Communicating About Contaminated Food

William K. Hallman, Ph.D.
Cara L. Cuite, Ph.D.
Mary L. Nucci, M.S.

Food Policy Institute
New Jersey Agricultural Experiment Station

Presented at the Food and Drug Administration
May 27, 2009
The Food Policy Institute

- The Food Policy Institute (FPI) was founded in 1999 with the mission of addressing key issues in the production, marketing, distribution, sales, consumption, and regulation of food and other agricultural products.
- As an academic research institute, our role is to provide unbiased information and education that is timely, relevant, and responsive to the needs of government, industry, and the consumer.
Our Model

1. Focus on issues affecting the interdependent processes of food production, distribution, sales, consumption and regulation
2. Identify emerging issues well in advance of their becoming intractable problems
3. Identify relevant expertise within and outside Rutgers
4. Assemble multi-disciplinary teams to address those issues
5. Support those teams in conducting relevant research
6. Help to disseminate the results to key audiences
Food Biosecurity

- Funding: USDA- CSREES
  - National Integrated Food Safety Initiative

  “Food Biosecurity: Modeling the Health, Economic, Social, and Psychological Consequences of Intentional and Unintentional Food Contamination”

- How do we help consumers regain confidence in the food supply after an incident of food contamination?

  - There is virtually no academic literature dealing with how consumers respond to food recalls.
Collaboration with GMA

• GMA funded a large national telephone survey on public perceptions of food recalls.
Two Reports

Public Response to the
Salmonella SaintPaul Outbreak of 2008

Food Policy Institute

Cara L. Cubic, Ph.D.
Scott D. Schreiber, R.D.
Elizabeth M. Randolph, B.A.
Neal H. Hooker, Ph.D.
Mary L. Nuncio, M.S.
William K. Hallman, Ph.D.

January 29, 2009

Consumer Responses to Food Recalls:
2008 National Survey Report

Food Policy Institute

William E. Hallman, Ph.D.
Cara L. Cubic, Ph.D.
Neal H. Hooker, Ph.D.

April 14, 2009

Available free online:
www.foodpolicy.rutgers.edu
Today’s Presentations

• **Cara Cuite:** Public Response to the *Salmonella* Saintpaul Outbreak of 2008

• **Mary Nucci:** Did you see the news today? Media coverage of tomatoes, peppers and *Salmonella*

• **William Hallman:** Food Recalls and the American Public: Guidance for Effective Communication
Public Response to the *Salmonella* Saintpaul Outbreak of 2008

Cara L. Cuite, Ph.D.

Food Policy Institute
New Jersey Agricultural Experiment Station
Salmonella Saintpaul Outbreak

• Outbreak of *Salmonella* Saintpaul initially believed to be associated with certain types of fresh tomatoes.

• On June 3rd, 2008, FDA advised consumers in New Mexico and Texas to avoid certain types of fresh tomatoes.
  - “raw red Roma, raw red plum, raw red round tomatoes, or products containing those types of raw tomatoes”
  - BUT “continue to eat cherry tomatoes, grape tomatoes, and tomatoes sold with the vine still attached, or tomatoes grown at home.”
Tomatoes

Announced on June 3

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Tomatoes

Announced on June 3

Lifted on July 17

Peppers

Announced on July 7
Tomatoes

- Announced on June 3
- Lifted on July 17

Peppers

- Announced on July 7
- Lifted on August 28
Tomatoes

- Announced on June 3
- Lifted on July 17

**duration:** 6 weeks 2 days

Peppers

- Announced on July 7
- Lifted on August 28

**duration:** 7 weeks 3 days
Salmonella Saintpaul Outbreak, continued

- 1,400+ illnesses, 2 deaths may have been associated
**Survey Methods**

Telephone survey:
- Random Digit Dial Sample
- All 50 states represented

Data Collection:
- August 4 – September 24, 2008
- In field **1.5 weeks** after lifting of tomato warning

Sample:
- 1,101 American adults in final sample
- Cooperation rate: 55%

Data weighted using appropriate U.S. census weights for gender, age, race, ethnicity, and education
Survey designed to address following questions

- Were Americans aware of the warnings?
- Did the public understand the complex messages?
- Did Americans take the advice of FDA and avoid certain tomatoes and peppers?
- Were Americans aware that the warnings had been lifted?
Awareness Questions

“Within the past few months, authorities suspected that a contaminated food product was causing illness in people in many states across the country.

