

Listeria: Public Health Strategies

As a result of foodborne illness outbreaks traced to *Listeria monocytogenes* linked to lunch meats and hot dogs, the Food Safety and Inspection Service (FSIS), is working with industry and the public to reconsider approaches to controlling the pathogen.

At a public meeting convened by FSIS in February 1999, Catherine Woteki, U. S. Department of Agriculture Under Secretary for Food Safety, reinforced that "we need to look at all our options" in developing new public health strategies. (Check the FSIS web site for updates: www.fsis.usda.gov)

During the public meeting, FSIS officials emphasized the importance of reaching people at risk with safe food handling information concerning *Listeria monocytogenes*. Public health officials also stressed the importance of warning consumers not to eat food products that have been recalled.

Listeria monocytogenes is found widely in the environment and can contaminate a variety of foods. It can be found in uncooked meats and vegetables as well as cooked foods that can become contaminated after processing, such as soft cheeses and lunch meats.

When people eat food contaminated with *Listeria monocytogenes*, they can become sick with an illness called listeriosis, an uncommon but potentially fatal disease. Less than 2,000 cases of serious illness from listeriosis are reported each year. But, of those reported cases, nearly 25 percent die as a result of the illness.

While most people don't get sick from *Listeria* monocytogenes, some people are more at risk. These people are more likely to get sick from bacteria in food and suffer serious health problems as a result.

People at risk include: pregnant women and newborns, older adults, and people with immune systems that are weakened as a result of a number of causes, including chronic illnesses like diabetes, kidney disease and AIDS.

Listeriosis causes flu-like symptoms, such as fever and chills. Sometimes people have an upset stomach, but not always. It can take up to 8 weeks for a person to become sick after eating a food contaminated with *Listeria monocytogenes*.

While infected pregnant women may experience only mild, flu-like symptoms, the mother's illness can be transmitted to the fetus, causing serious illness, spontaneous abortion or stillbirth. A blood test or spinal fluid test can be used to confirm a diagnosis of illness from *Listeria monocytogenes*, and the illness can be treated with antibiotics.

People at risk for listeriosis should:

- Reheat ready-to-eat foods such as hot dogs, luncheon
 meats, cold cuts, fermented and dry sausage, and other delistyle meat and poultry products until they are steaming hot.
 If you cannot reheat these foods, don't eat them.
- Do not drink raw, unpasteurized milk or eat foods made from it.
- Do not eat soft cheeses such as feta, Brie, Camembert, or blue-veined varieties.

FSIS is working with the Centers for Disease Control and Prevention as well as state and local health departments to identify sources of contamination and prevention techniques. At the same time, the agency is teaming with the Food and Drug Administration on a risk assessment concerning the pathogen due to be completed in the fall of 1999.

For more information, check: www.foodsafety.gov

Meat and Poultry Hotline: 1-800/535-4555

Phone: 202-720-9352 FAX: 202-720-9063



Teaming Educators and Communities

Another food safety education project has shown that teaming educators with communities can produce dramatic results.

Every community has people it relies on as leaders. They may be elected leaders, religious leaders or simply every-day people others turn to for guidance. These people can be the key to successful education campaigns.

That's what happened in Yakima, Washington.

In the summer of 1997, Dr. Val Hillers, an extension food specialist at Washington State University, attended the first national conference for food safety educators in Washington, D.C., sponsored by the Food Safety and Inspection Service and the Food and Drug Administration.

During one of the presentations, Dr. Anne Peterson of Georgia spoke of outbreaks of *yersinia* in Georgia that had been traced to chitterlings.

The outbreaks were causing severe illness in children. Looking for help in stemming the outbreaks, Peterson turned to the African-American community. With their help, Peterson discovered cooks in the community who were using a safer process for fixing chitterlings. Peterson turned to the community again. She used community networks and leaders, including churches and ministers, to help educate others about the new, safer preparation method. The result? Outbreaks declined.

As Hillers listened to Peterson speak, she says, "I wondered if that approach could work for us."

Like Peterson, Hillers faced an outbreak taking its toll on children.

