



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

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

RESEARCHERS

Tara L. LaRowe, PhD, RD, CD – Mount Mary University

Carol Longley, PhD, RD – Western Illinois University

Meghan O’Connell, MPH – University of Connecticut

Susan B. Sisson, PhD, RDN, CHES, FACSM – University of Oklahoma

ARD RESEARCH COORDINATOR

Kristi L. Lewis, PhD, RDN

ACTING EXECUTIVE DIRECTOR

Dr. Aleshia Hall-Campbell, PhD, MPH



Institute of Child Nutrition

The University of Mississippi

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**NUTRITION AND WELLNESS IN CHILD CARE CENTERS PARTICIPATING IN THE
CHILD AND ADULT CARE FOOD PROGRAM**

EXECUTIVE SUMMARY

The Child and Adult Care Food Program (CACFP) is a Federal nutrition program administered by the United States Department of Agriculture (USDA) to assist participants in the provision of meals and snacks in child care centers and adult day care facilities. Care providers adhere to meal and child snack guidelines that promote health and wellness for those served. 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 (DGAs) that promote nutrition and wellness through healthful eating and increased opportunities for physical activities. The Institute of Child Nutrition, Applied Research Division (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. Following the research design's embedded, replicable, multiple-case, 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. The protocol was then revised for Phase II of the study.

A team of researchers was trained to follow the pilot protocol to collect, analyze, and report qualitative data from CACFP participants operating child care centers/Head Start centers across the United States (U.S.). Four research teams were selected from a pool of applicants to receive a research award to attend a training session on how to conduct the case study site visits,

and how to collect data in USDA regions across the country. 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 were trained to follow a systematic approach to conduct or assess the following:

- interviews or focus groups with child care professionals;
- 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 with the ICN, ARD research coordinator 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 setting. 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. The 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.

INTRODUCTION

The Child and Adult Care Food Program (CACFP) provides food assistance to adult care organizations and family or child care homes across the United States. It is a reimbursement program that offers the provision of healthy and nutritious foods that contribute to the wellness, growth, and development of young children; the health and wellness of older adults; and the chronically impaired disabled persons (The United States Department of Agriculture [USDA], 2014). Regulations that govern the CACFP are based upon scientific evidence recommended by the Institute of Medicine and the Dietary Guidelines for Americans that support the health and well-being of children and older adults. Under the Healthy, Hunger-Free Kids Act of 2010 (HHFKA), the CACFP focus is to:

- better promote nutrition and health;
- support child care providers in promoting good nutrition, health and wellness;
- evaluate the long-term changes and program access; and
- expand meal options for afterschool programs.

In order to assess the promotion and progress of nutrition and wellness components in child care settings participating in the CACFP, the Institute of Child Nutrition, Applied Research Division (ICN, ARD) conducted a research study to assess the current status of these components. The research study followed a replicable, multiple-case, case study design to explore the nutrition and wellness components, how to measure them, and how to identify the various ways in which these components are occurring and evaluated in CACFP participating centers (Food Research and Action Center, n.d. & The USDA, 2014). The information collected from this study can be utilized to evaluate the success of HHFKA nutrition and wellness components for CACFPs in child care centers and day care homes.

Research Objectives

The objectives of this research study included the following:

- Identify the measurable nutrition and wellness components of the HHFKA for the CACFP;
- Identify how the HHFKA for the CACFP will be measured;
- Identify the perceptions of the USDA, state agency representatives, and child care and day care home providers participating in the CACFP; and
- Identify barriers to assessing measurable nutrition and wellness components of the HHFKA for the CACFP.

METHODOLOGY

Research Plan

The purpose of this study was to evaluate the adoption of the CACFP goals and requirements for promoting nutrition and wellness in child care centers. The research objectives and goals were addressed by utilizing research data and qualitative research procedures (embedded, multiple-case, case-study methodology) to identify and capture baseline data on nutrition and wellness components of the HHFKA for the CACFP. Data were collected to identify the implementation of nutrition and wellness strategies in child care centers.

