

State Agency Involvement in Food Safety Training for Child Nutrition Programs

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Please note that this study was published before the implementation of Healthy, Hunger-Free Kids Act of 2010, which went into effect during the 2012-13 school year, and its provision for Smart Snacks Nutrition Standards for Competitive Food in Schools, implemented during the 2014-15 school year. As such, certain research may not be relevant today.

ABSTRACT

Objectives

The purpose of this study is to determine what food safety certification requirements and training practices are implemented by state agencies.

Methods

A written survey was mailed to the state directors who oversee child nutrition programs in 50 states and the District of Columbia.

Results

Responses from 41 state agencies (80%) were received. Few states have requirements for food safety certification and training for foodservice employees. The requirements that do exist are based on the current food code of the jurisdiction, which is usually by city or county. Due to new federal requirements for food safety programs included in the Child Nutrition and WIC Reauthorization Act of 2004, state agencies are preparing to check compliance during reviews of school food authorities. Thirty-five state agencies reported providing food safety training over the course of the two-year period studied. Most training sessions used Serving it Safe, ServSafe®, or the Hazard Analysis and Critical Control Point (HACCP) program. State agency staff identified a need for financial resources to support training efforts, as well as educational resources for basic food safety, the HACCP program, and reaching ethnically diverse audiences with varying language requirements.

Application to Child Nutrition Professionals

State agency staff can use the results of this study as a benchmark for certification and training in their states. State agencies need support from organizations such as the U.S. Department of Agriculture (USDA), the National Food Service Management Institute (NFSMI), state cooperative extension, and other groups that provide educational resources or programs for effective food safety training.

INTRODUCTION

Food safety in schools has received increased attention during the past several years, even though the number of reported cases of foodborne illness attributed to food served in schools is low (U.S. General Accounting Office [GAO], 2000). In a second, more-recent report on food safety in schools, GAO (2003) found that only 3% of foodborne illness outbreaks reported

nationwide occurred in schools. Although the findings reflect a small portion of the total

outbreaks surveyed, the report provides suggestions on how to improve food safety practices in schools, including the following recommendation:

To enhance the safety of the federal breakfast and lunch programs in participating school districts, we recommend that the Secretary of Agriculture direct the Administrator of the Food and Nutrition Service (FNS) to further promote training and certification of key school foodservice personnel in food safety practices by, for example, publicizing the range of food safety training and certification opportunities available to school foodservice personnel from the School Nutrition Association, the National Restaurant Association, and other sources.

This recommendation is significant, as it relates to research conducted to discover food-handling practices and Hazard Analysis Critical Control Points (HACCP) program implementation in school foodservice. Areas of concern relating to food-handling practices include inadequate hand-washing (Giampaoli et al., 2002; Gilmore et al., 1998; Henroid & Sneed, 2004), improper sanitizing (Blakeslee & Penner, 1999; Giampaoli et al., 2002; Henroid & Sneed, 2004), and ineffective temperature control and monitoring (Henroid & Sneed, 2004; Kim & Shanklin, 1999). Henroid et al. (2004) conducted a microbiological study of five food contact surfaces in 40 schools to assess aerobic plate count, as well as the presence of *Enterobacteriaceae*, and *Staphylococcus aureus*. They found that for the five surfaces, anywhere from 10 (for handwashing sink handle) to 39 (for food preparation table) schools met the standard for aerobic plate count, 38 met the standard for *Enterobacteriaceae*, and 29 met the standard for *Staphylococcus aureus*. Only four schools met all standards for all surfaces.

Other research discovered that schools were not adequately prepared to establish HACCP-based food safety programs. Youn and Sneed (2003) found that less than half of schools had written standard operating procedures to guide their food safety programs. Hwang et al. (2001) studied schools in Indiana and found that while 66.5% of school foodservice directors were familiar with HACCP, only 22 of 85 school districts reported that they had such a program in place. Later studies have found that only between 11% (Youn & Sneed, 2002) to 30% (Giampaoli et al., 2002) of school districts either had a HACCP program or were in the process of implementing one. These research studies on food-handling practices and HACCP implementation clearly point to the need for additional emphasis on food safety in schools through training and other interventions.

