

turning knowledge into practice

Listeriosis Prevention for Older Adults: Motivating Behavior Change

Presented by

Sheryl Cates, RTI International

Other contributors: *Katherine Kosa, RTI International;*

Peter Cowen, North Carolina State University (NCSU); Lee-Ann Jaykus, NCSU; Toby Ten Eyck, Michigan State University; Christina Moore, NCSU

Presented to

2006 Food Safety Education Conference

Denver, CO • September 27–29, 2006



3040 Cornwallis Road
Phone 919-541-6810

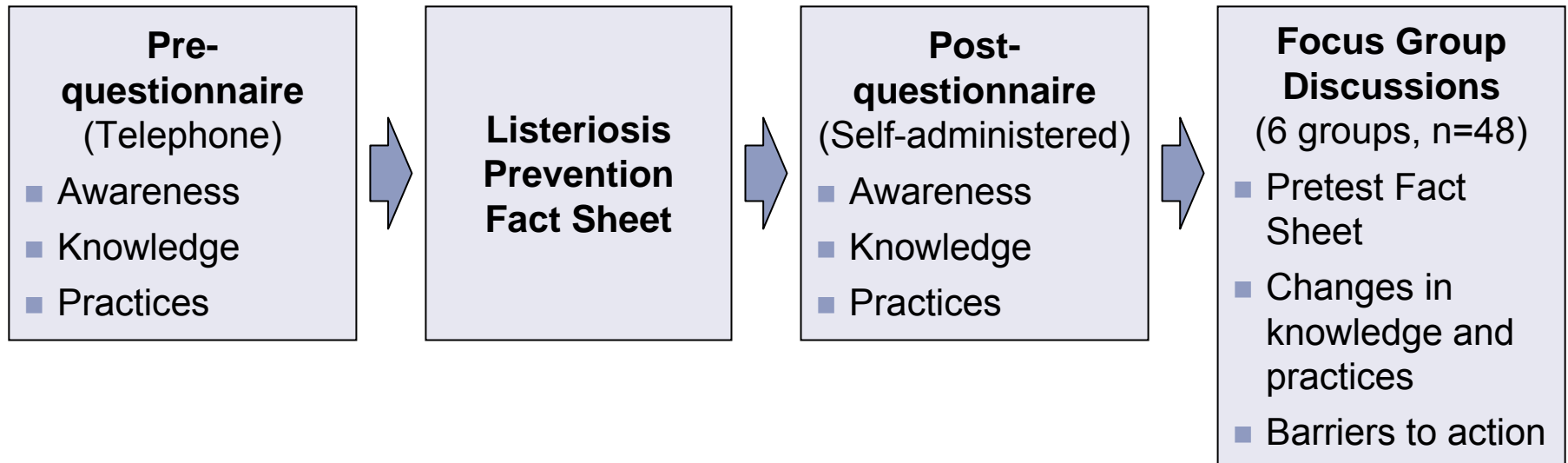
■ P.O. Box 12194 ■
Fax 919-541-6683

Research Triangle Park, NC 27709
e-mail scc@rti.org

Background

- 2,500 Americans contract listeriosis each year; of these, 1 in 5 dies from the illness
- Older adults (60+) are at increased risk for contracting listeriosis because of decreased immune functioning
- *Listeria monocytogenes* (*Lm*) risk assessment showed that keeping refrigerated ready-to-eat (RTE) foods stored at 40°F or lower and consuming RTE foods as soon as possible can reduce risk of listeriosis by 50%

Study Design



Study was funded through a grant from the National Integrated Food Safety Initiative of the Cooperative State Research, Education, and Extension Service, USDA (Grant No. 2001-51110-11635).

Older Adults and Listeriosis: How to Protect Yourself



Research studies have shown that older adults handle food more safely than any other age group. During your lifetime, however, a lot has changed in the way food is produced, distributed, prepared, and eaten. Also, researchers have discovered new bacteria in food that we didn't know previously existed. Researchers have discovered food related illnesses caused by these bacteria, determined the risk associated with these illnesses, and identified practices to prevent illness.