This research study was conducted in two phases. In the first phase, the Institute of Child Nutrition, Applied Research Division (ICN, ARD) research coordinator developed and piloted the study's qualitative research protocol, data collection instruments, and training procedures for replicating research procedures. Information from the pilot was reviewed by an ICN, ARD research coordinator and by experts in the field who provided suggestions and recommendations for revision to both of the instruments and to the researchers' training, data collection, and analysis protocols. In the second phase of the study, a team of four researchers located at universities across the country were trained to identify and conduct case study site visits in diverse child care settings, such as child care centers and Head Start centers. The research team conducted case study site visits that included collecting qualitative data through interviews with child care professionals. Researchers also observed nutrition and wellness activities through components identified by the ICN, ARD research coordinator. Their findings were written and audio recorded, and then analyzed using the Constant Comparative Method to report the results based upon research objectives.

Research Design

The embedded, replicable, multiple-case, case-study design with a literal replication format (Yin, 2003) was used to develop the case study protocol to guide this CACFP study. Case study methodology is a qualitative approach that has been used to describe the scope and depth of a phenomena in various settings (multiple-phase approach) using specific characteristics. The literal replication format was developed based on previous research and analysis of qualitative data to describe child care professionals' perceptions of nutrition and wellness components; the challenges they face implementing CACFP regulatory changes; and the benefits garnered from CACFP standards. The multiple-case design allows for the exploration of similarities and differences between and within data from each case using the case study instruments (Baxter & Jack, 2008; Yin, 2003).

The embedded approach described by Scholz and Tietje (2002) was selected as a part of the case study approach to allow for more detailed inquiry and exploration. This approach also allows for data collection from multiple groups of subjects following the same research objectives, and provides a protocol for integrating qualitative data into a single research study. Following this research design, the protocols developed for this study included case study site visit communication letters; informed consent and assent forms; interview/focus group instruments for child care professionals; and an observation instrument. Researchers' training and debriefing protocols and a data analysis plan were also created to ensure that all researchers collecting and analyzing data for the study were following the research methodology. The ICN, ARD research coordinator evaluated a site visit to assess that researchers were following the established research design of the study. Researchers provided periodic feedback and quarterly reports of their progress with site selection, data collection, and analysis.

Informed Consent

The ICN, ARD research coordinator followed research protocol and consent procedures established by the Human Subjects Protection Review Committee at The University of Southern Mississippi for the pilot and overall study. The approved Institutional Review Board application from The University of Southern Mississippi was shared with researchers so that they would follow the same research protocol, as a part of the research design's replicable case study procedures. For all research protocols, no identifying codes were used to identify participants from the pilot and case study site visits in Phase I and Phase II of this study. Participants in the research study included only those child care professionals who signed consent forms.

Liaisons were sent copies of the confirmation e-mail letter and the informed consent information, and were asked to share with participants prior to the interview/focus group discussions. Attendance, reading, and signing consent forms at the interviews/focus group sessions served as participants' agreement to take part in the pilot study. Confidentiality statements were provided to all participants, and they were reminded that participation in the pilot project is completely voluntary. Contact information for the Human Subjects Protection Review Committee was provided for questions or concerns on the consent forms.

Selection and Training of Researchers

A competitive "Request for Application" announcement was distributed nationwide to solicit researchers with qualitative methodology experience to partner in collecting data for this research study. Four researchers from universities across the United States were selected, and they signed a subcontract agreement to attend a training session on how to identify case study sites, conduct site visits, and record and analyze data. The researchers also received the communications protocol and draft contact information sample documents for communicating

with child care administrators/administrators who serve as the liaison at each center's case study site. Additional resources were provided to researchers which included: a child care center contact letter about the site visit's purpose; information for conducting interviews; interview questions for child care professionals; and the observation instrument to record nutrition and wellness activities and behaviors.

To ensure that research integrity was maintained, researchers were instructed to follow their university's research governance for contacting participants, obtaining child care professionals' consent, data collection, and analysis procedures. Communication between sponsored program representatives at each university assisted in the management of the research study. Researchers provided a copy of their approval to conduct research from their Human Subjects Protection Review Committee after signing their "Memorandum of Understanding" statements, and completing their university cooperative agreement contracts.

