North Carolina

Enhanced Nutrition Standards for Child Care

Final Report to the General Assembly

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INTRODUCTION

In the 2009 session, the North Carolina (NC) General Assembly created the Legislative Task Force on Childhood Obesity. The Task Force was created to study issues related to childhood obesity, and to consider and recommend to the General Assembly strategies for addressing the problem of childhood obesity, including the encouragement of healthy eating and increased levels of physical activity. Early childhood interventions and the role of childcare facilities were also studied.

> *"Policy and environmental change initiatives that make healthy choices in nutrition and physical activity available, affordable, and easy will likely prove most effective in combating obesity."*
>
> **Centers for Disease Control and Prevention**

In July 2010, the NC Child Care Commission (NCCCC) created licensing requirements to increase physical activity and breastfeeding opportunities in child care facilities (10A NCAC 09. 0508(b)(4), 10A NCAC 09.0508(c), and 10A NCAC 09. 0901(h)) (Appendix A). To further encourage healthy eating practices in NC child care facilities, the Legislative Task Force enacted SL 2010-117 (Appendix B). In legislation, the NCCCC, in consultation with the Division of Child Development (DCD), was directed to develop enhanced nutrition standards for child care facilities. In the process of developing such standards, NCCCC was directed to consider the following recommendations:

- Limiting or prohibiting the serving of sweetened beverages, other than 100% fruit juice, to children of any age.
- Limiting or prohibiting the serving of whole milk to children two years of age or older or flavored milk to children of any age.
- Limiting or prohibiting the serving of more than six ounces of juice per day to children of any age.
- Limiting or prohibiting the serving of juice from a bottle.
- Creating an exception from the rules for parents of children who have medical needs, special diets, or food allergies.
- Creating an exception from the rules to allow a parent or guardian, or to allow the center upon request of a parent or guardian, to provide to a child food and beverages that may not meet the nutrition standards.

To further inform the development of enhanced nutrition standards, the General Assembly, through SL 2010-117, also directed the Division of Public Health (DPH) to complete a study of the current standards and to submit a final report by December 31, 2010. This study was to be completed "*in conjunction with DCD, nutritionists, pediatricians and child care providers*," and was to "*be conducted in consideration of any potential changes in the federal guidelines related to the Child and Adult Care Food Program* (CACFP)."

CACFP is a federal food and nutrition assistance program that targets infants, children, and impaired or older adults from low-income households. CACFP is funded by the United States

Department of Agriculture (USDA), administered by state agencies, and delivered through child and adult day care facilities. To receive reimbursement, facilities must document compliance with the CACFP meal pattern guidelines, which vary by age of the participant (Appendix C). In NC, CACFP has a broad reach as *all* child care facilities are required to follow the CACFP meal pattern guidelines (10A NCAC 09 .0901(a) and 10A NCAC 09 .1718(a)(1)). In NC, CACFP guidelines impact the practices of 4,978 regulated centers and 3,632 regulated homes, reaching 265,123 children.[1] Because the CACFP meal pattern guidelines are primarily based on nutrition and health advice from 1989, USDA recently funded the Institute of Medicine (IOM) to develop a set of recommendations that would better align the CACFP meal pattern guidelines with the Dietary Guidelines for Americans (DGAs).

This report represents the culmination of the study conducted by the NC DPH, in collaboration with the NC DCD and other relevant stakeholders, and in consideration of the recently published findings of the IOM. The report begins with a summary of the enhanced child care nutrition standards that are recommended as a result of this study, as well as the evidence-based guidelines for infant and young child nutrition that support said recommendations. The report also provides data on the growing epidemic of childhood obesity and the role that child care facilities can take in addressing this epidemic. Finally, there is a summary of feedback gleaned from pediatricians, nutritionists and child care providers during Listening Sessions carried out across the state, as well as recommended strategies for implementing the enhanced child care nutrition standards.

[1] NC DCD, NC Child Care Snapshot. Accessed online (12/14/10): http://ncchildcare.dhhs.state.nc.us/general/mb_snapshot.asp

SUMMARY OF ENHANCED CHILD CARE NUTRITION STANDARDS

As a result of reviewing the evidence-base on nutrition for young children, the data on childhood overweight and obesity in NC, a comparison of existing NC child care nutrition standards to those recently proposed by IOM for the CACFP, and feedback from a variety of NC stakeholders, the NC DPH, in conjunction with the NC DCD, recommends a phased implementation of the following enhanced nutrition standards for licensed child care facilities.

Phase 1

- Prohibit the serving of sweetened beverages, other than 100% fruit juice, to children of any age.
- Prohibit the serving of more than six ounces of juice per day to children of any age.
- Prohibit the serving of juice from a bottle.
- Prohibit the serving of whole milk to children two years of age or older.
- Prohibit the serving of flavored milk to children of any age.
- Create an exception from the rules for parents of children who have medical needs, special diets, or food allergies.

Phase 2

- Limit the number of grains containing added sugars and increase the number of whole grains.
- Limit foods high in fat and salt.

In consideration of the challenges and training needs expressed by stakeholders during the Listening Sessions held across the state, a phased approach is recommended for implementation of the latter two recommendations. The first six recommendations (Phase 1) are expected to be cost-neutral for child care facilities and to require minimal training for implementation. However, the latter two will require additional collaboration between DPH and DCD to develop training materials and resources, as well as to work with food vendors to ensure availability of healthy options.

CHILDHOOD OBESITY: CAUSE FOR CONCERN

> *"I think we're looking at a first generation of children who may live less long than their parents as a result of the consequences of overweight and Type 2 diabetes."*
>
> **Francine Ratner Kaufmann, MD**
> Head, Division of Endocrinology & Metabolism
> Children's Hospital Los Angeles

The rapid increase in childhood obesity that has occurred over the last 30 years is considered a public health crisis. Among US children 2-5 years, the prevalence of obesity has doubled. According to recent data from the Centers for Disease Control and Prevention (CDC), approximately one in every ten preschool-aged children is obese, defined as a body mass index (BMI) greater than or equal to the sex- and age-specific 95th percentile from the 2000 CDC Growth Charts.[1] This is of great concern as childhood obesity has been associated with serious co-morbidities even among young children. This includes an increase in heart disease, type 2 diabetes, asthma, sleep apnea, gallbladder disease, and psychosocial problems, including low self-esteem, depression and anxiety (Daniels, 2009; Dietz, 1998; Reilly, 2003). Obese children are also more likely to become obese adults and to have chronic diseases in adulthood (Ong, 2010).

The economic consequences of childhood obesity are substantial. Direct costs of childhood obesity include annual prescription drug, emergency room, and outpatient costs of $14.1 billion (Trasande, 2009a), and inpatient costs of $237.6 million (Trasande, 2009b). When obese children become obese adults, an even greater cost is incurred, and it is estimated that one-third of obese preschool-aged children and one-half of school-aged children will be obese as adults (Serdula, 1993). The estimated annual cost of treating obesity-related illness in adults is $147 billion (Finkelstein, 2009).

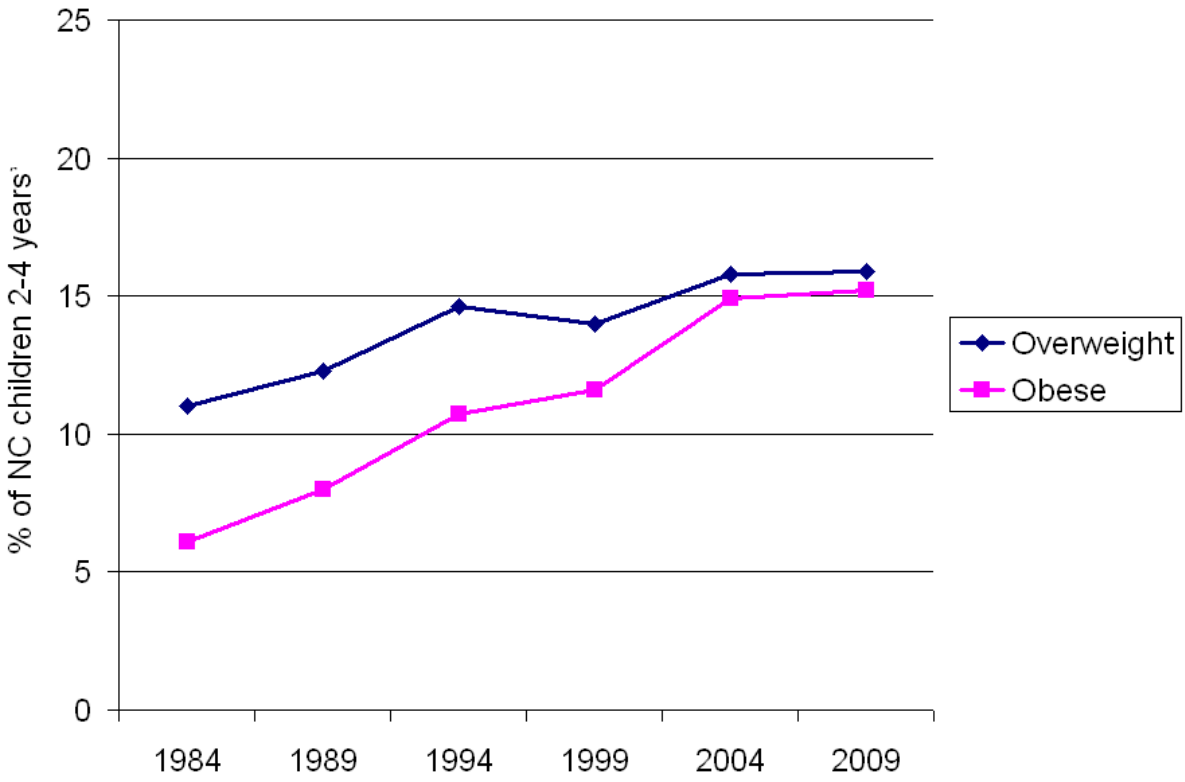
> *"The medical costs of obesity are so substantial that the rise in obesity explains 27 percent of the rise in health care spending between 1987 and 2001." (Cawley, 2010)*
>
> **John Cawley, PhD**
> Associate Professor, Department of Policy Analysis and Management
> Cornell University

