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Program Overview

Program Goal

Older adults are at an increased risk for foodborne illness. Small doses of harmful microorganisms can make them very ill and could even result in death. The goal of this program is to teach older adults how they can reduce their risk for foodborne illness.

Program summary and target audience

For Your Health, Food Safety Begins at Home has been designed for older adults on how to safely prepare their own meals. Older adults are an appropriate audience for food safety education because they have health and social characteristics placing them at a greater risk for foodborne illness than does the adult population in general.

The program consists of four sessions, each takes approximately 60 - 90 minutes depending on the number of activities used. Each session has a short information-sharing component, two or more activities, take-home handouts, and one or more take-home tips. It is intended to be delivered in a group setting rather than to individuals. The format lends itself to short meetings that you organize or that already exist. The *For Your Health, Food Safety Begins at Home* curriculum consists of this guide, which contains all of the print materials that you need to carry out the four sessions.

Planning your program

Solicit help from other sources to plan your program. For example, contact:

- Other government agencies,
- Volunteer organizations (Kiwanis, Moose, VFW), or
- Church groups.

Setting Dates, Times, and Locations

Each session focuses on one of the Fight BAC!TM messages — Clean, Separate, Cook, or Chill. The delivery format can be four consecutive sessions of 60 - 90 minutes, depending on the number of activities used each, two consecutive sessions of 2-3 hours each, or one 4-6 hour session. Make your decision based on your audience and the availability of the program site. Times and locations are issues that are important. Give people a list of session topics, dates, times, and locations to prevent confusion.

Also consider space requirements for each of the sessions. If participants are asked to perform a small group activity or watch a demonstration, consider the space and equipment you will need for the session, such as a room with tables and adequate display space. Try to ensure that the program site is comfortable, easy to access, and quiet. Also, consider how accessible it is to those who might have physical impairments.

Recruiting participants

Preparing the program announcement is important. It should stress the benefits to be gained by program participants. Design the announcement so that it looks inviting and helpful. A sample program announcement is included at the end of this section.

Here are some potential locations for recruiting older adults. Recruitment of participants should be done after discussion with the manager or coordinator of the organization or by posting a program announcement at sites which older persons frequent.

Community organizations

- AARP and other retiree organizations
- Council or Department on Aging
- Other local programs such as Foster Grandparents, Senior Companions, and RSVP
- County Department of Social Services
- County Health Department
- Extension and Community Association clubs
- Support groups related to health and family care issues
- VFW and American Legion posts
- Senior centers
- Social Security offices

Sites

- Beauty and barber shops
- Churches
- Hospitals, clinics and doctors' offices
- Grocery stores
- Pharmacies
- Public transportation sites, such as bus stations and taxi stands
- Senior citizen housing
- Public libraries
- Bingo halls

Registering participants

Set up a system for registering participants. The system may consist of a printed roster on which people can add their names or you may want to have participants call in to your office to register. Once registered, send a reminder to attend card or call the registrants. Solicit volunteers to help recruit, register, and remind participants.

Preparing for the lessons

Ideally, all four sessions should be taught. Food safety is a complex topic and individuals need to understand all of the controls that they have to prevent foodborne illness. Foodborne illness can occur by the application of only one unsafe food handling practices.

It is important to always begin with Session 1 — CLEAN: Wash Hands and Surfaces Often. One of the activities within this session is the administration of the risk assessment instrument — Are You at Risk for Foodborne Illness? The authors believe that increasing an individual's awareness of his/her risk for foodborne illness is the first step in a successful food safety education program. It is hypothesized that if an individual perceives that he/she is at a greater risk for foodborne illness, he/she will be more likely to adopt safe food handling practices. Therefore, when conducting this program *always* begin with Session 1. This session along with the Fight BAC!® messages is the foundation of this four-session program. After completion of Session 1, the remaining sessions can be taught in any order.

Presenting the sessions

The session description is designed to give you a plan to follow. It includes information about the time needed, materials needed, background information, and a recommended way to conduct the session.

Greetings:

- Arrange for greeters to welcome participants to the program.
- Have participants make themselves colorful nametags to wear at every session.
- Start each session with some music from the past, such as Big Band or Swing, or another interesting icebreaker that you develop.

Room arrangements:

- Arrange the seating to maximize eye contact between you and the group and within the group.
- Circles are often helpful because no one is sitting at the back.

- Make sure that people have adequate space on a table surface so they can write with ease when completing a pen and paper activity.
- Try to use a room that is warm and friendly looking.
- Provide water and other refreshments, if possible.

Conducting the sessions:

- The key to a successful program is to involve the participants in the session. All sessions are centered on one or more activities. Adult learners need to be involved in the teaching session by asking them questions and using hands-on activities.
- Encourage people to be active learners — let them ask questions, discuss an issue, and offer personal comments on a problem.
- Give positive reinforcement and encouragement for correct answers.
- To stimulate their interest, open the session by asking the participants a question about the topic of the day or ask them what they have been doing differently since you last met.
- If you are short on time and have an actively involved group, try to include the most important sections of the session plan and ask participants to read the handouts carefully at home. If they have a question, tell them to contact you individually after the class.
- Try to solicit input from the "quiet" participants.
- Always tell participants where to reach you after the session.
- Note any particular questions you cannot answer on a card and tell people you will get the question answered by an expert.
- Be prepared to answer questions in a brief fashion or promise to look up the information and report back to the group. It is acceptable to say "*I don't know.*" Just follow up on the questions soon as you can after the session.
- Review the materials from the previous session to tie together all of the pieces.
- Learning is a partnership between the learners and the instructor. Such interaction builds commitment for change. Be respectful of the learner's views and beliefs. Some participants might not think safe food handling is as important as you do and will express that opinion.
- Have fun!

Factors that can affect educational approaches with older adults:

- decreased endurance,
- increased fatigue,
- decreased bladder and kidney efficiency,

- increased sensitivity to hot and cold temperatures,
- increased farsightedness,
- declining adaptation to light and darkness,
- increased wisdom,
- slower reaction time, and
- changing social roles.

Thus, utilize the following teaching strategies when working with older adults:

- provide a comfortable physical setting,
- vary teaching techniques,
- encourage use of memory techniques,
- invite input from the audience,
- enhance visual and auditory acuity,
- use appropriate colors for print materials — colors in the red, orange, and yellow families are easier to see than blue, green and purple colors,
- use larger font sizes to prepare visuals,
- schedule frequent breaks, and
- give positive reinforcement and encouragement for correct answers.

Certificates

Take a little time at the end of the program to distribute certificates to the participants. This is a way to congratulate the participants for their attention and interest in learning new information.

If you have any questions or comments concerning the curriculum or the information presented, please contact Dr. Angela Fraser at (919) 515-9150 or e-mail her at angela_fraser@ncsu.edu.

Promotional materials

Food Safety for Older Adults . . . Begins at Home

Preparing meals each day can be hard work. We often take time to select the right foods to make meals nutritionally balanced and tasty. However, we often do not spend a lot of time on making sure that our meals are prepared safely. Particularly as we get older, we need to handle our food safely — it's for our health.

Typically the health of older adults is more fragile. This, in combination with possible nutritional deficiencies and gradual changes in sight and smell, can make older adults susceptible to foodborne illness.

As we age, we produce less stomach acid. Stomach acid helps digest food and kill microbes in food, so it is the first line of defense in preventing foodborne illness. Aging also weakens our immune system. A single bout of foodborne illness might make one person sick for a few days but could be devastating for an older adult. Vision also weakens as we age. Fifty percent (50%) of Americans with severe vision problems are over age 65. The inability to distinguish between colors, especially blues and greens, can make detecting food-related problems difficult. This might affect the ability to detect: molds growing on food, counter tops that might need additional cleaning, or spots and spills on cooking pots and eating utensils. Taste may also be affected, making it difficult to distinguish off-flavors related to spoiled foods.