Fact Sheet on Listeriosis Prevention

Why should I be concerned?

As your body changes with age, you become more at-risk for foodborne illness. Your immune system weakens and may become less able to rid your body of bacteria. In addition, your body makes less stomach acid, which is a natural defense against bacteria in food. Also, your senses of taste and smell may lessen, so you may not always be able to tell whether meat has spoiled or milk has soured. Furthermore, some illnesses, such as diabetes and some cancer treatments, may increase your risk of illness. As a result, it's important to know and follow safe handling practices to protect yourself from illnesses caused by harmful bacteria in food.



Of particular concern is *Listeria* (Lis-'tir-ē-a), a foodborne bacterium that can cause a disease called listeriosis (lis-'tir-ē-ō-ses). Unlike most foodborne bacteria, *Listeria* can grow at refrigerator temperatures. *Listeria* can be found in pre-cooked refrigerated foods, such as prepackaged or freshly sliced deli (luncheon) meats, hot dogs, deli salads, and other pre-cooked meat and poultry products. According to the Centers for Disease Control and Prevention (CDC), approximately 2,500 Americans get listeriosis each year. Of these, 1 out of 5 dies from the illness. Older adults are at high risk for getting listeriosis if they eat foods contaminated with *Listeria*.

How does *Listeria* get into my food?



Although most pre-cooked refrigerated foods are not contaminated with *Listeria*, a very small percentage can become contaminated at the manufacturing plant or grocery store. *Listeria* can spread and grow on surfaces where food is manufactured or processed. If deli meats are contaminated with *Listeria* at time of purchase, the *Listeria* can grow very rapidly if stored at an unsafe temperature.

The effects of listeriosis can be devastating. Here is one family's story.

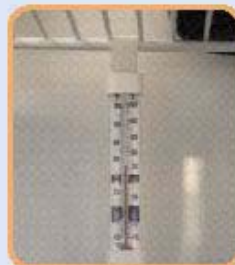
"Last year, my husband — who was 70 years old at the time — had a high fever and complained of bad headaches. The pain was so severe that I rushed him to the emergency room. The doctor told me he had bacterial meningitis, which is an infection and inflammation of the membranes and fluid surrounding the brain and spinal cord. He was treated with antibiotics and hospitalized for over two weeks, including a short stay in intensive care. The doctor said the cause of his infection was *Listeria*, a bacterium that can be found in pre-cooked, refrigerated foods. The state health department eventually traced the *Listeria* to the deli meats served at one of our weekly bridge games. The doctor said he was lucky because some people die from the illness. Before this, I had no idea that deli meats could make you so sick."

What can I do to prevent listeriosis?

Researchers have found that the most important factor contributing to the increased risk of listeriosis from eating deli meats is the amount of *Listeria* already present in the product when it's purchased by the consumer. Because you cannot tell if deli meats are contaminated with *Listeria* when purchased, it's important to always safely handle and store deli meats. **By following two simple practices (described below), you can reduce your risk of listeriosis from eating deli meats by more than 50 percent.**

Keep your refrigerator's temperature at 40°F or lower.

To make sure your refrigerator is at a safe temperature (40°F or lower), use a refrigerator thermometer. A refrigerator thermometer is not the thermostat inside your refrigerator. It is a different tool that stays in your refrigerator and displays the actual temperature (see picture). If your refrigerator's temperature is not safe, use the thermostat (the numbered dial) to adjust the temperature. Refrigerator thermometers are sold at grocery, discount, and hardware stores.



Store deli meats for the recommended time or less (see chart). Buy only as much deli meats as you and your family can eat

within the recommended time frame. After opening a package of deli meats, eat the remaining product as soon as you can.

