IMPROVING NUTRITION IN COMMUNITY CHILD-CARE CENTERS – A BEST FOOD FOR FAMILIES, INFANTS, AND TODDLERS (BEST FOOD FITS) INTERVENTION

by

Courtney P. Thompson, B.S.

A thesis submitted to the Graduate Council of Texas State University in partial fulfillment of the requirements for the degree of Master of Science with a Major in Human Nutrition August 2014

Committee Members:

Sylvia Crixell

Lesli Biediger-Friedman

BJ Friedman
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CHAPTER I

Background

Obesity

*Incidence of Overweight and Obesity in Children*

The prevalence of overweight and obesity is one of the United States’ (US) most pressing health concerns, transcending age, race, and sex. Of particular concern is the high incidence of childhood overweight/obesity. Childhood obesity for ages 2-19 is defined as body mass index (BMI) ≥ 95th percentile for the child’s age and sex as measured on the Centers for Disease Control and Prevention (CDC) sex specific BMI growth charts, while childhood overweight for ages 2-19 is defined as BMI ≥ 85th and < 95th percentile for the child’s age and sex as measured on the CDC sex specific BMI growth charts.1 Heavier children under 2 years of age are not officially classified as “obese” but instead may be characterized as having excess weight. Excess weight is defined as a child’s weight falling at or above the 95th percentile on the CDC sex specific weight-for-recumbent length growth charts.2 According to National Health and Nutrition Examination Survey (NHANES) data collected in 2009 – 2010, 31.8% of US children ages 2-19 were either overweight or obese, with 16.9% classified as obese.3 Rates of excess weight/obesity in age categories 0-2, 2-5, 6-11, and 12-19 years, were 9.7%, 12.1%, 18.0%, and 18.4%, respectively.3 For the past 30 years, obesity rates in children have increased.2 However, recent national data indicate that the overall prevalence of obesity in children and adolescents has stabilized from 1999 to 2010.3 For example, a recent US study of 40 states, not including Texas, reported a decline in preschool obesity.
Despite this positive trend, childhood obesity remains a critical issue facing the nation.

The rate of childhood obesity is not evenly distributed among the states. Analysis of data gathered from the National Survey of Children’s Health (NSCH), determined that children in southern states exhibited higher rates of obesity compared to children across the rest of the nation. For example, children living in the West South-Central region (Arkansas, Louisiana, Oklahoma, and Texas) had a 38% greater odds of being obese than children living in the Pacific Region (Washington, Oregon, California, Alaska, and Hawaii). In Texas, out of the 889 children ages 10-17 years assessed in the NSCH, 19.11% were obese. As a point of reference, in Washington state, 10.75% of 877 children ages 10-17 years were obese. It is imperative that strategies to prevent obesity be implemented, particularly in Southern states.

**Consequences of Overweight and Obesity in Children**

Overweight in children is associated with many negative consequences. Depression is the most immediately detectable consequence of overweight in a child. As the age of the child and the severity of obesity increase, self-esteem decreases. Obesity related diseases in adulthood are now being diagnosed more frequently in children. For example, wheezing, asthma, and sleep apnea are becoming more common among overweight and obese children in the US. Overweight and obese youth also have increased incidence of diseases associated with adult metabolic syndrome while they are still children, such as type 2 diabetes mellitus (T2DM) and high blood pressure. The prevalence of T2DM in overweight and obese youth is 4.1 per 1000 youth. Notably, this disease previously was not diagnosed in children.
Another significant consequence of obesity is the cost – to individuals and to society at large. In 2005, the US spent 20% of total health care costs on obesity related health concerns - around 190 billion US dollars.\textsuperscript{11} Medical costs associated with obesity are increasing annually.\textsuperscript{12} In fact, medical spending associated with obesity is typically double that for healthy weight individuals.\textsuperscript{12} Loss of productivity is an indirect cost of obesity. Obese people display a higher rate of absenteeism, disability, and premature morbidity\textsuperscript{12}. Employers may discriminate against an obese or overweight person.

Weight status often transitions from childhood to adulthood, with overweight children more likely to remain overweight or become obese through adolescence, and lean children more likely to remain lean as they grow older.\textsuperscript{13} Obese adults who were obese as children are at risk of having more obesity-related comorbidities than adults who were not obese during childhood. In fact, results of the Fels Longitudinal Study imply that risk for metabolic syndrome in adults can be identified early in life.\textsuperscript{14} Due to the fact that adult obesity rates are predicted to climb from 35.9\% in 2009-2010\textsuperscript{15} to 40\% by 2015,\textsuperscript{9} focus on childhood obesity prevention is needed to decrease obesity in later life.

Because of the severity of the consequences of the obesity epidemic, prevention is necessary, in particular because treatment is often ineffectual for adults. Adults who do lose weight do not consistently maintain the weight loss.\textsuperscript{16} As people age, lifestyle changes are harder to implement and maintain.\textsuperscript{13} Prevention and treatment of overweight and obesity among children are critical to combat the long-term health associations of obesity in adulthood.\textsuperscript{16} By understanding the causes of overweight and obesity in children, effective prevention strategies can be developed.
Causes of Overweight and Obesity in Children

The cause of childhood obesity is often overly simplified as an energy imbalance, or an imbalance between calories consumed and energy expended. But the causes of childhood weight status are complex, and best illustrated by socio-ecological modeling (SEM, Figure 1.1). The model shown in Figure 1.1 is an example of SEM displaying potential causes of obesity from sectors that influence an individual’s food and activity choices. These sectors include (1) individual factors (demographics, microbiome, personal preferences, tastes preferences, food acceptance), (2) community settings (schools, child-care centers, home), (3) sectors of influence (government, health care restaurants, grocery stores), and (4) social norms and values (religion, personal, beliefs). These sectors interplay; therefore, altering one sector can alter other sectors. Obesity prevention strategies that consider SEM modeling of the causes of obesity are more likely to address potentially important factors.

Figure 1.1 – Causes of Childhood Obesity as Described by the Socio-Ecological Model

4
Individual factors affect everyday food choices. Some of the individual factors are predetermined, such as genetics. Other individual factors, like taste preferences and food acceptance, are influenced throughout childhood through frequent exposures to food items. Early exposures to novel healthful foods along with as many as 8 to 15 separate exposures can increase their acceptance by children. A child’s taste profile may be increased by offering a variety of foods, leading to greater potential acceptance of those foods. When a child is young, the variety of food available is often determined by the community settings.

Community settings, such as child-care centers, schools, and homes, are important because these settings are where children learn many of their individual food behaviors. Different meals and snacks are provided by different settings. These various food environments help cultivate children’s food preferences. Thus, food environments with plentiful amounts of fruits and vegetables may translate to greater acceptance of fruits and vegetables by children. In contrast, if healthful foods are rarely offered to a child, the child will not have the opportunity to consume these foods and learn to prefer them. Also in these environmental settings, children will learn behaviors modeled to them by their caregivers and peers. When children observe their caregivers and peers enjoying novel foods, the children are more willing to try the new food.

The last two spheres of influence, sectors of influence, and social norms and values, have more indirect roles in influencing food behavior choices of individuals. Sectors of influence can range from the microenvironment, including local government, restaurants, and grocery stores, to the macro-environment, including the national
government, national health care system, and national agricultural systems. The micro- and macro-environments can determine what types of grocery stores (stores offering fresh produce compared to convenient stores) are locally available, and which restaurants and recreational facilities are present in a community, which resources are allocated to specific communities, which policies are enforced in different community settings. The social norms and values level is defined as the ideology or beliefs of certain groups that can influence food decisions. Despite the distal role of the sectors of influence level and social norms and values levels, these levels have a substantial effect on an individual’s food behaviors.

Strategies to prevent obesity should be aligned with the SEM to focus on behavioral change. Obesity prevention is likely to be more effective when it encompasses a variety of tiers in the SEM. By examining the broader influences of children’s dietary habits, effective obesity prevention strategies can be developed.

**Child-Care Centers**

*Prevalence of Child-Care Centers*

According to the Child Care Aware of America (CCA), the nation’s leading voice on child-care centers (CCC), CCC can have a lasting effect on children’s lives in many ways. For many young children today, the CCC is a second home. More mothers are working, which has created a need for more children to be in child care. In the US, approximately 11 million children under the age of 5 are in child-care daily. Many times children spend 35 or more hours a week in a CCC if the child’s mother is working. According to the CCA 2012 State Fact Sheet, more than 1 million children in Texas need child-care services. Because 82% of children younger than 6 years of age
are in some sort of child-care, the CCC is an important setting for childhood obesity prevention.

**Types of Centers**

In Texas, there are two main types of CCC based on their setting: center-based and home-based. Children are enrolled in the different setting depending on what parents prefer. According to the Texas Department of Family and Protective Services (DFPS), neither type of center can offer care for periods longer than 24 hours. DFPS defines center-based CCC as a center that provides care for at least 7 children or more in a location other than the caregiver’s home. These centers must provide care to children at least 2 hours per day for at least 3 days per week. Center-based CCC are typically located in a nonresidential setting, such as at a school, church, or business. Home-based CCCs are smaller, with as few as 1 and no more than 12 children in attendance in a residential setting. Regardless of the type of center, in order for a center to be licensed and recognized by the State of Texas, the center must follow the minimum standards for CCC.

**Texas Requirements for Nutrition and Food Service in Child-care Centers**

The State of Texas DFPS enforces minimum standards for health and safety of CCC. Individual CCC can establish additional policies and procedures beyond the minimum requirements. For example, if a CCC is participating in the Child and Adult Care Food Program (CACFP), that center can elect to meet CACFP requirements instead of the minimum requirements from Texas.
**Basic Requirements for Snack and Mealtime**

There are several basic requirements for snacks and mealtimes at CCC. For example, while meals do not have to be served in family-style meal service, all mealtimes must be unhurried and include supervision. When preparing food for meals, enough food must be prepared so each child may have seconds from fruit, grain, milk, or vegetable groups. For snacks, one serving from fruit or vegetable group, milk group, grain or meat/meat alternative group must be served. If a child is having reoccurring eating problems during snack or mealtimes, a child-care worker is required to discuss this problem with the parent. During meal and snack times, food may not be used as a reward or punishment and a child may never be forced to eat.28

The Texas DFPS also requires the CCC to accommodate parents who provide meals and snacks for their child based on special need, as specified in a physician’s note. For example, if a parent provides meals, the CCC must provide a safe storage space for them. Additionally, if a parent provides a meal or snack to share with the other CCC children, the center must ensure that the meal or snack meets any special dietary requirements of other children. The CCC is responsible for snacks if the parent only provides the meal for their child.28

The Texas CCC standards regulate timing and nutritional quality of meals and snacks served to children. All children who eat table food must receive regular meals and snacks at least every 3 hours unless a child is asleep. If a child is receiving over night care, the center must offer an evening meal or snack and breakfast to that child. If a child is in care for less than four hours, one snack must be served to that child. If a child is in care for more than seven hours, the center must serve the child two meals and one snack,
or two snacks and one meal that are equal to \( \frac{1}{2} \) of their daily food needs. Daily food requirements as per the DFPS Minimum Standards for CCC are included in Table 1.1 and Table 1.2.\textsuperscript{28}

<table>
<thead>
<tr>
<th>Table 1.1: Texas Department of Family and Protective Services Minimum Standards for Child-care Center Meals: Ages 12 months – 2 years\textsuperscript{28}</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food Groups</strong></td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Milk</td>
</tr>
<tr>
<td>Meat/Meat Alternative</td>
</tr>
<tr>
<td>Vegetables and Fruit</td>
</tr>
<tr>
<td>Whole Grains</td>
</tr>
</tbody>
</table>

**Basic Requirements for Beverages**

Texas DFPS regulates when and what types of beverages are served to children in CCC. Drinking water must be available for each child at all times including during meals and snacks, and during activity play. No sugar sweetened beverages are to be served unless during a special occasion (holiday or birthday). Fruit or vegetable juice may be served only to children 12 months and older and only if the CCC is using 100% juice. No more than 4 ounces of fruit or vegetable juice may be served to children 12 months through five years. Powdered milk may be served if prepared, stored, and served correctly.\textsuperscript{28}

**Basic Requirements for Written Menus**

Texas DFPS mandates that CCC menus of meals and snacks must be posted daily. A substitution can be made only if the substitution is of comparable food value. Any
substitutions must be kept on record. Menus must be dated and stored for three months. Rotation menus are acceptable but there must be a record of what meal was used for each date.  

<table>
<thead>
<tr>
<th>Food Groups</th>
<th>Number of Servings to Meet ⅓ Daily Needs</th>
<th>Number of Servings to Meet ⅓ Daily Needs</th>
<th>Serving Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Milk</td>
<td>⅔</td>
<td>1</td>
<td>¾ c. 1% milk or 1 ½ oz. cheese or ¾ c. yogurt</td>
</tr>
<tr>
<td>Meat/Meat Alternative</td>
<td>⅔</td>
<td>1</td>
<td>1 ½ oz. cooked lean meat or ¾ egg or ¼ c. cooked beans</td>
</tr>
<tr>
<td>Vegetables</td>
<td>1</td>
<td>1 ½</td>
<td>½ c. raw or cooked vegetable or ½ c. raw leafy vegetable</td>
</tr>
<tr>
<td>Fruit</td>
<td>⅔</td>
<td>1</td>
<td>½ c. canned or chopped fruit or 1 piece fruit or melon wedge or ½ c. juice</td>
</tr>
<tr>
<td>Whole Grains</td>
<td>2</td>
<td>3</td>
<td>½ slice bread or ¼ c. cooked cereal ½ oz. ready to eat cereal or ¼ c. cooked pasta or rice or 3 to 5 crackers</td>
</tr>
</tbody>
</table>

Table 1.2: Texas Department of Family and Protective Services Minimum Standards for Child-care Center Meals: Ages 3 years – 5 years

Child and Adult Care Food Program Requirements

CACFP is a federal program reimbursing child-care providers for meals and snacks served to children based on a child’s family income. CACFP reimburses centers per child, per meal. In 2008, CACFP spent approximately $2.4 billion for meals and snacks served to about 2 million children. As stated previously, licensed centers in Texas may elect to follow the food requirements of CACFP if they wish to receive money for their meals. Instead of listing food groups required for the child during child-care, CACFP provides recommendations depending on meal. CACFP’s recommendations are included in the following tables (Table 1.3, Table 1.4, Table 1.5). Items listed in these tables are the requirements to be reimbursed. CCC can supplement the meals and snacks with additional food items without reimbursement.
Table 1.3: Child and Adult Food Program Required Food Components for a Reimbursable Breakfast

<table>
<thead>
<tr>
<th>Food Components</th>
<th>Ages 1-2</th>
<th>Ages 3-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Milk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fluid milk</td>
<td>½ cup</td>
<td>¾ cup</td>
</tr>
<tr>
<td>1 fruit/vegetable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>juice, fruit and/or vegetable</td>
<td>¼ cup</td>
<td>½ cup</td>
</tr>
<tr>
<td>1 grains/bread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bread or</td>
<td>½ slice</td>
<td>½ slice</td>
</tr>
<tr>
<td>cornbread or biscuit or roll</td>
<td>½ serving</td>
<td>½ serving</td>
</tr>
<tr>
<td>or muffin or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cold dry cereal or</td>
<td>¼ cup</td>
<td>½ cup</td>
</tr>
<tr>
<td>hot cooked cereal or</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>pasta or noodles or grains</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
</tbody>
</table>

Table 1.4: Child and Adult Food Program Required Food Components for a Reimbursable Lunch or Supper

<table>
<thead>
<tr>
<th>Food Components</th>
<th>Ages 1-2</th>
<th>Ages 3-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Milk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fluid milk</td>
<td>½ cup</td>
<td>¾ cup</td>
</tr>
<tr>
<td>2 fruits/vegetables</td>
<td></td>
<td></td>
</tr>
<tr>
<td>juice, fruit and/or vegetable</td>
<td>¼ cup</td>
<td>½ cup</td>
</tr>
<tr>
<td>1 grains/bread</td>
<td></td>
<td></td>
</tr>
<tr>
<td>bread or</td>
<td>½ slice</td>
<td>½ slice</td>
</tr>
<tr>
<td>cornbread or biscuit or roll</td>
<td>½ serving</td>
<td>½ serving</td>
</tr>
<tr>
<td>or muffin or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cold dry cereal or</td>
<td>¼ cup</td>
<td>1/3 cup</td>
</tr>
<tr>
<td>hot cooked cereal or</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>pasta or noodles or grains</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>1 meal/meat alternative</td>
<td></td>
<td></td>
</tr>
<tr>
<td>meat or poultry or fish or</td>
<td>1 oz.</td>
<td>1 ½ oz.</td>
</tr>
<tr>
<td>alternate protein product or</td>
<td>1 oz.</td>
<td>1 ½ oz.</td>
</tr>
<tr>
<td>cheese or</td>
<td>1 oz.</td>
<td>1 ½ oz.</td>
</tr>
<tr>
<td>egg or</td>
<td>½</td>
<td>¾</td>
</tr>
<tr>
<td>cooked dry beans or peas or</td>
<td>¼ cup</td>
<td>¾ cup</td>
</tr>
<tr>
<td>peanut or other nut or seed</td>
<td>2 Tbsp.</td>
<td>3 Tbsp.</td>
</tr>
<tr>
<td>butters or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>nuts and/or seeds or</td>
<td>½ oz.</td>
<td>¾ oz.</td>
</tr>
<tr>
<td>yogurt</td>
<td>4 oz</td>
<td>6 oz.</td>
</tr>
</tbody>
</table>
Table 1.5: Child and Adult Food Program Required Food Components for a Reimbursable Snack

<table>
<thead>
<tr>
<th>Food Components (select two)</th>
<th>Ages 1-2</th>
<th>Ages 3-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Milk</td>
<td>½ cup</td>
<td>½ cup</td>
</tr>
<tr>
<td>fluid milk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 fruits/vegetables</td>
<td>½ cup</td>
<td>½ cup</td>
</tr>
<tr>
<td>juice, fruit and/or vegetable</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 grains/bread</td>
<td>½ slice</td>
<td>½ slice</td>
</tr>
<tr>
<td>bread or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cornbread or biscuit or roll or muffin or</td>
<td>½ serving</td>
<td>½ serving</td>
</tr>
<tr>
<td>cold dry cereal or</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>hot cooked cereal or</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>pasta or noodles or grains</td>
<td>¼ cup</td>
<td>¼ cup</td>
</tr>
<tr>
<td>1 meal/meat alternative</td>
<td>½ oz.</td>
<td>½ oz.</td>
</tr>
<tr>
<td>meat or poultry or fish or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alternate protein product or</td>
<td></td>
<td></td>
</tr>
<tr>
<td>cheese or</td>
<td>½ oz.</td>
<td>½ oz.</td>
</tr>
<tr>
<td>egg or</td>
<td>½</td>
<td>½</td>
</tr>
<tr>
<td>cooked dry beans or peas or</td>
<td>⅛ cup</td>
<td>⅛ cup</td>
</tr>
<tr>
<td>peanut or other nut or seed butters or</td>
<td>1 Tbsp.</td>
<td>1 Tbsp.</td>
</tr>
<tr>
<td>nuts and/or seeds or</td>
<td>½ oz.</td>
<td>½ oz.</td>
</tr>
<tr>
<td>yogurt</td>
<td>2 oz.</td>
<td>2 oz.</td>
</tr>
</tbody>
</table>

Other Nutrition Standards for Pre-school Children

CCCs can choose to provide foods that exceed the minimum requirements of the Texas State DFPS and CACFP in order to meet other national nutritional standards. For example, CCCs can create menus based on standards of the US Department of Agriculture (USDA). The USDA provides two tools to help create more healthful menus, including: (1) MyPlate and (2) the Healthy Eating Index-2010 (HEI-2010).

In 2011, the USDA released MyPlate as the USDA’s new icon for nutrition education, replacing MyPyramid. MyPlate offers users an easy reminder of how an individual’s actual plate of food should look. MyPlate provides a practical approach for consumers to follow the Dietary Guidelines for America (DGA) and thus create a healthful diet. Along with MyPlate, the USDA introduced SuperTracker, the new interactive online personalized nutrition and physical activity planner on the ChooseMyPlate.gov website. MyPlate is also recommended by the Academy of
Nutrition and Dietetics in their position statement, *Total Diet Approach to Healthy Living*, promoting an overall healthful diet by not focusing on one food component. By following MyPlate, CCCs can provide well-balanced meals to children.

The HEI-2010 measures the quality and compliance of a diet in relation to the current DGA, giving the diet a numerical score. HEI-2010 was updated when the DGA were updated. Like previous HEI versions, HEI-2010 is comprised of 12 components including adequacy for total fruit, whole fruit, total vegetables, greens and beans, whole grains, dairy, total protein foods, seafood and plant proteins and fatty acids; and moderation for refined grains, sodium, and empty calories. HEI scores are traditionally applied to assess the diets of individual, but have recently been applied to assess community level diets. HEI-2010 provides a score that indicates a CCC’s menu overall quality of diet, thus providing a different analysis than with MyPlate.

**Role of Child-care Centers in Obesity Prevention**

Early childhood is characterized by physical, physiological, and emotional growth. Obesity prevention needs to occur when the children are learning eating behaviors and food preferences. As previously stated, CCCs fall in the community setting in the SEM as seen in Figure 1.1. Due to the interplay among sectors, CCCs can potentially influence some individual factors like taste preferences and food acceptance in a child’s early life, as seen in Figure 1.2. Figure 1.2 illustrates the different areas of the SEM that CCCs affect. CCCs can potentially promote healthful eating through their menus and food items served, and through appropriate modeling via the actions of the director and staff. Because of its influencing role in children’s lives, CCCs are an ideal setting for childhood obesity prevention.
Research on Child-care Menus and Nutrition Practices

Few studies have analyzed the food and nutrition practices provided in CCC settings. These studies investigated the foods provided to children either through administering surveys to directors and staff, by observing meals, by collecting and analyzing menus, or through a combination of these methods. Some investigators measured specific nutrients and/or food categories provided on menus as well as menu accuracy. Other studies evaluated the effects of an intervention on CCC menus and nutrition practices.
Studies Analyzing Specific Nutrients and/or Food Categories

A compilation of studies regarding the quality of meals and food items served in CCCs is included in Table 1.6. Based on their analyses of meal quality, studies have noted a variety of problems associated with meals in CCC, including an excess of energy, saturated fat, carbohydrates, protein, sodium, added sugars, and niacin; and inadequate amounts of vitamin D, vitamin E, vitamin A, vitamin K, potassium, and fiber.

Sorting menus items into food categories allows researchers to more carefully investigate the overall menu and food items served at CCCs. Food categories have been assessed by comparing menus to national USDA standards (MyPyramid, Food Guide Pyramid, and HEI-2005), self-administered surveys (Nutrition and Physical Activity Self-Assessment for Child Care surveys and Study of Healthy Activity and Eating Practices and Environments in Head Start), and direct observations of the meals or snacks. Results of studies investigating food categories offered on menus have revealed that some child-care menus provide adequate amounts of dairy and meats/alternatives, and inadequate amounts of grains. However, research provides conflicting information on whether menus provide enough fruits and vegetables. While some studies have reported that children in CCC are receiving adequate amounts of fruits and vegetables, other studies have reported inadequate amounts of fruits and vegetables on CCC menus.

While investigating the overall meal items served, Erinosho et al. assessed diet quality of CCC’s menus in relation to the HEI-2005. Similar to the HEI-2010, the HEI-2005 is based on the 2005 DGA. This recent study was the first to establish a scoring
The researchers concluded that the mean score of 59.12 for meals being served to children in 20 North Carolina CCC was significantly lower than the optimum score of 100. This data indicates that the quality of the meals being served to children in CCC should be improved.

<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting and Sample</th>
<th>Study Design/Methods</th>
<th>Study Purpose</th>
<th>Results/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meir et al. (2007)</td>
<td>198 Mexican American preschoolers living on the Mexican-Texan border attending Head Start</td>
<td>Analysis of 2, 24 hour recalls using NutriPac software</td>
<td>Nutrient intake of CCC menus compared to Recommended Dietary Allowances (RDA)</td>
<td>Meals exceeded recommendations for total energy, fat, saturated fat, carbohydrates, protein, sodium, niacin; and inadequate amounts of fiber, vitamin A, and potassium</td>
</tr>
</tbody>
</table>
| Oakley et al. (1995) | 92 CCC in Mississippi                                                               | Analysis of 1 week of CCC menus using Nutritionist III software                       | Nutrient content of menus compared to Child and Adult Care Food Program (CACFP), guidelines, RDA, and the Dietary Guidelines for Americans (DGA) | • Centers participating in CACFP had significant lower amounts of energy and nutrients  
• Mean fat exceed recommendations for all centers |
| Ball et al. (2008)  | 117 children (ages 2 – 5 years old) from 20 CCC in North Carolina                   | • Collection of menus and observation of meals by a researcher using the Dietary Observation for Child Care  
• Analysis of menus with Nutrition Data System for Research (NDS-R) | Nutrient content of menus compared to MyPyramid | Children are under consuming whole grains, whole fruits, or vegetables, and over consuming saturated fat and added sugar in CCC |
<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting and Sample</th>
<th>Study Design/Methods</th>
<th>Study Purpose</th>
<th>Results/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zuercher et al. (2011)</td>
<td>1 CCC in Indiana</td>
<td>Analysis of a 4 week long rotation lunch menu with NDS-R</td>
<td>Nutrient content of revised menus compared to original menus in relation to Dietary Reference Intakes (DRI) and MyPyramid</td>
<td>• Revised menus provided less energy, and more whole grains and fiber • Both offered adequate amounts of dairy; inadequate amounts of vitamins D and E, and potassium; and excessive amounts of sodium</td>
</tr>
<tr>
<td>Erinosho et al. (2011)</td>
<td>40 CCC in New York</td>
<td>• Administration and assessment of surveys completed by directors • Observation of foods and drinks served • Analysis of menus with Food Processor SQL software</td>
<td>• Nutrient content of meals compared to MyPyramid and DRIs • Assess nutrition practices and food preparation environment</td>
<td>• All centers provided appropriate drinks during meals • Less than half of the children ate the DRIs for the 5 main food categories • 17% of children ate half of the DRIs for vegetables • 7% of children ate half of the DRIs for vitamin E</td>
</tr>
<tr>
<td>Padget et al. (2005)</td>
<td>50 children (ages 3-5) in 9 CCC in Texas</td>
<td>Analysis of meal observations with FoodWorks 2.0 software</td>
<td>Nutrient content of meals compared to Food Guide Pyramid</td>
<td>Children consumed insufficient amounts of grains, vegetables, and dairy but sufficient amounts of fruits and meat/alternative</td>
</tr>
<tr>
<td>Trost et al. (2009)</td>
<td>297 home-based child-care providers</td>
<td>Administration and assessment of the Nutrition and Physical Activity Self-Assessment for Child Care (NAP SACC) survey</td>
<td>Assess nutrition practices and policies in CCC</td>
<td>• Majority of CCC met serving standards on fruit and vegetables • Majority of centers do not provide fried meats or vegetables or unhealthy snack foods • Areas of improvement are serving low-fat milks, and serving unhealthy foods for celebrations</td>
</tr>
<tr>
<td>Whitaker et al. (2009)</td>
<td>1583 Head Start Program Directors in the United States</td>
<td>Administration and assessment of the Study of Healthy Activity and Eating Practices and Environments in Head Start self-administered survey</td>
<td>Assess obesity prevention practices and environments in relation</td>
<td>Majority of the programs served: • Nonfat or 1% milk • Whole fruit • Vegetables other than fried potatoes • Healthy foods with celebrations</td>
</tr>
<tr>
<td>Reference</td>
<td>Setting and Sample</td>
<td>Study Design/Methods</td>
<td>Study Purpose</td>
<td>Results/Conclusions</td>
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</tbody>
</table>
| Sisson et al. (2012) \(^{43}\) | 314 CCC in Oklahoma | Administration and assessment of the NAP SACC survey | Assess nutrition practices and policies in CCC | Majority of the centers:  
  - Serve daily fruits, and non-fried vegetables  
  - Rarely or never serve sugary drinks  
  - Rarely or never use food as encouragement |
| Bruening et al. (1999) \(^{47}\) | 40 children (ages 3-5 years) from 2 urban CCC | Observation of meals for 14 days  
  - Health outcomes measured with weight and height, dental exam, and number of sick days missed calculated | Nutrient content of meals provided at center compared to meals brought in from children’s homes  
  - Health outcomes measured | CACFP meals provided higher intakes of vitamin A, riboflavin, calcium, milk, vegetables, and fewer serving of fats/sweets  
  - Students who ate the CACFP meals had fewer missed days due to illness  
  - Height and weight, and dental caries did not differ |
| Erinosho et al. (2013) \(^{35}\) | 120 children (3–5 years old) from 20 CCC in North Carolina | Observations of meals for 2 days using the Dietary Observation for Child Care System  
  - Analysis of meals with NDS-R | Dietary quality of meal in relation to the Healthy Eating Index-2005 | Mean total of scores (59.12) for all CCC was significantly lower than recommended score (100)  
  - Majority of CCC met maximum scores for milk, fruit, whole fruits, and sodium  
  - Majority of CCC were significantly below maximum scores for total vegetable, dark green/orange vegetables and legumes, total grain, whole grain, oils, and meat/beans |
Three studies, described in Table 1.7, compared lunch menus to other mealtime menus. The study by Zuercher et al. compared an original lunch menu to a revised lunch menu with NDS-R. The study by Copeland et al. surveyed directors to provide menu from CCC, and the study by Bruening et al. observed meals for 14 days.

