

LESSON 1

Why is Food Safety Important? Where Do the Rules Come From?

GOAL

To understand the magnitude and the potentially serious nature of foodborne illness in the United States; to understand the source of food safety rules for Idaho food service establishments.

OBJECTIVES

- To describe the extent and cause of foodborne illness in the United States
- To understand the cost of foodborne illness.
- To identify the documents that regulate food safety in Idaho and to explain how they are enforced.
- To describe the responsibilities of food service employees in preventing foodborne illness.

TEACHER BACKGROUND INFORMATION

Lesson 1 covers

1. Magnitude of foodborne illness (foodborne illness is often abbreviated as FBI).
2. Costs of foodborne illness.
3. Foodborne illness on a personal scale.
4. Sources and enforcement of food safety rules
 - a. Federal recommendations.
 - b. *Idaho Food Code*.
 - c. *Idaho Food Safety and Sanitation Manual*.
 - d. Enforcement and continuing education.
5. Responsibilities of food service employees.

Approximate time to teach lesson: 25–60 min.

Definitions

foodborne illness (FBI)—A disease carried or transmitted to people by food.

foodborne disease outbreak—An incident in which two or more people experience the same illness after eating the same food. However, only one case of botulism would be considered an outbreak because of its serious nature.

Magnitude of Foodborne Illness

The Centers for Disease Control and Prevention (CDC) is the federal government agency that tracks health concerns in the United States, including foodborne illness. CDC tracks foodborne illness with a system called FoodNet, in which eleven states track and report foodborne illness very robustly. (Idaho is not a FoodNet state.) Nonetheless, foodborne illness is not well reported for several reasons:

- People do not visit the doctor for minor foodborne illness—they just “ride it out.”

- Doctors do not always recognize foodborne illness because the symptoms are similar to a number of other illnesses.

For every confirmed case of salmonellosis, for example, there are an estimated 25 unconfirmed or unreported cases. The most recent data from the CDC (Scallan et al., 2011) estimates that annually in the United States there are

- 48 million cases of foodborne illness
- 128,000 hospitalizations from foodborne illness
- 3,000 deaths from foodborne illness

Cost of Foodborne Illness

The Economic Research Service (ERS) of the United States Department of Agriculture (USDA) calculates costs of foodborne illness, taking into account the following factors:

- Medical expenses
- Lost income
- Accidents
- Premature death

The total economic impact of foodborne illness is an estimated \$152 billion a year, according to a 2010 study by the Pew Charitable Trusts. The study estimated costs by including those that are health-related costs (physician services, pharmaceuticals, and hospital costs) and those involving quality of life (lost life expectancy, pain and suffering, and functional disability).

Food Safety Rules

Federal Recommendations: The Food and Drug Administration (FDA) publishes a set of recommended practices for food service establishments called the *Food Code*. The *Food Code* is intended to be a model for states to use when formulating their own regulations.

The *Food Code* is updated every four years, with an update supplement published every two years to coincide with the biennial meeting of the Conference for Food Protection. The Conference is a group of representatives from regulatory agencies at all levels of government, the food industry, academia, and consumer organizations that works to improve food safety at the retail level.

The *Food Code* is available on the FDA website:
www.fda.gov/food/retail-food-protection/Fda-Food-code.

In Idaho, food safety in food service establishments is regulated by the *Idaho Food Code* (Idaho Administrative Procedures Rules 16, Title 2, Chapter 19). The *Idaho Food Code* is based on the FDA's 2013 *Food Code*.

The *Idaho Food Code* is available at
https://healthandwelfare.idaho.gov/Portals/0/Health/FoodProtection/Idaho_Food_Code_Informational_Copy_2019AUG.pdf

Because of the complexity of language in the *Idaho Food Code*, more

readable forms have been written for use as training manuals by the Idaho Department of Health and Welfare, Division of Health, Food Protection Program. These are the *Idaho Food Safety and Sanitation Manual*, which is targeted to food service managers, and *Keep It Healthy!*, a more concise resource for hourly employees.