Between 1992 and 1997 in Yakima County, Washington, illnesses from *Salmonella* Typhimurium increased dramatically. In the first half of 1997, 89 people, primarily children, became



ill from the pathogen. Investigators for the Centers for Disease Control and Prevention (CDC) linked the illnesses to the consumption of locally made rawmilk cheese, queso fresco.

Nearly one-quarter of the county's population is made up of Mexican-Americans and queso fresco is a favorite traditional food.

No sooner had Hillers returned from the conference in Washington, D.C., than she learned that both the state health department and CDC were urging an immediate intervention to try to stem the outbreak.

Peterson's project, Hillers says, "planted the seed. This is how you are successful--you are respectful of the community you are trying to reach."

Hillers worked with Theo Thomas, an extension educator at Washington State University. Together, they assembled a working group of university students and extension agents. Then they turned to the Hispanic community looking for a solution. And they found one.

"One of the women we were meeting with told us her mother had a recipe for queso fresco made with pasteurized milk," Hillers recalls.

The recipe was modified by dairy product researchers at the university. Graduate student Ryan Bell helped transform the recipe into a full-blown educational campaign that relied on the Spanish-speaking community for its success. Abuelas, which is the Spanish

word for grandmothers, were the teachers. The Abuela Project was born.

Using funds from the Washington State Dairy Projects Commission, the Abuela Project trained 15 Hispanic grandmothers, who in turn trained others in their community.

Each abuela was provided with a demonstration kit worth about \$65 which included a thermometer, stock pot and Spanish and English flyers containing the new recipe using pasteurized milk.

The abuelas were asked to train at least 15 other people. Each grandmother did that and some did much more. In all, the grandmothers trained more than 250 people.

The results were impressive.

Rates of illness dropped dramatically. Within 6 months, the rate dropped to pre-outbreak levels. In 1998, not a single case was linked to consumption of soft cheese.

In late 1998, Thomas and Hillers obtained additional funding from USDA and trained an additional 30 grandmothers. These abuelas will be training others throughout this year. By the end of 1999, Hillers expects the program will reach seven counties in the state.

Hillers and Thomas also expect to target new training to small unlicensed vendors of fresh cheese and assist them in the licensing process.

For a copy of the recipe flyer in Spanish or English, or more information on the project, contact: Dr. Val Hillers FSHN 106 L, WSU P.O. Box 646367 Pullman, WA 99164-6376

phone: 509/335-2970



When "Short and Sweet"--Comes Up Short

One of the basic tenets of effective communications in the 1990's has been keep it "short and sweet."

But as Katherine Rowan, professor of communication at Purdue University notes, consider this statement: the earth is weightless.

"That's a short statement. There are no big words there. But the concept is hard to understand. It runs counter to our intuition," she explains.

That "intuition" is the basis of something Rowan terms "lay theories," the personal explanations people have for how the world works. Sometimes lay theories are correct, even though they may be based on intuition. But sometimes they are not.

Scientists who are trying to comm• unicate ideas that run counter to people's lay theories will find, she says, that these inaccurate ideas get in the way.

To deal with lay theories, communicators need to go beyond "short and sweet. Sometimes, more words are needed to explain complex ideas," she says.

Rowan applied her ideas about lay theories to food safety during a recent presentation to the Washington D.C. Chapter of Agricultural Communicators in Education.

As Rowan pointed out, sometimes a person's personal theories about food conflict with the science of food and food safety.

In order to communicate effectively, Rowan says, educators need to recognize the lay theories that may be blocking communications. Rowan notes several properties of lay theories:

- They are "tacit," hard to explain.
- People don't want to let go of themthey are "obdurate."
- They are intuited.
- They are a guide to behavior.

In order to overcome lay theories, Rowan advises:

- State the consumers' lay theory back to them.
- Acknowledge its apparent plausibility.
- Create dissatisfaction with it.
- Offer support for a new view.

Illustrate with familiar examples.

Rowan points out that good communicators frequently understand intuitively that they are dealing with lay theories-and seek to defuse them.