The Child Nutrition and WIC Reauthorization Act of 2004 improved food safety regulations by increasing health inspections from once to twice a year, requiring that a copy of the most recent health inspection report be posted and made available upon request, and mandating that all schools implement a food safety program consistent with the HACCP program established by the Secretary of Agriculture. In response, FNS (2005) developed guidelines for schools on how to develop and implement a food safety program. These changes require that additional training programs be made available to foodservice directors, managers, and employees.

Federal breakfast and lunch programs are administered at the state level by a state agency (Gunderson, 1971), usually housed in a state department of education or agriculture. These state agencies are responsible for auditing local school food authorities (SFAs) to determine

compliance with program regulations. Many also plan and deliver training to SFAs. State agencies are important in supporting the implementation of food safety programs.

This study determined food safety certification requirements and training practices implemented by state agencies that administer federal school breakfast and lunch programs. Specific objectives include 1) determining each state's requirements for food safety certification and training for various levels of employees; 2) understanding the system utilized to assure compliance with food safety requirements; 3) verifying the type of training provided, levels of training, frequency of training, and number of personnel trained during a two-year period (2003-05); 4) identifying those individuals responsible for developing and conducting training for state agencies; and 5) pinpointing resources that state agencies need in order to support food safety and HACCP training.

METHODOLOGY

A written survey was developed to gather information needed to answer objectives in the study. The survey was reviewed by National Food Service Management Institute (NFSMI) and FNS staff for comprehensiveness and accuracy, and it was approved by The University of Mississippi's Institutional Review Board for the Protection of Human Subjects prior to data collection. A cover letter and the survey instrument were mailed to all 50 state directors and the director of the District of Columbia. State directors were given the option of receiving an electronic copy of the survey, which could be returned directly to the researcher. Three weeks after the initial survey mailing, a reminder was E-mailed to each state director who had not responded. Three weeks after that, individual E-mails were sent again to each state director who had not responded. Multiple efforts were made to get 100% response to the survey. All quantitative survey responses were compiled using SPSS. Microsoft Word was used to compile qualitative responses.

RESULTS AND DISCUSSION

Responses were received from 40 (80%) state agencies and the District of Columbia. This group of 41 will be referred to as state agencies. States from all USDA regions were represented in the study sample.

State food safety certification and training requirements

Few states have requirements for food safety certification or training for foodservice employees at various levels (employee, manager, and director). Requirements that do exist are based on the current food code of the jurisdiction, which is usually by city or county. Only three of the 41 state agencies have certification requirements for school district directors, and five agencies have requirements for foodservice supervisors and employees. In some jurisdictions, workers must earn a food handlers' certificate, while others require at least one person on duty to be certified in food safety. Training requirements in place of certification are required in even fewer states. Four states have a requirement for foodservice directors, four have a requirement for foodservice

supervisors, and five have a requirement for foodservice employees. None of the 41 states have a training requirement in addition to certification.

Compliance with food safety certification and education/training requirements

Assurance of compliance is conducted in a variety of ways. In 20 states, there are no food safety certification or training requirements and compliance is not verified. In seven states, the state department of health or its equivalent verifies compliance by checking food safety certificates or interviewing employees about their knowledge of food safety during on-site visits; this is consistent with the food code requirements in these states. The state agencies in nine states monitor compliance. Three state agencies require that certification records, training rosters (for such sessions as state-required HACCP training), or foodservice permits be filed with the state agency. Others verify compliance during the School Meals Initiative (SMI), coordinated review effort (CRE), or other reviews. In three states, both the department of health and the state agency verify compliance with food safety requirements.

It appears that many states were gearing up for the new U.S. Department of Agriculture (USDA) School Food Safety Program requirement while this study was being conducted. To prepare for the new requirement, some states have mandated a local SFA representative attend a HACCP training program, with verification by the state agency. Eight state agencies were in the process of adding food safety monitoring during SMI, CRE, or other reviews.

Training levels, frequency, and numbers

Training related to food safety and HACCP offered at the state level varies. Five state agency directors indicated that no food safety training had been offered during the two-year period studied. One state agency director indicated that her state was waiting on new materials being developed by NFSMI before offering training. Of the state agencies that did provide food safety and HACCP training, many offered varied levels of training (Table 1), including:

1. Food Handlers' Programs
One- to two-hour courses covering the basics of food safety and safe food handling. These programs usually are taught by local or state health department sanitarians.
2. Serving it Safe
A one-day course that covers the basics of food safety and safe food handling, and offers many application activities.
3. ServSafe®
A one- or two-day course that covers basic food safety, safe food handling, and introduces HACCP. This course concludes with a certification examination.
4. HACCP
Courses range from six to eight hours and introduce HACCP principles and provide guidelines on how to implement the program.