It is therefore concerning that NC is ranked 14th in the nation for adult obesity.[2] Two out of every three NC adults are overweight or obese, and the epidemic has reached even our youngest children. As can be seen in **Figure 1**, the prevalence of childhood overweight and obesity has increased dramatically among NC children since the early 1980s.[2] To be exact, the prevalence of overweight increased by 45% between 1984 and 2009 for children ages 2 to 4 years. For obesity, the numbers are far more astonishing, with the prevalence having increased by 149% during this same time period. In 2009, one out of every three preschool-

[1] CDC, Overweight and Obesity. Accessed online (12/1/10): http://www.cdc.gov/obesity/index.html
[2] NC Pediatric Nutrition Surveillance System, Summary of Trends in Overweight and Obesity Indicators

aged children was either overweight or obese. Given this data, it is clear there is not enough being done to provide NC children with environments that make healthy eating and physical activity the norm.

Figure 1. Trend in the prevalence of overweight and obesity among children 2-4 years seen in health department sponsored clinics in North Carolina, by calendar year.



*Data is from the North Carolina – Pediatric Nutrition Surveillance System (PedNSS). PedNSS provides BMI-for-age prevalence data on an annual basis for children and youth ages 2 to 18 seen in Public Health sponsored Women, Infants and Children (WIC) and child health clinics, as well as some school-based health centers. Because PedNSS data is limited to this group of children and youth, it may not be representative of the county or state population as a whole.

NUTRITION RECOMMENDATIONS FOR YOUNG CHILDREN

The Dietary Guidelines for Americans (DGAs), jointly produced by the U.S. Department of Health and Human Services (US DHHS) and the USDA, provide the most current, science-based nutrition guidance for the general public two years of age and older. The DGAs were first published in 1980, with a mandate from Congress that they be reviewed and updated every five years. A highlight of key recommendations from the 2005 DGAs are as follows:

- Consume a variety of foods within and among the basic food groups while staying within energy needs.
- Control calorie intake to manage body weight.
- Increase daily intake of fruits and vegetables, whole grains, and non-fat or low-fat milk and milk products.
- Choose fats wisely for good health.
- Choose carbohydrates wisely for good health.
- Choose and prepare foods with little salt.
- Be physically active every day.

Due to their scientific rigor, the DGAs are considered the gold standard for all federal nutrition assistance programs, serving as a guide for the types of foods to be provided as well as the content of nutrition education. Similar to the recent IOM commission for CACFP, USDA previously charged the IOM with the task of better aligning the food packages of the Special Supplemental Nutrition Program for Women, Infants and Children, more commonly known as WIC, with the DGAs (IOM, 2005). As a result, WIC participants now receive more servings of whole fruits and vegetables rather than juice, as well as more servings of whole grains.

> *"A coordinated strategic plan that includes all sectors of society…should be engaged in developing and implementing the plan to help all Americans eat well…and maintain good health. Any and all systems-based strategies must include a focus on children. Primary prevention of obesity must begin in childhood. This is the single most powerful public health approach to combating and reversing America's obesity epidemic over the long term."*
>
> **Institute of Medicine**
> **Report of the Dietary Guidelines Advisory Committee on the Dietary Guidelines for Americans, 2010**

While the DGAs are not specific to children less than two years of age, there is general consensus that infants should transition from a diet that consists of exclusive breastfeeding for the first six months (AAP, 2005) to one that reflects the DGAs at two years (Butte, 2004). In addition, the American Heart Association and the Academy of Pediatrics (2006) have published the following dietary recommendations for infants and toddlers (0-24 months):

- Continue breastfeeding for at least the first year of life and as long as mutually desired by mother and child. If a child is weaned from breast milk before 12 months, iron-fortified formula should be provided.
- Delay introduction of cow's milk until 12 months.
- Serve whole milk between 12 months and 2 years, unless there is a concern for overweight or obesity or there is a family history of obesity, high cholesterol, or other heart disease. These children should receive reduced-fat (2%) milk.
- Delay the introduction of 100% juice until at least 6 months of age.
- Limit juice to 4-6 fluid ounces per day.
- Only feed juice from a cup.
- Introduce healthy foods and continue offering if initially refused. New healthy foods may need to be introduced as many as 10 times to establish taste preferences.
- Do not introduce foods with little nutritional value simply to provide calories.

Importantly, implementation of the enhanced nutrition standards will help NC meet the following proposed Healthy People 2020 Objectives:[1]

- Increase the number of States with nutrition standards for foods and beverages provided to preschool-aged children in child care (Nutrition and Weight Standard [NWS]-1)
- Reduce the proportion of children and adolescents who are considered obese (NWS-10)
- Prevent inappropriate weight gain in youth and adults (NWS-11)
- Increase the contribution of fruits to the diets of the population aged 2 years and older (NWS-14)
- Increase the variety and contribution of vegetables to the diets of the population aged 2 years and older (NWS-15)
- Increase the contribution of whole grains to the diets of the population aged 2 years and older (NWS-16)
- Reduce consumption of saturated fat in the population aged 2 years and older (NWS-18)
- Reduce consumption of sodium in the population aged 2 years and older (NWS-19)

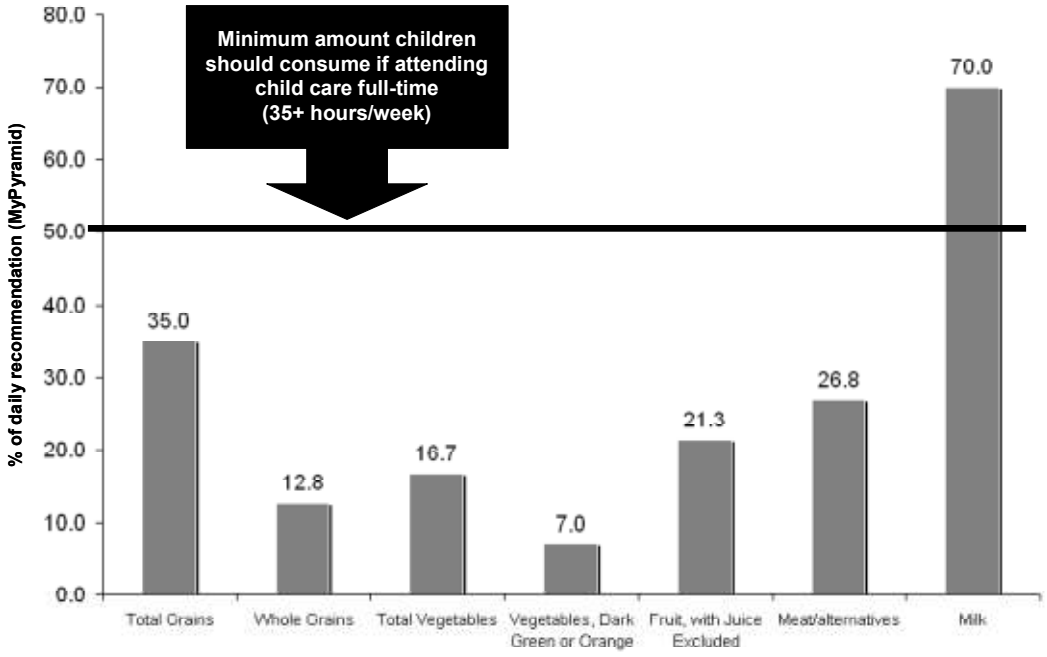
[1] US DHHS. Accessed online (12/30/2010): http://www.healthypeople.gov/2020/topicsobjectives2020/objectiveslist.aspx?topicid=29

THE ROLE OF CHILD CARE IN ADDRESSING AND PREVENTING CHILDHOOD OVERWEIGHT

In the US, child care participation is at an all-time high and has become the norm (Laughlin, 2010). In the past 30 years, there has been more than a fourfold increase in the number of child care facilities in the US—from 25,000 in 1977, to 40,000 in 1987, and to more than 116,000 in 2004 (Story, 2006). Young children spend substantial amounts of time in child care settings, with many children entering care as early as six weeks of age and spending as many as forty hours a week in care until they reach school age. Nearly one-half of all US preschool children are in child care for 35 hours or more a week, during which time they receive two-thirds or more of their daily meals and snacks (Story, 2006). Thus, child care providers have come to share responsibility with parents for a large and growing number of children during their important developmental years—a time in which eating habits are established (Birch and Fisher, 1998). For these reasons, the child care setting has become recognized as an important avenue for addressing the problem of childhood obesity.

