

Food Safety Practices and HACCP Implementation in Assisted Living for the Elderly



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Acknowledgement

This project was funded by the USDA Cooperative States Research, Education, and Extension Service, Project No. 2002-51110-01525. The contents are solely the responsibility of the authors and do not necessarily represent the views of USDA.



Project Goal

Assess current food handling practices and HACCP implementation in assisted living for the elderly and provide training programs to improve food safety.



Objectives

- Increase employees' knowledge of food safety and improve their food handling practices.
- Develop sample HACCP resources appropriate for assisted living facilities and use Iowa State University's Extension web site for national distribution of these resources.



Study Design

- Pretest/Posttest quasi-experimental design
- 40 Assisted Living Facilities in Iowa
- 3-Year Project



Methods

Evaluate attitudes, knowledge, and food handling practices at Years 1 and 3 of the project.

- » Attitude questions
- » 20-question knowledge test for employees
- » Visual audit
- » Microbiological tests for five food contact surfaces



Employee Training

- ServSafe® training and certification offered by Extension; 180 attended
- HACCP I Training provided by project staff; 63 attended
- HACCP II Training provided by project staff; 53 attended



Resource Materials

- Resource Notebook/CD
 - Assessment tools
 - Written Standard Operating Procedures
 - Documentation forms
 - Sample HACCP case study
 - Planning forms
 - 8-Lesson HACCP training for employees



Other Resources

- 17 monthly newsletters
- Technical assistance
- ISU website: www.iowahaccp.iastate.edu





Search:

- HACCP Plans
- Assisted Living Facility Foodservice
 - Monitoring Forms
 - Newsletters
 - Sample HACCP Plan
 - Standard Operating Procedures (SOPs)
 - Training Materials

Assisted Living Facility Foodservice

This site contains a variety of documents and forms related to the Assisted Living Facilities HACCP project administered by ISU. **Use the categories on the left to select resource areas.**

For additional information about the ISU Assisted Living HACCP project, contact:

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COMING SOON!! HACCP in Retail Foodservice

A web-based course is being developed specifically for people working in the retail food industry such as hospitals, schools, nursing homes, assisted living center, and restaurants who would like to improve their food safety systems. Users will have the opportunity to earn Continuing Education Units from a variety of professional associations.

Check back to this site for further details. Anticipated launch is August 2005.

There are 0 documents in Assisted Living Facility Foodservice:



Employee Attitudes

- Attitudes toward food safety were positive both pre- and posttest
- Attitude scores increased between pre- and posttest



Employee Knowledge

- Employee knowledge scores improved ($p=0001$)
 - Pretest 14.6 ± 3.0 of 20
 - Posttest 15.9 ± 3.3
- Managers and cooks had higher knowledge scores than other employees ($p=.003$)
- Individuals with food safety certification had higher knowledge scores than those not certified ($p=.0001$)



Common Food Handling Problems Identified at Initial Visit

■ Personal Hygiene

- Employees in 28 of 40 facilities wore hairnets
- Handwashing often did not occur between dirty and clean end of dish machine

■ Food Storage

- Employees in 21 of 40 facilities properly labeled and dated food
- Employees in 7 facilities stored some food products on the floor



Common Food Handling Problems Identified at Initial Visit, cont.

■ Thermometer Use

- Employees in 35 of 40 facilities used thermometers
- Many did not know how to calibrate

■ Recording Temperatures

- Employees in 20 of 40 facilities recorded refrigerator and freezer temperatures
- Employees in 16 of 40 facilities recorded food temperatures prior to service
- Employees in 14 of 40 facilities recorded dish machine rinse temperatures or sanitizer concentrations



Common Food Handling Problems Identified at Initial Visit, cont.

■ Food Temperatures

- Cold food temperature standards met in 21 of 40 facilities
- Employees in 27 of 40 facilities knew appropriate reheating temperatures

■ Sanitizing

- Employees in 9 of 40 facilities did not use sanitizing buckets
- Temperature or sanitizer concentration for dish machine rinse not met in 6 of 40 facilities
- Employees in 7 of 40 facilities did not sanitize food contact surfaces



Food Safety Practices Score

- Number of YES observations ÷ (number of YES observations + number of NO observations)
- Pretest 82.9 ± 9.4
- Posttest 87.2 ± 8.8



Areas of Improvement in Food Handling

- Use of hair restraints
- Knowledge of end-point cooking temperatures
- Cleaning and sanitizing
- Temperature documentation



Other Observations

- No leftover use for residents; thus, cooling was not an issue
- Holding times for hot foods were minimal; food was cooked close to serving time
- Food cooked to very high end-point cooking temperatures
- Employees from other areas of the facility involved in foodservice tasks



Microbiological Analysis of Food Contact Surfaces

- Work table/counter, cutting boards, mixing bowl/equipment, refrigerator/freezer handle
- Aerobic Plate Count, *Enterobacteriaceae*, and *Staphylococcus aureus*
- Standards set: APC $<1.3 \log_{10}$ CFU; *Enterobacteriaceae* and *Staphylococcus aureus* $<1.0 \log_{10}$ CFU
- Pretest: Standard for all surfaces met in 2 facilities; Posttest: Standards met in 17 facilities



Other Micro Findings

- Aerobic plate counts for all surfaces improved, indicating improved cleaning and sanitizing procedures
- *Enterobacteriaceae* was found in only a small number of samples
- *Staphylococcus aureus* was found in greater frequencies at pretest.



Coordinate Efforts with Related Agencies

- Department of Elder Affairs
- ISU Cooperative Extension Nutrition and Health Field Specialists
- Department of Inspections and Appeals



Conclusions

- Educational interventions appear to improve food safety practices in assisted living facilities.
- Easy-to-use resources are needed because staffing is minimal.
- Institutional policies may support food safety.
- Size of facilities impacts food safety.

