



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<http://ageconsearch.umn.edu>
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Consumer Responses to Food Recalls: 2008 National Survey Report

Food Policy Institute

William K. Hallman, Ph.D.

Cara L. Cuite, Ph.D.

Neal H. Hooker, Ph.D.

April 14, 2009

RUTGERS
New Jersey Agricultural
Experiment Station

Acknowledgements

The research described herein was supported by two grants provided to the Rutgers Food Policy Institute, one from the Grocery Manufacturers Association (GMA), the association of food, beverage, and consumer products companies, and another from the Cooperative State Research, Education, and Extension Service (CSREES) of the United States Department of Agriculture (USDA) under the National Integrated Food Safety Initiative (NIFSI) grant # 2005-51110-02335 “Food Biosecurity: Modeling the Health, Economic Social, and Psychological Consequences of Intentional and Unintentional Food Contamination,” Dr. William K. Hallman, Principal Investigator.

The opinions expressed in the article are those of the authors and do not necessarily reflect official positions or policies of GMA, the USDA, or the Food Policy Institute, Rutgers, the State University of New Jersey.

For more information please contact:

Food Policy Institute
New Jersey Agricultural Experiment Station
Rutgers, The State University of New Jersey
ASB III, 3 Rutgers Plaza
New Brunswick, New Jersey 08901
Tel: (732) 932-1966
Fax: (732) 932-9544
hallman@aesop.rutgers.edu
<http://www.foodpolicyinstitute.rutgers.edu>

This is FPI publication number RR-0109-018

Suggested Reference:

Hallman, W. K., Cuite, C. L., & Hooker, N. H. (2009). Consumer Responses to Food Recalls: 2008 National Survey Report. (Publication number RR-0109-018). New Brunswick, New Jersey: Rutgers, the State University of New Jersey, Food Policy Institute.

Executive Summary

This report presents the data from a national telephone survey on American's awareness and knowledge of food recalls, as well as their attitudes and behavioral responses to food recalls. A random sample of American adults in all 50 states was interviewed in August and September of 2008. The following are among the key findings of the study.

- Most Americans view food recalls as important and as saving lives.
- Most report paying attention to recalls and telling *others* about them.
- Many believe that recalls are relevant to others and not to themselves.
- While most Americans believe that the number of food recalls is growing, they have a poor grasp of the actual number of recalls that occurred in the year prior to the survey.
- Misconceptions about the food recall process and the role of government in it are widespread.
- Overall, only about six-in-ten Americans report having *ever* looked for recalled food in their homes; and far fewer (10%) say they have ever found a recalled food product.
- More than one quarter of Americans say they have discarded a food product after hearing about a food recall.
- More than one-in-ten Americans report having eaten a food they thought had been recalled.
- Nearly three quarters of Americans say they would want to receive personalized information about recalls on their receipt at the grocery store, and more than six-in-ten said they would want to receive such information through a letter or an email.
- Nearly four-in-ten Americans say they would be interested in signing up for email alerts from the government regarding food recalls, a service that is already available but used by only 6%.
- Consumers appear to highly value information that allows them to judge the potential likelihood and severity of consequences related to a food recall to determine whether it is in their interests to pay attention to the recall or to take actions in response.

To be effective, food recalls must generate sufficient attention and motivation among consumers that they take appropriate protective actions. The results of this national survey suggest that for many Americans, this simply has not happened. Most Americans view recalls as important, but not particularly relevant to themselves. As a result, despite considerable awareness of recent recalls, few say they have looked for recalled products, and many appear to maintain an illusion of invulnerability.

Table of Contents

Acknowledgements.....	ii
Executive Summary.....	iii
Introduction	1
Methodology.....	2
Results.....	3
Perceived importance of food recalls	3
Personal relevance of food recalls	3
Perceived frequency of food recalls	5
Personal experience with foodborne illness.....	6
Knowledge about food recalls	7
Awareness and actions related to specific food recalls.....	8
Actions related to food recalls in general	9
Information used to identify recalled foods	10
Actions motivated by food recalls	10
Use of the internet to get information about food recalls	11
Interest in receiving personalized information about food recalls	12
News coverage of recalls	14
Message Testing.....	15
Conclusions	17
Appendix 1: Sample Disposition	20
Appendix 2: Sample Demographics	21
Appendix 3: Specific Food Recall Question Series	22
References	26

Tables and Figures

Table 1. Perceived importance of food recalls	3
Table 2. Perceived relevance of food recalls	4
Table 3. Perceived likelihood of purchasing a recalled product (compared to others).....	5
Table 4. Perceptions of the frequency of recalls.	6
Table 5. Food recall knowledge.	8
Figure 1. Percent aware of four specific recalls	9
Table 6. Actions taken with recalled foods in the home	10
Table 7. Internet access and use for food recalls	11
Table 8. Interest in emails and text messages about food recalls.....	12
Table 9. Interest in personalized information about previous purchases.	12
Table 10. Interest in Federal websites.	13
Table 11. Perceived importance of information in news stories.....	14
Table 12. Accidental vs. Intentional contamination paired preference.	16
Table 13. <i>Salmonella</i> vs. <i>E. coli</i> paired preferences	16
Table 14. Rank ordering of motivational statements.	17

Introduction

Consumer reactions to a food recall are often mixed. While many hear about the recall and discard or return the product, not every consumer responds appropriately, so people continue to become ill as the result of eating contaminated food. This happens for several reasons. Some consumers are unaware of particular recalls because the right information never reaches them. Others hear about the recall but ignore it, wrongly assuming that the information does not apply to them. Some consumers hear about the recall, but for a variety of reasons do not check their homes for the recalled product and may ultimately consume it. Finally, some consumers who are aware of the recall simply choose to disregard it, and eat the recalled product anyway¹.

At the other extreme, some consumers may change their purchasing, food preparation, and consumption practices in ways that are not necessarily warranted by the recall². Some may avoid the recalled product for months (or years) after the recall has ended³. They may also shun other products made by the same company or avoid products from other manufacturers similar to that which has been recalled. In doing so, consumers may unnecessarily avoid otherwise healthy, nutritious foods. This can result in severe financial losses for the companies involved, and can have ancillary economic effects across and beyond an entire food category.

Therefore, after identifying a contaminated food product, the challenge faced by public health officials, food manufacturers, distributors, and retailers is to quickly and efficiently provide information to the public, get consumers to pay attention to the recall, and motivate them to take appropriate actions. In doing so, they must convince consumers that the problem warranting the recall is significant, that the recall applies to them personally, and that ignoring the recall or failing to take the recommended actions might result in serious consequences. At the same time, consumers must be reassured that the problem has been identified, is limited in scope, and that the recall will effectively eliminate the immediate risks associated with it. Moreover they must be convinced that the underlying cause has been corrected, ensuring the future safety of the product. In short, to be effective, recalls must generate sufficient attention and motivation among consumers that they take appropriate protective actions, but must not be so alarming as to unnecessarily frighten consumers such that they avoid food products that are otherwise safe.

To better understand the current state of consumer knowledge, experience, and reactions to food recalls, the Food Policy Institute (FPI) at Rutgers, the State University of New Jersey conducted a national telephone survey of American adults. In this report, we examine what Americans know about the food recall process, the agencies responsible, and their sense of how often food recalls happen. We also examine where consumers currently get their information about food recalls and their preferences regarding both sources and types of messages they would like to receive regarding future food recalls. We also look at consumers' awareness of and responses to several recent recalls, and their attitudes and responses to food recalls in general. With the goal of helping the public to respond appropriately to recalls, we also explore

what information consumers say is most likely to motivate them to check for recalled products in their homes.