However, studies show that much work needs to be done to improve nutrition in child care settings. One study conducted in Central Texas (Padgett, 2005) and another conducted in North Carolina (Ball, 2008) published similar findings—while in child care, preschool children fail to consume adequate amounts of the food groups recommended in the DGAs and MyPyramid. Several health authorities, such as the AAP (2002) and the American Dietetic Association (2005), recommend that young children attending child care full-time should consume one-half to two-thirds (50% to 67%) of their daily food requirements while in care. As can be seen in **Figure 2**, children attending child care are consuming far below this recommended level for whole grains, total vegetables, and dark green or orange vegetables (Ball, 2008). Furthermore, of the

Figure 2. Percent of recommended intake, as published in the DGAs/MyPyramid, that NC children ages 3-5 years consume while in child care (Ball, 2008)



meats/alternatives that are consumed, the majority are high-fat/fried meats (**Figure 3**), and the majority of milk consumed by children 2 years of age and older is whole milk (**Figure 4**) (Ball, 2008).

Figure 3. Types of meat/alternates consumed by NC children ages 3-5 years while attending child care (Ball, 2008)

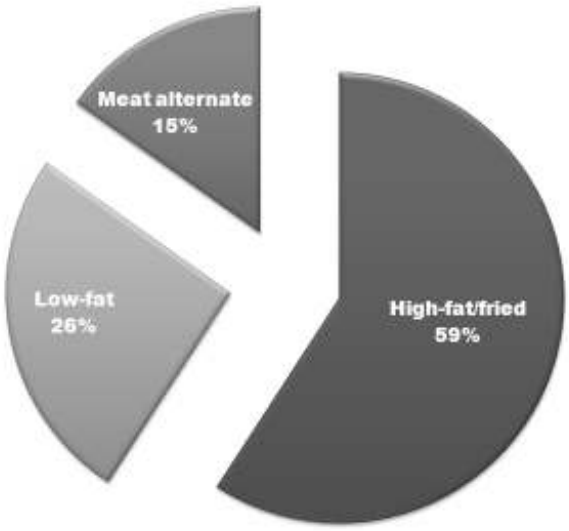
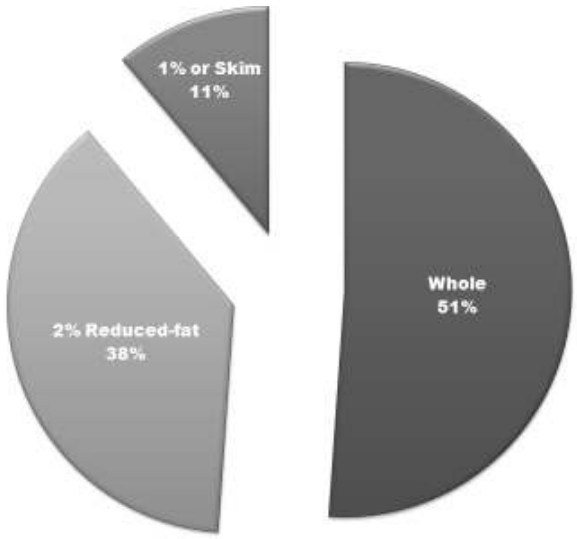


Figure 4. Types of milk consumed by NC children ages 3-5 years while attending child care (Ball, 2008)



That few states have child care policies supportive of healthy eating (Benjamin, 2008; Kaphingst, 2009) is a likely reason for the suboptimal intakes of the recommended food groups. According to a recent report by researchers at Duke University, "*there is much room for improvement*" related to obesity prevention in child care settings. Experts in nutrition, early care and education, and policy and regulation developed a set of ten healthy eating model state regulations for child care centers and homes (Box 1).[1] Individual states were subsequently graded based on the degree to which their current child care regulations were in compliance with the model healthy eating regulations. Of the states reviewed (n=49), the majority of child care centers (n=33) and family child care homes (n=32) received a grade of C, while no state received a grade of A in either category (i.e. homes or centers). NC centers and homes each received a grade of C- (Appendix D).

[1]Duke University, Preventing obesity in the child care setting: evaluating state regulations. Accessed online (12/14/10): http://cfm.mc.duke.edu/wysiwyg/downloads/State_Reports_FInal.pdf

Box 1. Model State Child Care Regulations for Health Eating[1]

- High fat, high sugar, and high salt foods are served less than one time per week or are not served
- Sugar sweetened beverages are not served
- Children older than two years are served reduced fat milk (skim or 1%)
- Clean, sanitary drinking water is available for children to serve themselves throughout the day
- Nutrition education is offered to child care providers at least one time per year
- Juice is limited to a total of 4-6 ounces or less per day for children over one year of age
- Child care providers do not use food as a reward or punishment
- Nutrition education is offered to children at least three times per year
- At least one child care provider sits with children at the table and eats the same meals and snacks
- Providers encourage, but do not force, children to eat

[1]Duke University, Preventing obesity in the child care setting: evaluating state regulations. Accessed online (12/14/10): http://cfm.mc.duke.edu/wysiwyg/downloads/State_Reports_FInal.pdf

COMPARISON OF EXISTING NC CHILD CARE NUTRITION STANDARDS TO 2010 IOM RECOMMENDATIONS FOR CACFP

This section compares existing NC child care nutrition requirements to those recommended in the IOM report, *Child and Adult Care Food Program: Aligning Dietary Guidance for All* (IOM, 2010). Child care nutrition recommendations from other leading health authorities, which are in line with the 2010 IOM guidelines, are located in Appendix E.

Food Group	Current NC Requirement	2010 IOM Recommendation
Fruit/ Vegetable/ Juice	Fruits and vegetables are combined as a category. No limit on fruits with added sugars. No limit on the number of servings of juice allowed per day or week. No limit on vegetables high in fat or sodium. Any cooking method for vegetables allowed.	Fruits are a separate category from vegetables, and servings of both fruits and vegetables are increased.[1] Fruits can be any variety of unsweetened fresh fruits; frozen unsweetened fruits; canned fruits packed in juice or water; or dried fruit without added sugars, fats, oils, or salt. Any variety of fresh, canned, or plain frozen vegetables. Vegetables may be boiled, steamed, baked, or stir fried in a small amount of vegetable oil. No deep fried vegetables are allowed. Over the course of a 5-day week, different types of vegetables are to be served at each lunch and supper, as follows: dark green vegetables at least twice per week, orange vegetables at least twice/week, legumes1 at least once/week, starchy vegetables no more than twice per week, and other vegetables at least three times per week. Unsweetened 100 percent juice is allowed only once per day in a serving size tailored to the age group's needs
Grains	Can be enriched or whole grain. Proportion that should be whole grain not specified.	At least half must be whole grain-rich and additional whole grains are encouraged. Whole grain ingredients are those specified in the *Healthier US School Challenge Whole Grain Resource* guide (USDA/FNS, 2009b) and include whole wheat flour, rye flour, brown rice, bulgur, hulled and de-hulled barley, quinoa, and oatmeal, among others.

[1] Increasing servings of fruits and vegetables will increase food costs. Since this is not a cost-neutral recommendation, it is not included as an enhanced nutrition standard at this time.

Food Group	Current NC Requirement	2010 IOM Recommendation
		Ready-to-eat cereals and hot cereals (instant-, quick-, and regular-cooking forms), whether whole grain rich or enriched, [must conform to FDA standard of identity]; must contain less than or equal to 21.2 g sucrose and other sugars per 100 g dry cereal (less than or equal to 6 g per dry oz of cereal, as specified in *WIC Food Packages*) (IOM, 2006). Baked or fried grain products that are high in solid fats and added sugars (SoFAS) are limited to one serving per week across all eating occasions. Examples of grain foods that are high in SoFAS and that are commonly served in the CACFP include pancakes and waffles served with syrup, muffins and quick breads, sweet rolls, croissants, toaster pastries, donuts, flour tortillas, granola/cereal bars, cookies, brownies, cake, and pie.
Meat/ alternate	Any meat, natural cheese, or meat alternate allowed. No limit on high-fat or high-sodium meats, cheeses or meat alternates.	Skin must be removed from poultry before serving and high fat meats (e.g. hamburger with > 20% fat, fatty pork) should be limited. Canned fish should be low sodium water-pack. Highly processed meat, poultry, and fish (including highly salted products and breaded fried products) are limited to one time per week across all eating occasions. Natural cheese only and low-fat cheese encouraged.
Milk	Any type of fluid milk allowed. No limit on high-fat milk for children 2 and older.	Must be non-fat or low-fat (1% fat) for children over 2 years of age and adults. No higher fat milk is allowed. Non-fat flavored milk containing no more than 22 g of sugar per 8 fl oz will be served only in afterschool and adult programs. For children over 2 years of age, yogurt may be used as a substitute for milk or as a meat alternate no more than once per day. Yogurt must be ≤17 g of total sugars per 100 g (40 g/8 oz serving) and may not contain more than 1% milk fat.

FINDINGS FROM THE LISTENING SESSIONS: WHAT WE HEARD FROM COMMUNITY STAKEHOLDERS

In order to receive input from key stakeholders, including pediatricians, nutritionists, child care providers and families, the NC DPH held four *Listening Sessions* across NC. The purpose of the sessions was two-fold. First, NC DPH was interested in hearing stakeholders' recommendations on nutrition standards that meet the DGAs and result in the consumption of increased fruits and vegetables, whole grains, and reduced fat and sodium in children's meals and snacks. Second, NC DPH was interested in hearing stakeholders' ideas and concerns surrounding implementation of enhanced nutrition standards, should they be enacted. This latter purpose included feedback on meal reimbursement rates, availability of healthy foods, and the need for staff training, particularly in the areas of menu planning, food buying and food preparation.