Living on a fixed income can add to the food handling problems of older persons. A tight budget and thriftiness may make some older people keep questionable food for too long. Many of our older population are Depression-survivors and are keenly conscious of not being wasteful. Furthermore, when cooking for one or two, food is often left over and safe-handling practices might not be used.

For their health, older adults can and should Fight BAC!TM Fighting BAC! means following these simple food safety practices:

- CLEAN: Wash hands and surfaces often
- SEPARATE: Prevent cross-contamination
- COOK: Cook foods to proper temperatures
- CHILL: Refrigerate foods promptly

New Program

For Your Health, Food Safety Begins at Home

The *For Your Health, Food Safety Begins at Home* program is a series of educational sessions on how you can prevent foodborne illness. Foodborne illness is nearly 100% preventable if you apply safe food handling practices. These sessions will be offered free of charge at the following times, dates, and locations.

When: _____

Dates: _____

Times: _____

Where: _____

For more information about the program and to register, contact:

Background

Safe food is essential to life. Safe food is food that poses little risk of causing foodborne illness. Farmers, food processors, and retail food workers have a legal obligation to keep food safe, but consumers are also responsible for keeping their food safe.

Foodborne illness

Eating food that contains harmful microorganisms can cause foodborne illness. Eating even a small portion of an unsafe food can make a person sick. Signs and symptoms can appear almost instantaneously (such as with chemical food poisoning) or might not develop for up to two weeks, such as with the hepatitis A virus. Most foodborne illnesses last a few hours or days. Some have effects that can last for weeks, months, or even years.

Many factors contribute to the more than 76 millions cases of foodborne illness that are estimated to occur each year in the U.S. One key factor is the change in U.S. demographic patterns. Segments of the population with high risk for foodborne illness are expanding. For example, the number of older adults in the U.S. is projected to increase to over 80 million by 2050. It is well known that adults age 65 and older and children age 5 and younger have the highest incidence of foodborne illness.

Risk factors

Safe food handling is one way to keep older people healthy. The number of reported foodborne illnesses among older adults is high. The incidence is highest among women, those who are widowed, and whites. While for most individuals the effects of foodborne illness are temporary, older adults experience more serious complications requiring hospitalization, long-term disability, or death can result. The elderly are ten times more likely to develop complications or die from foodborne illness than are the general population. Physiological, environmental, and life-style factors play a key role in reducing one's risk for foodborne illness.

Physiological changes. Older adults are at an increased risk for foodborne illness because of physiological changes. As we age, the ability of our immune system to function at normal levels decreases. The immune system is one of the most important mechanisms for fighting disease and preserving health, so a decrease in the level of disease-fighting cells is a significant factor in the number of infections that might occur. In addition to the normal decrease in the function of the immune system as part of the

aging process, undergoing major surgery also affects the body's ability to fight off infections.

Furthermore, as one ages, inflammation of the lining of the stomach and a decrease in stomach acid occur. Because the stomach plays an important role in limiting the number of bacteria that enter the small intestine, a decrease or loss of stomach acidity increases the likelihood of infection if harmful microorganisms are ingested with food or water. Also, adding to the problem is the slowing down of the digestive process, allowing for the rapid growth of harmful microorganisms in the gut and the possible formation of toxins.

Recent studies have shown that one out of four older Americans suffer from poor nutrition. Older adults who are malnourished are more susceptible to foodborne illness. Malnutrition leads to increased incidents of infections, including those that result from the ingestion of foodborne bacteria. Furthermore, malnourished patients have hospital stays nearly twice as long as those of well-nourished patients. Malnourished older adults can develop more severe complications due to foodborne illness increasing the likelihood that they will require medical treatment, hospitalization, or even death.

There are many reasons why malnutrition occurs within the older adult population. There might be a decrease in the pleasure of eating. Medication, digestive disorders, chronic illness, physical disabilities or depression may also result in loss of appetite. Many older people, especially the oldest and the poorest, have disabilities or functional impairments and are unable to shop for groceries or cook for themselves. Over 80% of those 65 and older suffer from chronic diseases and conditions, many of which are associated with malnutrition. Older adults take more medications than any other age group.

Environmental factors. Older adults tend to be more malnourished because of poverty. Poverty contributes significantly to malnutrition among older people. As health care, medication, and utility costs increase, many older Americans cut back on their food budget.

Life-style factors. A recent evaluation of 179 participants in the Rhode Island Meals on Wheels program reported that 38% of participants stored their food in a refrigerator, but 30% particularly those 85 and older, stored their food on the counter. Furthermore, according to the 1996 Hamburger and Egg Consumption Diary data, women age 65 and older had the highest frequencies of consuming lightly cooked egg dishes, 21 times per year. Finally, only 6% of respondents to an FDA commissioned survey knew that older adults were at high risk for foodborne illness.

Applying safe food handling practices is especially important for older adults because of their increased risk for serious complications due to

foodborne illness. Therefore, teaching older adults how to handle food safely could reduce their risk for foodborne illness.

Special food safety tips for this audience

Persons who are at high risk for foodborne illness should not only handle food safely but should also be careful about what foods they eat.

Older adults should avoid eating:

- Unpasteurized juices — these juices carry a warning label.
- Raw sprouts, such as alfalfa, clover, and radish.
- Ground meat, fish, and shellfish — clams, oysters, scallops, and mussels — that are not fully cooked.
- Rare steaks.
- Raw fish and shellfish, such as raw oysters, sushi, and sashimi.
- Soft cheese, such as feta, Brie, Camembert, blue-veined, and Mexican-style cheese — this does not include hard cheese, cottage cheese, cream cheese, and yogurt.
- Unpasteurized milk or cheese from cows and goats.
- Raw or lightly cooked eggs, including foods that contain them such as salad dressings, cookie or cake batter, sauces, eggnog, homemade ice cream, eggs over easy — foods made with commercially pasteurized eggs are safe to eat.

Other food safety resources for older adults

Websites containing non-copyrighted materials that can supplement the materials in this guide include:

The Food and Drug Administration has teamed up with AARP to sponsor a website packed with information to help seniors prevent foodborne illness

<http://vm/cfsan/fda/gov/~dms/seniors.html>

The USDA has a lot of excellent food safety information at their consumer food safety website.

<http://www.fsis.usda.gov>

The Partnership for Food Safety Education

<http://www.fightbac.org>

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Session 1 — CLEAN: Wash hands and surfaces often

Objective:

Participants will be able to describe how to properly clean hands and surfaces.

Food safety messages:

- For Your Health, Food Safety Begins at Home
- CLEAN: Wash hands and surfaces often

Time to complete session:

60 - 90 minutes, depending on the number of activities used

Materials needed:

- **Teaching Tools**
 - Easel
 - Laminated Fight BAC!TM poster
- **Activity 1 — Glo-GermTM**
 - Glo-GermTM lotion
 - Ultraviolet black light
- **Activity 2 — Display of Handwashing Agents, *optional***
 - Antibacterial liquid soap
 - Antibacterial bar soap
 - Bar soap
 - Instant hand sanitizer
 - Alcohol swabs
 - Hand wipes
- **Activity 3 — Food Safety Tools, *optional***
 - Paper bag
 - Chlorine bleach sanitizing solution in a spray bottle
 - Hand soap
 - Paper towels
 - Sponge
 - Lysol® spray
 - Dish cloth

- **Activity 4 — Are You at Risk for Foodborne Illness?**
 - Handout — Are You are Risk for Foodborne Illness?
- **Take-home handouts**
 - Word search puzzle — Are You are Risk for Foodborne Illness? Make additional word search puzzles by going to the website — <http://puzzlemaker.school.discovery.com>.
 - Word search puzzle — CLEAN.
 - Handwashing chart
 - CLEAN: Wash hands and surfaces often
 - Home Food Safety Inspection
 - Food Poisoning — What's All the Fuss?

