

# Consumer Attitudes and Behaviors Regarding Ready-to-Eat Foods

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# Planning Food Safety Education...

- New & Emerging Scientific Data
- Consumer Behavior Research
- Social Marketing for Behavior Change
- Outreach and Partnerships

# Sources of Consumer Information

- Quantitative -- Population Surveys
- Qualitative -- Focus Groups
- Anecdotal -- Meat and Poultry Hotline

# “Changes in Consumer Knowledge, Behavior, and Confidence Since the 1996 PR/HACCP Final Rule”



- Consumer's knowledge and use of food safety practices is growing
- They have increased knowledge about foodborne pathogens and risks
- Have increased knowledge of at-risk population, but some knowledge gaps exist

# Report Findings

- They are more cautious when handling and preparing meat and poultry at home
- They attribute behavior changes to information provided by the media
- Consumers are confident in themselves and the food supply

# Report Findings

- Although knowledge and self-reported use of safe handling practices has increased, consumers still make mistakes when handling food

# Consumer Awareness Increasing

- Consumer Awareness of *Listeria*:

1993	9%
1998	14%
2001	31%

# Refrigerator Temperatures

- 67% of consumers do not own a refrigerator thermometer (FSIS)
- 60% do not know proper refrigerator temperature (ADA, ConAgra)
- 29% have refrigerator air temperature higher than 40 degrees F; 7% are higher than 45 F (Utah State University)



# Consumers Rely on Food Labels for Food Safety Information

- In focus groups, consumers report using food labels for information
  - Confusion about use-by, sell-by and expiration dates
- In 1999 Penn State study, 85% of respondents report regularly checking expiration dates on perishable foods

# Consumer Handing -- Ready-to-Eat Foods\*

- How long do you usually keep cooked meats, such as roasts, stews in the refrigerator and still eat them?

1-3 Days	71%
4-7 Days	24%
8-14 Days	1%
More than 3 weeks	<1%
Other	3%

\*2001 FDA/FSIS Food Safety Survey

# Consumer Handing -- Ready-to-Eat Foods\*

- How long do you usually keep opened packages of cold cuts in the refrigerator and then eat them?

1-3 Days	31%
4-7 Days	47%
8-14 Days	8%
More than 2-3 weeks	2%
More than 3 weeks	<1%
Other	10%

# Consumer Handing -- Ready-to-Eat Foods\*

- How long do you usually keep opened packages of hot dogs in the refrigerator and then eat them?

1-3 Days	34%
4-7 Days	34%
8-14 Days	6%
More than 2-3 weeks	1%
More than 3 weeks	1%
Keep in Freezer	13%
Other	12%

# Consumer Handing -- Ready-to-Eat Foods\*

- In the past 12 months, did you eat any hot dogs without further cooking, that is, straight from the package?

Yes	15%
No	84%
Don't know/Refused	<1%

# Consumer Handling -- Ready-to-Eat Foods\*

- Consumers keep soft cheeses longer than they keep meats; 36% do not buy high risk cheeses
- 69% keep deli salads in the refrigerator 3 days or less; 24% use them within 4-7 days

# Calls to USDA's Meat and Poultry Hotline about *Listeria*

- Calls about *Listeria* have increased 245% in 2002
  - 167 calls specifically about *Listeria*
  - 1,308 calls about products recalled with Lm
- Callers ask general questions about risk factors and illness symptoms
- Ask about actions to take if a product is recalled

# Calls to USDA's Meat and Poultry Hotline about *Listeria*

- Ask if cooking will destroy *Listeria* and about safety of lunchmeat and hot dogs
- Pregnant women ask about risks and what products to avoid
- Calls from health professionals, caregivers and dietitians increasing



# Focus groups with Pregnant Women

- Objectives:
  - Test and refine existing FSIS food safety messages on listeriosis
  - Identify effective delivery mechanisms
  - Obtain additional information on pregnant women's food safety knowledge and behavior

# Focus groups with Pregnant Women

## ● Study Design

- 8 focus groups in 4 locations
- High school educated & college educated
- Racial diversity
- Prepare meals
- Non-vegetarian
- Eat luncheon meats, hot dogs, deli salads, or deli spreads/pâtés