### Table 1.7: Studies Comparing Lunch Menus with Other Menus or Meals in Child-care Centers in the United States

<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting and Sample</th>
<th>Study Design</th>
<th>Study Purpose</th>
<th>Results/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zuercher et al. (2011)</td>
<td>1 CCC in Indiana</td>
<td>Analysis of a 4 week long rotation lunch menu with NDS-R</td>
<td>Nutrient content of revised menus compared to original menus in relation to Dietary Reference Intakes (DRI) and MyPyramid</td>
<td>Revised menus provided less energy, and more whole grains and fiber. Both offered adequate amounts of dairy; inadequate amounts of vitamin D and E, and potassium; and excessive amounts of sodium.</td>
</tr>
<tr>
<td>Copeland et al. (2013)</td>
<td>258 directors of CCC in two urban counties in Ohio</td>
<td>Directors surveyed via telephone and requested to provide menu from CCC</td>
<td>Nutrient content of lunch menu compared to snack menu of CCC</td>
<td>Lunch was significantly different in all food categories compared to snack. Majority of the directors served 2% milk to child &gt; 3; 31% served whole milk. 100% juice and sweet and salty foods were served at more centers during snack. Non-starchy vegetables were served more during lunch than at snack.</td>
</tr>
<tr>
<td>Bruening et al. (1999)</td>
<td>40 children (ages 3 – 5 years old) from 2 urban CCC</td>
<td>Observation of meals for 14 days. Health outcomes measured with weight and height, dental exam, and number of sick days missed calculated</td>
<td>Nutrient content of meals provided at center compared to meals brought in from children’s homes. Health outcomes measured</td>
<td>CACFP meals provided higher intakes of vitamin A, riboflavin, calcium, milk, vegetables, and fewer serving of fats/sweets. Students who ate the CACFP meals had fewer missed days due to illness. Height and weight, and dental caries did not differ.</td>
</tr>
</tbody>
</table>
menu. Zuercher et al. concluded the original menu had more energy, fewer whole grains and less fiber than the revised menu. A study by Copeland et al. compared lunch menus to snack menus. After speaking with the director via telephone for clarification and analyzing the lunch and snack menus, Copeland et al. concluded that lunch was significantly different than snacks in all food categories. Snacks menus contained more 100% fruit juice and sweet and salty foods, whereas lunch menus contained more non-starchy vegetables. The third study in Table 1.7 compared CACFP provided meals with meals provided by the parents. Bruening et al. concluded that CACFP meals provided higher amounts of vitamin A, riboflavin, calcium, milk, and vegetables, and fewer servings of fats and sweets.

Studies Analyzing Menu Accuracy

A compilation of studies investigating the accuracy of CCC menus is included in Table 1.8. In a study examining the menu accuracy at a Head Start CCC in Pennsylvania, Fleischhacker et al. reported that the menus did not accurately represent the food items being served to the children. In a more recent study using a larger sample size, Neelon et al. found the accuracy of the CCC menus to be higher. Specifically, Neelon et al. reported an 86.6% menu: food item match rate, while Fleischhacker et al reported a 28% match rate. Thus, the majority of meals observed by Neelon et al. matched those reported on the CCC menu, with an even higher percentage of individual food items matching. Additionally, Neelon et al. also reported that many of the substituted food items were comparable to the original menu (i.e. peaches for pears). Menu accuracy is important as a means of nutrition communication between the CCC, parents and health
professionals. Without menu accuracy, parents and health professionals cannot evaluate the children’s dietary intakes in order to ensure the children meet their dietary reference intakes (DRI) through meals or snacks in other settings.

Table 1.8: Studies Analyzing Menu Accuracy in Child-Care Centers in the United States

<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting and Sample</th>
<th>Study Design</th>
<th>Study Purpose</th>
<th>Results/Conclusions</th>
</tr>
</thead>
</table>
| Fleischhacker et al. (2005) 50   | 1 inner city Head Start CCC | • Observation of 77 days’ worth of meals                          | Assess accuracy of the menus in CCC compared to observation of meals | • 4 complete meals observed matched menus  
|                                  |                          | • Collection of menus for days observed                             |                                                                               | 28% of total food items served matched the menus         |
| Neelon et al. (2010) 51         | 84 CCC in North Carolina | • Observation of meals for 1 day at each CCC                         | Assess accuracy of the menus in CCC compared to observation of meals   | 52% of complete meals observed matched menus  
|                                  |                          | • Collection of menus for days observed                             |                                                                               | 86.6% of total food items served matched the menus       |

Studies Reporting on Child-care Center Interventions

As reviewed in Table 1.9, two studies have attempted CCC-based interventions for the express purpose of combating childhood obesity. 52,53 The first study was a pilot study examining the impact of an intervention of the nutrition and physical activity environment in CCC. 52 This study reported on two outcomes, including the impact of the intervention, and feasibility and acceptability of the study as a whole. This study design consisted of (1) Self-Assessment 1, (2) Workshop Evaluation, (3) Self-Assessment 2, (4) Evaluation of Intervention by Centers and Consultants, and (5) Site Visit 52. Researchers mailed the validated Nutrition and Physical Activity self-assessment for Child Care (NAP SACC) survey to participating centers prior to the workshop intervention. The NAP SACC surveys consisted of 29 nutrition and 15 physical activity questions. NAP SACC-trained health care professionals presented three, 30-minute workshops to the CCC staff
and director in their CCC. After the intervention, NAP SACC surveys were mailed to assess the impact of the workshop. The CCC directors and staff and NAP SACC trained health care professional consultants evaluated the study and an in-person site visit was conducted on a sample of the participating centers to validate results on the NAP SACC surveys. For the first outcome assessed, feasibility and acceptability of the workshop, a majority of the health care professionals thought the NAP SACC survey was comprehensive, somewhat easy to understand, and the meeting with the directors was productive. A majority of the directors felt the NAP SACC survey was very easy to use and very helpful. For the second objective, impact of the intervention, CCC reported an increase in serving more healthful foods and beverages. For example, CCCs switched from 2% milk to 1% milk for children over 2, or increased the amount of time children spent outside. Although CCC made improvements to the nutrition and physical activity environment, a significant change was not seen from the scores of the second NAP SACC survey compared to the first.⁵²

The second study with an intervention worked with the same NAP SACC design.⁵³ In addition to the pilot study, trained researchers observed the centers pre- and post- intervention using the Environment and Policy Assessment and Observation (EPAO) tool. The tool was developed for this study to assess CCC nutrition and physical activity environments, policies, and practices. The workshop was conducted by NAP SACC-trained health care professional consultants. Similar to the first study, improvements in the CCC were observed but scores from the pre and post EPAO tool were not significantly different.⁵³
### Table 1.9: Studies Reporting Child-care Center Interventions in Child Care Centers in the United States

<table>
<thead>
<tr>
<th>Reference</th>
<th>Setting and Sample</th>
<th>Study Design</th>
<th>Study Purpose</th>
<th>Results/Conclusions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benjamin et al.</td>
<td>19 CCC in 8 counties in North Carolina</td>
<td>• Observation of meals for 1 day at each CCC</td>
<td>• Evaluate the impact of an intervention by assessing changes in post intervention environmental assessment</td>
<td>• The intervention was not successful in producing significant results on post environmental assessment</td>
</tr>
<tr>
<td>(2007)52</td>
<td></td>
<td>• Administration of NAP SACC survey pre- and post- the intervention</td>
<td>• Evaluate the project implementation, feasibility, and acceptability</td>
<td>• Majority Health care professionals and directors thought the NAP SACC study tool was easy to understand and helpful</td>
</tr>
<tr>
<td>Ward et al.</td>
<td>30 Health Professionals and 84 CCC in North Carolina</td>
<td>Observation of nutrition environment with Environment and Policy Assessment and Observation (EPOA) instrument pre- and post- intervention provided by the health professionals</td>
<td>Evaluate the impact of an intervention by assessing changes in post intervention environmental assessment</td>
<td>The intervention was not successful in producing significant results on post environmental assessment</td>
</tr>
<tr>
<td>(2008)53</td>
<td></td>
<td></td>
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</table>

**Studies Addressing Staff Nutrition Knowledge and Nutrition Practices**

In a study investigating the knowledge of nutrition and appropriate feeding practices among CCC staff in Harris County, TX, Sharma et al. reported relatively poor performance by staff on a survey of nutrition knowledge, and also demonstrated that staff did not personally follow healthful dietary practices. Specifically, when asked about the previous days’ food choices, half of the staff reported eating french fries and drinking sodas, and a fourth of the staff reported that they did not eat a single fruit or vegetable. Nutrition education provided in CCC relies on the knowledge and practices of the teachers. Unfortunately when asked about nutrition knowledge, 4 out of the 181 staff
(3%) surveyed answered 4 out of 5 questions correctly on the self-administered survey.\textsuperscript{55}

Sharma et al. concluded that due to the importance of staff education and modeling to the children while in child-care, CCC workers need to be further educated on proper nutrition knowledge and practices\textsuperscript{55}.

| Table 1.10: Studies Regarding Staff Knowledge on Nutrition and Nutrition Practices in Child-care Centers in the United States |
|---|---|---|---|
| Reference | Setting and Sample | Study Design | Study Purpose |
| Sharma et al. (2013) | 181 Head Start Teachers in Harris County, Texas | • Administration of the self-administered Teacher Health Behavior Survey as a part of the Head Start on Healthy Living project | Assess nutrition knowledge, attitudes, and dietary behaviors of staff in CCC |

Gaps in the Literature of Nutrition and Nutrition Practices in CCC

As demonstrated in the compilation of studies included in Table 1.6 – 1.10, there are limitations in understanding of nutrition and nutrition practices in CCC in the US. Because of the potential significant role CCCs have on the children in care, the following gaps of knowledge must be addressed.

(1) Generalized information on nutrition and nutrition practices in CCC. Previous research has used small sample sizes of CCC with similar demographic and socio-economic characteristics.\textsuperscript{38,41,42,50,52} To date, there is not a study that can generalize
nutrition practices for CCCs in the US. Additionally, regional studies should be conducted so that results can be used to inform local interventions.

(2) Information on snack menus. Previous studies have focused on CCC lunch menus and less attention has been paid to snack menus. As previously mentioned, snack menus often differ significantly in quality from lunch menus.\(^4^9\) Snack menus provide an important portion of a child’s diet. By focusing analysis and intervention efforts only on lunch menus, poor quality snacks may continue to interfere with healthful nutrition practices.

(3) Impact of effective interventions in CCC for obesity prevention. While two studies have conducted CCC interventions,\(^5^2,5^3\) neither has attempted to use a one day intervention for all participating CCC. Instead, the intervention workshops were provided to each individual CCC separately.\(^5^2,5^3\) While the post analysis of the centers in both studies provided positive findings of nutrition environmental change, neither of the studies reported a significant change from the pre to post evaluations.\(^5^2,5^3\)

(4) Successful communication on improvement of menus and nutrition knowledge to CCC directors and staff. The two intervention studies, Benjamin et al. and Ward et al., failed to successfully communicate components of healthful food environments as seen in their lack of significant improvement in post intervention scores.\(^5^2,5^3\) Successful communication is needed to create healthful changes in CCCs. Because of the ease of use and visual component of the UDSA’s MyPlate, a scoring system based on MyPlate should be evaluated as a means of communication between health care professionals and CCC directors and staff.
Call for Research

Larson et al. provides a clear call for research efforts in the prevention of obesity risk and promotion of health in child-care settings.\textsuperscript{37} These researchers suggest that obesity prevention research should focus on comparing CCC menus to higher standards of nutrition instead of the minimum state requirements.\textsuperscript{37} Larson et al. also suggests that more research is needed comparing CCC menus to recommendations of major advisory groups, such as the Academy for Nutrition and Dietetics, the American Academy of Pediatrics, and the .\textsuperscript{37} Previous studies have used national standards to evaluate menus, including the Food Guide Pyramid,\textsuperscript{42} MyPyramid,\textsuperscript{40,41,46} and HEI-2005.\textsuperscript{35} These standards are now outdated, and newer standards, such as MyPlate and HEI-2012, should be utilized. By comparing CCC’s menu to current recommendations, CCCs can improve their menus to meet more healthful standards.

Another potential area for research is menu evaluation of home CCC.\textsuperscript{37} Previous studies that investigated home CCCs’ nutrition practices have made only limited observations. In 2012, there were 209,000 home CCC in the US\textsuperscript{24}; more research should be conducted on home-based centers to fully evaluate the diets children in these care settings are receiving.

Research also needs to be conducted on an effective multi-component intervention program addressing physical activity, nutrition and policy.\textsuperscript{37} The two studies by Benjamin et al. and Ward et al. described earlier provided an intervention to improve the health environment of CCC;\textsuperscript{52,53} neither of the interventions report significantly positive changes\textsuperscript{52,53}. Because of the complexity of childhood obesity, a multi-component intervention is needed to be effective.
**Target Population**

By creating a multi-component intervention at the grass roots level in a community, researchers and community advocates can focus on the needs of that specific community. As stated previously, Texas children have a high risk of being overweight or obese. According to the 2011 National Survey of Children’s Health, Texas is ranked 5th in the nation for overweight and obesity rates among children, with approximately 36.6% of children ages 10 – 17 years old overweight or obese.\(^5\) Weight status among communities in Texas can be seen in the 2010 Texas Controller of Public Accounts’ FITNESSGRAM\(^\text{TM}\).\(^5\) The FITNESSGRAM\(^\text{TM}\) displays overweight and obesity rates taken from children in participating public schools in Texas. Fifty-three percent of 8th grade students in San Marcos Independent School District were overweight or obese in 2010.\(^5\) The need for a multi-component obesity prevention study in San Marcos and surrounding counties is pertinent to the health of the children to help decrease the high overweight and obesity rates.

**Specific Aims and Objectives**

The **specific aims** of this project were to: (1) develop, implement and evaluate a scoring system based on MyPlate by which CCC menus can be assessed; (2) assess the effectiveness of a workshop intervention in improving the menus and feeding practices of CCCs in an at-risk community; (3) evaluate the accuracy of the CCC menus. These aims were addressed using the following objectives.

**Specific Aim 1.** Develop, implement and evaluate scoring system based on MyPlate by which CCC menus can be assessed.
Objective 1. Given that MyPlate is the newest federal icon used for public nutrition instruction and a scoring system using MyPlate has not been published, our first objective was to develop a menu scoring guide based on MyPlate that can be applied to CCC menus.

Objective 2. Our third objective was to use the MyPlate scoring guide to assess CCC menus to pre- and post- menus.

Specific Aim 2. Using a pre-test/post-test design, assess the effectiveness of a workshop intervention in improving the menus and feeding practices of licensed CCC in Hays and Bastrop counties in Texas.

Objective 1. Establish a baseline (pre-test) of: the menus offered in CCCs by using the MyPlate

Objective 2. Conduct a workshop for the directors and staff of area CCCs, including lessons on improving menus (based on MyPlate) and feeding practices.

Objective 3. Post-test (same measures as Obj. 1)
References


11. Frenk DJ. Economic costs of overweight and obesity.


CHAPTER II

Methods

Project Design

Best Food for Families, Infants and Toddlers (Best Food FITS)

This project is an extension of the Best Food FITS health promotion coalition in the Texas State Nutrition and Foods Program. The purpose of Best Food FITS is to help reduce risk of childhood obesity in the community by making it easier for children to consume more fruits and vegetables, fewer sugar-sweetened beverages, and improve healthful practices in general. The Best Food FITS coalition includes partnership with many stakeholders in the San Marcos community. Prior to the study described herein, Best Food FITS worked with local restaurants to improve their children’s menus to include more healthful options. Best Food FITS also offers nutrition education to the community at the Chapultepec Adult Learning Center by providing free cooking classes to improve nutrition education for individuals and families. The project described herein was designed to extend the influence of Best Food FITS to area CCC facilities.

Best Food FITS Child-Care

The overall purpose of the Best Food FITS Child-Care project was to engage area CCC staff in improving the nutrition and health environment of their CCC. This research study included the following components: (1) Site Visit I, a pre-assessment of the nutrition and physical activity environment of area CCC facilities; (2) Workshop Intervention for CCC staff, which included interactive instruction on increasing physical activity, improving child nutrition, menu planning, and on writing policies regarding the food environment; (3) Technical Support/Follow-Up Calls via telephone; and (4) Site
Visit II, a post-assessment of the nutrition and physical activity environment (see Figure 3). The Texas State University Institutional Review Board approved this study before any contact was made with potential subjects, and all practices were compliant.

**Researchers and Data Management**

Working under the direction of three principal investigators (PI), two graduate student researchers managed the project. All research participants completed the Collaborative Institutional Training Initiative (CITI) training prior to participating in the study. The lead graduate students trained assistant researchers, who then participated in all aspects of data collection. All physical data were kept in a locked cabinet in the Community Research Lab in the Texas State Family and Consumer Sciences building. All electronic data were password protected.

**Recruitment**

Researchers compiled a list of the 98 CCC located in Hays County (78666, 78667, and 78640 zip codes) and Bastrop County (78602 zip code) from the Texas Department of Family and Protective Services website, with the intention of recruiting all eligible centers and their directors and staff. Eligibility criteria included being a licensed center by the state of Texas and providing at least one meal (breakfast, lunch or dinner) or snack. From the Community Research Lab, researchers called each eligible center in the included zip codes and asked to speak to the director. When the director was reached, the researcher followed a script that explained the study goals, eligibility requirements, procedures, and incentives for participation. Incentives included grocery gift cards, continuing education (CE) credits for CCC staff and Best Food FITS tote bags.
Figure 2.1. Timeline of the Project Design for the Best Food for Families, Infants, and Toddlers Child-care Center Study
The grocery gift cards were allotted incrementally as CCC staff participated in various stages of the research project. Directors and staff who attended the workshop intervention were also awarded 5 continuing education credits.

If a director agreed to participate in the study, the researcher scheduled an appointment for *Site Visit I*, the initial environmental assessment of that CCC. If directors indicated willingness to participate, but were later unable to commit to having staff attend the workshop intervention, the CCC was included in the study as a control. Researchers called the CCC three days prior to the visit to confirm the scheduled time (script in Appendix A), remind the director about specifics of the visit, and arrange for an authorized alternative staff member in the event that the director was absent. At the initial site visit, the researchers explained the study and provided consent forms (Appendix A) to the CCC director and staff.

**Site Visit I. Pre-assessment of the Nutrition and Physical Activity Environment**

*Overview*

The first site visit was scheduled to occur during a time that included at least one meal or snack. After consent forms were signed, *Site Visit I* consisted of: (1) *Director Interview*, a structured interview with the director; (2) *Nutrition Knowledge Surveys*, surveys to director and staff; (3) *Nutrition Environment Assessment*, an examination of the physical environment, including the indoor and outdoor play areas, the kitchens, the classrooms, and common areas; (4) *Menu and Policy Collection*, collection of CCC facility policies, usually found in a “Parent Handbook” and one month of menus; and (5) *Meal Observation*, an observation of meals or snacks for specific food items served and staff and student interactions. The typical duration of *Site Visit I* was 2 to 4 hours.
**Director Interview**

After collecting policies and menus and at the director’s convenience, the lead researcher conducted a scripted interview with the director for 20 to 60 minutes (script in Appendix A). The interview asked about menus, physical activity, staff training, breastfeeding practices, and center policies. Questions regarding nutrition included: how often fruits or vegetables were served during the week, the content of a typical snack, and what beverages were typically served with meals or snacks. With the director’s permission, this interview was recorded for later transcription and analysis. After the interview, the director was asked to provide the most convenient time to contact the center for follow-up calls.

**Nutrition Knowledge Surveys**

The assistant researcher administered the staff survey (Test 1-Staff, Appendix A). Test 1-Staff included questions about knowledge (i.e., true or false questions about breastfeeding, ages children should have milk, juice, or water), feeding practices (how meals are served, do staff sit with children during meals, and what types of statements can staff say to children about the meal), policy (does the center have policies about breastfeeding, access to water, and birthday parties), responsibility (who takes responsibility for feeding children or educating children about nutrition), and physical activity (what ways do children participate in physical activity, and how long do children participate in physical activity each day).

The lead researcher administered the director survey (Test 1-Director, Appendix A). In addition to the questions asked in Test 1-Staff, Test 1-Director asked about the
demographics and day-to-day operations of the center (what time the center opens, how long has the center been open, and how many children does the center serve).

**Nutrition Environment Assessment**

In order to assess the nutrition environment, an observational environmental nutrition assessment tool (Appendix A) was developed. All researchers collaborated to develop the protocol for this assessment tool based on previous environmental research. Areas included in the observational tool were the kitchen, cafeteria, food storage sites, indoor and outdoor play area, breastfeeding area, entryway, and classrooms (infant, toddler, pre-K individually). The environmental assessments were first piloted at the Texas State University Child Development Center. During the pilot study and CCC assessments, the lead and assistant researcher separately conducted observations of the physical environment simultaneously using the assessment tool. The researchers also took pictures of the areas assessed and of any posted menus and policies.

**Meal Observation**

The research team observed a meal served by the CCC, recorded the specific meal items served on the environmental assessment tool, and compared those meal items with the menu provided for that day. The researchers observed the entire process of serving the meal, from beginning to end, for one classroom. Additional observations included meal style, staff interaction with children, and actual food items being served.

**Workshop Intervention**

**Overview**

The intervention for this project was a 5-hour workshop held at the Texas State FCS building on April 27, 2013. All directors and staff at participating CCC were invited.
The workshop included (1) Check-in, (2) Breakfast, (3) Lectures/Activities, (4) Lunch, (5) Focus Groups, and (6) Check-out. To maintain the focus of the attendees, gifts such as Best Food FITS t-shirts, stickers, and tote bags were offered sporadically throughout the lecture portion of the workshop. At the end of the workshop, each CCC received a $25 gift card incentive, and each individual staff or director who attended the workshop received 5 continuing education credits.

**Check-in**

After being greeted at the door, the CCC staff were asked to “check in” according to their specific CCC. At check in, each CCC received a Best Food FITS tote bag along with a nutrition/food related children’s storybook and a packet with handouts that would be referenced in the workshop. In addition, each CCC worker received an individual “green folder” and each CCC collectively received one “orange folder”. After receiving their Best Food FITS tote bag, each CCC was assigned a trained liaison to help navigate through the workshop. The liaison had a folder for each site containing analysis reports generated from the initial site visit, and handed out pertinent analyses reports during the workshop. A list and brief description of the materials from the “green folder,” “orange folder,” and “liaison folder” can be seen in Table 2.1.

Finally, workshop participants were asked to complete a demographics form (Appendix A). If staff members had not completed the consent form or Test 1-Staff/Test 1-Director during Site Visit I, they were asked to complete these forms before the lectures began.
### Table 2.1. List and Description of Materials Provided to Child-Care Center Staff during the Workshop Intervention

<table>
<thead>
<tr>
<th>Material Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>“Green folder”</strong></td>
<td>Per workshop participant</td>
</tr>
<tr>
<td>Pen and blank note pages</td>
<td>Given to encourage note taking</td>
</tr>
<tr>
<td>Ice breaker activity “My Favorite Thing”</td>
<td>Introduction game to start friendly conversation on preferences of various items such as coffee or tea; paper or plastic</td>
</tr>
<tr>
<td>Healthy recipes for breakfast, lunch, and snacks</td>
<td>Examples of healthy recipes including sandwich kabobs, and fruit parfaits</td>
</tr>
<tr>
<td>Nutritional facts label</td>
<td>Guide for understanding the nutrition facts label on food products and how to use this information to choose more healthful items</td>
</tr>
<tr>
<td>Workshop feedback form</td>
<td>Form collected at the end of the workshop to ask about usefulness, helpfulness, and acceptability of workshop</td>
</tr>
<tr>
<td><strong>“Orange folder”</strong></td>
<td>Per center</td>
</tr>
<tr>
<td>Paper plates</td>
<td>Used in MyPlate activity during childhood nutrition lecture to demonstrate improvements made to specific meals</td>
</tr>
<tr>
<td>MyPlate meal and snack patterns for preschoolers</td>
<td>Sample preschool menu for an entire day of healthy meal and snack options</td>
</tr>
<tr>
<td>Flyers with policy matrices</td>
<td>Used with an activity during the policy lecture to explain the different levels of creating a policy</td>
</tr>
</tbody>
</table>
Table 2.1: Continued

<table>
<thead>
<tr>
<th>Material Item</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Orange” folder</td>
<td>Per Center</td>
</tr>
<tr>
<td></td>
<td>Modifications recommended to improve the requirements to the CACFP guidelines including no juice for breakfast or lunch, good source of vitamin C daily; 3 good sources of vitamin A weekly; one good whole grains daily</td>
</tr>
<tr>
<td>CACFP modifications</td>
<td>Example lesson plans presented in the physical activity lecture that incorporates physical activity and nutrition including “Eat Like a Bunny” activity</td>
</tr>
<tr>
<td>Nutrition and physical activity lesson plans</td>
<td>Form to collect information on goals the CCC would set to accomplish during technical support</td>
</tr>
<tr>
<td>CCC goal setting form</td>
<td>Per center</td>
</tr>
<tr>
<td>CCC MyPlate pie chart</td>
<td>Analyzed 20-day menu composite MyPlate pie chart per meal</td>
</tr>
<tr>
<td>“Ideal” MyPlate pie chart</td>
<td>MyPlate pie chart for comparison</td>
</tr>
<tr>
<td>Photo Voice Activity</td>
<td>Photos from Site Visit I of CCC facilitators and barriers were provided during policy lecture</td>
</tr>
</tbody>
</table>

**Breakfast**

The Texas State Student Nutrition Association (SNO) provided a breakfast for the workshop attendees that also served as an example of healthful breakfast options. The breakfast included whole grain blueberry muffins, low-fat yogurt, whole fruit, tea, water, and coffee. These food items were available throughout the workshop.
Lecture: Childhood Nutrition

After a welcome to the workshop and an introduction to Best Food FITS, a researcher gave a presentation on childhood nutrition (Appendix A). The presentation (1) began with obesity definition, incidence, consequences and causes; (2) led into the impact that CCCs have on the health outlook of children; (3) covered the development of healthy eating habits, modeling healthy behaviors, and breastfeeding; and (4) addressed dietary recommendations for children ages 0-5, MyPlate for children, and CACFP modifications for healthier eating. Each segment included an activity or other form of interaction to keep the participants engaged. In addition, a “word cloud” created from the combined total of food items listed on the CCC menus received during Site Visit I was displayed. After viewing the “word cloud,” participants were invited to visualize the variety or lack of variety of foods being served in the local CCC community.