The four Listening Sessions were held during October 2010. In total, 136 stakeholders attended the sessions. At each session, the majority of attendees were child care directors, teachers, and cooks. Nutritionists and health educators from local health departments and cooperative extension were also in attendance, as were TA specialists from local Smart Start offices and child care consultants from NC DCD. Other participants included CACFP consultants and child care health consultants from NC DPH, as well as members of the NCCCC.

Each Listening Session began with an introduction, which encompassed an overview of childhood obesity, including its potential causes and sequelae, the importance of child care nutrition in the everyday lives of young children, and the impetus for the Listening Sessions, namely the desire of NC DPH to hear from a broad range of stakeholders. Introductions were then followed by presentations of local child care nutrition success stories, with the sessions ending with an open discussion of comments and questions from the audience.

HIGHLIGHTS OF SUCCESS STORIES:

I HAVE A RAINBOW IN MY TUMMY

At the Listening Session held in the western part of the state, staff from the Mountain Area Child and Family Center spoke about their program, *I Have a Rainbow in My Tummy* (IHRMT). IHRMT is "*a creative nutrition-enrichment program that provides [child care facilities] the…resources needed to inspire and support sweeping change in local food policy and food service programs*." Project Director, Susan Patrice, told how their facility transitioned from a menu that was once full of

convenience foods to one that is now full of whole grains, fruits and vegetables, low-fat dairy, and lean meats/alternatives. To inspire and assist other child care facilities in transitioning to a more healthful menu, IHRMT has created a website containing their "*10-Step Action Plan*" as well as their 5-week cycle of menus and recipes. To illustrate, **Figure 5** contains a one-week sample of menus, as posted on their website.[1] Foods with an (*) indicate healthy recipes developed by IHTMT.

Figure 5. One week of sample menus from I Have a Rainbow in My Tummy.[1]

	Monday	Tuesday	Wednesday	Thursday	Friday
Breakfast	Fruity harvest granola,* Orange slices, Yogurt, Milk	Sunny carrot muffins,* Cream cheese, Blueberries, Milk	Wheat toast w/fruit jelly, Fruit cocktail, Milk	Harvest oatmeal,* Banana, Milk	Breakfast bar,* Yogurt, Honeydew, Milk
Lunch	Spinach lasagna,* Edemame,* Rainbow fruit salad,* Milk	Soft tacos w/beef, cheese, lettuce, tomato,* Blueberry salsa,* Refried pinto beans,* Milk	Eggplant parmesan w/ whole wheat pasta,* Tossed salad & veggies w/ raspberry vinaigrette,* Milk	3-bean salad, squash & zucchini,* Orange slices, Whole wheat roll*	Grilled herb chicken,* Green beans, Corn, Brown rice, Milk
PM Snack	Hummus,* Veggie sticks, Water	Mixed berry fruit salad,* Graham crackers, Water	Fresh sliced turkey & cheese, Whole wheat crackers, Water	Apple, Rice pudding,* Water	Pretzel sticks, Low-fat cheese dip,* Water

Per Susan, the provision of more healthful meals and snacks did not increase their food budget and the new foods and recipes are very well accepted by the children. In putting the new healthy menu into place, Susan said, "*The kids didn't even blink*." Susan recalled a recent story about a mom asking for the center's spinach lasagna recipe. She needed the recipe, because when she served her usual lasagna at home, her daughter was refusing it and asking, "*Where's the green stuff?*"

Healthy Futures Starting in the Kitchen

Another example of a local success story is *Healthy Futures Starting in the Kitchen* (HFSK). HFSK uses a hands-on approach to teach child care cooks basic nutrition concepts and food preparation skills, with the overall purpose of increasing the number of healthy and delicious foods served to young children

[1]Accessed online (12/14/10): www.rainbowinmytummy.com

in child care settings. HFSK was developed by Priscilla Laula, Health Promotion Coordinator, and Megan Dean, Registered Dietitian, with the Mecklenburg County Health Department, and in partnership with the Johnson & Wales University at Charlotte. In culinary kitchens, child care cooks complete 20 hours of hands-on learning that includes preparation and sampling of healthful foods, such as "*Crunchy Zucchini Sticks*," which are zucchini spears coated in wheat germ, chopped almonds, and a dash of parmesan cheese, and then baked in the oven and served with low-fat ranch dressing. Since 2008, 83 cooks from 74 centers have completed the HFSK program. Graduates of HFSK receive 20 in-service credits, a notebook of healthy recipes and nutrition information, as well as a calendar featuring them in their HFSK sessions and reminding them to implement nutrition and physical activity best practices in their facilities.

One of the cooks that graduated from the HFSK program said, "*I didn't eat squash or zucchini or other healthy foods before [HFSK]. This has changed the way I eat. It is for the children and obesity is a problem everywhere. This program has helped me a lot.*" Per this cook, "*We have at least one meatless meal a week. We make salmon croquettes, [and] the kids love them. We call them adult fish sticks and they are pink. What kid doesn't like pink food?*" As a result of HFSK, this facility now puts zucchini in the macaroni and cheese, and the cook recalled one child saying, "*I like the pickles!*"

First Environments Early Learning Center

In a session held in the east, staff from First Environments Early Learning Center (FEELC) shared their success in implementing healthy child care meals that are economical. FEELC is a private, non-profit, five star child care center that serves 200 children. They have participated in CACFP since the late 1980s and have one kitchen manager/cook as well as two part-time support staff. FEELC provides healthy, affordable meals "*by using more than one vendor, shopping at bulk food stores, preparing foods from scratch versus processed, making healthier choices when buying processed foods, and using tableware versus disposable products.*" A typical day's menu includes zucchini muffins for breakfast; sautéed NC green beans, apple slices, and turkey wraps with chive cream cheese, sliced turkey breast and shredded lettuce for lunch; and oatmeal bars for snack (**Figure 6**).

Figure 6. Typical day of meals at First Environments Early Learning Center

During their presentation, FEELC staff provided several cost comparisons. In one example, a case of canned pinto beans cost them $21.87 and a 25 lb. bag of dried pinto beans cost $12.28, with each yielding 200 servings. Thus, the per-serving cost of the canned beans was nearly twice that of the dried beans ($0.11 and $0.06, respectively).

FEELC staff ended with the recommendation that NC DPH *"should pour resources into trainings focused on menu planning, time management, and cooking classes; opportunities for networking and sharing of ideas during trainings; and, changes to the Creditable Foods list to promote healthier choices."*

Nutrition and Physical Activity Self-Assessment for Child Care (NAP-SACC)

Finally, in a session held in the central part of the state, Marcy Maury, with the Guilford County Partnership for Children (Smart Start), described their success using the Nutrition and Physical Activity Self-Assessment for Child Care (NAP-SACC). NAP-SACC contains an assessment tool that centers use to self-assess their policies and practices related to healthy eating and physical activity. Based on the assessments, and often in consultation with local health professionals, center employees identify specific areas needing improvement. NAP-SACC also includes several workshops that local health professionals can use with child care providers to motivate and facilitate change.

As a result of participating in the Guilford County NAP-SACC program, one director said, "*We changed our snack from graham crackers and juice to celery and carrots, crackers and other fruits and vegetables 3 times a week*." Another participant of NAP-SACC, a center cook, said, "*We did small things to start. [We] changed to low fat milk and fresh fruits 2-3 times a week.*" One teacher working in a center that participated in NAP-SACC reported losing over 100 lbs. as a result of the program. She attributed her success to the weekly weigh-ins that the child

care health consultant offered to the staff. It helped her to make changes that were good for her and the children. Rather than eating fast food, she now sits with the children and eats the same foods, which are now healthier options because of NAP-SACC. She also runs and plays with the children rather than sitting off to the side.

Results of Open Discussions – Feedback From a Variety of Stakeholders

After presentations of local success stories, the last 1½ hours of each Listening Session were devoted to stakeholder feedback. The sessions were recorded in order to complement notes taken by NC DPH staff and to allow for later listening and reflection. Across the sessions, the following seven themes emerged.

1. **Increased food costs are a concern.**
   Although presentations of local success stories suggest that enhanced nutrition standards will not result in higher food costs, this was a concern expressed by some child care providers. Child care directors and cooks want resources and training on economical food preparation.

2. **For some foods, particularly whole grains, accessibility is an issue.**
   Child care directors and cooks expressed concern that some distributors they work with do not carry healthy options, including low fat milks and whole grain products. They asked if NC DPH could work with vendors to increase availability of healthy food options.

3. **All staff—directors, teachers, and cooks—need more training on nutrition.**
   Echoed across all sessions was the need for more training on menu planning and food preparation/cooking skills. In addition, trainings need to be offered at more convenient times, such as evenings and weekends, and in different formats, such as web-based or CD-ROM.

4. **The food production capacities of various types of kitchen facilities need to be considered.**
   Many child care facilities have limited kitchens and storage facilities. Given these limitations, they asked for menus and recipes designed specifically for kitchens with limited facilities.

5. **The needs of family child care homes are different than those of child care centers.**
   Similar to facilities with limited kitchens, sponsors of family child care homes expressed the need for materials specific to home providers. Resources need to be simple and easy to use. In particular, family child care home providers need training on time management around food preparation, so that food preparation does not take away from their interactions with the children.

6. **The enhanced standards should not require elaborate math skills.**
   Any enhanced nutrition standards should be food versus nutrient based so as not to require a lot of nutrition knowledge or math skills. Several child care providers and NC

DPH staff recommended changes to the creditable foods guide (described later) as one way to make the standards easy to implement.