To understand the lay theories you are dealing with, Rowan suggests that educators tap their own knowledge as well as the knowledge of others. Rich sources of data, she points out, may be people who routinely field consumers' questions, like the experts on the USDA Meat and Poultry Hotline. "You can hear in the things they say to consumers that they are instinctively dealing with lay theories," she says.

For more information, contact:

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Countering a Food Safety "Lay Theory"

Excerpted from materials by Katherine E. Rowan

"I grew up with my mother cooking the turkey overnight at low temperatures and no one got sick. So why can't I do that in 1998?"

State the lay view and acknowledge its apparent plausibility:
You may be right that no one got sick. People adjust to levels of

sick. People adjust to levels of pathogens over time, so if the cook followed the same practices repeatedly, family members may have acclimated.

Create dissatisfaction with the lay view. On the other hand, sometimes we don't remember, or even know, when people get sick. Guests might become ill and the family may never know. Or, people may think they had a "bug," when in fact it was food poisoning. Dangerous pathogens in food can make people sick days--or even weeks--after eating. Sometimes people just don't make the connection.

State the scientifically supported view and illustrate with familiar examples.

When food is kept at low temperatures, known as the "danger zone," bacteria double every 20 minutes. A turkey cooked overnight at low temperatures may make food warm enough to promote the growth of bacteria, but not hot enough to stop bacterial growth, or kill the bacteria that are present. Why take the chance?



When Warnings Don't Work

Despite a flurry of media reports concerning a 1994 recall of Salmonellacontaminated ice cream, a newly published study shows that many people who had heard about the recall ate the ice cream anyway.

In fact, 16 percent of all the reported illnesses in the study area occurred after the warnings were issued.

According to the study's authors writing in the January 1999 issue of *The* American Journal of Public Health (Vol. 89, No. 1), "The warning was neither as timely or as convincing as we would have hoped.... Many customers misunderstood or were skeptical of the warning."

The study showed that only 6 percent of the news reports included the fact that the recalled food should not be eaten. Instead, news stories focuses on the ill people and the investigation into the source of the contamination.

The study on the effectiveness of warnings on recalled food was conducted in Georgia by the Centers for Disease Control and Prevention (CDC).

In the 1994 outbreak, it was estimated that more than 224,000 people nationwide became sick as a result of Salmonella-contaminated ice cream: an estimated 11,000 people in Georgia became ill.

CDC studied the effectiveness of the recall warnings through a telephone survey of 250 randomly selected Georgia customers of the recalled product.

The results?

After first hearing the warning, 36 percent of the respondents did not understand that the recalled ice cream should not be eaten.

In 31 percent of the households who had the product and heard the warning, someone ate the ice cream anyway. Twenty-six percent of the people who ate the ice cream became sick with diarrhea.

"The media, especially TV, get the word out quickly, but may not focus on the public health message," the authors noted.

The authors added that they don't know if public health officials may have missed opportunities in press interviews to emphasize that consumers should not eat the recalled food.

"Our investigation," the authors concluded, "highlights the need for further research on methods for delivering effective warnings."

Check the Web for Recall Info:

Don't forget to check the web for recall information. The latest information on meat and poultry recalls is available through the FSIS web site at: http://fsis.usda.gov/OA/news/

Click on the "retail notification reports," and click again on the accompanying report number. For each recall, the site provides:

xrecalls.htm

- •Info on product recalled by brand names, producers and identifying codes.
- The problem or reason for the recall.
 - How/when discovered.
 - The federal establishment.
 - The corporate contact.
- FSIS contacts, including emergency response, media inquiries, Congress and consumer calls.

For information on FDA recalls, go to http://www.fda.gov/ po/enforceindex/99enforce.html

The Gateway to Government Food Safety Information

If you haven't done this lately, log on to www.foodsafety.gov

You'll find a new and much improved federal site that provides information on hot topics in food safety, links to key sites inside and outside of government and a search engine and index.

Whether you're a food safety educator, student, consumer, industry rep or a kid, you'll find something of interest at this great gateway site, including:

- News and safety alerts
- Consumer advice
- Other federal and state agencies involved in food safety
- How to report illness and product complaints
- Industry assistance
- Facts on foodborne pathogens

 Educational materials for kids, teens and educators, including links to materials produced by state and local governments.



www.foodsafety.gov

Cooked to the



 $F_{\text{ood will be cooked to the "T"--}}$ temperature that is. If food safety educators have their way, consumers will be using food thermometers to check the food they prepare.