# Focus Groups with Pregnant Women -- Key Findings



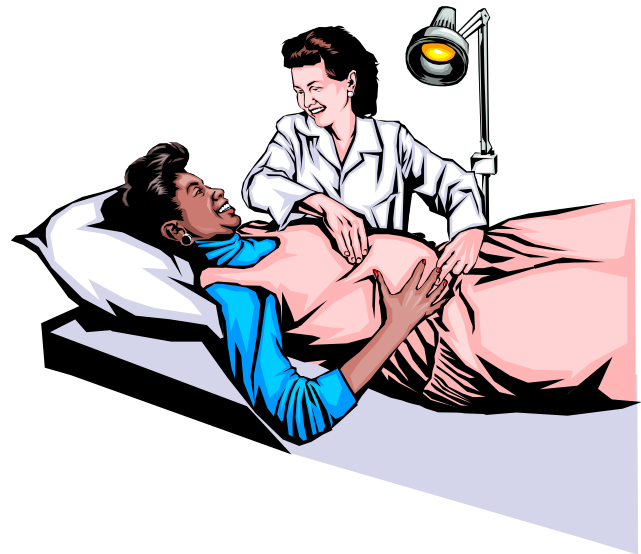
- Confident in ability to handle food safely, but don't always follow safe practices when cooking at home
  - Do not use a thermometer
  - Do not refrigerate leftovers immediately

# Key Findings from Focus Groups with Pregnant Women, cont..

- Unfamiliar with *Listeria monocytogenes*
  - Also unfamiliar with *Campylobacter*
  - Aware of *E. coli* and *Salmonella*
- Not aware that pregnant women are at high-risk for foodborne illness

# Focus Groups with Pregnant Women, cont..

- Obstetrician (or other health care provider) does not provide food safety information



# Focus Groups with Pregnant Women, cont..



- Have not made any food handling changes since becoming pregnant because they were careful *before* becoming pregnant

# Consumption Patterns

- 81% eat hot dogs during pregnancy
- 95% eat luncheon meats
- Some report consuming risky foods
  - raw cookie dough
  - soft cheese
  - dishes with raw or undercooked eggs

# Storage of Hot Dogs and Luncheon Meats

- 80% store unopened packages of hot dogs in the refrigerator for two weeks or less
- 88% store opened packages for 7 days or less



# Preparation and storage of hot dogs and luncheon meats

- Do not know to reheat hot dogs and luncheon meats and avoid certain cheeses and other foods
- Don't know to cover hot dogs when microwaving
- Some do eat hot dogs cold
- Do not observe recommended storage times for luncheon meats

# Evaluation of FSIS Listeriosis Brochure



- Liked the brochure, found it informative and easy to understand
- Had specific suggestions for changes
- Want a brochure especially for pregnant women -- with a very specific title

Pregnant women are likely to  
change behavior when they have  
the information!!!

# Delivery Mechanisms for *Listeria* Education Materials

- Best way to inform pregnant women is through their doctors!!!
- Suggested dissemination through books, magazines and Web sites on prenatal care
- Need to also increase awareness in general population

# Key Recommendations

- Educate obstetricians and other health care providers to inform patients
- Revise current materials to be more direct about risks
- Disseminate information widely in channels specific to pregnant women and the public

# Partnership Formed to Educate Pregnant Women

- Federal Government -- FSIS, FDA, CDC
- IFIC
- AWHONN
- The Partnership for Food Safety Education
- Reaching out to ACOG



# Listeria Facts for Pregnant Women

- Tear-pads of 25 sheets for doctor's offices
- Over 220,000 pads distributed to date
- Available in English and Spanish

*Listeriosis and Pregnancy: What is Your Risk?*

Information provided by:  
 Association of Women's Health  
 Obstetric and Neonatal Nurses  
 (AWHONN)  
 International Food Information  
 Council (IFIC) Foundation  
 U.S. Department of Agriculture  
 (USDA)  
 U.S. Department of Health and  
 Human Services (DHHS)

Safe Food Handling for a Healthy Pregnancy

When you're expecting, it's natural to be concerned about your health - and that of your unborn baby. Maintaining a healthful diet, drinking plenty of liquids, and taking prenatal vitamins are all important for the health of the expectant mother and her baby. Food safety is also very important. This information will help you make safe decisions when selecting and preparing food for yourself and/or your family.