These are available at

<https://healthandwelfare.idaho.gov/Portals/0/Health/FoodProtection/Idaho%20Food%20Safety%20and%20Sanitation%20Manual.pdf>

Students need to know about the *Idaho Food Code* and the *Idaho Food Safety and Sanitation Manual* in order to pass the test to earn an Idaho food safety and sanitation certificate.

Enforcement and Continuing Education

The rules governing food service establishments are enforced by health district Environmental Health Specialists. There are seven Health Districts in Idaho (see Slide 16), and each maintains offices within the major cities and towns in its district. The Health Districts cooperate with the Idaho Department of Health and Welfare's Food Protection Program, located in Boise, to provide information and training.

The Central District Health Department, which covers four counties in the Boise area (Ada, Valley, Elmore, and Boise), publishes *The Food Review*, a quarterly newsletter with information regarding food service food safety. They also have produced a series of six 3–5-minute worker training videos, shot in a Boise-area restaurant. Clips from these videos are used in some of the *Ready, Set, Food Safe* lessons. The *Food Review* newsletter and the videos can be downloaded at: <http://www.cdhd.idaho.gov/eh-food-foodreviewnewsletter.php> and <http://www.cdhd.idaho.gov/eh-food-training.php>. Scroll down to find the six videos.

MATERIALS NEEDED

- *Idaho Food Code* available online at www.foodsafety.idaho.gov (Click on Idaho Food Code).
- *Idaho Food Safety and Sanitation Manual* available online at www.foodsafety.idaho.gov (Click on Idaho Food Safety Manual) or obtain a copy from your local health district's Environmental Health Specialist.
- *Idaho Food Code* handouts with relevant information highlighted for "Using the *Idaho Food Code*" activity.* Make one copy for each group of three students.
- *Idaho Food Safety and Sanitation Manual* handouts with relevant information highlighted for "Using the *Idaho Food Safety and Sanitation Manual*" activity.* Make one copy for each group of three students.

*Item included on the *Ready, Set, Food Safe* website.

READY SET FOOD SAFE

LESSON 1
WHY IS FOOD SAFETY IMPORTANT?
WHERE DO THE RULES COME FROM?

MAGNITUDE OF FOODBORNE ILLNESS (ESTIMATED ANNUAL OCCURRENCE):

- 48,000,000 Cases of foodborne illness
- 128,000 Hospitalizations from foodborne illness
- 3,000 Deaths from foodborne illness

© Stewart et al., 2011

Lesson 1

(Slide 1) Why is Food Safety Important? Where Do the Rules Come From?

- (Slide 2) **Magnitude of Foodborne Illness.** The most current data from the Centers for Disease Control and Prevention (CDC) (Scallan et al., 2011) estimate that annually in the U.S. there are
 - 48 million cases of foodborne illness
 - 128,000 hospitalizations from foodborne illness
 - 3,000 deaths from foodborne illness

ACTIVITY

WHAT IS YOUR CHANCE OF GETTING A FOODBORNE ILLNESS (FBI)?

The population of the U.S. was 310 million people in 2010

$310,000,000 / 48,000,000 = 6.5$

This means that approximately 1 in every 6 people suffered from a foodborne illness during 2010

(Slide 3) What Is Your Chance of Getting a Foodborne Illness?

Ask the students to calculate their theoretical chance of getting a foodborne illness using the CDC estimate. (Use a mouse click to bring the relevant data onto the slide and a second and third mouse click to provide the answer.) The population of the U.S. is 310 million people ([2010] 310,000,000/48,000,000 = 6.5). This means that approximately 1 in every 6 people will suffer from a foodborne illness each year.

THE GOOD NEWS...

500 to 900 billion safe meals are served in food service establishments every year

COST OF FBI TO AN ESTABLISHMENT

- Loss of customers and sales
- Loss of good reputation
- Lawsuits resulting in lawyer and court fees
- Increased insurance costs
- Lowered employee confidence; increased absence of employees
- Need for re-training employees
- Embarrassment

(Slide 4) However, the good news is that 500–900 billion safe meals are served in food service establishments every year.

