Objectives

• Know what a foodborne illness is and how dangerous it is for elderly and individuals with a compromised immune system

• Identify the five major risk factors related to employee behavior and preparation practices in food service establishments that contribute to foodborne illness

• Implement a plan to prevent the five major risk factors from occurring

Assisted Living Food Safety Regulations Excerpts

Note: NOT all-inclusive

CBRF - DHS 83.41(3)(b)
Food safety. Whether food is prepared at the CBRF or off-site, the CBRF shall store, prepare, distribute and serve food under sanitary conditions for the prevention of food borne illnesses, including food prepared off-site, according to all of the following...
Wisconsin Department of Health Services

Assisted Living Food Safety Regulations
Excerpts
Note: NOT all inclusive - cont.

AFH - DHS 88.05(3)(h)2
There shall be sufficient space and equipment in the kitchen for the sanitary preparation and storage of food.

RCAC - DHS 89.23(3)(f)
Meals and snacks served to tenants shall be prepared, stored and served in a safe and sanitary manner.

Wisconsin Department of Health Services

New Public Service Announcement on Food Safety from the USDA

Stay Food Safe with Alvin and the Chipmunks

https://www.youtube.com/watch?v=pvbZhEDCnY0

Wisconsin Department of Health Services

Centers for Disease Control and Prevention Definition of Foodborne Illness and Foodborne Illness Outbreak
Foodborne Illness - a disease transmitted to people by food or water

Foodborne Illness Outbreak – when two or more people have the same symptoms after eating the same food

Common Symptoms of a Foodborne Illness
- Diarrhea
- Vomiting
- Fever
- Nausea
- Abdominal cramps
- Jaundice (yellowing of skin and eyes)

Source: ServSafe Coursebook, 6th ed.
Onset Times:
- Depend upon the type of foodborne illness
- Can range from 30 minutes to 6 weeks

Why is Food Safety Important?
- 1 in 6 Americans become ill
- 3,000 reported deaths
- 128,000 hospitalizations
- $10-$83 billion (reported cases only)

“Highly susceptible population” means PERSONS who are more likely than other people in the general population to experience foodborne disease because they are:
1. Immunocompromised; preschool age children, or older adults; and
2. Obtaining FOOD at a facility that provides services such as custodial care, health care, or assisted living, such as a child or adult day care center, kidney dialysis center, hospital or nursing home, or nutritional or socialization services such as a senior center.
How Does Food Become Unsafe?

Five Major Risk Factors:
1. Purchasing food from unsafe sources
2. Failing to cook food correctly
3. Holding food at incorrect temperatures
4. Using contaminated equipment
5. Practicing poor personal hygiene

Unsafe Food is a Result of Contamination

- **Biological**
  - Bacteria
  - Viruses
  - Parasites
  - Fungi

- **Chemical**
  - Cleaners
  - Sanitizers
  - Polishes

- **Physical**
  - Hair
  - Metal Shavings
  - Bandages
  - Bones

Team 4 Investigates Hospital Food Safety Inspection Reports

- [http://www.youtube.com/watch?v=m3bqzatqig](http://www.youtube.com/watch?v=m3bqzatqig)

(Note: Not Wisconsin)
Foodborne Illness (FBI) Outbreaks

Foodborne outbreak among staff and residents at an assisted living facility (Kansas)

- 22 ill persons / 40 total persons
- Likely source – staff person preparing food while ill
- Staff person not trained in food preparation – filling in for another absent staff member


No deaths
7 / 9 positive for norovirus
- 6 residents
- 1 cook’s helper (tested positive again 2 weeks later)

FBI Outbreaks, cont.

