



Food Recalls: What Does it Mean for your Clients?

William K. Hallman, Ph.D.
Director
Food Policy Institute

August 22, 2012, 1:30 p.m. - 3:00 p.m.
2012 MOWAA Annual Conference
Gaylord National Harbor Hotel

RUTGERS

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.

RUTGERS
New Jersey Agricultural
Experiment Station

 Food Policy Institute

Focus on Food Contamination

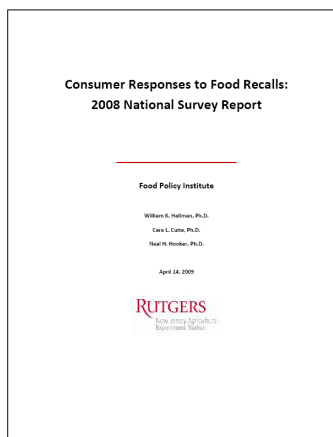
- **Funding: USDA- CSREES (now NIFA)**
 - National Integrated Food Safety Initiative
- **Food Recalls are an important tool in responding to contamination incidents.**
 - There is virtually no academic literature dealing with how consumers respond to food recalls.



Food Policy Institute

Collaboration with GMA

- The Grocery Manufacturers Association GMA funded a large national telephone survey on public perceptions of food recalls.



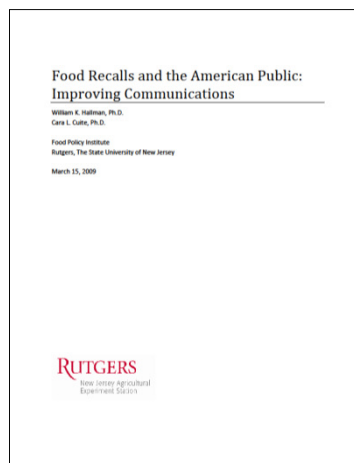
Available free online:
www.foodpolicy.rutgers.edu



Food Policy Institute

Collaboration with GMA

- Recommendations for improving communications about food recalls



Available free online:
www.foodpolicy.rutgers.edu

Collaboration with NCFPD

- National Center for Food Protection and Defense
 - A Homeland Security Center of Excellence
- Testing ways to improve communications about food contamination.
- Study of consumer responses to the recall of cantaloupes in 2011.



Working with MOWAA

- To improve food safety and emergency preparedness among recipients of home delivered meals.
 - A sample of 1,000 homebound elderly clients from five Meals on Wheels agencies around the country.
- Funding: USDA National Institute of Food and Agriculture National Integrated Food Safety Initiative



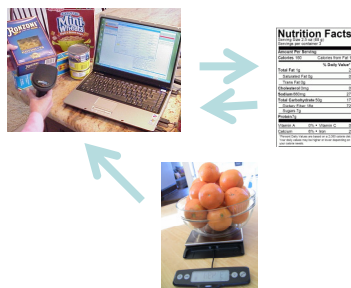
United States Department of Agriculture
National Institute of Food and Agriculture



Food Policy Institute

Working with MOWAA

- Methods include:
 - the use of a novel UPC scanning technology that quickly and comprehensively catalogues all of the food in the clients' homes
 - a home food safety audit,
 - and a face-to-face interview.



Food Policy Institute

In Progress

- Data Collected in nearly 500 homes in 5 states.
 - Greenville County (SC) MOW
 - Union County (NJ) MOW
 - CareLink (AR) MOW
 - Heritage Agency (IA) MOW
 - St. Vincent's (CA) MOW



The Realities of Food Contamination and Food Recalls

Globalization of the Food Supply

- Increasing globalization of both supply and demand for agricultural products
- Consolidation of processing, distribution, and retail
- Implications:
 - Increasing competition to supply commodities at lowest prices
 - Increasing competition to provide year-round supplies
 - Increasing complexity in supply chains
 - Potentially increased anonymity in the system
 - Differing standards for quality and safety among cultures, countries, and regions



Food Recall Basics

- Food recalls are overseen by two federal agencies:
 - U.S. Department of Agriculture (USDA) oversees meat, poultry, and pasteurized egg products.
 - Food & Drug Administration (FDA) oversees everything else.
- Almost all recalls are voluntary, the agencies usually cannot compel a company to issue a recall.
- Very few food recalls make the news.
 - Many recalls involve allergens, mislabeling of products
 - Fewer involve contamination by pathogens
- Food has often been consumed by the time recall issued.
- Sometimes stores will provide information to consumers about recalls.