Sometimes, what we eat can make us sick. Food contaminated by harmful bacteria can cause serious illness. One type of bacteria, *Listeria monocytogenes* (pronounced list-er-ee-ya mon-o-si-TAI-gin-ee-er), can cause an illness called listeriosis. The Centers for Disease Control and Prevention (CDC) estimates that 2,500 people become seriously ill with listeriosis each year in the United States. Of these, one in five die from the disease. Listeriosis can be particularly dangerous for pregnant women and their unborn babies. Foodborne illness caused by *Listeria* in pregnant women can result in premature delivery, miscarriage, fetal death, and severe illness or death of a newborn from the infection.

**What is Listeria?**  
*Listeria* is a type of bacteria found everywhere - in soil and ground water and on plants. Animals and people can carry *Listeria* in their bodies without becoming sick. Despite being so widespread, most infections in humans result from eating contaminated foods.

Most people are not at increased risk for listeriosis. However, there are some people who are considered "at risk" because they are more susceptible to listeriosis. In addition to pregnant women and their unborn babies and newborns, other "at-risk" groups include older adults and people with weakened immune systems caused by cancer treatments, AIDS, diabetes, kidney disease, etc. By carefully following food safety precautions, persons at risk for listeriosis can substantially reduce their chances of becoming ill.

**Why is listeriosis especially dangerous for me and my child?**  
 Hormonal changes during pregnancy have an effect on the mother's immune system that lead to an increased susceptibility to listeriosis in the mother. According to the CDC, pregnant women are about 20 times more likely than other healthy adults to get listeriosis. In fact, about one-third of listeriosis cases happen during pregnancy. Listeriosis can be transmitted to the fetus through the placenta even if the mother is not showing signs of illness. This can lead to premature delivery, miscarriage, stillbirth, or serious health problems for her newborn.

**Is Listeria transmitted from the mother to the baby through breast milk?**  
 While there is a theoretical possibility that *Listeria monocytogenes* could be transmitted via mother's milk, this has never been proven.

**How will I know if I have listeriosis?**  
 Because the symptoms of listeriosis can take a few days or even weeks to appear and can be mild, you may not even know you have it. This is why it's very important to take appropriate food safety precautions during pregnancy.

In pregnant women, listeriosis may cause flu-like symptoms with the sudden onset of fever, chills, muscle aches, and sometimes diarrhea or upset stomach. The severity of the symptoms may vary. If the infection spreads to the nervous system, the symptoms may include headache, stiff neck, confusion, loss of balance, or convulsions. Consult your doctor or healthcare provider if you have these symptoms. A blood test can be performed to find out if your symptoms are caused by listeriosis.

**What is the treatment for listeriosis?**  
 During pregnancy, antibiotics are given to treat listeriosis in the mother. In most cases, the antibiotics also prevent infection of the fetus or newborn. Antibiotics are also given to babies who are born with listeriosis.

**What steps can I take to prevent listeriosis?**  
 USDA's Food Safety and Inspection Service (FSIS) and the U.S. Food and Drug Administration (FDA) provide the following advice for pregnant women and all "at-risk" consumers:

**What should I do if I've eaten a food that has been recalled because of Listeria contamination?**  
 If you have eaten a contaminated product and do not have any symptoms, most experts believe you don't need any tests or treatment, even if you are pregnant. However, you should inform your physician or healthcare provider if you are pregnant and have eaten the contaminated product, and within 2 months experience flu-like symptoms. It's important to learn how to protect yourself and your unborn baby from foodborne illness. Getting in the habit of eating a safe and nutritious diet not only benefits your baby, but will also give you years of mind.

Remember - new information on food safety is constantly emerging. Recommendations and precautions are updated as scientists learn more about preventing foodborne illness. You need to be aware of and follow the most current information on food safety. Consult your healthcare provider if you have questions.

