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# Implementation of

F o o d



P r o g r a m s

# Based on HACCP Principles in School Nutrition Programs

## PURPOSE

The purpose of this study was to assess the extent to which school nutrition (SN) programs have implemented food safety programs based on Hazard Analysis and Critical Control Point (HACCP) principles, as required by Section 111 of the Child Nutrition and WIC Reauthorization Act of 2004.

## METHOD

### Survey

- Based on United States Department of Agriculture (USDA) guidelines for developing school food safety programs and the professional literature
- Developed with input provided by USDA representatives
- Pilot tested by USDA and state agency representatives and revised as necessary
- Online survey administered by SurveyMonkey.com

### Sample Recruitment

- Survey invitation letters mailed to all SN directors participating in SN programs (N = 14,848)
- Each SN director asked to distribute additional survey invitation letter to SN manager in district (potential N = 14,848)
- Reminder postcard sent one week after mailing survey invitation letter
- 166 survey invitation letters returned as undeliverable, for final potential N = 29,364

## RESULTS

- A total of 2,716 surveys (9% response rate) were completed by 1,610 SN directors (59%) and 1,106 SN managers (41%) representing all USDA regions.
- Portion of schools in district that have implemented HACCP-based programs:
  - All – 93%
  - Some – 4%
  - None – 2%
  - Don't Know – 1%
- HACCP-based program implemented in school:
  - Yes – 92%
  - No – 4%
  - Don't Know – 4%
- Additional analyses indicated that the implementation process was incomplete in 26% and 19% of districts and schools, respectively.
- District status of HACCP-based program development and implementation:
  - Development not begun – 2%
  - Development in progress – 5%
  - Developed; implementation not begun – 3%
  - Implementation in progress – 26%
  - Implementation complete – 64%
- School status of HACCP-based program development and implementation:
  - Development not begun – 4%
  - Development in progress – 5%
  - Developed; implementation not begun – 2%
  - Implementation in progress – 19%
  - Implementation complete – 70%

- Perceived barriers to development and implementation of HACCP-based food safety programs were similar for SN directors and managers, with both rating time associated with developing, implementing, and training employees on the food safety programs as top barriers.
- Perceived factors important in developing and implementing HACCP-based food safety programs were similar for SN directors and managers, with both directors and managers identifying "ensuring ill employees do not work with food" and "serving as a positive role model with respect to food safety" as important factors.

## APPLICATION

- Although the majority of districts and schools reported implementation of food safety programs based on HACCP principles, the implementation process was not always complete.
- Barriers to program implementation and factors contributing to program implementation identified in this study will assist in ensuring broader implementation of HACCP-based food safety programs in school nutrition programs.
  - Barriers to be addressed include time constraints, negative perceptions about HACCP programs, and cost issues.
  - Role modeling and training are important in implementing HACCP programs
    - SN directors and SN managers must serve as positive role models with respect to food safety.
    - Employees must understand their expected roles in food safety programs and have the knowledge and skills necessary to fulfill these roles.

## TOP BARRIERS TO IMPLEMENTATION OF HACCP-BASED PROGRAMS<sup>a</sup>

Districts	Schools
• Time to develop program (3.0 ± 0.7)	• Time to implement program (2.9 ± 0.8)
• Perception of HACCP program as creating additional work burdens (3.0 ± 0.7)	• Time to develop program (2.9 ± 0.8)
• Time for training employees (2.9 ± 0.7)	• Time for training employees (2.9 ± 0.7)
• Time to implement program (2.9 ± 0.7)	• Costs to update facilities (2.9 ± 0.8)
• Costs to update facilities (2.9 ± 0.8)	• Perception of HACCP program as creating additional work burdens (2.9 ± 0.8)
• Burden of documentation/record keeping (2.9 ± 0.7)	• Burden of documentation/record keeping (2.9 ± 0.8)
	• Cost of new/additional equipment/supplies (2.9 ± 0.8)

## TOP FACTORS IMPORTANT IN IMPLEMENTING HACCP-BASED PROGRAMS<sup>b</sup>

Districts	Schools
• Ensuring ill employees do not work with food (3.7 ± 0.5)	• Ensuring ill employees do not work with food (3.8 ± 0.5)
• Serving as positive role model with respect to food safety (3.7 ± 0.5)	• Serving as positive role model with respect to food safety (3.7 ± 0.5)
• Ensuring program is practical to apply (3.6 ± 0.5)	• Ensuring all employees know their role in food safety program (3.7 ± 0.5)
• Training all employees on HACCP principles (3.6 ± 0.5)	• Training all employees in HACCP principles (3.7 ± 0.5)
• Ensuring all employees know their role in food safety program (3.6 ± 0.5)	• Making available tools/equipment/supplies (3.7 ± 0.5)

<sup>a</sup> Mean ± SD based on rating scale from 4=strongly agree to 1=strongly disagree

<sup>b</sup> Mean ± SD based on rating scale ranging from 4=very important to 1=not at all important