable about food safety. Prior to seeing the meat model, many participants did not realize that bacteria *“could grow so quickly”* when food is left at room temperature. A few participants would like to know more about the safe internal temperatures of meat and poultry. A few would like to know the best household cleaning agents to kill bacteria.
- Participants wash hands and clean counter tops, utensils, and cutting boards after preparing meat or poultry to help prevent foodborne illness.

#### **Group 8**

- Many participants were not very concerned about contracting foodborne illness from food prepared at

home, while a few were somewhat concerned. One participant was very concerned. Although many participants were not very concerned about contracting foodborne illness, many participants practice unsafe food handling behaviors. For example, several participants thaw meat and poultry at room temperature, and one participant thaws meat and poultry in her dishwasher. Also, several participants leave large containers of leftovers to cool before placing them in the refrigerator.

- Many participants stated they are somewhat knowledgeable about food safety. After visiting the Mobile, a few participants think they are not as knowledgeable as they previously thought. Younger participants stated they are not very knowledgeable about food safety because they are just learning to cook.
- To prevent foodborne illness when preparing food at home, a few participants do the following activities:
  - wash hands,
  - use soap and/or bleach to wash counter tops and kitchen faucets after preparing meat and poultry,
  - wash produce, and
  - keep raw meats and vegetables separate.

### **General Impressions of the USDA Food Safety Mobile**

Participants discussed their visit to the Mobile, what they liked and disliked about the Mobile, and the aspects of the Mobile they found most and least informative. Because of the arrangement in Buffalo, only a few participants actually saw the Mobile on the other side of the Metro tracks.

#### **Group 7**

- A few participants stopped at the Mobile to get a closer look at the meat model. One participant stopped so her children could play the Food Safety Wheel Game. One participant stopped because *"the exhibits were hands-on and eye-catching; there were things to touch."*
- On average, participants visited the Mobile for about 5 to 10 minutes.
- Participants had very favorable impressions of the Mobile volunteers; they described the volunteers as *"trustworthy," "friendly," "reputable,"* and *"informative."* Some participants enjoyed talking with the volunteers and listening to them answer other visitors' questions.

- Most participants really liked the free cutting boards they received for completing the questionnaire.
- Most participants found the meat model and conversations with volunteers to be the most informative aspects of the Mobile.
- Participants did not particularly dislike anything at the event.

### **Group 8**

- Most participants stopped at the Mobile to see the meat model or play the Food Safety Wheel Game. One participant stopped to specifically get a Buffalo pen.
- On average, participants visited the Mobile for about 5 to 10 minutes.
- Overall, participants liked interacting with the volunteers, the publications, and the promotional items. One participant liked that the Wheel engaged people of all ages.
- Most participants said the meat model was the most informative aspect of the Mobile.
- One participant thought the arrangement of the activities could have accommodated the flow of people better.

### **Knowledge and Behavior Changes after Visiting the USDA Food Safety Mobile**

Table 2 shows participants' reported use of safe food handling and preparation practices in the home prior to their visit to the Mobile. All participants wash their hands before preparing food. Many participants safely handle cutting boards to prevent cross-contamination and immediately refrigerate leftovers. Some participants own and use a food thermometer for large cuts of meats, but only one participant has used a thermometer to check the doneness of hamburgers.

**Table 2. Number of Participants Who Reported Using Safe Food Handling and Preparation Practices Prior to Visiting the Food Safety Mobile**

Practice	Group 7 (n = 8)	Group 8 (n = 8)
Wash hands before preparing food	8	8
Safely handle cutting boards to prevent cross-contamination	6	5
Immediately refrigerate leftovers	7	5
Own a food thermometer	4	4
Use a food thermometer for large cuts of meats	3	3
Use a food thermometer for hamburgers	0	1

Source: Pre-questionnaire administered at Food Safety Mobile.

Table 3 shows the number of participants who reported changing their handling and preparation practices after visiting the Mobile. Participants reported changes in thermometer ownership, proper storage of leftovers, and prevention of cross-contamination.

**Table 3. Number of Participants Who Reported Changes in Their Use of Safe Food Handling and Preparation Practices After Visiting the Food Safety Mobile**

Practice	Group 7 (n = 8)	Group 8 (n = 8)
Wash hands before preparing food	0	0
Safely handle cutting boards to prevent cross-contamination	1	2
Immediately refrigerate leftovers	0	1
Own a food thermometer	1	1
Use a food thermometer for large cuts of meats	0	0
Use a food thermometer for hamburgers	0	0

Source: Comparison of pre-questionnaire (administered at Food Safety Mobile) and post-questionnaire (administered at focus group discussion) data. Participants were considered to have made a behavior change if the practice was reported in the post-questionnaire but not in the pre-questionnaire.