Basic food handlers' programs were offered by 27 state agencies, using the resources of local or state health departments (Table 1). In 31 states, ServSafe® training and certification was provided to foodservice employees. Serving it Safe was offered in 27 states. Other sources used for basic food safety training included state-developed materials, National Restaurant Association Educational Foundation (NRAEF) materials that focused on National Food Safety Education Month (September), NRAEF food safety videos, and federal and state food codes.

Some state directors indicated that they utilized components of ServSafe®, along with USDA and NFSMI materials in developing state resources.

HACCP training using NFSMI materials was offered in 30 states. Training materials provided by USDA also were used frequently (n = 24 states). Other resources used for HACCP training included university materials, such as those developed by Iowa State University and Rutgers University. The [HACCP website](#) was mentioned specifically as a resource, and two responding state agencies cited materials developed by local SFAs and one by the state's department of agriculture. The textbook, *Essentials of Food Safety and Sanitation*, written by McSwane et al., also was indicated as a source of information. When asked if there were other food safety training programs used, directors at nine state agencies mentioned that they utilized courses that had been developed at the state level. One state director mentioned training at state conferences and another state director cited the *Cold is Cool* materials developed by the National Dairy Council.

FNS and NFSMI were the most frequently used sources of information for developing state-provided food safety training and technical assistance (n = 35 states). State and local health departments, the School Nutrition Association, and state universities also were sources indicated by state agency respondents (Table 1). State agency representatives listed materials from Indian Health Service, the U.S. Food and Drug Administration, department of health staff, National Restaurant Association, and the NRAEF as resources. Some states reported that they rely on third-party contractors to develop materials and provide training.

Of school nutrition employees in the 35 state agencies that offered food safety training programs from 2003-05, 24,000 foodservice employees were trained in basic food safety; 3,930 foodservice employees were trained using ServSafe®; and 8,216 individuals were provided HACCP training. One state trained approximately 7,000 foodservice employees in basic food safety and another state trained about 2,400 foodservice employees in HACCP principles.

In response to new federal regulations that require all schools to have a food safety program based on HACCP principles (Child Nutrition and WIC Reauthorization Act of 2004, 2004), there clearly was a trend in 2005 for states to introduce such training. In most responding states, school nutrition professionals have access to training conducted by other entities that is not tracked by state agencies. For example, in many states, ServSafe® training is conducted by state cooperative extension staff, the state restaurant association, or both. In some states, the cooperative extension also conducts training related to HACCP and food security and safety information. In addition, many state affiliates of the School Nutrition Association offer food safety and HACCP training at various district and state meetings. Other identified sources of training included retailers and grocers associations, college professors, and private consultants. These additional sources of food safety training make a significant impact on the number of school foodservice workers who receive training each year.

Training development and delivery

In regard to training development, this research found that the trend is for state agencies to rely on resources developed by other groups to support their programs. For both basic food safety and HACCP training, materials developed by NFSMI were used extensively (Table 1). Of the 41

state agencies in the survey, 13 have developed or modified programs specifically for their state. These programs range from basic food safety to HACCP implementation and many were created by state agency staff, although a few states used external consultants.

Survey responses revealed that there are six main groups involved in conducting food safety training in states: 1) state agency staff (n = 15); 2) NetPro or Team Nutrition Training Cadre (n = 7); 3) NFSMI staff or trainers (n = 2); 4) cooperative extension staff (n = 2); 5) department of health staff (n = 3); and 6) consultants (n = 5). It appears that state agencies collaborate with other agencies and groups to enhance the training available to school foodservice employees within their respective states.

Resources needed to support training

State agency directors were asked, via an open-ended question, to list additional resources needed in their state to support food safety and HACCP training. Items listed were categorized into four areas: 1) educational resources for basic food safety; 2) educational resources for HACCP; 3) educational resources for diverse audiences; and 4) financial resources.