- (Slide 5) **Cost of Foodborne Illness.** Financial losses are experienced by restaurants that lose business when a foodborne illness at their establishment is reported in the local media. When people lose confidence in a food service establishment, they will take their business elsewhere. The restaurant may have to pay for lawyers to represent them if a lawsuit is filed and they may have to pay damages to harmed customers. This increases their insurance costs. In addition, there may be costs associated with employee absences and retraining. The losses can be substantial and have resulted in bankruptcy and closed restaurants. The embarrassment of a food service establishment serving unsafe food can be lasting.

ACTIVITY

PERSONAL ACCOUNT OF FBI

Audio clip provides a woman's experience with botulism that she got from a baked potato that was held too long at room temperature by a restaurant

Click on speaker to start audio clip



- (Slide 6) **Foodborne Illness on a Personal Scale.** Foodborne illness can have devastating effects. Foodborne illness can be mild, serious, fatal, or result in lifetime health complications.

Personal Account of FBI Audiotape (11:00)

This audio clip, which starts when you click on the speaker icon, is one person's account of her experience of contracting botulism food poisoning from a baked potato eaten at a restaurant. This account may frighten some students. It is important to stress that the baked potato was mishandled. Properly cooked, cooled, and reheated baked potatoes are safe. Students need to understand the potential consequences of mishandling food. This audio clip is also referred to later in Lessons 3 and 8.



4. (Slide 7) **Who Is at Higher Risk?**

- a. **At-risk Populations.** Everyone can potentially get a foodborne illness, but some groups of people are at higher risk. Those at higher risk include
- Young children
 - Elderly
 - Pregnant women (due to the effect on the fetus and women’s lower immunity when pregnant)
 - People with weakened immune systems

Food service workers serving these populations (for example, day cares and nursing homes) must be especially careful, and some special rules apply (not serving certain time temperature control for safety foods).

- b. **Outbreak vs. Sporadic Foodborne Illness.** An outbreak of foodborne illness is defined as *an incident in which two or more people experience the same illness after eating the same food*. Sporadic or individual cases of foodborne illness also occur. The 75 million cases of foodborne illness that occur in the United States each year include both sporadic cases and outbreaks.



5. **Food Safety Rules, Sources, and Enforcement**

- a. (Slide 8) **Federal Recommendations.** The U.S. government’s Food and Drug Administration (FDA) publishes the *Food Code*. The *Food Code* is a set of recommendations intended to be a model for states to use when formulating their own rules to ensure food at retail and food service is safe.
- b. (Slide 9) **Idaho Food Code.** The *Idaho Food Code* is based on the Food and Drug Administration’s model 2001 *Food Code*. When students receive a food safety and sanitation certificate, it implies knowledge of the *Idaho Food Code*. Although these rules may seem hard to read, it is necessary for students to know the source of food safety rules. The rules that currently govern Idaho’s restaurants and other food-handling businesses were adopted by the Idaho Department of Health and Welfare and passed by the state legislature in House Bill 499 in 2013. You can read them in the *Idaho Food Code* (IDAPA 16, Title 2, Chapter 19; <https://cdhd.idaho.gov/pdfs/food/Full-Idaho-Food-Code-2016.pdf>.)

These rules cover issues like

- The definition of food establishment (Section 1-201.10[3])
- Requirements for thawing food (Section 3-501.13)
- Requirements for personal cleanliness (Section 2-3)

(Slides 10-13—The answer comes onto the slide on a mouse click)

Using the *Idaho Food Code*. Divide students into groups of three and distribute the pages photocopied from the *Idaho Food Code* to each group. Ask the students to answer the following questions by looking in the *Idaho Food Code* pages provided.

(Slide 10) Does a produce stand selling boxes of apples qualify as a “food establishment?” (No, Answer found in Section 1-201.3.b) “The term ‘food establishment’ does not include: (ii) A produce stand that offers only whole, uncut fresh fruits and vegetables.”