- 170 residents (Assisted Living and Independent Apts.)
- 58 total residents ill (34% attack rate)
  - 4 staff ill
  - 5 hospitalizations

[http://www.chd.dphe.state.co.us/Resources/cms/html/OutbreaksInLTCandALR.pdf](http://www.chd.dphe.state.co.us/Resources/cms/html/OutbreaksInLTCandALR.pdf)

Salmonella Outbreak at Blue Hill Care Center, Nebraska

- Outbreak of Salmonella
- 17 confirmed cases
- 2 probable or suspected cases reported in residents, staff or visitors
- 4 residents & 1 visitor hospitalized

Salmonella at Heritage Corner Assisted Living, Bowling Green, Ohio

- Outbreak of Salmonella
- 18 residents were confirmed
- 2 patients died

[Foodborne Illness Outbreak Database](http://outbreakdatabase.com/site/search/?outbreak=assisted+living&vehicle=&organism=&month=&year=&state=0&country=&x=0&y=0)
Anoka County Assisted Living Facility Person-to-Person
- Outbreak of Salmonella
- Assisted living facility in Anoka County, MN
- Infection spread from person-to-person
- The initial source of the contamination was not determined

Foodborne Illness Outbreak Database
http://outbreakdatabase.com/site/search/?outbreak=assisted+living&vehicle=&organism=&month=&year=&state=0&country=&x=0&y=0

New York Nursing Home or Assisted Living Facility
- A confirmed outbreak of Norovirus was associated with eating cookies at a nursing home or assisted living facility in New York state

Quarry Hill Retirement and Assisted Living Facility
- Salmonella outbreak
- 7 affected, 1 hospitalized & 1 died
- Unable to track the cause of the outbreak – “oftentimes…..the food’s gone.”

Northern California Assisted Living...
- Mushrooms picked in backyard (poisonous)
- Caregiver made mushroom soup
- 4 out of 6 who consumed the soup died
Robinswood Pointe E. coli Outbreak

• Senior Living Facility in Bellevue, Washington
• 11 residents and 4 employees became ill
• Likely source was ready-to-eat (RTE) food prepared in Robinswood Pointe kitchen
• Multiple food-handling errors noted during inspection
• Investigators concluded RTE foods cross-contaminated with raw meat products
• Elderly woman died

Wisconsin Department of Health Services

Review of the 5 Major Risk Factors

1. Purchasing food from unsafe sources
2. Failing to cook food correctly
3. Holding food at incorrect temperatures
4. Using contaminated equipment
5. Practicing poor personal hygiene

Unsafe Food Sources

• Sources not approved or considered satisfactory by Federal, State, or local authorities
• Ex: Home-canned food items
• Picking mushrooms from the backyard
Each risk factor for foodborne illness is related to four main factors (Except for Purchasing from Unsafe Food Sources)

- Time Temperature Abuse
- Cross-contamination
- Poor Personal Hygiene
- Improper Cleaning and Sanitizing

Time and Temperature Abuse

- Food has not been held or stored at correct temperatures
  - Hot food is not at 135 degrees Fahrenheit or above and cold food is not held at 41 degrees Fahrenheit or below
- Food is not cooked or reheated enough to kill pathogens
- It is not cooled correctly

How to Use a Thermometer

Improper Holding Temperature

Danger Zone (41°F - 135°F)

Receiving Food from Off-site

• Temperatures need to be taken to make sure hot food is at least 135 degrees Fahrenheit or higher; cold food is at least 41 degrees Fahrenheit or lower.

Failing to Cook Food Correctly

• Surveyor requested to review temperature logs for food received from a sister facility. Staff replied they do not normally do temperatures of food and were never taught to do temperatures. Temperatures were not taken at sister facility either.
**Time and Temperature Abuse**

- Two cream pies in clear plastic containers on counter – not refrigerated
- Next to the pies was an opened loaf of bread in which the plastic bag was not tied shut; a gallon of milk sitting on counter
- Frozen food not kept frozen
- A metal tray of raw pork chops prepared to go into the oven sitting on counter

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**Holding Food at Incorrect Food Temperatures**

- A caregiver placed a 20 pound frozen turkey in a bowl on the counter to begin thawing for Thanksgiving, 4 days later.
- Three small clear plastic bags containing cooked leftovers from a noon meal were left on the counter for almost 4 hours. At approximately 4:00 p.m., the internal temperature of each bag ranged from 74.8°F to 79.1°F. Bacteria that can cause a foodborne illness grow rapidly between the temperatures of 70°F to 125°F.