To Get Information About Food Recalls

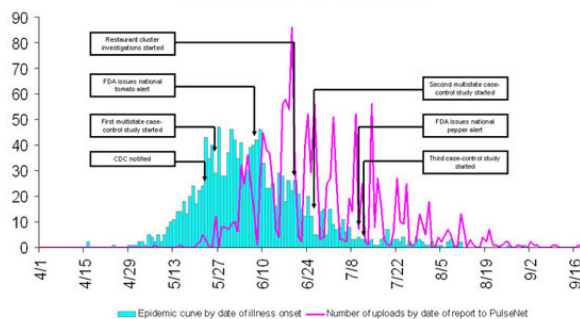
- [Foodsafety.gov](http://foodsafety.gov)
 - **Get Automatic Alerts**
 - Get Recalls and Alerts by Email
 - Get Recalls and Alerts on Your Mobile Phone
 - Get the Recalls RSS Feed
 - Get Food Safety Widget
- Recalls.gov
 - Has a listing of all recalls, including food
 - Can do email alerts and locally targeted tweets
- FSIS.usda.gov
- FDA.gov

System is improving: Surveillance Systems

- Increasing ability to identify foodborne illness outbreaks through epidemiological surveillance systems.



Timeline of events



RUTGERS

System is improving: Analytical Abilities

- Increasing ability to identify the “DNA Fingerprint” of particular strains of pathogens in an outbreak.



Food Policy Institute

RUTGERS

System is improving: Measurement

- Advanced capability to measure contaminants in trace amounts.

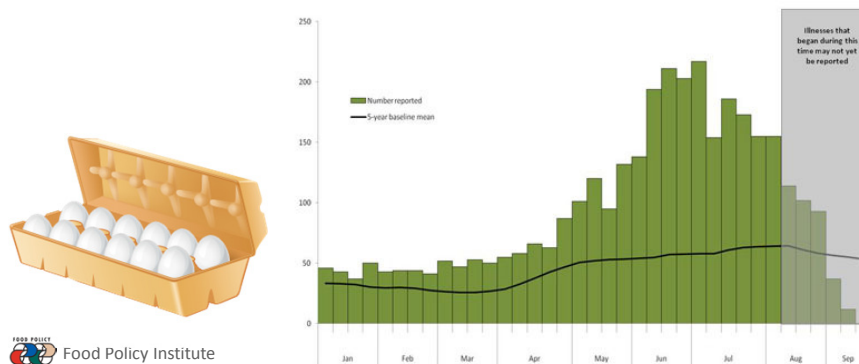


Food Policy Institute

System is Improving: Statistical Systems

- New statistical systems monitoring spikes in illness, leading to quicker identification of outbreaks.

Number of *Salmonella* Enteritidis cases matching PFGE pattern JEGX01.0004 reported to PulseNet, United States, 2010



Food Policy Institute

System is improving: Better Understanding of Vulnerable Foods

- 12 of 20 recent major outbreaks identified by the CDC's PulseNet system **involved previously unknown food vehicles**



Food Policy Institute

Implications

- Increasing public and regulatory attention on the quality and safety of food
 - The likelihood of an increasing number of food recalls.



We Must Get Better at *Communicating*
About Food Recalls

Communicating About Food Recalls with Older Americans Is Particularly Important

Older Consumers in General:

- Have a greater risk of foodborne illness due to:
 - Weaker immune systems
 - A decrease in stomach acid
 - Other age-related factors including:
 - diabetes and other diseases
 - slower digestion
 - a decreased sense of taste and smell
 - decreased effectiveness of antibiotics,
 - the likelihood of malnutrition
- Particularly vulnerable to serious illness or death resulting from exposure to foodborne pathogens

RUTGERS

Older Americans Disproportionately Affected by Contamination of Cantaloupe in 2011

- Contaminated with Listeria.
- Deadliest outbreak in 90 years.
- Of those who were made ill:
 - Ages ranged from <1 to 96 years.
 - Most ill persons were over 60 years old.
 - Half were older than 77 years.
 - Fifty-eight percent of ill persons were
- Of the 30 people who died:
 - Ages ranged from 48 to 96 years,
 - Half were older than 82.5 years



 Food Policy Institute

RUTGERS

Older Consumers in General:

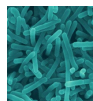
- More likely to prepare and eat meals at home.
- Many have poor food safety practices that can increase the risks of these pathogens:
 - Refrigerators / freezers that are too warm.
 - Reluctance to discard products after expired "use-by-dates."
 - Increased reliance on smell/taste to determine wholesomeness.
- Increasingly reliant on "heat-and-serve," "ready-to-eat," and other prepared convenience products.

 Food Policy Institute

Pathogens of Particular Concern to Older Individuals

- Older individuals are particularly susceptible to:
 - Listeria
 - Salmonella species
 - E. coli O157:H7
 - Vibrio species
 - Clostridium perfringens
 - Staphylococcus aureus
 - Campylobacter jejuni

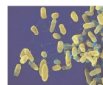
- Salmonella Enteritidis is of particular concern:
 - Eating undercooked eggs is considered the most common risky food safety behavior among those over age 65.



Listeria



E. coli



Salmonella



What we know about our sample of MOW clients...



RUTGERS

MOW Clients- Most do some food prep.

Within our sample:

- 90% report using a microwave in last week.
- 70% report using stove top in last week.

- Virtually everyone had food to prepare on their own.

 Food Policy Institute

RUTGERS

MOW Clients - Refrigerator Temperatures

- Of 451 homes examined
 - Only 7% had a thermometer in their refrigerator or freezer.