Have you heard about this?”

N=1101

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Awareness of Tomato Warning High

What was the food that caused these illnesses?

Did you hear that fresh tomatoes were suspected of causing illnesses within the past few months?

- The majority (93%) were aware of tomato warning
  - About half (52%) were able to think of tomatoes without prompting
Awareness of Pepper Warning Not as High

What was the food that caused these illnesses?

Did you hear that fresh jalapeno peppers were suspected of causing illnesses within the past few months?

- The majority (68%) were aware of the fresh jalapeno pepper warning
  - About one quarter (28%) mentioned peppers without prompting.

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Where did Americans first hear about the tomato warning?

- TV: 66%
- Other: 8%
- Restaurant: 6%
- Radio: 6%
- Internet: 5%
- Someone else: 9%
- Unsure: 2%
- Store: 2%
- Newspaper: 4%
You knew which types of tomatoes the public was warned NOT to eat. (Agree/Disagree)

Note. Asked of those aware of the tomato warning.
Eating tomatoes during advisory

Full Sample

Did you hear about the warning not to eat tomatoes?

- Yes: 93% (1017)
- No: 7% (85)

Did you eat tomatoes prior to the warning?

- Yes: 80% (817)
- No: 20% (200)

Did you eat tomatoes during the warning?

- Yes: 64% (525)
- No: 33% (272)
- Don’t know: 2% (20)

Where the types of tomatoes that you ate included in the warning?

- Yes: 36% (189)
- No: 55% (289)
- Don’t know: 9% (47)

Were you aware of the warning at the moment you ate them?

- Yes: 89% (169)
- No: 10% (19)
- Don’t know: 1% (1)
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- **Full Sample**
  - 100% (1101)
**Eating tomatoes during advisory**

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### Full Sample

- Total: 1001 (Full Sample)
Eating tomatoes during advisory

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Why did you eat the tomatoes that were considered not safe to eat?

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<th>Statement</th>
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<tr>
<td>I thought they wouldn't hurt me.</td>
<td>41%</td>
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<tr>
<td>I distrust the government and/or media.</td>
<td>13%</td>
</tr>
<tr>
<td>It must be safe if it is being sold.</td>
<td>13%</td>
</tr>
<tr>
<td>I made it safe (e.g., washed it, cooked it).</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>20%</td>
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</table>

Note. *n* = 124; 11% of entire sample.
All fresh tomatoes are now considered safe to eat. (Agree/Disagree)

- Strongly Agree: 45.8%
- Somewhat Agree: 31.5%
- Somewhat Disagree: 8.8%
- Strongly Disagree: 6.9%
- Don't know: 6.8%

Note. Asked of respondents aware of the initial warning.
Have you eaten tomatoes since the warning was lifted?

Yes 74% (602)
No 23% (191)
Don’t know 3% (24)

Note. Asked of respondents aware of warning and who ate tomatoes prior to the warning.
Conclusions

• The public was significantly more aware of the warning against eating tomatoes than the pepper warning.

• However, people were not clear on the specifics of the messages.

• A small but significant portion knowingly ate tomatoes they were warned not to eat.

• The majority of respondents had gone back to eating tomatoes by the time of the survey.
Conclusions

Approximately half of Americans who were aware of the warning did not know that tomatoes were considered safe to eat again.
Recommendations

- Perhaps retailers should become purveyors of “all clear” messages.
  - Media is not reaching everyone.
  - 8% of Americans first heard about this outbreak from retailers.
  - Reach consumers when they are focused on the issue.
  - Retailers may need help getting the correct information to consumers.
Did you see the news today?
Media coverage of tomatoes, peppers and *Salmonella*.

Mary L. Nucci, MS

Food Policy Institute
New Jersey Agricultural Experiment Station
Media, health and food

• The news media serve as a major source of information for the American public on issues of health.

• More than 90% of consumers report that they receive their information about food primarily through the popular press and television.

(Hoban & Kendall, 1993)
Learning about food contamination

- In 2006, almost 80% of the American public learned about the $E. coli$ contamination of spinach through television (71%) and newspapers (8%).
  (Cuite, Condry, Nucci & Hallman, 2007)

- In 2008, approximately 70% of the American public learned about the $Salmonella$ contamination of tomatoes through television (66%) and newspapers (4%).
  (Cuite et al., 2008)
Media and food safety communications

• However, analyses of food safety communications indicates that much of today’s information presented in the media about food quality and safety:
  – is irrelevant for the consumer.
  – does not include information critical for the consumer.
  – and reports on the “what” of the story but not on the “to whom” does the advice apply.