**Fight BAC!**  
 When preparing meals for yourself and/or your family, it is important to remember these four basic guidelines to help keep your food safe from harmful bacteria.

- 1. Clean**  
 Wash hands and surfaces often
- 2. Separate**  
 Don't let cross-contamination between raw and cooked foods
- 3. Cook**  
 Cook to proper temperatures - use a food thermometer
- 4. Chill**  
 Refrigerate or freeze promptly

and to  
 consultation  
 phone  
 800.455.7761.

www.ifiatic.org  
 International Food Information  
 Council (IFIC) Foundation  
 http://ific.org

AWHONN  
 www.awhonn.org

U.S. Department of Health  
 and Human Services  
 www.dhhs.gov  
 Center for Disease  
 Control and Prevention  
 www.cdc.gov  
 Food and Drug  
 Administration  
 www.fda.gov

USDA  
 U.S. Department of  
 Agriculture  
 Food Safety and  
 Inspection Service  
 www.fsis.usda.gov  
 International Food  
 Information Council  
 (IFIC) Foundation  
 http://ific.org

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# Efforts underway to reach low-literacy consumers, the Hispanic population and other targeted audiences



Safe Food Handling for a Healthy Pregnancy



## Protect Yourself and Your Baby from Listeriosis

Pregnant women are 20 times more likely than other healthy adults to get sick from *Listeria*, a harmful bacteria found in contaminated foods. *Listeria* can lead to a disease called *listeriosis*. Listeriosis in pregnant women can result in premature delivery, miscarriage, and severe illness or death of a newborn.

### What steps can I take to prevent listeriosis?

■ **Do not eat hot dogs, luncheon meats, or deli meats** unless they are *reheated* until steaming hot.



■ **Do not eat soft cheese:** style cheeses such as "queso blanco fresco," feta, Brie, Camembert, or blue-veined cheeses. It's OK to eat hard cheeses, semi-soft cheeses (such as mozzarella), pasteurized processed cheese slices and spreads, cream cheese, and cottage cheese.



■ **Do not eat refrigerated pâté or meat spreads.** It's OK to eat canned or shelf-stable pâté and meat spreads.

■ **Do not eat refrigerated smoked seafood** unless it is an ingredient in a cooked dish such as a casserole. Examples of refrigerated smoked seafood include salmon, trout, whitefish, cod, tuna, and mackerel. These are most often labeled as "nova-style," "lox," "kippered," "smoked," or "jerky." This fish is found in the refrigerated section of grocery stores and delicatessens. It's OK to eat canned fish like salmon and tuna, or shelf-stable smoked seafood.



■ **Do not drink raw (unpasteurized) milk** or eat foods that contain unpasteurized milk.

### How will I know if I have listeriosis?

Because the symptoms of listeriosis can take a few days or even weeks to appear, you may not even know you have it.

Symptoms of listeriosis may include fever, chills, muscle aches, diarrhea, upset stomach, headache, loss of balance and convulsions.

### What should I do if I think I have listeriosis?

Call your doctor or healthcare provider if you have these symptoms. Most of the time, treatment can be as simple as taking antibiotics.

### Fight BAC!®

When preparing meals for yourself and/or your family, it is important to remember four basic steps to help keep your food safe from harmful bacteria.

- 1 **Clean:** Wash hands, dishes, forks, knives and counter tops often
- 2 **Separate:** Keep raw and cooked foods apart
- 3 **Cook:** Cook to proper temperatures by using a food thermometer
- 4 **Chill:** Refrigerate or freeze promptly

### What can I do to keep my food safe from *Listeria*?

- Use all precooked or ready-to-eat items as soon as possible.
- Clean your refrigerator regularly.
- Use a refrigerator thermometer to make sure the temperature inside stays at 40 ° or below.

Call your doctor or healthcare provider if you have questions.



For more information about food safety:

**U.S. Department of Agriculture (USDA)  
Food Safety and Inspection Service**  
Meat and Poultry Hotline  
1-800-335-4535  
TTY: 1-800-256-7072  
[www.fsis.usda.gov](http://www.fsis.usda.gov)