Data Collection Instruments and Supporting Documents

The research protocols and instruments were developed using previous ICN, ARD research, literature review, and information from child care professionals and experts in the field. The protocols and instruments were then pilot tested in one child care center and in one Head Start program that participated in the CACFP in different geographical settings, in both rural and metropolitan. The questions were revised to be utilized in either individual interviews or focus group formats. The child care administrators for those centers provided the feedback necessary for establishing the communications protocol between the researchers and the child care representatives who would serve as the liaisons for each site visit. The ICN, ARD staff and child care administrators also reviewed the consent, revised interview/focus group questions, and

observation forms, and confirmed the content for each. No revisions were made after the final pilot case site visit.

The case study site visit and data collection protocols were refined so that each could be used as a guide by researchers to concepts and issues in various settings. The site visit protocol included the following items:

- a letter/e-mail to the child care administrator and school authority to request their participation in the study; and
- child care professional and parent consent forms, and student assent forms.

The data collection protocols included the following items:

- demographic form;
- interview/focus group questions for child care professionals; and
- an observation form.

Child Care Center Program Personnel and Center Demographics

The demographic form was created to collect information about the child care administrator responsible for administering the CACFP and the child care center. The form had nine questions/statements that asked child care administrators about their:

- gender;
- years of experience;
- job title;
- level of education;
- type of child care center (for-profit or non-profit);
- type of program offered (independent center, sponsoring organization, emergency shelter, or Head Start);

- number of child care centers;
- racial/ethnic enrollment; and
- demographic location (United States Department of Agriculture [USDA] region).

Interview/Focus Group Questions for Child Care Professionals

Nineteen questions were developed from the objectives and goals of the study to capture child care professionals' responses related to the challenges and benefits observed from the implementation of the CACFP changes related to nutrition and wellness. The information collected from child care professionals described their experiences implementing the CACFP requirements, which included implementation of nutrition requirements (meals and menus), family-style dining, wellness components (screen time, physical activity), and their perceptions of their resource and training needs. The following questions were designed to evaluate child care professionals' roles and experiences implementing the CACFP nutrition requirements:

- Question 1: "What is your role in ensuring that the nutrition requirements are met for your child care center?"
 - "Menu planning?"
 - "Cooking and preparing meals?"
 - "Eat with the children?"
- Question 2: "Are there any changes in the meal/menu requirements that have been easy for you to implement?"
- Question 3: "Are there any of the meal/menu requirements that have been difficult for you to implement?"
- Question 4: "Which meal components have the children accepted the best?"
- Question 5: "Which meal components are hard to get the children to accept?"

- Question 6: “Does the child care center implement family-style dining?”
 - “If so, do the children serve themselves?”
 - “How do you role model eating behaviors?”
 - “Do you eat the same meal as the children?”
 - “Do you drink milk as well?”

Questions seven through 12 were developed to capture information from child care professionals about their centers’ screen time policies and procedures:

- Question 7: “Let’s talk about screen time. Does your child care center have policies and procedures related to screen time?”
 - “Are you willing to share it with us?”
- Question 8: “How do you define screen time?”
- Question 9: “Do the children in your center utilize computers/tablets?”
- Question 10: “How do you role model the use of televisions/computer/tablet use in the children’s presence?”
- Question 11: “Does your child care center have scheduled screen time?”
 - “How long is it?”

Questions 14 through 18 were created to capture information about the child care centers’ physical activity policies and procedures:

- Question 14: “Are you active with the children during physical activity?”
- Question 15: “Are there any other nutrition and wellness activities that your child care center does that you are proud to share?”
- Question 16: “Are there any future nutrition and wellness activities that you would like to see in your child care center?”

- Question 17: “Are there any nutrition and wellness training or resources needed for you or your child care center?”
- Question 18: “Is there anything else that you would like to share with me today about nutrition and wellness in the child care center or the CACFP (the food program)?”

Child and Adult Care Food Program Observation Form

The “Behavioral Observation Form” was created to capture data on seven components of nutrition and wellness in child care centers. The form consisted of four sections: nutrition, physical activity, screen time, and policies and procedures. The form also included a short checklist on policies and procedures that the researcher requested to review:

- child care center policies and procedures;
- menus (full cycle if available);
- child care licensure guidelines and license;
- child care schedule;
- child care center policies and procedures manual;
- child care center health inspection form;
- nutrition education resources; and
- menu planning or foodservice resources.