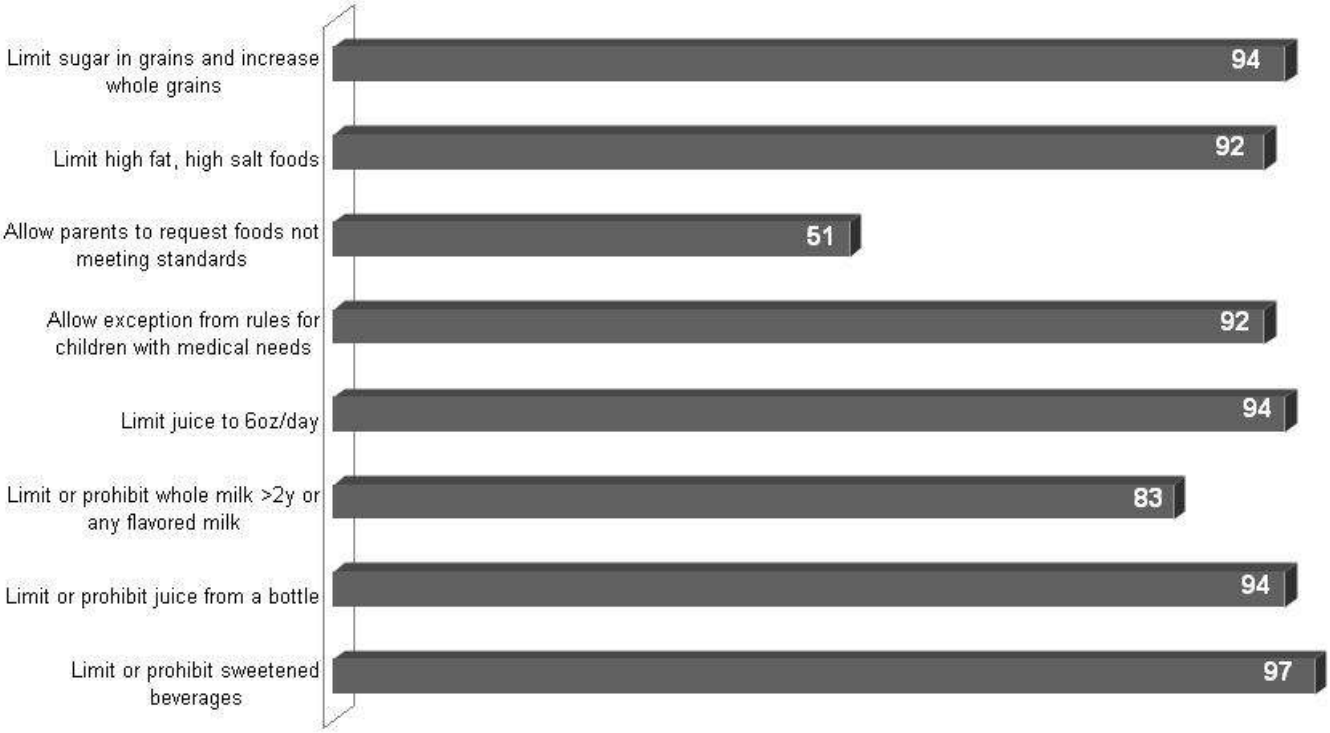
7. **Parents also need education.**
   Child care providers need credible resources for parents. It will be important to have information on the new standards that they can give to parents. However, materials on general concepts of good nutrition for children are also needed.

FEEDBACK FROM NC PHYSICIANS

Finally, as a complement to the Listening Sessions, NC DPH staff attended the October meeting of the NC Pediatric Society. Information on the background and plan for enhanced child care nutrition standards was shared with the attending members and a brief survey was administered. The survey contained eight items, one item for each of the previously recommended standards, and asked the physicians whether they would support implementation of a particular standard (yes/no). Open comments were also elicited.

Results of the survey show that the pediatricians surveyed (n=37) were highly supportive of the recommended nutrition standards for child care, except for the standard that would allow parents to request foods not meeting the standards (for non-medical reasons) (**Figure 7**). Pediatricians' comments are presented in **Box 2**.

Figure 7. Percent of NC physicians (n = 37) agreeing with enhanced child care nutrition standards



Box 2. Select comments from North Carolina pediatricians

"If we can get these children to eat right at this early stage and add an education component for parents to ensure adherence, we will have made a significant change in obesity prevention."

"I promote sugar-free beverages for all children over 2 years."

"Why do they even have to serve juice? I would recommend no sweet drinks -- just milk and water."

"[I recommend to] limit, not exclude [high fat, high salt foods]."

"Schools commonly serve fruit loops and frosted flakes for cereal in the morning. What kind of message does this send to our kids?"

The following comments are all specific to the recommendation to "*Create an exception from the rules to allow a parent or guardian, or to allow the center upon request of a parent or guardian, to provide to a child food and beverages that may not meet the nutrition standards*,"…

"Not unless there is a medical or religious reason."

"[I] would recommend that parents be required to provide these foods."

"With guidance/recommendations from provider."

"Do not meet nutritional standards? Does this mean alternative diets? -- any exemption must meet nutritional standards."

MAKING IT HAPPEN!
IMPLEMENTING THE ENHANCED NUTRITION STANDARDS

North Carolina is primed to implement enhanced nutrition standards for child care. The success stories shared during the Listening Sessions show change is possible. However, the Listening Sessions also revealed obstacles providers may have to implementing healthier menus. The good news is that NC DPH has years of experience working with child care providers on nutrition and, importantly, was just awarded a three-year USDA Child Care Wellness Grant to implement *Kids Eat Smart Move More* (Kids ESMM).

Kids ESMM is a multi-level nutrition and physical activity intervention that will be implemented in NC child care facilities participating in CACFP. The specific goals and objectives of Kids ESMM are listed in Appendix F. Many of the activities in Kids ESMM will be directly relevant to implementation of the enhanced nutrition standards in *all* NC child care facilities. NC DPH plans to work closely with NC DCD to expand access to the following Kids ESMM components:

TRAINING ON EVIDENCE-BASED MODULES DEVELOPED BY RECOGNIZED HEALTH AUTHORITIES

Training modules will be offered in a variety of formats, including traditional face-to-face as well as webinars and interactive self-study CD-ROMS. Some modules that will be offered are:

1% or Less Milk Module
NC Division of Public Health, Nutrition Services Branch
The *1% or Less Milk* module encourages the use of 1% or less fat milk for children over two years of age in the child care center and in the child's home. This module includes nutrition education materials, lesson plans with supporting materials for use with parents and children, activities including taste testing and parent newsletters.

Care Connections
National Food Service Management Institute
Care Connections contains lessons specifically written for child care centers and family day care homes. There are 12 different lessons that can be used to train staff or that can be used by an individual. Topics include: Introduction to the CACFP, Nutrition Needs of Young Children, Meal Patterns for CACFP, Menu Planning, Food Preparation, Food Safety, Happy Mealtimes, Nutrition Education, Business Practices for Child Care, Special Needs in Child Care, Infant Feeding, and Food Purchasing/Procurement.
http://www.nfsmi.org/Templates/TemplateDivision.aspx?qs=cElEPTI0

Color Me Healthy
NC Cooperative Extension Service and the Physical Activity and Nutrition Branch
Color Me Healthy is a program developed to reach children ages four and five with fun, interactive learning opportunities on healthy eating physical activity. Through the use of color, music, and exploration of the senses, *Color Me Healthy* teaches children that healthy food and physical activity are fun. *Color Me Healthy* is designed to be used in family daycare homes, Heat Start classrooms, and childcare centers serving 4 and 5 year olds. The module contains 12 lessons designed for use during Circle Time, four sets of picture cards, a music CD, full color teacher's guide, a hand stamp, activities, posters and parent newsletters. Many components of the module are also available in Spanish.
http://www.colormehealthy.com/index.html

Cooks for Kids
National Food Service Management Institute
Cooks for Kids is a series of satellite training programs from the National Food Service Management Institute that celebrates the fact that healthful food for children can, and should, be served everywhere. Although *Cooks for Kids* is geared toward schools, it can be applied to child care as well. Chef Marvin Woods demonstrates tasty ways to prepare healthier foods for school children. He also demonstrates easy classroom activities that reinforce healthy food concepts. Foods demonstrated by the chef emphasize seasonal as well as economical food production concepts.
http://www.nfsmi.org/Templates/TemplateDivision.aspx?qs=cElEPTQz.

Culinary Techniques for Healthy School Meals
National Food Service Management Institute
Culinary Techniques for Healthy School Meals is a series of lessons designed to help school nutrition teams prepare healthier school meals that appeal to the taste of today's students. Team members learn information about nutrition, food production and culinary techniques that will improve their school nutrition programs. This module can be adapted for child care centers. Each lesson contains a print and video component.
http://www.nfsmi.org/ResourceOverview.aspx?ID=266

Fit Nutrition for Preschoolers
NC Division of Public Health, Nutrition Services Branch
Fit Nutrition for Preschoolers is a resource to help educate child care providers on the benefits of healthy eating and daily physical activity, especially for preschoolers. The module includes a PowerPoint that can be used by child care providers to train staff. There are handouts that address healthy eating and physical activity. Some USDA child care recipes are included. In addition, there are nutrition and physical activity resources that can be used to help implement the recommended nutrition.. This resource can be used by family day care home providers as well.