Participants discussed what they learned about food safety during their visit and whether they made any changes in their food handling and preparation practices based on what they learned.

#### **Group 7**

- After visiting the Mobile, some participants improved their safe handling practices based on either new information or a greater awareness of food safety and safe handling practices. For some participants, their

visit to the Mobile reminded them to handle food safely. As one participant stated, it was *"information [I] already knew but haven't thought about in awhile."*

- A few participants learned how to safely handle cutting boards to prevent cross-contamination and the need to refrigerate leftovers promptly.
- Two participants were encouraged to clean their refrigerators and check dates on products after seeing the meat model.
- One participant learned how to use the T-sticks to determine the doneness of hamburgers, and one participant learned to cook chicken to the safe internal temperature.

### **Group 8**

- A few participants said the questionnaire reminded them to be more conscious about handling meat and poultry safely.
- A few participants learned about the importance of refrigerating leftovers promptly from the meat model demonstration.
- A few participants learned the importance of using a food thermometer to determine doneness. One participant really liked using the T-sticks and would like to buy more.
- A few participants learned to safely handle cutting boards to prevent cross-contamination; a few replaced their old wooden cutting boards with the plastic ones they received at the Mobile.

### **Food Safety Publications**

Table 4 shows the number of participants who received FSIS food safety publications distributed at the Mobile and the number of participants who read these materials. Participants discussed their reaction to the publications and what they learned.

### **Group 7**

Most participants did not pick up any publications; some assumed the publications were in the bag they received at the Mobile. Most participants did not see the carousel of fact sheets at the event; however, several participants showed interest in the "Barbeque Food Safety Fact Sheet" during the discussion.

**Table 4. Number of Participants Who Received and Read Food Safety Publications Distributed at the Food Safety Mobile**

Publication	Group 7 (n = 8)		Group 8 (n = 8)	
	Received	Read	Received	Read
“Fight BAC!®”	0	0	6	0
“Thermy™”	1	0	4	1
“Cooking for Groups <sup>a</sup> ”	—	—	—	—
“Safe Handling of Take -Out Foods <sup>a</sup> ”	—	—	—	—
“Barbeque Food Safety Fact Sheet”	0	0	0	0
“Egg and Egg Products Safety Fact Sheet”	NA	NA	NA	NA
“Keeping Food Safe During an Emergency Fact Sheet”	NA	NA	NA	NA
“Basics for Handling Food Safely Fact Sheet”	NA	NA	NA	NA

NA: Did not discuss this publication with participants.

<sup>a</sup>Publication was not distributed at the Mobile event.

### **Group 8**

Many participants picked up the “Fight BAC!®” brochure but did not read it. Some participants picked up the “Thermy™” brochure, but only one read it; she referred to it when using a thermometer to check the doneness of large cuts of meats (e.g., roasts). One participant saw the carousel of fact sheets and picked up several sheets of information but did not read any of them.

### **Food Safety Promotional Items**

Table 5 shows the number of participants who received food safety promotional items at the Mobile. Participants discussed their reaction to the promotional items and their use of the items.

**Table 5. Number of Participants Who Received Food Safety Promotional Items Distributed at the Food Safety Mobile**

Item	Group 7 (n = 8)	Group 8 (n = 8)
Fight BAC!® refrigerator magnet	4	2
Thermy™ refrigerator magnet	3	5
Refrigerator thermometer	1	1
T-stick thermometers	3	4
Cutting board	8	8
Coloring book	1	0
Stickers and tattoos	1	0

### **Group 7**

- All participants received a cutting board for completing the questionnaire. Many participants have used the cutting board when preparing meals at home. Some participants now use separate cutting boards for raw meat and vegetables to prevent cross-contamination, and one participant uses the new cutting board instead of her old wooden one to cut raw meat and poultry.
- Four participants received the Fight BAC!® magnet, and three participants received the Thermy™ magnet. One participant referred to the Thermy™ magnet when preparing a roast.
- Three participants received T-sticks; one participant used them, and others plan to use them.
- One participant received a refrigerator thermometer. His wife put the thermometer in their refrigerator, but he does not know if it is at the safe temperature.