The nutrition section contained three subsections: nutrition education, menus, and dining environment. The nutrition education subsection contained seven statements for child care professionals to respond if their centers had policies and implemented procedures related to:

- food not used as a reward;
- children engaging in story time or sing songs about food;
- caregivers discussing menu items with the children;

- children identifying foods by color and shapes;
- parents being encouraged to communicate their children's special nutrition, physical activity, and health concerns;
- posters, books, and games being used to encourage healthful eating behaviors; and
- nutrition education and physical activity information being provided to parents through newsletters, menus, and other health-related handouts.

The menu section contained six statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- the menu posted following CACFP guidelines;
- 100% fruit juice being served;
- whole grain foods on the menu;
- dark green or orange fruits and vegetables being served;
- children are allowed to bring foods from home; and
- the menu changes with the seasons, contains minimal repetition, and provides foods from various cultures.

The dining environment section contained 15 statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- children washing their hands before meals/snacks;
- caregivers washing their hands before meals/snacks;
- family-style dining is used during meal time;
- children are encouraged to use their manners;
- caregiver role model is appropriate mealtime behaviors;
- caregivers sitting at the table and eating and drinking the same meals as the children;

- teachers using meal/snack period as an opportunity for nutrition education;
- children are allowed second servings;
- children assisting with setting the table;
- children practicing fine and gross motor skills to serve and pass food;
- caregivers eating the same meals served to the children;
- water is available to children upon request;
- children helping clear dishes after meals/snacks;
- children brushing their teeth after their meal; and
- children rinsing their mouths after a meal.

The safety section contained five statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- The indoor learning and dining areas are cleaned and sanitized daily.
- Dining tables are cleaned before and after meal/snack service.
- The indoor and outdoor child care environment are evaluated for safety
- Toys and other equipment are cleaned often.
- Parents are encouraged to communicate any concerns about safety concerns.

The physical activity section contained four statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- children are provided with numerous opportunities for physical activity;
- structured and unstructured play are scheduled for _____ minutes per day at the child care center;
- indoor activities are scheduled for days when children are unable to go outside; and
- caregivers engage in physical activities with the children.

The screen time section contained four statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- television viewing is allowed;
- television viewing is restricted to educational shows for only _____ minutes a day or _____;
- children have scheduled computer periods; and
- all screen time (computer and television) are prohibited for children.

The policies, procedures, and document section contained ten statements that asked child care professionals to respond if their center had policies and implemented procedures related to:

- current menus are available and posted for staff and parents;
- parents receive a copy of the menu each month;
- a copy of the recent health inspection is posted for staff and parents;
- the child care center has a policy and procedures for food allergies;
- the center uses cycle menus of _____ weeks;
- the child care center has a written policy regarding food for holiday and celebrations;
- the child care center has a policy and procedures to address family fundraising activities that support physical activity and healthful eating;
- time available for meals is _____ minutes;
- time available for snacks is _____ minutes; and
- time available for physical activity is _____ minutes.

Case Study Site Visit Protocol

The researchers were trained to select a minimum of four diverse child care centers in at least two USDA regions. Diversity characteristics included the selection of sites that were distinctive by type of center, type of child care program, number of centers, enrollment, geographical location (rural, metropolitan), and racial/ethnic demographic. Since the study focused on child care centers participating in the CACFP, researchers were instructed to make personal contacts with child care administrators who could serve as liaisons. The ICN, ARD research coordinator provided sample documents for all case study site visit protocol communications.

Information was provided to researchers to contact child care administrators by e-mail or letter or phone call. The prototype request for child care administrators provided the purpose of the study; the site visit protocol; recommendations for selecting participants (child care administrators and staff); a request for a letter of support (if deemed necessary); a Human Subjects Protection Review Committee “Memorandum of Understanding” statement; and a timeline for interviews/focus groups and observations. The researchers also included their contact information should the child care administrator or other site liaison have additional comments about their participation in the study. If necessary, a letter requesting the child care administrators’ permission was also created for researchers to use as a template, if the need arose for child care authorization.

