

2009 Child Nutrition Showcase Abstracts

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.

School foodservice administrators' perceptions of required and/or desired inputs to implement a HACCP-based food safety plan: A national study

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Purpose/Objective

The purpose of this study was to identify public school foodservice administrators' perceptions of required and/or desired inputs by their districts to comply with the new HACCP-based food safety program mandate.

Method

An electronic survey was sent to a stratified, random national sample of public school foodservice administrators (N = 1,850). Respondents (n = 567) provided information regarding large and small equipment purchases, staffing, program development time, training, and assessed attitudes about HACCP/food safety training, HACCP benefits, and challenges. Four site observations school kitchens were conducted to provide support for national survey findings.

Results

Large districts purchased more large equipment per site than did small- and medium-sized districts. The majority of school districts (88.2%, n = 468) had purchased thermometers either prior to (70.9%) or after (17.3%) the 2004 mandate, with bi-metallic stemmed thermometers being purchased in the highest quantity (Mdn = 12 per district). Shallow pans (2" deep) were identified by almost 60% (n = 129) of respondents as the item purchased in the greatest quantity on a list of other small equipment, with a median of 21 pans per district. Large districts purchased more small equipment per site than did small districts. Most respondents (81.4%; n = 413) replied there had not been any additional costs associated with obtaining the required number of annual health inspections. Overall challenges to HACCP implementation as perceived by school foodservice administrators were time (n = 85), paperwork (n = 47), training (n = 38), and money (n = 37).

Applications to Child Nutrition Professionals

Those in charge of school meal programs should be sure that there is training on proper use of bi-metallic stemmed thermometers, and need for proper calibration of this widely used food temperature measuring device; maintaining food and equipment temperature monitoring equipment; and work simplification techniques to reduce time associated with monitoring and documenting the plan.

Competencies, Knowledge, and Skills for District-Level School Nutrition Professionals in the 21st Century

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Purpose/Objective

The purpose was to identify the functional areas, competencies, knowledge, and skills needed by district-level school nutrition (SN) professionals to be successful in the 21st century.

Method

In Phase I, an expert panel of state agency staff and SN directors participated in a modified Delphi process to identify the functional areas encompassing the job responsibilities of district-level SN professionals. The expert panel agreed upon the knowledge and skill statements for each functional area and sorted the statements into competency categories. Researchers drafted competency statements that were later confirmed by the expert panel. The Phase II review panel members were mailed a survey to verify the importance of the knowledge and skill statements to the job responsibilities of district-level SN professionals; categorize the knowledge and skill statements into three distinct groups: essential, advanced, or just-in-time; and confirm whether the competency statements were consistent with the supporting knowledge and skill statements.

Results

Ten functional areas encompassing the job responsibilities of district-level SN professionals were identified: facilities and equipment management; financial management; food production and operation management; food security, sanitation, and safety; human resource management; marketing and communication; menu and nutrition management; procurement and inventory management; program management and accountability; and technology and information systems. In addition, 23 competencies, 127 knowledge statements, and 188 skill statements were confirmed. The review panel identified 291 statements as being essential knowledge or skills needed to administer the SN program.

Applications to Child Nutrition Professionals

The functional areas, competencies, knowledge, and skills identified in this project provide a clear picture of the role of SN professionals at the district level. Administrators can use this information to prepare job descriptions and evaluation criteria for SN directors and other district-level SN positions. These findings can also provide the basis for mentoring and other succession planning activities to prepare SN professionals for district-level responsibilities.

High School Students' Opinions on Nutrition Information at Point of Selection

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Purpose/Objective

Posting nutrition information at the point of selection can help students make healthy choices and can be an important component of local wellness policies. The purpose of this study was to conduct focus groups with high school students to determine their opinions on nutrition information at the point of selection.

Method

The researchers developed focus group questions for use in three high schools in three USDA regions (Midwest, Southeast, and Southwest). Focus group sessions with 9th and 10th grade girls, 9th and 10th grade boys, 11th and 12th grade girls, and 11th and 12th grade boys were conducted in each high school and a total of 38 girls and 35 boys participated.