Educational resources for basic food safety

One key concept related to this area was the need for affordable and accessible training. For example, while ServSafe® training is popular, it is viewed as expensive for school nutrition operations. Another identified need was having resources such as PowerPoint slides and handouts available on CD-ROM to support teaching of Serving it Safe (n = 2). Web- and computer-based training was identified as a need by three state agencies. Materials designed to reinforce food safety training such as E-mail messages, printed materials, mini-lessons, tips, and short and specific videos also were identified (n = 5).

Educational resources for HACCP

Resource needs identified to support HACCP training include a HACCP curriculum (n = 5); a simplified and condensed HACCP course (n = 1); additional standard operating procedures (n = 1); and videos and PowerPoint presentations (n = 6). One state agency director stressed the need to focus on small rural districts that do not employ a professional foodservice director. Case study examples for small and medium-sized school districts were recognized as another useful resource. The Internet was identified as a medium for providing school districts assistance when developing HACCP plans. There was interest in having NFSMI conduct in-state train-the-trainer programs.

Educational resources for ethnically diverse audiences

Two states specifically mentioned a desire for PowerPoint presentations and handouts available in Spanish. No other language needs were mentioned.

Financial resources

Time and funding limitations were identified by six respondents as barriers to training. It appears that there is interest in conducting training, but finances available to do so are often very limited. Fiscal resources are required to conduct training, hire trainers, duplicate materials, and support travel.

Table 1. Food Safety and HACCP Training Programs and Resources Used by State Agencies that Administer the National School Lunch Program and the School Breakfast Program (n=41)	
Training Activity/Resources	Number of States
Food safety training programs implemented in school foodservice	
ServSafe®	31
HACCP Program (developed by NFSMI)	30
<i>Serving it Safe</i>	27
Food Handlers Programs provided by Local or State Health Department	26
Other	12
Resources related to food safety that have been most useful for training school foodservice employees	
<i>Serving it Safe</i>	27
NFSMI-developed materials	27
Other Federal, state, or locally developed materials (such as Thermy)	21
ServSafe®	22
Other	6
Resources related to HACCP that have been most useful for training school foodservice employees	
NFSMI-developed materials	30
Federal materials (USDA, FDA, CDC, etc.)	24
NRA/ServSafe® materials	11
State or locally developed materials	11
Cooperative Extension developed materials	7
Other	6
Sources of information state agencies use for developing food safety training and providing technical assistance to schools	
Food and Nutrition Services (USDA)	35
National Food Service Management Institute (NFSMI)	35
State or Local Health Department	24
School Nutrition Association (SNA)	15
State Universities/Cooperative Extension Service	14
Other	9

CONCLUSIONS AND APPLICATIONS

Based on the results of this survey, most states have limited requirements for food safety certification and training for various levels of school nutrition employees. If certification or educational training is required, compliance is assured in a variety of ways through state departments of health, the state agency, or both. Further, results indicate that state agency staff:

- provide food safety training for school foodservice employees covering various scopes of information, including basic food safety, certification-level food safety, and HACCP.
- rely heavily on education and training resources developed by USDA, NFSMI, and their state departments of health.
- Teach training sessions or utilize consultants to such provide training.

- collaborate with other groups, such as the department of health or universities, to maximize training opportunities for school foodservice employees.
- suggest additional food safety resources that would assist their training efforts.

State agency staff desire a variety of materials and formats for both basic food safety and HACCP topics that will facilitate training and reinforce key points and behaviors for front-line workers. They also need financial resources to support food safety training efforts.

The results also indicate that many states have a training infrastructure in place, but have limited resources to address all competing training needs. For example, while federal food safety requirements were being implemented, there was a simultaneous federal requirement to execute a school district wellness policy. Clearly, both of these areas are important and will require training at the local level to implement. Food safety training will be imperative if schools are going to be able to meet the food safety mandate of the Child Nutrition and WIC Reauthorization Act of 2004.

Future research on the effectiveness of training in support of implementation of food safety programs in school districts is needed. Research on innovative training methods, such as use of Internet-based training, also would help determine cost-effective training methods for the future. It also might be useful to survey school foodservice directors to determine their expectations of the state agency in providing training at the school district level.

ACKNOWLEDGEMENTS

Funding for the NFSMI has been provided with federal funds from FNS at The University of Mississippi. The contents of this publication do not necessarily reflect the views or policies of The University of Mississippi or USDA, nor does mention of trade names, commercial products, or organizations imply endorsement by the United States Government.

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