Once approval and letters of support were received from the child care administrator, the researchers were instructed to send a confirmation e-mail to the child care administrator/liaison. The confirmation e-mail provided additional information for the site visit activities and the procedures for obtaining consent. The researchers conducted a follow-up phone call to the child

care administrator to discuss the case study site visit protocol/procedures, and to clarify procedures for the site visit. An itinerary for site visit arrangements was coordinated between the child care administrator and the researchers to conduct the case study activities. The protocol also included information for obtaining informed consent from child care staff who agreed to take part in the interviews/focus groups, and to allow researchers to observe their child care center's wellness activities. The structured interviews/focus groups and the observation process were scheduled to take approximately one day to complete at each site visit. Due to limitations of child care staff flexibility in scheduling, the order of interviews/focus groups and observations were arranged by the liaison to accommodate the centers' daily activities.

Site Visits

Data collection using the focus group protocol with child care administrators and/or staff, and a behavioral observation of a meal or wellness activity occurred during a one-day visit in a child care setting for each case site. The site visits included the following research activities, in no particular order:

- meet with the child care administrator/case study site liaison to discuss the scheduling of site visit activities;
- conduct interviews/focus groups with the child care staff; and
- complete a behavioral observation of meal service (meals or snacks, physical activities, screen time activities, and nutrition and wellness policies and procedures).

Child Care Administrators/Staff Structured Interviews

The child care liaisons explained the purpose of the study to their staff who were identified as actively involved in nutrition and wellness activities (i.e., administrators, teachers, food service staff) prior to the researchers' site visit. The child care staff who agreed and were

able to participate were asked to review and sign a consent form, and a researcher read an assent statement to them prior to the facilitation of interviews or focus group sessions. The assent form provided an overview of the study and participants' rights to decline any questions or cease participation without penalty. A demographic form was provided to participants to capture information about the participants, characteristics of the child care center and the children served, and the geographical location of the center (USDA region). The questions asked child care staff about their perceptions of CACFP successes and challenges, and their strategies for meeting the CACFP requirements. All interviews/focus groups were conducted within 45 minutes to an hour, with one participant for interviews or, up to six to eight child care staff members.

Nutrition and Wellness Behavioral Observations of Child Care Centers

The child care liaisons guided researchers through the child care centers for the review of nutrition and wellness activities. Observation of nutrition and wellness behaviors in child care centers were performed after the structured interviews to corroborate participants' accounts of related activities. The *CACFP Observation Form* was used to record information that the researchers' observed related to nutrition, physical activity, screen time, and nutrition and wellness policies and procedures.

Debriefing Session and Initial Data Synthesis and Analysis

All interview/focus group and observation data were recorded in written and electronic formats, and transcribed for analysis. Focus group data was audio recorded, and included a research team's notes. After the case study site visit, all qualitative data were transcribed following the process provided in the researchers' training session. Each researcher was responsible for examining all raw data using several analytical strategies.

The transcripts were analyzed using the Constant Comparative Method to categorize, tabulate, and cross-check responses and observations that addressed the initial purpose of the study. The “Constant Comparison Method, a Kaleidoscope of Data” by Dye, Schatz, Rosenberg, and Coleman (2000) was used, because it provided a synopsis of the data based upon the embedded, multiple-cases, case study format designed and implemented to conduct this study. This method utilizes the constant comparison methods described by Patton (1990) and Glaser and Strauss (1985) to follow the four distinct stages for categorizing and describing data:

- comparing factors applicable to each objective captured from focus group questions and observed behaviors;
- integrating focus group and observation categories and their properties;
- delimiting theories and assumptions; and
- writing the synopsis of data.

This comparison method has been confirmed to be an ideal method for combining inductive category coding with observations from social settings. Therefore, as the researchers record responses using instruments constructed to capture categorical objectives, the data is compared across the categories. This method also allows for continuous refinement throughout the data collection and analysis process and feedback that describe relational aspects of the study.