CCC staff members were asked to participate in three activities intended to reinforce USDA MyPlate recommendations. First, the liaison provided participants with the MyPlate pie chart specific to their CCC, along with an “ideal” MyPlate pie chart based on the USDA MyPlate (described in Table 2.1). CCC workers were asked to visually compare their menu pie chart with the “ideal” MyPlate pie chart. Second, using 2 paper plates provided in the orange folders, the CCC participants were asked to draw two meals from their menu that best represented, and least represented the ideal MyPlate meal. Last, the presenter suggested a series of healthier options for breakfast, lunch and snack before asking the CCC staff to modify their MyPlate illustrated menus to better represent the MyPlate standards. After the presentation, the CCC attendees had time to ask questions of the presenters about the lecture, their analyzed menu, and the activities.
Lecture: Physical Activity

In the lecture on physical activity, researchers addressed the importance of daily physical activity for children. Examples of nutrition and physical activity lessons were offered, including, a Hawaiian themed lesson, which incorporated activities for children, such as trying novel foods (i.e. fresh coconut and pineapples), and engaging in new physical activities (e.g. pretending to surf or dancing the hula). Another themed activity, *Eat like a Bunny*, was also demonstrated. This activity was intended to teach children to enjoy vegetables while “eating like a bunny”. It was suggested that the CCC staff could incorporate physical activity by making children hop around like a bunny before or after eating.

Lecture: Environment and Policy

The overriding message of the *Environment and Policy* lecture was that CCC could improve the health outlook of children by creating a “healthy” in lieu of an “obesogenic” environment. The lecture illustrated the potential impact of the physical environment on health using pictures from the Texas State campus as examples. Photos included facilitators (multiple sets of stairs across campus, the large recreational facility) and barriers (fast food vendors on campus, and bake sales from different student organizations) to healthful practices. For an activity, the CCC workers were then provided with pictures from their own centers that were taken during *Site Visit I*. The workers from each CCC were asked to view the pictures and collaborate to identify facilitators and barriers to healthful practices they saw in the pictures. Once this information was collected from the CCC, researchers provided each CCC with a form highlighting the researchers’ perspectives about how policy changes in each CCC could
facilitate healthful practices. During the policy portion of the presentation, researchers addressed the importance of writing policies to augment health and provided examples on how to write policies. CCC staff were then asked to consider their own CCC and complete a policy matrix identifying appropriate policies.

**Lunch**

Healthy box lunches, provided by Student Nutrition Organization, were served to all CCC participants. The box lunches included either a white bean chipotle wrap or turkey pesto wrap, fruit, hummus, carrots, and a bottle of water.

**Focus Groups**

The attendees were asked to separate from their colleagues and attend 9 pre-assigned focus groups in separate classrooms. Each focus group consisted of 6-10 members, including a moderator and assistant moderator. The CCC workers were first asked to complete a demographics form (Appendix A) and then sign in before the discussion commenced. The moderator led the group in a discussion following an outline (Appendix A) of topics including facilitators and barriers seen in the CCC to healthful menus, policy creation, and physical activity incorporation, while the assistant moderator recorded the conversation and took notes. Immediately following the focus group, the moderator and assistant moderator discussed the highlights of the focus group. The assistant moderator transcribed the focus group from the recording immediately following the workshop.
Check-out

After the focus groups, attendees gathered in the main classroom for closing statements. Participants was asked to complete three documents before receiving their incentives, including: (1) a workshop evaluation, (3) CCC goals, and (3) Test 2 – Director & Staff (Appendix A). A digital copy of the CCC goals was emailed to the CCC to facilitate change.

Technical Support/Follow-Up Calls

Technical support via telephone and e-mail was offered to CCCs who attended the workshop. Research assistants used a script (Appendix A) to offer assistance to directors in implementing goals set at the workshop. Because many CCC closed in the summer, technical support and follow-up calls were not be completed for every center immediately after the workshop. Supplementary handouts providing specific environmental and policy guidelines intended to facilitate improvement were emailed to each CCC. Additional assistance was provided upon the CCC director’s request. During the last round of follow-up calls in August, Site Visit II was scheduled (script in Appendix A). Sites identified as controls (due to lack of attendance at the workshop) were not included in the follow-up call regimen.

Two sets of follow-up calls took place – after the workshop and again after Site Visit II. The first set collected more specific information about the CCC menus (script, Appendix A). During these calls, researchers asked about serving sizes and particular ingredients used in mixed meal items. The second set of calls made after Site Visit II were used to gather specifics about the menus collected after the workshop.
The last set of follow-up calls occurred after *Site Visit II*. Using a script (Appendix A), researchers inquired about specific changes seen between the pre to post environmental assessment tool. Researchers asked the director if she was aware of the changes, why the changes transpired, and if a policy had been implemented to maintain the change.

**Site Visit II: Post-assessment of the Nutrition and Physical Activity Environment**

The second site visits were conducted using the same protocol as *Site Visit I*. Because we previously received consent for the entire study, a second consent form was not needed unless there had been a staff replacement. The second visits were shorter, and included administration of nutrition knowledge surveys, completion of the nutrition environment assessment, collection of menus and policies, and observation of meals. The nutrition environment assessment, menu and policy collection, and meal observation procedures were the same as in *Site Visit I*. The meal observed in *Site Visit II* was the same meal observed for the previous visit i.e. if breakfast was observed for the first visit, breakfast was observed for the second visit. The meal observed only deviated from the initial meal observed if the CCC no longer prepared and served the same meal. The nutrition knowledge surveys (Test 3-Director & Staff, in Appendix A) were the same for both director and staff. In addition to questions asked in the previous tests, Test 3-Director & Staff included questions about implementation of center changes and helpfulness of tools used in the workshop.

**Menu Analysis with MyPlate and SuperTracker**

After the first site visit, a quick analysis of the menus occurred before the workshop intervention in order to provide educational feedback to the sites. In an Excel
spreadsheet, menus were organized by their site number, and separated by meal type (breakfast, lunch, dinner, or snack). Food items were classified to MyPlate main and subcategories using the food group resources offered on MyPlate.gov.\(^1\) For the initial menu analysis, meal items were deconstructed so each food item was only classified into one main category of MyPlate. For example, a ham and cheese sandwich would be separated into ham, sandwich bread, and cheese. Monthly totals for number of food items in each food group and subgroup were calculated by site number and meal type.

Individual menus per site number were converted to a pie chart using the calculated totals. The pie charts were created in Microsoft Word and Excel to resemble the MyPlate icon. Two pie charts were prepared for each meal a CCC served. The first pie chart only displayed the four main categories on the MyPlate icon: fruits, vegetables, grain, and protein. The second pie chart displayed subcategories of the main categories to show a better representation of the food items served at the CCC. Each pie chart was colored similarly to the MyPlate icon to be easy to understand. In the detailed pie chart, each section was a shade of the main category color. For example, protein is purple on the MyPlate icon; therefore, chicken is a darker shade of purple and ground meat is a lighter shade of purple on the pie chart. This menu feedback from the initial site visit was given to each individual centers in addition to an ideal MyPlate during the intervention workshop.

After the workshop, a more detailed type of menu analysis was conducted. Researchers created a SuperTracker profile on MyPlate.gov\(^1\) for each CCC. Using the specific serving sizes recorded on the Excel spreadsheet from clarification during the follow-up calls, researchers entered the specific food items into SuperTracker and
recorded the exact MyPlate main and subcategories provided on the CCC’s SuperTracker profile. New totals for the month were calculated for each CCC per mealtime, and were used to create a MyPlate pie chart using Microsoft Word and Excel. This menu analysis process of recording menu items onto Excel, and entering menus into SuperTracker was repeated after the second round of site visits.

In order to perform the more in-depth statistical analysis (described below), the monthly calculations were stratified into daily calculations for pre and post menu assessments. On average, there were 20 days of menus for each CCC. However, fewer menus were obtained from select CCC if data collection spanned over breaks such as Spring Break or Thanksgiving.

**Menu Scores**

Menus were given two scores: (1) MyPlate score, (2) Child-care Center score. The MyPlate score was developed based on the consumer messages by MyPlate. The consumer messages include: make half of your plate fruits and vegetables; make half of your grains whole grains; vary your vegetables, chose whole fruit, chose lean protein, chose low fat/no fat dairy. Each CCC average meal values previously calculated from the SuperTracker outputs were used to calculate the MyPlate score. Each mealtime for the month was given a score individually, then averaged together to provide one overall MyPlate Score. The Child-care Center score was developed using the CACFP modifications. The modifications include: 1 good source of vitamin C a day, 3 good sources of vitamin A per week, 1 whole grain a day, 2 fruits and vegetables per lunch, no juice at lunch, limit two cracker per week for snack, and limit 2 sugary cereals a week for breakfast. Using the totaled MyPlate categories and subcategories from the SuperTracker
output, each CCC was given an overall Child-care Center score. The two scoring guides and average scores for intervention and control groups can be seen in the Appendix A.

**Statistical Analysis**

Hierarchical linear modeling (HLM), a univariate approach to mixed methods analysis, was used to determine the associations between the independent (mealtime, pre-, post-) and dependent variables (food categories). Relatively new to the nutrition field, HLM provides a greater depth of insight into nutrition research. HLM was appropriate for analysis of the CCC menus in this study because this method calls for “nesting” of the various levels of data. The data levels were individual meal, mealtime (breakfast, morning snack, lunch, afternoon snack), and individual CCCs. The nesting of the data in HLM solves for the multiples sources of random variation in collected data. This allows the data to be independent of the levels. The HLM provides three different types of data outputs: fixed effects, random effects, and emmeans tables. The fixed effects provide the mean effects a dependent variable has on specific independent variables across all levels. (For example, the difference in fruit juice served in breakfast compared to the average regardless of day of the month, or specific CCC). The random effects demonstrate the homogeneity among the nested groups. (For example, the effect the day of the month has on the amount of refined grains being served). The emmeans tables provide the specific means for each group for each data collection point.

To determine the effectiveness of the intervention on CCC menus, HLM was used for specific categories of MyPlate including vegetables: all, vegetables: beans/peas, vegetables: dark green, vegetables: red/oranges, vegetables: starchy, vegetables: other, fruits: all, fruits: whole, fruits: juice, grains: whole, grains: refined, oils (dependent
variables). Differences in menus outcomes were analyzed by introducing an interaction term between meal time (breakfast, morning snack, lunch, and afternoon snack) and time (pre or post) in the model. By introducing this interaction term, the results will show the effect, if any, meal time and time have on the food items being served. From this analysis, the changes in food items served can be seen in relation to mealtimes and time (pre-post) with the fixed effects. For example, the number of whole grain food items served is compared to the overall estimation across the nested groups. The estimation of whole grain food items served can be seen for each mealtime, pre- post-, and each mealtime pre- post-. The homogeneity of the food categories across the different levels are seen with the random effects. When allowed to vary randomly over time, co variances are examined to see their effect on food items being served. This study looked at the effect of the day of the month the meal was offered on the food categories. For example, does the 15th day on the menu effect how many red orange vegetables are being served on the menu. Specific pre- and post- means are displayed in the emmeans tables for this data. The mean amounts of dark green vegetables served by a CCC on any given day for pre- and post- are displayed for each mealtime. This table provides an overall picture of the amount of food items CCC are serving among the specific food categories. Syntax used is included in Appendix A. The linear mixed method and frequencies of demographic characteristics of the CCC were calculated using SPSS (version 20.0 for Windows). The $P$ values were adjusted for Bonferroni Corrections to eliminate Type I error. A $P$ value was viewed as significant when $P < .0025$. Cohen’s $d$ was determined to show effect size on the significant data.
References


CHAPTER III

Manuscript

Background

Dietary intake is an important aspect of a child’s life. The rate of obesity in the US is high, with children ages 2-19, the prevalence of obesity is 16.9%.\(^1\) Obese children are at increased risk for psychological and physiological comorbidities including conditions such as depression, bone malformations, asthma, high blood pressure, type 2 diabetes mellitus.\(^2\) Due to the fact that overweight children aged 5 years old are four times more likely to become obese individuals than healthy weight children,\(^3\) obesity prevention in young children is critical. Prevention of childhood obesity begins by considering children’s dietary intake.

The 2008 Feeding Infants and Toddlers Study examined daily consumption of foods for preschool aged children in the US.\(^4\) Preschool aged children were consuming vegetables (70%), fruit (87%), grains (98%), and sweet or salty foods (86%).\(^4\) More specifically, few children were consuming dark green or yellow vegetables (less than 15%), and twice the number of children are consuming white potatoes (31%).\(^4\) Instead of whole fruits, 59% of children consuming fruit in the form of fruit juice.\(^4\) Less than half of the grains being served were whole grains. Sixteen percent more children are consuming sweet and salty snacks compared to vegetables daily.\(^4\)

Receiving a balanced diet at an early age is important not only for obesity prevention but also for developing taste preferences and food acceptability.\(^5\) With guidance from caregivers and exposure to more healthful foods, young children learn to prefer more nutritious foods.\(^5\) In particular, with healthful foods on the menu, there is the
potential to influence a child’s development of food acceptability and taste preferences.\textsuperscript{6} Due to the increasing numbers of children spending time outside of the home, community settings serving meals to children should be assessed for appropriate dietary menus.\textsuperscript{7}

With approximately 11 million US children under the age of five in CCC daily, CCC meals are an important source of dietary exposures for children.\textsuperscript{6} However, previous research suggests some shortfalls in CCC menus when compared against standards.\textsuperscript{8-15} While various regional studies suggest CCC serve adequate amounts of dairy\textsuperscript{11} and meat/meat alternatives,\textsuperscript{16} they also suggest that CCC serve inadequate amounts of grains.\textsuperscript{10,13,16} Conflicting results have been reported on fruits and vegetables. Studies report both adequate\textsuperscript{14,17,18} and inadequate\textsuperscript{10,16} servings of fruits and vegetables provided to child in CCC. To help improve local CCC menus, two interventions have been implemented in North Carolina.\textsuperscript{19,20} Menus were collected pre and post an intervention workshop consisting of three, thirty-minute workshops at individual CCC.\textsuperscript{19,20} While improvements were seen in the CCC menus, no significant were observed pre- to post workshop.\textsuperscript{19,20}

Results of a study analyzing CCC menus in the central Texas area indicated that menus lacked adequate servings grains, vegetables and dairy.\textsuperscript{16} This is of concern given that Texas has a high rate of childhood overweight and obesity, ranking fifth in the nation.\textsuperscript{21} More specifically, the south central Texas area has an exceptionally high risk of childhood obesity.\textsuperscript{22} Currently, no regional studies have been published on improving menus in CCC in the south central Texas area where there is a need for obesity prevention.
Previous studies have shown the poor dietary quality of CCC menus and the lack of effectiveness of interventions to improve CCC menus. New innovative workshop interventions incorporating a variety of learning tools should be employed to further educate directors and staff on creating healthful menus. The aim of this study is to evaluate the effectiveness of a multifaceted workshop intervention to improve meals (breakfast, morning snack, lunch and afternoon snack) served in CCC by increasing the amount of vegetables, whole fruit, and whole grains served, and decreasing the amount of fruit juice, refined grains, and oils served.

**Methods**

**Study Design**

This project was conducted under the umbrella of Best Food for Families, Infants, and Toddlers (Best Food FITS), a community coalition in south central Texas dedicated to reducing the risk of childhood obesity. Best Food FITS aims to combat obesity by making it easier for children to consume more fruits and vegetables, fewer sugar-sweetened beverages, and improve healthful practices in general. Specifically, the overall purpose of the Best Food FITS Child-Care project was to engage area CCC staff in improving the nutrition and health environment of their CCC.

This project included the following: (1) *Site Visit I*, a pre-assessment of the nutrition and physical activity environment of area CCC facilities; (2) *Workshop Intervention* for CCC staff, which included instruction on increasing physical activity, improving child nutrition, menu planning and on writing policies to improve CCC practices; (3) *Technical Support/Follow-Up* via telephone; and (4) *Site Visit II*, a post-assessment of the nutrition and physical activity environment (see Figure 3). This was a
multifaceted research project that examined many aspects of CCC’s nutrition environment including menus, policy, environment, staff knowledge. This specific study analyzed the menus served in the eligible CCC. One month of menus were collected for each center during each Site Visit I and Site Visit II. The university Institutional Review Board approved this study and all research practices were compliant.

**Participants and Recruitment**

Researchers compiled a list of the 98 CCCs located in Hays County, Texas (78666, 78667, and 78640 zip codes) and Bastrop County, Texas (78602 zip code), identified from licensing information on the Texas Department of Family and Protective Services website. The intention of recruitment was to obtain a sample of eligible centers which represented the CCCs within the counties and would allow their directors and staff to participate. Eligibility criteria included being a licensed center for the state of Texas and providing at least one meal (breakfast, lunch or dinner) or snack.

Centers were invited to participate in the study via recruitment call in February 2013. During the recruitment call, the director was informed of all components of the study including the incentives. If director was interested in his/her CCC participating, an initial visit was scheduled. Incentives for participation included grocery gift cards, continuing education (CE) credits for CCC staff, and a Best Food FITS tote bag. The grocery gift cards were to be allotted incrementally as CCC staff participated in various stages of the research project. Recruitment was completed during the initial site visit during which the researchers provided the consent forms to the CCC director and staff.
Workshop/Intervention

The child-care intervention for this project was a 5-hour workshop held at the Texas State Family and Consumer Sciences building on April 27, 2013. All directors and staff at participating CCC were invited. The workshop included (1) Check-in, (2) Breakfast, (3) Lectures/Activities, (4) Lunch, (5) Focus Groups, and (6) Check-out. To maintain the focus of the attendees, gifts such as Best Food FITS t-shirts, stickers, and tote bags were offered sporadically throughout the lecture portion of the workshop. At the end of the workshop, each CCC received the $25 gift card incentive, and each individual staff or director who attended the workshop received 5 (CE) credits.

The lecture topics consisted of childhood nutrition, physical activity, and policies. During the child nutrition lecture, the directors and staff were provided with specific information pertaining to obesity rates, healthful eating habits, good modeling behaviors, and menu improvements. The USDA’s MyPlate tool was the main educational tool used to teach about healthful menus as recommended by the USDA and Academy of Nutrition and Dietetics. Interactive activities included a visual description of the participating CCC menus in word cloud form, and a “choose this and not that” breakfast, lunch, and snack activity. This portion of the workshop also included pre menu analysis for each meal served by individual CCC. CCC menus A quick analysis of CCC menus collected during the initial site visit was presented in a pie chart resembling MyPlate. In addition to their individual menus, an ideal MyPlate pie chart was given to each center, providing a visual picture of how their menu compared to the USDA recommendations. The researchers were available to answer any questions about the comparison during the workshop.
Menu analysis

A quick analysis of the menus occurred before the workshop intervention in order to give feedback to the sites. Menus were entered into an Excel spreadsheet and sorted by individual CCC. Each food item served was listed for each day for a month. Trained nutrition students quickly sorted each food item into a different MyPlate categories and sub-categories. The data was or were converted into a pie chart format to resemble MyPlate and given to each CCC as feedback at the educational workshop.

After the workshop, a more detailed menu analysis occurred. Follow-up calls were made requesting clarification on specific menu items including ingredients and serving sizes. Menus were separated into different Excel spreadsheets depending on category of meal i.e., all morning snacks in one file. Each Excel file provided information on meal time, date served, and serving size. Using the USDA’s SuperTracker, profiles were created for each CCC. Each menu was entered into SuperTracker for the corresponding meal times and days. If a specific type of food item was not specified on a menu, the most generic form of that item was chosen. For example, if a menu served muffins for morning snack, “muffin, plain” was entered into SuperTracker. After the menus were entered, food categories and calories reports for each center were printed from the SuperTracker website. The food items served were classified into MyPlate categories and sub-categories as specified by the SuperTracker report and entered into an Excel spreadsheet. Then, the totals of categories/subcategories were calculated for each day and each month. This process was repeated after the follow-up site assessment. Lastly, data were checked randomly for quality assurance.
Data analysis

A univariate approach to mixed methods analysis was used to determine the associations between the independent and dependent variables. Syntax used can be seen in Appendix A. While other disciplines have used this method in their related fields, nutrition health and behavior research has been hesitant to utilize this multilevel approach (Warne 2012). This method has the ability to provide a greater depth of insight into nutrition-related behaviors (Warne 2012). To determine the effectiveness of the intervention on CCC menus, a hierarchical linear model (HLM) was used for every category of MyPlate previously described above. This model is appropriate to use because of multiple sources of random variation in this data. Differences in menu outcomes were analyzed by introducing an interaction term between meal time (breakfast, morning snack, lunch, and afternoon snack) and time (pre or post) in the model. The linear mixed method and frequencies of demographic characteristics of the CCC were calculated using SPSS (version 20.0 for Windows). The $P$ values were adjusted for Bonferoni Corrections to eliminate Type I error. A $P$ value was viewed as significant when $P < .0025$. Cohen’s $d$ was determined to show effect size on the significant data.

Results

Of the 98 CCC contacted, 34 CCC were scheduled for the initial site visit. From those 34 centers, 24 centers completed the study with useable menus. Nineteen centers attended the workshop and were classified as the intervention group. The remaining five centers were the control group. The descriptive characteristics for the control and intervention groups are presented in Table 12.
The overall pre- and post- mean amounts of food items served for breakfast, morning snack, lunch, and afternoon snack are described in Table 13 and Table 14 for the intervention and control groups, respectively. Food categories emphasized during the workshop are bolded. While improvements were seen in breakfast, morning snack, and afternoon snack CCC intervention group menus, the mean amount of food items served per category were not significantly different from pre- to post-. For lunch menus, the intervention CCC group had significantly more total vegetables, red orange vegetables and other vegetables, with mean increases of 0.198, 0.238, and 0.138, respectively (\(P < 0.0025\)). Figure 4 highlights the differences in means of lunch menu items classified into MyPlate categories. These food categories were emphasized at the workshop intervention. Cohen’s d reveals medium to large effect sizes. No significant change was seen in any of the control group CCC menus from pre- to post-. Significance was adjusted using Bonferroni correction.

The fixed effects for each food category can be seen in Table 14. This table shows significant differences for food categories depending on when the items were served. A significant random effect was observed for the residual variance attributed to the CCCs included in the sample. The HLM analysis can identify the variation between CCCs, which would not be observed with a regular (non-hierarchical) regression approach. Results of the random effects for the intervention and control CCC can be seen in Table 15.
Table 3.1: Descriptive Characteristics of Participating Child-care Centers

<table>
<thead>
<tr>
<th>Characteristics of Child-Care Centers</th>
<th>Intervention (n=19)</th>
<th>Control (n=5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean± SD</td>
<td>Mean± SD</td>
</tr>
<tr>
<td>Length CCC open (years)</td>
<td>10.00± 10.11</td>
<td>8.00± 7.89</td>
</tr>
<tr>
<td>Maximum capacity of children</td>
<td>72.43± 73.09</td>
<td>49.80± 28.19</td>
</tr>
<tr>
<td>Children currently served</td>
<td>50.47± 53.36</td>
<td>43.60± 19.53</td>
</tr>
</tbody>
</table>

Meals and Menus

<table>
<thead>
<tr>
<th>Meals served:</th>
<th>Total (%)</th>
<th>Total (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breakfast</td>
<td>10 (53)</td>
<td>5 (100)</td>
</tr>
<tr>
<td>Morning snack</td>
<td>8 (42)</td>
<td>0 (0)</td>
</tr>
<tr>
<td>Lunch</td>
<td>12 (63)</td>
<td>3 (60)</td>
</tr>
<tr>
<td>Afternoon snack</td>
<td>17 (89)</td>
<td>5 (100)</td>
</tr>
</tbody>
</table>

CACFP® (USDA) funding:

- Yes: 10 (53)
- No: 9 (47)

Food prepared by:

- Director: 3 (17)
- Cook: 5 (28)
- Teachers: 3 (17)
- Off-site: 2 (11)
- Director + teacher: 4 (22)
- Director + cook: 1 (6)

Menu approved by:

- Director: 14 (78)
- Kitchen manager/nutritionist: 3 (17)
- Company providing food: 1 (5)

Menu help from:

- Registered dietitian: 2 (13)
- Previous menus: 9 (56)
- Other menu examples: 2 (13)
- Internet: 3 (19)

Discussion

The Best Food FITS Child-Care Center project was designed to improve the menus and food environments of CCC. More specifically, this study aimed at improving the CCC menus. This study found that an interactive workshop intervention and technical support were effective tools to significantly improve CCC lunch menus. While interventions for CCC menu improvement exist, none have resulted in significant improvement to CCC menus. The difference between this study and similar workshop/intervention studies is the multifaceted workshop. Previous studies have utilized a 30-minute seminar workshop intervention to create change. This study used a
variety of interactive methods to significantly improve the menus including lectures, activities, and focus groups.

The fixed effects from HLM model (seen in Table 15) describes the differences the meal time had on the food categories served. The amounts of food items served at lunch were often significantly different than those served during snack. This could be explained by the different state and national food program requirements.

Although no significant improvements were seen in other meal times besides lunch, this study provides a more accurate depiction of the complete day of food items children are actually receiving. This is a novel approach to evaluate the complete menu served by the CCC. To our knowledge, no study has examined each meal time individually rather only examined separate meals such as snacks or lunches. This sentence doesn’t make sense to me.

Other studies have used national USDA standards (MyPyramid, Food Guide Pyramid, and HEI-2005) as points of reference for their CCC menu analysis. While these standards are accurate, they are out of date compared to the new USDA MyPlate. This is the first study comparing CCC menus to the recommended MyPlate. The results of this study demonstrate that The MyPlate tool was an effective resource to improve CCC menus.

The relatively small sample size of CCC may seem like a limitation compared to other CCC studies, but our study generated a large amount of information. Instead of evaluating many CCC menus for one day or one month, this study included a sample of CCC for 40 days (20 days before the workshop and 20 days after the workshop). The
volume of menus sampled provides a more accurate depiction of what CCC are actually serving compared to a single snapshot.

An additional limitation to our study is the possible inaccuracies of CCC menu. Previous studies have reported deviations of food items served compared to the CCC menus. Nonetheless, most of the changes were for foods within the same categories. Due to our categorical approach during the menu analysis, this limitation has little effect on our overall results. For example, a CCC substituting an apple to pear would not have a large impact on our results because they are substituting a whole fruit for a whole fruit. Another potential inaccuracy of the menu is the serving size. (Didn’t we compare actual food served to what was on menu on the observation days? Might be worth mentioning.) Since we analyzed our data based on food categories/subcategories, actual serving sizes would not change our results.

**Implications for Research and Practice**

More multifaceted workshops should be used to help mediate change in CCC due to the increasing importance these facilities have on a child’s growth and development. Due to the lack in significant changes found in the breakfast, morning snack, and afternoon snack additional focus and resources should be given to help improve in these areas.

