

ICN Research Summary

Mary Frances Nettles, PhD, RD
Director of Applied Research Division
Institute of Child Nutrition (formerly, National Food Service Management Institute)
Mary.Nettles@usm.edu

This research has been produced by the Institute of Child Nutrition, Applied Research Division (ICN, ARD), located at The University of Southern Mississippi with headquarters at The University of Mississippi. Funding for the Institute has been provided with federal funds from the U.S. Department of Agriculture, Food and Nutrition Service (USDA, FNS), to The University of Mississippi in cooperation with The University of Southern Mississippi. The mission of the ICN is to provide information and services that promote the continuous improvement of Child Nutrition Programs such as School Meals Programs, Summer Food Service Program and Child and Adult Care Food Program.

The ICN Research Summary is a continuing series of summaries reporting recently completed research and research-based resources funded by the Institute of Child Nutrition.

RECENTLY COMPLETED RESEARCH

Examining Diversity in the School Nutrition Workforce

The purpose of this research project was to explore issues and challenges associated with managing a diverse school nutrition (SN) workforce. This research project used a multi-phase, descriptive, case study method to examine the diversity climate in SN programs. In Phase I, researchers utilized a virtual expert panel of SN professionals to collect information that would be used to develop the case study instruments for Phase II of the project. In Phase II, a holistic, multiple-case study design with a literal replication format was used during visits to six school districts in five states, representing four of the seven USDA regions. The first two case study site visits served as the pilot study to assess the case study process and instruments. Four subsequent site visits were completed, and data from all four site visits and interviews were analyzed using constant comparison methods to review the interview transcripts, observation reports and diversity documents and policies provided by stakeholders at each case study site.

Results from the case site interviews provided similar themes that exist in each SN program. Some notable themes include the following items:

- Common themes for the overall climate of diversity among all case sites were respectful, friendly, cooperative, supportive and welcoming environments for all staff.
- Optimal methods for managing and leading generationally and ethnically diverse staff included increased awareness of diversity within the SN program, creating and maintaining a diversity plan for the SN program, providing leadership with tools for effectively communicating across cultures and ethnic groups and practicing patience and fairness toward staff members.

- Optimal methods for training a generationally and ethnically diverse staff include offering training materials in different languages, utilizing multi-lingual staff for training, understanding staff ethnicities and cultures and being patient with a multi-ethnic and multi-generational staff.

While results of this study may provide insight into diversity practices and the diversity climate in SN programs and school districts across the United States, the data collected is limited to the perceptions and information shared by the expert panel members and stakeholders at the six case study sites. Additional research is needed to identify the true impact of diverse workforces on managing and training efforts in the SN program.

Identifying Knowledge and Skills for Child Care Providers in CACFP Operations

Since its inception, the ICN, ARD has conducted research to identify the competencies, knowledge and skills needed by professionals working in child nutrition. This project is the first time that competencies, knowledge and skills identification has taken place for professionals working with the Child and Adult Care Food Program (CACFP).

This research project was developed in two phases with the involvement of child care professionals in both phases. Phase I used an expert panel consisting of child care directors, sponsoring agency professionals and state agency professionals who identified the six functional areas that include the job responsibilities of child care professionals working within the boundaries of the CACFP. The expert panel members also came to agreement on the competency, knowledge and skill statements needed in each functional area. The Phase II review panel members confirmed whether the knowledge and skill statements were important to the job responsibilities of a child care provider and whether the competency statements matched the supporting knowledge and skill statements.

Six functional areas were identified that encompass the job responsibilities for professionals working in the CACFP: Administration, Procurement, Compliance, Health and Safety, Nutrition and Meal Management and Education and Training. In addition to the six functional areas, the Phase II review panel also identified 173 knowledge and skill statements. These knowledge and skill statements were classified as knowledge and skills needed either when a professional is hired or at an advanced stage in the professional's career. Of the 173 statements, 67 statements were identified as knowledge and skills needed when hired into a child care facility operating under the CACFP, and 106 statements were identified as advanced knowledge and skills.