As a companion to our recent report which focused specifically on the 2008 *Salmonella* Saintpaul outbreak involving tomatoes and chile peppers⁴, the results of this study provide unique insights into consumers' current responses to food recalls, and lays the groundwork for designing and implementing more effective food recalls in the future. A forthcoming third study in this series will provide specific recommendations concerning how to more effectively communicate with the public about food recalls.

Methodology

FPI contracted with Abt SRBI Inc., a survey research firm, to conduct telephone interviews with a nationally representative sample of 1,101 Americans selected from all 50 states. Interviews were conducted in English with non-institutionalized adults over the age of 17 between August 4 and September 24, 2008. Participant households were selected using proportional random-digit dialing, and a Computer Assisted Telephone Interview (CATI) system was programmed to select the appropriate proportions of male and female participants. Working, non-business numbers were contacted using a 12-callback design. Response rates can be calculated using a range of formulas. For the current study, the response rate using standard industry definitions (American Association for Public Opinion Research) range from 25% to 57% (see Appendix 1 for the cooperation rates and the sample disposition).

Because of the large number of topics covered in the survey and the limited amount of time respondents are willing to stay on the phone, we used a split sample design for some of the questions. Most questions were asked of all 1,101 respondents, but for certain question sets, the sample was split into two groups, one comprised of 545 respondents and another of 556, referred to as "Split Sample A" and "Split Sample B," respectively. Throughout this report, any use of the two sub-samples is noted. All data presented in this report have been weighted by gender, age, race, region, and education to approximate United States Census figures, unless noted otherwise. For greater clarity of presentation, the results detailed in this report do not reflect the order in which questions were posed to the respondents.

Results

Perceived importance of food recalls

Most Americans appear to appreciate the overall value of food recalls. The results shown in Table 1 indicate that most Americans agree that “food recalls save lives”. However, about one-third think that “the government overreacts to food recalls” and about one-in-five (22%) believes that “most food recalls aren’t serious enough to pay attention to.” This suggests that while most appreciate the overall public health benefits of food recalls, some are skeptical that *all* food recalls are serious¹.

Table 1. Perceived importance of food recalls

	%				
	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't Know
Food recalls save lives.	61	31	4	2	2
The government overreacts to food recalls.	12	20	27	38	4
Most food recalls aren’t serious enough to pay attention to.	8	14	26	51	1

Note. N = 1101.

Personal relevance of food recalls

Most Americans (84%) say that they pay close attention to news reports about food recalls and 81% say that when they hear about a food recall, they tell others about it (see Table 2). As such, most Americans believe that knowing about food recalls is important. Yet, half of Americans appear to believe that food recalls have had no impact on their lives, and relatively few (17%) think it is likely that they have recalled

¹ Note: The survey item does not distinguish between the different types of recalls, which are characterized as Class I, II or III, depending on the likelihood that the recalled product will result in a serious adverse health consequence. For more information on recall Classes, see http://www.fda.gov/oc/po/firmrecalls/recall_defin.html.

foods in their homes. This suggests that for many Americans, food recalls are seen as important, but not particularly relevant to themselves.

Table 2. Perceived relevance of food recalls

	%				
	Strongly Agree	Somewhat Agree	Somewhat Disagree	Strongly Disagree	Don't Know
I tell other people about food recalls I hear about.	51	30	9	9	2
I pay close attention to news reports about food recalls.	50	34	10	6	0
Food recalls have had no impact on my life.	25	25	24	25	1
It is likely that I currently have food products in my home that have been recalled.	7	10	18	63	3

Note. N = 1101.

To further assess the perceived personal relevance of food recalls, we asked about half the respondents to name the food product they buy often that they thought would *most likely* be subject to a future recall. In response, half (50%) named a meat product (especially beef and chicken), 22% named produce items, 9% named fish, dairy, and other products, and 19% said they didn't know.

We then asked the respondents to rate the likelihood that the item they mentioned would be recalled. In response, only 18% said it was "extremely likely", while 49% said it was "somewhat likely", 17% thought it "somewhat unlikely", 10% said it was "extremely unlikely", and 6% didn't know. As such, most of the respondents thought that even the food item they viewed as *most* vulnerable to being recalled was, at best, only somewhat likely to be involved in a future recall.

Consistent with the sense that food recalls are not very relevant for them, 38% of the respondents said that they thought that the food products *they* purchase are less likely to be recalled than those purchased by other Americans. This optimistic bias⁵ also extends to comparisons with others in their own state (see Table 3). In addition, 52% of the respondents said that they agreed that "It is my own behavior that determines if I get sick from eating contaminated foods." This provides additional evidence that suggests that many consumers believe that food recalls, while important, are pertinent to others, but not particularly relevant to themselves.

Table 3. Perceived likelihood of purchasing a recalled product (compared to others)

	%					
	Much Less Likely	Somewhat Less Likely	Equally as Likely	Somewhat More Likely	Much More Likely	Don't Know
Compared with [item] purchased by OTHER Americans, how likely is the [item] YOU purchase to be subject to a recall?	17	21	42	8	4	9
Compared with [item] purchased by OTHER people in your state, how likely is the [item] that YOU purchase to be subject to a recall?	13	22	44	7	5	9

Note. N = 556

Perceived frequency of food recalls

We asked participants to estimate the number of meat and poultry recalls, as well as the number of food recalls not involving meat and poultry, that occurred during 2007. While neither the USDA nor the FDA report summary statistics regarding the number of food recalls by year, counts of the recalls listed on their websites for 2007 indicate that there were at least 58⁶ and 77^{7,ii}, respectively. However, the respondent's *median* estimates were 5 for each (the means, which are more influenced by outlying responses than medians, were 38 and 26, respectively). That half of Americans thought there had been 10 or fewer food recalls overall suggests that many view food recalls as happening relatively infrequently. In addition, the same distribution of responses was observed for both meat and poultry recalls and recalls involving foods other than meat and poultry, suggesting that respondents may not make distinctions between the two.

There were 34 recalls of meat and poultry products and at least 65 recalls of foods other than meat and poultry in 2006ⁱⁱⁱ. Thus, there were more food recalls in 2007 than in 2006. However, Table 4 shows that almost half of the respondents thought that the number of recalls in 2007 was about the same as the number that had occurred in 2006, and about one-in ten thought that there had been fewer recalls. Only

ⁱⁱ The number of FDA food recalls per year is reported differently on different FDA websites. The number reported here is the lowest estimate of the number of recalls in 2007, and includes recalls of food products intended for human consumption. This does not include warnings, advisories or recalls of pet food or medical products.

ⁱⁱⁱ See footnote ii.

25% of the respondents in the split sample indicated that they thought that food recalls had increased in 2007 vs. 2006.

Responding to a separate question, 80% of the entire sample said it was true that “Food recalls have been happening more frequently,” (14% said false, and 5% said that they did not know). Taken together, these data indicate that there is a general sense that there has been an increase in the frequency of food recalls, but that increase may be perceived as something that has been taking place over a time frame longer than a single year.

Table 4. Perceptions of the frequency of recalls.