- The USDA recommends that refrigerator temperatures be at or below 40° F
 - we found that the temperature was above 40° in 24% of the homes.

 Food Policy Institute

MOW Clients – Milk and Egg Storage

- The problem with storing eggs and milk on the fridge door:
 - temperatures there are warmer and tend to fluctuate more than other areas of the refrigerator, especially when the door is opened
- 10% stored eggs on the door of the refrigerator
- 11% stored milk on the door

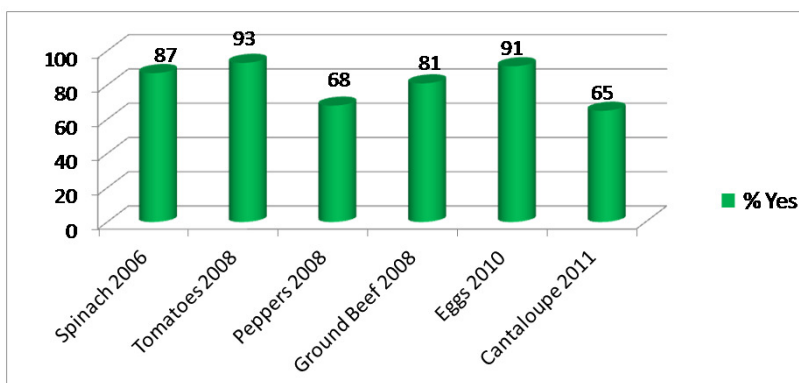


MOW Clients – Food Items

More than 13,500 food items recorded.

- Large variation in the number of *different* food items in each home.
 - Range from 0 to 98 different items.
 - Mean different food items per home = 30, $SD = 17$; Median = 28.
- Common items found (% of households):
 - Nearly all have canned goods.
 - Dairy- Milk, Cheese, Yogurt (75%)
 - Sweets - Cake, Candy, Soda (74%)
 - Bread (64%)
 - Eggs (61%)
 - Peanut butter/nuts (58%)
 - Cold cereal (56%)
 - Ice cream/frozen yogurt (36%)
 - Frozen meals (33%)

Awareness of Recent Advisories/Recalls



Cantaloupe Recall of 2011-Awareness

We conducted a national survey in December of 2011.

- Older Americans had greater awareness
 - 79% of those 60 or older knew about the recall.
 - 60% of those younger than 60 were aware.
 - 47% of those 60 or older knew that people had been made ill.
 - 42% of those younger than 60 knew this.

Cantaloupe Recall of 2011-Behaviors

- Older Americans were more likely to eat cantaloupe
 - 69% of those 60 or older said they ate cantaloupe before the recall
 - 55% of those younger than 60 said they ate it
- Older Americans were more likely to stop eating it
 - 47% of those 60 or older said they stopped eating cantaloupe
 - 43% of those younger than 60 said they stopped eating it

Our Current Efforts are Not Good Enough

- Americans think food recalls are important, but they don't take actions themselves:
 - Most Americans (84%) say they pay close attention to news reports about food recalls
 - 81% say that when they hear about a food recall, they tell others about it.
 - Yet, fewer than 60% of Americans say they have *ever* checked their home for a recalled food item

Motivating People to Take Action

- Getting people to take action requires that they:
 - Are aware of the recall
 - Believe it applies to them
 - Believe that the consequences are serious enough to warrant action
 - Can identify the affected products
 - Believe that discarding (or returning) the product is both necessary and sufficient to resolve the problem
- Bottom line:
 - **Communications must emphasize each.**

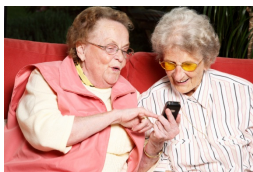
Restoring Confidence

- Once the problem that led to the recall has been properly resolved, consumers must also receive the message that the products are safe again to eat.

Improve Awareness

There is No “Average Consumer”

- No such thing as “*The Public*”
- Different audiences have different needs, motivations, and abilities to understand and act on food safety messages



Market Segmentation is Needed

- Marketers have become sophisticated in identifying and reaching specific market segments
 - They target and deliver messages that make sense to, and meet the needs of particular audiences.
- Bottom line:
 - Relying on a single message or approach is neither an effective way to *sell* products or *recall* products.