Recommended way to conduct the session:

- Put the laminated Fight BAC![®] poster onto your easel.
- Welcome all participants.
- Open the session with the question "How often do you wash your hands?"
- Summarize background information.
- Conduct Activity 1 — Glo-Germ[™].
- If time permits, conduct either Activity 2 — Display of Handwashing Agents *or* Activity 3 — Food Safety Tools.
- Conduct Activity 4 — Are You at Risk for Foodborne Illness?
- Present the wrap-up scenario.
- Distribute the take-home handouts.
- Share the take-home tips.

Background information to teach session

When taking into account unreported cases, the Centers for Disease Control and Prevention estimates that about 76 million foodborne illnesses occur each year in the US with 325,000 hospitalizations and 5,000 associated deaths. Pregnant women, young children, older adults, and the chronically ill are at an increased risk due to physiological factors.

Older adults are at an increased risk for foodborne illness due to physiological factors, such as the presence of a chronic medical condition, functionality, use of prescription drugs, recent major surgery, and decreased sensing abilities. Their environment might also contribute to their increased risk when noting the issues of home facilities and economics. Life-style practices, such as consuming high-risk foods and not applying safe food handling practices might also put them at high risk.

Many older adults do not believe they are susceptible to foodborne illness or that the complications are serious enough to cause concern. In

order for a food safety education program to be successful, it is hypothesized that individuals must perceive that they are susceptible to foodborne illness and that foodborne illness is a very serious illness. Particularly when working with highly susceptible population groups, such as older adults, it is important to share that foodborne illness can result in severe complications. Older adults are more prone to complications that might require medical treatment or hospitalization and could result in death.

Therefore, it is important to share with older adults how they can prevent foodborne illness. One of the best controls they have is to implement the Fight BAC!® principles — CLEAN, SEPARATE, COOK, and CHILL. This session will focus on the principle CLEAN.

Bacteria can spread throughout the kitchen and get onto cutting boards, utensils, sponges, and countertops. Here are specific ways that cleaning can Fight BAC!®:

Personal Cleanliness

- Wash hands with warm soapy water before handling food and after using the bathroom, changing diapers, and touching pets. Hands should be washed with soap and warm (not hot) water for at least 20 seconds. Hot water tends to dry out the skin leading to cracking. It is important to rinse hands thoroughly so as to remove the harmful microorganisms that might be on the hands. Handwashing does not kill microorganisms, it simply removes them from the skin surface.
- Antibacterial soaps are no more effective than regular soaps. Therefore, any body soap can be used for handwashing.
- Wear a clean, plastic glove over a skin cut, if preparing food for others.
- Sneeze or cough away from food.

Kitchen Cleanliness

- Wash cutting boards, dishes, and countertops with hot soapy water after preparing each food item and before moving on to the next food.
- Under normal circumstances, washing thoroughly with soap and hot water is effective for kitchen cleanliness. People do not need to use antibacterial soaps and products.
- After washing, sanitize the surface particularly if preparing food for individuals who are at high risk for foodborne illness. Washing removes microorganisms; sanitizing kills most of them. Household bleach is a good sanitizer. It is inexpensive, effective, and available at your local grocery store. Do not use scented bleaches, such as fresh scent or lemon scent for sanitizing. Also, never use disinfectants such as Lysol®, alcohol, or bathroom cleaners on food-contact surfaces. They could be toxic.
- To prepare sanitizing solution for surfaces, mix one tablespoon of unscented bleach with one gallon of warm (not hot) water. Clean surface with warm soapy water and then rinse with clean water. Immerse the item into the solution for at least one minute. Wipe surface with sanitizing solution. Do not rinse off the sanitizing solution. If you cannot immerse the item in sanitizing solution, you will have to spray or wipe the surface with sanitizing solution. After spraying or wiping the surface, let air-dry.
- Use plastic or other non-porous cutting boards. These boards should be run through the dishwasher or washed in hot soapy water— after each use. Also, heavily scratched boards are difficult to get completely clean and free of bacteria. If the board's surface is heavily scratched, buy a new board.
- Consider using paper towels to clean up kitchen surfaces. If using cloth towels, wash them often in the hot cycle of the washing machine.
- Use clean dishes and utensils when serving food. Do not use your personal spoon in a serving dish if preparing food for others.
- Use clean, covered containers to store food.
- Keep your refrigerator clean.
- Wipe off can lids before opening and wash your can opener often.
- Keep your cupboards, floors, and countertops clean and free from insects and rodents. Insects and rodents carry bacteria, which can cause foodborne illness.

Activity 1 — Glo-Germ™

Materials Needed:

- ❑ Glo-Germ™ lotion
- ❑ Ultraviolet black light

Conducting the Activity:

- Put a dime size amount of the Glo-Germ™ lotion on each participant's hands.
- Have them rub into their hands like hand lotion.
- Have them wash their hands as they normally do at home.
- Have them place their hands under the ultraviolet light so you can evaluate how well they washed their hands.
- Discuss why cleaning hands thoroughly is one control for foodborne illness.

Activity 2 — Display of Handwashing Agents, *optional*

Materials Needed:

- ❑ Antibacterial liquid soap
- ❑ Antibacterial bar soap
- ❑ Bar soap
- ❑ Instant hand sanitizer
- ❑ Alcohol swabs
- ❑ Hand wipes

Conducting the Activity:

- Set up a table with all of the above-mentioned handwashing agents.
- Ask the participants to decide which products are essential to effectively clean their hands.
- Discuss the differences in the products.

Activity 3 — Food Safety Tools, *optional*

Materials Needed:

If you do not have access to the real items, put a card in each bag with the name of the item written on it.

- Paper bag
- Chlorine sanitizing solution in a spray bottle
- Hand soap
- Dish soap
- Paper towels
- Lysol® spray
- Dish cloth
- Sponge

Conducting the Activity:

- Walk around the room and have a participant pull one item (or card) out of a paper bag.
- Ask the participants to look at the item and decide what the items have to do with keeping food safe.
 - *Hand soap* — Clean hands are an important part of preparing safe food. Hands should be washed for at least 20 seconds with warm running water and soap. Wash hands often, especially after going to the bathroom, after blowing your nose, after touching pets, after coming in from the outside, and always before handling foods, and after handling raw meats, poultry, fish, or eggs.
 - *Chlorine sanitizing solution in a spray bottle* — Chlorine bleach is one of the most effective sanitizing agents you can use and is one of the cheapest. You can prepare a sanitizing solution by mixing one tablespoon of unscented bleach per gallon of warm (not hot) water. This solution can be used for sanitizing cutting boards, dishes, etc. Submerge the items you want to sanitize in this solution for at least one minute. Put freshly prepared solution in a spray bottle so it can be used on counter tops and other kitchen surfaces that cannot be submerged into a sanitizing solution. Spray the surface thoroughly with sanitizing solution and let air-dry.
 - *Lysol® spray* — Lysol® is alcohol-based. It is not recommended for use on food-contact surfaces, such as

countertops and inside the refrigerator. It should only be used to sanitize surfaces that do not come in contact with food, such as floors and walls. It could be toxic if consumed.

- *Paper towels* — Paper towels are ideal for use in the kitchen because they are used once and thrown away. However, they can be expensive.
- *Dishcloth* — Dishcloths can be washed in the hot cycle of the washing machine to sanitize them. If you use a dishcloth, change it daily, or even more often if it is used to wipe up food spills.
- *Sponge* — Sponges have lots of nooks and crannies where bacteria could hide and make them difficult to destroy. There have been many suggested methods for cleaning sponges but it is best to use a dishcloth for cleaning.

Activity 4 — Are You at Risk for Foodborne Illness?

This activity can be the first activity of the session, however, keep in mind that immediately beginning with a survey might be intimidating to some of the program participants.

Materials needed:

- One copy of the handout *Are You at Risk for Foodborne Illness?* for each participant.