	Meat and poultry	Foods other than meat and poultry
More	25%	25%
Fewer	10%	12%
About the same	45%	47%
Don't know	20%	16%

Note. n = 545; Split Sample A. Question wording: “Would you say that is more, fewer, or about the same number of {meat and poultry/foods other than meat and poultry} recalls as occurred in 2006?”

Personal experience with foodborne illness

Most Americans tend to underestimate their overall experiences with foodborne illnesses. The US Centers for Disease Control and Prevention (CDC) estimates that 76 million illnesses, 325,000 hospitalizations and 5,000 deaths occur annually in the United States due to accidental contamination by foodborne pathogens⁸. While this suggests that nearly every American has experienced symptoms of a foodborne infection, only 18% of the respondents reported that they had ever been personally made sick as the result of eating contaminated food. Of those, about one-third (37%) reported that a doctor had confirmed the diagnosis (7% of the total sample).

When asked if the food that had made them ill had been part of a recall, only 5% thought that it had, while 79% said that it had not, and 16% said they didn’t know. In sum, therefore, out of 1,101 respondents, only 9 (<1%) thought they had been made ill by a recalled food product, and of these, only 4 had been diagnosed by a doctor.

In contrast, 11% of the respondents reported that they “know someone who has been made sick from *recalled* food.” Thus, while most Americans don’t believe that *they* have ever been made ill by a recalled food product, more than one-in-ten appears convinced that they know someone else who has been affected.

Knowledge about food recalls

We asked participants how much they had heard or read about food recalls. While 17% of respondents said “a great deal,” and 18% said “a lot,” the plurality of respondents (39%) said “some.” One-in-five respondents (21%) said “a little,” and only 4% of respondents said that they had heard or read “nothing at all.”

We asked a range of questions designed to assess the public’s knowledge both about how the recall process works and about the agencies in charge. The results suggest that many Americans hold significant misconceptions.

As shown in Table 5, more than two-thirds (67%) of the respondents believe that most recalled food has already been eaten by the time a recall occurs. However, less than half of the public is aware that there is always at least one food recall in effect at any given time. In addition, more than half of the respondents incorrectly believe that most food recalls occur as a result of routine tests. In reality, if a food company detected a problem during routine testing, it would more likely result in a withdrawal of the product before it reached consumers, thereby avoiding a recall.

Nearly three quarters mistakenly said that the Food and Drug Administration (FDA) is responsible for meat and poultry recalls. While the FDA has responsibility for the majority of food items purchased by consumers, the US Department of Agriculture (USDA) has oversight of meat and poultry products. Confusion over which federal authorities are responsible for various categories of food recalls was similarly demonstrated using an open-ended question. Those in the other half of the sample were asked if they could name the government agency responsible for recalls of fruits and vegetables. Nearly half (48%) were unable to provide any answer. Only 32% could correctly name the FDA as the responsible agency, 17% thought it was the USDA, and 3% named another agency.

Most notably, fewer than 10% know that the government can NOT force any food company to recall a contaminated product. In fact, the federal agencies responsible for food safety cannot order companies to carry out recalls of their food products. The sole exception is the FDA’s authority to require a recall of infant formula^{iv}.

Interestingly, the respondents gave incorrect answers to many of the questions, yet most appeared to have been confident in their responses. Though given the opportunity to do so, only a small percentage, (5-13%) told the interviewer that they did not know the correct answer to these True/False items.

^{iv} See <http://www.foodsafety.gov/~lrd/recall2.html>. For laws, regulations, and guidance regarding infant formula, see <http://www.cfsan.fda.gov/~DMS/inf-ind.html>

Table 5. Food recall knowledge.

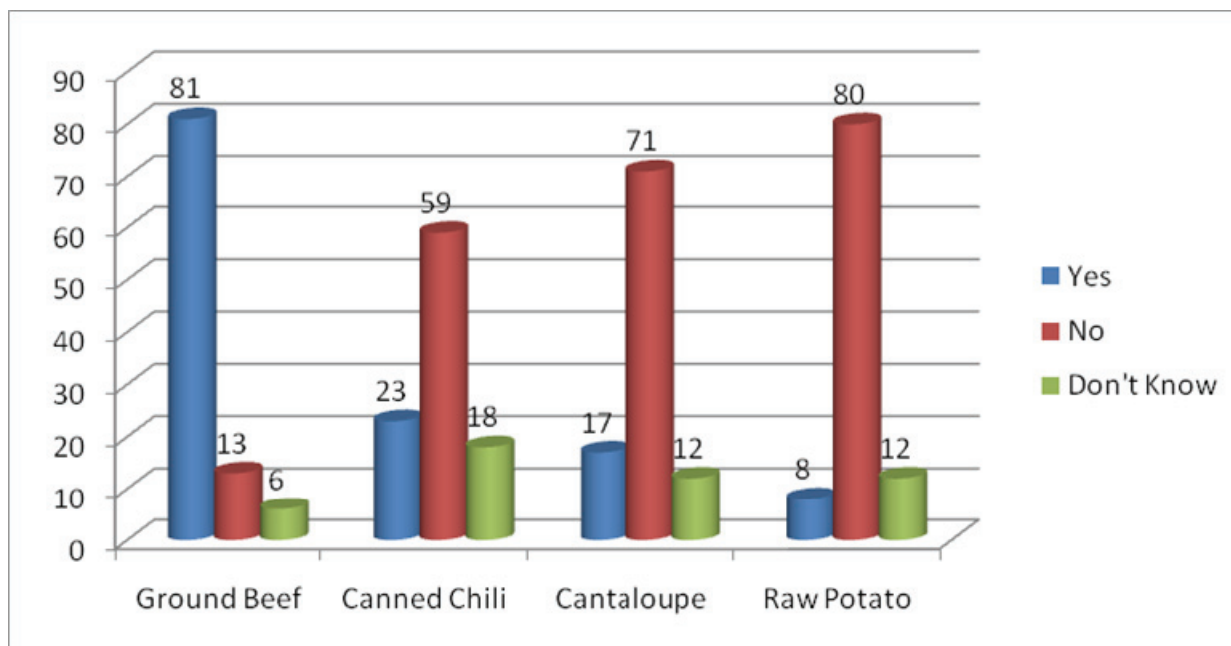
	True	% False	Don't know
By the time a food recall happens, most of the contaminated food has already been eaten*	67	28	5
There is always at least one food recall in effect at any time*	45	42	13
Most food recalls happen after routine tests conducted by food companies discover a problem	54	35	11
The Food and Drug Administration is responsible for recalls of meat and poultry (a)	73	14	13
Under U.S. law, the government can force any food company to recall a contaminated product	80	9	11

Note. N = 1101, except for (a); (a) n = 545, Split Sample A. * denotes items that are true.

Awareness and actions related to specific food recalls

To get a sense of Americans' responses to several high-profile recalls that had occurred in the months prior to the survey, we asked respondents if they had heard about three recent food recalls specifically involving: ground beef, canned chili, and cantaloupe, as well as about one item that had not been recalled - raw potatoes. Participants were asked if they had heard about each of the four foods having been recalled in the past two years (see Figure 1). The results show that many more respondents were aware of the recent recall of ground beef (81%) as compared to the canned chili (23%) or cantaloupe (17%) recalls. This is not surprising given that ground beef recalls occur with much more frequency than either canned chili or cantaloupe recalls, and that the largest ground beef recall in history occurred approximately six months prior to the survey⁹. In total, 84% of the respondents indicated that they had heard of at least one of the three recalls. However, the results also indicate that a small percentage of respondents (8%) thought that they had heard of a potato recall that, in fact, had not occurred. This could be the result of a "social desirability bias" commonly found in survey research; in this case, the respondents may have tried to avoid appearing uninformed about a food recall¹⁰.