Food For Thought
California Department of Education
The Food For Thought CD ROM is a colorful tool for operators of child care centers. The program is designed to teach young children three to five years of age about good nutrition and healthy food choices. There are charming illustrations, recipes for classroom use, and hands-on activities to help children learn concepts in science, math, language, and literacy. The chapters feature fruits and vegetables, protein sources, snacks, and whole grains. A list of children's books and songs are provided along with an appendix on use of the book with the Desired Results system.
http://www.cde.ca.gov/re/pn/rc/documents/fftflyer.pdf#search=food%20for%20thought&view=FitH&pagemode=none

Delivering a Nutrition Module Through The North Carolina Community College System

The *Kids* ESMM Project proposes to develop a module of teaching and learning resources, such as those listed above, that NC Community College faculty could utilize within applicable coursework. The NC Community College System is a statewide network of fifty-eight community colleges, with all 58 colleges offering an Early Childhood Education Associate degree program. The learning resource module would include the enhanced nutrition standards and offer implementation guidance in the areas of nutrition, meal planning, budgeting, and food purchasing and preparation. Hands-on learning techniques, similar to those taught in *Healthy Futures Starting in the Kitchen*, will be incorporated into the module. It is envisioned that this module could also be offered to child care providers in community venues that contain the appropriate kitchen facilities, such as schools, large child care centers, and Cooperative Extension offices. In developing this module, NC DPH will work closely with the NC Division of Environmental Health to ensure that the food preparation guidance is in line with applicable food safety and sanitation regulations.

Helping Child Care Facilities Identify Areas of Improvement Through the Nutrition and Physical Activity Self-Assessment for Child Care

NAP SACC is a provider-based program that is implemented in child care centers and that can be adapted for family child care homes. It is a practice-based intervention designed to enhance policies, practices, and environments in child care by improving the nutritional quality of food served, amount and quality of physical activity, staff-child interactions, and facility nutrition and physical policies and practices and related environmental characteristics. NAP SACC includes a 5-step intervention to help facilitate gradual change and promote continuous quality improvement. The NAP SACC intervention consists of:

1. **Organizational Self-assessment:** Child care directors or other lead staff assess the strengths and weaknesses of healthy eating practices and regular physical activity in the child care facility using a structured tool.

2. **Goal Setting and Action Planning**: Each participating facility sets goals for organizational change and develops a plan for improving areas in greatest need and/or in areas where staff are most ready and willing to make such changes.

3. **Continuing Education for Child Care Providers:** A series of five workshops aimed at increasing child care providers' knowledge of the relationship between nutrition, physical activity and the development of healthy weight in children, and guidelines and strategies for overcoming barriers to organizational change.

4. **Skill Building Activities:** The intervention imbeds skill-building activities in each continuing education workshop to allow staff to increase their confidence (self-efficacy) to make both personal lifestyle changes and organizational changes.

5. **Technical Assistance and Consultation:** NAP SACC Consultants promote problem solving, link child care facilities to community resources, assist staff as needed, and support organizational change.

As part of KESMM, all institutions participating in CACFP will be offered training on NAP SACC in order to evaluate change in their facility. Approximately half of all regulated centers in NC and three-quarters of all regulated homes participate in CACFP. DPH will work with DCD to provide initial training on NAP SACC to facilities *not* participating in CACFP, as well as creative ways to provide technical assistance and consultation to all facilities thereafter. DPH will coordinate NAP SACC training with similar training opportunities offered by the Smart Start Program.

Sharing through Social Marketing Networks

There is a high usage rate of social media networks which provide information and education. A social media network site, such as Facebook, will be established as a mode of providing communication and updates to child care facilities from DPH, as well as a tool for outreach. By using Facebook, institutions will have 24/7 access to DPH updates, as well as have the capability of submitting comments, questions, pictures, ideas, and video clips of their efforts to improve the nutrition standards in their centers and homes.

Changing the Crediting Foods Guide and Working with Vendors

The Crediting Foods Guide (CFG) is a resource designed for facilities participating in CACFP. The CFG outlines foods which are and are not creditable in CACFP and provides answers to frequently asked questions. The list of creditable and non-creditable foods included in the CFG is not all-inclusive, but rather represents foods for which CACFP consultants have received inquiries. However, the lists are quite comprehensive, as can be seen in the sample section for meat/meat alternates provided in Appendix F.[1] DPH nutritionists can identify foods in the CFG that will have daily or weekly limits, including grains and fruits high in added sugars and highly processed meat, poultry, and fish products high in fat and sodium. This will provide easy guidance for child care providers, rather than requiring elaborate math skills.

[1] The full publication can be accessed through the DPH website at: http://www.nutritionnc.com/snp/pdf/credfood.pdf.

DPH nutritionists will also work with food vendors/distributors to increase the availability of healthy options for child care facilities, including low-fat milks and meats, whole grain breads and pastas, brown rice, and low-sugar grain and fruit products. They will also work with vendors to stock healthier options of commercial mixed dishes containing a Child Nutrition label, or CN label. The CN label is a voluntary federal labeling program for the Child Nutrition programs, which allows manufacturers to state a product's contribution to the CACFP meal pattern requirements. Many of these foods are highly processed and high in fat and sodium. However, lower-fat, whole grain options do exist, and DPH nutritionists can determine the extent to which they are available to child care facilities in NC.

SUMMARY

In North Carolina, rates of overweight and obesity among children 0-5 years are at an all-time high. This is concerning, since overweight children are more likely to become overweight adults, to have serious chronic diseases, and to incur greater costs to the healthcare system. Despite being the cornerstone of obesity prevention, few Americans, including young children, meet the healthy eating recommendations published in the Dietary Guidelines for Americans (DGAs).

The child care setting is a critical component to any childhood overweight prevention strategy, because many young children consume the majority of their meals and snacks while in child care. Unfortunately, child care facilities are missing the opportunity to instill healthy eating habits in young children. Several studies have documented poor compliance of child care menus with the DGAs, with menus often low in fruits, vegetables, and whole grains, yet abundant in foods containing added fats, salt, and sugar.

While several leading health authorities have developed recommended nutrition standards for child care facilities, few states have answered the call. However, North Carolina is set to lead. With expertise in the fields of nutrition and early childhood education, the Division of Public Health and the Division of Child Development endorse, and are prepared to implement, through a phased strategy, the following enhanced nutrition standards for child care settings:

<u>Phase 1</u>

- Prohibit the serving of sweetened beverages, other than 100% fruit juice, to children of any age.
- Prohibit the serving of more than six ounces of juice per day to children of any age.
- Prohibit the serving of juice from a bottle.
- Prohibit the serving of whole milk to children two years of age or older.
- Prohibit the serving of flavored milk to children of any age.
- Create an exception from the rules for parents of children who have medical needs, special diets, or food allergies.

<u>Phase 2</u>

- Limit the number of grains containing added sugars and increase the number of whole grains.
- Limit foods high in fat and salt.

This phased implementation strategy will provide DPH and DCD the time necessary to develop training materials and resources for child care facilities, as well as time to work with food vendors to ensure availability of healthy options.

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APPENDICES

Appendix A. Child care rules for increasing physical activity and breastfeeding opportunities

Appendix B. SL 2010-117

Appendix C. CACFP meal pattern guidelines

Appendix D. NC healthy eating grades for child care

Appendix E. Child care nutrition recommendations by leading health authorities

Appendix F. Goals and objectives of Kids ESMM

Appendix G. Sample of creditable foods guide

APPENDIX A: CHILD CARE RULES FOR INCREASING PHYSICAL ACTIVITY AND BREASTFEEDING OPPORTUNITIES

SECTION .0500 - AGE AND DEVELOPMENTALLY APPROPRIATE ENVIRONMENTS FOR CENTERS

10A NCAC 09 .0508 ACTIVITY SCHEDULES AND PLANS FOR CENTERS

(a) All centers shall have a schedule for each group of children posted for easy reference by parents and by caregivers.

(b) When children two years old or older are in care, the schedule shall include the following:

(1) Show blocks of time usually assigned to types of activities and shall include periods of time for both active play and quiet play or rest.

(2) Show blocks of time that are scheduled for activities for indoor and outdoor areas.

(3) Reflect times and activities that are developmentally appropriate for the children in care.

(4) Reflect daily opportunities indoors and outdoors for free-choice activities, teacher-directed activities, and a minimum total of one hour of outdoor time throughout the day, if weather conditions permit. When children are in care for four hours or less per day the center shall provide a minimum total of 30 minutes of outdoor time daily, if weather conditions permit.

(c) When children under two years old are in care, the schedule shall include regular daily events such as arrival and departure, free choice times, outside time and teacher-directed activities. Interspersed among the daily events shall be individualized caregiving routines such as eating, napping and toileting. There shall be a minimum of 30 minutes of outdoor time throughout the day either as part of a small group, whole group, or individual activity, if weather conditions permit.

(d) All centers shall develop a written plan of developmentally appropriate activities designed to stimulate social, emotional, intellectual and physical development for each group of children in care.

(1) The activity plan shall always be current and accessible for easy reference by parents and caregivers.

(2) The activity plan shall include at least one daily activity for each developmental goal specified in this Paragraph. Activities which allow children to choose to participate with the whole group, part of the group, or independently shall be identified. The plan shall reflect that the children have at least four different activities daily, at least one of which is outdoors, if weather conditions permit.

(3) The activity plan shall also include a daily gross motor activity which may occur indoors or outdoors.

(e) The schedule and activity plan may be combined as one document that shall always be current and posted for easy reference by parents and caregivers.