Conducting the activity:

The purpose of this activity is to increase the participant's knowledge about the factors that increase their risk for foodborne illness. This activity centers on a 20-item survey. Begin by reading the following instructions: "Some of us might never have had foodborne illness or we might not know if we have. Often, the flu is mistaken for foodborne illness. A lot of things can make you more likely to get foodborne illness. Let's find out if you are at risk." Then read the following 20 questions in the exact order as they appear below. (*Do not read the headers.*) The more items the participants agrees with, the greater their risk for foodborne illness. If time is available, have the participants total their scores. If not, collect, total, and return the handouts at the next session.

Physiological factors

1. My doctor told me I have a chronic illness or condition.

2. When I eat, sometimes I have problems tasting food.
3. I have had major surgery within the past two months.
4. I take prescription medications.
5. I have poor eyesight with or without my glasses.
6. I have trouble smelling foods.
7. I have a cold or the flu or am just getting over one or the other.

Environmental factors

8. Sometimes I do not get enough to eat.
9. I cannot depend on my refrigerator to keep foods cold.
10. Sometimes I do not have enough money to buy food.
11. I do not know if my water is safe to drink.

Life-style factors

12. Sometimes I eat eggs that are not cooked to well done.
13. Sometimes I eat hamburger meat that is not cooked to well done.
14. I do not know what temperature my refrigerator is.
15. Sometimes I leave leftovers sitting on the countertop to cool off and it might be for more than two hours.
16. I rarely check the temperature of hot foods with a thermometer.
17. Sometimes I do not wash my hands before eating or preparing food.
18. Sometimes I carry leftover food home from restaurant meals, but often do not go straight home.
19. I do not always wash my cutting board after using it.
20. I have some food in my refrigerator that has been there a long time.

When you have finished reading the items, have the participants total the number of items with which they agree. Emphasize that the more items that they agreed with, the greater their risk for foodborne illness. Emphasize that they can prevent foodborne illness by handling food safely in their home. Foodborne illness is nearly 100% preventable, *if* safe food handling practices are applied.

Wrap-up Scenario

Read the following scenario and ask the questions "*What food handling mistake was made that could make the food unsafe to eat? What should have been done?*"

Scenario. Sylvia is preparing her dinner. Sylvia rinses her hands, mixes the ingredients for the meat loaf and then places the loaf in the pan. She wipes

her hands on the front of her apron and takes the pan to the oven. While the meat loaf is cooking, she prepares a tossed salad. She has already washed the lettuce, tomatoes, and other vegetables that will be used in the salad. She is busy putting the finishing touches on the salad when the timer for the meat loaf rings. She wipes her hands on her apron and goes to check on the meat loaf. She checks the internal temperature of the meat loaf using a clean food thermometer. She waits 15 seconds and then checks the thermometer to make sure it reads at least 160°F. She then wipes her hands on her apron and returns to work on the salad. This will be one dinner that will really hit the spot!

Answer to Scenario. Sylvia did not wash her hands properly. She wiped them on her apron. Bacteria from the meat that might have been on her unwashed hands and/or on her apron could be spread to the tossed salad that was not cooked. She should have washed hands using warm, soapy water before preparing the salad.

Take-home Tips

- Give each participant a copy of the handwashing chart. Have each participant record every time they wash their hands for the next week.
- Give each individual a copy of the handout Home Food Safety Inspection. Tell them to go home and evaluate how safe their kitchen is.

Session 2— SEPARATE: Separate raw, cooked, and ready-to-eat foods while shopping, preparing, or storing

Objective:

Participants will be able to describe how to prevent cross-contamination through the proper storage and handling of foods.

Food safety messages:

- For Your Health, Food Safety Begins at Home
- SEPARATE: Separate raw, cooked, and ready-to-eat foods while shopping, preparing, or storing

Time to complete session:

60 - 90 minutes, depending on the number of activities used

Materials needed:

- **Teaching Tools**
 - Easel
 - Laminated Fight BAC!TM poster
- **Activity 1 — Cross-contamination demonstration**
 - Chicken food model
 - Vegetable food model
 - Pot or kettle
 - Cutting board
 - Knife
 - Dishcloth
 - Plastic wrap
 - Colored stickers
- **Activity 2 — Spreading the Germs, *optional***
 - Hamburger patty food model
 - Cooking pan
 - Two plates
 - Cooking spatula
 - Dark-colored dishcloth
 - Glo-germTM lotion

- Ultraviolet light
- **Take-home handouts**
 - Word search puzzle — SEPARATE. Make additional word search puzzles by going to the website — <http://puzzlemaker.school.discovery.com>.
 - SEPARATE: Don't cross-contaminate
 - Shopping Safely

Recommended way to conduct the session:

- Put the laminated Fight BAC!® poster onto your easel.
- Welcome all participants.
- Open the session by asking who completed the take-home tips.
- Answer any questions from the previous session.
- Briefly review the information from the previous session.
- Summarize the background information.
- Conduct Activity 1 — Cross-contamination Demonstration.
- Briefly cover the teaching points.
- If time permits, conduct Activity 2 — Spreading the Germs.
- Present the wrap-up scenario.
- Distribute the take-home handouts.
- Share the take-home tips.

Background information to teach session

Cross-contamination is how bacteria can be spread from one food to another. This is especially true when handling raw meat, poultry, and seafood, so keep these foods and their juices away from ready-to-eat foods. Here's how to Fight BAC!®:

Shopping

- Separate raw meat, poultry and seafood from other foods in a shopping cart.
- Place raw meat, poultry, and seafood in your cart so that juices do not drip onto other foods.
- Buy packaged, precooked foods only if there are no tears in the packaging.
- Buy unpackaged, cooked meat or poultry from the refrigerated deli case only if the meat and poultry are not in contact with other foods in the case.

Storing

- Store raw meat, fish, and poultry on a plate on the bottom shelf of the refrigerator. This prevents juices from dripping onto other foods that will not be cooked.
- Use freezer wrap/bags or heavy-duty aluminum foil over the commercial wrap on food stored in the freezer.

Preparing/serving

- If possible, use a different cutting board for raw meat products.
- Always wash hands, cutting boards, dishes, and utensils with hot soapy water after they come in contact with raw meat, poultry, and seafood. It is best to sanitize cleaned surfaces.
- Never place cooked food on a plate which previously held raw meat, poultry or fish and has not been properly cleaned.
- Never reuse marinades. Do not dip cooked foods in or brush them with marinades, which have been used on raw foods.
- Bake stuffing separately.
- A turkey can be stuffed just before cooking.

Activity 1 — Cross-contamination Demonstration

Materials Needed:

- ❑ Chicken food model
- ❑ Vegetable food model
- ❑ Pot or kettle
- ❑ Cutting board
- ❑ Knife
- ❑ Dishcloth
- ❑ Plastic wrap
- ❑ Colored stickers

Conducting the Activity:

- Ask one volunteer to act out the scenario as you read it.
- Read the following scenario to the group and have your volunteer mimic the contents of the story.

Ruby Clark likes to prepare chicken soup every Saturday afternoon so she can have it for lunch during the week. She takes the raw chicken from the refrigerator, removes the wrapping, and rinses it under cold water. She then lays the chicken on the cutting board and cuts it into small pieces with her knife. The chicken goes into the kettle. Ruby looks at the clock. Almost time for her daily afternoon television program. She reaches for her dishcloth, wipes the juice off her cutting board and kitchen counter, and then rinses her knife under the faucet. Ruby then cleans the vegetables, places them on the cutting board, and chops them. She lays a few chopped carrots aside to eat later and places the other vegetables into the kettle. Finished just in time!

- Have the remaining participants put stickers onto all the surfaces that the chicken juices came in contact with. After completion of the activity, have the participants count the number of stickers and discuss what Ruby should have done.