Figure 1. Percent aware of four specific recalls



Note. N=1,101. Question wording: “Now I am going to read a list of foods. After each, tell me “yes” if you think a recall of that food happened in the last two years. Tell me “no”, if you think it has not been recalled in the last two years.”

Each respondent was randomly assigned to answer follow-up questions about *one* of the recalls about which they had heard. The respondents were asked if they had ever looked for the recalled food in their home; and if yes, whether they had found any of the recalled food in their home. Detailed results, shown by specific recalled food, are shown in Appendix 3, Figures 1 – 4. The results suggest that even when Americans are aware of a specific recall, the majority typically do not look for the recalled food in their homes. Moreover, the data suggests that few Americans found any of the ground beef, canned chili, or cantaloupes in their homes that had been the subject of the recent recalls.

Actions related to food recalls in general

To better understand how involved Americans have been with recalls overall, we asked the respondents who reported that they had not looked for recalled ground beef, canned chili, cantaloupe (or raw potato) products in their homes a series of questions about recall-related behaviors in general. We then combined their responses with the results of the questions about the four specific recalls (see Table 6). Overall, we found that only 59% of Americans report having *ever* looked for recalled food in their homes; and far fewer (10%) say they have ever found a recalled food.

Table 6. Actions taken with recalled foods in the home

	%	
	Yes	No
Have you ever looked for any recalled product in your home?	59	41
Did you ever find a recalled food in your home?	10	90

Note. N= 1101. Don't know responses are included in the "No" category.

Information used to identify recalled foods

Only 13% of the respondents who said they had looked for recalled ground beef, cantaloupes, canned chili, or potatoes reported that they used specific information to determine whether the food they found was part of a recall. Each of these respondents said that they used lot or batch numbers. In addition, four percent mentioned contacting the company and one percent reported using date information on the product packaging to determine whether the product was part of a recall.

The respondents who had not looked for recalled ground beef, cantaloupes, canned chili or potatoes were simply asked what information they *would* use to tell if a food product was part of a recall. Respondents could provide multiple responses. The most commonly cited information (28%) was the use of lot or batch numbers. Fourteen percent said that they would use package date information, and smaller percentages said they would ask their retailer (7%) or call the company (5%) to help them determine if food they found was part of a recall. Although we did not ask about particular *sources* of information, a significant number of respondents volunteered that they would use the Internet, television, and newspapers (16%, 11% and 3%, respectively) to determine if a food in their home was part of a recall.

Actions motivated by food recalls

Regardless of whether they had found recalled foods in their homes, we asked respondents about actions motivated by food recalls. More than one quarter (28%) say that they have thrown out food and 9% report having returned a food to the store as a result of a food recall. Finally, more than one-in-ten (12% of the overall sample) report that they have knowingly eaten a recalled food.

Of the 135 respondents who reported having eaten a recalled food, the majority of (57%) reported that they did so because they didn't believe that eating the recalled food would hurt them, and 2% said that they ate the food because they knew its origin, and weren't concerned about its safety. While 13% reported eating the food before they knew it had been recalled, 10% said that they cooked or washed the food to render it safe to eat, 9% said they ate it because they didn't have anything else to eat, 5% had other reasons for eating the recalled food and 3% didn't answer the question.

Use of the internet to get information about food recalls

Our previous studies have shown that the majority of Americans say they typically first hear about food recalls and consumer alerts concerning food products on television¹¹. However, TV coverage of these events is usually limited such that consumers are likely to miss important news about food recalls if they fail to watch consistently. Indeed, one-third of the respondents (33%) agreed that “There are too many recalls for me to keep track of.”

Dissatisfaction with the inconvenience, inconsistency, and passive nature of receiving news through traditional sources such as TV and newspapers has led increasing numbers of Americans toward more active consumption of news through electronic sources. These include online news portals, specialized websites, listserves, newsgroups, and blogs¹². Thus, the Internet has taken on a critical role as a place to find news and information on demand.

Indeed, we found that nearly three quarters (74%) of the respondents have access to the internet. However, of those with access to the internet, only about one-in-five (21%) say they have ever visited a government website pertaining to food recalls (15% of Americans overall), and only 8% currently receive email alerts about food recalls (6% of Americans overall) (see Table 7). This suggests that relatively few Americans have actively searched for information about food recalls or have information about such recalls sent to them.

Table 7. Internet access and use for food recalls

	%	
	Yes	No
Do you have any access to the Internet, whether at home, at work, or someplace else?	74	26
Have you ever visited a government website for information about a food recall?	15	85
Do you currently receive email alerts regarding food recalls?	6	94

Note. N= 1,101

When asked about their interest in receiving emails and text messages from the government and supermarket or consumer groups, the respondents gave mixed responses (see Table 8). Few are interested in receiving (cell phone) text messages about food recalls, perhaps because recipients are often charged for text messages that are sent to them. In contrast, nearly four-in-ten Americans (38%) say they would be interested in signing up for email alerts from the government regarding food recalls, a service that is already available. Indeed, 6% say they already receive such Email alerts (see Table 7). In addition, more than one-quarter (26%) say they would sign up for such alerts if they came from supermarkets or consumer

organizations; a service that is becoming more common. As such, email alerts may be a useful and welcomed supplement to more traditional methods of informing the public about food recalls.

Table 8. Interest in emails and text messages about food recalls.

	% Email Text Message	
From the government	38	10
From a supermarket or consumer group	26	7

Note. n = 545; Split Sample A. “Would you be interested in signing up for [email alerts/text message alerts] from [the government/a supermarket or consumer group] that would let you know whenever food recalls have been issued?”

Interest in receiving personalized information about food recalls

Some retailers have begun to provide personalized information to their customers when a food they have purchased has been recalled. While only a small percentage of respondents expressed interest in receiving general email alerts, they were much more interested in receiving tailored information about food recalls, based on their past purchases. Indeed, nearly three quarters (73%) of the respondents said that they would want to receive personalized information about recalls on their receipt at the grocery store and more than six-in-ten said they would want to receive such information through a letter or an email (see Table 9).

Table 9. Interest in personalized information about previous purchases.

	% Yes No	
On your receipt at the grocery store?	73	26
In an email?	65	35
Through a letter in the regular, postal mail service?	64	36
In a telephone call?	38	61
In a text message?	16	83

Note. N= 1,101. Question wording was, “Would you want to receive personalized information about recalls of your previous purchases...”

Both the USDA and FDA host websites with extensive, fully searchable Internet pages devoted to food recalls. In addition, the Federal government sponsors www.recalls.gov, a website covering all kinds of recalls, including those for food and other consumer products. In fact, about fifteen percent of the respondents reported having already visited a government website for information about food recalls (see Table 7).