History Note: Authority G.S. 110-85; 110-91(2),(12); 143B-168.3;
Eff. July 1, 1988;
Amended Eff. July 1, 2010; July 1, 1998.

SECTION .0900 - NUTRITION STANDARDS

10A NCAC 09 .0901 GENERAL NUTRITION REQUIREMENTS

(a) Meals and snacks served to children in a child care center shall comply with the Meal Patterns for Children in Child Care Programs from the United States Department of Agriculture (USDA) which are based on the recommended nutrient intake judged by the National Research Council to be adequate for maintaining good nutrition. The types of food, number and size of servings shall be appropriate for the ages and developmental levels of the children in care. The Meal Patterns for Children in Child Care Programs are incorporated by reference and include subsequent amendments. A copy of the Meal Patterns for Children in Child Care Programs is available free of charge from the Division at the address in Rule .0102(1) of this Chapter.

(b) Menus for nutritious meals and snacks shall be planned at least one week in advance. At least one dated copy of the current week's menu shall be posted where it can be seen easily by parents and food preparation staff when food is prepared or provided by the center, except in centers with a licensed capacity of 3 to 12 children located in a residence. A variety of food shall be included in meals and snacks. Any substitution shall be of comparable food value and shall be recorded on the menu.

(c) When children bring their own food for meals or snacks to the center, if the food does not meet the nutritional requirements specified in Paragraph (a) of this Rule, the center must provide additional food necessary to meet those requirements.

(d) Drinking water must be freely available to children of all ages. Drinking fountains or individual drinking utensils shall be provided. When a private water supply is used, it must be tested by and meet the requirements of the Commission for Public Health.

(e) Children's special diets or food allergies shall be posted in the food preparation area and in the child's eating area.

(f) The food required by special diets may be provided by the center or may be brought to the center by the parents. If the diet is prescribed by a health care professional, a statement signed by the health care professional shall be on file at the center and written instructions shall be provided by the child's parent, health care professional, or a licensed dietician/nutritionist. If the diet is not prescribed by a health care professional, written instructions shall be provided by the child's parent and shall be on file at the center.

(g) Food and beverages with little or no nutritional value served as a snack, such as sweets, fruit drinks, soft drinks, etc., shall be available only for special occasions.

(h) Accommodations for breastfeeding mothers shall be provided that include seating and an electrical outlet in a place other than a bathroom that is shielded from view by staff and the public which may be used by mothers while they are breastfeeding or expressing milk.

History Note: Authority G.S. 110-85; 110-91(2); 143B-168.3;
Eff. January 1, 1986;
Amended Eff. July 1, 2010; July 1, 1998; October 1, 1991; November 1, 1989.

APPENDIX B: SL 2010-117

GENERAL ASSEMBLY OF NORTH CAROLINA
SESSION 2009

SESSION LAW 2010-117
HOUSE BILL 1726

AN ACT TO REQUIRE THE CHILD CARE COMMISSION, IN CONSULTATION WITH THE DIVISION OF CHILD DEVELOPMENT OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES, TO DEVELOP IMPROVED NUTRITION STANDARDS FOR CHILD CARE FACILITIES, TO DIRECT THE DIVISION OF CHILD DEVELOPMENT TO STUDY AND RECOMMEND GUIDELINES FOR INCREASED LEVELS OF PHYSICAL ACTIVITY IN CHILD CARE FACILITIES, AND TO DIRECT THE DIVISION OF PUBLIC HEALTH TO WORK WITH OTHER ENTITIES TO EXAMINE AND MAKE RECOMMENDATIONS FOR IMPROVING NUTRITION STANDARDS IN CHILD CARE FACILITIES.

The General Assembly of North Carolina enacts:

SECTION 1. G.S. 110-91(2) reads as rewritten:

"(2) Health-Related Activities. – The Commission shall adopt rules for child care facilities to ensure that all children receive nutritious food and beverages according to their developmental needs. After consultation with the State Health Director, The Commission shall consult with the Division of Child Development of the Department of Health and Human Services to develop nutrition standards shall to provide for requirements appropriate for children of different ages. In developing nutrition standards, the Commission shall consider the following recommendations:

a. Limiting or prohibiting the serving of sweetened beverages, other han 100% fruit juice, to children of any age.
b. Limiting or prohibiting the serving of whole milk to children two years of age or older or flavored milk to children of any age.
c. Limiting or prohibiting the serving of more than six ounces of juice per day to children of any age.
d. Limiting or prohibiting the serving of juice from a bottle.
e. Creating an exception from the rules for parents of children who have medical needs, special diets, or food allergies.
f. Creating an exception from the rules to allow a parent or guardian, or to allow the center upon the request of a parent or guardian, to provide to a child food and beverages that may not meet the nutrition standards.

Each child care facility shall have a rest period for each child in care after lunch or at some other appropriate time and arrange for each child in care to be out-of-doors each day if weather conditions permit."

SECTION 2. The Department of Health and Human Services, Division of Child Development, shall examine the current levels of physical activity children receive in child care facilities and review model physical activity guidelines. Not later than September 1, 2011, the Division shall report its findings and recommendations for increasing physical activity levels in child care facilities, with a goal of reaching model guidelines, to the Legislative Task Force on Childhood Obesity, if reestablished, to the Public Health Study Commission, and to the Fiscal Research Division.

SECTION 3. The Department of Health and Human Services, Division of Public Health, in conjunction with the Division of Child Development, nutritionists, pediatricians, and child care providers, shall examine the current nutrition standards for children in child care facilities. This examination shall be conducted in consideration of any potential changes in the federal guidelines related to the Child and Adult Care Food Program. Not later than December

1, 2010, the Division of Public Health shall report its findings and recommendations for improving nutrition standards in child care facilities to the Legislative Task Force on Childhood Obesity, if reestablished, to the Public Health Study Commission, and to the Fiscal Research Division.

SECTION 4. This act is effective when it becomes law.

In the General Assembly read three times and ratified this the 9th day of July, 2010.

s/ Walter H. Dalton
President of the Senate

s/ Joe Hackney
Speaker of the House of Representatives

s/ Beverly E. Perdue
Governor

Approved 3:23 p.m. this 20th day of July, 2010

APPENDIX C: CACFP MEAL PATTERN GUIDELINES

Chart 4A — CHILD AND ADULT CARE FOOD PROGRAM MEAL PATTERNS

BREAKFAST

SERVE ALL THREE COMPONENTS FOR A REIMBURSABLE BREAKFAST

FOOD COMPONENTS AND FOOD ITEMS	CHILDREN AGES 1 and 2	CHILDREN AGES 3-5	CHILDREN AGES 6-12[1]	ADULTS
Milk				
Fluid milk	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Vegetable or Fruit				
Full strength juice[2], fruit, and/or vegetable	1/4 cup	1/2 cup	1/2 cup	1/2 cup
Grains/Breads[3]				
Bread *or*	1/2 slice	1/2 slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin *or*	1/2 serving	1/2 serving	1 serving	2 servings
Cold dry cereal[4] *or*	1/4 cup or 1/3 oz[4]	1/3 cup or 1/2 oz[4]	3/4 cup or 1 oz[4]	1-1/2 cup or 2 oz[4]
Cooked cereal grains *or*	1/4 cup	1/4 cup	1/2 cup	1 cup
Cooked pasta or noodles	1/4 cup	1/4 cup	1/2 cup	1 cup

[1] Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.
[2] Full strength vegetable and/or fruit juice or an equivalent quantity of any combination of vegetable(s) or fruit(s), and juice.
[3] Breads and grains must be enriched or whole-grain or made from enriched or whole-grain flour or meal that may include bran and/or germ. Cereal must be whole-grain or enriched or fortified.
[4] Either volume (cup) or weight (oz), whichever is less.

Chart 4B CHILD AND ADULT CARE FOOD PROGRAM MEAL PATTERNS

LUNCH

SERVE ALL FOUR COMPONENTS FOR A REIMBURSABLE LUNCH

FOOD COMPONENTS AND FOOD ITEMS[1]	CHILDREN AGES 1 and 2	CHILDREN AGES 3-5	CHILDREN AGES 6-12[1]	ADULTS
Milk				
Fluid milk	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Vegetable or Fruit[2] Two or more servings of vegetables and/or fruits				
Juice[2], fruit and/or vegetable	1/4 cup total	1/2 cup total	3/4 cup total	1 cup total
Grains/Breads[3]				
Bread *or*	1/2 slice	1/2 slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin *or*	1/2 serving	1/2 serving	1 serving	2 servings
Cooked cereal grains *or*	1/4 cup	1/4 cup	1/2 cup	1 cup
Cooked pasta or noodles	1/4 cup	1/4 cup	1/2 cup	1 cup
Meat/Meat Alternate[4, 5, 6, 7, 8]				
Lean meat or poultry or fish[4] *or*	1 oz	1-1/2 oz	2 oz	2 oz
Alternate protein products[5]	1 oz	1-1/2 oz	2 oz	2 oz
Cheese *or*	1 oz	1-1/2 oz	2 oz	2 oz
Egg (large) *or*	1/2 large egg	3/4 large egg	1 large egg	1 large egg
Cooked dry beans or peas *or*	1/4 cup	3/8 cup	1/2 cup	1/2 cup
Peanut or other nut or seed butters *or*	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp
Nuts and/or seeds[6, 7] *or*	1/2 oz = 50%[7]	3/4 oz = 50%[7]	1 oz = 50%	1 oz = 50%
Yogurt[8]	4 oz or 1/2 cup	6 oz or 3/4 cup	8 oz or 1 cup	8 oz or 1 cup

[1] Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

[2] Serve two or more kinds of vegetable(s) and/or fruit(s). Full-strength vegetable or fruit juice may be counted to meet not more than one-half of this requirement.