Results

Girls and boys thought nutrition information might affect their food choices and girls were more interested in seeing nutrition information for all menu items and entrees. Boys were more likely to want nutrition information for entrees only and more likely to state that taste was more important than nutrition in choosing menu items. Girls and boys mentioned calories, fat, protein, carbohydrates as nutrients of interest and boys were more likely to want protein and vitamin information posted. Girls wanted the nutrition information available near the food and on a website but most boys wanted it near the entrance to the line. Both groups thought nutrition information should be provided for individual menu items instead of a reimbursable meal because there are many choices. Girls were more likely than boys to say that providing nutrition information would increase their trust and

satisfaction with the school nutrition program. Some students reported a distrust of school menu items and ingredients used in school menu items.

Applications to Child Nutrition Professionals

School nutrition directors can provide nutrition information in their high schools as a means of increasing trust and satisfaction with their program and as an important component of the wellness policy.

Perceptions of School Nutrition Directors Regarding Equipment Purchasing and Facility Design Projects

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Purpose/Objective

Objectives were to identify issues impacting decisions in equipment purchasing and facility design projects, describe challenges to the success of these projects, and define skills needed to execute equipment purchasing and facility design projects.

Method

An expert panel was assembled to discern their views on equipment purchasing and facility design projects. This information was used to develop a survey that was mailed to a random sample of 1050 SN directors stratified by USDA region.

Results

A total of 351 surveys (33%) were returned. SN directors used a 4-point scale (4, very important to 1, not important) to rate importance of 21 issues that impact decisions in equipment purchasing and facility design projects. The issue impacting both equipment purchasing and facility design decisions with the highest mean rating was "budget" (3.79 ± 0.49 and 3.79 ± 0.54 , respectively). Respondents used the same 4-point scale to rate importance of ten challenges to the success of these projects. The challenge with the highest mean rating for both equipment purchasing and facility design projects was "understanding local/state/federal codes" (3.43 ± 0.69 and 3.47 ± 0.66 , respectively). All ten challenges had mean ratings of 3.0 or greater, suggesting that these issues were indeed challenges impacting the success of equipment purchasing and facility design projects. SN directors used the 4-point scale to rate importance of nine skills needed to execute these projects. The skill with the highest mean rating for both equipment purchasing and facility design projects was "communicates effectively program needs" (3.65 ± 0.49 and 3.69 ± 0.50 , respectively). All nine skills had mean ratings of 3.3 or greater, suggesting that these skills were needed to execute equipment purchasing and facility design projects.

Applications to Child Nutrition Professionals

SN directors recognize the significance of these decisions and seek resources based on sound information to aid in formulating informed decisions.

Management of Student Food Allergies in School Foodservice Operations

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Purpose/Objective

Food allergies are a growing health and safety concern affecting an estimated 6-8% of American children. Purpose of this pilot study was to identify policies, practices, and opinions of school foodservice administrators concerning food allergies in school children.

Method

The method chosen for the study was telephone interviews with use of a structured questionnaire. Topics included school demographics, food allergy training, and practices and policies on food allergies. School foodservice administrators were asked to rate on a Likert-type scale their level of agreement with nine statements concerning practices that could reduce risk of allergic reactions to foods eaten at schools.

Results

Fifteen Texas school foodservice administrators participated in the interviews. School districts ranged in size from 11 to 208 schools with an average daily attendance of 34,261 students. Twelve districts provided training on food allergies to employees, usually annually. Administrators voiced a wide range of opinions concerning practices related to managing food allergies. Nearly all agreed that foodservice employees are aware food allergies can cause serious illness, menu alternatives should be available, and staff should keep records of students with food allergies. Approximately one-fourth disagreed that employees should know ingredients of menu items. Over half disagreed with the practice of preparing foods for students with allergies at a separate work counter, removing allergic items from school lunch menus and monitoring student sharing of food items in the lunchroom.

Applications to Child Nutrition Professionals

Because of the increasing number of children with food allergies, all school foodservice administrators should provide specific training on food allergies for employees. The training should make employees aware of possible allergic ingredients in school menu items and emphasize preparing menu items for children with allergies in a separate work area to prevent cross-contamination. There may be a need to develop specific food allergy training resources for schools.

Going Green in SN Programs: An Examination of Environmental Conservation Practices in Schools

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Purpose/Objective

The purpose of this project is to describe green/environmental conservation (GEC) practices in school nutrition (SN) programs and their participation in school-sponsored GEC efforts.

Method

State agency SN directors provided contact information for two to three SN directors in their states involved in GEC approaches in their school nutrition program. Fourteen SN professionals were contacted and agreed to participate on a virtual expert panel and respond via e-mail to two questionnaires related to their roles/responsibilities, practices, benefits, and barriers for implementing and sustaining GEC practices. Responses from the expert panel were summarized and related themes were identified and confirmed by the panel as a description of GEC practices in SN programs and their participation in school efforts.