Television Remains an Important Medium

Spinach, 2006

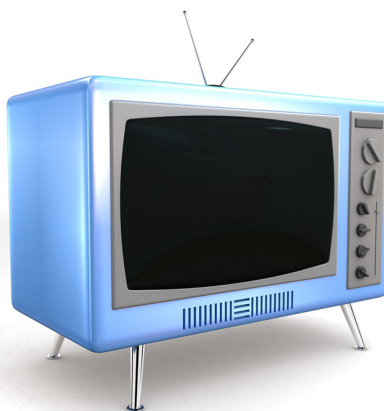
Television: 71%

Radio: 9%

Other people: 8%

Newspapers: 5%

Other: 7%



Tomatoes, 2008

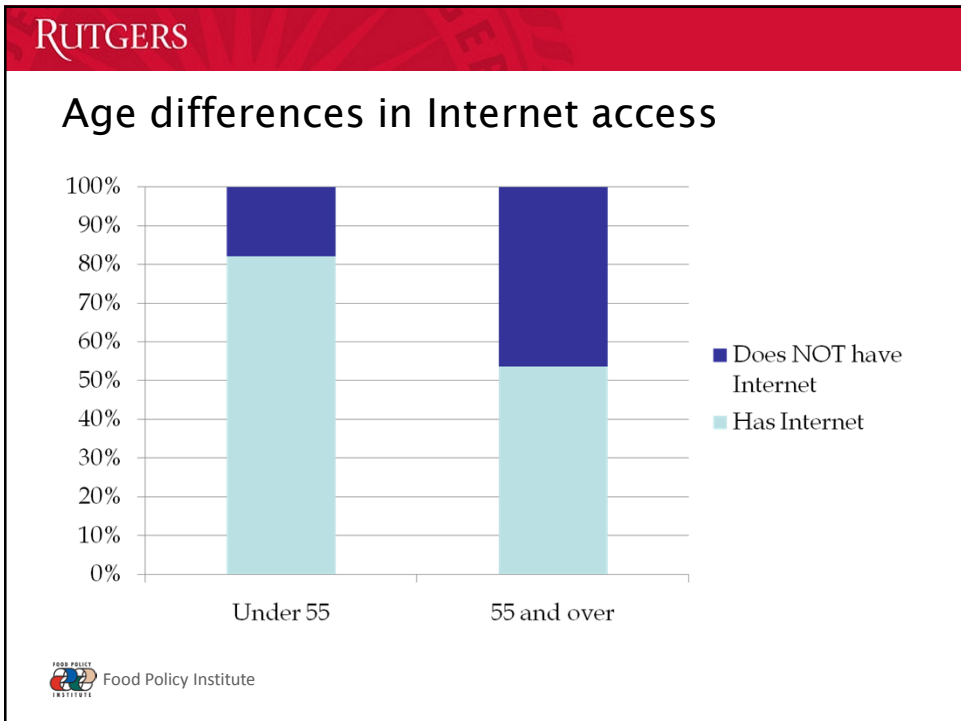
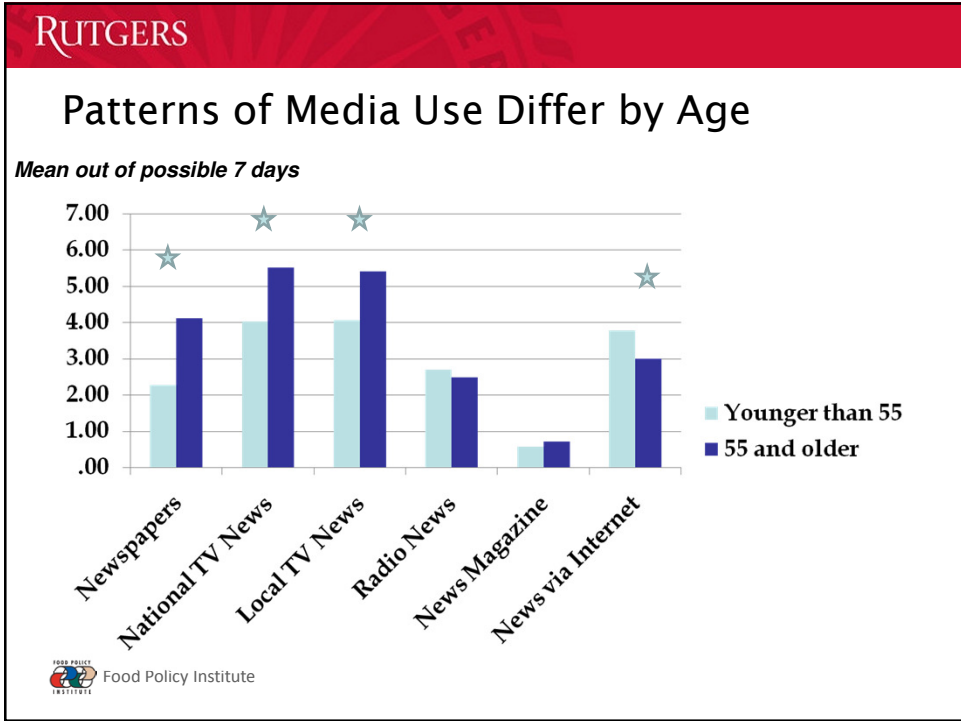
Television: 66%