While some consumers may scoff at the idea of using food thermometers for everyday meals, educators are just gearing up to show consumers how they can improve food quality as well as safety by using a food thermometer.

To lay the ground work for a thermometer campaign, the Food Safety and Inspection Service (FSIS) held a briefing for thermometer industry representatives late in 1998.

Catherine Woteki, USDA Under Secretary for Food Safety, encouraged thermometer industry representatives to work with food safety educators in the campaign to expand use of thermometers in the home.

"The need is so evident," she said. "Thermometer use is the most reliable method consumers have for ensuring that foods have reached a temperature sufficient to destroy pathogens."

"We have our work cut out for us," Woteki said. She noted that focus group testing with consumers shows that people have many objections to using food thermometers. But the focus group testing also found that change is possible.

One key to effecting that change is stressing that consumers can improve the quality of their food, as well as the safety, by using a food thermometer.

Those two messages will be central to a campaign to be launched by FSIS later this year.

In the meantime, the FSIS thermometer industry briefing has created momentum. Thermometer industry representatives are studying ways to support food safety education and make sure that their products and packaging are "consumer friendly."

Building on the campaign launched last year by Wegmans, two more grocery store chains, Giant Food Inc. and Copps, have launched thermometer campaigns and others are exploring how they can promote the use of food thermometers.

Interested in more information? Contact Holly McPeak at 202/720-5836. or email: Holly.McPeak@usda.gov

Arkansas' Food Safety Program for Kids

They look like a pair of plain, white gloves, with hand-sewn eyes and smiling mouths--but anyone with a little imagination would know they are a lot more than that. They are "Squeaky and Clean, the Handwashing Team."

These hand puppets are now in Arkansas schools teaching young children the importance of handwashing as part of a program called Operation Food Safety.

These children will be learning about food safety, in part, because one little boy became sick and almost died as a result of E. coli 0157:H7.

That little boy is the grandson of Arkansas Representative Percy Malone. As a result of his grandson's illness, Malone became an advocate for food safety education. He introduced and helped pass legislation making Arkansas the first state requiring food safety education for schools.

The result was Operation Food Safety. The project is supported by a coalition drawn from state and health education departments, the University of Arkansas, the Arkansas Poultry Federation, the Arkansas Hospitality Association, and grocer groups.

Operation Food Safety plans for the development of three curriculum packages.

The curriculum for pre-K through grade four, of which Squeaky and Clean are a part, started in schools in 1998. The 60-plus-page curriculum is divided into three clusters targeting the different grades and is designed for fun learning. It's loaded with games and puzzles. More than 2,500 copies have already been distributed.

The curriculum and puppets are available to other educators for free.

"It was always our plan to make it available throughout the state and develop a model other states could use," says program coordinator Amy Waldroup.

The two other curriculum packages, grades five through eight and and grades nine through twelve, are now being developed and will be available during the 1999-2000 school year.

For more information, contact: Amy Waldroup University of Arkansas Room O-114, Poultry Science Center Fayetteville, Arkansas 72701

email: awaldro.@comp.uark.edi phone: 501/575-4409

fax: 501/575-8775

■ USDA's Meat and PoultryHotline and toll-free The Big Chill! 1-800/535-4555

It's time to talk about "Chill," the topic of USDA's Meat and Poultry Hotline's packet of news features.

Loaded with information for consumers, the packet includes features on:

- The Big Thaw--Safe Defrosting Methods for Consumers
 Fighting BAC[™] by Chilling Out
- Refrigeration and Food Safety
 Appliance Thermometers
- Keeping Food Safe During a Power Outage

You can access the feature packet through our web site. Go to:

www.fsis.usda.gov/OA/pubs/hotpaks.htm

■ FDA Consumer Magazine Highlights Sprouts

"Questions Keep Sprouting About Sprouts," notes the January/February issue of the Food and Drug Administration's (FDA) consumer magazine.