(IFIC, 2005; Nucci, Cuite & Hallman, in press; Salaun & Flores, 2001)
There is a critical need for effective communication to prevent the potential for widespread and devastating consequences of food contamination.
Research questions

• What was the extent of coverage of the *Salmonella* outbreak over the month examined in selected newspapers and broadcast network news shows?

• Was the content in the stories consistent with FDA communications, especially guidelines critical for public health?
  – Complexity of message
  – What did the press pick up?
Methodology

• We analyzed both newspaper and broadcast television morning and evening news coverage of this outbreak from June 3 to August 31, 2008:

• Transcripts of news stories and television news shows were coded for consistency with FDA directives regarding the outbreak critical for preventing the spread of the outbreak:
  - Types of tomatoes/peppers to be avoided.
  - Types of tomatoes/peppers safe to eat.
  - States with confirmed cases of disease.
  - Spread of the disease.
  - Disease symptoms.
Sources

• Newspapers
  – New York Times
  – Wall Street Journal
  – Washington Post
  – Los Angeles Times
  – USA Today

• Broadcast television news
  – ABC Good Morning, America
  – CBS Early Show
  – NBC Today
  – ABC World News Tonight
  – CBS Evening News
  – NBC Nightly News

• FDA press releases
  – June 3, 7
  – July 17, 21, 25, 30

• FDA press briefings
  – June 13, 16, 18, 19, 20
  – July 1, 9, 17, 21
Combined results

Over the three months, there were 94 stories on all television news shows combined, and 116 stories in all newspapers combined.

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<th>ABC am</th>
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Newspaper coverage over time:
June 3 - August 31, 2008

Tomato warning lifted, July 17
All clear, August 28
Television coverage over time:
June 3 – August 31, 2008

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Tomato warning lifted, July 17

All clear, August 28
Newspaper coverage of Salmonella outbreak: June 3 – August 31, 2008
Newspaper results

• Most stories (71%) had some information about the types of produce that were contaminated.

• Almost 50% of stories did not provide specific details of which type of produce to avoid or produce that was safe to eat.

• More than 95% of newspaper stories included numbers of illnesses and deaths associated with the outbreak.

• Only 3% of stories listed the names of states with cases.

• Eighty percent (80%) of stories did not give any details about disease symptoms.
Television coverage of Salmonella outbreak: June 3 – August 31, 2008
Television results

- Ninety percent (90%) of stories detailed the types of produce contaminated, but only 39% of those stories included the types of produce to be avoided.

- More than 72% of stories did not provide information on what produce was safe to eat.

- Most stories (82%) provided details on number of illnesses. Only 1 story listed the names of the states with cases.

- Ninety seven (97%) of stories did not include information about disease symptoms.
Conclusions

• As creating a risk-free food system is likely impossible, channels for the effective communication of information critical for public health must be created concurrent with changes to food inspection and protection systems.

• Our study here, and previous research, continues to point out that media coverage (both newspaper and television) of food contamination is incomplete in disseminating information from the FDA which is critical to consumer health.
  – Targeting of communications (e.g., morning television news) should be considered.
• Journalists will continue to play an important role in informing the public about outbreaks of foodborne illness and food recalls.
  – Need to examine the roles and relationships between government agencies and the news media in order to understand how best to communicate food safety information.

• Relying on traditional media sources to effectively deliver essential information is not enough.
  – Agency testing on social networking, RSS feeds etc. should be supported by agency management and should include evaluation and research on efficacy.
Food Recalls and the American Public: Guidance for Effective Communication

William K. Hallman, Ph.D.