Other people: 9%

Restaurants: 6%

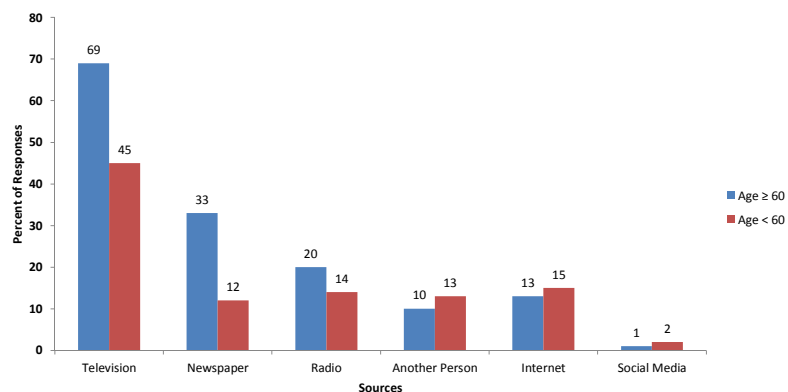
Stores: 2%

Other: 17%



2011 Listeria Cantaloupe Recall

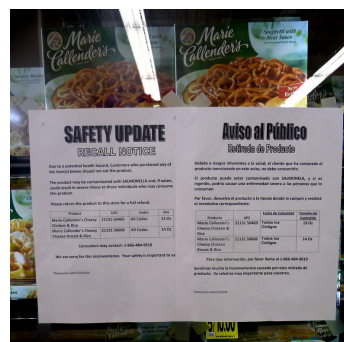
Figure 2. Where did you receive information about the Cantaloupe recall? (check all that apply.)



Food Policy Institute

Notices in English Miss Large Audiences

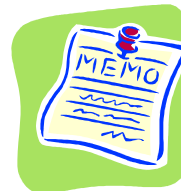
- Most consumer advisories and warnings and notices of voluntary recalls are issued in English, yet:
 - More than 175 languages are spoken in the United States
 - At least 30 others are spoken by large groups of Americans
 - Nearly 1 in 5 (18%) speaks a language other than English at home
 - Spanish is most common secondary language



Food Policy Institute

Written Notices are Inadequate

- The U. S. Department of Education estimates that
 - More than 30 million adults (14% of the adult population) have “no more than the most *simple* and *concrete* literacy skills.”
 - An additional 63 million adults (29% of the adult population) can perform only simple, everyday literacy activities.
- Bottom Line:
 - Written warnings, information about products, and instructions about what to do with them are incomprehensible to many.



Improve Perceived Relevance

Important but not Relevant to Me

- Most Americans (92%) agree that food recalls save lives.
- 78% believe that most recalls are serious enough to warrant public attention.

Important but not Relevant to Me

- Most Americans (92%) agree that food recalls save lives.
- 78% believe that most recalls are serious enough to warrant public attention.

But:

- Only *half* say that food recalls have had *any* impact on their lives.
- Relatively few (17%) think it is likely that they have recalled foods in their homes.
- More than a third (38%) believe that *their* food is less likely to be recalled than the food of other Americans.

Why Recalls Are Not Perceived as Relevant

- Optimistic Bias
 - Most people assume that compared to other people, they are less vulnerable to a wide variety of health and other problems
- Most information communicated is about risks to people *in general*.
 - People may ignore risk information, assuming that the messages are aimed at other more vulnerable individuals.
 - However...the elderly are almost always mentioned as a high risk group.

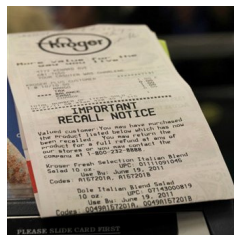
Why Recalls Are Not Perceived as Relevant

- People underestimate the number of food recalls
 - Median estimate: 10 food recalls in a year. (real number > 500)
- They underestimate the likelihood that the products *they* buy would be subject to a recall
- They often do not recognize recalled brands
 - Problem of “co-packs”
 - store brands, private labels, packer labels
- They lack personal experience
 - Only 10% say they have ever found a recalled product
 - People judge future likelihoods based on past experience



Consumers Want Personalized Information

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



	Yes	No	Don't Know
Would you want your grocery store to offer this service?	80%	19%	1%
Would you be willing to pay for this service?	25%	67%	8%

Convey Consequences

MOW Clients – Difficulty Discarding Food

- 9% had cans, jars, or packages of food that were damaged
- 37% report that they find it difficult to discard food

People Knowingly Ignore Recalls

- 12% of Americans say they have knowingly eaten a food they thought had been recalled.
 - only 9 individuals, out of 1,101 respondents (<1%), thought they had been made ill by a recalled food product;
- Doing so, without apparent consequence is likely to weaken confidence in future warnings.



People Know Little about Foodborne Illness

- They underestimate the incidence of foodborne illness
- Are unable to identify groups of people particularly at risk for foodborne illness.
- Cannot identify the symptoms
- Do not recognize foodborne illness when they personally experience it.
 - CDC estimates that each year roughly 1 in 6 Americans (or 48 million people) gets sick, 128,000 are hospitalized, and 3,000 die of foodborne diseases
 - Only 18% of the respondents in our 2008 study reported that they had *ever* been made sick as the result of eating contaminated food



Problem with Language

- *Voluntary* recall
 - If it were *serious*, the government would *make* the company recall its product
- Class I, II, III recall has no inherent meaning
 - Which is more most serious?