However, advocates have suggested that in addition to information describing the products being recalled, a listing of stores that had sold the recalled products should also be included on a government website. When asked how likely they would be to visit such a website (on a scale of 0 to 100, where 0 is ‘not at all likely’ and 100 is ‘extremely likely’), the mean response was 65, suggesting a moderate likelihood. Moreover, using the same scale, the respondents rated the mean likelihood of checking their homes for a recalled product as 83 if the product was one that they purchase often and they saw that their local grocery store was on the list posted on such a government website (see Table 10).

Yet, information concerning recalls is rarely static; the nature of both outbreak and trace-back investigations are such that new information typically develops and becomes available over time. Therefore, a list of retailers known to have sold a recalled product is unlikely to be either rapidly or definitively ascertained. Critics worry that the public might treat a list of retailers on a government website as a definitive record of those involved in the recall, potentially misleading consumers into ignoring the recall if they don’t see their local retailer on the list. Moreover, they are concerned that while the list of retailers may grow as new information becomes available, consumers won’t check the website for updates. The results in Table 10 indicate that consumers say they would indeed be less likely to check their homes for a recalled product if their local retailer was not included on such a list (mean of 65) than if they saw their retailer on the list (mean of 83). However, they report that their mean likelihood of checking the website for updates was only slightly lower (62) than the likelihood that they would visit such a website in the first place (65).

Table 10. Interest in federal websites.

	Mean
How likely would you be to visit such website?	65
If there was a recall of a food product that you purchase often and you saw that your grocery store was on the list of retailers posted on the federal recalls website, how likely is it that you would check for the product in your home?	83
If there was a recall of a food product that you purchase often and you did NOT see your grocery store on the list of retailers posted on the federal recalls website, how likely is it that you would check for the product in your home?	65
If you checked and saw that your local grocery store was NOT on the list, how likely would you be to go back to the federal website and check for updates?	62

Note. N = 402; Split Sample A. Question lead in was, “Imagine that the federal government created a website that had a list of recalls AND a listing of stores that had sold the recalled products. Using a scale of 0 to 100, where 0 is ‘not at all likely’ and 100 is ‘extremely likely’...”

News coverage of recalls

Respondents had mixed opinions of the media coverage of food recalls. Sixty percent said that they agreed with the statement (27% “strongly” and 33% “somewhat”), “The media provide all the information consumers need when there is a food recall.” However, 21% “somewhat” disagreed and 16% “strongly” disagreed.

To get a sense of what information the public would like to receive from the media, we asked participants to consider a series of topics that could be covered in a media story regarding a food recall. When asked to rate the importance of their inclusion in news coverage, the respondents rated almost all of the possible topics that could be covered as “very important” (See Table 11).

Table 11. Perceived importance of information in news stories.

	Mean	Std. Deviation
The illnesses and symptoms caused by eating the recalled product	92.38	19.00
Whether anyone has become ill from eating the product	90.95	19.16
The date on the package	90.79	22.03
The brands affected	90.76	22.67
The lot number on the package	89.53	23.83
What people should do with the product if they find it	88.14	25.06
What is being done to fix the problem that led to the recall	87.87	23.62
The name of the specific contaminant	87.38	24.56
Whether anything can be done to make the product safe to eat, such as cooking	84.34	28.07
How the contamination happened	82.38	26.84
A picture of the product	77.63	33.05
The amount of food that was recalled	74.77	31.29
The container size of the recalled product	73.36	34.48
The financial consequences for the companies involved	56.43	37.41

Note. N = 1101. Question wording was, “How important do you think it is for news stories to include information about...” The response scale was “a number between 0 and 100, where 0 is not at all important and 100 is extremely important.” The order of these items was randomized across respondents.

The “illnesses and symptoms caused by eating the recalled product” was given the highest rating, ($M = 92$ on a scale where 0 is “not at all important” and 100 is “extremely important”), and the second highest score was given to whether anyone had become sick from eating the recalled food. This suggests that much as professional risk analysts use severity and probability as key variables in their analyses, the American public takes a similar approach when considering food recalls.

Features that would help the public identify foods that had been recalled ranged from the third most important (“the date on the package,” $M = 91$) to the second least important (“the container size of the product recalled,” $M = 73$). “A picture of the product” was not rated as one of the more important pieces of information, which is notable in light of the new FDA program to provide photos of recalled food products.

Perhaps not surprisingly, the topic that the public expressed the least interest in was the financial consequences for the companies involved ($M = 56$). These results indicate that the public is consuming this news with an eye for determining whether a story is relevant to them individually and they are less interested in details that do not relate directly to them.

Message Testing

Pre-tests of the survey instrument indicated that regardless of any specific messages they heard about a recall, respondents almost uniformly reported that they would check their homes if a food they purchased regularly was recalled. However, we know that people do not *always* check their homes when they hear about a recall. In fact, the respondents confirmed this in response to questions about the ground beef, chili, and cantaloupe recalls in the first part the survey.

To overcome this bias in responses, a paired preference modeling technique was used to create a comparative ranking of messages intended to motivate consumers to check their homes for a recalled food. In this series of questions, respondents were forced to choose between two messages presented to them, indicating which they thought would be *more* likely to motivate them to check their home for a recalled food product.

We tested a total of 14 messages. Four messages were always presented in the same two pairs, although the order of the statements was random. Thus, all respondents were asked to judge whether they would be more motivated to check their homes for a recalled food product that had been accidentally contaminated, or one that had been purposely contaminated. Similarly, respondents were asked to rate whether they would be more motivated to check their homes for a food product contaminated by *E. coli* or by *Salmonella*.

As expected, a larger percentage of respondents reported that they would be more motivated by purposeful contamination than accidental, as illustrated in Table 12. However, 38% of the respondents indicated that whether the contamination was accidental or intentional made no difference in how motivated they would be to check their homes for a recalled food product.

Table 12. Accidental vs. Intentional contamination paired preference.

"Which statement is more motivating?"	%
The food was contaminated on purpose	44%
The food was contaminated by accident	17%
No difference	38%

Note. N = 1,101

Table 13 indicates that for the majority (62%) of respondents, whether the recalled product was contaminated by *E. coli* or by *Salmonella* would make no difference in how motivated they would be to check their homes. However, for 24% of the respondents, contamination by *E. coli* would be more motivating, and for 12% knowing that the product had been contaminated by *Salmonella* would motivate them more.

Table 13. Salmonella vs. E. coli paired preferences

"Which statement is more motivating?"	%
The contaminant involved is <i>Salmonella</i>	12%
The contaminant involved is <i>E. coli</i>	24%
No difference	62%

Note. N= 1,101

Finally, 10 messages were randomly rotated into pairings for each participant. Table 14 presents the overall rankings of these messages. No statistical differences were observed related to which message was presented first in each pair.

Participants were given the option to say that they did not have a preference between the statements. This was recorded as a "no difference" rating. The percentage of respondents who said there was no difference between the statements ranged between 11% and 43%, for nearly all the comparisons. However, there were two pairings with particularly high "no difference" ratings. Nearly two-thirds (63%) of the respondents indicated that knowing that "the company involved is American" was equally as motivating as knowing that "the company involved is foreign". Similarly, half the respondents (50%) reported that knowing that "the company involved is American" was no more or less motivating compared with knowing that "the company has never had a recall before."

Table 14. Rank ordering of motivational statements.

Rank	Statement
1	A large number of people across the country have reportedly become ill from eating this food.
2	The recalled product should be thrown in the garbage.
3	One person in your town has reportedly become ill from eating this food.
4	The recalled products can be returned for a full refund.
5	Washing will not make the food safe.
6	The company involved had a recall last year.
7	Cooking can kill the contaminant.
8	The company involved is foreign.
9	The company involved has never had a recall before.
10	The company involved is American.