Following the Dye, et al. (2000) data comparison method, thematic coding of key characteristics specific to the research objectives were analyzed from the child care staff’s interview/focus group notes and observations for pertinent data. The research teams combined themes from interviews/focus group and observation data for each category identified from the objectives of the study. The principal investigator from each team then met with the ICN, ARD research coordinator in a debriefing session to discuss their initial research findings,

commonalties, and unique results. The researchers also made the final decisions about combining interviews/focus group and observation data; categorizing the data into individual case and research team summaries; identifying researchers' roles and responsibilities for completing the project analysis; and creating a timeline for reporting and disseminating research results. Each researcher then conducted a review of their data, and submitted a copy of their transcripts and result summaries. The ICN, ARD research coordinator conducted the final comparative analysis of data, and sent the final copy of the results to the researchers. The information was then formatted for reporting according to the research methodology.

RESULTS

The purpose of this study was to investigate the adoption of the Child and Adult Care Food Program (CACFP) goals and requirements for promoting nutrition and wellness in child care settings. The information collected from this study would confirm the identification of nutrition and wellness components that could be used to measure the successful implementation and evaluation of the CACFP requirements. Researchers for this study captured data from child care professionals to provide insight into their perceptions of the current CACFP regulations, program challenges and successes, nutrition and wellness components, and their training and resource needs. The pilot visits occurred in one child care center in a metropolitan city in the Mid-Atlantic region and one rural Head Start center in the Southeast United States Department of Agriculture region. Twenty site visits with child care professionals' interviews and observation of nutrition and wellness activities and policy documents were conducted between June 2015 and January 2016. Child care operations included child care administrators, teachers, and cooks. The type of child care operations was diverse, and included for-profit and non-profit centers, two tribal child care operations, two group home care centers, two Head Start centers, and child care centers in rural and metropolitan areas. Due to staffing constraints in the child care settings, structured interviews with individuals in facilities (no focus groups) were conducted with 69 participants. All participants interviewed were females with an average of 14.4 years of experience.

Researchers were able to conduct all aspects of the case study protocols in the child care centers and observe supporting documents and nutrition and wellness behaviors and activities. Observations of nutrition and wellness components confirmed the behaviors discussed in the structured interviews. In accordance to the Constant Comparative Method described by Dye, et al, (2000), researchers organized themes for each individual case site, and placed the data into categories from the interviews and observation raw data. Each research team then conducted their own comparative analysis of their four-to-six site visits to create a summary across their sites. Then, each researcher submitted their raw data and summaries to the Institute of Child Nutrition, Applied Research Division research coordinator. Other factors that were confirmed during the structured interviews and observations data were the identification of the nutrition and wellness components review of supporting documents, and the identification of strategies and activities. These were incorporated into the results from the focus groups.

Structured Interviews with Child Care Professionals

Sixty-nine child care administrators and staff responded to 10 questions that related to the objectives and goals of the study. There were no perception differences in interview data in child care participants by geographical locations. An overview of structured interview outline is presented in Table 1.

Nutrition and Wellness Perceptions of Child Care Professionals

Respondents answered 19 questions related to the challenges and benefits observed from the implementation of the CACFP requirements related to nutrition and wellness.

Child and Adult Care Food Program Administrators' and Staff's Roles and Responsibilities

The first six questions related to participants' perceptions of their roles and experiences implementing the CACFP nutrition requirements. Comparative analysis of the top five themes revealed that child care administrators' and staff's responsibilities overlap, and range from menu planning and food purchasing. Child care administrators reported that they are responsible for submitting reports for documenting meal production and recordkeeping for reimbursements and other CACFP requirements. Family child care home providers and child care professionals of small centers had more responsibilities, and generally carried out all aspects of the CACFP program by themselves.

All interviewees stated that meal service in centers were as family-style dining. This was corroborated by the researchers' observations. However, researchers' noted that family-style dining methods and characteristics varied and were not consistent. For instance, some children had the appropriate serving utensils, while child care providers/teachers served children in others. In some observations, child care providers/teachers are "supposed to" eat the same foods, but just played with it. Many child care providers sit and eat with the children to role model and encourage healthful eating behaviors. The CACFP administrators and staff noted many challenges. The top five challenges discussed by interviewees were related to confusion (many regulations are broad and not specific for their needs); forecasting; portion size of food served to teachers for family-style dining; appropriate serving portions for children; and the lack of resources and approved, reimbursable food items that are culturally-appropriate for CACFP menus.