Results

The expert panel identified their roles in GEC efforts as: being a leader, role model, educator, and trainer for students and staff. GEC approaches were identified as: recycling/waste management, purchasing locally grown foods, purchasing eco-friendly cleaning products, energy and water conservation, GEC building and renovation, and GEC education and training. Expert panel members identified the benefits of GEC as important for the health and wellbeing of children and provide a positive impact on the environment. The primary benefits of implementing and sustaining GEC practices were: reduction in labor, saving money, and having the SN department viewed as a leader or model within their district and other schools. The barriers to sustaining GEC practices were cost, gaining support within the district, and time necessary to change behaviors to adopt sustainable practices.

Applications to Child Nutrition Professionals

The themes identified by the expert panel will be used to develop a case study protocol and questions for case study site visits in the second phase of the project.

Best Practices for Creating and Maintaining a Wellness Environment in Child Care Centers Participating in the CACFP

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Purpose/Objective

The purpose was to identify research-based goals and best practices (BP) related to the two practice categories (Resources and Partnerships and Healthy Environment) identified in previous NFSMI research.

Method

An expert panel of child care professionals from five USDA regions convened to identify and confirm 194 draft BP statements under the two practice categories identified in previous NFSMI research. The panel identified missing BP statements, grouped similar BP statements, and provided feedback on the content and wording of best practices. Sub-categories and goals were then drafted by the panel to provide the context for the grouped BP statements under each practice category. The expert panel completed a post-session review to confirm the placement of 13 sub-categories, 15 goals, and 165 BP statements and provided formatting suggestions for the development of the guide. A review panel of 19 child care professionals then evaluated the draft guide and provided comments on the format of the guide as a self-assessment tool.

Results

The child care wellness best practice guide will be available as an NFSMI Web-based resource. Two practice categories and 13 sub-categories will be defined for the user, as well as each BP statement listed under the related goals may be assessed following a 4-item assessment scale. Best practices may be assessed following a 4-item assessment scale ranging from being Fully Addressed to Plans to Address with Not Applicable as an option to select should the best practice statement not address specific program needs.

Applications to Child Nutrition Professionals

The NFSMI Best Practice Guide for Child Care Professionals Creating and Maintaining a Wellness Environment in Child Care Centers will be a voluntary self-assessment tool for child care professionals interested in assessing or implementing a wellness environment.

Identification of Best Practices for School Nutrition Professionals Serving Students with Special Food and/or Nutrition Needs

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Purpose/Objective

The purpose of this project was to identify goals and establish best practices for serving children with special food and/or nutrition needs in school nutrition (SN) programs, based on the four practice categories (School Nutrition Responsibility, District/School Accountability, Information Resources, and Environmental Considerations) identified in previous NFSMI research.

Method

Researchers followed a best practices research model methodology to identify and establish best practices and goals. In Phase I, an expert panel of SN directors and representatives from state agencies and USDA, identified goals and best practice statements, grouped similar statements within the four practice categories, and provided formatting suggestions for the best practice resource. In Phase II, a national review panel followed a guided review process to evaluate the best practice statements, goal statements, and draft resource. Panel members assessed the content, scales, format, and usefulness of the resource as a self-assessment tool for SN professionals.

Results

The final version of the resource incorporated the best practice statements within the four practice categories and eight goals. The best practice resource is a user-friendly, Web-based self-assessment tool. Each statement is assessed using two 3-point scales, current status (fully addressed, partially addressed, and not addressed) and priority level (high priority, medium priority, and low priority).

Applications to Child Nutrition Professionals

The NFSMI Best Practices for Serving Students with Special Food and/or Nutrition Needs in School Nutrition Programs is a self-assessment tool for SN professionals to assess their operation based on the identified best practices. Upon assessing the current status and priority level of the best

practices, a plan of action can be established for addressing and prioritizing those best practices identified as needing attention.

Comparison of Efforts to Promote Healthy Eating Behaviors in Public and Private Middle Schools in Texas

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Purpose/Objective

Purpose was to compare efforts to promote healthy eating behaviors in public and private middle schools in Texas

Method

A questionnaire focused on foods offered in the lunch line, nutrition education, and marketing communication was developed, validated and pilot tested. Recruitment letters were mailed to 298 public school child nutrition directors and 516 private school principals in Texas. Both mail and online survey methods were used to obtain responses. Non-parametric X² tests using Cramer's V were conducted to test data for associations between school type and variables related to healthy eating.