Living Foods Inc. Initiates a Voluntary Market Withdrawal of Alfalfa Sprouts Because of Possible Health Risk

FOR IMMEDIATE RELEASE - October 7, 2010 - *Out of an abundance of caution*, Living Foods, Inc. of Ionia, Michigan is recalling bulk and retail-size packages of Alfalfa Sprouts, because it has the potential to be contaminated with *Salmonella*, an organism which can cause serious and sometimes fatal infections in young children, frail or elderly people, and others with weakened immune systems. Healthy persons infected with *Salmonella* often experience fever, diarrhea (which may be bloody), nausea, vomiting and abdominal pain. In rare circumstances, infection with *Salmonella* can result in the organism getting into the bloodstream and producing more severe illnesses such as arterial infections (i.e., infected aneurysms), endocarditis and arthritis.

The alfalfa sprouts were distributed to retail and food service facilities through wholesale produce suppliers in Michigan.

The products subject to this market withdrawal include:

Four (4) 1-pound bags of alfalfa sprouts, packaged in unlabeled 1-pound plastic bags in a box labeled as Living Foods, Inc. ALFALFA SPROUTS, with a SELL BY DATE of 10/2/2010.

Five (5) Pound Bulk Container (bag in a box) of alfalfa sprouts labeled as, Living Foods, Inc. ALFALFA SPROUTS, with a SELL BY DATE of 10/2/2010.

4-ounce cup alfalfa sprouts labeled as Living Foods, Inc. ALFALFA SPROUTS, with a SELL BY DATE of 10/2/2010. UPC Code: 0 26684 10006 5.

4-ounce bag alfalfa sprouts labeled as Living Foods, Inc. ALFALFA SPROUTS, with a SELL BY DATE of 10/2/2010. UPC Code 0 26684 10004 1.

No illnesses have been reported to date.

A single package of Living Foods, Inc. ALFALFA SPROUTS tested positive for *Salmonella* spp. The company is working closely with the FDA and the State of Michigan to determine the cause of the problem.

Consumers who have purchased these products should discard them.

Wholesalers and retailers in possession of this product should remove the product from sale and cease distribution.

Consumers with questions may contact Living Foods, Inc. at the number listed above.



Food Policy Institute



Accentuating Identifying Information



Food Policy Institute

Problem of Invisibility

- The pathogens that lead to recalls are invisible
- We rely on other cues to know what is safe and what is not.
 - Often these are visual or olfactory
 - Spoilage bacteria (responsible for bad tastes and odors) are not a reliable indicator of Pathogenic Bacteria (responsible for foodborne illness)
 - The “sniff-test” is inadequate.
- Without those cues, it is easy for people to ignore or to amplify the real risks.



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.



MOW Clients – Vision Problems

- 38% report general vision problems
- 48% report that it is difficult for them to read labels on food products



Food Policy Institute

Egg Recall Press Release

Wright County Egg Conducts Nationwide Voluntary Recalls of **Shell Eggs** Because of Possible Health Risk

FOR IMMEDIATE RELEASE - August 13, 2010 - The following statement was released by officials of Wright County Egg regarding the US Food and Drug Administration's (FDA) on-farm records review and egg testing for Salmonella.

Wright County Egg of Galt, Iowa is voluntarily **recalling specific Julian dates of shell eggs** produced by their farms because they have the potential to be contaminated with *Salmonella*. *Salmonella* is an organism which can cause serious and sometimes fatal infections in young children, frail or elderly people, and others with weakened immune systems. Healthy persons infected with *Salmonella* often experience fever, diarrhea, nausea, vomiting and abdominal pain. In rare circumstances, infection with *Salmonella* can result in the organism getting into the bloodstream and producing more severe illnesses such as arterial infections, endocarditis or arthritis.

Eggs affected by this recall were distributed to food wholesalers, distribution centers and foodservice companies in California, Illinois, Missouri, Colorado, Nebraska, Minnesota, Wisconsin and Iowa. These companies distribute nationwide.

Eggs are packaged under the following brand names: Lucerne, Albertson, Mountain Dairy, Ralph's, Boomsma's, Sunshine, Hillandale, Traffacanda, Farm Fresh, Shoreland, Lund, Dutch Farms and Kemps. Eggs are packed in varying sizes of cartons (6-egg cartons, dozen egg cartons, 18-egg cartons) with Julian dates ranging from 136 to 225 and plant numbers 1026, 1413 and 1946. Dates and codes can be found stamped on the end of the egg carton. The plant number begins with the letter P and then the number. The Julian date follows the plant number, for example: P-1946 223.

There have been confirmed *Salmonella enteritidis* illnesses relating to the shell eggs and traceback investigations are ongoing.

Wright County Egg is fully cooperating with FDA's investigation by undertaking this voluntary recall. Our primary concern is keeping *Salmonella* out of the food supply and away from consumers. As a precautionary measure, Wright County Egg also has decided to divert its existing inventory of shell eggs to a breaker, where they will be pasteurized to kill any *Salmonella* bacteria present.

Consumers who believe they may have purchased these shell eggs should not eat them but should return them to the store where they were purchased for a full refund. This recall is of shell eggs only. Other egg products produced by Wright County Eggs are not affected. Consumers with questions should visit www.eggsafety.org.