When researchers asked interviewees about their experiences with implementing CACFP meal/menu requirements, many were confused and were unaware of any changes. Others who

noted changes indicated that administrating and implementing the CACFP, portion size, and identifying the role of the cook beyond meal preparation were challenging. Interviewees with fewer issues had more resources and support from their state agency than those who faced more challenges. Respondents reported that more training and resources were needed for CACFP regulation compliance and successful strategies for food acceptance (particularly vegetables). One respondent stated, “It is difficult to find snacks and variety to meet the (CACFP) requirements.” Interviewees were expressive about children’s acceptance of healthful food items. One child care professional indicated that, “It is hard to fight (unhealthy) food habits created at home.” Training or resources that clearly define the parameters of family-style dining, dealing with food allergies and alternative foods, and resources for parents and teachers are needed. Fruit, meat/alternative, and grains are the most widely acceptable food items by children.

Screen Time in Child Care Settings

Questions seven through 12 captured child care professionals’ perceptions and experiences about screen time. Nearly half of all interviewees indicated that they practiced limited screen time. However, researchers’ observation of policies only identified a few child care centers had policies. There were contradictions amongst staff regarding related policy and its practice. Screen time was broadly defined as television and educational software program. Screen time varied from no television to at least 30 minutes of educational viewing per day or week to one hour day/week. Educational programming included television programs and computer software programs. Other computer usage did not occur in the presence of the children and generally related to child care operations and documentation.

*Physical Activity in Child Care Centers Participating in the
Child and Adult Care Food Program*

All interviewees recognized the importance of physical activity in the child care setting. Some were confused as its reference to the CACFP. All child care centers had a policy or scheduled routine physical activity with most of it related to outside play. Weather presented the greatest challenge for active play outdoors. Limited space, lack of resources, and lack of caregivers' engagement in active play were challenges that limited physical activity in the child care center. Time for physical activity ranged from a mandatory 45 minutes a day to two times per day. Other forms of indoor active play include large motor movement required indoors, music, and movement. Free play was also implemented and time and structured varied. Although many interviewees stated they actively engaged in physical activity or free play with children, researchers only viewed physical activity a few times.

Family engagement and communication was an important part of child care centers' protocols. Most centers provided feedback on children's consumption, behaviors, and activities. Therefore, communication with parents is well planned and frequent. Child care professionals value engagement with families about their children's nutrition and wellness, and implemented additional nutrition and wellness policies related to healthy snacks or birthday treats, and provided resources to parents on health and nutrition.

Child care professionals were satisfied with the CACFP, although many were confused about the regulations that relate to their specific setting. Child care professionals' satisfaction with existing training opportunities varied based upon what their state provided. Some states supported face-to-face and online training resources more than once per year, while other states only provided the one time training. Most training from the state was only for CACFP

administrators. Interviewees stated that more training was needed for staff responsible for ordering and preparing meals, menu planning, and resources for parents and families.

Behavioral Observations

The “Behavioral Observation Form” was created to capture data on seven components of nutrition and wellness in child care centers. The form consisted of four sections: nutrition, physical activity, screen time, and policies and procedures. Researchers noted that family child care home providers and small child care centers had minimal policies other than the required ones necessary for licensure, CACFP, and other child care program requirements. State agencies that provided additional training and resources implemented more policies and strategies in the child care center. Larger and for-profit centers had more policies related to the seven components identified on the behavioral observation forms. Cycle menus varied from center to center, from no cycle menus to two to four weeks. Child care schedules, inspection forms, and other required documents that are required for child care licensure and the CACFP were available.

Observation of meal service indicated that teachers value family-style dining, because it promotes children’s independence. In the structured interviews, most child care professionals reported eating with the children. However, many teachers encouraged children to eat their meal, but did not eat the same food as the children, or they ate something different. Child care professionals also used children’s dining experience for learning opportunities about manners, the identification of foods by shapes and colors, and to encourage healthful eating behaviors. Many child care professionals had a menu, but substituted other items if needed. Many challenges for not following the menu were food access and availability. Children followed routine healthful behaviors, such as washing their hands, portioning their foods, cleaning their

dining area, and brushing their teeth and rinsing their mouths. Safety protocols for child care indoor and outdoor learning and dining areas were clean.