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**Cross-Contamination – when pathogens are transferred from one surface to another**

- Contaminated ingredients are added to food that receives no further cooking
- Putting together a salad next to raw chicken
Cross-Contamination, cont.

- A worker touches contaminated food/contaminated surface and then touches ready-to-eat food
- Contaminated cleaning cloths touch food-contact surfaces
- Using same utensil from a raw food item to a ready-to-eat food

Preventing Cross-Contamination

- Wrap or cover food
- Store raw meat, poultry, and seafood separately from ready-to-eat food
  - If this is not possible, store ready-to-eat food above raw meat, poultry, and seafood
  - This will prevent juices from raw food from dripping onto ready-to-eat food

Unsafe Food Storage

- Upon opening the refrigerator door, a collection of food, a urine specimen and medication, an insulin vial with two syringes, were on the door shelf that were not labeled and multiple food items throughout the refrigerator including an opened bag of sliced bread, several bottles of drinks such as vitamin water, ice tea and V8, two yogurt containers and two first aid cold packs.
- Urine stored in kitchen refrigerator—Administrator stated the sample was stored according to the facility infection control policy
Poor Personal Hygiene

- Improper hand washing
- Bare hand contact with ready-to-eat food
- Dirty, contaminated uniform
- Employees eating/drinking around food
- Sneeze on food
- Touch/scratch wound – then touch food
- Working when sick
- Hair not covered during food prep and service

Employee Hygiene

Effective interventions for the prevention of transmission of foodborne viruses and bacteria

1. Excluding ill food employees from working
2. Using proper hand washing procedures reduces spread of fecal-oral pathogens from hands of employee to foods
3. Eliminating bare hand contact with foods that are ready-to-eat protects against the contamination of foods that do not require further cooking with microbial pathogens from the hands of ill employees

FDA Employee Health and Personal Hygiene Handbook

http://www.fda.gov/Food/GuidanceRegulation/RetailFoodProtection/IndustryandRegulatoryAssistanceandTrainingResources/ucm113827.htm
How to Properly Wash Hands

- [http://www.bing.com/videos/search?q=hand+washing+videos+for+foodservice&FORM=VIRE5#view=detail&mid=026ADEDCD1E81B3B19C5026ADEDCD1E81B3B19C5](http://www.bing.com/videos/search?q=hand+washing+videos+for+foodservice&FORM=VIRE5#view=detail&mid=026ADEDCD1E81B3B19C5026ADEDCD1E81B3B19C5)

21 of 25 staff affected by the outbreak returned to work within 24 hours of their “well day”, not the required 48 hours.

Facility food service personnel did not perform appropriate hand washing practices during dishwashing and when going from soiled surfaces to clean surfaces (touching clean equipment and utensils).

EMPLOYEE HYGIENE – CROSS-CONTAMINATION

- 21 of 25 staff affected by the outbreak returned to work within 24 hours of their “well day”, not the required 48 hours.

Poor cleaning and sanitizing:
- Equipment and utensils are not washed, rinsed, and sanitized between uses
- Food contact surfaces are wiped clean instead of being washed, rinsed, and sanitized
- Wiping cloths are not stored in a sanitizer solution between uses
- Sanitizer solution was not prepared correctly
Wisconsin Citation Examples: Contaminated Equipment

- A small food processor which showed a build-up of dried food along the base that connects to the blender.
- The inside of the microwave oven had brown dried food splatters and was in need of cleaning.
- Eating and cooking utensils were stored uncovered.
- Cooking utensils were stored upright in a divided bin on the counter next to the microwave oven.

Wisconsin Citation Examples: Contaminated Equipment, cont.

- A Hobart mixer contained a dried, dark substance that was easily flaked off when touched. This was located above where the mixing bowl would sit.
- The industrial-size can opener contained a brown, liquid substance that easily wiped off when touched. This was located on the part that punctures the can.
- Facility’s pots, pans, and dishes were stored in a cupboard area in which the inside shelves of the kitchen cupboards were dusty, contained pieces of dirt, and had food crumbs. In addition, the cupboard doors were found to be sticky and in need of cleaning.