Best Food FITS continues to evaluate the CCC overall environment. In depth analysis of CCC food environment including policies, and physical environmental assessment are being analyzed. In addition, Best Food FITS moves forward to look at the effect of the home food environment on a child’s food preferences.
<table>
<thead>
<tr>
<th>Food Category</th>
<th>Breakfast</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>P Value</td>
<td>Pre</td>
<td>Post</td>
<td>P Value</td>
</tr>
<tr>
<td></td>
<td>(Mean ±SD)</td>
<td>(Mean ±SD)</td>
<td></td>
<td>(Mean ±SD)</td>
<td>(Mean ±SD)</td>
<td></td>
</tr>
<tr>
<td>Grains: All</td>
<td>0.997</td>
<td>0.144</td>
<td>0.958</td>
<td>1.199</td>
<td>0.156</td>
<td>0.425</td>
</tr>
<tr>
<td>Grains: Whole†</td>
<td>0.397</td>
<td>0.117</td>
<td>0.568</td>
<td>0.035</td>
<td>0.128</td>
<td>0.250</td>
</tr>
<tr>
<td>Grains: Refined†</td>
<td>0.610</td>
<td>0.156</td>
<td>0.960</td>
<td>1.173</td>
<td>0.166</td>
<td>0.147</td>
</tr>
<tr>
<td>Vegetables: All†</td>
<td>0.048</td>
<td>0.126</td>
<td>0.673</td>
<td>1.522</td>
<td>0.142</td>
<td>0.000*</td>
</tr>
<tr>
<td>Vegetables: Dark Green†</td>
<td>-0.001</td>
<td>0.042</td>
<td>0.897</td>
<td>0.090</td>
<td>0.045</td>
<td>0.160</td>
</tr>
<tr>
<td>Vegetables: Red/Orange†</td>
<td>0.002</td>
<td>0.084</td>
<td>0.947</td>
<td>0.550</td>
<td>0.083</td>
<td>0.000*</td>
</tr>
<tr>
<td>Vegetables: Beans/Peas†</td>
<td>0.003</td>
<td>0.051</td>
<td>0.909</td>
<td>0.156</td>
<td>0.052</td>
<td>0.415</td>
</tr>
<tr>
<td>Vegetables: Starchy†</td>
<td>0.038</td>
<td>0.075</td>
<td>0.934</td>
<td>0.475</td>
<td>0.076</td>
<td>0.066</td>
</tr>
<tr>
<td>Vegetables: Other†</td>
<td>-0.011</td>
<td>0.063</td>
<td>0.895</td>
<td>0.537</td>
<td>0.097</td>
<td>0.000*</td>
</tr>
<tr>
<td>Fruits: All†</td>
<td>0.929</td>
<td>0.159</td>
<td>0.343</td>
<td>0.962</td>
<td>0.170</td>
<td>0.526</td>
</tr>
<tr>
<td>Fruits: Whole†</td>
<td>0.637</td>
<td>0.159</td>
<td>0.058</td>
<td>0.914</td>
<td>0.170</td>
<td>0.737</td>
</tr>
<tr>
<td>Fruits: Juice†</td>
<td>0.295</td>
<td>0.123</td>
<td>0.163</td>
<td>0.051</td>
<td>0.132</td>
<td>0.678</td>
</tr>
<tr>
<td>Dairy: All†</td>
<td>0.824</td>
<td>0.210</td>
<td>0.467</td>
<td>1.108</td>
<td>0.232</td>
<td>0.501</td>
</tr>
<tr>
<td>Dairy: Milk/Yogurt</td>
<td>0.725</td>
<td>0.183</td>
<td>0.861</td>
<td>0.719</td>
<td>0.204</td>
<td>0.860</td>
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<tr>
<td>Dairy: Cheese</td>
<td>0.093</td>
<td>0.099</td>
<td>0.214</td>
<td>0.377</td>
<td>0.100</td>
<td>0.287</td>
</tr>
<tr>
<td>Protein: All</td>
<td>0.190</td>
<td>0.108</td>
<td>0.839</td>
<td>0.929</td>
<td>0.111</td>
<td>0.472</td>
</tr>
<tr>
<td>Protein: Seafood</td>
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<td>0.027</td>
<td>0.938</td>
<td>0.063</td>
<td>0.028</td>
<td>0.233</td>
</tr>
<tr>
<td>Protein: Meat/Poultry/Eggs</td>
<td>0.178</td>
<td>0.087</td>
<td>0.826</td>
<td>0.790</td>
<td>0.090</td>
<td>0.707</td>
</tr>
</tbody>
</table>
Table 3.2: Continued

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Afternoon Snack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>P value</td>
</tr>
<tr>
<td></td>
<td>(Mean ±SD)</td>
<td>(Mean ±SD)</td>
<td></td>
</tr>
<tr>
<td>Protein:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nuts/Seeds/Soy</td>
<td>0.009</td>
<td>0.081</td>
<td>0.885</td>
</tr>
<tr>
<td></td>
<td>0.009</td>
<td>0.081</td>
<td></td>
</tr>
<tr>
<td>Oils†</td>
<td>0.194</td>
<td>0.138</td>
<td>0.753</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* P < 0.0025, Significance adjusted using Bonferroni correction; † Designated food categories emphasized during the intervention

Table 3.3: Food Items Served by Food Category for Meal Pre and Post for the Control Group

<table>
<thead>
<tr>
<th>Food Category</th>
<th>Breakfast</th>
<th>Lunch</th>
<th>Afternoon Snack</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>P value</td>
</tr>
<tr>
<td></td>
<td>(Mean ±SD)</td>
<td>(Mean ±SD)</td>
<td></td>
</tr>
<tr>
<td>Grains: All</td>
<td>1.000</td>
<td>0.072</td>
<td>0.802</td>
</tr>
<tr>
<td>Grains: Whole†</td>
<td>0.354</td>
<td>0.092</td>
<td>0.501</td>
</tr>
<tr>
<td>Grains: Refined†</td>
<td>0.646</td>
<td>0.110</td>
<td>0.705</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All†</td>
<td>0.074</td>
<td>0.132</td>
<td>0.778</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dark Green†</td>
<td>0.000</td>
<td>0.027</td>
<td>1.000</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Red/Orange†</td>
<td>0.009</td>
<td>0.072</td>
<td>0.864</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beans/Peas†</td>
<td>0.035</td>
<td>0.056</td>
<td>0.946</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starchy†</td>
<td>0.031</td>
<td>0.101</td>
<td>0.768</td>
</tr>
<tr>
<td>Vegetables:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other†</td>
<td>0.000</td>
<td>0.058</td>
<td>0.537</td>
</tr>
<tr>
<td>Fruits: All†</td>
<td>0.880</td>
<td>0.248</td>
<td>0.765</td>
</tr>
</tbody>
</table>

68
<table>
<thead>
<tr>
<th>Table 3.3: Continued</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>P value</strong></td>
</tr>
<tr>
<td><strong>Fruits: Whole</strong></td>
</tr>
<tr>
<td><strong>Fruits: Juice</strong></td>
</tr>
<tr>
<td><strong>Dairy: All</strong></td>
</tr>
<tr>
<td><strong>Dairy: Milk/Yogurt</strong></td>
</tr>
<tr>
<td><strong>Dairy: Cheese</strong></td>
</tr>
<tr>
<td><strong>Protein: All</strong></td>
</tr>
<tr>
<td><strong>Protein: Seafood</strong></td>
</tr>
<tr>
<td><strong>Protein: Meat/Poultry/Eggs</strong></td>
</tr>
<tr>
<td><strong>Protein: Nuts/Seeds/Soy</strong></td>
</tr>
<tr>
<td><strong>Oils</strong></td>
</tr>
</tbody>
</table>

*P < 0.0025, Significance adjusted using Bonferroni correction; † Designated food categories emphasized during the intervention
Figure 3.1: Mean Differences for Food Categories Emphasized During the Workshop Intervention from the Lunch Menus for Intervention and Control Groups. Graphs represent the 12 categories highlighted for change at the workshop intervention. The intervention group (n = 19) attended the workshop. The control group (n = 5) did not. * Significant difference between pre- and post- (p<0.0025) Significance was adjusted using Bonferroni correction.
Figure 3.1: Continued
Figure 3.1: Continued
### Table 3.4: Fixed Effects for the Food Categories for Intervention and Control Groups

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Intervention Fixed Effects</th>
<th>Intervention SE</th>
<th>Intervention 95% CI</th>
<th>Control Fixed Effects</th>
<th>Control SE</th>
<th>Control 95% CI</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.510</td>
<td>0.047</td>
<td>0.000</td>
<td>0.415, 0.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.485</td>
<td>0.513</td>
<td>0.000*</td>
<td>0.385, 0.587</td>
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</tr>
<tr>
<td>Breakfast</td>
<td>0.413</td>
<td>0.045</td>
<td>0.000*</td>
<td>0.325, 0.501</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afternoon Snack</td>
<td>0.510</td>
<td>0.047</td>
<td>0.000</td>
<td>0.415, 0.604</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits: All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.216</td>
<td>0.036</td>
<td>0.000</td>
<td>0.121, 0.265</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.028</td>
<td>0.038</td>
<td>0.465*</td>
<td>-0.047, 0.102</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>-0.161</td>
<td>0.033</td>
<td>0.000*</td>
<td>-0.023, -0.097</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>0.193</td>
<td>0.036</td>
<td>0.000</td>
<td>0.121, 0.265</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.103</td>
<td>0.041</td>
<td>0.013</td>
<td>0.021, 0.184</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fruits: Juice</td>
<td></td>
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<td></td>
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<tr>
<td></td>
<td>0.291</td>
<td>0.036</td>
<td>0.000</td>
<td>0.121, 0.265</td>
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<tr>
<td></td>
<td>0.403</td>
<td>0.038</td>
<td>0.465</td>
<td>-0.047, 0.102</td>
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<tr>
<td></td>
<td>0.110</td>
<td>0.033</td>
<td>0.000*</td>
<td>-0.023, -0.097</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.291</td>
<td>0.036</td>
<td>0.000</td>
<td>0.121, 0.265</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.044</td>
<td>0.041</td>
<td>0.013</td>
<td>0.021, 0.184</td>
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<td></td>
</tr>
<tr>
<td>Fruits: Whole</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.315</td>
<td>0.048</td>
<td>0.000</td>
<td>0.219, 0.412</td>
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<td></td>
</tr>
<tr>
<td></td>
<td>0.452</td>
<td>0.047</td>
<td>0.000*</td>
<td>0.360, 0.544</td>
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<td>0.578</td>
<td>0.041</td>
<td>0.000*</td>
<td>0.498, 0.660</td>
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</tr>
<tr>
<td></td>
<td>0.315</td>
<td>0.048</td>
<td>0.000</td>
<td>0.219, 0.412</td>
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<tr>
<td></td>
<td>-0.009</td>
<td>0.053</td>
<td>0.870</td>
<td>-0.15, 0.098</td>
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</tbody>
</table>

* Significant at p < 0.05.
<table>
<thead>
<tr>
<th>Intervention</th>
<th>Fixed Effects</th>
<th>SE</th>
<th>P</th>
<th>95% CI</th>
<th>Fixed Effects</th>
<th>SE</th>
<th>P</th>
<th>95% CI</th>
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<tbody>
<tr>
<td><strong>Fruits: Whole</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-</td>
<td>0.315</td>
<td>0.048</td>
<td>0.000</td>
<td>0.219, 0.412</td>
<td>0.355</td>
<td>0.064</td>
<td>0.000</td>
<td>0.216, 0.495</td>
</tr>
<tr>
<td>Pre- Breakfast</td>
<td>-0.121</td>
<td>0.063</td>
<td>0.055</td>
<td>-0.244, 0.002</td>
<td>0.155</td>
<td>0.074</td>
<td>0.036</td>
<td>0.010, 0.299</td>
</tr>
<tr>
<td>Post- Breakfast</td>
<td>0.315</td>
<td>0.048</td>
<td>0.000</td>
<td>0.219, 0.412</td>
<td>0.355</td>
<td>0.064</td>
<td>0.000</td>
<td>0.216, 0.495</td>
</tr>
<tr>
<td>Pre- Lunch</td>
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**Vegetables: Dark Green**

| Intercept            | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Breakfast            | -0.017       | 0.018   | 0.358  | -0.053, 0.019  | -0.026       | 0.021   | 0.225  | -0.067, 0.016 |
| Lunch                | 0.102        | 0.016   | 0.000* | 0.071, 0.134   | -0.003       | 0.025   | 0.907  | -0.052, 0.046 |
| Afternoon Snack      | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Pre-                 | 0.008        | 0.015   | 0.604  | -0.022, 0.038  | -0.017       | 0.020   | 0.396  | -0.055, 0.022 |
| Post-                | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Pre- Breakfast       | -0.005       | 0.024   | 0.835  | -0.053, 0.042  | 0.017        | 0.028   | 0.546  | -0.038, 0.071 |
| Post- Breakfast      | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Pre- Lunch           | -0.033       | 0.022   | 0.133  | -0.076, 0.010  | 0.075        | 0.033   | 0.023  | 0.010, 0.139 |
| Post- Lunch          | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Pre- Afternoon Snack | 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |
| Post- Afternoon Snack| 0.013        | 0.012   | 0.276  | -0.10, 0.035   | 0.026        | 0.015   | 0.088  | -0.004, 0.055 |

**Vegetables: Red/Orange**

<p>| Intercept            | 0.053        | 0.022   | 0.018  | 0.009, 0.096   | 0.013        | 0.039   | 0.745  | -0.065, 0.090 |
| Breakfast            | -0.048       | 0.036   | 0.190  | -0.121, 0.024  | -0.013       | 0.055   | 0.817  | -0.122, 0.096 |</p>
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<td>Post-</td>
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<td>Pre- Breakfast</td>
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<tr>
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<tr>
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<td>0.022</td>
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<tr>
<td><strong>Vegetables: Other</strong></td>
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<tr>
<td>Intercept</td>
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<td>0.026</td>
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<td>0.036</td>
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<tr>
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<td>0.026</td>
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<tr>
<td><strong>Vegetables: Starchy</strong></td>
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<td></td>
</tr>
<tr>
<td>Intercept</td>
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<td>0.020</td>
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<tr>
<td>Breakfast</td>
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<tr>
<td>Pre- Breakfast</td>
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Table 3.4: Continued

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<thead>
<tr>
<th>Intervention</th>
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<tr>
<td>Vegetables: Starchy</td>
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<tr>
<td>Post- Breakfast</td>
<td>0.023 0.020 0.239 -0.016, 0.062</td>
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<td>Pre- Lunch</td>
<td>0.061 0.039 0.124 -0.016, 0.138</td>
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<tr>
<td>Post- Lunch</td>
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<tr>
<td>Pre- Afternoon Snack</td>
<td>0.023 0.020 0.239 -0.016, 0.062</td>
</tr>
<tr>
<td>Post- Afternoon Snack</td>
<td>0.023 0.020 0.239 -0.016, 0.062</td>
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* P < 0.0025, Significance adjusted using Bonferroni correction

Table 3.5: Random Effects for the Food Categories for Intervention and Control Groups

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Intervention</th>
<th>Control</th>
</tr>
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<tr>
<td>Fruit: All</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept Residual Variance</td>
<td>0.219 0.008 0.000 0.205, 0.235</td>
<td>0.205 0.103 0.000 0.181, 0.233</td>
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<tr>
<td>Agency Level Variance</td>
<td>0.012 0.004 0.000 0.006, 0.022</td>
<td>0.026 0.015 0.079 0.009, 0.080</td>
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<tr>
<td>Fruit: Juice</td>
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<td></td>
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<tr>
<td>Intercept Residual Variance</td>
<td>0.119 0.004 0.000 0.111, 0.128</td>
<td>0.126 0.008 0.000 0.111, 0.143</td>
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<tr>
<td>Agency Level Variance</td>
<td>0.008 0.002 0.000 0.004, 0.013</td>
<td>0.005 0.003 0.122 0.002, 0.019</td>
</tr>
<tr>
<td>Fruit: Whole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept Residual Variance</td>
<td>0.184 0.006 0.000 0.172, 0.197</td>
<td>0.206 0.013 0.000 0.182, 0.234</td>
</tr>
<tr>
<td>Agency Level Variance</td>
<td>0.014 0.004 0.000 0.008, 0.025</td>
<td>0.011 0.007 0.103 0.003, 0.35</td>
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<tr>
<td>Grains: Refined</td>
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<td></td>
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<tr>
<td>Intercept Residual Variance</td>
<td>0.207 0.007 0.000 0.193, 0.222</td>
<td>0.198 0.013 0.000 0.174, 0.224</td>
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<tr>
<td>Agency Level Variance</td>
<td>0.011 0.004 0.000 0.006, 0.022</td>
<td>0.002 0.002 0.345 0.000, 0.014</td>
</tr>
<tr>
<td>Grains: Whole</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept Residual Variance</td>
<td>0.108 0.004 0.000 0.101, 0.115</td>
<td>0.129 0.008 0.000 0.113, 0.146</td>
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<tr>
<td>Agency Level Variance</td>
<td>0.007 0.002 0.000 0.004, 0.014</td>
<td>0.001 0.001 0.318 0.000, 0.010</td>
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<tr>
<td>Oils</td>
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<td>Intercept Residual Variance</td>
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<td>0.264 0.017 0.000 0.232, 0.300</td>
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<tr>
<td>Agency Level Variance</td>
<td>0.005 0.0019 0.013 0.002, 0.010</td>
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<tr>
<td>Vegetables: All</td>
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<td></td>
</tr>
<tr>
<td>Intercept Residual Variance</td>
<td>0.190 0.007 0.000 0.178, 0.204</td>
<td>0.256 0.017 0.000 0.226, 0.291</td>
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</tbody>
</table>
Table 3.5: Random Effects for the Food Categories for Intervention and Control Groups

<table>
<thead>
<tr>
<th>Parameter</th>
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<tr>
<td>Agency Level Variance</td>
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<tr>
<td><strong>Vegetables: Bean/Peas</strong></td>
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<tr>
<td>Intercept Residual Variance</td>
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<td>0.001</td>
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<td>Agency Level Variance</td>
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<td><strong>Vegetables: Red/Orange</strong></td>
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<tr>
<td>Intercept Residual Variance</td>
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<td>0.004</td>
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<td>.553</td>
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<tr>
<td><strong>Vegetables: Other</strong></td>
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<td>Intercept Residual Variance</td>
<td>0.111</td>
<td>0.004</td>
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<tr>
<td>Agency Level Variance</td>
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<td><strong>Vegetables: Starchy</strong></td>
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<tr>
<td>Intercept Residual Variance</td>
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</tr>
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<td>0.195</td>
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* P < 0.0025, Significance adjusted using Bonferroni correction
References


APPENDIX SECTION

1. Initial Call Script for Recruitment
2. Consent Forms
3. Confirmation Call Script
4. Director Interview Script
5. Test 1 - Staff
6. Test 1 - Director
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8. Demographic Forms for Workshop
9. Childhood Nutrition Lecture
10. Demographic Form for Focus Groups
11. Focus Group Topics Outline
12. Workshop Tool Evaluation
13. Goal Sheet
14. Test 2 - Director & Staff
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18. Test 3 - Director & Staff
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1. Initial Call Script for Recruitment

Hi my name is ______________ and I am calling from Texas State University Nutrition and Foods program. Is the director available for me to speak with?

If they say “that’s me”: Great! May I ask who I am speaking with? Hi __________ I’m calling on behalf of Dr. Lesli Biediger-Friedman to invite you to participate in a community study on child-care centers about nutrition and we would like to offer you the chance to participate. We would really appreciate your involvement in our study. (at this point continue with the director conversation from below)(They may have a response at this point as well)

If someone other than the director answers: Hi my name is __________ and I am calling from Texas State University Nutrition and Foods program. Is the director available for me to speak with?

If the director is not available: When would be a good time for me to call back?

DAY (ask for the best day to call back) _____________

TIME _______________________

Name of director__________________________

Name of person who you spoke with __________________________

If you are sent to the director: Hi __________ (ask for their name if they do not give it to you when they answer) my name is ______________ and I’m calling on behalf of Dr. Lesli Biediger-Friedman to invite you to participate in a community study on child-care centers about nutrition and we would like to offer you the chance to participate. We would really appreciate your involvement in our study. (at this point continue with the director conversation from below)(They may have a response at this point as well)

Continue here:

May I tell you a little bit more about it?

When you participate in this project you will be given free CE credits, H-E-B gift cards, and some additional long term support.

On your first site visit, 1 or 2 members of our team would come to your center and meet you and your staff. We would like you and each of your staff members to complete a short survey, we would also like to interview you, as well as observe a typical day in your child-care center. After we meet with you, we will be visiting 2 more times in the next 9 months with 1 or 2 people for a total of 3 on site visits. There will be a workshop provided for free CE credits for you and your staff.

In order to participate we need you to be available on the specific dates of the site visits, and attend the workshop.

Do you have any question (their name)____________

Are you interested in participating?

Questions they may ask:

Could you give me more information about the project? The focus of our work is nutrition and physical activity of children who attend child-care. We will use the information that we collect from this study to develop a program that will encourage physical activity and provide optimal nutrition for their development.

How long will you be here? How much time will you take? How much of my time will you need? (During this answer use what you need out of the following information) On the first visit we will need to meet with you for 30-45 minutes. We will also need every employee to fill out a survey which will take about 20 minutes. We are happy to be there before you open in order to not take away time from the children. We will need to stay most of the day for the first visit, but we will not be in your way, we will simply be observing.

What about the other visits? The second visit we won’t need anything from you at all. We will just need to come and observe for the day again. The third visit we will need everyone to fill out another survey which will take about 20 minutes.

What is the workshop? The workshop will be held on Saturday, April the 27th. It will be
covering childhood nutrition. We will be providing classes on childhood nutrition, menu and policy writing.

*If they ask more about the workshop:* It will be several hours long with snacks served at the beginning and lunch at noon. We will also need everyone to fill out a very short survey at the beginning of the day and a little bit longer survey at the end of the day which will take about 20 minutes. After everyone has finished the survey we would like to hear from you, so there will be a short discussion group session held to wrap up the day.

*What is this gift card?* There will be $100 worth of gift cards to HEB given to you for the child-care center throughout the project. After the first visit we will give you $25. After the workshop, another $25, $25 for your 2nd site visit, and $25 for your 3rd site visit.

*What is the support you are talking about?* This is so if you want any help with menu or policy writing after the workshop, it will be easily available to you. Also if you need any help with implementation.

*Do I need to get permission from parents?* We will not be interacting with the children and therefore we will not need parental permission, but feel free to tell the parents about the project if you would like.

*How will my data be kept confidential?* There will not be any identifiable information shared, your information is private. Data will be locked in a file cabinet, in a locked room, and we will only use your information for research purposes.

Would you like to set up a time for us to come to your facility for the initial visit?

What day of the week is best for you? (We cannot do Wednesdays, if Monday it must be 8am or earlier)

What time works best for you; we can come as early as you need ________________

This is the phone number that I have for you (repeat phone number) ________________, is this best number to reach you?

Do you prefer that we contact you via phone or email? ☐ Phone _________

If they say email, get an email address ☐ Email _________

Could I please verify your physical address (state their physical address)(if this is not correct, ask for the correct address)? ________________

If you would like to give me your email address I can send you a more detailed description of the project ________________

We will let you know if for some reason we need to change your appointment.

Thank you for your time, if you have any questions you can contact our lead researcher Kristin Bates at 512-619-3404 or email her at KB47880@txstate.edu. Or you can contact anyone on our team at 512-245-6848 please leave a message if you are not able to reach us and we will return your call as soon as we can.

We look forward to seeing you (their name) ______________ (repeat the date) ______________ at (repeat the time)

*****FILL OUT THE NEXT PAGE WITH NOTES IMMEDIATELY AFTER YOU HANG UP THE PHONE*****
Notes about the call:

Who did you speak with? (name, male/female, etc)

Were they excited? Interested? Uninterested? If uninterested, why?


Anything else you noticed?
2. Consent Form to Participate in a Research Study

**Title: Comprehensive Approach to Combat Obesity in Child-Care Centers**

The project, 2013Q9495, was approved by the Texas State IRB on February 23, 2013. Pertinent questions or concerns about the research, research participants’ rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Jon Lasser (512-245-3413 - lasser@txstate.edu) and to Becky Northcut, Director, Research Integrity & Compliance (512-245-2314 - bnorthcut@txstate.edu).

**Principal Investigator and Contact Information:**

*Texas State University – School of Family & Consumer Sciences*
- Dr. Lesli Biediger-Friedman, RD, MPH, Assistant Professor  
  Phone: 512.245.2621 Email: lb47@txstate.edu
- Dr. Sylvia Crixell, RD, Professor  
  Phone: 512.789.6695 Email: scrixell@txstate.edu
- Dr. BJ Friedman, RD, Professor  
  Phone: 512.245.8342 Email: bf04@txstate.edu
- Kristin Bates, BS, Graduate Student  
  Phone: 512.619-3404 Email: kb47880@txstate.edu

**Funding Sources:**
- Grande Communications® Passion and Commitment Investment Club
- Texas State Research and Enhancement Program Grant

**Directions**

This form gives you information about this research study. Please read this form and ask questions about anything you do not understand. Please ask questions before deciding if you would like to help in this research study. You will get a copy of this form.

**Why are we doing this research study?**

The reason for this study is to learn about child-care centers in the community, including food, activities, practices, and policies that affect children. We also wish to learn about knowledge, thoughts, and ideas of workers. We will use this information to develop and offer a free workshop to offer continuing education (CE) training.

**Why are we asking you to volunteer in this study?**

We are asking you to help in a research study because:
- You are an owner, director, or worker of a child-care center in the community.
- Your experience and thoughts are important.

**What will happen if you help us in this research study?**

1. **Initial Contact (Early Spring 2013).** We will contact you first by phone, email, or by visiting your center. We will explain the study and give you a copy of the consent form.

2. **First Child-Care Center Visit (Early Spring 2013).** We will schedule a 2-4 hour visit to your center, during which we will:
   - Give a 20-minute survey (62 questions) to the owner/director. The survey will ask about the center (size, number and ages of children, hours, policies, personnel) and about knowledge, thoughts, and ideas about child-care.
- Give 20-minute surveys (40 questions) to all workers. The survey will ask about knowledge, thoughts, and ideas about childcare.
- Observe the rooms in the center, including the kitchen, play areas, etc., and fill out research forms. We will also take pictures of where children eat and play.
- Ask for child-care menus from the previous month.
- Ask for written child-care policy/handbook.

3. **Workshop (April 27, 2013).** We will invite you to a workshop that is scheduled on a Saturday. This workshop will include training and provide free DFPS-approved* continuing education (CE) hours. Free snacks and lunch will be provided! For this workshop, we will ask you to bring menus from the previous month and policies from your child-care. During this workshop, we will:
   - Ask you to complete 20-minute surveys (51 questions) about knowledge, thoughts, and ideas about child-care center.
   - Give you feedback information about what we learned about your child-care center during the first visit.
   - Provide training about nutrition and physical activity for children.
   - Provide training about how to write and use policies about nutrition and physical activity in child-care centers.
   - Work together to write menus and policies for your child-care center.

4. **Assistance (Spring-Summer 2013).** After the workshop, we will offer help in writing and using menus and policies.

5. **Second Child-Care Center Visit (Summer 2013).** We will schedule a 2-3 hour meeting during which we will observe your child-care center as we did during the initial visit. We will also ask for child-care menus from the previous month.

6. **Last Child-Care Center Visit (Summer-Fall 2013).** We will schedule one last meeting during which we will give 20-minute surveys (48 questions) to all participants.

*DFPS = Department of Family and Protective Services

**What are the possible risks?**
- There are **no known risks** in this study.
- It is important to know that we are researchers from Texas State University, and are not affiliated with any child-care licensing agency.

**What are the possible benefits to you or to other people?**
- This study may help you improve menus, physical activity practices, and policies in your child-care center.
- Child-Care centers with healthful menus and policies may be designated as “Best Food for Families, Infants, and Toddlers (Best Food FITS)” Child-Care Centers, and provided with Best Food FITS logo stickers and listed on the Best Food FITS web site (http://bestfoodfits.fcs.txstate.edu/).
- Results of this study may be used by other researchers to improve child-care center practices and policies.