Activity 2 — Spreading the Germs, *optional*

Materials Needed:

- ❑ Hamburger patty food model
- ❑ Cooking pan
- ❑ Two plates
- ❑ Cooking spatula
- ❑ Dark-colored dishcloth
- ❑ Glo-germ™ lotion
- ❑ Ultraviolet light

Conducting the Activity:

- Before the session, lightly coat the plate with Glo-Germ™ lotion. This will be the dirty plate.
- Lightly coat Glo-Germ™ lotion on the counter to mimic meat juice.
- Place the hamburger patty food model (it is cooked) onto the dirty plate.
- Wipe up the counter with the dark-colored dishcloth.
- Using the ultraviolet light, check if bacteria are on the cooked hamburger patty, the plate and the dishcloth.
- Discuss the importance of separating cooked foods from raw and remind the participants to properly clean the dishcloth after using it to wipe up spills.

Wrap-up Scenario

Read the following scenario and ask the questions "*What food handling mistake was made that could make the food unsafe to eat? What should have been done?*"

Scenario. Jan and Tom have just arrived back from the store. Just as they get in the door, the phone begins to ring. Jan goes to answer. Tom begins to put away the groceries. He puts the frozen lasagna and the frozen vegetables in the freezer. He places the grapes in the refrigerator on the middle shelf. Jan comes back in and puts the package of raw chicken on the shelf above the grapes. They then go and watch their favorite television program.

Answer to Scenario. Jan placed raw chicken above grapes that can be safely eaten without cooking. Juices from the raw chicken can drip onto the grapes contaminating them with potentially harmful bacteria. Raw meat,

fish, and poultry should be stored below ready-to-eat foods, such as grapes and other vegetables, and other cooked foods.

Take-home Tips

- Ask participants to go home and check how food is stored in their refrigerator. Ask them to rearrange their foods so that raw meats, fish, and poultry are on the lowest shelf or place them in the meat drawer.
- Ask participants to go home and find their cutting board.

Session 3 — COOK: Cook food to a safe temperature

Objective:

Participants will be able to describe how to determine if a food is thoroughly cooked.

Food safety messages:

- For Your Health, Food Safety Begins at Home
- COOK: Cook food to a safe temperature

Time to complete session:

60 - 90 minutes, depending on the number of activities used

Materials needed:

- **Teaching Tools**
 - Easel
 - Laminated Fight BAC!TM poster
- **Activity 1 — Who's to Blame**
 - Name cards for the Who's to Blame? Cast
 - Eight copies of the Who's to Blame? Script
 - Gavel, *optional*
 - Judge robe, *optional*
 - Sign that says "Food Safety Court", *optional*
- **Activity 2 — Can You Tell?, *optional***
 - Preformed hamburger patties
 - Electric grill
 - Plates
 - Spatula
 - One kitchen thermometer (range of 0 to 220°F)
- **Activity 3 — Food Safety Tools, *optional***
 - Paper bag
 - Thermometers — refrigerator, food, oven, freezer, and candy
 - Timer
 - Clean pans

□ **Take-home handouts**

- Word search puzzle — COOK. Make additional word search puzzles by going to the website — <http://puzzlemaker.school.discovery.com>.
- Cooking Times
- COOK: Cook food to a safe temperature

Recommended way to conduct the session:

- Put the laminated Fight BAC![®] poster onto your easel.
- Welcome all participants.
- Open the session by asking who completed the take-home tips.
- Answer any questions from the previous session.
- Briefly review the information from the previous session.
- Summarize the background information.
- Conduct Activity 1 — Who's to Blame?
- If time permits, conduct either Activity 2 — Can You Tell? *or* Activity 3 — Food Safety Tools.
- Present the wrap-up scenario.
- Distribute the take-home handouts.
- Share the take-home tips.

Background information to teach session

Some uncooked and undercooked foods can be unsafe. Proper cooking makes most foods safe because it kills harmful microorganisms, such as bacteria, some viruses, and parasites. Cooking is the process of heating food for a long enough time and at high enough temperature to kill harmful microorganisms that might be present.

Cooking

- Use oven temperatures of 325°F or higher to cook meat, poultry, and seafood.
- Cooking must be continuous. Never partially cook food, let it sit, then finish cooking it later. This allows harmful bacteria to grow and possibly toxins to be formed.
- Do not use recipes which call for cooking without a heat source, such as putting meat or poultry in boiling water or in a preheated oven and then turning off the heat.

Meat, poultry, seafood, and eggs

- Do not taste meat, poultry, eggs, fish or shellfish when raw or during cooking.
- Cook meat and poultry to the correct temperatures.
- The best way to tell if food has been properly cooked is to check it with a kitchen thermometer. Many kinds of inexpensive thermometers are available. Look for one that has a temperature range of 0 to 220°F because it can be used with both hot and cold foods.
- Cook eggs until the yolk and white are firm, not runny. Do not eat raw or partially cooked eggs.

Microwave oven

- Cover food. If using plastic wrap, do not let it touch the food. At high temperature, food may absorb chemicals from plastic wrap.
- Half-way through the cooking process stir food, rotate the container, and finish cooking.
- Half-way through the cooking process turn over large pieces of food.
- Check the temperature of the food in at least three spots.
- Follow package directions for cooking times. Let cooked food stand for the recommended time before serving.
- Always reheat takeout food in a microwave-safe container.

Slow cooker or smoker

- Start with fresh, rather than frozen, food.
- Use chunks of meat rather than large cuts.
- Be sure the recipe includes liquid.
- Check the internal temperature in three spots to be sure the food is thoroughly cooked.

Serving

- Keep hot food at 140°F or hotter.

Reheating leftovers

- Bring sauces, soups, and gravies to a boil.
- Heat leftovers thoroughly to 165°F or until hot and steaming throughout.
- Some foods that are thoroughly cooked upon purchase should also be cooked before eating. These foods might have been contaminated during storage or handling. Reheat ready-to-eat foods such as hot dogs, luncheon meats, cold cuts, fermented and dry sausage, and other deli-style meat and poultry products until they are steaming hot.

Activity 1 — Who's to Blame?

Materials Needed:

- Name cards for the Who's to Blame? Cast
- Eight copies of the Who's to Blame? Script (Label each script with the name of one character. Highlight with a yellow marker the character's dialogue throughout to make it easier for the volunteer to read their part.)
- Gavel, *optional*
- Judge robe, *optional*
- Sign that says "Food Safety Court", *optional*

Conducting the Activity:

- Set up the room in a style similar to a courtroom.
- Get eight volunteers from the class to act out the characters in the script "Who's to Blame?"
- Give the name cards to each volunteer; have them put them on.
- Have volunteers read their parts.
- Discuss.

Activity 2 — Can You Tell? *optional*

NOTE: This activity should only be conducted if the program site has a kitchen.

Materials Needed:

- ❑ Preformed hamburger patties
- ❑ Electric grill
- ❑ Plates
- ❑ Spatula
- ❑ One kitchen thermometer (range of 0 to 220°F)

Conducting the Activity:

- Have one participant cook the hamburger patties until he/she believes that they are done.
- Have another participant measure the temperature and tell the class what the temperature is.
- Discuss the importance of using a food thermometer to determine thorough cooking.

Activity 3 — Food Safety Tools, *optional*

Materials Needed:

NOTE: if you cannot use the real items, put a card in each bag with the name of the item written on it.

- ❑ Paper bag
- ❑ Thermometers — refrigerator, food, oven, freezer, candy
- ❑ Timer
- ❑ Clean pans

Conducting the Activity:

- Walk around the room and have a participant pull one item (or card) out of a paper bag.
- Ask the participants to look at the item and decide what the item has to do with keeping food safe.
 - *Thermometers* — A thermometer is used to check if the internal temperature has been reached. A meat thermometer can be placed in the meat or poultry and left in during the cooking

process. However, the internal temperature should be double-checked with a food thermometer that has a temperature range of 0 to 220°F. The only safe way to determine doneness is to use a food thermometer.

- *Timer* — A timer can be used to determine the length of time that a food has been cooked or is being cooked.
- *Clean pans* — Bacteria can remain in improperly cleaned pans. Always use properly cleaned pans for food preparation, storage, cooking, and service.