Results

Respondents included 16 schools not serving meals, 86 public schools participating in the National School Lunch Program (NSLP), 26 private schools participating in NSLP, and 69 private schools not participating in NSLP. All private schools included in the analyses were not-for-profit. Significant associations were found between school types and availability of healthy foods and unhealthy foods in the lunch line, frequency of offering nutrition education, and number of marketing communication materials utilized. Results showed that public schools promoted healthy eating behaviors more often than private schools. Schools varied greatly in nutrition education methods and frequency. Public schools tended to use more marketing materials to promote healthy eating. NSLP schools were more likely to serve low-fat baked snacks, sports drinks, 100% fruit juice, 1%, 2% or skim milk, and whole grain foods Private schools not enrolled in NSLP tended to serve more fried foods and candy on the lunch line.

Applications to Child Nutrition Professionals

In order to combat the increasing incidence of child overweight and obesity, individuals administering foodservice operations in both public and private schools should promote offering healthy, nutrient-dense foods and beverages to school children. More research needs to be conducted to determine what methods of nutrition education and marketing are most effective in promoting healthy eating.

Best Practice Guide for Improving High School Student Participation and Satisfaction in the National School Lunch Program

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Purpose/Objective

The objective of the project was to develop a resource identifying research-based best practices for improving high school student participation and satisfaction in the National School Lunch Program (NSLP).

Method

In Phase I of the study, an expert panel of SN practitioners reviewed 143 draft best practice statements during a facilitated work group session. Members came to consensus on (1) wording of each best practice statement, (2) classification of statements under the appropriate research-based practice area, and (3) grouping of similar themed statements into goals. Phase II utilized a nationwide review panel of SN directors to evaluate (1) appropriate grouping of best practice

statements into goals and practice areas, (2) ease of use of assessment scales, (3) formatting, and (4) general content validity of the resource.

Results

Of the 143 draft statements, the expert panel retained 76 best practice statements categorized into 13 goals within the four practice areas (Food Quality, Staff, Program Reliability, and Marketing and Communications). The national review panel confirmed that a Baseline Assessment of the best practices may be performed using a 4-point Current Status scale (fully addressed, partially addressed, not addressed, and plans to address), with not applicable as an additional option. The panel also agreed that a Progress Review for best practices included in a plan of action can be monitored using a 4-point Likert-type scale (demonstrates excellence, area of strength, needs improvement, and unsatisfactory).

Applications to Child Nutrition Professionals

SN professionals can use the Baseline Assessment to identify best practices applicable to their SN program, as well as strategies that can be included in a plan of action designed to maintain and/or increase high school student participation and/or satisfaction. A periodic Progress Review will measure how effectively the plan of action has been implemented to address challenges identified during the baseline assessment.

The School Lunch Experience Survey: Identifying Factors Influencing the Satisfaction of High School Students in the National School Lunch Program

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Purpose/Objective

The purpose of this project was to develop a survey that identifies factors influencing the overall dining experience of high school students participating in the National School Lunch Program (NSLP).

Method

Based on focus groups previously performed by the National Food Service Management Institute (NFSMI), a survey instrument was drafted to explore factors that impact the dining experience and satisfaction of high school students participating in the NSLP. A total of 15 school districts (19 high schools) from six USDA regions participated during survey development. Factor analyses were used to statistically collapse responses into meaningful categories reflecting factors affecting student satisfaction. Multiple regression analyses were used to determine the impact of these factors on overall evaluations of the students' dining experience.

Results

Results showed that 21 key indicators impacting the dining experience of high school students factor into three dimensions, namely food quality, program reliability, and staff responsiveness and empathy. Multiple regression analysis showed food quality had the greatest effect on the students' evaluation of their overall dining experience. Among the food quality indicators, "the food looks appealing", "the food tastes good", and "food is cooked to the proper doneness" have the greatest effects on the students' evaluation of overall food quality. Similarly, "the staff is friendly" and "the staff look like they enjoy their work" had the greatest effects on the students' evaluation of the overall service quality.