Wisconsin Citation Examples: Contaminated Equipment

- The kitchen cabinets were covered with dried food and dried spills.
- The stove vent was coated in a thick layer of grease.
- The backsplash board behind the stove was covered in a brown layer of grease.
- A 1/2 inch space between the oven and the kitchen cabinet was filled with dried food and noodles.
Contaminated Equipment, cont.

- The hand mixer was coated with dried food
- The Crockpot was coated with dried food
- The pans used to cook resident food contained a thick build-up of brown substance in the corners and were greasy to the touch
- The inside of the microwave contained a large amount of dried food on all surfaces
- The stove top contained dried food and scorch marks in all drip pan areas of the burners

How to Clean & Sanitize

- Scrape/remove food bits from the surface
- Wash the surface
- Rinse the surface
- Sanitize the surface
- Allow the surface to air dry

Manual Dishwashing

1. Clean and sanitize sinks
2. Pre-wash Scrape
3. Wash
4. Rinse
5. Sanitize
6. Air dry

Change water frequently!

For additional information, refer to the Wisconsin Food Code
For additional information, refer to the Wisconsin Food Code.

**Mechanical**

1. Make sure the machine is clean
2. Scrape
3. Rack and Sort
4. Wash, Rinse, Sanitize
   - wash and rinse temperature
   - sanitize (hot water or chemical)
   - final rinse water pressure
5. Air Dry

**Wash Hands**

**Refer to manufacturer’s directions of own machine**

Sanitizing Dishes Using Bleach

**Clorox ®**

- Wash dishes, glassware and utensils
- Rinse
- Soak for at least 2 minutes in a solution of 2 teaspoons of bleach per 1 gallon of water
- Drain
- Air dry


**Adult Family Homes without dishmachines**

**Wisconsin Department of Health Services**

SUGGEST IMPLEMENTING DURING FLU SEASON

**Sanitizing Dishes Using Bleach**

**Clorox ®**

- Wash dishes, glassware and utensils
- Rinse
- Soak for at least 2 minutes in a solution of 2 teaspoons of bleach per 1 gallon of water
- Drain
- Air dry

**Additional Wisconsin Facility Citations**

- Inside a freezer chest was a deceased dog among packages of meats, vegetables, containers containing sauces/soups and individual size Italian Ice
A model code and reference document for state, city, county and tribal agencies that regulate foodservice operations.

- Establishes practical, science-based guidance for mitigating risk factors that are known to cause or contribute to foodborne illness outbreaks.

Wisconsin Food Code

What is another very important standard of practice?

Manufacturer’s Directions
Purchasing Food

- All food must come from permitted and inspected facilities
- No
  - Home canned
  - Home jarred
  - Wild game
  - Sport-caught fish
- Note: Residents do have the right to receive choice of food from family, friends...

Foods Not To Be Served to Highly Susceptible Population

- Eggs that are not fully cooked unless using pasteurized eggs
- Raw seed sprouts
- Unpasteurized juices
- Raw or undercooked meat, poultry or seafood

Food Storage

- All items not in their original containers must be labeled
- NEVER use empty food containers to store chemicals; NEVER put food in empty chemical containers
- Food labels should include the common name of the food or a statement that clearly and accurately identifies the food
- It is not necessary to label food if it clearly will not be mistaken for another item
- Store food and non-food items to prevent time-temperature abuse and contamination
Food Storage

- Monitor refrigerator and freezer temperatures:
  
  **Cooler/Refrigerator**
  $<\approx 41^\circ$ Fahrenheit
  
  **Freezer**
  Frozen food items are solid to the touch

Date Marking

- Food that is considered potentially hazardous or now known as food that needs time/temperature control
- Food must be marked when to be consumed by or discarded

Food Most Likely to Become Unsafe - Food that needs time and temperature control for safety - Must be date marked

- Milk and dairy products
- Meat: beef, pork and lamb
- Fish
- Baked potatoes
- Tofu or other soy protein
- Sliced melons, cut tomatoes and cut leafy greens
- Eggs
- Poultry
- Shellfish/crustaceans
- Heat-treated plant food – cooked rice, beans and vegetables
- Sprouts and sprout seeds
- Untreated garlic-and-oil mixtures
Date Marking, cont.