Wrap-up Scenario

Read the following scenario and ask the questions "*What food handling mistake was made that could make the food unsafe to eat? What should have been done?*"

Scenario. Ed and Luci have been to the mall. They decide to have a quick dinner. They have two chicken breasts in the refrigerator and so decide to eat them. Ed gets the chicken from the refrigerator where it has been stored at less than 40°F. Luci decides to make a salad to go with the chicken. She thoroughly washes her hands using warm, running water, and soap. She rubs her hands vigorously together. After all, it is cold and flu season. While Luci is busy with the salad, Ed cooks the chicken on the grill until the outside is dark brown. Dinner for two is served.

Answer to Scenario. Cook the chicken until it reaches at least 180°F. Use a food thermometer to check the temperature.

Take-home Tips

- Ask each participant to check the temperature of at least three foods that they cook or reheat during the week.
- Ask them to bring in their thermometers to the next class so that the thermometer can be checked for accuracy.

Session 4 — CHILL: Refrigerate perishable foods promptly

Objective:

Participants will be able to explain why refrigerating foods keeps it safe to eat.

Food safety messages:

- For Your Health, Food Safety Begins at Home
- CHILL: Refrigerate perishable foods promptly

Time to complete session:

60 - 90 minutes, depending on the number of activities used

Materials needed:

- **Teaching Tools**
 - Easel
 - Laminated Fight BAC!® poster
- **Activity 1 — How Does It Grow?**
 - Three packets of dry yeast
 - Three glass containers
 - Lukewarm water, boiling water, and ice water
- **Activity 2 — Food Safety Bingo**
 - Questions
 - Bingo cards
- **Activity 3 — Checking the Accuracy of a Kitchen Thermometer, *optional***
 - Cold water
 - Crushed ice
 - Cups
 - Pliers
- **Activity 4 — Food Safety Tools, *optional***
 - Shallow pan
 - Small containers
 - Food thermometer
 - Refrigerator thermometer
 - Food thermometer
- **Take-home handouts**

- Word search puzzle — CHILL. Make additional word search puzzles by going to the website — <http://puzzlemaker.school.discovery.com>.
- In the Refrigerator
- Eating Out
- CHILL: Refrigerate perishable foods promptly

Recommended way to conduct the session:

- Put the laminated Fight BAC![®] poster onto your easel.
- Welcome all participants.
- Open the session by asking who completed the take-home tips.
- Answer any questions from the previous session.
- Briefly review the information from the previous session.
- Summarize the background information.
- Conduct Activity 1 — How Does It Grow?
- Conduct Activity 2 — Food Safety Bingo
- If time permits, conduct Activity 3 — Checking the accuracy of a thermometer *or* Activity 4 — Food Safety Tools.
- Present the wrap-up scenario.
- Distribute the take-home handouts.
- Share the take-home tip.

Background information to teach session

Refrigerate foods quickly. Cold temperatures keep most harmful bacteria from growing and multiplying. Bacteria grow most rapidly when food is in the danger zone between 40 and 140°F.

Perishable foods that are kept at unsafe temperatures can support the growth of bacteria. Therefore, do not keep perishable food at room temperature for more than two hours. Do not leave out food for more than one hour if the room or outside temperature is 90°F or hotter. This rule also applies to take-out foods and leftovers from home, a restaurant, or a Meals on Wheels delivery.

Shopping

- Buy foods labeled "Keep Refrigerated" only if they are stored in a refrigerated case in the store.
- Buy frozen foods only if they are frozen to the touch in the store.
- Shop for refrigerated and frozen products last. Pack them together. If it takes more than one hour to get home, use a cooler to transport them home.
- Within two hours (or one hour if it is hotter than 90°F outside), refrigerate, freeze, serve, or reheat cooked foods.
- When returning from the grocery store, store groceries inside the car and not in the trunk of the car. The trunk of the car, especially during the summer months, can sometimes reach temperatures over 100°F.

Storing

- Set your refrigerator between 34 and 38°F to keep food safe. Use a refrigerator thermometer to check the temperature of the refrigerator. The thermometer should be placed in the warmest location of the refrigerator, which is usually towards the front of the unit.
- If raw meat, chicken or seafood juices spill in your refrigerator, clean them up with soapy water, then rinse, and sanitize with a solution of one cap of unscented bleach per gallon of warm (not hot) water. The sanitizing solution does not need to be wiped off.
- Keep your freezer at 0°F or colder. Defrost your freezer when the ice builds up. Foods do not last indefinitely in a refrigerator or freezer. Use up foods quickly.
- Be sure that you have enough refrigerator or freezer space for your foods. Cool air needs to circulate to keep food safe.
- Do not store perishable foods in the refrigerator door. Put them on the shelves in the main part of the refrigerator. The temperature of foods stored in the door can increase when the refrigerator is opened.

Emergencies

- If your refrigerator or freezer stops working, keep the doors closed. If the refrigerator/freezer will be off for a long time, find some other refrigerator for your food such as in a neighbor's home, a school, or a church.
- Refrigerated foods
 - Foods will stay cold for four to six hours.
 - Open the door only to add bags of ice.
 - When the refrigerator is working again, check the temperature to see if it is still 40°F or colder. Perishable foods which have

been kept above 70°F for more than two hours should be thrown out.

- Frozen foods:
 - Foods in a full freezer will stay frozen for about two days. Foods in a half-full freezer will stay frozen for about one day.
 - Cover the freezer with blankets, but be sure to keep the air vent uncovered.
 - When the freezer is working again, check the temperature to see if it is still 0°F or colder. Freeze foods that have ice crystals.

Preparation

- Never thaw meat, poultry or seafood or dishes containing them on the kitchen counter. Thaw these foods in one of the following ways: in the refrigerator; under cold water changed every 30 minutes or under cold running water (put the food in a leak proof pack or a plastic bag); or in the microwave (food thawed in the microwave must be cooked immediately after thawing.)
- Never marinate food on the kitchen counter. Use the refrigerator.

Serving/Handling Leftovers

- When the temperature in the serving area is 90°F or warmer, do not let perishable food sit out for more than one hour before reheating, refrigerating, or freezing the food.
- When the temperature in the serving area is below 90°F, do not let perishable food sits out for more than two hours before heating, refrigerating, or freezing the food. Perishable food left out for more than two hours should be thrown out.
- Cool leftovers quickly. Divide large amounts of food into smaller amounts. Store food in small shallow, loosely covered containers. Cover tightly when the food has cooled. Hot foods can be put directly into the refrigerator or freezer.
- Remove the stuffing from leftover poultry and other leftover stuffed meats. Refrigerate stuffing in a separate container.
- Use refrigerated leftovers within three to four days. Freeze leftovers that cannot be used in this time period.
- Promptly refrigerate (or freeze) all perishable foods. Put hot foods into shallow pans that are about two inches deep. Cover the pan with a lid, plastic wrap, or aluminum foil. Refrigerate promptly.

Activity 1 — How Does It Grow?

Materials Needed:

- Three small glass dishes
- Three packets of dry yeast
- Water — lukewarm, cold, and boiling hot

Conducting the Activity:

- Before you begin, read the label of the dry yeast to determine if you need to add sugar to help the yeast grow.
- Put _ cup of lukewarm water in one dish, _ cup boiling water in the second dish, and _ cup ice water in the third dish.
- Add one packet of dry yeast to each dish.
- In a few minutes, you should have dramatic evidence that bacteria (as represented by the yeast) grows faster at room temperature than at hot or cold temperatures. This is because:
 - You started with billions of live yeast cells.
 - At the right temperature, yeast produces a lot of gas (carbon dioxide) that makes it bubble and rise. It can make a lasting impression to see how fast bacteria can grow.
 - Most bacteria do not produce gas to bubble and rise and most foods do not have as many bacteria on them as the amount of yeast that we started with. But, it also takes many times fewer bacteria to make you sick.
- Discuss why it is important to keep foods cold.