**Will you receive compensation for your participation in this study?**
- After the first visit, your center will receive a $25 HEB grocery store gift card.
- At the workshop, you will receive free food and free DFPS-approved* CE hours. Your center will receive a $25 HEB grocery store gift card.
- After the last visit, your center will receive a $25 HEB grocery store gift card.

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How will we protect your privacy and your records?
- Information you provide on surveys will be private. The researchers will replace your name with a number on all electronic files.
- Information about individual child-care centers will be private. Any publications about this research study will not mention centers by name.
- All the records and information you provide will be kept in a locked file cabinet, in a locked room in the Family and Consumer Sciences (FCS) Building at Texas State University.
- All electronic information will be protected by a password known only to researchers.
- Only researchers from Texas State University and the Institutional Review Board have the legal right to look at your records. These people must protect those records by law. Your records will not be released unless you give consent, and unless required by law or a court order.
- If the results of this research study are published or presented at a scientific meeting, we will not identify any person who gave us information.
- By January 2024, after the data from this study are analyzed for research purposes, they will be discarded.

Will the researchers get anything from your help in this study?
The researchers will not benefit from the study except to publish or present the results.

If you have any questions about this study or your rights
- Contact Dr. Jon Lasser, Institutional Review Board chair at 512.245.3413 or lasser@txstate.edu or Ms. Becky Northcutt, Compliance Specialist at 512.245.2102.

What if you don’t want to continue in the study?
- If you decide to help in this study, it is on a volunteer basis.
- You have the right to refuse to be in this study.
- You can stop at any time, even after giving your consent.
- The study investigators may stop you from taking part in this study at any time if they decide it is in your best interest, or if you do not follow study instructions.

We will give you a copy of this consent form to keep.

If you’re willing to volunteer for this research, please sign below.

Statement of Consent:
I have read the above information and clearly understand my role as a participant in the study. I have asked questions and have received answers. I, ______________________, consent to participate in the study.

Signature: ________________________________ Date: _______________

Signature of Investigator: ______________________________ Date: ______________
3. Confirmation Call Script

Hello, my name is ____________________ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date) ______________.

Is this the correct email address? ____________________

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director's name), my name is _____________ and I am calling from Texas State University Nutrition and Foods program to confirm our appointment the upcoming visit to your facility, give you some further details of our visit and see if you have any requests of us.

First of all, I have you scheduled for _______. Is this date/time still okay? yes

If not, Why? ____________________

Reschedule: ____________________

Will you (director) be there when we arrive? -

If yes, we will need your consent upon arrival

If no, is there someone else (assistant director, or staff member) to give us consent when we arrive or would you prefer us to reschedule for later that day?

Great (Director's name), now I just wanted to remind you of what we will be doing at our visit. Again, we will be meeting with you for about a 30-40 minute interview, observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. In addition, we will be giving a survey to you and your staff members. I do have a few questions to ask you so that we can be as efficient as possible during our visit. Is that okay? (yes) Okay, great! If no, when would be a good time for me to call you back?

When is lunch served (snack or breakfast if applicable)? ____________________

Would it be better to do the interview with you before or after lunch? ____________________

How many staff will you have (DATE/TIME)? ____________________

Do you have any Spanish-only-speaking staff? ____________________

Do you have any staff that may prefer a Spanish-written survey? ________

If so, how many? ________

Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month’s worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.

Okay, is there anything you need from us? Name tags? ___________ Driver’s License? ___ Other? ________

Okay (Director’s name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!
4. Director Interview Script

Turn recording on and read the statement below.
Hello ___________________ my name is _____________________ and I am going to be interviewing you for Best Food FITS with Child-Care Centers. Please state your name. Do you consent to being recorded? No one outside of our research team will hear this recording. After audio is transcribed we will take out all identifying information names, dates etc and delete original recording. Please answer each question to the best of your ability; there are not right or wrong answers. Please feel free to stop me at any time.

Interview questions with prompts for the director (trying to collect on menus, policies and procedures)

**Menus**

1. Who creates your menus
   a. Do parents have input on what is on the menu?
   b. Can staff provide input for the menus?

2. Do you have a separate menu for children according to their age range?
   a. How long is the menu cycle?
      i. 1 wk., 2 wks., 3 wks., 4 wks., other

3. Are meal times the same every day?
   a. Do children eat all together or in age groups?

4. What jobs are the staff preforming during meal times?

5. Who prepares food provided for meals and snacks?
   a. Are any foods prepared from scratch?
   b. Do you have a providing any of the food for meals or snacks?
   c. Are the children ever involved in the preparations for meals or snacks?
   d. Do the children have lessons involved in food preparation?

6. What type of seasonings do you use?
   a. Pepper?
   b. Salt?
   c. Seasoning packets?
   d. Herbs?

7. How often are fruits provided during the week?
   a. How often are they fresh?
   b. If they are canned, are they packed in syrup or their own juices?
   c. Do you serve fruit juice?
   d. Do you consider fruit juice to be a serving of fruit?

8. How often are vegetables provided during the week?
   a. Are they raw?
   b. How are the vegetables cooked?
      i. In oil?
      ii. In butter?
9. How often during the week are French fries offered?
   a. Are they served with ketchup?

10. How often are chicken nuggets or other fried meats such as fish sticks offered during a week?
    a. Are they served with ketchup or other sauces?

11. What types of whole grains do you provide?
    a. Bread?
    b. Rice?
    c. Pasta?
    d. Crackers?

12. What beverages are served with meals? With snacks?
    a. Juice
    b. Do you serve any of the following: Sunny Delight; Punch; Kool-Aid; Gatorade; Capri Sun
    c. Water
    d. Milk, what type?
       i. Who decides which child gets particular milk?

13. Is water readily available for the children?
    a. Can they access it whenever they want or need to?

14. What is typically offered as a snack?
    a. What types of crackers are offered?
    b. How much are they given?

15. How do you decide what to serve as snacks?
    a. What is the biggest barrier you have to serve a variety of snacks?

16. If a child does not want to eat the food that is provided by the daycare do you let parents bring in their own food?
    a. What foods are allowed to be brought in?
    b. What foods are not allowed to be brought in?
    c. What information do you require before a parent can bring in food?

17. What happens when a child does not finish all of their food?
    a. Do staff encourage them to finish the rest?
    b. Is there a consequence for not finishing their food?
    c. Do staff ask children if they are full before removing the food?

18. Other than positive encouragement do you do anything else to encourage children to eat healthy foods?
    a. If yes, how?
    b. Is encouragement provided about why they should eat healthy foods?

19. Do you have any children that are on a special diet?
a. What are the diets?
b. How do you accommodate their special needs?

20. How are infants fed? Breast milk or formula?
   a. Are babies fed on demand or according to a schedule?

21. Are breastfeeding mothers encouraged to bring breast milk?
   a. Do you provide a place for storage?
   b. Do you record the amount of milk consumed?
   c. Is there a place for mothers to breastfeed on the premises?
   d. Do you think there are barriers to breast milk being brought in or to a mom coming here and feeding their baby?
   e. Do you think these barriers come from staff or parents?

22. Other than formula or breast milk, do you offer cow's milk to children under the age of 1? If so, what kind?
   a. Is there a restriction to how much is offered?

**Physical Activity/Education**

23. Do children participate in physical activity daily?
   a. How long each day?
   b. Is there an area to play inside?

24. Do you target physical activity or help facilitate movement for the following ages?
   a. How are infants encouraged to move?
   b. Toddlers?
   c. Pre-k?

25. In the event of bad weather such as rain or cold, how is physical activity obtained?
   a. Do kids play outdoors if at all possible?
   b. Do the kids play indoors?
   c. Do you have specific indoor activities?
   d. Do you skip physical activity that day?

26. Does staff ever lead games or activities that require physical activity?
   a. Do the children play “tag” or duck-duck goose?
   b. Do staff engage children in physical education?

27. Are there training opportunities provided for staff to learn how to teach physical education?

28. Physical activity education (motor-skill development) is provided for children through a standardized curriculum:
   a. Rarely or never
   b. 1 time per month
   c. 2-3 times per month
d. 1 time per week or more

29. How often is physical activity education offered to parents (workshops, activities and take home materials):
   a. Rarely or never
   b. Less than 1 time per year
   c. 1 time per year
   d. 2 times per year

30. Rate the average activity level of the children on a scale of 1-5

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**Staff Training**

31. Do you provide your staff with training opportunities other than what they receive to obtain their continuing education credits?
   a. Watching videos
   b. Workshops
   c. Stimulated scenarios
   d. Tests
   e. All of the above
   f. Other ______________________

32. How many times in a year are staff required to participate training other than continuing education classes?
   a. Once
   b. Twice
   c. More than twice

33. How long are these training sessions?
   a. Less than an hour
   b. 1-2 hours
   c. 2-3 hours
d. 3-4 hours  
e. More than 4 hours

34. How often are workshops provided for staff?  
   a. Once a year  
   b. Twice a year  
   c. More than twice a year

35. Training opportunities are provided for staff in physical activity (not including playground safety):  
   a. Rarely or never  
   b. Less than 1 time per year  
   c. 1 time per year  
   d. 2 times per year or more

36. Is there any specific nutrition topic that you would like to have discussed in the workshop?  
   a. What about physical activity?  
   b. Would you like for your staff to have more nutrition training?

Policies
1. Is there a written policy on physical activity that covers curriculum, education, and structured staff-led activities? Does it:  
   a. not exist  
   b. Exists informally, but is not written or followed?  
   c. Is written, but not always followed  
   d. Is written, available and followed

2. Do you have a specific written policy regarding parties (i.e. holidays or birthdays)?  
   a. What is your policy regarding what food is allowed to be brought in?  
   b. Do you have a hard time enforcing these policies?  
   c. If yes, how do you enforce them?

3. Is there a written policy that is designed to address breast-feeding practices?

4. Do you feel that there are any difficulties with implementing any of your policies?  
   a. How could these be overcome?

5. Is there any specific nutrition topic that you would like to have discussed in the workshop?  
   a. What about physical activity?  
      i. Would you like for your staff to have more nutrition training?

Is there anything that we haven’t covered that you would like to talk about? Thank you very much for your time.
5. Test 1 - Staff

*When completing the survey, please remember:*

- **Please do not leave any questions unanswered**
- We cannot use the surveys with unanswered questions and you will not be able to participate in the workshop for free continuing education credits.
  - There are no right or wrong answers
  - Follow each question’s specific instructions
  - Answers and name will not appear published anywhere
  - Any identifiable information will be removed from the survey

Thank you for your participation!

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_______________________________
Your title_________________________________
Length of time in this position ______________________
Date_________________________
Child-care facility name________________________________
How long has your child-care center been open? ______________________________

**Feeding Practices:**

1. When caring for children, to help them become happy and healthy eaters:

   *(please check yes or no for the following question about your personal opinions and thoughts)*

   - I let the children eat wherever they want. _______yes
     _______no
   - We eat meals together. _______yes
     _______no
   - I serve all children the same food. _______yes
     _______no
   - I make the children eat foods I think are good for them. _______yes
     _______no
   - I let the children decide whether they want a second helping. _______yes
     _______no
   - I (we) only cook food the children will like. _______yes
     _______no
   - I insist on the children finishing their food before they leave the table. _______yes
     _______no
   - I let the children eat whenever they want. _______yes
     _______no
   - I leave food out on the table so the children can finish later on. _______yes
     _______no
• I let the children decide how much they should eat. ______yes
  ______no
• I encourage the children to eat what I think they should. ______yes
  ______no
• I make the children finish all of their meal before they can have dessert. ______yes
  ______no
• I let the children choose foods that they want from what is served at a meal. ______yes
  ______no
• I let the children eat snacks whenever they want. ______yes
  ______no
• I serve meals at about the same time every day. ______yes
  ______no
• I turn the TV off during mealtime. ______yes
  ______no

2. When feeding children in your care: (please check yes or no for the following question about your personal opinions and thoughts)
• It’s okay to cook different foods for a child if he or she doesn’t like the meal. ______yes
  ______no
• Children are able to decide how much they need to eat at a meal. ______yes
  ______no
• It’s a good idea to let a child decide what foods you should buy, because then he or she will eat them. ______yes
  ______no
• Children should not be allowed to eat whenever they want. ______yes
  ______no
• Child-care givers should make a children eat vegetables even if they don’t like them. ______yes
  ______no
• It’s important for young children to eat meals with the family. ______yes
  ______no
• A child may need to try a food many times before he or she likes it. ______yes
  ______no
• To encourage the child to eat, it’s all right to let him or her eat anywhere he or she wants. ______yes
  ______no
• It’s okay to offer a reward (such as dessert) to get a child to eat. ______yes
  ______no
• Child-care givers should make sure the child doesn’t eat too much. ______yes
  ______no
• Meals and snacks should usually be served at about the same time every day. ______yes
          ______no
• Child-care givers should make sure a child eats even if he/she doesn’t want to. ______yes
          ______no
• Child-care givers should make sure the child finishes everything on his or her plate. ______yes
          ______no

3. What is the most important factor that affects what is on the menu? (age 1 & older) (please circle one)
   • Health
   • CACFP/USDA
   • Filling food
   • Pleasing the parents
   • Not applicable/I don’t know

4. Are there rules regarding children having seconds? (please check all that apply)
   - Anything at anytime
   - Only if they finish some items
   - Only if they finish everything on their plate
   - Not applicable/I don’t know

5. Check which of the following children are allowed to have seconds of: (please check yes or no for the following):
   • Vegetables ______yes
          ______no
   • Crackers ______yes
          ______no
   • Fruit ______yes
          ______no
   • Juice ______yes
          ______no
   • Milk ______yes
          ______no
   • Potatoes ______yes
          ______no
   • Meat ______yes
          ______no
   • Dessert or sweets other than fruit ______yes
          ______no

6. Do you serve food family style? (age 1 & older) (please circle one)
   • No
   • Yes
     o If yes, can children help themselves? (please circle one)
7. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: (age 1 & older) (please check all that apply):
   □ Small serving of new food, taste-test samples
   □ Children help to make the new foods
   □ Routinely put new food that children haven’t been served on the menu
   □ None of the above, we prefer to stick to what we know children will like and eat
   □ Not applicable/I don’t know

8. Children are encouraged by staff to try a new or less favorite food: (please circle one)
   • Rarely or never
   • Some of the time
   • Most of the time
   • All of the time
   • Not applicable/I don’t know

9. Staff join children at the table for meals: (please circle one)
   • Rarely or never
   • Some of the time
   • Most of the time
   • All of the time
   • Not applicable/I don’t know

10. Staff consume the same food and drinks as the children: (please circle one)
    • Rarely or never
    • Some of the time
    • Most of the time
    • All of the time
    • Not applicable/I don’t know

11. Staff eat or drink sweets, soda, and fast food in front of the children: (please circle one)
    • Rarely or never
    • Some of the time
    • Most of the time
    • All of the time
    • Not applicable/I don’t know

12. Staff talk informally with children about trying and enjoying healthy foods: (please circle one)
    • Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

Policies
1. A written policy about food: (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed
   • Is written, but not always followed
   • Is written, available, and followed
   • Not applicable/I don’t know

2. A written policy about children’s birthday parties and holidays: (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed
   • Is written, but not always followed
   • Is written, available, and followed
   • Not applicable/I don’t know

3. A written policy about access to water: (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed
   • Is written, but not always followed
   • Is written, available, and followed
   • Not applicable/I don’t know

4. A written policy on physical activity: (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed
   • Is written, but not always followed
   • Is written, available, and followed
   • Not applicable/I don’t know

5. A written policy about breastfeeding: (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed
   • Is written, but not always followed
   • Is written, available, and followed
   • Not applicable/I don’t know

Policies: Environment
1. Is there a written policy about any signs, posters, books that are displayed in the building? (please circle one)
   • Does not exist
   • Exists informally, but is not written or followed

100
• Is written, but not always followed
• Is written, available and followed
• Not applicable/I don’t know

2. Do you regulate the foods that employees can eat or drink in front of the children? (**please circle one**)
   • Yes
   • No
   • Not applicable/I don’t know

3. Do you regulate statements that employees can make to children about food? (**please circle one**)
   • Yes
   • No
   • Not applicable/I don’t know

6. Are parents involved in developing policies? (**please circle one**)
   • No
   • Yes, please explain
     ____________________________________________
     ____________________________________________
   • Not applicable/I don’t know

7. Meals are served family style (children serve themselves with limited help): (**please circle one**)
   • Rarely or never
   • Some of the time
   • Most of the time
   • All of the time
   • Not applicable/I don’t know

8. Do you provide a designated space for mothers to nurse?
   • If yes, please describe this space
     ____________________________________________
     ____________________________________________
   • If no, please explain
     ____________________________________________
     ____________________________________________
   • Not applicable/I don’t know

9. Children who misbehave are not allowed to play as a punishment: (**please circle one**)
   • Often
   • Sometimes
• Never
• Never and we provide more active play for good behavior
• Not applicable/I don’t know

10. Television and video use consists of the: (please circle one)
• TV/videos turned on for 5 or more hours per week
• TV/videos turned on for 3-4 hours per week
• TV/videos turned on 2 hours per week or less
• TV/videos used rarely or never
• Not applicable/I don’t know

Responsibility Questions
1. What responsibility do you think the child-care center has for feeding children? (please check yes or no for the following)
   • Feed them so they are not hungry _____yes
     _____no
   • Provide a balance of nutrients _____yes
     _____no
   • Feed them as much as possible because they may not get enough food at home _____yes
     _____no
   • Not primary food provider. Children receive most nutrients outside of child-care. _____yes
     _____no

2. What is the child-care center’s responsibility for breastfeeding? (please check yes or no for the following)
   • Encourage moms to come breastfeed during the day _____yes
     _____no
   • Allow moms to come breastfeed during the day _____yes
     _____no
   • Provide a room for moms to breastfeed _____yes
     _____no
   • Make it easy for mom to send breast milk _____yes
     _____no

3. What is the child-care center’s responsibility for children getting physical activity? (please circle one)
   • Provide an environment for the children to play
   • Have staff guided play time
   • Encourage children to stay active during play time
   • Let the children enjoy play time in the way they like
   • Not applicable/I don’t know

Infant Feeding
1. How is infant feeding handled at your child-care facility? (please check all that apply)
   - Mothers have a private area to breastfeed at the center.
   - Parents may provide prepared infant formula.
   - Parents may provide infant formula to be prepared by staff.
   - Mothers may provide breast milk in a bottle.
   - There is a refrigerator for mothers to store breast milk or prepared formula.
   - Parents may bring infant foods for the staff to feed to the child.
   - The center provides baby food for infants before they are 6 months old.
   - The center provides baby food for infants when they are 6-12 months old.
   - Not applicable/I don’t know

2. Which is true about any educational information about infant feeding provided to staff, parents, or both? (please check all that apply)
   - None is provided
   - Information about breastfeeding is provided
   - Information about when and how to introduce first foods and beverages is provided (please provide copies or write in information)
   - Information about adding cereal to the bottle is provided
   - Not applicable/I don’t know.

3. Which of the following is true about breastfeeding and infant formula? (please check ONLY ONE column per statement)
   - May raise IQ level
     - breastfeeding ___ formula ___ neither
   - May lower risk of diabetes
     - breastfeeding ___ formula ___ neither
   - May raise risk of obesity
     - breastfeeding ___ formula ___ neither
   - May lower risk of ear infections
     - breastfeeding ___ formula ___ neither
   - May lower the spread of germs
     - breastfeeding ___ formula ___ neither
   - May lower risk of allergies, eczema, asthma
     - breastfeeding ___ formula ___ neither

4. True or False? (please check true or false for the following)
   - Breastfed babies need extra water. ___ T ___ F
   - Breastfeeding is inconvenient for child-care staff. ___ T ___ F
   - Formula provides the same benefits as breastfeeding. ___ T ___ F

5. Infants 0 – 6 months should have: (please check yes or no for the following)
• Juice ______yes  ______no
• Cereal ______yes  ______no
• Formula ______yes  ______no
• Breast milk ______yes  ______no
• Baby food
  o Stage 1 ______yes  ______no
  o Stage 2 ______yes  ______no

Physical Activity
1. What is the usual total amount of time per day spent in play time? (when all children are moving) (please circle one)
   • 45 or less minutes
   • 46-90 minutes
   • 91-120 minutes
   • 121 minutes or greater
   • Not applicable/I don’t know

2. During active play time, staff: (please circle one)
   • Supervise play only (mostly sit or stand)
   • Sometimes encourage children to be active
   • Sometimes encourage children to be active and join children in active play
   • Often encourage children to be active and join children in active play
   • Not applicable/I don’t know

3. What ways do the children get physical activity? (please check all that apply)
   □ Playing with toys
   □ Walks
   □ Running
   □ Jumping
   □ Playing with balls
   □ Time in the sandbox
   □ Riding a tricycle/bicycle
   □ Time in swings or climbers
   □ Structured physical activity lead by instructor
   □ Jump rope

4. In the event of a weather change such as rain, how is physical activity obtained?
   • Please explain
   __________________________________________________________________________
   ____________________________________________________________
• Not applicable/I don’t know

5. Teacher-led physical activity is provided to all children: (please circle one)
   • 1 time per week or less
   • 2-4 times per week
   • 1 time per day
   • 2 or more times per day
   • Not applicable/I don’t know
6. Test 1 - Director

When completing the survey, please remember:

- Please do not leave any questions unanswered
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  - There are no right or wrong answers
  - Follow each question’s specific instructions
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Thank you for your participation!

This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_________________________________
Your title___________________________________
Length of time in this position____________________
Date________________________________________
Child-care facility name________________________________
How long has your child-care center been open? ______________________________

About Your Child-Care Center:

1. What time does your facility open? (please circle one)
   - Please write in the time _________________

2. What time does your facility close? (please circle one)
   - Please write in the time _________________

3. How many months are you open in a year? _______________

4. How many days in a week do the children attend? (please circle one)
   - 1 day a week
   - 2 days a week
   - 3 days a week
   - 4 days a week
   - 5 days a week
   - 6 days a week
   - 7 days a week

5. What ages do you admit into your facility? (please check all that apply)
   - 0 - 3 months
   - 4 – 7 months
   - 8 – 11 months
   - 1 – 2 years
   - 3 – 5 years
   - Afterschool program
6. What is the youngest age your facility accepts? _____

7. What is the oldest age your facility accepts? _____

8. How many children does your facility currently serve? _____

9. What is the maximum capacity of your facility? _____

10. How many classrooms do you have? _____

11. How many infants per classroom_____, toddlers per classroom ______, pre-K children per classroom ______

12. What is the total number of hired staff (including directors and their assistants, teachers, cooks, housekeeping, administrative staff)? ______

13. What is the total number of volunteer staff (including nursing and early childhood development students)? _____

14. Please describe who prepares food for your facility (for example; you, classroom teachers, cook, or all of these)? __________________________

15. What is the total number of teachers in your facility? _____

16. How many teachers have an associate’s degree? _____

17. How many teachers have a bachelor’s degree? _____

18. Who approves your menus (please circle one)
   - Director
   - Kitchen manager/ nutritionist
   - The company that supplies your food
   - A Registered Dietitian
   - Other: __________________________

19. How often do you create your menus? (please circle one)
   - Once a month
   - Once a week
   - Seasonally
   - 6-8 week cycle

20. What type of help do you get in writing your menu? (please circle one)
   - Registered Dietitian
   - Use previous menus
   - Use menu examples provided by others
   - Internet

21. Does your facility receive CACFP (USDA) funding for food? _____
22. Does your facility have a policy and procedure manual (other than a CACFP/USDA/licensing manual)? ______

Feeding Practices:
13. When caring for children, to help them become happy and healthy eaters:
   (please check yes or no for the following question about your personal opinions and thoughts)
   - I let the children eat wherever they want. ______ yes
     ______ no
   - We eat meals together. ______ yes
     ______ no
   - I serve all children the same food. ______ yes
     ______ no
   - I make the children eat foods I think are good for them. ______ yes
     ______ no
   - I let the children decide whether they want a second helping. ______ yes
     ______ no
   - I (we) only cook food the children will like. ______ yes
     ______ no
   - I insist on the children finishing their food before they leave the table. ______ yes
     ______ no
   - I let the children eat whenever they want. ______ yes
     ______ no
   - I leave food out on the table so the children can finish later on. ______ yes
     ______ no
   - I let the children decide how much they should eat. ______ yes
     ______ no
   - I encourage the children to eat what I think they should. ______ yes
     ______ no
   - I make the children finish all of their meal before they can have dessert. ______ yes
     ______ no
   - I let the children choose foods that they want from what is served at a meal. ______ yes
     ______ no
   - I let the children eat snacks whenever they want. ______ yes
     ______ no
   - I serve meals at about the same time every day. ______ yes
     ______ no
   - I turn the TV off during mealtime. ______ yes
     ______ no

14. When feeding children in your care: (please check yes or no for the following question about your personal opinions and thoughts)
• It’s okay to cook different foods for a child if he or she doesn’t like the meal. ______yes ______no
• Children are able to decide how much they need to eat at a meal. ______yes ______no
• It’s a good idea to let a child decide what foods you should buy, because then he or she will eat them. ______yes ______no
• Children should not be allowed to eat whenever they want. ______yes ______no
• Child-care givers should make a children eat vegetables even if they don’t like them. ______yes ______no
• It’s important for young children to eat meals with the family. ______yes ______no
• A child may need to try a food many times before he or she likes it. ______yes ______no
• To encourage the child to eat, it’s all right to let him or her eat anywhere he or she wants. ______yes ______no
• It’s okay to offer a reward (such as dessert) to get a child to eat. ______yes ______no
• Child-care givers should make sure the child doesn’t eat too much. ______yes ______no
• Meals and snacks should usually be served at about the same time every day. ______yes ______no
• Child-care givers should make sure a child eats even if he/she doesn’t want to. ______yes ______no
• Child-care givers should make sure the child finishes everything on his or her plate. ______yes ______no

15. What is the most important factor that affects what is on the menu? (age 1 & older) (please circle one)
• Health
• CACFP/USDA
• Filling food
• Pleasing the parents
• Not applicable/I don’t know
16. Are there rules regarding children having seconds? *(please check all that apply)*
   - Anything at anytime
   - Only if they finish some items
   - Only if they finish everything on their plate
   - Not applicable/I don’t know

17. Check which of the following children are allowed to have seconds of: *(please check yes or no for the following)*:
   - Vegetables ______yes ______no
   - Crackers ______yes ______no
   - Fruit ______yes ______no
   - Juice ______yes ______no
   - Milk ______yes ______no
   - Potatoes ______yes ______no
   - Meat ______yes ______no
   - Dessert or sweets other than fruit ______yes ______no

18. Do you serve food family style? *(age 1 & older) (please circle one)*
   - No
   - Yes
     - If yes, can children help themselves? *(please circle one)*
       - Yes
       - No
   - Not applicable/I don’t know

19. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: *(age 1 & older) (please check all that apply):*
   - Small serving of new food, taste-test samples
   - Children help to make the new foods
   - Routinely put new food that children haven’t been served on the menu
   - None of the above, we prefer to stick to what we know children will like and eat
   - Not applicable/I don’t know

20. Children are encouraged by staff to try a new or less favorite food: *(please circle one)*
   - Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

21. Staff join children at the table for meals: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

22. Staff consume the same food and drinks as the children: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

23. Staff eat or drink sweets, soda, and fast food in front of the children: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

24. Staff talk informally with children about trying and enjoying healthy foods: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don’t know

Policies
11. A written policy about food: (please circle one)
• Does not exist
• Exists informally, but is not written or followed
• Is written, but not always followed
• Is written, available, and followed
• Not applicable/I don’t know

12. A written policy about children’s birthday parties and holidays: (please circle one)
• Does not exist
13. A written policy about access to water: (please circle one)
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don’t know

14. A written policy on physical activity: (please circle one)
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don’t know

15. A written policy about breastfeeding: (please circle one)
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available, and followed
   - Not applicable/I don’t know

Policies: Environment
4. Is there a written policy about any signs, posters, books that are displayed in the building? (please circle one)
   - Does not exist
   - Exists informally, but is not written or followed
   - Is written, but not always followed
   - Is written, available and followed
   - Not applicable/I don’t know

5. Do you regulate the foods that employees can eat or drink in front of the children? (please circle one)
   - Yes
   - No
   - Not applicable/I don’t know

6. Do you regulate statements that employees can make to children about food? (please circle one)
   - Yes
   - No
   - Not applicable/I don’t know
16. Are parents involved in developing policies? *(please circle one)*
   - No
   - Yes, please explain
     ____________________________________________________________
     ____________________________________________________________
   - Not applicable/I don’t know

17. Meals are served family style (children serve themselves with limited help): *(please circle one)*
   - Rarely or never
   - Some of the time
   - Most of the time
   - All of the time
   - Not applicable/I don’t know

18. Do you provide a designated space for mothers to nurse?
   - If yes, please describe this space
     ____________________________________________________________
     ____________________________________________________________
   - If no, please explain
     ____________________________________________________________
     ____________________________________________________________
   - Not applicable/I don’t know

19. Children who misbehave are not allowed to play as a punishment: *(please circle one)*
   - Often
   - Sometimes
   - Never
   - Never and we provide more active play for good behavior
   - Not applicable/I don’t know

20. Television and video use consists of the: *(please circle one)*
   - TV/videos turned on for 5 or more hours per week
   - TV/videos turned on for 3-4 hours per week
   - TV/videos turned on 2 hours per week or less
   - TV/videos used rarely or never
   - Not applicable/I don’t know

**Responsibility Questions**

4. What responsibility do you think the child-care center has for feeding children? *(please check yes or no for the following)*
   - Feed them so they are not hungry _______yes
   _______no
• Provide a balance of nutrients ______yes
   ______no
• Feed them as much as possible because they may
  not get enough food at home ______yes
  ______no
• Not primary food provider. Children receive most
  nutrients outside of child-care. ______yes
  ______no

5. What is the child-care center’s responsibility for breastfeeding? (please check yes or no for the following)
   • Encourage moms to come breastfeed during the day ______yes
     ______no
   • Allow moms to come breastfeed during the day ______yes
     ______no
   • Provide a room for moms to breastfeed ______yes
     ______no
   • Make it easy for mom to send breast milk ______yes
     ______no

6. What is the child-care center’s responsibility for children getting physical activity? (please circle one)
   • Provide an environment for the children to play
   • Have staff guided play time
   • Encourage children to stay active during play time
   • Let the children enjoy play time in the way they like
   • Not applicable/I don’t know

Infant Feeding
6. How is infant feeding handled at your child-care facility? (please check all that apply)
   □ Mothers have a private area to breastfeed at the center.
   □ Parents may provide prepared infant formula.
   □ Parents may provide infant formula to be prepared by staff.
   □ Mothers may provide breast milk in a bottle.
   □ There is a refrigerator for mothers to store breast milk or prepared formula.
   □ Parents may bring infant foods for the staff to feed to the child.
   □ The center provides baby food for infants before they are 6 months old.
   □ The center provides baby food for infants when they are 6-12 months old.
   □ Not applicable/I don’t know

7. Which is true about any educational information about infant feeding provided to staff, parents, or both? (please check all that apply)
   □ None is provided
   □ Information about breastfeeding is provided
   □ Information about when and how to introduce first foods and beverages is provided (please provide copies or write in information)
Information about adding cereal to the bottle is provided  
□ Not applicable/I don’t know.