Our farm strives to provide our customers with safe, high-quality eggs – that is our responsibility and our commitment.



Food Policy Institute

Message: A Problem with Terminology



- 50% said they weren't sure what a "shell egg" is
 - 45% did correctly identify it as an egg still in its shell
- "shell egg" is a term repeatedly used by government agencies and news outlets.

Julian Dates

UPDATE: August 20, 2010: Related nationwide recall:

Eggs from Hillendale Farms may put consumers at risk for *Salmonella*.

Through tracebacks conducted as part of its ongoing investigation into the increase of *Salmonella* Enteritidis illnesses nationwide, FDA and the State of Minnesota identified Hillendale Farms in Iowa as a second potential source of contaminated shell eggs.

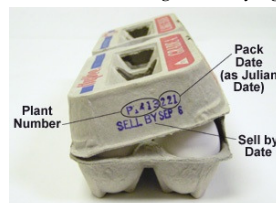
Eggs affected by this latest recall are distributed under the following brand names: Hillendale Farms, Sunny Farms, and Sunny Meadow in 6-egg cartons, dozen-egg cartons, 18-egg cartons, 30-egg package, and 5-dozen cases. Loose eggs are packaged under the following brand names: Wholesome Farms and West Creek in 15 and 30-dozen tray packs. The loose eggs may also be repackaged by customers.

Eggs involved in this related recall are only eggs with the following plant numbers:

P1860 - Julian (production) numbers ranging from 099 to 230

P1663 - Julian (production) numbers ranging from 137 to 230

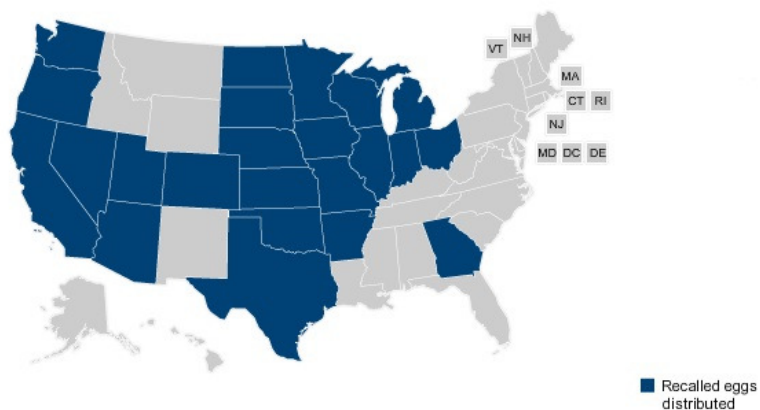
FDA continues to have on-site investigators at Hillendale Farms of Iowa, Inc. and Wright County Egg in Iowa.



Eggs Sold Under the Names:

- Albertsons
- Boomsma's
- Dutch Farms
- Farm Fresh
- Glenview
- James Farms
- Hillandale Farms
- Kemps
- Lucerne
- Lund
- Mountain Dairy
- Pacific Coast
- Ralphs
- Shoreland
- Sunny Farms
- Sunny Meadow
- Sunshine
- Trafficanda
- West Creek
- Wholesome Farms

Affected States



Sources: FDA, CNN, State Health Departments. Last updated: August 26, 2010

Recalled eggs

Eggs affected by the recall due to possible salmonella contamination were reportedly distributed to wholesalers and distribution centers in the highlighted states. Some of these companies distribute nationwide.

Problem of Invisibility

- 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 or discard products that are similar to those that have been recalled, or made by the same company
 - In doing so they may be unnecessarily avoiding or wasting healthy, nutritious foods



To Get Information About Food Recalls

- Foodsafety.gov
 - **Get Automatic Alerts**
 - Get Recalls and Alerts by Email
 - Get Recalls and Alerts on Your Mobile Phone
 - Get the Recalls RSS Feed
 - Get Food Safety Widget
- Recalls.gov
- Fsis.usda.gov
- Fda.gov

Obvious limitations given the MOW population and Internet access.

Compelling Appropriate Actions



Food Policy Institute

People Knowingly Ignore Recalls

- 11% of Americans say they knowingly ate tomatoes that were part of the *Salmonella* Saintpaul advisory