Food Policy Institute
New Jersey Agricultural Experiment Station
Today

• 15 findings and recommendations to effectively communicate with the public about food recalls. Based on:
  - Data from GMA-funded survey
  - Data from our previous surveys funded by the USDA and CDC
  - Academic literature in psychology
**Getting it Right**

- Need to alert the public
- Motivate them to take appropriate actions
- Get them to *stop* taking those actions after the problem has been resolved
- Not cause people to be unnecessarily frightened or have them lose confidence in the food supply in the process
Getting it Wrong

- People unnecessarily get sick or die
- People unnecessarily avoid healthy nutritious foods
- Companies go bankrupt
- Consumers lose confidence in the food system
1

Americans Know Very Little About The Food System.
Why Should They?
Little Contact with Agriculture

• Fewer than 2% of Americans live on a farm.
  – Only 10% of Americans now live in rural areas
• People who live in cities say they know more about how food is grown and produced.
• Few have any sense of how the food system has changed over the last few decades.

• People don’t know what they don’t know.
Many foods have also become separated from their origins.
Food Has Become Pre-packaged and Sanitized

- The cellophane effect
Many Have Romantic Views of Agriculture

- In the U.S. Many believe that farming is a “noble,” “wholesome” and “romantic” occupation
- Many dream of moving to rural agricultural areas or “the countryside”
Others Have “Industrial” Views of Farming
**News Story Recognition**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Percentage</th>
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<tr>
<td>During the recall, no fresh spinach was considered safe to eat.</td>
<td>64%</td>
</tr>
<tr>
<td>During the recall, properly cooking fresh spinach wasn't enough to make it safe to eat.</td>
<td>43%</td>
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<tr>
<td>Since E. coli can be absorbed into the leaves of spinach, no amount of rinsing can wash the E. coli from the spinach.</td>
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<td>Because of modern farming methods, large-scale food contamination is unavoidable.</td>
<td>23%</td>
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<td>It's safer to buy produce from local farmers than national companies.</td>
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<td>All the bags that had contaminated spinach were processed on one day in one processing plant.</td>
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## News Story Recognition

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Lessons

• Communications must provide context
  – Stories about recalls often include information about food production practices

• They must consider current consumer expectations and practices
2

Americans are Germ Phobic

(especially about other people’s germs)
Americans’ Knowledge of Germs

• Important to note:
  – For most, formal education about pathogens stops at the high-school level
  – Most students no longer have any formal training in ‘home-economics’

• Much of what we know about both comes from…
  – Our Mothers.
  – Our Televisions.
Intuitive Microbiology

• Much of what people know about microbiology is rooted in popular culture
  – Studies suggest that much of what people know about bacteria and viruses come from advertisements for consumer products:
    • toothpaste
    • mouthwash
    • household cleaners
Anthropomorphizing Germs

- Nearly one-quarter agree that germs can sense when people are nearby.
- About one third agree that germs can sense which people are most vulnerable.
- More than half (60%) agree that germs move to places that make it easier for them to infect people.
Germs and Food

If I find a stranger's hair in my food, I take it out and keep eating
- Always: 2
- Frequently: 3
- Sometimes: 7
- Rarely: 8
- Never: 79
- DK: 80

If I find an insect in my food, I take it out and keep eating
- Always: 3
- Frequently: 3
- Sometimes: 8
- Rarely: 7
- Never: 79
- DK: 7

If it's picked up within a few seconds, I'll eat food that's fallen on a dry floor at home
- Always: 5
- Frequently: 6
- Sometimes: 21
- Rarely: 13
- Never: 54
- DK: 7

If I drop a fork on the floor, I wipe it off and keep using it
- Always: 7
- Frequently: 6
- Sometimes: 20
- Rarely: 9
- Never: 57
- DK: 7

I throw out food past its sell-by date because of germs
- Always: 46
- Frequently: 14
- Sometimes: 18
- Rarely: 7
- Never: 15
- DK: 15

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Lessons

• Given an alternative, most people will avoid foods they perceive have been contaminated.
• What constitutes “contaminated” varies among people.
• There is an opportunity to help the public better understand “germs”
3

The Pathogens That Lead to Recalls are Invisible
Problem of Invisibility

• We have to rely on other cues to know what is safe and what is not.
  – Often these are visual or olfactory
• Without those cues, it is easy for people to ignore or to amplify the real risks.
• We have to trust others regarding what we cannot verify for ourselves.
Are these safe to eat?
**Problem of Invisibility**

- People often have a difficult time distinguishing which products are part of recalls and which are not.
  - Only 13% of Americans who have looked for a recalled food say they used specific information to tell whether the food was recalled.
    - All used lot or batch numbers; a few used “sell by dates”.
  - Not all products carry readily interpretable information.