8. Which of the following is true about breastfeeding and infant formula? (please check ONLY ONE column per statement)
   - May raise IQ level
     □ breastfeeding  □ formula  □ neither
   - May lower risk of diabetes
     □ breastfeeding  □ formula  □ neither
   - May raise risk of obesity
     □ breastfeeding  □ formula  □ neither
   - May lower risk of ear infections
     □ breastfeeding  □ formula  □ neither
   - May lower the spread of germs
     □ breastfeeding  □ formula  □ neither
   - May lower risk of allergies, eczema, asthma
     □ breastfeeding  □ formula  □ neither

9. True or False? (please check true or false for the following)
   - Breastfed babies need extra water. □ T □ F
   - Breastfeeding is inconvenient for child-care staff. □ T □ F
   - Formula provides the same benefits as breastfeeding. □ T □ F

10. Infants 0 – 6 months should have: (please check yes or no for the following)
    - Juice □ yes □ no
    - Cereal □ yes □ no
    - Formula □ yes □ no
    - Breast milk □ yes □ no
    - Baby food
      - Stage 1 □ yes □ no
      - Stage 2 □ yes □ no

Physical Activity
   - What is the usual total amount of time per day spent in play time? (when all children are moving) (please circle one)
     □ 45 or less minutes
7. During active play time, staff: (please circle one)
   - Supervise play only (mostly sit or stand)
   - Sometimes encourage children to be active
   - Sometimes encourage children to be active and join children in active play
   - Often encourage children to be active and join children in active play
   - Not applicable/I don't know

8. What ways do the children get physical activity? (please check all that apply)
   - Playing with toys
   - Walks
   - Running
   - Jumping
   - Playing with balls
   - Time in the sandbox
   - Riding a tricycle/bicycle
   - Time in swings or climbers
   - Structured physical activity lead by instructor
   - Jump rope

9. In the event of a weather change such as rain, how is physical activity obtained?
   - Please explain
     __________________________________________________________
     __________________________________________________________
   - Not applicable/I don't know

10. Teacher-led physical activity is provided to all children: (please circle one)
    - 1 time per week or less
    - 2-4 times per week
    - 1 time per day
    - 2 or more times per day
    - Not applicable/I don't know
7. Environmental Assessment Tool

**Kitchen Area**

*Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.*

**Terms:** Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

- [ ] Not Applicable

**REFRIGERATOR**
- [ ] There is no refrigerator

1. How large is the refrigerator?
  - [ ] Please measure the refrigerator with the measuring tape and write down the measurements.

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<td>Total Area</td>
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<td>Fruit storage</td>
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<td>Vegetable storage</td>
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<td>Sweetened beverages</td>
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<tr>
<td>Milk</td>
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</table>
  - Whole
  - Low-fat
  - Skim

2. Do you see fresh **FRUIT**?
- [ ] No
- [ ] Yes
  - [ ] What kind of **FRESH FRUIT** do you see? (please check all that apply)
    - [ ] Apples
    - [ ] Oranges
    - [ ] Bananas
    - [ ] Grapes
    - [ ] Melon
    - [ ] Peaches
    - [ ] Berries
    - [ ] Pineapple
    - [ ] Other: __________

  - Total number of types of fresh fruit: ________

3. Do you see **FRESH VEGETABLES**?
- [ ] No
- [ ] Yes
  - [ ] What kind of fresh vegetables do you see? (please check all that apply)
    - [ ] Carrots
    - [ ] Squash
    - [ ] Celery
    - [ ] Leafy Greens
    - [ ] Lettuce (iceberg)
    - [ ] Cauliflower
    - [ ] Cucumber
    - [ ] Broccoli
    - [ ] Peppers
☐ Other:   

☐ __________ Total number of types of fresh vegetables

**Refrigerator/Freezer Combo**

☐ There is no refrigerator/freezer combo

4. How large is the refrigerator/freezer combo

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<td>Freezer fruit storage</td>
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<td>Vegetable storage</td>
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<td>Skim</td>
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</table>

5. Do you see fresh **FRUIT**?

☐ No

☐ Yes

- What kind of **FRESH FRUIT** do you see? (please check all that apply)
  - ☐ Apples
  - ☐ Grapes
  - ☐ Pineapple
  - ☐ Orange
  - ☐ Melon
  - ☐ Peaches
  - ☐ Other:   

☐ __________ Total number of types of fresh fruit

6. Do you see **FRESH VEGETABLES**?

☐ No

☐ Yes

- What kind of fresh vegetables do you see? (please check all that apply)
7. Do you see **FROZEN FRUIT** in the freezer?
   - No
   - Yes
     - What kind of frozen fruit do you see? (please check all that apply)
       - Berries
       - Peaches
       - Cherries
       - Mixed
       - Fruit Juice
       - Other:____

     _________Total number of types of frozen fruit

8. Do you see **FROZEN VEGETABLES** in the freezer?
   - No
   - Yes
     - What kind of frozen vegetables do you see? (please check all that apply)
       - Corn
       - Green Beans
       - Carrots
       - Potatoes
       - Broccoli
       - Other:____

     _________Total number of types of frozen vegetables

**Box FREEZER**
- There is no box freezer

9. How large is the freezer

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<tbody>
<tr>
<td>Total Area</td>
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<tr>
<td>Fruit storage</td>
<td></td>
</tr>
<tr>
<td>Vegetable storage</td>
<td></td>
</tr>
<tr>
<td>Sweetened beverages</td>
<td></td>
</tr>
</tbody>
</table>

10. Do you see **FROZEN FRUIT** in the freezer?
    - No
    - Yes
      - What kind of frozen fruit do you see? (please check all that apply)
        - Berries
        - Peaches
        - Cherries
Mixed Fruit Juice Other:___

__________Total number of types of frozen fruit

11. Do you see FROZEN VEGETABLES in the freezer?
  □ No
  □ Yes
  ▪ What kind of frozen vegetables do you see? (please check all that apply)
    □ Corn
    □ Carrots
    □ Other:___
    □ Green
    □ Potatoes
    □ Broccoli

__________Total number of types of frozen vegetables

DRIY STORAGE
  □ There is no dry storage

12. How large is the dry storage space. (please check all that apply)
    Length  Width
    Fruit storage
    Vegetable storage
    Sweetened beverages

13. Do you see CANNED VEGETABLES anywhere?
  □ No
  □ Yes
  ▪ What kind of canned vegetables do you see? (please check all that apply)
    □ Corn
    □ Tomatoes
    □ Other:___
    □ Carrots
    □ Mixed Vegetables
    □ Green Beans
    □ Peas

__________Total number of types of canned vegetables

14. Do you see CANNED FRUIT anywhere?
  □ No
  □ Yes
  ▪ What kind of canned fruit do you see? (please check all that apply)
    □ Peaches
    □ Juice
    □ Mixed Fruit
    □ Cherries
    □ Apple Sauce
    □ Other:___
    □ Oranges
    □ Apples
15. Do you see dried or DEHYDRATED FRUIT?

- No
- Yes

- What kind of dried fruit do you see? (please check all that apply)
  - Apricots
  - Pineapple
  - Raisins

16. Are there unhealthy snacks or sodas stored in the kitchen for the staff?

***Please ask the director/ kitchen manager***

- No
- Yes

- What kind of snack or sodas?
  - Soda
  - Chips
  - Candy
  - Cookies
  - Crackers (cheez-it, goldfish, etc)
  - Other:

17. Are there unhealthy snacks or sodas stored in the kitchen for the children?

- No
- Yes

- What kind of snack or sodas?
  - Soda
  - Chips
  - Candy
  - Pop-tarts
  - Cookies
  - Snack Bars
  - Crackers
  - Other:

GENERAL SPACE
18. Is there a stove?

- Yes
- No

19. Is there an oven?

- Yes
- No

20. Is there a fryer?

- Yes
- No

21. Is there a microwave oven?

- Yes
- No

22. Describe the overall cooking space.

- Not enough space to do scratch cooking
- Large enough to do scratch cooking for the entire day care
23. Is there a recipe book?
   □ Yes  □ No

24. Is there a menu posted in the kitchen?
   □ Yes  □ No

25. Are there any nutritional information posters or food safety documents posted (hand washing, food temperatures, etc.)?
   □ No
   □ Yes
   ▪ Please describe them
     ________________________________________________________________
     ________________________________________________________________
     ________________________________________________________________
     ________________________________________________________________

Please take 2-4 pictures of the kitchen at least one of the refrigerator and one of the dry storage and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!
1.____________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

2.____________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

3.____________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________

4.____________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
   ________________________________________________________________
Cafeteria/Eating Area (lunch)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.

Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. How was lunch served? (please check all that apply)
   Family Style?
   Infant   Toddler   Pre-K
   ☐ No

2. Did staff push children to eat more than they want to? (watch a group from start to finish of meal)
   ☐ Yes
   Comments:
   __________________________
   __________________________
   __________________________
   __________________________
   __________________________
   __________________________
   ☐ No

3. Did you observe seconds being consumed?
   ☐ Yes
   - How did the children get the seconds?
     ☐ Themselves       ☐ Staff
   ☐ No

3. Did staff serve children second helpings without being asked for more by the child? (see an empty plate and add food without request by child)
   ☐ Yes
What did they give? (please check all that apply)

- Everything being served that day
- More vegetables
- More meat
- More fruit
- Other: ________________

No

4. Did staff encourage children to try new or less favorite foods?

- Yes
- No

Comments:

_________________________________________________________
_________________________________________________________
_________________________________________________________
_________________________________________________________
_________________________________________________________
_________________________________________________________

Child resisted eating but was not encouraged

5. Are children told to or encouraged to finish their plate?

- Yes
- No

Comments:

_________________________________________________________________
_________________________________________________________________
_________________________________________________________________
_________________________________________________________________

6. Was food used to control behavior?

- Yes
- No

What type of behavior? (please check all that apply)

- Yelling
- Crying
- Screaming
- Children fighting
- Other: ________________

No
7. Did staff sit with children during lunch?
   - No
   - Yes
     - Did staff consume the same food as children?
       - Yes
       - No
     - Did they eat something other than what was served to the children?
       - Yes
       - No

8. Did staff eat and/or drink less healthy foods in front of children?
   - No
   - Yes
     - What did they eat and/or drink? (please check all that apply)
       - Chips
       - Sugar
       - Sweetened Beverages
       - Crackers
       - Fast Food
       - Cookies
       - Other: __________

9. Did staff talk with children about healthy foods?
   - Yes
   - No
   Comments:
     ______________________________________________________________
     ______________________________________________________________
     ______________________________________________________________
     ______________________________________________________________
     ______________________________________________________________

10. Are the chairs the appropriate height for the children?
    - Yes
    - No
      - Too tall? (children could barely reach to eat)
      - Too short? (children were hunched over to eat)

11. How many tables are in the eating area?
    - Please write a number
      - How many chairs are in the cafeteria?
        - What is the adult to child ratio?
        - Did they have enough space between each child to be able to comfortably move?
          - Yes
12. Where any environmental meal-time barriers present?
☐ No
☐ Yes
☐ Television/Visual distractions
☐ Auditory distractions (distant tv/loud music)
☐ Inadequate lighting
☐ Hostility/hurrienedness of staff
☐ High activity near eating
☐ Other:_______________________________________________

13. How did the children behave during meal time?
☐ Good, the eating environment was calm and the children engaged with eating.
☐ Children engaged with eating, however, the eating environment had many disruptions, noise volume was high, or there were a few behavior issues.
☐ Children did not engage well with eating, but the eating environment was calm
☐ Little eating took place and frequent unruly behavior observed of children

14. Was food served same as the scheduled menu?
☐ Yes
☐ No

15. What was served for lunch? (please write it out)
______________  ______________  ______________
______________  ______________  ______________
______________  ______________  ______________

16. Was there a vegetable (other than potatoes) offered?
☐ No
☐ Yes (please check all that apply)
☐ Corn
☐ Peas
☐ Carrots
☐ Green Beans
Mixed Veggies  □ Squash  □ Other: ____
Broccoli  □ Squash  □ Other: ____

17. Was fried food offered? (please check all that apply)
□ No
□ Fried Chicken (chicken nuggets, strips, etc)
□ Fried Fish (fish sticks)
□ Other: ____

18. Was fruit offered?
□ No
■ Yes (please check all that apply)
□ Apples
□ Oranges
□ Bananas
□ Peaches
□ Berries
□ Other: ____

19. What beverage was offered?
□ Please check all that apply
□ Milk
□ Sugar
□ 100% Juice
□ Beverages
□ Water
□ Other: ____

20. Is juice offered? (is it 100% juice)
□ No
□ Yes, it is offered
□ Yes, it is 100% fruit juice?
■ What kind of 100% fruit juice is offered? (please check all that apply)
□ Cranberry
□ Orange
□ Other: ____
□ Apple
□ Grape

□ No, it is not 100% fruit juice
■ What kind of juice that is not 100% fruit juice is offered? (please check all that apply)
□ Fruit punch
□ Sunny
□ Other: ____
Please take 2-4 pictures of the cafeteria/eating area and describe each picture that you take.

**DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

1. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

2. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

3. ______________________________________________________________________
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4. ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________
   ______________________________________________________________________

---

**Snack Time** (if applicable)

*Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.*

**Terms:**  
- **Infant:** 6 wks-15 months.  
- **Toddler:** 16 months – 24 months.  
- **Pre-K:** 25 months – 5 yrs

- □ Not Applicable

1. How was snack served? (please check all that apply)

   - Family Style?  
   - Did children serve themselves?  
   - Delivered in bulk/portioned by staff

<table>
<thead>
<tr>
<th>Infant</th>
<th>Toddler</th>
<th>Pre-K</th>
<th>□ Other:</th>
</tr>
</thead>
<tbody>
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</tbody>
</table>
2. Did staff push children to eat more than they want to? (watch a group from start to finish of meal)
   □ Yes □ No
   Comments:
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
3. Did you observe seconds being consumed?
   □ Yes  □ No
   □ How did the children get the seconds?
     □ Themselves □ Staff

4. Did staff serve children second helpings without being asked for more by the child? (see an empty plate and add food without request by child)
   □ Yes  □ No
   □ What did they give? (please check all that apply)
     □ Everything being served that day □ More vegetables □ More fruit
     □ More meat □ Other: ____________

5. Did staff encourage children to try new or less favorite foods?
   □ Yes  □ No
   Comments:
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
   □ Child resisted eating but was not encouraged

6. Are children told to or encouraged to finish their snack?
   □ Yes  □ No
   Comments:
7. Was food used to control behavior?
   - Yes
     - What type of behavior? (please check all that apply)
       - Yelling
       - Crying
       - Screaming
       - Childre n fighting
       - Other: ___
   - No

8. Did staff sit with children during snack?
   - No
   - Yes
     - Did staff consume the same food as children?
       - Yes
       - No
     - Did they eat something other than what was served to the children?
       - Yes
       - No

9. Did staff eat and/or drink less healthy foods in front of children?
   - No
   - Yes
     - What did they eat and/or drink? (please check all that apply)
       - Chips
       - Sugar
       - Sweetened Beverages
       - Crackers
       - Fast Food
       - Cookies
       - Other: ___

10. Did staff talk with children about healthy foods?
    - Yes
    - No
    Comments:
    ____________________________________________________________
    ____________________________________________________________
    ____________________________________________________________
11. Are the chairs the appropriate height for the children?
☐ Yes
☐ No
☐ Too tall? (children could barely reach to eat)
☐ Too short? (children were hunched over to eat)

12. How many tables are in the eating area?
☐ Please write a number

☐ How many chairs are in the cafeteria?

☐ What is the adult to child ratio?

☐ Did they have enough space between each child to be able to comfortably move?
☐ Yes
☐ No (please check all that apply)
☐ They couldn’t move their arms much
☐ One child was partially on another child’s chair
☐ Other:______________________________

13. Where any environmental meal-time barriers present?
☐ No
☐ Yes
☐ Television/Visual distractions
☐ Auditory distractions (distant tv/loud music)
☐ Inadequate lighting
☐ Hostility/hurriedness of staff
☐ High activity near eating
☐ area (play room visible to children or similar)
☐ Other:____

14. How did the children behave during snack time?
☐ Good, the eating environment was calm and the children engaged with eating.
☐ Children engaged with eating, however, the eating environment had many disruptions, noise volume was high, or there were a few behavior issues.
☐ Children did not engage well with eating, but the eating environment was calm
☐ Little eating took place and frequent unruly behavior observed of children
15. Was snack served same as the scheduled menu?
□ Yes □ No

16. What was served for snack? (please write it out)

__________________   __________________   __________________
__________________   __________________   __________________
__________________   __________________   __________________

17. Was there a vegetable (other than potatoes) offered?
□ No
□ Yes (please check all that apply)
□ Corn □ Green Beans □ Broccoli □ Squash □ Other:____
□ Carrots □ Mixed Veggies □
□ Peas □

18. Was fried food offered? (please check all that apply)
□ No
□ Fried (chicken nuggets, strips, dinosaurs, etc)
□ Fried Chicken (chicken nuggets, strips,)
□ Fried Fish (fish sticks)
□ French Fries □
□ Other:____

19. Was fruit offered?
□ No
□ Yes (please check all that apply)
□ Apples □ Peaches □ Other:__
□ Oranges □ Berries □
□ Bananas □

20. Are crackers offered?
□ No
□ Yes (please check all that apply)
□ Goldfish □ Saltines □ Other:__
□ Cheez-Its □

21. What beverage was offered?
□ Yes (please check all that apply)
□ Milk □ Beverage □ Water □ Other:__
□ Sugar □ Sweetened □
□ Sweetened Beverage □ 100% □
□ 100% Juice □
22. Is juice offered? (is it 100% juice)
   □ No
   □ Yes, it is offered
      □ Yes, it is 100% fruit juice?
         □ Cranberry
         □ Orange
         □ Other: ______
         □ Apple
         □ Grape
      □ No, it is not 100% fruit juice
         □ What kind of juice that is not 100% fruit juice is offered? (please check all that apply)
            □ Fruit punch
            □ Sunny delight
            □ Other: ______

23. Is there a sugar-sweetened beverage offered?
   □ No
   □ Yes
      □ What kind of sugar-sweetened beverage is offered? (please check all that apply)
         □ Soda
         □ Gatorade
         □ Kool-aid
         □ Lemonade
         □ Other: ______

24. Is water offered?
   □ Yes
   □ No

25. Is milk offered?
   □ Yes
   □ No

Please take 2-4 pictures of the cafeteria/eating area and describe each picture that you take.

DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

1. __________________________________________________________
2. __________________________________________________________
3. __________________________________________________________
4. __________________________________________________________
Entryway/Hallways/General Shared Spaces
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.

Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Was drinking water for children visible in the entryway?
   ☐ Yes ➞ How accessible was drinking water to children in the classroom?
     ☐ Available for self-service (child-level fountain or pitcher/cups on table)
     ☐ Available by request only
   ☐ No ➞ if no, is there a water fountain in the nearby hallway?
     ☐ Yes ➞ How accessible is this fountain to children?
       ☐ Available by request only (must ask permission to leave classroom)
       ☐ During teacher-designated water breaks
     ☐ No

2. Were soda and other vending machines present?
   ☐ No
   ☐ Yes
      ▪ What type of vending machine is present? (please check all that apply)
☐ Candy       ☐ Soda       ☐ Other:
/Junk food  ☐ Ice Cream

- Where is the vending machine located? (please check all that apply)
  ☐ In front of the building
  ☐ In the entryway
  ☐ In the employee break room
  ☐ Other: __________

- Is the vending machine accessible to children?
  ☐ Yes
  ☐ No

3. Are there menus posted? (Please take a zoomed in picture of the menu(s) that is posted)
  ☐ No
  ☐ Yes
    - Is it a current menu?
      ☐ Yes
      ☐ No

4. Are there informational pamphlets available?
  ☐ No
  ☐ Yes
    - What kinds of pamphlets are present? (please check all that apply)
      ☐ Nutrition information
      ☐ Breastfeeding information
      ☐ Physical activity information
      ☐ Other________________________

5. Is there a schedule of daily activities posted?
  ☐ No
  ☐ Yes
    - Is it a current schedule?
      ☐ Yes
      ☐ No

6. Is there a message board?
  ☐ No
  ☐ Yes
    - What messages are on the board? (please check all that apply)
      ☐ Business flyers
      ☐ For sale flyers
      ☐ Animal posts
      ☐ Other:____

7. Are there rules posted?
  ☐ No
  ☐ Yes
    - What rules are posted? (please check all that apply)
8. Are policies posted? (Please take a zoomed in picture of the menu(s) that is posted)
   □ No
   □ Yes
   □ What policies are posted? (please check all that apply)
     □ Physical activity
     □ Breastfeeding
     □ Nutrition
     □ Holiday parties
     □ Other:

9. Is there a schedule of when parents are bringing in any food or a sign in sheet to bring in food?
   □ No
   □ Yes
   □ What is the schedule for? (please check all that apply)
     □ Holiday parties
     □ Birthdays
     □ Snack sign up
     □ Other:

Please take 2-4 pictures of the entryway/hallway/shared space and describe each picture that you take.

DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

1. __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

2. __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
Classroom/Learning Area (Infants)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Was a TV present in the room?
   ☐ No
   ☐ Yes
     • Was the TV on?
       ☐ Yes  ☐ No

2. Was TV viewing observed?
   ☐ Yes  ☐ No

3. Was a computer present in the room for use by children?
   ☐ Yes  ☐ No

4. Was video game or computer game playing observed?
   ☐ Yes  ☐ No

5. Were any posters, pictures or books very obviously displayed about physical activity present in the room?
   ☐ No
   ☐ Yes - > How many?
6. Were any posters, pictures or books very obviously displayed about nutrition present in the observation room?
   □ No
   □ Yes -> How many?
      □ Pictures □ Books □ Other
      _____    _____    (Describe)
      □ Posters    _____

7. Is there a schedule of daily activities posted?
   □ Yes    □ No

8. Do children eat in the classroom?
   □ Yes    □ No

9. Is there food in the classroom?
   □ Yes    □ No
      ▪ Do the children have free access to the food and what is the food?
         □ Yes
         □ Food__________________________________________________________
            □ No

10. Is there water in the classroom?
    □ Yes    □ No

11. Are there play opportunities in the classroom?
    □ No
    □ Yes
       □ Large rug to move    □ Toys that encourage movement

Please take 2–4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!