Note. N = 1,101. Question wording was an evaluation of which statement “would be more likely to motivate you to check your home for a recalled food?” Participants found messages near the top of the list to be more likely to motivate them to check their home.

Consistent with expectations, the ranking of the statements again suggests that consumers use available information to judge the potential probability and severity of consequences in an initial calculus to determine whether a recall is worth attending to. In addition, specific advice concerning what should be done with a recalled product also appears to be particularly valued.

Conclusions

This report presents the first level of analyses of the data from a national survey on American’s awareness, knowledge, attitudes, and responses to food recalls. Among the key findings of the study:

- Most Americans view food recalls as important and as saving lives.
- Most report paying attention to recalls and telling *others* about them.
- Many believe that recalls are relevant to others and not to themselves.
- While most Americans believe that the number of food recalls is growing, they have a poor grasp of the actual number of recalls that occurred in the year prior to the survey.
- Less than 1% of Americans believe that they have ever been made ill through consumption of a recalled food product, yet more than one-in-ten say they know someone else who has been affected.

- Misconceptions about the food recall process and the role of government in it are widespread. The majority believe that under US law, the government can force any food company to recall a contaminated product.
- Most Americans had heard of at least one ground beef recall, while very few had heard about the recall of cantaloupe or canned chili that had occurred in the months before the survey.
- Few of those aware of specific recalls looked for the recalled food products in their homes.
- Overall, only about six-in-ten Americans report having *ever* looked for recalled food in their homes; and far fewer (10%) say they have ever found a recalled food product.
- More than one quarter say they have discarded a food product after hearing about a food recall.
- More than one-in-ten Americans report having eaten a food they thought had been recalled.
- While three-quarters reported having access to the internet, relatively few Americans have actively used it to search for information about food recalls or to have information about recalls sent to them.
- Nearly three quarters of Americans say they would want to receive personalized information about recalls on their receipt at the grocery store and more than six-in-ten said they would want to receive such information through a letter or an email.
- Nearly four-in-ten Americans say they would be interested in signing up for email alerts from the government regarding food recalls, a service that is already available but used by only 6% of Americans.
- When asked about the importance of information that should be included in a news story about a food recall, the “illnesses and symptoms caused by eating the recalled product” was given the highest rating.
- Consumers appear to highly value information that allows them to judge the potential likelihood and severity of consequences related to a food recall to determine whether it is in their interests to pay attention to the recall or to take actions in response.

The issue of food safety and public responses to food recalls continues to grow in importance. As a recent New York Times article put it, “Food scares have become as common as Midwestern tornadoes. Cantaloupes, jalapeños, lettuce, spinach and tomatoes have all been subject to major recalls in recent years.”¹³ These food scares have all been featured repeatedly in the media, and recent research suggests that the public believes that food recalls are becoming more common¹⁴. A current and far-ranging recall of peanut butter and products made with peanuts provide support that this is a pressing area of research¹⁵.

As was noted in the introduction to this report, to be effective, food recalls must generate sufficient attention and motivation among consumers that they take appropriate protective actions. The results of this

national survey suggest that for many Americans, this simply hasn't happened. Most view recalls as important, just not particularly relevant to them. As a result, despite considerable awareness of recent recalls, few say they have looked for recalled products, and many appear to maintain an illusion of invulnerability.

Breaking through this illusion of invulnerability is the current challenge for public health officials and for manufacturers, distributors, and retailers of food products subject to recalls. As such, the third report in this series will focus on more in-depth analyses of the data presented here, and will provide guidance for government and industry to craft more effective food recall communications. Organized around a set of empirically-based recommendations for practitioners, supporting data and analyses will be presented along with clearly articulated advice. Taken together, these reports will help provide guidance to those interested in more effectively communicating with the public about food recalls.

Appendix 1: Sample Disposition

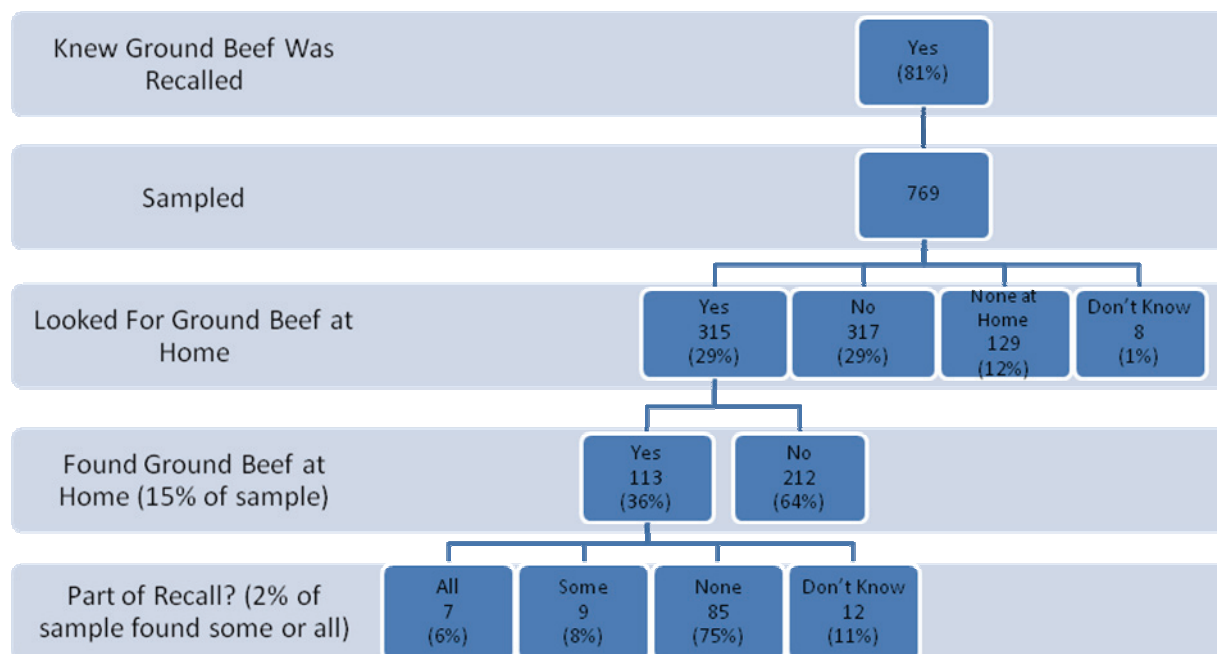
	Total	Working %	Dialed %
TOTAL NUMBERS DIALED	14613		100.0%
BAD NUMBERS (out of frame)	9363	100.0%	64.1%
Business/ Government Number/Non-Resident	1096		7.5%
Cell Phone	17		0.1%
Fax/Modem Number/Computer Tone	722		4.9%
Incomplete Call/Line Problems (Temporary)	23		0.2%
Bad/Non-Working Numbers	7505		51.4%
TOTAL GOOD NUMBERS (total sample frame)	5250	100.0%	35.9%
NO CONTACT	1127	21.5%	7.7%
Live Non-Contacts	1127	21.5%	7.7%
No Answer/Answering Machine/Busy	1127	21.5%	7.7%
# of NA/AM/BY dialed 20+ times	627		
TOTAL CONTACTS	4123	78.5%	28.2%
CONTACTS - NOT SCREENED	2521	48.0%	17.3%
Dead - Not Screened	416	7.9%	2.8%
Away for duration	52	1.0%	0.4%
Child/Teen Phone	17	0.3%	0.1%
Foreign Language	186	3.5%	1.3%
Health/Hearing Problems	161	3.1%	1.1%
Callback - Not Screened	549	10.5%	3.8%
Callbacks	549	10.5%	3.8%
# of Callbacks dialed 20+ times	339		
Refusals - Not Screened	1556	29.6%	10.6%
Refusal	780	14.9%	5.3%
Hung-up	776	14.8%	5.3%
# of Refusals dialed 20+ times	573		
CONTACTS - SCREENED	1602	30.5%	11.0%
Screen-Outs	10	0.2%	0.1%
NO ADULTS IN HH	10	0.2%	0.1%
Quota-Outs	198	3.8%	1.4%
GENDER: OVER QUOTA	198	3.8%	1.4%
Qualified (Mid-Interview Terminates)	293	5.6%	2.0%
Qualified Callback	147	2.8%	1.0%
Qualified Refusal	146	2.8%	1.0%
# of Qualified dialed 20+ times	75		
Total Completes	1101	21.0%	7.5%
Proceed with interview/Completed Interview	1101	21.0%	7.5%
Survey Incidence (Screening Incidence)	99.4%		
Cooperation Rate 1	58.6%		
Cooperation Rate 2	55.0%		
Totals Refusals	32.4%		
Response Rate 1	24.9%		
Response Rate 2	35.3%		