- Some people adopt a “better safe than sorry“ strategy.
  - 28% of Americans say they have simply thrown out food as the result of a recall.
  - Some avoid products that are similar to those that have been recalled, or made by the same company.
Lessons

• People need to be able to easily identify affected and unaffected products.

• Communications need to provide specific information including lot numbers, production dates, etc. that will help consumers clearly differentiate between the two.
4

People Know Little About Foodborne Illness
How much do you know about the symptoms?

- Most people say they know little about symptoms.
What are the symptoms of *Salmonella* infection?

75% of respondents could say what they thought the symptoms of *salmonellosis* were:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomiting</td>
<td>40%</td>
</tr>
<tr>
<td>Diarrhea*</td>
<td>35%</td>
</tr>
<tr>
<td>Nausea</td>
<td>31%</td>
</tr>
<tr>
<td>Abdominal cramps* or pain</td>
<td>26%</td>
</tr>
<tr>
<td>Fever* or sweating</td>
<td>18%</td>
</tr>
<tr>
<td>Headache</td>
<td>5%</td>
</tr>
<tr>
<td>Don't know</td>
<td>3%</td>
</tr>
<tr>
<td>Other</td>
<td>3%</td>
</tr>
<tr>
<td>Other stomach symptom</td>
<td>2%</td>
</tr>
<tr>
<td>Dehydration</td>
<td>1%</td>
</tr>
<tr>
<td>Fatigue or weakness</td>
<td>1%</td>
</tr>
<tr>
<td>Flu-like symptoms</td>
<td>1%</td>
</tr>
<tr>
<td>Chills</td>
<td>1%</td>
</tr>
<tr>
<td>Overall malaise/ feeling bad</td>
<td>1%</td>
</tr>
<tr>
<td>Dizziness/ shakiness/ fainting</td>
<td>1%</td>
</tr>
<tr>
<td>Stuffy nose</td>
<td>1%</td>
</tr>
<tr>
<td>Sneezing</td>
<td>1%</td>
</tr>
<tr>
<td>Achiness</td>
<td>1%</td>
</tr>
<tr>
<td>Joint pain</td>
<td>1%</td>
</tr>
<tr>
<td>Runny nose</td>
<td>1%</td>
</tr>
<tr>
<td>Rash</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Footnote: Stuffy nose, sneezing, aches and joint pain each accounted for 1%.*
Symptoms of *E. coli* infection

Is... a symptom of *E. coli* infection?

- **Nausea**: 88% (8), 4% (4)
- **Vomiting**: 87% (9), 4% (4)
- **Cramping**: 87% (10), 3% (3)
- **Fever**: 77% (14), 9% (9)
- ** Bloody Diarrhea**: 64% (26), 10% (10)
- **Rashes**: 22% (47), 31% (31)

*Symptoms according to the CDC; n= 1200*
"Which is more likely to motivate you to check your home for a recalled product?"

<table>
<thead>
<tr>
<th>Contaminant</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salmonella</td>
<td>12%</td>
</tr>
<tr>
<td>E. coli</td>
<td>24%</td>
</tr>
<tr>
<td>No difference</td>
<td>62%</td>
</tr>
</tbody>
</table>
Lessons

• Communications about foodborne illnesses need to educate people about symptoms.
• People make little distinction between particular contaminants – it is the fact of contamination that seems to matter.
5

Misconceptions about Recalls are Widespread.
## Food recall knowledge

<table>
<thead>
<tr>
<th>Statement</th>
<th>% True</th>
<th>% False</th>
<th>% Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Food and Drug Administration is responsible for recalls of meat and poultry</td>
<td>73</td>
<td>14</td>
<td>13</td>
</tr>
<tr>
<td>Under U.S. law, the government can force any food company to recall a contaminated product</td>
<td>80</td>
<td>9</td>
<td>11</td>
</tr>
</tbody>
</table>

*Note. N = 545. * denotes items that are true. Response scale was true, likely true, likely false, false or don’t know.*
**Perceived Frequency of Food Recalls**

- If you had to guess, about how many recalls of ______ would you say occurred in 2007 in the United States?