1.______________________________________________________________________
   __________________________
   ________________________________________________________
   ____________________________________________________________________
Classroom/Learning Area (Toddlers)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Was a TV present in the room?
   ☐ No
   ☐ Yes
     • Was the TV on?
       ☐ Yes ☐ No

2. Was TV viewing observed?
   ☐ Yes ☐ No

3. Was a computer present in the room for use by children?
   ☐ Yes ☐ No

4. Was video game or computer game playing observed?
   ☐ Yes ☐ No
5. Were any posters, pictures or books very obviously displayed about physical activity present in the room?
   ☐ No
   ☐ Yes - > How many?
   ☐ Pictures ☐ Books ☐ Other (Describe)
   _____ _____ _____
   ☐ Posters

6. Were any posters, pictures or books very obviously displayed about nutrition present in the room?
   ☐ No
   ☐ Yes - > How many?
   ☐ Pictures ☐ Books ☐ Other (Describe)
   _____ _____ _____
   ☐ Posters

7. Do children eat in the classroom?
   ☐ Yes ☐ No

8. Is there a schedule of daily activities posted?
   ☐ Yes ☐ No

9. Are there play opportunities in the classroom?
   ☐ No
   ☐ Yes
   ☐ Large rug ☐ Toys that facilitate movement to move

10. Is there food in the classroom?
    ☐ Yes - > Do the children have free access to the food and what is the food?
        ☐ Yes ☐ Food_______________________________________________________
        ☐ No

11. Is there water in the classroom?
    ☐ Yes ☐ No

Please take 2–4 pictures of the classroom and describe each picture that you take.
DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!
Classroom/Learning Area (Pre-K)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.
Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Was a TV present in the room?
   ☐ Yes
      • Was the TV on?
        ☐ Yes ☐ No
   ☐ No

2. Was TV viewing observed?
   ☐ Yes ☐ No

3. Was a computer present in the room for use by children?
   ☐ Yes ☐ No
4. Was video game or computer game playing observed?
   □ Yes □ No

12. Were any posters, pictures or books very obviously displayed about physical activity present in the room?
   □ No
   □ Yes - > How many?
     □ Pictures □ Books □ Other
     ________ ________ (Describe)
     □ Posters ________

13. Were any posters, pictures or books very obviously displayed about nutrition present in the room?
   □ No
   □ Yes - > How many?
     □ Pictures □ Books □ Other
     ________ ________ (Describe)
     □ Posters ________

5. Do children eat in the classroom?
   □ Yes □ No

6. Is there a schedule of daily activities posted?
   □ Yes □ No

7. Are there play opportunities in the classroom?
   □ Yes
     □ Large rug to move □ Balls □ Hula hoops
     □ No

8. Is there food in the classroom?
   □ Yes
     ▪ Do the children have free access to the food and what is the food?
       □ Yes
       □ Food________________________________________________________
       □ No
   □ No

9. Is there water in the classroom?
   □ Yes □ No
Please take 2-4 pictures of the classroom and describe each picture that you take. 
**DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

1.______________________________________________________________________
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4.______________________________________________________________________
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Indoor Play Area

Please answer every question as thoroughly as possible. **DO NOT SKIP ANY QUESTIONS.**

**Terms:** Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Is structured physical activity observed?
   ☐ Yes
   ☐ If yes, is staff involved in play time?
   ☐ If yes, how are they involved? (please check all that apply)
   ☐ Run round with the children.
   ☐ They do the same activities as the children do
   ☐ No

2. Do staff direct play time?
☐ No
☐ Yes
  - How do they direct play time? (please check all that apply)
    ☐ Specific games
    ☐ Encourage them to be more involved
    ☐ Tell them where to play

3. Indoor play equipment: (Please place a check for every item that you see)

<table>
<thead>
<tr>
<th></th>
<th>All ages together</th>
<th>Infants</th>
<th>Toddlers</th>
<th>Preschool</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balancing surfaces</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>(balance beams, boards, etc.)</td>
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<tr>
<td>Basketball hoop</td>
<td></td>
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<tr>
<td>Climbing structures</td>
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<tr>
<td>(jungle gyms, ladders, etc.)</td>
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<tr>
<td>Merry-go-round</td>
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<td>Pool</td>
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<td>Sandbox</td>
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<td>See-saw</td>
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<tr>
<td>Swinging equipment</td>
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<td>(swings, rope, etc.)</td>
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<tr>
<td>Path/sidewalk for riding toys</td>
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<tr>
<td>(wagon, scooters, etc.)</td>
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<tr>
<td>Tunnels</td>
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<tr>
<td>Climbing structures</td>
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<tr>
<td>(ladders, jumble gyms, etc.)</td>
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<tr>
<td>Floor play equipment</td>
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<tr>
<td>(tumbling mats, carpet squares, etc.)</td>
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<tr>
<td>Jumping play equipment</td>
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<tr>
<td>(jump ropes, hula hoops)</td>
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<tr>
<td>Parachute</td>
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<td>Push/pull toys (wagon, scooters, etc.)</td>
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<tr>
<td>Riding toys (tricycles, cars, etc.)</td>
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<tr>
<td>Rocking &amp; twisting toys</td>
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<tr>
<td>(rocking horse, sit-n-spin, etc.)</td>
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</tbody>
</table>
Sand/water play toys
(buckets, scoops, shovels, etc.)

Slides

Twirling play equipment
(ribbons, scarves, batons, etc.)

Drinking water available

Please take 2-4 pictures of the classroom and describe each picture that you take. **DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

1. ______________________________________________________________________
   ______________________________________________________________________
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4. ______________________________________________________________________
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**Outside Play Area**

Please answer every question as thoroughly as possible. **DO NOT SKIP ANY QUESTIONS.**

**Terms:** Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs
1. Is structured physical activity observed?
   - Yes
     - If yes, is staff involved in play time?
       - If yes, how are they involved? (please check all that apply)
         - Run round with the children.
         - They do the same activities as the children do
   - No

2. Do staff direct play time?
   - No
   - Yes
     - How do they direct play time? (please check all that apply)
       - Encourage them to be more involved
       - Specific games
       - Tell them where to play
     - N/A

3. Outdoor play equipment: (Please place a check for every item that you see)

<table>
<thead>
<tr>
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<th>All ages together</th>
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<tr>
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<tr>
<td>See-saw</td>
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<td>Slides</td>
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<tr>
<td>Swinging equipment (swings, rope, etc.)</td>
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<tr>
<td>Path/sidewalk for riding toys (wagon, scooters, etc.)</td>
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<tr>
<td>Tunnels</td>
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<td>Climbing structures (ladders, jumble gyms, etc.)</td>
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<tr>
<td>Floor play equipment (tumbling mats, carpet squares, etc.)</td>
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<td></td>
<td></td>
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<tr>
<td>Jumping play equipment</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>
(jump ropes, hula hoops) |   |   |
| Parachute |   |   |
| Push/pull toys (wagon, scooters, etc.) |   |   |
| Riding toys (tricycles, cars, etc.) |   |   |
| Rocking & twisting toys (rocking horse, sit-n-spin, etc.) |   |   |
| Sand/water play toys (buckets, scoops, shovels, etc.) |   |   |
| Twirling play equipment (ribbons, scarves, batons, etc.) |   |   |
| Drinking water available |   |   |

4. Outdoor play space includes:
   - [ ] No open running spaces or path/sidewalk for wheeled toys
   - [ ] Very limited open running space, no path/sidewalk for wheeled toys
   - [ ] Plenty of running space, no path/sidewalk for wheeled toys
   - [ ] Plenty of open running spaces and a path/sidewalk for wheeled toys

Please take 2-4 pictures of the classroom and describe each picture that you take. **DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

1. __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

2. __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

3. __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
Breastfeeding Area (if applicable)
Please answer every question as thoroughly as possible. DO NOT SKIP ANY QUESTIONS.

Terms: Infant: 6 wks-15 months. Toddler: 16 months – 24 months. Pre-K: 25 months – 5 yrs

☐ Not Applicable

1. Is there a designated area for breastfeeding?
   ☐ No
   ☐ Yes
       ▪ Description of this area (please check all that apply)
There is a chair for moms to sit in
☐ The area is well lit
☐ The area is private
☐ Other:______________________________

Please take 2–4 pictures of the breastfeeding area and describe each picture that you take. **DO NOT TAKE PICTURES WITH ANY CHILDREN IN THEM!**

1.______________________________________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________
   ____________________________________________

2.______________________________________________________________________
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3.______________________________________________________________________
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4.______________________________________________________________________
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   ____________________________________________
   ____________________________________________
   ____________________________________________

____________________________
8. Demographic Survey for Workshop

1. What role(s) do you fill in your day care? (Check all that apply)
   - Cook/prepare meals for children
   - Caregiver
   - Director
   - Feed children
   - Other: ____________________

2. What types of education do you have? (Check all that apply)
   - High school degree or an equivalent (GED, etc)
   - Associate’s degree
   - Working on an associate’s degree
   - 4-year college degree
   - Working on a 4-year degree
   - Masters
   - PhD
   - Other: ____________________

3. How many children attend your center?
   - 1-12
   - 13-30
   - 31-50
   - 51-70
   - 71-90
   - 91-110
   - 110+

4. How many years have you worked at a day care center?
   - 1-2
   - 2-5
   - 5-10
   - 10-15
   - 15-20
   - 20+

5. What zip code is your day care center in?
   - 78666
   - 78667
   - 78640
   - 78602
   - Other: _______________
6. What year were you born? __________

7. What ethnicity do you consider yourself?
   - Hispanic or Latino
   - Black or African American
   - White Caucasian
   - Native American, Pacific Islander, Native Alaskan
   - Asian
9. Childhood Nutrition Lecture

NUTRITION

FOR YOUNG CHILDREN
CHILD OBESITY HAS INCREASED IN THE US

TERMS: OBESE AND OVERWEIGHT

An **obese** child has a body mass index (BMI) higher than most (95%) healthy children the same age.

An **overweight** child has a BMI higher than most (85%) healthy children at the same age.
CHILDHOOD OBESITY (& OVERWEIGHT) RATES ARE HIGH

US 1 32.6% (ages 6-11)
Texas 2 39% (8th graders)
San Marcos 3 51% (8th graders)

SAN MARCOS KIDS ARE AT HIGH RISK

San Marcos ISD
• 39% obese
• 14% overweight
53%

Source: Texas Comptroller of Public Accounts, Fitnessgram
WHAT ARE THE CAUSES?

THERE ARE MANY...

IMPACT ON A CHILD’S HEALTH & LIFE

Sad Bullying

Breathing problems
Sleep apnea

Liver disease
Gallstones

Bones

Obesity in adulthood

High blood pressure

Type 2 diabetes

Heart disease

Reproductive problems
CHILDCARE IS SO IMPORTANT!

- 4/5 of pre-K kids of working moms are in some sort of childcare
- 2/3 of moms with a pre-K child need childcare
- 890,227 moms working in TX have children < 6 years old
- > 1 million TX kids need childcare
- 9,528 childcare centers in TX
- 8,528 childcare centers in TX

Child Care in America: 2012 State Fact Sheets
HOW TO BUILD HEALTHY HABITS

- Model good behavior
- Provide a variety of foods
- Start with small portions
- Avoid words that might hinder
- One new food per meal
- Enjoy healthy food

WHAT DO KIDS SEE US DOING?
DEVELOPING TASTE PREFERENCES

many flavors → one flavor → ...goal

BENEFITS OF BREASTFEEDING

Best for Baby
- Amazing Health Benefits
- Brain Power

Best for Mom
- Mother-baby bonding
- Protects against breast & ovarian cancer

Best for Communities
- Fewer sick children
- Less waste
WE CAN TEACH KIDS TO LIKE VEGGIES

- Offer healthy choices
- Offer new foods when child is hungriest
- Offer a new food many, many times
- Encourage children to help prepare snacks
- Cut foods into fun shapes

WHAT SHOULD CHILDREN EAT?
**RECOMMENDATIONS FOR CHILDREN UNDER 2**

- **Breastfeed exclusively for 6 months**
- **No juice under 6 months**
- **No juice needed 6-12 m**
- **6 months - Start complementary foods**
- **After 1 year:**
  - NO juice is needed
  - Offer only 100% fruit juice
  - Limit to 4-6 ounces a day
- **Complementary foods should be fruits, vegetables, cereals, and baby food meats**
- **Complementary foods should be low in sugar, salt, or fat (NO SODAS)**

**MYPLATE FOR CHILDREN OVER 2**

- **Make half of the plate fruits and vegetables**
- **Pick a variety of colors: dark green, red & orange**
- **Don’t choose French fries or potatoes as vegetables**
- **Make at least half of the grains whole grains**
- **Choose fat-free or low fat milk, yogurt, and cheese**
- **Choose lean meat & poultry**
- **Choose fish rich in omega-3**
- **Choose unsalted nuts and seeds**
CACFP

**Breakfast**
- 1 Milk
- 1 Fruit/Vegetable
- 1 Grains/Bread

**Lunch/Supper**
- 1 Milk
- 2 Fruits/Vegetables
- 1 Grain/Bread
- 1 Meat/Meat Alternative

**Snack (pick 2)**
- 1 Milk
- 1 Fruit/Vegetable
- 1 Grain/Bread
- 1 Meat/Meat Alternative

**CACFP MODIFICATIONS**

**MILK:** Nonfat or 1% milk for children 2 years or older

**VEGGIES & FRUITS:** 1 fresh or frozen daily

**Vitamin C:** 1 good source daily

**Vitamin A:** 1 good source 3x a week

**GRAINS:** 1 whole grain daily

**CEREAL:** < 10g of sugar per serving

**VEGGIES & FRUIT:** 2 served @ lunch/supper

**JUICE:** No juice at lunch/supper

**CRACKERS:** limit to 2x a week for snacks
MENUS

Please look at your average menu patterns from your Orange folder.

Typical Meal Pattern on MyPlate

- Protein: 20%
- Fruits: 20%
- Grains: 30%
- Vegetable: 30%

Detailed

- Protein: 20%
- Refined Grains: 15%
- Whole Grains: 15%
- Dark Green: 15%
- Red and Orange: 15%
- Starchy: 0%
- Other Fruits: 6%
- Berries: 6%
- Melons: 8%
MENU ACTIVITY

In groups of 2-3 from your center, use the plates provided. Draw a meal that:
(1) best fits MyPlate and
(2) least fits MyPlate

CHOOSING HEALTHIER ALTERNATIVES – BREAKFAST

- Pancakes: 228 calories – ¼ cup
- Orange Juice: 26 calories – ¼ cup
- 1 medium orange: 30g sugar – 1 cup
- 1 medium orange: 15g sugar – 1 cup
- Rice: 212 mg sodium – 1 cup
- 1 medium bagel: 9 mg sodium – 1 cup
- 1 medium donut: 272 kcal – 1 medium donut
- 1 medium bagel: 139 kcal – 1 medium bagel
BREAKFAST IDEAS

Yogurt Parfait
Banana Dog
Fruit Quesadilla
Breakfast Kabobs
Bagel Face

CHOOSING HEALTHIER ALTERNATIVES – SNACK

25 kcals – 2 crackers
7 kcals – ½ cups (sliced)
271 kcals – 1 bag 1.75 ounces
129 kcals – 8 ounces
13g fat – 1 cup
1g fat – 1 cup
59 kcals added sugar – 1 cupcake
2 kcals added sugar – 1 muffin
SNACK IDEAS

- Veggie Kabob
- Frozen Fruit in Cone
- Fruit & Oat Pop
- "Apple Pie"
- Apple Sauce and Oats

CHOOSING HEALTHIER ALTERNATIVES – LUNCH

<table>
<thead>
<tr>
<th></th>
<th>Calories</th>
<th>Description</th>
<th>Sodium</th>
<th>Fiber</th>
</tr>
</thead>
<tbody>
<tr>
<td>141</td>
<td>1 medium breast</td>
<td>189 kcals – 4 pieces</td>
<td>36 mg</td>
<td>0.5 g</td>
</tr>
<tr>
<td>106</td>
<td>½ cup</td>
<td>106 kcals – ½ cup</td>
<td>36 mg</td>
<td>2 g</td>
</tr>
<tr>
<td>33</td>
<td>¼ cup</td>
<td>33 kcals – ¼ cup</td>
<td>5 mg</td>
<td>0.5 g</td>
</tr>
<tr>
<td>307</td>
<td>½ cup</td>
<td>307 mg sodium – ½ cup</td>
<td>5 mg</td>
<td>2 g</td>
</tr>
</tbody>
</table>

1 slice

-sodium

- fiber
LUNCH IDEAS

Sandwich Sushi

English Muffin Pizza

Veggie Soup

Sandwich on a Stick

DRINKS

Don’t Serve:

Serve:

Nutrients
BACK TO THE MENU
ACTIVITY

• How would you change your menus to more fit to MyPlate?
• Make another plate improve an aspect of your meal.

CONCLUSIONS

• Serve a variety of whole foods
• Model good behavior
• Taste preferences matter
• No sugars sweetened beverages
10. Demographics Form for Focus Groups

Here we have provided you with space to write down any thoughts you were not able to share with the group during the discussion. Please fill out this short questionnaire as well. After the discussion has ended, please leave this paper on your chair. Thank you for your help!

8. What role(s) do you fill in your child-care center? (Check all that apply)
   - Cook/prepare meals for children
   - Caregiver
   - Director
   - Feed children
   - Other: __________

9. What types of education do you have? (Check all that apply)
   - High school degree or an equivalent (GED, etc)
   - Associate's degree
   - Working on an associate's degree
   - 4-year college degree
   - Working on a 4-year degree
   - Masters
   - PhD
   - Other: __________

10. How many children attend your center?
    - Less than 1 year
    - 1-12
    - 13-30
    - 31-50
    - 51-70
    - 71-90
    - 91-110
    - 110+

11. How many years have you worked at a child-care center?
    - 1-2
    - 2-5
    - 5-10
    - 10-15
    - 15-20
    - 20+

12. What zip code is your child-care center in?
    - 78666
    - 76867
    - 76640
    - 78602
    - Other: __________

13. Are you fulltime or part time? (Circle one)
    - Female
    - Male

14. What year were you born? __________

15. What is your sex?
    - Female
    - Male

16. Do children live with you?
    - Yes
    - No

17. What ethnicity do you consider yourself?
    - Hispanic or Latina/o
    - Black or African American
    - White Caucasian
    - Native American, Pacific Islander, Native Alaskan
    - Asian
    - Other: __________
1. Please feel free to take notes and write down anything you were not able to share with the group.

1. **Please share what you do to promote the things we talked about all day?**

2. **When trying to provide good nutrition and health practices in your facility what barriers do you encounter?**

3. **How do you think parents will respond to any menu or policy changes you may make?**

**PLEASE WRITE YOUR ANSWERS TO THE FOLLOWING QUESTIONS BELOW**

How was your experience at the workshop? What did you like or dislike?

What helped you? What did not help you?

Is there anything else you would like us to know about making child-care centers healthier?

Please leave this paper on your seat when the discussion is finished. Thank you for your time!
11. Focus Group Outline
12-15 people ideally, up to 20
After test 2
30-45 minutes

**Group Discussion Script**

**Preliminary Activities** – [10 minutes]
To begin, the moderator will introduce her/himself to the group and pass out a short demographic survey to be filled out. Following this the moderator explains we would now like to learn from them. The moderator will explain that we would like them to share what they currently do and what they recommend to promote the topics discussed during the day (breast feeding, nutrition, and physical activity). We would also like to know what barriers they face when trying to promote healthy activities. Finally, we would like to know what they thought of the workshop.

**Questions** – [20 minutes]
1. **Now that we’ve finished the workshop, please share what you do to promote the things we talked about?**

   **PROMPT:**
   - **Menu**
     - Food on menus
     - Drinks provided
   - **Policy**
     - For children
     - For staff
   - **Physical activity**
   - **Breastfeeding**
   - **Mealtime practices**

   *Questions that may promote discussion*
   a. What do you think is working well?
   b. What do you think could be improved?
   c. Have you learned anything today that you would like to implement at your childcare center?
   d. What is one thing you do to encourage nutrition in your day care?

2. **When trying to provide good nutrition and health practices in your facility what barriers do you encounter?**

   **PROMPT:**
• Parents (sending unhealthy foods, having limited knowledge)
• Healthy food is too expensive
• Hard to buy healthier foods
• Hard to cook healthy foods in amount needed
• Taste preferences of children

Questions to promote discussion of above
a. How can you address these barriers?
b. What does your childcare center do to work with parents on eating and physical activity habits?
c. How can we help you with any barriers you are experiencing with parents?

3. How do you think parents will respond to any menu or policy changes you may make?

Questions to promote discussion of above
a. Are parents currently interested in menus and policy? ii.
b. Will parents approve? Disapprove? Not care?
c. What does your childcare center do to work with parents on eating and physical activity habits?
d. What type of activities and information would parents be open to? What kinds of things would you recommend doing to get parents involved?
e. Can we help you with any barriers you are experiencing with parents?

CONCLUSION

Moderator will then ask participants if they have any other questions, thank them for their time, and direct them to the concluding activity.

12. Workshop Evaluation Tool
Name: _________________________________________________________
Email address: ________________________________________________
Child Care Center Name: ________________________________________
Menu Analysis Evaluation:
Now that you have viewed the Menu Analysis for your childcare facility, which of the food groups do you think need the most improvement? Rank in order from 1 (needs most improvement) – 5.
- Grains
- Fruits
- Vegetables
- Dairy
- Protein
Please rate the following on the provided scales.

- How clear was the Menu Analysis Report for your childcare center?
  
  Very Clear  Clear  Unclear
  
  Very Unclear

- How helpful did you find the Menu Analysis Report to improve menus:
  
  Very Helpful  Helpful  Unhelpful
  
  Very Unhelpful

- Was the Menu Analysis Report about what you expected?
  
  Very Much Expected  Expected  Unexpected
  
  Very Unexpected
13. Goals
We will collect this form from you at the end of the workshop and then we will email you a copy. When we call May, June, July and August for follow up calls we will ask you to review this form during our conversation.

*Please write your goals on the back of this paper.*

Please list at least one short term goal for the following three areas that we have discussed today.

Menus
1. 
2. 

Physical Activity
1. 
2. 

Environment/Policies
1. 
2. 

Items you can accomplish by the end of May:
1. 
2. 
14. Test 2 – Director & Staff
This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.
Your name_________________________________
Your title___________________________________
Date_________________________
Child-care facility name________________________________

Feeding Practices:
25. When caring for children, to help them become happy and healthy eaters: (please check yes or no for the following question about your personal opinions and thoughts)
   - I let the children eat wherever they want. _____yes _____no
   - We eat meals together. _____yes _____no
   - I serve all children the same food. _____yes _____no
   - I make the children eat foods I think are good for them. _____yes _____no
   - I let the children decide whether they want a second helping. _____yes _____no
   - I (we) only cook food the children will like. _____yes _____no
   - I insist on the children finishing their food before they leave the table. _____yes _____no
   - I let the children eat whenever they want. _____yes _____no
   - I leave food out on the table so the children can finish later on. _____yes _____no
   - I let the children decide how much they should eat. _____yes _____no
   - I encourage the children to eat what I think they should. _____yes _____no
   - I make the children finish all of their meal before they can have dessert. _____yes _____no
   - I let the children choose foods that they want from what is served at a meal. _____yes _____no
   - I let the children eat snacks whenever they want. _____yes _____no
   - I serve meals at about the same time every day. _____yes _____no
   - I turn the TV off during mealtime. _____yes _____no
26. When feeding children in your care: (please check yes or no for the following question about your personal opinions and thoughts)

- It’s okay to cook different foods for a child if he or she doesn’t like the meal. ______ yes
  ______ no
- Children are able to decide how much they need to eat at a meal. ______ yes
  ______ no
- It’s a good idea to let a child decide what foods you should buy, because then he or she will eat them. ______ yes
  ______ no
- Children should not be allowed to eat whenever they want. ______ yes
  ______ no
- Child-care givers should make a children eat vegetables even if they don’t like them. ______ yes
  ______ no
- It’s important for young children to eat meals with the family. ______ yes
  ______ no
- A child may need to try a food many times before he or she likes it. ______ yes
  ______ no
- To encourage the child to eat, it’s all right to let him or her eat anywhere he or she wants. ______ yes
  ______ no
- It’s okay to offer a reward (such as dessert) to get a child to eat. ______ yes
  ______ no
- Child-care givers should make sure the child doesn’t eat too much. ______ yes
  ______ no
- Meals and snacks should usually be served at about the same time every day. ______ yes
  ______ no
- Child-care givers should make sure a child eats even if he/she doesn’t want to. ______ yes
  ______ no
- Child-care givers should make sure the child finishes everything on his or her plate. ______ yes
  ______ no

27. What is the most important factor that affects what is on the menu? (age 1 & older) (please circle one)
- Health
- CACFP
- Filling food
- Pleasing the parents
- Not applicable/I don’t know

28. Are there rules regarding children having seconds? (please check all that apply)
29. Check which of the following children are allowed to have seconds of:  
(please check yes or no for the following):
- Vegetables  
  _____yes  
  _____no
- Crackers  
  _____yes  
  _____no
- Fruit  
  _____yes  
  _____no
- Juice  
  _____yes  
  _____no
- Milk  
  _____yes  
  _____no
- Potatoes  
  _____yes  
  _____no
- Meat  
  _____yes  
  _____no
- Dessert or sweets other than fruit  
  _____yes  
  _____no

30. Do you serve food family style? (age 1 & older) (please circle one)
- No
- Yes
  o If yes, can children help themselves? (please circle one)
    - Yes
    - No
- Not applicable/I don’t know

31. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods: (age 1 & older) (please check all that apply):
- Small serving of new food, taste-test samples
- Children help to make the new foods
- Routinely put new food that children haven’t been served on the menu
- None of the above, we prefer to stick to what we know children will like and eat
- Not applicable/I don’t know

32. Children are encouraged by staff to try a new or less favorite food: (please circle one)
- Rarely or never
- Some of the time
- Most of the time
- All of the time
- Not applicable/I don’t know

33. Staff join children at the table for meals: (please circle one)
- Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don't know

34. Staff consume the same food and drinks as the children: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don't know

35. Staff eat or drink sweets, soda, and fast food in front of the children: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don't know

36. Staff talk informally with children about trying and enjoying healthy foods: (please circle one)
• Rarely or never
• Some of the time
• Most of the time
• All of the time
• Not applicable/I don't know

Policies
21. A written policy about food: (please circle one)
• Does not exist
• Exists informally, but is not written or followed
• Is written, but not always followed
• Is written, available, and followed
• Not applicable/I don't know

22. A written policy about children’s birthday parties and holidays: (please circle one)
• Does not exist
• Exists informally, but is not written or followed
• Is written, but not always followed
• Is written, available, and followed
• Not applicable/I don't know

23. A written policy about access to water: (please circle one)
• Does not exist
• Exists informally, but is not written or followed
• Is written, but not always followed
• Is written, available, and followed
• Not applicable/I don't know
24. A written policy on physical activity: *(please circle one)*
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don’t know

25. A written policy about breastfeeding: *(please circle one)*
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available, and followed
- Not applicable/I don’t know

**Policies: Environment**

7. Is there a written policy about any signs, posters, books that are displayed in the building? *(please circle one)*
- Does not exist
- Exists informally, but is not written or followed
- Is written, but not always followed
- Is written, available and followed
- Not applicable/I don’t know

8. Do you regulate the foods that employees can eat or drink in front of the children? *(please circle one)*
- Yes
- No
- Not applicable/I don’t know

9. Do you regulate statements that employees can make to children about food? *(please circle one)*
- Yes
- No
- Not applicable/I don’t know

26. Are parents involved in developing policies? *(please circle one)*
- No
- Yes, please explain
  
  ________________________________________________________________
  ________________________________________________________________
  ________________________________________________________________
- Not applicable/I don’t know

27. Meals are served family style (children serve themselves with limited help): *(please circle one)*
- Rarely or never
- Some of the time
- Most of the time
- All of the time
- Not applicable/I don’t know
28. Do you provide a designated space for mothers to nurse?
   • If yes, please describe this space

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

   • If no, please explain

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

   • Not applicable/I don’t know

29. Children who misbehave are not allowed to play as a punishment: (please circle one)
   • Often
   • Sometimes
   • Never
   • Never and we provide more active play for good behavior
   • Not applicable/I don’t know

30. Television and video use consists of the: (please circle one)
   • TV/videos turned on for 5 or more hours per week
   • TV/videos turned on for 3-4 hours per week
   • TV/videos turned on 2 hours per week or less
   • TV/videos used rarely or never
   • Not applicable/I don’t know

Responsibility Questions
7. What responsibility do you think the child-care center has for feeding children? (please check yes or no for the following)
   • Feed them so they are not hungry _______yes _______no
   • Provide a balance of nutrients _______yes _______no
   • Feed them as much as possible because they may not get enough food at home _______yes _______no
   • Not primary food provider. Children receive most nutrients outside of child-care. _______yes _______no

8. What is the child-care center’s responsibility for breastfeeding? (please check yes or no for the following)
   • Encourage moms to come breastfeed during the day _______yes _______no
   • Allow moms to come breastfeed during the day _______yes _______no
   • Provide a room for moms to breastfeed _______yes _______no
   • Make it easy for mom to send breast milk _______yes _______no
9. What is the child-care center’s responsibility for children getting physical activity? (please circle one)
- Provide an environment for the children to play
- Have staff guided play time
- Encourage children to stay active during play time
- Let the children enjoy play time in the way they like
- Not applicable/I don’t know

Infant Feeding

11. How is infant feeding handled at your child-care facility? (please check all that apply)
- Mothers have a private area to breastfeed at the center.
- Parents may provide prepared infant formula.
- Parents may provide infant formula to be prepared by staff.
- Mothers may provide breast milk in a bottle.
- There is a refrigerator for mothers to store breast milk or prepared formula.
- Parents may bring infant foods for the staff to feed to the child.
- The center provides baby food for infants before they are 6 months old.
- The center provides baby food for infants when they are 6-12 months old.
- Not applicable/I don’t know

12. Which is true about any educational information about infant feeding provided to staff, parents, or both? (please check all that apply)
- None is provided
- Information about breastfeeding is provided
- Information about when and how to introduce first foods and beverages is provided (please provide copies or write in information)
- Information about adding cereal to the bottle is provided
- Not applicable/I don’t know.