The lead article focuses on illnesses traced to sprouts, explaining the different kinds of sprouts, and new techniques being used by industry to improve safety.

In a section titled "How to Eat Sprouts Safely," FDA reminds consumers:

If you belong to one of the groups at high risk for foodborne diseases--children, the elderly, and people with compromised immune systems--avoid raw alfalfa sprouts.

If you are a healthy adult, follow these tips:

 Buy only sprouts kept at refrigerator temperature. Select crisp-looking sprouts with the buds attached. Avoid musty-smelling, dark, or slimy-looking sprouts.

- Refrigerate sprouts at home. The refrigerator should be set at no higher than 40 degrees Fahrenheit (4 degrees Celsius).
- Wash hands with warm water and soap for at least 20 seconds before and after handling raw foods.
- Rinse sprouts thoroughly with water before use. Rinsing can help remove surface dirt. Do not use soap or other detergents.

The article is available on the web site:

http://www.fda.gov/fdac/default.html For subscription information, call the Government Printing Office at 202/512-1800.

New Director for Food Safety Intitiative

Dr. Morris Potter has been named to be the first director of the President's Food Safety Initiative program operated by FDA.

Coming from the Centers for Disease Control and Prevention (CDC), Potter will be responsible for all of the food safety efforts at FDA's Center for Food Safety and Applied Nutrition.

Potter's duties will include expanding and improving the FDA's food-related inspection and surveillance. Potter will also coordinate FDA's collaboration with other government agencies in responding to foodborne illness outbreaks, instituting additional prevention controls and strategies and conducting nationwide public education campaigns.

At CDC, Potter served as assistant director for foodborne diseases. He also led the World Health Organization Collaborating Center for Foodborne Disease Surveillance.

Risk Communications

Interested in risk communications? Check out these benchmark resources:

- "Communicating Foodborne Disease Risk," by Baruch Fischhoff and Julie S. Downs, *Emerging Infectious* Diseases, Vol. 3, No. 4, October-December 1997
- "Risk perception and communication," Chapter 34, by Baruch Fischhoff, Ann Bostrom and Marilyn Jacobs Quadrel, Oxford Textbook of Public Health, 3rd Edition, Vol. 2. Oxford University Press, 1997

How Can You Take in 6,000 Foods Without Gaining a Pound?

Download the USDA Nutrient Data Base for Standard Reference.

The data base is the primary source of food composition data in the U.S. It's the only such data base in the world that's free.

The data base has values for as many as 81 nutrients in 6,000 foods among 22 food groups.

Some 8,000 visitors access the web site each month. If you want to be among them, go to:

http://www.nal.usda.gov/fnic/foodcomp

New Web Site

Food safety information from the food processing industry is now available through www.safefood.org

The site is run by the National Food Processors Association (NFPA) and is expected to increase consumer awareness of the "safety benefits and nutritional value of processed foods," according to NFPA's Kelly Johnston.

Catch the Catchment

 $\mathbf T$ he latest in FoodNet data is now available through CDC's newly developed newsletter, The Catchment.

The first issue, released Fall 1998. includes information on FoodNet's active surveillance of laboratoryconfirmed cases of foodborne illness, which is considered FoodNet's "core activity."

The newsletter also provides a rundown of FoodNet abstracts presented at the International Conference on Emerging Infectious Diseases in March 1998. The overview provides abstract titles, authors and some highlights of interesting findings.

The newsletter also includes a onepage Q & A concerning E. coli O157:H7 and Diarrhea-Associated Hemolytic Uremic Syndrome (D+HUS) which features an interview with Dr. Paul Mead, a medical epidemiologist from the Foodborne and Diarrheal Diseases

Branch. Dr. Mead notes that during the first 12 months of surveillance. "E. coli O157:H7 accounted for at least 69 percent of D+HUS cases among children in the catchment area." Mead also pointed out that while D+HUS is typically associated with bloody diarrhea, nearly one-quarter of the D+HUS patients reported non-bloody diarrhea.