	Eat or discard within
Unopened packages of deli meats	14 days
Opened packages of deli meats	3 to 5 days
Freshly sliced deli meats	3 to 5 days

Fact Sheet on Listeriosis Prevention

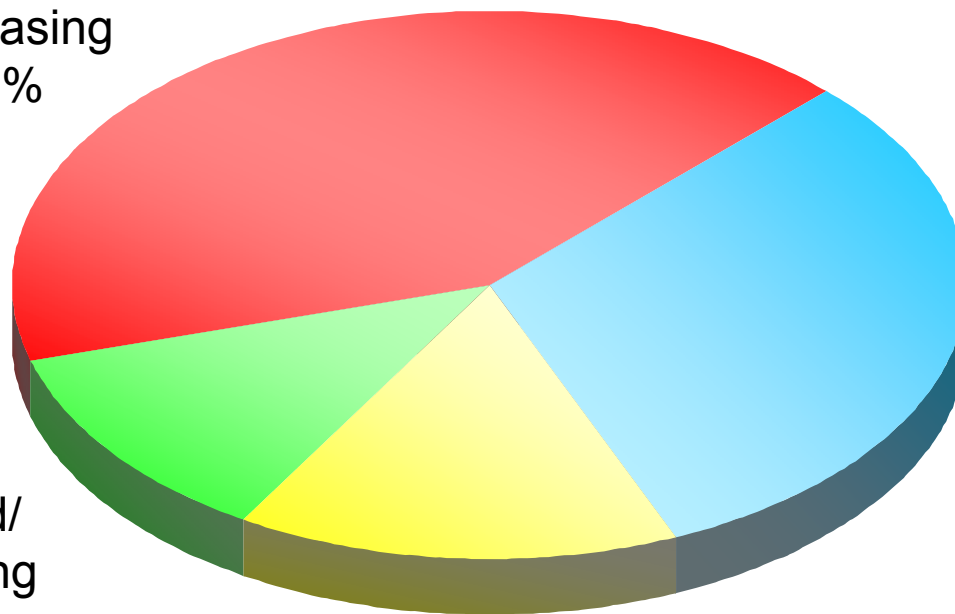
For more information on how to protect you and your family from foodborne illness, call the USDA Meat & Poultry Hotline (1-888-MPHotline) or visit www.fsis.usda.gov.

Participants' Food Safety Knowledge

- Aware of *E. coli* and *Salmonella*, but not aware of *Listeria*, food sources, and prevention practices
- Understand that older adults, as a group, are more susceptible to contracting foodborne illness because of weakened immune systems, but many personally don't view themselves at increased risk
- Believe older adults have safer/less risky food handling and consumption practices compared to younger adults
- Less than one-third knew safe refrigerator temperature (40°F)

Response to Recommendation to Use Refrigerator Thermometer

Did not at all consider purchasing
42%



Thought about purchasing, but did not
31%

Purchased/
started using
12%

Have not purchased, but
plan to next time at store
15%

Barriers to Using Refrigerator Thermometer

- Believe unnecessary because refrigerator is cold enough
- Distrust in accuracy of refrigerator thermometers
- Believe foods are not stored longer than recommended
- Lack of concern about contracting listeriosis



Response to Storage Time Guidelines

- Percentage of participants who stored deli meats for recommended time or less
 - Unopened vacuum-packed 93%
 - Opened vacuum-packed 38%
 - Freshly sliced 59%
- Some participants plan to buy smaller amounts of deli meats or store unopened packages in freezer to prolong shelf life