<table>
<thead>
<tr>
<th></th>
<th>Median Response</th>
<th>Mean Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meat and poultry</td>
<td>5</td>
<td>38</td>
</tr>
<tr>
<td>Foods other than meat and poultry</td>
<td>5</td>
<td>26</td>
</tr>
</tbody>
</table>
Lessons

- People know little about how food recalls work
  - Language issues.
- Most people do not have a good sense of base rate of food recalls.
- Communications must anticipate and help to correct current misconceptions.
People are Paying Attention to News about High-Profile Food Recalls
Awareness of Recent Advisories/Recalls

- Spinach 2006: 87%
- Tomatoes 2008: 93%
- Peppers 2008: 68%

Food Policy Institute
Was _____ Recalled in Last Two Years?

<table>
<thead>
<tr>
<th>Item</th>
<th>% Yes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Beef 2008</td>
<td>81</td>
</tr>
<tr>
<td>Canned Chili 2007</td>
<td>23</td>
</tr>
<tr>
<td>Cantaloupe 2008</td>
<td>17</td>
</tr>
<tr>
<td>Raw Potato (never)</td>
<td>8</td>
</tr>
</tbody>
</table>
Where Do Americans First Hear about Recalls?
# Where Do Americans First Hear about Recalls?

**Spinach, 2006**

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>71%</td>
</tr>
<tr>
<td>Radio</td>
<td>9%</td>
</tr>
<tr>
<td>Other people</td>
<td>8%</td>
</tr>
<tr>
<td>Newspapers</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
</tr>
</tbody>
</table>

**Tomatoes, 2008**

<table>
<thead>
<tr>
<th>Source</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television</td>
<td>66%</td>
</tr>
<tr>
<td>Other people</td>
<td>9%</td>
</tr>
<tr>
<td>Restaurants</td>
<td>6%</td>
</tr>
<tr>
<td>Stores</td>
<td>2%</td>
</tr>
<tr>
<td>Other</td>
<td>17%</td>
</tr>
</tbody>
</table>

Food Policy Institute
Lessons

- People are learning about the system through high profile recalls.
  - It is an opportunity to educate people.
- Not every recall gets the same attention.
- Messages aimed at TV broadcasts remain important
  - Market segmentation may be possible, targeting particular audiences.
7

People Talk About and Pass On Information About Recalls
Spinach was a topic of conversation

- More than eight-in-ten (84%) say they talked about the spinach recall with others\(^1\)
  - Nearly one-third (30%) say did so occasionally or frequently
- Nearly three-quarters (73%) of all Americans say they have talked about the spinach recall\(^2\)

How often would you say you’ve talked with others about the spinach recall?

\(^1\)\(n=1045\) (155 not aware of recall); \(^2\)\(n=1200\)
More than half tried to pass on information

- More than half (59%) of those that had heard about the 2006 spinach recall (and said they had a conversation about it), told someone else about it

- On average, participants told:
  - 4.23 Friends*
    - $SD=9.03$, Range= 0-90; $Mdn=2.00$
  - 4.18 Family members
    - $SD=7.07$, Range= 0-100; $Mdn=3.00$
  - 4.13 Neighbors or Co-workers
    - $SD=8.95$, Range= 0-100; $Mdn=2.00$
  - 1.70 Other people
    - $SD=7.31$, Range= 0-80; $Mdn=0.00$

* Not including neighbors or co-workers

$n=876$ (155 from not aware of recall and 166 +3 never or DK had a conversation about the recall)
Lessons

- High profile recalls become part of the national conversation and take on cultural importance.

- People try to interpret what each recall “means”.
  - Letters to the editor, media stories often speculate about such meaning.
  - Public confidence often drops

- Communications need to help people find that interpretation.
8

People Don’t Always Get the Details Right
What kinds of spinach were recalled?

Bagged Fresh Spinach

Loose Fresh Spinach

Conventionally Grown Spinach

Organically Grown Spinach

Frozen Spinach

Canned Spinach

*Actually recalled; n = 1029 (155 from not aware of recall and 17 not aware @ Q5)
You knew which types of tomatoes the public was warned NOT to eat.
Lessons

- Messages must be specific and should repeat what is and is not safe to eat.
- People pass on misinformation.
People Appear to Conduct a Personal Risk Assessment
“How important do you think it is for news stories to include information about...”