Applications to Child Nutrition Professionals

The School Lunch Experience Survey will be made available in a downloadable format on the NFSMI website. Implementation of the survey will aid SN professionals in establishing performance benchmarks and improving their programs based on customer feedback. In addition, findings from the survey will provide the foundation for developing best practices for increasing satisfaction in the NSLP in the high school setting.

Branding the School Nutrition Program: Building the Foodservice Personality

Purpose/Objective

The objectives of the project were to investigate the application of brand personality concepts in the school nutrition (SN) setting and to explore the high school students' awareness and acceptance of these branding initiatives.

Method

An embedded, multiple-case replication design included structured interviews with the SN directors and managers focused on the process, strategies, and challenges of building the SN brand personality. An onsite branding checklist was also used to evaluate the visible uses of branding strategies in the cafeteria. In addition, SN managers were requested to take photos of elements that gave the cafeteria personality or character, while high school students were then asked to react to these pictures using a standardized set of probing questions during focus group sessions.

Results

Results showed that to create an SN program's brand personality, four primary methods have been utilized singularly or in combination. Districts that have obtained additional internal and/or external funding have established the brand personality primarily through aesthetics, focusing on creating a more commercial and contemporary dining environment. On the other hand, programs with limited resources focused the SN brand around the staff and the manner in which they interact with the students. Other SN programs have focused the brand on nutrition-related themes in all promotional materials, including the cafeteria's brand name. Lastly, elements depicting school spirit (e.g. school-related logos, fonts, colors, mascots, tag lines, athletic gear) were utilized in the décor, menu, staff uniforms, and promotional materials for the SN program.

Applications to Child Nutrition Professionals

As the number of meals eaten outside the home continues to increase, SN programs vie for brand recognition against competitive foods and retail food outlets located in close proximity to schools. Results from the study provide sustainable and successful practices for creating a competitive and appealing brand personality for the SN program.

Multi-year Comparison of School Nutrition Directors' Role in Development and Implementation of Pennsylvania Wellness Policies

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Purpose/Objective

The purpose of the study was to compare results from 2006, 2007 and 2008 to determine the role of PA school nutrition program (SNP) directors in the development and implementation of wellness policies. Specific objectives were to identify the changes made in SNP operations to meet the wellness policy and determine wellness activities.

Method

All SNP directors from Pennsylvania school districts participating in the National School Lunch Program were surveyed during January 2006. The initial population included 569 public schools, 211 private/parochial schools, and 104 residential childcare institutions (RCCI). Of the 884 SNP directors who received the 2006 questionnaire, 612 (69%) returned the survey. In 2007, the survey was sent to the 612 SNP directors with 464 (76%) returned. The return in 2008 from 464 foodservice directors was 84% (388). Data were analyzed using tests of reliability, means and standard deviations, and t-tests for comparisons between years.

Results

In 2006, 99% of SNP directors indicated that their districts had initiated the development of a wellness policy or intended to do so by the beginning of SY 2006. In 2007, only 8 districts (2%) indicated that they did not have a wellness policy developed. School district policies most frequently did not address sporting events, while student rewards and a la carte areas experienced the largest

increase from 2006. Throughout policy planning, implementation, and monitoring, 80% of SNP directors responded that they were involved in the process, with approximately 50% spending more than 2 hours per week on the policy. Although approximately 30% of SNP directors thought they would be assigned the primary responsibility for SY 06/07, only 25% actually were assigned the primary responsibility. For the SY 07/08 year, 34% of directors assumed the day-to-day responsibility for the implementation of the wellness policy. Approximately 60% of directors reported that the wellness policy committee had met since the adoption of the policy; however, the majority had met three or fewer times during SY 06/07. In 2007, 75% reported a committee had been formed for the implementation of the wellness policy. Responses from the 2008 survey indicated the wellness committee was responsible for the monitoring and evaluation of the policy; however, 33% did not meet during the fall 2007 semester and another 39% had only met once. The modification of items sold to students in 2007 from 2006 indicated an increase in low fat items and 100% fruit juices, while sweet baked items, less than 100% fruit drinks, and ice cream items were offered in fewer programs.

Applications to Child Nutrition Professionals

This research documents the evolution of wellness policies over a three year period by comparing changes from a baseline year in SY 05/06. SNP directors played a prominent role in wellness policies. The progress of wellness policy implementation and changes made to SNPs can serve as a benchmark for other states. The study also establishes changes in food items offered as a result of wellness policies. Additional data related to the financial impact on school nutrition programs are being investigated.