Appendix 2: Sample Demographics

	Unweighted %	Weighted %
Age		
18 to 24	4	13
25 to 34	10	19
35 to 44	16	21
45 to 54	26	18
55 to 64	19	12
65 to 74	15	10
75 to 84	7	6
85 or older	1	1
Don't know/Refused	1	1
Education		
Some high school or less	9	19
High school graduate	25	28
Some college	26	27
4 year college degree	21	14
Some graduate school or more	18	11
Ethnicity		
White, non-Hispanic	78	71
Black, non-Hispanic	10	11
Other, non-Hispanic	4	6
Hispanic	6	11
Refused/don't know	2	2
Gender		
Female	54	52
Male	46	48
Income		
Under \$50,000	39	43
\$50,000 to \$100,000	36	34
Over \$100,000	16	13
Refused/Don't know	9	9
Marital Status		
Married	62	57
Not married	37	41
Refused/Don't know	1	2

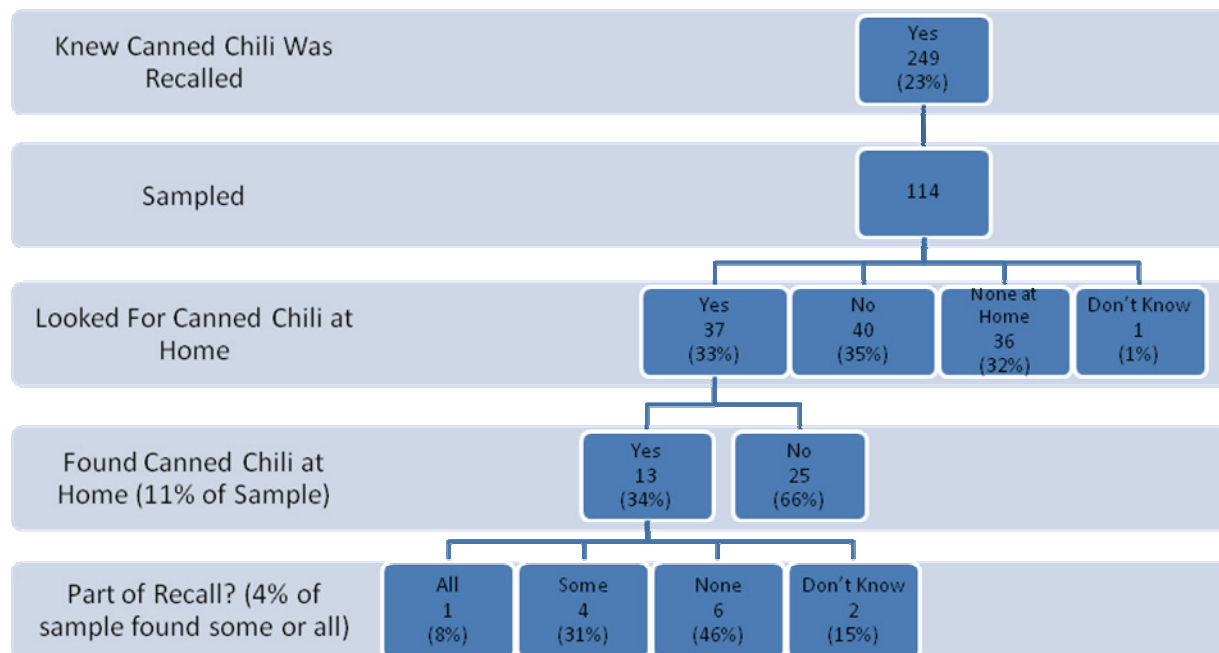
Appendix 3: Specific Food Recall Question Series