<table>
<thead>
<tr>
<th>Topic</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>The illnesses and symptoms caused by eating the recalled product</td>
<td>92</td>
</tr>
<tr>
<td>Whether anyone has become ill from eating the product</td>
<td>91</td>
</tr>
<tr>
<td>The date on the package</td>
<td>91</td>
</tr>
<tr>
<td>The brands affected</td>
<td>91</td>
</tr>
<tr>
<td>The lot number on the package</td>
<td>90</td>
</tr>
<tr>
<td>What people should do with the product if they find it</td>
<td>88</td>
</tr>
<tr>
<td>What is being done to fix the problem that led to the recall</td>
<td>88</td>
</tr>
<tr>
<td>The name of the specific contaminant</td>
<td>87</td>
</tr>
<tr>
<td>Whether anything can be done to make the product safe to eat, such as cooking it</td>
<td>84</td>
</tr>
<tr>
<td>How the contamination happened</td>
<td>82</td>
</tr>
</tbody>
</table>

Scale 0 = not at all important; 100 = extremely important
What would you most want to know when first hearing about a food recall?

<table>
<thead>
<tr>
<th>Details</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identifying information</td>
<td>36.6</td>
</tr>
<tr>
<td>Where the product is from</td>
<td>21.1</td>
</tr>
<tr>
<td>Where the product is sold/if person bought some</td>
<td>16.7</td>
</tr>
<tr>
<td>Illnesses and symptoms</td>
<td>9.5</td>
</tr>
<tr>
<td>Big picture concerns/food systems</td>
<td>7.3</td>
</tr>
<tr>
<td>Name of contaminant</td>
<td>4.5</td>
</tr>
<tr>
<td>Other specific info about this recall</td>
<td>2.2</td>
</tr>
<tr>
<td>Other</td>
<td>2.1</td>
</tr>
</tbody>
</table>

*Open-ended question*
Lessons

• People try to assess whether they are personally at risk.
  – Including information about likelihood of exposure and severity of consequences

• Communications need to be provide essential information that will allow them to come to the right conclusions.
  – When appropriate, messages may need to emphasize the scope or level of risk.
People Are Predisposed to Believing that They are Not at Risk
What food do you buy often that you think is most likely to be subject to a future recall?

Percent

- Meat: 50%
- Produce: 22%
- Fish, Dairy, Other: 9%
- Don't Know: 19%

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How likely is that food to be subject to a future recall?
How likely is it that food you purchase will be recalled compared to:

- Other Americans
- Others in Your State

- Much More
- Somewhat More
- Equally Likely
- Somewhat Less
- Much Less

38% vs. 35%
It is likely that I currently have food products in my home that have been recalled.
Lessons

- People believe that while food recalls are important, they don’t necessarily apply to them.
- This kind of “unrealistic optimism” has been observed in connection with many other kinds of health behaviors.

The Default Position for Most Consumers is Apathy
### Have you ever looked for any recalled product in your home?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>59</td>
<td>41</td>
</tr>
</tbody>
</table>

### Did you ever find a recalled food in your home?

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>10</td>
<td>90</td>
</tr>
</tbody>
</table>
## Internet Access

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you have any access to the internet, whether it be at home, work or someplace else?</td>
<td>74%</td>
<td>26%</td>
</tr>
<tr>
<td>Have you ever visited a government website for information about food recalls?</td>
<td>21%</td>
<td>78%</td>
</tr>
<tr>
<td>Do you currently receive email alerts regarding food recalls?</td>
<td>8%</td>
<td>91%</td>
</tr>
</tbody>
</table>
Food recalls have had no impact on my life.
Lessons

• Because people don’t think recalls apply to them, they don’t take action.
Consumers Want Personalized Messages
Preferences for Personalized Information

Would you want to receive personalized information about recalls of your previous food purchases...

- On your receipt at the grocery store: 73%
- In an email: 65%
- Through a letter: 64%
- In a telephone call: 38%
- In a text message: 16%
Preferences for Personalized Information

Some grocery stores provide personalized services that alert consumers if a food product that they had already purchased had been recalled.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you want your grocery store to offer this service?</td>
<td>80%</td>
<td>19%</td>
<td>1%</td>
</tr>
<tr>
<td>Would you be willing to pay for this service?</td>
<td>25%</td>
<td>67%</td>
<td>8%</td>
</tr>
</tbody>
</table>
Willingness to pay

Some grocery stores provide personalized services that alert consumers if a food product that they had already purchased had been recalled.