The newsletter is available through the web:

http://www.cdc.gov/ncidod/dbmd/ foodnet/foodnet.htm

Or, if you'd like an old-fashioned hard copy to hold in your hands, email Sam Yang at say9@cdc.gov, or call 404/639-4356. And here's the best part-it's FREE.

New Emerging Infectious **Diseases Plan**

In November 1998, the Centers for Disease Control and Prevention (CDC) released the second phase of their plan to combat emerging infectious diseases, including foodborne illnesses.

The plan, titled "Preventing Emerging Infectious Diseases: A Strategy for the 21st Century," provides a detailed description of CDC's efforts to understand, detect, control and prevent national and international infectious diseases.

The plan builds on an earlier plan released in 1994.

The plan targets nine categories of problems, including antibiotic resistance and foodborne and waterborne diseases.

To access the plan on the web, go to: http://www.cdc.gov/ncidod/emergplan/



The BAC Page

Operation Fight BAC! . . . Florida

 $\mathbf{W}_{ ext{ith}}$ teams of volunteers and a determination to change consumers' food handling habits, Operation Fight BAC. ∴ . Florida is moving into high

Starting in January of this year and continuing until March 2000, the group is holding consumer workshops throughout central Florida on safe food handling using the four key Fight BAC! messages and supporting materials.

According to group facilitator Roy Costa of the Florida Department of Business and Professional Regulation, "our goal is to see if we can document a change in consumers' attitudes and behaviors. Consumer food safety education is much talked about, but few studies exist showing the efficacy of educational interventions. A key part of

our effort is to gauge the effectiveness of our approach, analyze the significance of the findings and publish a report."

To do this, Costa and students from the University of South Florida College of Public Health will be conducting preand post tests of consumers. The study is being conducted by Jaime Sanchez as part of his Masters thesis in public health and will involve follow-up surveys.

A variety of tools will be used in the consumer workshops. A Fight BAC!™ slide show was created and donated by the Florida Association of Milk, Food and Environmental Sanitarians. Handouts are being provided by Lynn Isaacs of the Food and Drug Administration.

Interested in hearing more? Contact Costa at 904/943-9602, or email rovecosta@hotmail.com.

Help for BAC![™]

Susan Conley, director of food safety education for FSIS, began a one-year appointment this past January to assist the Partnership for Food Safety Education with the Fight BAC! [™] campaign.

Conley will work with the Partnership as a full-time technical advisor assisting in project development, consumer education outreach and food service worker training.

Conley is on assignment at the University of Maryland/Joint Institute for Food Safety and Applied Nutrition.

"I'm thrilled to be working on the campaign," Conley said, "and I'm encouraging all the 'BAC fighters' out there to contact me. I want to hear how you're fighting BAC."

One of Conley's projects will be assisting with the new *BacTalk* newsletter by providing articles about successful education campaigns using Fight BAC!™ The newsletter, and subscription information, can be accessed through the web site shown below.

Conley can be reached at 301/405-5421. Fax 301/405-7404. Or, email: SC259@uamail.umd. edu



Check out the BAC Talk newsletter:

www.fightbac.org

■Canada Fights BAC![™]

Last November, a unique coalition of Canada's food industries, consumer and health groups, and government came together to start a new national public awareness campaign on food safety in the home kitchen.

The Canadian Partnership for Consumer Food Safety Education is using the Fight BAC![™] logo and messages. The campaign was launched in five cities across the country, Ottawa, Halifax, Montreal, Toronto and Vancouver.

Subscribe for Free!

The Food Safety Educator is a free quarterly publication. To subscribe, send us your name and mailing address.

You can e-mail the information to: fsis.outreach@usda.gov You can fax to 202/720-9063.

"Fight BAC!" is the most ambitious and far-reaching consumer food safety awareness campaign ever undertaken in Canada," said Lyle Vanclief, Minister, Agriculture and Agri-Food.

Information from the campaign will be distributed through public health offices, public service announcement on radio and TV, supermarket displays and community events.

For more information, check the new web site: www.canfightbac.org

Or you can write: Food Safety Education Room 2942 South Bldg. FSIS/USDA Washington, D.C. 20250 The United States Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.)
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