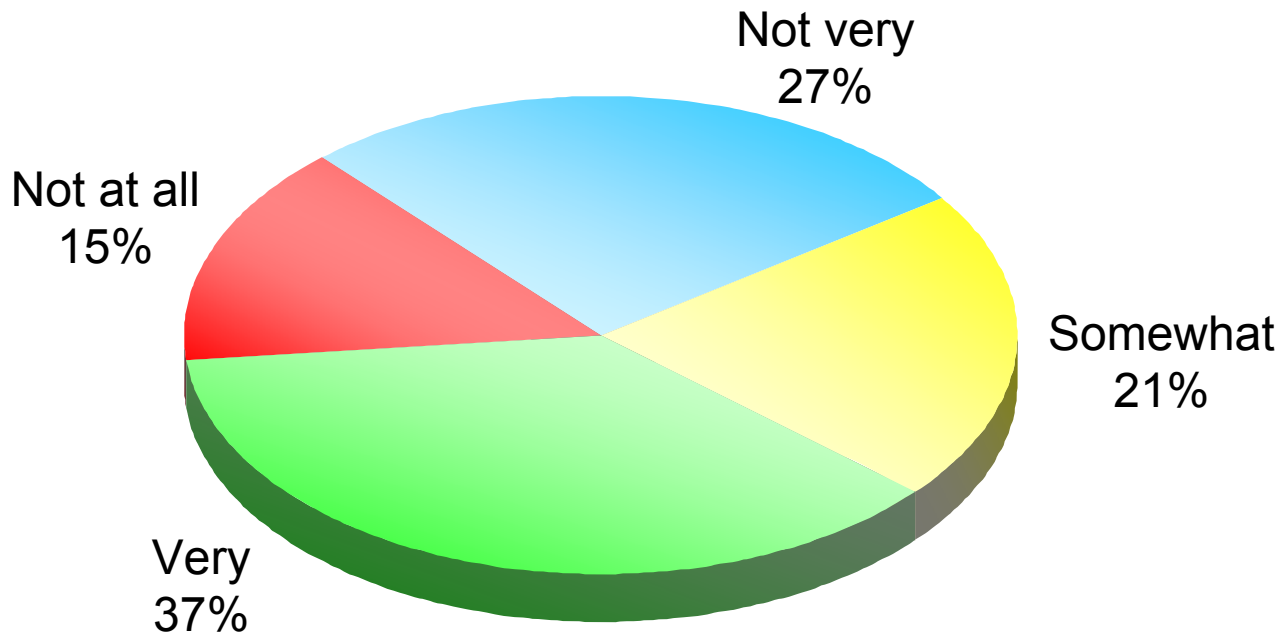
Recommendation

	Eat or discard within
Unopened packages of deli meats	14 days
Opened packages of deli meats	3 to 5 days
Freshly sliced deli meats	3 to 5 days

Barriers to Following Storage Time Guidelines

- Typically store deli meats for no longer than 1 week, which they believe is safe
- Lack knowledge of recommended storage time guidelines
- Reluctant to discard uneaten deli meats
- Lack of concern about contracting listeriosis

Likelihood of Reheating Deli Meats



Recommendation:

Reheat deli meats to steaming hot before eating. If reheating is not possible, then USDA recommends that older adults should not eat deli meats.

Barriers to Reheating Deli Meats

- Believe recommendation is unnecessary, inconvenient, and impractical
- Believe reheating negatively alters taste, texture, and color of deli meats
- Lack of concern about contracting listeriosis



Preferred Delivery Methods

- American Association of Retired Persons (AARP)
- Government agencies—USDA, Centers for Medicare and Medicaid Services, Veterans Affairs (e.g., mailings from Social Security or Medicare)
- Retirement communities and senior centers
- Pharmacies, flu shot clinics
- Doctors' offices
- Churches

Motivating Behavior Change

- Use both qualitative (e.g., narrative) and quantitative methods of conveying risk
- Explain *why* older adults are at risk, so target audience does not exclude themselves from at-risk population
- Highlight benefits of recommended practices, such as improved product quality
- Address how to overcome barriers to actions
- Address reluctance to follow “reheat or do not eat” recommendation

Motivating Behavior Change (*continued*)

- Explain in simple terms that RTE foods may become contaminated with *Lm* despite USDA's zero tolerance policy
- Reach target audience with multiple messages through multiple delivery mechanisms
- Reduce search costs (e.g., partner with manufacturers to distribute free thermometers)
- Employ delivery sources that are perceived as trustworthy and credible (AARP and government agencies)