<table>
<thead>
<tr>
<th>What is the most you would be willing to pay per year for this service?</th>
<th>Median</th>
<th>Don’t Know</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20.00</td>
<td>31%</td>
<td></td>
</tr>
</tbody>
</table>
Lessons

• Personalized messages may be a good way to get people to understand that a recall applies to them.
  – Some companies are already beginning to do this.
  – Consumers seem receptive.

• There is no such thing as “the public,” we have multiple audiences that differ in terms of knowledge, experience and attitudes.
  – Market segmentation and tailored recall messages are likely to enhance our ability to more effectively motivate consumers to respond appropriately.
Calls to Action Must be Specific
Which statements would most motivate you to check your home for recalled food?

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

• After judging that they are at risk, consumers want to know how to reduce it.
  – Throw the product out?
  – Wash it?
  – Cook it?
Some People Just Won’t Follow Advice
### Eating tomatoes during advisory

#### Full Sample

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Don't know</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you hear about the warning not to eat tomatoes?</td>
<td>93%</td>
<td>7%</td>
<td>0%</td>
</tr>
<tr>
<td>Did you eat tomatoes [prior to the warning]?</td>
<td>80%</td>
<td>20%</td>
<td>0%</td>
</tr>
<tr>
<td>Did you eat tomatoes during the warning?</td>
<td>64%</td>
<td>33%</td>
<td>2%</td>
</tr>
<tr>
<td>Were the types of tomatoes that you ate included in the warning?</td>
<td>36%</td>
<td>55%</td>
<td>9%</td>
</tr>
<tr>
<td>Were you aware of the warning at the moment you ate them?</td>
<td>89%</td>
<td>10%</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Numbers in parentheses represent sample sizes.**
Why did you eat the tomatoes that were considered not safe to eat?

<table>
<thead>
<tr>
<th>Statement</th>
<th>% citing</th>
</tr>
</thead>
<tbody>
<tr>
<td>I thought they wouldn't hurt me</td>
<td>41%</td>
</tr>
<tr>
<td>I distrust the government and/or media</td>
<td>13%</td>
</tr>
<tr>
<td>It must be safe if it is being sold</td>
<td>13%</td>
</tr>
<tr>
<td>I made it safe (e.g., washed it, cooked it)</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>20%</td>
</tr>
</tbody>
</table>

Note. $n = 124$; 11% of entire sample.
Consumption of spinach during the recall

All Americans 100%

Have heard of recall 87%
- Eat spinach 44%
- Do not eat spinach 42%

Have not heard of recall 13%
- Eat Spinach 4%
- Do not eat spinach 10%

Before the Recall
- Ate Fresh Spinach 13%
- Did not eat Spinach 87%

During the Recall

n = 522 (spinach eaters and aware of recall)
Consumption of spinach during the recall

All Americans 100%

Have heard of recall 87%

Eat spinach 44%

Did not eat spinach 42%

Have not heard of recall 13%

Eat Spinach 4%

Do not eat spinach 10%

Before the Recall

Ate Fresh Spinach 13%

Knew about recall when they ate it 74%

Did not know 26%

During the Recall

n=522 (spinach eaters and aware of recall)
Lessons

• Some people will knowingly eat recalled foods.
  – 12% of Americans say they have eaten a food they thought had been recalled.

• Doing so, without apparent consequence is likely to weaken confidence in future warnings.
All-Clear Messages Are Not Getting Through
Is it safe yet?

• 1.5 weeks after the lifting of 2008 tomato advisory
  – only 46% of those aware of the advisory strongly agreed that authorities considered it ok to eat tomatoes again.

• 6 weeks after the end of the 2006 spinach recall,
  – only 55% who had heard about it thought it ‘definitely true’ that authorities said that spinach available in supermarkets was safe to eat.
Lessons

• Unlike many other health-related messages about food, recalls are generally limited in scope, and in time.
  – “How long should I wait before eating the product again?”

• People need to be reassured that the problem that led to the recall has been fixed, and that it is safe to eat the product again.
  – Both the industry and government need to work on messages that reinforce this.
Conclusions

- Improvements in foodborne illness outbreak surveillance and advancements in our technical abilities to identify outbreak strains of pathogens is likely to lead to more warnings, advisories, market withdrawals and recalls.
- Getting the communications right is more essential than ever.
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• The opinions expressed are those of the authors and do not necessarily reflect official positions or policies of GMA, USDA, the New Jersey Agricultural Experiment Station, or of the Food Policy Institute, Rutgers, the State University of New Jersey.
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