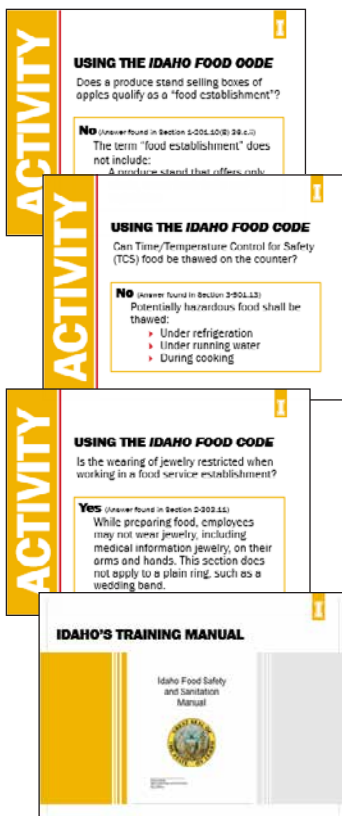
(Slide 11) Can time/temperature control for safety food be thawed on the counter? (No. Answer found in Section 3-501.13.) “Time/temperature control for safety foods shall be thawed: a. under refrigeration, b. completely submerged under running water, or c. as part of cooking process if the food is frozen.”

(Slide 12) Is the wearing of jewelry restricted when working in a food service establishment? (Yes, Answer found in Section 2-303.11.) “While preparing food, food employees may not wear jewelry, including medical information jewelry, on their arms and hands. This section does not apply to a plain ring such as a wedding band.”

- c. (Slide 13) ***Idaho Food Safety and Sanitation Manual***. Because the *Idaho Food Code* can be somewhat difficult to read, food safety information and the Idaho regulations have been written in a condensed, more readable form by the Idaho Department of Health and Welfare, Division of Health, Food Protection Program. The *Idaho Food Safety and Sanitation Manual* was developed as a training manual for Idaho’s Food Service supervisor training program.

There should be a copy of this manual in every food service establishment. The topics covered in the manual include (go over a few of the topics to give students the general idea that this is a useful resource)

- Microbiology
- Foodborne Disease Outbreaks
- Food Sources and Protection
- Destruction of Organisms
- Limiting Bacterial Growth
- Employee Hygiene and Health
- Equipment and Utensil Cleaning and Sanitation
- Water and Sewage Systems
- Physical Facilities
- Rodent and Insect Control
- Poisonous Materials
- (Re)thinking HACCP



- Training Employees
- What to Do If an Outbreak Occurs
- Review and Important Areas of Knowledge

Most of these topics will be covered in the next eight lessons.

(Slides 14–15. NOTE: The answer comes onto the slide on a mouse click).

Using the *Idaho Food Safety and Sanitation Manual*. Divide students into groups of three and distribute the pages photocopied from the *Idaho Food Safety and Sanitation Manual* to each group. Ask students to answer the following questions:

(Slide 14) Can time/temperature control for safety food be thawed on the counter? (No. Answer in chapter 5, pg. 28.)

(Slide 15) Can someone who is experiencing diarrhea work as a food handler? (No, unless cause of diarrhea is not communicable. Answer in chapter 6, pg. 32.)

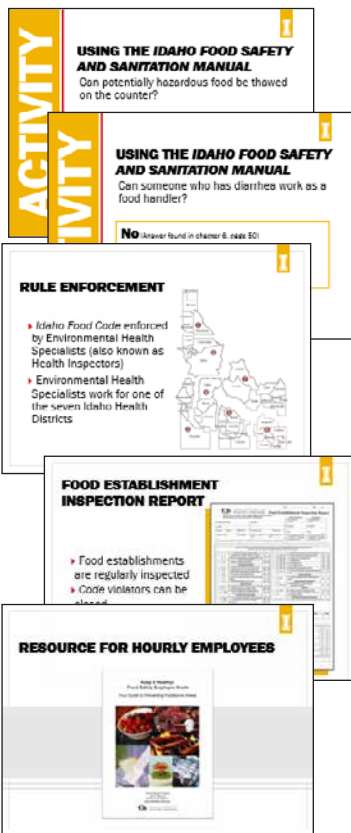
- d. (Slide 16) **Enforcement.** The *Idaho Food Code* is enforced by Environmental Health Specialists (EHS) from seven health districts in Idaho. They regularly inspect food establishments. Health inspectors can close establishments that are in violation of the *Code*.