Activity 2 — Food Safety Bingo

Materials Needed:

- Bingo cards
- Questions

Conducting the Activity:

- Read the questions in any order.
- Have the group give an answer.
- Have the participants find the answer on their card.
- The first individual who gets five across, down, or diagonally wins.
- If possible, give a food safety themed prize to the winner(s).

Bingo questions

Your refrigerator should be no warmer than _____. **38°F**

What temperature should your freezer be? **0°F**

How long can perishable foods be held on the countertop? **2 hours**

What type of a container should you use to cool hot foods? **Shallow**

What should you use to check the temperature of your refrigerator?
Thermometer

Where should you put a thermometer in your refrigerator? **In the front**

Where should you store raw meat when you are marinating it? **In the refrigerator**

On which shelf in the refrigerator should you store your raw meats? **Bottom**

What can grow in foods that are not promptly refrigerated? **Bacteria**

What should you do when ice builds up inside your freezer? **Defrost**

Where should you put your groceries in your car? **Inside the car**

What should be stored on the bottom shelf of the refrigerator? **Raw foods**

What is the first thing that you should do to a cutting board after using it for raw meats? **Wash**

What should you use to wash your hands? **Plain soap**

What type of food should be stored above raw foods? **Ready-to-eat**

What should you do to a cutting board after it is washed in soapy water and rinsed thoroughly? **Sanitize**

What do you use to clean food-contact surfaces? **Detergent**

After washing a surface, always do this. **Rinse**

To what temperature should hamburger be cooked? **160°F**

If the outside temperature is 90°F, how long can food sit at room temperature? **1 hour**

What is the minimal amount of time that you should wash your hands? **20 seconds**

Other than bacteria, what might be on your hands? **Viruses**

Cook a casserole until it is what temperature? **165°F**

Finish the sentence "Food safety _____ ." **begins at home**

Cook ground meat until there is no _____ in the middle. **Pink**

Activity 3 — Checking the Accuracy of a Kitchen Thermometer, *optional*

Materials Needed:

- ❑ Cold water
- ❑ Crushed ice
- ❑ 1 or 2 cups, plastic or glass
- ❑ Pliers
- ❑ Participants' thermometers — NOTE: Not all thermometers can be calibrated. Typically only metal-stem thermometers that have a 0-220°F range can be calibrated at home, which is why these are the best food thermometers to use.

Conducting the Activity:

- Fill a cup with 50% crushed ice and 50% cold water.
- Let sit for about 2 minutes.
- Insert first thermometer into cup.
- Take reading.
- Adjust to 32°F, with pliers, if necessary.

Activity 4 — Food Safety Tools, *optional*

Materials Needed:

If you cannot use the real items, put a card in the bag with the item name written on it.

- ❑ Paper bag
- ❑ Shallow pan
- ❑ Small containers
- ❑ Food thermometer
- ❑ Refrigerator thermometer

Conducting the Activity:

- Walk around the room and have a participant pull one item (or card) out of a paper bag.
- Ask the group to look at the item and decide what the item has to do with keeping food safe.
 - *Shallow pan* — This type of container will cool foods quickly. Two shallow portions of a food will cool more quickly than one

large, deep portion. Pots of hot soups or chili could be divided into two or more shallow containers and refrigerated or frozen immediately. The same would be true for foods, such as potato salad.

- *Small containers* — These containers will cool foods quickly. Two shallow portions of a food will cool more quickly than one large, deep portion. Pots of hot soups or chili could be divided into two shallow containers and refrigerated immediately to cool down quickly. The same would be true for cold foods, such as potato salad.
- *Food thermometer* — a thermometer is used to check if the internal temperature has been reached. A meat thermometer can be placed in the meat or poultry and left in during the cooking process. However, the internal temperature should be double-checked with a food thermometer that has a temperature range of 0 to 220°F. The only safe way to determine doneness is to use a food thermometer.
- *Refrigerator thermometer* — Place the refrigerator thermometer in the warmest location of the refrigerator, usually towards the front, to determine if the refrigerator is operating at 38°F or colder.

Wrap-up Scenario

Read the following scenario and ask the questions "*What food handling mistake was made that could make the food unsafe to eat? What should have been done?*"

Scenario. Susan and Bill were making 20 gallons of chili for a church event. They prepared their favorite recipe carefully. Bill thawed the ground beef by moving it from the freezer to a refrigerator ahead of time. They were both very careful to wash their hands thoroughly and wear clean clothing. Susan chopped the onions and peppers on a clean cutting board. While the chili was cooking, Susan had some errands to run. Bill stayed at the church to make sure the chili cooked properly. When the chili was finished, Bill set it on the counter to cool for a while and then placed it in the church refrigerator. The next morning when they arrived to reheat the chili and get ready for the day's events, they found that the chili was still warm. Oh no!! Bill decided to heat the chili until it was boiling before serving.

Answer to Scenario. Bill set the chili on the countertop to cool and then placed it in the refrigerator. He did nothing to help cool the chili quickly. He

should have cooled it in an ice bath before dividing it into shallow containers to refrigerate it to cool it quickly.

Take-home Tip

- Tell the participants to check the rubber gaskets around their refrigerator door to be sure that the door is closing tightly. Have them slip a piece of paper between the door and the refrigerator. If the paper falls out the gaskets are loose or the area is dirty. They will need to have the gaskets re-glued or clean the area with soapy water and rinse well.

Program Evaluation

Program Evaluation

The essential steps to implement this evaluation process is as follows:

1. Estimate how many people will be attending your program.
2. Make enough copies of the two instruments — How Safe Are You? and Safe Food Handling Quiz — for each workshop participant. This will be your pretest.
3. Administer the two instruments to all participants immediately before you conduct the program if you plan to conduct all four sessions.
4. Conduct one or more of the four sessions.
5. If you have conducted all four sessions, administer the same two instruments as a posttest. When copying the instruments to use as a posttest, copy in a different color to make matching easier.
6. Match pretests to posttests.

How Safe Are You?

Today's date _____

Your name _____

How safe are you? Check all that apply.

Most of the time I:

- ___ **COOK** ground meat until no pink remains.
- ___ **WASH** my hands before handling food.
- ___ **SANITIZE** my cutting board after using it to prepare raw meat, fish, or poultry.
- ___ **COOL** hot leftovers in shallow containers.
- ___ **REFRIGERATE** hot foods promptly,.
- ___ **CHECK** the temperature of hot foods with a kitchen thermometer.
- ___ **KEEP** my refrigerator colder than 38°F.
- ___ **STORE** my raw foods on the bottom shelf in my refrigerator.

So, how safe are you?

Safe Food Handling Quiz

Take the following quiz to see how much you know about safe food handling. Mark whether you think each statement is "True" or "False." if you do not know, mark "Don't know."

	True	False	Don't Know
To sanitize kitchen surfaces, add chlorine bleach to dish soap and water.	_____	_____	_____
Only meats, fish, and poultry can cause foodborne illness.	_____	_____	_____
A refrigerator should be set between 34 and 38°F.	_____	_____	_____
Cook ground meat until only a little pink remains.	_____	_____	_____
Cool large amounts of food in containers that are at least four inches deep.	_____	_____	_____
Wash a cutting board used to prepare raw meats under hot water before using it to prepare others foods.	_____	_____	_____
Cooked food can be held safely at room temperature for up to four hours.	_____	_____	_____
Rinsing hands under very hot water is as effective at removing germs as is using soap.	_____	_____	_____

Answer Key: Safe Food Handling Quiz

1. False
2. False
3. True
4. True
5. False
6. False
7. False
8. False

Handouts

Name _____

Are You at Risk for Foodborne Illness?