- Ready-to-eat TCS (Time/Temperature Control for Safety) food can be stored for only seven days if it is held at 41°F (5°C) or lower.
  - The count begins on the day that the food was prepared or a commercial container was opened.
  - For example, potato salad prepared and stored on October 1 would have a discard date of October 7 on the label.
  - Some operations write the day or date the food was prepared on the label; others write the use-by day or date on the label.

Example:

- When combining food in a dish with different use-by dates, the discard date of the dish should be based on the earliest prepared food.
- Consider a shrimp and sausage jambalaya prepared on December 4.
  - The shrimp has a use-by date of December 8.
  - The sausage has a use-by date of December 10.
  - The use-by date of the jambalaya is December 8.

Food Preparation

1. Work areas, cutting boards and utensils must be clean and sanitized.
2. No bare hand contact with ready-to-eat food – anything that is edible without washing, cooking, or additional preparation.
3. Check Food Product Temperatures:
   - Minimum internal temperature must be met.
4. DO NOT thaw food at room temperature

5. Appropriate ways for thawing
   - Cooler/Refrigerator
   - Running water at a temperature of 70 degrees Fahrenheit or lower
   - Microwave – must be cooked immediately after thawing
   - Part of the cooking process

Cooking Food at Correct Temperatures

Minimum Internal Cooking Temperatures:
- Temperature is different for each food
- Cooking can reduce pathogens in food to safe levels BUT will not destroy spores or toxins they may have produced

Cooling Food

- Hot foods must be cooled from 135 degrees Fahrenheit to 70 degrees Fahrenheit within 2 hours – if that does not happen, it must be reheated to 165 degrees Fahrenheit and start all over
- After food has been cooled to 70 degrees Fahrenheit within the 2 hours, there are an additional 4 hours to cool to 41 degrees Fahrenheit
References

- 2013 FDA Food Code
  n/RetailFoodProtection/FoodCode/UCM374510.pdf
- Wisconsin Food Code
  - http://docs.legis.wisconsin.gov/code/admin_code/dhs/11
  74.pdf
- FDA Employee Health and Personal Hygiene Handbook
  - http://www.fda.gov/Food/GuidanceRegulation/Regulat
  eFoodsProtection/IndustryandRegulatoryAssistanceandTrainin
  gResources/ucm113607.htm

WI - DATCP Food Code Fact Sheets

- Link
  - http://datcp.wi.gov/Food/Food_Code_Fact_Sheets/index
  .aspx

WI - DATCP Food Code Fact Sheets

- No bare hand contact with ready-to-eat foods
d
- Checking food product temperatures
  - http://datcp.wi.gov/uploads/Food/pdf/dhs_fs_071_10CheckTemp
  2.pdf
- Date Marking of Ready-to-Eat PHF/TCS Foods
  - http://datcp.wi.gov/uploads/Food/pdf/dhs_fs_083_14Date
  Marking.pdf
Wisconsin Department of Health Services

WI – DATCP Food Code Fact Sheets

• Employee Hygiene

• Handwashing Basics

• Recommended Cooling Procedures

• Temperature Guide

• Thawing Foods Safely

• Dial Stem Thermometer Calibration

• Time/Temperature Control for Safety Food (TCS)

• Washing and Sanitizing Food Contact Surfaces

• Action to the person in charge when serving a highly susceptible population and presented with a sick employee
Additional Resource Links on Following Slides

http://www.fda.gov/downloads/Food/ResourcesForYou/HealthEducators/UCM109315.pdf

FOOD STORAGE
Wisconsin Department of Health Services
Refrigerator & Freezer Storage Chart

http://shelflifeadvice.com/

The Shelf Life Advice Board of Advisors is comprised of food scientists and professors who are well known and respected in their fields.
Food Facts - Safe Food Handling


Minimum Internal Cooking Temperatures (Idaho)


Questions