Reasons for eating "recalled" tomatoes

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



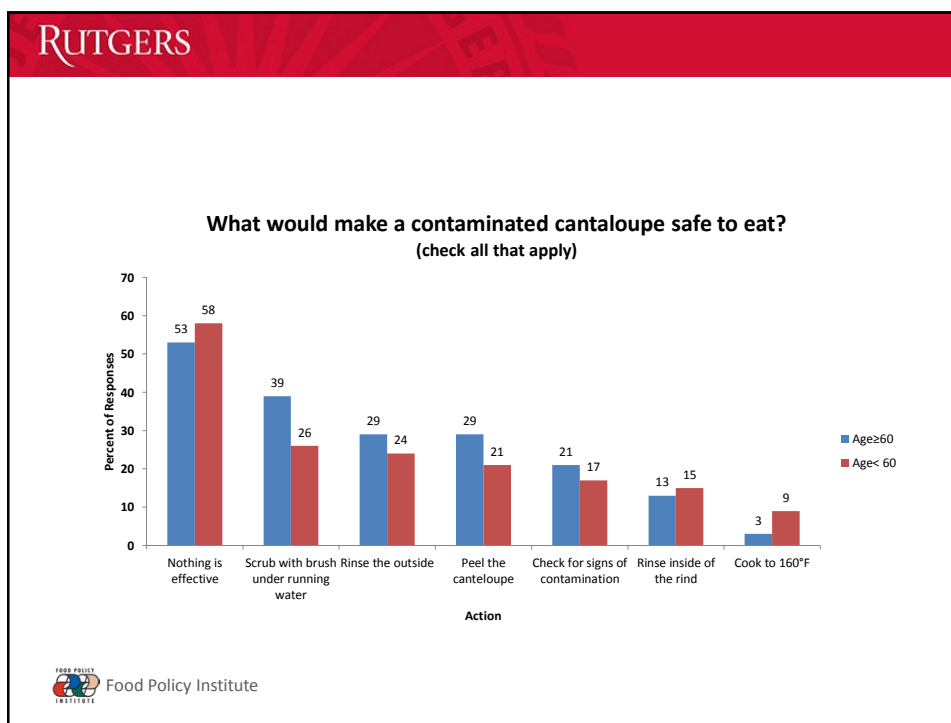
Food Policy Institute

Provide Specific Advice About What to Do

- People *want* this information
- It appears to be *motivating* to consumers
 - Comparative ranking of 10 messages intended to motivate consumers to check their homes for a recalled food.
 - Top 5:
 - 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

Coverage of “What to Do” is often lacking

- During both the spinach recall and the tomato/pepper warnings, TV and newspaper coverage focused on:
 - The number of deaths and illnesses related to the outbreaks
 - The progress of the investigation
- It *did not* focus on:
 - What products were safe to eat
 - Details concerning what was unsafe
 - Symptoms of the foodborne illness
 - Groups of people particularly at risk
 - Providing practical information to consumers about how they could avoid becoming ill themselves.
- Consumers were unlikely to read or hear “what to do”



RUTGERS

Motivating People to Take Action

- Getting people to take action requires that they:
 - Are aware of the recall
 - Believe it applies to them
 - Believe that the consequences are serious enough to warrant action
 - Can identify the affected products
 - Believe that discarding (or returning) the product is both necessary and sufficient to resolve the problem
- Bottom line:
 - **Communications must emphasize each**

Food Policy Institute

Motivating *Seniors* to Take Action:

- MOW agencies may be able to help their clients:
 - Are aware of the recall
 - Believe it applies to them
 - Believe that the consequences are serious enough to warrant action
 - Can identify the affected products
 - Believe that discarding (or returning) the product is both necessary and sufficient to resolve the problem

What can MOW agencies do?

- Stay informed about food recalls.
 - Subscribe to foodsafety.gov and recalls.gov
 - Most of you know when there is a recall of food you're serving.
 - But what about emergency meals you've distributed?
 - What about a recall of a food your client is likely to eat?
- Share what you know.
 - Include recall information in newsletters.
 - For very important recalls perhaps send a letter out with meals.
 - Remind people to check their homes.
 - Help them to understand it is relevant.
- Offer to collect (and replace?) any recalled foods.

What can MOW agencies do?

- Monitor overall food safety conditions of clients.
 - Check refrigerator for unsafe food storage practices.
 - Check to see if client has a refrigerator thermometer.
- Provide refrigerator thermometers, if possible.
- Include food safety issues in newsletters and other informational flyers.

Acknowledgements

- Thanks to collaborators Carol Byrd-Bredbenner, Cara Cuite, Neil Hooker, Angela Mersich, Rita McWilliams, Linda Netterville, Mingyue Zhang

This research was supported by grants to the Food Policy Institute, Rutgers, the State University of New Jersey, from The Grocery Manufacturers' Association and the Cooperative State Research, Education, and Extension Service of the United States Department of Agriculture (USDA) under the National Integrated Food Safety Initiative 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. USDA NIFSI grant # 2010-51110-21078; "Improving the Safety and Nutritional Adequacy of the Home Food Supply of Elderly Recipients of Home Delivered Meals," William K. Hallman, Principal Investigator. NCFPD grant P001955403; "Experimental Evidence for Best Practices in Food Crisis Communication," Cara L. Cuite, Principal Investigator.

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.

RUTGERS

For more information contact:

William K. Hallman, PhD.
Director
Food Policy Institute
New Jersey Agricultural Experiment Station
Rutgers University
ASB III, 3 Rutgers Plaza
New Brunswick, NJ 08901-8520

Phone: 848 932 4699

Email: hallman@aesop.rutgers.edu

Web: www.foodpolicy.rutgers.edu



Food Policy Institute



United States Department of Agriculture
National Institute of Food and Agriculture