CONCLUSIONS

The Child and Adult Care Food Program (CACFP) is a federal child nutrition and adult food program that supports the provision of healthful meals and snacks. Previous Institute of Child Nutrition research identified nutrition and wellness components that could be used to evaluate the success and challenges of CACFP implementation (Lofton, Nettles, Hubbard, 2010). The purpose of this study was to evaluate the adoption of CACFP goals and requirements for promoting nutrition and wellness in child care centers. The research objectives and goals were addressed through the use of an embedded, multiple-case, case-study methodology in 20 child care settings with 69 child care professionals. Four research teams identified and captured baseline data on nutrition and wellness components of the Healthy, Hunger-Free Kids Act (HHFKA) for the CACFP that were used to identify the implementation of nutrition and wellness strategies in child care centers. Although many child care professionals were not aware of any changes to the CACFP, some had difficulty defining how the regulations fit their unique child care setting. Child care providers were proud of the meals and snacks that they served to children. However, many of them noted their need for more face-to-face and online training. Additional needs were for menu and healthful food resources and funding to support CACFP regulations (i.e., portion sizes, healthy substitutions, implementing cultural foods; and resources for parents and children on healthful nutrition and wellness practices. It is important to note that many participants who had supportive state agency assistance believed that they had adequate resources to implement the nutrition and wellness components of the CACFP. The demand for scratch cooking, regulations for whole grain rich products, and fresh fruits and vegetables have child care professionals worried about the impact on food cost.

Study Limitations

The limitations of this study were related to the qualitative methods used for the study. Researchers were unable to verify all nutrition and wellness practices on the behavioral observation form at the time of the site visit. However, the interviews with child care professionals corroborated the challenges they face related to the multiple roles that they play in various child care settings. Researchers also did not conduct case studies in all seven United States Department of Agriculture regions.

Recommendations for Research and CACFP Implementation

The results of this study support the need for national quantitative research to evaluate the successful implementation of the CACFP. The nutrition and wellness components identified in previous research and this qualitative study needs further confirmation in a larger longitudinal study to examine the effects of the CACFP on children's nutrition and wellness. Participants were confused on how to implement aspects of the CACFP or were unsure of how to implement the program successfully. Although they identified their state agency as their primary resource for CACFP technical assistance, they remained confused about how to implement all CACFP regulations in their unique settings. Additional qualitative research is needed to explore the specified needs of diverse child care centers to confirm the findings in this study.

Table 1

Child Care Structured Interview Responses

Questions/Themes	Codes	Illustrative Quotes
<p>Child Care Professionals’ Roles and responsibilities and CACFP Menus and Food (Questions 1-7)</p>	<p><i>Staff Responsibilities</i></p> <ul style="list-style-type: none"> • food orders • food preparation • foodservice safety practices • communication with children and parents/families <p><i>Child Care Administrator Responsibilities</i></p> <ul style="list-style-type: none"> • CACFP program documentation and requirements • Menu planning • Communication with parents 	<p>“The (CACFP) pattern has been pretty consistent. I don’t know how long ago, because it really didn’t affect me so much. But, they really put a kibosh on providers and centers who use prepared items like chicken nuggets or that sort of stuff.”</p>
<p>Screen Time in Child Care Centers (Questions 7 and 12)</p>	<p><i>Television ...</i></p> <ul style="list-style-type: none"> • Viewing time varied • Many centers did not have televisions in their facilities • Viewing limited to education programs <p><i>Computer Usage</i></p> <ul style="list-style-type: none"> • Usage limited to older children age 3 or older • Usage limited to educational programs 	<p>“We do not have televisions in our centers and encourage staff to be more active with the kids.”</p>
<p>Physical Activity in Child Care Centers (Questions 12 and 19)</p>	<p><i>Free Play</i></p> <ul style="list-style-type: none"> • Unstructured physical activity • Varied schedule for free play • Indoor and outdoor activities <p><i>Structured or Active Play</i></p> <ul style="list-style-type: none"> • Schedule at least for 45 minutes or longer per day • Weather and space limits type of physical activity 	<p>“It can get very cold here in the fall and in the winter time. So, we have to find fun ways to make free and active play in the center for the children.”</p>

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