- | | | |
|------------|--------------|-----------------|
| 1. | Agree | Disagree |
| 2. | Agree | Disagree |
| 3. | Agree | Disagree |
| 4. | Agree | Disagree |
| 5. | Agree | Disagree |
| 6. | Agree | Disagree |
| 7. | Agree | Disagree |
| 8. | Agree | Disagree |
| 9. | Agree | Disagree |
| 10. | Agree | Disagree |
| 11. | Agree | Disagree |
| 12. | Agree | Disagree |
| 13. | Agree | Disagree |
| 14. | Agree | Disagree |
| 15. | Agree | Disagree |
| 16. | Agree | Disagree |
| 17. | Agree | Disagree |
| 18. | Agree | Disagree |
| 19. | Agree | Disagree |
| 20. | Agree | Disagree |

Certificate of Completion

This is to certify that

Has successfully completed the FOR
YOUR HEALTH Program

Congratulations

Signature of Leader

Date

Home Food Safety Inspection Helps you Fight BAC![®]

When it comes to foodborne illness, how safe are you? Are there changes that you need to make in your kitchen to be safe? If you answer "true" to any of these items, you will need to make changes and start fighting BAC!

Clean	True	False
1. Sometimes I do not wash my hands before or during food preparation.		
2. Sometimes I prepare food while I am sick.		
3. I do not have hand soap in my kitchen.		
4. I do not have soap for washing dishes.		
5. I do not have hot water to wash my dishes.		
6. Pets may walk on the countertops.		
7. Dirty items, such as a can opener, pots, pans, are present.		
8. The sink has pieces of food left in it.		
9. The cloth, sponge, or dishtowel has not been changed in a while.		
10. I do not always wash the cutting board with hot soapy water or in a dishwasher between uses.		
11. Sometimes the utensils I use for tasting is put back into the food being prepared.		
12. Sometimes I put cooked food back onto a plate that held raw foods without first washing the plate.		
13. The shelves and/or drawers of my refrigerator have bits of food, dried spills, and/or mold on them.		
14. Insects and other pests are present.		

Separate	True	False
1. Raw food is stored over cooked and/or ready-to-eat foods.		
2. Food that is being frozen is on top of the ice cube trays.		
3. Food is stored separate from cleaning supplies.		
4. Food is not covered well in my refrigerator		

Cook	True	False
1. I do not have a food thermometer		
2. I look at the color of food to see when it is done.		

Chill	True	False
1. The temperature inside my refrigerator is above 40°F.		
2. The temperature of my freezer is above 0°F.		
3. I do not have a refrigerator/freezer thermometer.		
4. Sometimes I thaw food on the counter.		
5. Sometimes I let foods sit at room temperature to cool before I put it in the refrigerator.		
6. Sometimes I let cooked foods sit out at room temperature for more than two hours.		
7. Sometimes I leave cold foods out of the refrigerator at room temperature for more than two hours.		
8. Sometimes I put large pots of warm food in the refrigerator to cool.		

Who's to Blame?

CAST: Barbie Cue, Defendant
Lena Lott, Plaintiff
Stanley "Stub" Borne, Prosecuting Attorney
Ivan Objection, Defense Attorney
Skip A. Steppe, Witness
Iwanda Please, Witness
Mrs. Meanswell, Teacher and Witness
Judge
Members of the Jury

As we enter the courtroom, we hear the prosecuting attorney's opening remarks.

STUB: *(with flair)* Ladies and gentlemen of the jury, we intend to prove that Barbie Cue did willfully and openly give a party after which 30 people became ill; that on the date in question, this same Barbie Cue did serve food that caused her guests severe pain and discomfort. I call my first witness, Lena Lott. Do you swear to tell the truth, the whole truth and nothing but....

LENA: You bet I will tell the truth! I'll tell more truth than anybody wants to hear!

STUB: Miss Lott, on the day in question, did you attend the party put on by Miss Cue?

LENA: I sure did *(aside to the jury)*. I attend every party.

STUB: Just answer the question, Miss Lott. Now tell the court in your own words exactly what happened at the site on the day in question.

LENA: I always remember everything exactly! Well, as I recall, Barbie offered her house for the class party. She said she would provide all of the meat (hamburgers and hotdogs, mind you) if we, the committee, would bring everything else. "Gladly", I said. I have my committee, so food is never a problem, but a place to have a

party often is. Anyway, I should have gotten the meat myself! I should have known she'd serve dog food burgers. She's so cheap.

IVAN: I object! Witness is prejudicing the jury.

JUDGE: Sustained. Jury will disregard that last remark. Miss Lott, we'll have no more of that kind of outburst. Just give the facts.

LENA: That was a fact! Well, anyway, I made the potato salad the night before the party. My salad is famous! I put gobs of mayonnaise in it, and I put lots of hard cooked eggs in it, and I make this really neat design on the top with sliced eggs and parsley. It looks like a great big smiling face when I finish. A work of art!

IVAN: Objection!

JUDGE: Sustained. Just get to the point, Miss Lott.

LENA: That is the point! My salad is so good, it couldn't have made anyone sick. I left it on the counter all night, so that I wouldn't forget it. My family kept trying to snatch a bite all evening long. Even the cat tried to get some. But after I fixed it, nobody could even tell where she put her little foot. All I know is that the day after the party, everyone was ready to make out their will. That's how sick her dog food burgers made us. Ask Iwanda if you don't believe me.

STUB: Thank you Miss Lott. You may step down. I call Miss Iwanda Please.

IWANDA: I don't want anybody to be mad with me. I like Barbie, and I like Lena, and I like everybody. I wanted to do something nice for the party. Lena told me I could make some fancy hors d'oeuvres, so I rolled slices of rare roast beef around cream cheese and made some deviled eggs with crumbled bacon on top. I left them out on the table on the patio so Skip A. Steppe could just pick them up on his way to Barbie's house. That's all I remember. Maybe Skip remembers something else.

STUB: I call Skip A. Steppe as my next witness.

SKIP: I don't know how this happened. All I know is I was so sick I thought, "This is it, Skip old boy; and you are so young."

IVAN: Objection!

JUDGE: Sustained. Just tell us what you remember. Mr. Steppe.

SKIP: Sure, Judge, sure. As Iwanda said, I picked up my stuff by noon and put it in the trunk of my car. Then I went to my softball game. After the game, I went home, took a shower, got dress, and picked up my date. (*Aside to the jury*) First things first, you know. Priorities, if you know what I mean.

IVAN: I object, your Honor!

JUDGE: Sustained. Forget the social life, Mr. Steppe. Anything else?

SKIP: No. That's it. The next thing I knew, Mrs. Meanswell, our teacher, called and told my mother that the whole class had food poisoning and that Lena had accused Barbie of trying to murder the whole class.

STUB: Mrs. Meanswell, will you please take the stand?

MRS. M: I feel sorry about what happened, but it's not right to blame poor Barbie until we know exactly what happened. And Lena really does exaggerate.

STUB: Exactly what did happen?

MRS. M: Oh, I don't know. By the time I got to the party, all the eating was over. I just helped myself to the leftovers. I like cold hamburgers, and the salad was almost gone so I just finished up the deviled eggs. Then I got sick, but it's not right to blame poor Barbie until we know.

STUB: I have no further witnesses, your Honor. The prosecution rests.

IVAN: The defense has only one witness, your Honor. I call Miss Barbie Cue.

BARBIE: This is the most embarrassing thing! (*Sniff*) I have always opened my house to the class. But never again!

IVAN: Just tell us what happened, Miss Cue.

BARBIE: Nothing happened. I bought the meat -- hamburger, not dog food -- and kept it in the refrigerator until the second we cooked it. I even had it in a plastic container with a lid. As soon as the meat was cooked, I put it back into the same container and served it. That's all that happened. And now this!

IVAN: Now, now Miss Cue. I'm sure the jury will see that you've been a victim ... Did you provide anything else for that party?

BARBIE: Not really. We ran out of pickles, so I took some of the ones my mother canned last summer. I didn't take any of the ones that looked really good, the ones she gives away as gifts. I took the ones that had kind of loose lids. They all taste the same, anyway.

IVAN: Thank you, Miss Cue. I have no further questions, your Honor.

JUDGE: (*Addressing the jury*) I ask you to take all of the facts into consideration and to render a verdict. Who is responsible?