The functional areas, competencies, knowledge and skills identified in this research project offer guidance for the role of the child care professional at all levels. Child care professionals and child care administrators can use the knowledge and skill statements as a framework for identifying qualified staff for entry-level and advanced-level positions in the child care setting. The statements can also be a resource to assess current training programs by identifying strengths and weaknesses and training results.

Got Milk! Exploring How Student Perceptions and Behaviors Impact Their Milk Selection in Schools

Considerable debate surrounds the health effects of flavored and unflavored milk in children's diets. Few studies have been conducted to examine the preferences and perceptions of students regarding flavored and unflavored milk. The ICN, ARD conducted a research study to identify elementary and middle school/junior high school students' perceptions of milk, their milk

preferences and their consumption of flavored and unflavored milk. School nutrition professionals' perceptions were also collected to provide an operational view of students' milk selection and consumption behaviors. Following the research design's embedded, replicable, multiple-cases, case study protocol, the communications format, focus group and observation procedures and instruments were tested by the ICN, ARD research coordinator and revised for training researchers for case study site selection and data collection.

Six research teams were trained to follow the study protocol to collect, analyze and report qualitative data in schools across the United States. Each team was instructed to follow the embedded, replicable, multi-case, case study protocol to select and arrange visits to four distinct elementary and middle school/junior high schools. Researchers followed a systematic approach to conduct interviews and focus groups with SN professionals and students (elementary students in grades 3-5, and middle school/junior high school students in grades 7-8), conduct behavioral observation procedures and record mealtime behaviors associated with milk selection and consumption at each site. All six research teams completed the collection of qualitative data from 24 sites across the U.S., and then attended a debriefing session with the ICN, ARD research coordinator to discuss research findings and reporting methodology. Research results indicate that although students prefer flavored milk, other factors play a key role in their consumption decisions such as milk temperature, social dynamics and meal times.

Assessing Point of Service Systems in School Nutrition Programs in the United States

Many SN programs use point-of-service (POS) systems to help track and aggregate the number of meals served for reporting purposes; verify student identity and whether a student receives full-price, reduced-price, or free meals; complete sales transactions and update student accounts; and generate reports for reimbursement claims. The purpose of this study was to assess the current practices and challenges related to POS systems and certification practices for free or reduced-priced (F-RP) meals. A mixed-model methodology was developed that included qualitative interviews and a quantitative survey. Individual interviews were conducted with state child nutrition program directors ($n = 14$) and district-level SN directors ($n = 25$) in 14 states, followed by a national survey of district SN directors. A data collection instrument was developed, reviewed by a panel of experts and pilot tested. It was then sent out to a stratified random sample of 1,500 district SN program directors. The sample was stratified based on the number of National School Lunch Program participants in each of the 14 states. Descriptive statistics, cross-tabulation with chi-square analyses, independent sample t -tests and analysis of variance (ANOVA) were calculated using SPSS. The statistical significance was set at $p < 0.05$.

A total of 319 SN program directors (21.3%) across all 14 states provided usable data. The majority of the districts accepted only paper-based F-RP meal applications; while others accepted both paper-based and online applications, and a few accepted online applications only. A variety of staff processed the applications, but district directors, directors' assistants or bookkeepers processed the majority of applications. Most participants indicated that the current verification process was adequate for determining eligibility.

The majority of the participants used electronic POS systems. Some challenges the participants encountered included difficulty customizing reports and difficulty obtaining technical support when problems arose with software. The availability of technical support, ease of identifying students and ease of training affected SN professionals' selection of an electronic POS system. Of the SN professionals who used paper-based POS systems, the majority reported that their school district was too small to invest in an electronic POS system or that they lacked funding

for electronic POS systems. The main challenges faced by users of paper-based POS systems were reporting accurate numbers of reimbursable meals, time lag in data processing and handling of confidential information.

This research identified a variety of aspects of POS system use and F-RP meal application and verification processes. The sequence of the information flow and the challenges that SN professionals experienced with POS systems and F-RP meal application processes were identified. To overcome challenges, POS system providers may need to offer routine training and technical support to SN professionals. In addition, to improve the accuracy of data reporting for paper-based POS systems, SN professionals in small districts may need to understand the workflow and identify ways to streamline the reporting processes.