### **Group 8**

- All participants received a cutting board for completing the questionnaire. Many participants have used the cutting board when preparing meals at home. One participant gave the cutting board to her daughter to take to college.
- Five participants received the Thermy™ magnet, and two participants received the Fight BAC!® magnet. Most participants have both magnets on their refrigerator. One participant keeps the Thermy™ magnet next to her cooking thermometer in a kitchen drawer.
- Some participants received T-sticks. One participant used them and "*loved them*"; she would like to get more. A few participants have seen them at a local grocery store.
- One participant received a refrigerator thermometer but has not placed it in her refrigerator.

### **Food Safety Wheel Game**

Participants discussed their reaction to the Food Safety Wheel Game and what they learned from participating in the game.

### **Group 7**

Some participants played and liked the Food Safety Wheel Game. A few participants described the Wheel as "eye-catching." One participant watched other visitors play the

Wheel to learn more. One participant mentioned that the questions reinforced food handling behaviors she normally takes for granted.

### **Group 8**

All participants played and liked the Food Safety Wheel Game. Many participants watched other visitors play the game to learn more. One participant was *"amazed at how many children answered their question correctly"*; he liked that the game was directed to people of all ages.

### **Food Safety Costumed Characters**

The costumed characters were at the event for a limited amount of time. Only one participant from Group 8 saw the Thermy™ costumed character at the Mobile. She said, *"The kids loved him and were hanging all over him."* No one in either group saw the Fight BAC!® costumed character.

### **Meat Model Demonstration by Local Educators**

#### **Group 7**

Most participants saw the meat model during their visit to the Mobile. Many participants did not know the extent to which bacteria grows when meat is left at room temperature. A few participants said this was new information to them. The meat model encouraged a few participants to refrigerate leftovers promptly and one participant to clean the inside of his refrigerator. One participant, who normally lets food sit out, decided to refrigerate her daughter's food when she was going to be late for dinner.

#### **Group 8**

All participants saw the meat model during their visit. Many participants walked away *"shocked"* or *"surprised"*; they did not realize the extent to which bacteria grows when meat is left at room temperature. The meat model encouraged one participant to thaw meat in the refrigerator instead of at room temperature.

### **Cooking Demonstration**

#### **Group 7**

Only one participant saw the cooking demonstration; her young children were impressed by the plastic food. She asked the



Mobile driver about the demonstration and learned how to cook chicken to the safe internal temperature.

### **Group 8**

Some participants saw the cooking demonstration at the event, but most of them did not offer any comments about the display. One participant thought the display was a reminder to *"grill your meat safely."*

### **Interactions with Food Safety Educators**

Participants in both groups had positive interactions with food safety educators. Participants described them as *"friendly," "reputable,"* and *"trustworthy."* A few participants from Group 7 learned from educators that most people who suffer from stomachaches actually suffer from foodborne illness. A few participants discussed with educators the safe internal temperatures when cooking meat and poultry and the importance of avoiding cross-contamination.

Many participants in Group 8 talked to educators about the meat model and the amount of bacteria on kitchen sponges. A few participants mentioned that their discussions about the meat model *"made an impression,"* and *"it was worth the trip [to the Mobile]."*

### **Suggestions for Improving the USDA Food Safety Mobile**

Participants offered numerous suggestions on how to make the Mobile more informative, interesting, and attractive to help encourage Mobile visitors to adopt safer food handling practices at home. Participants were disappointed they did not receive some of the publications (e.g., "Barbecue Food Safety Fact Sheet") at the Mobile and offered suggestions for disseminating the publications. A few participants said educators should recommend specific publications during their conversations with visitors based on the topics discussed. A few participants also suggested that publications should be placed in a bag and specific publications should be emphasized based on visitors' concerns. One participant suggested the volunteers should recommend publications to those who played the Wheel and wanted to learn more about a particular topic.

### **Group 7**

Participants offered the following suggestions for improving the Mobile:

- use a touch screen computer to quiz participants on food safety practices,
- provide a computer so participants can access a Web site for more information while at the Mobile,
- offer food safety video games for children,
- provide information on expiration dates and recommended storage times, and
- develop a quiz board that uses door flaps that visitors can open to reveal answers to food safety questions.

Participants suggested that the Mobile visit schools, after-school programs, and supermarkets.

### **Group 8**

Participants liked the Mobile and believed it would attract consumers and children at local grocery stores and schools. A few participants said the Mobile could benefit a more diverse population at the New York State Fair than at an event like the Taste of Buffalo. They also said it would be less congested at the Fair. Several participants suggested that the Mobile use more shocking visuals, like the meat model, "*that make people think.*" Participants also suggested that educators use the cooking demonstration to illustrate barbecue food safety.

### **Recall of Telephone Number for the USDA Meat & Poultry Hotline**

No participants in either group recalled the telephone number for the USDA Meat & Poultry Hotline.