(Slide 17) Inspectors use this reporting form to inspect and score food establishments. (Students will have an opportunity to use this form in Lesson 9.)

- e. (Slide 18) **Food Safety Employee Guide.** Because the *Idaho Food Safety and Sanitation Manual* is targeted to food service managers, the Idaho Food Protection Program has developed a more concise resource for hourly employees, called *Keep It Healthy! Food Safety Employee Guide*, available at <https://healthandwelfare.idaho.gov/Portals/0/Health/FoodProtection/Employees%20Guide%20to%20Food%20Safety.pdf>.

6. (Slide 19) **Responsibilities of Food Service Employee.** The *Idaho Food Code* (Sections 2-101, 2-102, 2-103) assigns certain responsibilities to people who work in food service establishments.

- a. **Food Service Employees.** The food service employee has the responsibility of delivering safe, quality food to the person eating it. This means that food service employees need to know how to correctly wash their hands, cook and prepare food, cool and store food, and clean and sanitize surfaces and utensils, according to their job assignments.



b. **Person in Charge.** The person in charge is responsible for the operation of the food establishment, training the food employees to correctly wash hands, cook and prepare food, cool and store food, and clean and sanitize surfaces and utensils.

c. **Why is this Subject Taught in High School?** Nearly one-third of all employees in food service are between the ages of 15 and 17 years of age. Only 62% of high school students have received food safety training (Rhoades and Ellis, 2010).

(Slide 20) UNDERSTANDING CHECK

(Slide 21) **Question:** Although the United States prides itself on having the safest food supply in the world, approximately 1 in every ___ people suffers a foodborne illness each year?

Answer: 1 in 6 persons; thus there is room for improvement. Foodborne illness can be mild, serious, fatal, or result in lifetime health complications.

(Slide 22) **Question:** What consequences can result if a restaurant causes foodborne illness?

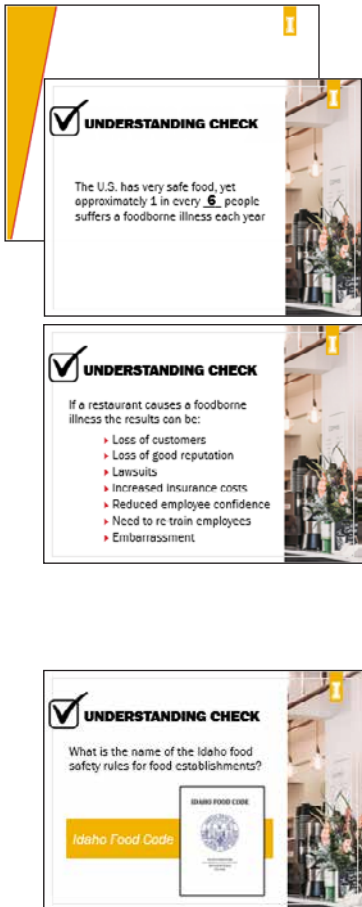
Answer:

- Loss of customers
- Loss of good reputation
- Lawsuits
- Increased insurance costs
- Reduced employee confidence
- Need to retrain employees
- Embarrassment

(Slide 23) **Question:** What is the name for the rules that regulate Idaho food establishments?

Answer: *Idaho Food Code*. Much of the information in the *Idaho Food Code* has been rewritten in a more readable format in the *Idaho Food Safety and Sanitation Manual*.

REFERENCES



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