Nutrition and Wellness in Child Care Centers Participating in the Child and Adult Care Food Program

The CACFP is administered by the USDA to assist participants in the provision of meals and snacks in child care centers and adult day care facilities. The Healthy, Hunger-Free Kids Act of 2010 (HHFKA) required changes to the USDA Child Nutrition Programs, including the CACFP, based upon the most recent Dietary Guidelines for Americans that promote nutrition and wellness through healthful eating and increased opportunities for physical activities. The ICN, ARD conducted a research study to assess the current status of these components. The study's protocol included the development of case study instruments, researcher training and analysis protocol that were piloted by an ICN, ARD research coordinator.

Research teams were trained to follow the pilot protocol to collect, analyze and report qualitative data from CACFP professionals operating child care centers/Head Start centers across the United States. Each team was instructed to follow the embedded, replicable, multi-case, case study protocol to select and arrange visits to four CACFP participating centers. Researchers used a systematic approach to conduct interviews or focus groups with child care professionals, follow behavioral observation procedures to document nutrition and wellness components and challenges and identify stakeholders' roles and responsibilities at each site.

All four research teams completed the collection of qualitative data from 20 sites across the U.S. and then attended a debriefing session to discuss research findings and reporting methodology. Research results confirmed the identification of nutrition and wellness components in various child care settings. Child care professionals shared multiple roles for implementing the CACFP. However, many were confused with varied aspects of the program's regulations and how the program fit their unique child care settings. Many child care professionals felt confident that they were serving healthful meals and implemented wellness practices, such as limiting screen time and providing opportunities for physical activity, throughout the child care day. Participants in the study noted time constraints, space and funding as challenges that impact the implementation of the CACFP in their child care centers. Results of this study confirmed the use of previously identified nutrition and wellness components of the CACFP in child care settings. Quantitative research studies are needed to further examine how the CACFP impacts the nutrition and wellness of children in child care settings.

Evaluation of the Team Up for School Nutrition Success Pilot Workshop

The Healthy, Hunger-Free Kids Act of 2010 created new meal pattern requirements and nutrition standards for schools participating in the School Breakfast Program and the National School Lunch Program, as well as new rules for competitive foods. As SN programs continued to move

forward providing innovative healthy school meals, USDA recognized that a process to share best practices across the country was needed. To meet this need, the ICN partnered with USDA, FNS to develop the *Team Up for School Nutrition Success* pilot workshop.

The purpose of this study was to evaluate the *Team Up for School Nutrition Success* pilot initiative for strengthening the child nutrition programs of participating SN directors at three, six and twelve months. Specifically, the study investigated whether the workshop enabled the SN directors to achieve their action plans established during the workshop with regard to the four areas of Financial Management, Increasing Participation, Menu Planning and Plate Waste.

Fifty-two participants who attended the workshop were eligible to take part in the evaluation study. The three-month evaluation consisted of a telephone interview that was audio recorded and transcribed. The interview script queried the status of each of the action plan goals and outcomes in the four areas of concern addressed during the workshop and any barriers encountered. The six-month evaluation consisted of an online survey with two sections assessing improvements in knowledge, skills and behavior reported by the SN directors after attending the workshop and the status of the action plan goal outcomes. Seven site visits were scheduled, one in each of the seven states where SN directors participated in the workshop and completed the three-month telephone interview. The major goal of the site visit was to meet with each SN director and review action plan implementation status. For the twelve-month evaluation survey, SN directors who completed the three-month interview were sent an email with their action plans attached and asked to report on the status of their goals and objectives.

Results from the evaluation confirmed that the action plans helped the SN directors review their programs and set some goals/outcomes that they had been able to achieve. Time and finances were the major barriers. Many continued to work on their goals during the 12 months following the workshop. The evaluation results document that time and finances were significant barriers. The SN directors gained knowledge and skills about creating action plans and using goal setting at the workshop. These new skills enabled them to begin implementing changes to improve their meal programs. Overall comments about the workshop were positive.