Figure 1. Awareness and Behaviors: Ground Beef



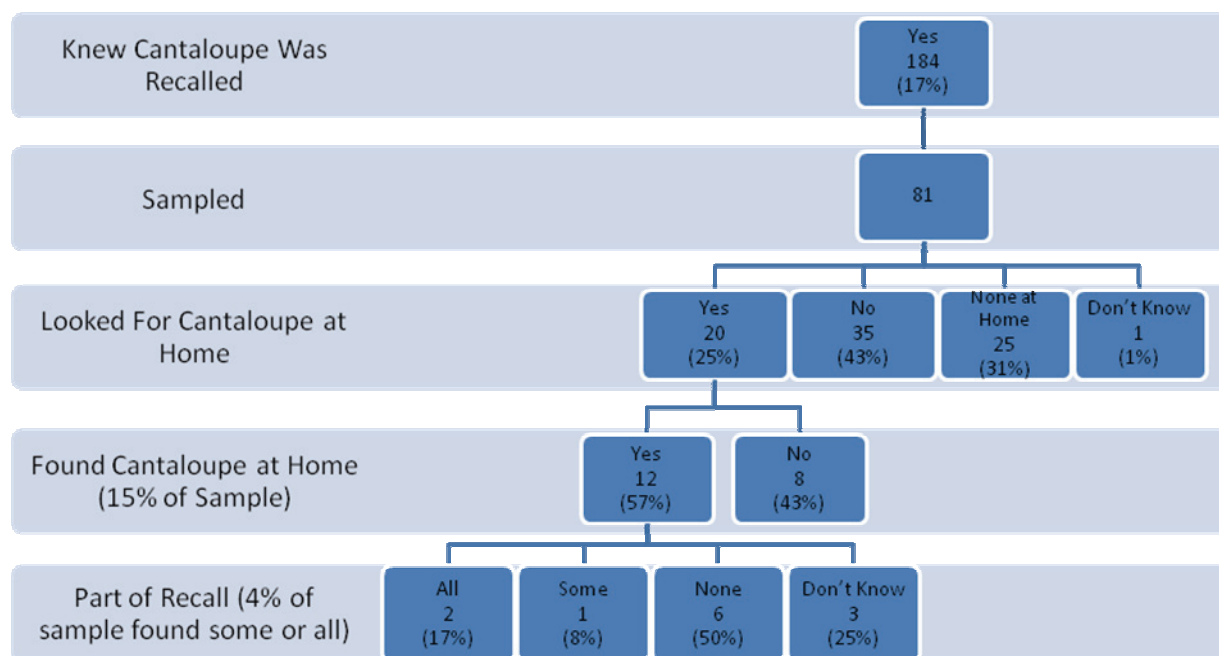
Note: Unweighted Data

Figure 2. Awareness and Behaviors: Canned Chili



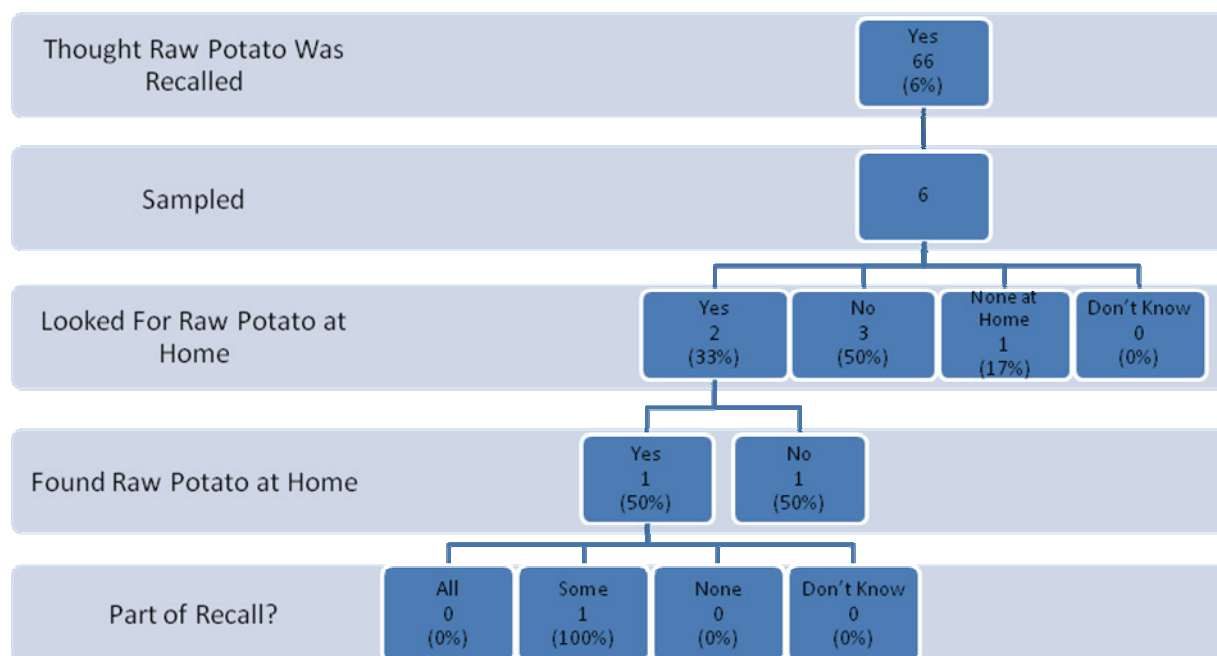
Note: Unweighted Data

Figure 3. Awareness and Behaviors: Cantaloupe



Note: Unweighted Data

Figure 4. Awareness and Behaviors: Raw Potatoes



Note: Unweighted Data

References

¹Cuite, C. L., Condry, S. C., Nucci, M. L., & Hallman, W. K. (2007). Public Response to the Contaminated Spinach Recall of 2006. (Publication number RR-0107-013). New Brunswick, New Jersey: Rutgers, the State University of New Jersey, Food Policy Institute. Retrieved March 15, 2009 from: http://fpi.rutgers.edu/docs/pubs/2007_Public%20Response%20to%20the%20Contaminated%20Spinach%20Recall%20of%202006.pdf

² Ibid.

³Produce Merchandising (March, 2007). Spinach sales recover slowly. Executive Brief. Page 56. Retrieved on April 15, 2007 from <http://www.producemerchandising.com/CurrentIssueandArchive/tabid/62/Default.aspx?pagenumber=3&Mod=387>

⁴ Cuite, C. L., Schefske, S. D., Randolph, E.M., Hooker, N. H., Nucci, M. L., & Hallman, W. K. (2008). Public Response to the *Salmonella* Saintpaul Outbreak of 2008. (Publication number RR-1208-017). New Brunswick, New Jersey: Rutgers, the State University of New Jersey, Food Policy Institute. Retrieved on March 15, 2009 from <http://www.foodpolicy.rutgers.edu/docs/news/Public%20Response%20to%20the%20Salmonella%20Saintpaul%20Outbreak%20of%202008.pdf>

⁵ Weinstein, N. D. (1980). Unrealistic optimism about future life events. *Journal of Personality and Social Psychology*, 39, 806-820.

⁶USDA Food Safety Inspection Service (2007). Recall Case Archive. Retrieved on March 15, 2009 from: http://www.fsis.usda.gov/fsis_recalls/Recall_Case_Archive_2007/index.asp

⁷US Food and Drug Administration (2007) Recalls, Market Withdrawals and Safety Alerts Archive, 2007. Retrieved on March 15, 2009 from: http://www.fda.gov/oc/po/firmrecalls/archive_2007.html

⁸ Mead, P.S., Slutsker, L., Dietz, V., McCaig, L. F., Bresee, J. S., Shapiro, C., Griffin, P. M., & Tauxe, R. V. (1999). Food-related illness and death in the United States. *Emerging Infectious Diseases*, 5 (5):607--625. Retrieved on March 17, from: <http://www.cdc.gov/ncidod/eid/vol5no5/mead.htm>.

⁹ Healey, J.R. & Schmit, J. (February 18, 2008). USDA orders largest ground beef recall: 143.4 USA today, ground beef recall 143.4 million pounds. USA Today. Retrieved February 4, 2009 from http://www.usatoday.com/money/industries/food/2008-02-17-slaughterhouse-recall_N.htm

¹⁰ Nederhof, A.J. (1985). Methods of coping with social desirability bias: A review. *European Journal of Social Psychology*, Vol. 15, 263-280.

¹¹ Ibid.

¹² Pew Research Center for the People & the Press (December 23, 2008). Internet overtakes newspapers as news outlet. Retrieved on February 4, 2009 from: <http://pewresearch.org/pubs/1066/internet-overtakes-newspapers-as-news-outlet>.

¹³ Harris, G. & Belluck, P. (January 29, 2009) New Look at Food Safety After Peanut Tainting New York Times, Retrieved January 30, 2009 from <http://www.nytimes.com/2009/01/30/health/30peanut.html?scp=5&sq=salmonella&st=cse>

¹⁴ Deloitte (June 9, 2009) "Food Recalls Spoiling Consumers' Appetites for a Range of Foods." Retrieved January 30, 2009 from http://www.deloitte.com/dtt/press_release/0,1014,cid%253D209815,00.html

¹⁵ Harris, G. (January 28, 2009) Peanut Product Recall Grows in Salmonella Scare. New York Times, Retrieved February 4, 2009 from <http://www.nytimes.com/2009/01/29/us/29peanut.html?hp>