13. Which of the following is true about breastfeeding and infant formula? (please check ONLY ONE column per statement)
- May raise IQ level
  ____breastfeeding ____formula ____neither
- May lower risk of diabetes
  ____breastfeeding ____formula ____neither
- May raise risk of obesity
  ____breastfeeding ____formula ____neither
- May lower risk of ear infections
  ____breastfeeding ____formula ____neither
- May lower the spread of germs
  ____breastfeeding ____formula ____neither
- May lower risk of allergies, eczema, asthma
  ____breastfeeding ____formula ____neither

14. True or False? (please check true or false for the following)
- Breastfed babies need extra water. ____T ____F
• Breastfeeding is inconvenient for child-care staff. ___T ___F
• Formula provides the same benefits as breastfeeding. ___T ___F

15. Infants 0 – 6 months should have: (please check yes or no for the following)
• Juice _____yes _____no
• Cereal _____yes _____no
• Formula _____yes _____no
• Breast milk _____yes _____no
• Baby food
  o Stage 1 _____yes _____no
  o Stage 2 _____yes _____no

Physical Activity
11. What is the usual total amount of time per day spent in play time? (when all children are moving) (please circle one)
• 45 or less minutes
• 46-90 minutes
• 91-120 minutes
• 121 minutes or greater
• Not applicable/I don’t know

12. During active play time, staff: (please circle one)
• Supervise play only (mostly sit or stand)
• Sometimes encourage children to be active
• Sometimes encourage children to be active and join children in active play
• Often encourage children to be active and join children in active play
• Not applicable/I don’t know

13. What ways do the children get physical activity? (check all that apply)
  □ Playing with toys
  □ Walks
  □ Running
  □ Jumping
  □ Playing with balls
  □ Time in the sandbox
  □ Riding a tricycle/bicycle
  □ Time in swings or climbers
  □ Structured physical activity lead by instructor
  □ Jump rope

14. In the event of a weather change such as rain, how is physical activity obtained?
• Please explain

__________________________________________________________
__________________________________________________________

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15. Teacher-led physical activity is provided to all children: (please circle one)
   - 1 time per week or less
   - 2-4 times per week
   - 1 time per day
   - 2 or more times per day
   - Not applicable/I don't know

Workshop Questions
1. Do you feel that the workshop was helpful? (please circle one)
   - Yes
   - No

2. If you do not already have policies in place, will you implement a policy for any of the topics discussed today? (please check all that apply)
   - Breastfeeding
   - Food
   - Physical activity
   - Children’s birthday parties and holidays
   - Access to water

3. Which of the topics did you like the most? (please circle one)
   - Policy discussion (or activity)
   - Menu discussion (or activity)
   - Nutrition for infants and toddlers information
   - Breastfeeding information
   - Physical activity information

4. Which of the following topics did you like the least? (please circle one)
   - Policy discussion (or activity)
   - Menu discussion (or activity)
   - Nutrition for infants and toddlers information
   - Breastfeeding information
   - Physical activity information

5. Did you find the activities for the menu helpful? (please circle one)
   - Very helpful
   - Moderately helpful
   - Not helpful

6. Did you find the activities for policies helpful? (please circle one)
   - Very helpful
   - Moderately helpful
   - Not helpful

7. How was the length of the workshop? (please circle one)
   - Too long
   - Too short
   - About right
8. Do you feel this workshop helped you?
   - Yes
   - No

9. Is there anything that you think we could change to improve on for future workshops?

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

10. Did the workshop change your mind on any of the following? (please check all that apply)

   □ Nutrition for infants and toddlers
   □ Creating healthy menus
   □ Policy importance
   □ Breastfeeding importance
   □ Physical activity

11. How will you use the information that you obtained in this workshop? (please check all that apply)

   □ Will not use any of the information obtained today.
   □ Will use the policy information for policy creation or change.
   □ Will use the menu information to create more healthful menus.
   □ Will use the breastfeeding information to change or create a new policy.
   □ Will use the physical activity information to change play activities.
15. First Follow-Up Call Script

Hello, my name is ___________ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)____________.

Is this the correct email address? ______________

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director’s name), my name is ___________ and I am calling from Texas State University Nutrition and Foods program with Best Food FITS! childcare centers to follow up about your menu.

Do you have a few minutes right now to talk about more specifics on your menu?

No, When would be a better time to call you back? ______________

Are you the best person to ask about menu questions, or do you have a person who prepares your food that we should talk to?

If the director says she/he can answer the questions, continue on.

If we need to talk to a cook, when would be the best time to call (cook’s name) back? ______________

Yes, Perfect. First, I have that you ARE or ARE NOT (circle) CACFP. Is that correct? ______________

Great, Now I just have a few more questions on more specific serving sizes.

Look at highlighted items on menu: When you serve _______, how much do you give the children?

Okay (Director’s name), we have everything we need from you, do you have any other questions for us? Thank you again for participating with us. Have a great day!

Center Name: _________________________
Phone number: _________________________
Director Name: _________________________
Email: _________________________
16. Second Follow-Up Call Script
Hello, my name is __________ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)___________.
Is this the correct email address? __________
Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: Hello (Director's name), my name is __________ and I am calling from Texas State University Nutrition and Foods program to follow up on how your center is progressing with the goals you outlined at the Best Food FITS! workshop in April. First of all, I have your first goal is:_________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________
___________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________

Is that going well?
If yes, Why?________________________________________________________
If not, Why?________________________________________________________
Do you need any additional information at this time to help achieve this goal?
If yes, how?________________________________________________________
Your other goals are:

____________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________
____________________________________________________________________________________________________________________

Do you need any additional information at this time to help achieve this goal?
If yes, how?________________________________________________________

(Director's name), now I just wanted to remind you of our next site visit in July and August. This visit will be similar to our initial visit in which we will be observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. During this visit we will not be interviewing you again or giving an addition survey. We would like to come out on:

Date:______________________________________________________
Time:_______________________________________________________
Does this work with you?_____________________________________
If not when would be the best time for you?_______________________
Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month’s worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.
Okay, is there anything you need from us?
Nametags? ______ Driver’s License? ______ Other?__________________

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!
17. Control Call Script to Schedule Final Visit

Hello, my name is ____________ and I am calling from Texas State University Nutrition and Foods program, may I speak to the director please?

If director not available: If you could please let the director know that Texas State University Nutrition and Foods program will be sending an email requesting some additional information about our visit to your facility on (date)____________.

Is this the correct email address? _______________

Excellent, it may be easier for the director to speak to us on the phone. If you could have them call us back the number at the community lab is 512.245.6848 or 512-619-3404.

If director: (Director's name), now I just wanted to remind you of our next site visit in July, August, or September. This visit will be similar to our initial visit in which we will be observing lunch along with different features of your facility, as well as taking some measurements in your kitchen. During this visit we will not be interviewing you again or giving an addition survey. We would like to come out on:

Date:______________________________________________________
Time:______________________________________________________

Does this work with you?______________________________

If not when would be the best time for you?______________________________

Okay wonderful, now I want to remind you that we will also be collecting copies of any written policies you have and also a month’s worth of menus. It would be very helpful if you could provide these items upon our arrival. If you cannot provide us copies we are more than happy to make digital copies at your location.

Okay, is there anything you need from us?

Nametags? _______ Driver's License? _______ Other? __________________

Okay (Director's name), we have everything we need from you, do you have any other questions for us? Have a great day and we will see you (DATE AND TIME)!
This survey should take between 15-20 minutes; there are no right or wrong answers. Your part in participating in our Best Food FITS with Child-Care Center is very important. We thank you for taking the time to take this survey. Your answers will not be shared, they are private.

Your name_________________________________
Your title___________________________________
Date_________________________
Child-care facility name________________________________

Did you go to the Best Food FITS Child Care Workshop?
  • No
  • Yes

Implementation Questions
1. Have you implemented any new policies or procedures since April 2013 (based on the topics discussed in the workshop)?

Policies and Procedures (please check all that apply)

  □ Improving menus
    o What changes did you make?
      o Were there any barriers to making changes? Please describe.
      o Have any parents liked the new changes? Please describe.
      o Have any parents complained about the new changes? Please describe.

  □ Limiting food brought in to the childcare center by parents
    o What changes did you make?
      o Were there any barriers to making changes? Please describe.
      o Have any parents liked the new changes? Please describe.
      o Have any parents complained about the new changes? Please describe.

  □ Supporting breastfeeding
☐ Rules about children’s birthday parties and holidays
  o What changes did you make?
  o Were there any barriers to making changes? Please describe.
  o Have any parents liked the new changes? Please describe.
  o Have any parents complained about the new changes? Please describe.

☐ Staff improving modeling of healthy behaviors
  o What changes did you make?
  o Were there any barriers to making changes? Please describe.
  o Have any parents liked the new changes? Please describe.
  o Have any parents complained about the new changes? Please describe.

☐ Increasing physical activity (or decreasing sitting time)
  o What changes did you make?
  o Were there any barriers to making changes? Please describe.
Have any parents liked the new changes? Please describe.

Have any parents complained about the new changes? Please describe.

Improving the center (to make it a healthier environment)

What changes did you make?

Were there any barriers to making changes? Please describe.

Have any parents liked the new changes? Please describe.

Have any parents complained about the new changes? Please describe.

2. In general, what is your center doing to handle problems/barriers you faced with implementing new changes? (Check one)
   - We have not done anything.
   - We have done the following:

3. Did you try to make any changes since April 2013 (from the workshop) that didn’t work for your center? (Check one)
   - No
   - Yes, please explain.

4. Would you like more information about any of the topics discussed in the workshop? (Check ALL that apply)
   - Nutrition for infants and toddlers
   - Creating healthy menus
   - Breastfeeding
   - Physical activity
   - Children’s birthday parties and holidays
5. Which kind of information would be most helpful to you? (Check ONE)
   □ Handouts
   □ Another large workshop or class
   □ One-on-one consultations
   □ More phone calls
   □ Small workshop at your child care center
   □ Other _____________________________

6. Please give us feedback about the following items included in the Best Food FITS – Child Care project (CIRCLE ONLY ONE CHOICE for each item).
   - **Policy Matrix:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Picture Feedback**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Menu Feedback (Pie charts):**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Berenstain Bears Lesson:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Eat Like a Bunny Activity:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Follow up Calls:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Setting Goals:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful
   - **Visits to Center:**
     Very Helpful      Helpful      Unhelpful
     Very Unhelpful

Please complete the following:

Feeding Practices:
37. When caring for children, to help them become happy and healthy eaters: (Check yes or no for the following question about your personal opinions and thoughts)

- I let the children eat wherever they want.  
  ______yes  
  ______no
- We eat meals together.  
  ______yes  
  ______no
- I serve all children the same food.  
  ______yes  
  ______no
- I make the children eat foods I think are good for them.  
  ______yes  
  ______no
- I let the children decide whether they want a second helping.  
  ______yes  
  ______no
- I (we) only cook food the children will like.  
  ______yes  
  ______no
- I insist on the children finishing their food before they leave the table.  
  ______yes  
  ______no
- I let the children eat whenever they want.  
  ______yes  
  ______no
- I leave food out on the table so the children can finish later on.  
  ______yes  
  ______no
- I let the children decide how much they should eat.  
  ______yes  
  ______no
- I encourage the children to eat what I think they should.  
  ______yes  
  ______no
- I make the children finish all of their meal before they can have dessert.  
  ______yes  
  ______no
- I let the children choose foods that they want from what is served at a meal.  
  ______yes  
  ______no
- I let the children eat snacks whenever they want.  
  ______yes  
  ______no
- I serve meals at about the same time every day.  
  ______yes  
  ______no
- I turn the TV off during mealtime.  
  ______yes  
  ______no

38. When feeding children in your care: (Check yes or no for the following question about your personal opinions and thoughts)
• It’s okay to cook different foods for a child if he or she
doesn’t like the meal.  ______yes  ______no
• Children are able to decide how much they need to eat
at a meal.  ______yes  ______no
• It’s a good idea to let a child decide what foods you
should buy, because then he or she will eat them.  ______yes  ______no
• Children should not be allowed to eat whenever
they want.  ______yes  ______no
• Child-care givers should make a children eat vegetables
even if they don’t like them.  ______yes  ______no
• It’s important for young children to eat meals with
the family.  ______yes  ______no
• A child may need to try a food many times before
he or she likes it.  ______yes  ______no
• To encourage the child to eat, it’s all right to let him
or her eat anywhere he or she wants.  ______yes  ______no
• It’s okay to offer a reward (such as dessert) to get a
child to eat.  ______yes  ______no
• Child-care givers should make sure the child doesn’t
eat too much.  ______yes  ______no
• Meals and snacks should usually be served at about the
same time every day.  ______yes  ______no
• Child-care givers should make sure a child eats even
if he/she doesn’t want to.  ______yes  ______no
• Child-care givers should make sure the child finishes
everything on his or her plate.  ______yes  ______no

39. What is THE most important factor that affects what is on the menu? (age 1 &
older) (Check ONE)
   □ Health
   □ CACFP
40. Are there rules regarding children having seconds? **(Check ALL that apply)**
- Anything at anytime
- Only if they finish some items
- Only if they finish everything on their plate
- Not applicable/I don’t know

41. Check which of the following children are allowed to have seconds of: **(Check yes or no):**
- Vegetables
  - Yes
  - No
- Crackers
  - Yes
  - No
- Fruit
  - Yes
  - No
- Juice
  - Yes
  - No
- Milk
  - Yes
  - No
- Potatoes
  - Yes
  - No
- Meat
  - Yes
  - No
- Dessert or sweets other than fruit
  - Yes
  - No

42. Do you serve food family style? (age 1 & older) **(Check ONE)**
- No
- Yes
  - If yes, can children help themselves? **(Check ONE)**
    - Yes
    - No
  - Not applicable/I don’t know

43. Regarding sampling/taste-testing of unfamiliar foods and strategies to introduce new foods (age 1 & older) **(Check ALL that apply):**
- Small serving of new food, taste-test samples
- Children help to make the new foods
☐ Routinely put new food that children haven’t been served on the menu
☐ None of the above, we prefer to stick to what we know children will like and eat
☐ Not applicable/I don’t know

44. Children are encouraged by staff to try a new or less favorite food: (Check ONE)
   ☐ Rarely or never
   ☐ Some of the time
   ☐ Most of the time
   ☐ All of the time
   ☐ Not applicable/I don’t know

45. Staff join children at the table for meals: (Check ONE)
   ☐ Rarely or never
   ☐ Some of the time
   ☐ Most of the time
   ☐ All of the time
   ☐ Not applicable/I don’t know

46. Staff consume the same food and drinks as the children: (Check ONE)
   ☐ Rarely or never
   ☐ Some of the time
   ☐ Most of the time
   ☐ All of the time
   ☐ Not applicable/I don’t know

47. Staff eat or drink sweets, soda, and fast food in front of the children: (Check ONE)
   ☐ Rarely or never
   ☐ Some of the time
   ☐ Most of the time
   ☐ All of the time
   ☐ Not applicable/I don’t know

48. Staff talk informally with children about trying and enjoying healthy foods: (Check ONE)
   ☐ Rarely or never
   ☐ Some of the time
   ☐ Most of the time
   ☐ All of the time
   ☐ Not applicable/I don’t know
Policies

31. A written policy about food: (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
   □ Is written, but not always followed
   □ Is written, available, and followed
   □ Not applicable/I don’t know

32. A written policy about children’s birthday parties and holidays: (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
   □ Is written, but not always followed
   □ Is written, available, and followed
   □ Not applicable/I don’t know

33. A written policy about access to water: (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
   □ Is written, but not always followed
   □ Is written, available, and followed
   □ Not applicable/I don’t know

34. A written policy on physical activity: (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
   □ Is written, but not always followed
   □ Is written, available, and followed
   □ Not applicable/I don’t know

35. A written policy about breastfeeding: (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
   □ Is written, but not always followed
   □ Is written, available, and followed
   □ Not applicable/I don’t know

Policies: Environment

10. Is there a written policy about any signs, posters, books that are displayed in the building? (Check ONE)
   □ Does not exist
   □ Exists informally, but is not written or followed
11. Do you regulate the foods that employees can eat or drink in front of the children?  
(Check ONE)  
☐ Yes  
☐ No  
☐ Not applicable/I don’t know

12. Do you regulate statements that employees can make to children about food?  
(Check ONE)  
☐ Yes  
☐ No  
☐ Not applicable/I don’t know

36. Are parents involved in developing policies?  
(Check ONE)  
☐ No  
☐ Yes, please explain  
____________________________________________________________  
____________________________________________________________  
____________________________________________  
☐ Not applicable/I don’t know

37. Meals are served family style (children serve themselves with limited help):  
(Check ONE)  
☐ Rarely or never  
☐ Some of the time  
☐ Most of the time  
☐ All of the time  
☐ Not applicable/I don’t know

38. Do you provide a designated space for mothers to nurse?  
• If yes, please describe this space  
____________________________________________________________  
____________________________________________________________  
____________________________________________  
• If no, please explain  
____________________________________________________________  
____________________________________________________________  
____________________________________________  
• Not applicable/I don’t know
39. Children who misbehave are not allowed to play as a punishment: (Check ONE)

- Often
- Sometimes
- Never
- Never and we provide more active play for good behavior
- Not applicable/I don’t know

40. Television and video use consists of the: (Check ONE)

- TV/videos turned on for 5 or more hours per week
- TV/videos turned on for 3-4 hours per week
- TV/videos turned on 2 hours per week or less
- TV/videos used rarely or never
- Not applicable/I don’t know

Responsibility Questions

10. What responsibility do you think the child-care center has for feeding children?

(Check yes or no for the following)

- Feed them so they are not hungry _______yes _______no
- Provide a balance of nutrients _______yes _______no
- Feed them as much as possible because they may not get enough food at home _______yes _______no
- Not primary food provider. Children receive most nutrients outside of child-care. _______yes _______no

11. What is the child-care center’s responsibility for breastfeeding? (Check yes or no for the following)

- Encourage moms to come breastfeed during the day _______yes _______no
- Allow moms to come breastfeed during the day _______yes _______no
- Provide a room for moms to breastfeed _______yes _______no
- Make it easy for mom to send breast milk _______yes _______no

12. What is the child-care center’s responsibility for children getting physical activity? (Check ONE)
Provide an environment for the children to play
Have staff guided play time
Encourage children to stay active during play time
Let the children enjoy play time in the way they like
Not applicable/I don’t know

Infant Feeding

16. How is infant feeding handled at your child-care facility? (Check ALL that apply)
   □ Mothers have a private area to breastfeed at the center.
   □ Parents may provide prepared infant formula.
   □ Parents may provide infant formula to be prepared by staff.
   □ Mothers may provide breast milk in a bottle.
   □ There is a refrigerator for mothers to store breast milk or prepared formula.
   □ Parents may bring infant foods for the staff to feed to the child.
   □ The center provides baby food for infants before they are 6 months old.
   □ The center provides baby food for infants when they are 6-12 months old.
   □ Not applicable/I don’t know

17. Which is true about any educational information about infant feeding provided to staff, parents, or both? (Check ALL that apply)
   □ None is provided
   □ Information about breastfeeding is provided
   □ Information about when and how to introduce first foods and beverages is provided (Please provide copies or write in information)
   □ Information about adding cereal to the bottle is provided
   □ Not applicable/I don’t know.

18. Which of the following is true about breastfeeding and infant formula? (Check ONLY ONE per statement)
   - May raise IQ level
     ____breastfeeding  ____formula  ____neither
   - May lower risk of diabetes
     ____breastfeeding  ____formula  ____neither
   - May raise risk of obesity
     ____breastfeeding  ____formula  ____neither
   - May lower risk of ear infections
     ____breastfeeding  ____formula  ____neither
• May lower the spread of germs
  ____breastfeeding  ____formula  ____neither
• May lower risk of allergies, eczema, asthma
  ____breastfeeding  ____formula  ____neither

19. True or False? (Check true or false for the following)
• Breastfed babies need extra water.  ____T  ____F
• Breastfeeding is inconvenient for child-care staff.  ____T  ____F
• Formula provides the same benefits as breastfeeding.  ____T  ____F

20. Infants 0 – 6 months should have: (Check yes or no for the following)
• Juice  _____yes  _____no
• Cereal  _____yes  _____no
• Formula  _____yes  _____no
• Breast milk  _____yes  _____no
• Baby food
  o Stage 1  _____yes  _____no
  o Stage 2  _____yes  _____no

Physical Activity
13. What is the usual total amount of time per day spent in play time? (when all children are moving) (Check ONE)
  □ 45 or less minutes
  □ 46-90 minutes
  □ 91-120 minutes
  □ 121 minutes or greater
  □ Not applicable/I don’t know

14. During active play time, staff: (Check ONE)
  □ Supervise play only (mostly sit or stand)
  □ Sometimes encourage children to be active
  □ Sometimes encourage children to be active and join children in active play
  □ Often encourage children to be active and join children in active play
  □ Not applicable/I don’t know
16. What ways do the children get physical activity? (Check ALL that apply)

- Playing with toys
- Walks
- Running
- Jumping
- Playing with balls
- Time in the sandbox
- Riding a tricycle/bicycle
- Time in swings or climbers
- Structured physical activity lead by instructor
- Jump rope

17. In the event of a weather change such as rain, how is physical activity obtained?
   - Please explain
     ________________________________________________________________
     ________________________________________________________________
     ________________________________________________________________
   - Not applicable/I don’t know

18. Teacher-led physical activity is provided to all children: (Check ONE)

- 1 time per week or less
- 2-4 times per week
- 1 time per day
- 2 or more times per day
- Not applicable/I don’t know
## 19. Menu Scoring Guides

### MyPlate Scoring Guide

<table>
<thead>
<tr>
<th>Nutritional Guidance</th>
<th>Equation</th>
<th>Calculation</th>
<th>Point Allocation</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>½ plate F &amp; V</td>
<td>Add up % on MyPlate</td>
<td>0 = % ≤ 29.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = 30 ≤%≤ 34.9</td>
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<td>2 = 35 ≤%≤ 39.9</td>
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<td>3 = 40 ≤%≤ 44.9</td>
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<td>5 = % ≥ 50</td>
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<td>½ Grain WG</td>
<td>(whole grains/total grains)*100</td>
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<td>0 = % ≤ 29.9</td>
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<td>1 = 30 ≤%≤ 34.9</td>
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<td>2 = 35 ≤%≤ 39.9</td>
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<td>3 = 40 ≤%≤ 44.9</td>
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<td>4 = 45 ≤%≤ 49.9</td>
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<td>5 = % ≥ 50</td>
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<td>Vary Vegetables</td>
<td>Count groups</td>
<td>0 = 0</td>
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<td>5 = 5</td>
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<tr>
<td>Whole Fruit</td>
<td>(whole fruits/total fruits)*100</td>
<td>0 = % ≤ 59.9</td>
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<td>1 = 60 ≤%≤ 69.9</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>2 = 70 ≤%≤ 79.9</td>
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<tr>
<td></td>
<td></td>
<td>3 = 80 ≤%≤ 89.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = 90 ≤%≤ 99.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = % ≥100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lean Protein</td>
<td>(lean protein/ total protein)*100</td>
<td>0 = % ≤ 59.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = 60 ≤%≤ 69.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 = 70 ≤%≤ 79.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>3 = 80 ≤%≤ 89.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 = 90 ≤%≤ 99.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = % ≥100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Choose low fat or no fat milk</td>
<td>(low fat/no fat milk/ total milk)*100</td>
<td>0 = % ≤ 59.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 = 60 ≤%≤ 69.9</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>2 = 70 ≤%≤ 79.9</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>3 = 80 ≤%≤ 89.9</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>4 = 90 ≤%≤ 99.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5 = % ≥100</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nutritional Guidance</td>
<td>Equation</td>
<td>Calculation</td>
<td>Point Allocation</td>
<td>Score</td>
</tr>
<tr>
<td>----------------------</td>
<td>----------</td>
<td>-------------</td>
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</tr>
<tr>
<td>1 good source vitamin C a day</td>
<td>Count from the list provided in the recommended modifications to CACFP meal patterns</td>
<td>0 = 0 - 12 1 = 12-13 2=14-15 3= 16-17 4 = 18-19 5 = 20</td>
<td></td>
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<tr>
<td>3 good sources of vitamin A a week</td>
<td>Count from the list provided in the recommended modifications to CACFP meal patterns</td>
<td>0 = 0-6 1 = 7 2 = 8 - 9 3 = 10 4 = 11 5 = 12</td>
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</tr>
<tr>
<td>1 whole grain a day</td>
<td>individual count of menu items</td>
<td>0 = 0 - 11 1 = 12-13 2=14-15 3= 16-17 4 = 18-19 5 = 20</td>
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<tr>
<td>Lunch</td>
<td></td>
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<tr>
<td>2 fruit/veggie served per meal</td>
<td>individual count of menu items</td>
<td>0 = 0 - 23 1 = 24 - 27 2 = 28 - 31 3 = 32 - 35 4 = 36 - 39 5 = 40</td>
<td></td>
<td></td>
</tr>
<tr>
<td>no juice</td>
<td>(juice served/total fruit) *100</td>
<td>0 = % ≤ 40 1 = 40 ≤%≤ 39.9 2 = 39.9 ≤%≤ 29.9 3 = 29.9 ≤%≤ 19.9 4 = 19.9 ≤%≤ 9.99 5 = % = 0.00%</td>
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</tr>
<tr>
<td>Snack</td>
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<td></td>
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<tr>
<td>limit crackers to 2 X a week</td>
<td>individual count of menu items</td>
<td>0 = # ≥ 25 1 = 21 - 24 2 = 17 - 20 3 = 13 - 16 4 = 9 - 12 5 = 0-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breakfast</td>
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<td></td>
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<tr>
<td>limit sugary cereal 2 X week</td>
<td>individual count of menu items</td>
<td>0 = # ≥ 25 1 = 21 - 24 2 = 17 - 20 3 = 13 - 16 4 = 9 - 12 5 = 0-8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
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20. Pre and Post Average Menu Scores for Intervention and Control Groups

<table>
<thead>
<tr>
<th></th>
<th>MyPlate Score (mean±SD)</th>
<th>CCC Score (mean±SD)</th>
<th>Combined Score (mean±SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre</td>
<td>Post</td>
<td>Pre</td>
</tr>
<tr>
<td>CCC</td>
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</tr>
<tr>
<td>Intervention</td>
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<tr>
<td>(n=19)</td>
<td>8.3 ±3.6</td>
<td>8.5 ±3.6</td>
<td>20.5 ±9.3</td>
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<tr>
<td>Control</td>
<td></td>
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<tr>
<td>(n=5)</td>
<td>8.0 ±2.6</td>
<td>9.2 ±1.9</td>
<td>22.6 ±8.2</td>
</tr>
</tbody>
</table>
21. Syntax

MIXED GrainsAll_tot BY meal time WITH day
/CRITERIA=CIN(95) LCONVERGE(0.00001) MXITER(50000) PCONVERGE(1E-5 RELATIVE)
/FIXED=meal time meal*time |SSTYPE(3)
/METHOD=REML
/PRINT=DESCRIPTIVES G SOLUTION TESTCOV
/RANDOM=INTERCEPT time | SUBJECT(id) COVTYPE(ID).