[3] Grains/breads must be whole grain or enriched, made from whole-grain or enriched flour or meal which may include bran and/or germ. Cereal must be whole-grain or enriched or fortified.

[4] A serving consists of the edible portion of cooked lean meat or poultry or fish.

[5] Alternate protein products must meet requirements in Appendix A of 7 CFR Part 226.

[6] Nuts and seeds may meet only one-half of the total meat/meat alternate serving and must be combined with another meat/meat alternate to fulfill the lunch requirement.

[7] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

[8] Yogurt may be plain or flavored, unsweetened, or sweetened – commercially prepared.

Chart 4C CHILD AND ADULT CARE FOOD PROGRAM MEAL PATTERNS

SUPPER

SERVE ALL FOUR COMPONENTS FOR A REIMBURSABLE SUPPER

FOOD COMPONENTS AND FOOD ITEMS[1]	CHILDREN AGES 1 and 2	CHILDREN AGES 3-5	CHILDREN AGES 6-12[1]	ADULTS
Milk				optional
Fluid milk	4 fl oz (1/2 cup)	6 fl oz (3/4 cup)	8 fl oz (1 cup)	8 fl oz (1 cup)
Vegetable or Fruit[2] Two or more servings of different vegetables and or fruits				
Juice[2], fruit and/or vegetable	1/4 cup total	1/2 cup total	3/4 cup total	1 cup total
Grains/Breads[3]				
Bread *or*	1/2 slice	1/2 slice	1 slice	2 slices (servings)
Cornbread or biscuit or roll or muffin *or*	1/2 serving	1/2 serving	1 serving	2 servings
Cooked cereal grains *or*	1/4 cup	1/4 cup	1/2 cup	1 cup
Cooked pasta or noodles	1/4 cup	1/4 cup	1/2 cup	1 cup
Meat/Meat Alternate[4, 5, 6, 7, 8]				
Lean meat or poultry or fish[4] *or*	1 oz	1-1/2 oz	2 oz	2 oz
Alternate protein products[5] *or*	1 oz	1-1/2 oz	2 oz	2 oz
Cheese *or*	1 oz	1-1/2 oz	2 oz	2 oz
Egg (large) *or*	1/2 large egg	3/4 large egg	1 large egg	1 large egg
Cooked dry beans or peas *or*	1/4 cup	3/8 cup	1/2 cup	1/2 cup
Peanut or other nut or seed butters *or*	2 Tbsp	3 Tbsp	4 Tbsp	4 Tbsp
Nuts and/or seeds[6, 7] *or*	1/2 oz = 50%[7]	3/4 oz = 50%[7]	1 oz = 50%	1 oz = 50%
Yogurt[8]	4 oz or 1/2 cup	6 oz or 3/4 cup	8 oz or 1 cup	8 oz or 1 cup

[1] Children age 12 and older may be served larger portions based on their greater food needs. They may not be served less than the minimum quantities listed in this column.

[2] Serve two or more kinds of vegetable(s) and/or fruit(s). Full-strength vegetable or fruit juice may be counted to meet not more than one-half of this requirement.

[3] Grains/Breads must be whole-grain or enriched, or made from whole-grain or enriched flour or meal that may include bran and/or germ. Cereal must be whole-grain or enriched or fortified.

[4] A serving consists of the edible portion of cooked lean meat or poultry or fish.

[5] Alternate protein products must meet requirements in Appendix A of 7 CFR Part 226.

[6] Nuts and seeds may meet only one-half of the total meat/meat alternate serving and must be combined with another meat/meat alternate to fulfill the supper requirement.

[7] Nuts and seeds are generally not recommended to be served to children ages 1-3 since they present a choking hazard. If served, nuts and seeds should be finely minced.

[8] Yogurt may be plain or flavored, unsweetened, or sweetened – commercially prepared.

APPENDIX D: NC HEALTHY EATING GRADES FOR CHILD CARE

State Regulations for Child Care:
Healthy Eating and Physical Activity

NORTH CAROLINA OVERALL GRADE: C

Healthy Eating Grades

Centers	Homes
C-	C-

Centers	Homes	Healthy Eating Regulations in North Carolina
✔		Foods of low nutritional value are served infrequently
		Sugar sweetened beverages are not served
		Children older than two years are served reduced fat milk
✔	✔	Clean, sanitary drinking water is available for children to serve themselves throughout the day
		Nutrition education is offered to child care providers
		Juice is limited to a total of 4-6 ounces per day for children over one year of age
	✔	Child care providers do not use food as a reward or punishment
		Nutrition education is offered to children
		At least one child care provider sits with children at the table and eats the same meals and snacks
		Providers encourage, but do not force, children to eat

**Checkmark indicates presence of state regulation*

Physical Activity Grades

Centers	Homes
B-	C-

Centers	Homes	Physical Activity Regulations in North Carolina
✔	✔	Children are provided with physical activity daily
		Television, video, and computer time are limited
		Child care providers do not withhold active play time as punishment
		Children with special needs are provided opportunities for active play while other children are physically active
✔	✔	Children are provided outdoor active play time
✔		Physical activity education is offered to child care providers
		At least one provider joins children in active play
✔		Shaded areas are provided during outdoor play
✔		Children are not seated for long periods of time
		Physical activity education is offered to children

**Checkmark indicates presence of state regulation*

APPENDIX E: CHILD CARE NUTRITION RECOMMENDATIONS BY LEADING HEALTH AUTHORITIES

In addition to the 2010 IOM recommendations for CACFP, several other leading health authorities have released statements about nutrition in child care.

THE AMERICAN DIETETIC ASSOCIATION

In 2005 the American Dietetic Association (ADA) released a position statement entitled, "Benchmarks for Nutrition Programs in Child Care Settings." This report highlighted the dramatic rise in maternal employment that occurred in the latter quarter of the 20th century, as well as the concurrent increase in the number of child care facilities. Among mothers with children younger than 6 years, only 18% were employed in 1960 compared to 65% in 2000. This was mirrored by an increase in child care facilities from 25,000 in 1977 to more than 117,000 in 2004. Moreover, according to a recent report by the U.S. Census Bureau, more than a quarter of all U.S. children under the age of five years are enrolled in some form of regulated child care, such as a child care center, Head Start, or a family day care home.

Prompted by these statistics, ADA developed and recommended a set of nutrition standards for regulated child care programs that included provisions for meal plans, food preparation and food service, the physical and emotional environment, and nutrition consultation and training. Standards relevant to the prevention of obesity include:

- Menus should be nutritionally adequate and consistent with the Dietary Guidelines for Americans
- Plenty of fresh or frozen fruits and vegetables and whole-grain products should be offered to children
- The addition of fat, sugar, and sources of sodium should be minimized
- Child care personnel should encourage positive experiences with food and eating
- Caregivers should receive appropriate training in nutrition and food service
- Child care programs should obtain consultation and technical assistance from a dietetics professional on a regularly scheduled basis
- Nutrition education for children and for their parents should be a component of the child care program

AMERICAN ACADEMY OF PEDIATRICS, AMERICAN PUBLIC HEALTH ASSOCIATION, AND THE NATIONAL RESOURCE CENTER FOR HEALTH AND SAFETY IN CHILD CARE AND EARLY EDUCATION

In addition to the nutrition standards published by ADA, there has been, since 1992, a set of nutrition standards published in "Caring for Our Children: National Health and Safety Performance Standards." Caring for Our Children (CFOC) is a collaborative publication of the American Academy of Pediatrics, the American Public Health Association, and the National Resource Center for Health and Safety in Child Care and Early Education. The 3rd edition of CFOC, scheduled for publication in 2011, contains several revised nutrition standards targeted specifically at the prevention of childhood obesity.

Standard: Children in care should be offered items of food from the following categories:		
Food Groups	USDA (DGAs/MyPyramid)	Guidelines for Young Children
Grains	Grains & Breads: Make ½ your grains whole	Whole Grains – breads, cereals, pastas
Vegetables	Vegetables & Fruits: Vary your veggies	• Dark green, orange, deep yellow vegetables • Potatoes and other root vegetables
Fruits	Vegetables & Fruits: Focus on Fruits	• Eat a variety, especially whole fruits • Whole fruit, mashed or pureed, for infants 7 months up to one year of age • No juice before 12 months of age • 4 to 6 oz juice/day for 1 to 6 year olds • 8 to 12 oz juice/day for 7 to 12 year olds
Milk	Milk: Get your calcium-rich foods	• Human milk, infant formula • Whole milk for children ages 1 year of age up to 2 years of age or reduced fat (2%) milk for those at risk for obesity or hypercholesterolemia • 1% or skim milk for children 2 years of age and older • Other milk equivalent products such as yogurt and cottage cheese (low-fat for children 2 years of age and older)
Meat & Beans	Meat & Meat Alternatives: Go lean with protein	• Chicken, fish, lean meat • Legumes (dried peas, beans) • Avoid fried meats
Oils	Know the limits on fats	• Choose monounsaturated and polyunsaturated fats (olive oil, safflower oil) • Avoid trans fats, saturated fats and fried foods
Sugar/salt	Know the limits of sugars and salt (sodium)	Avoid or Limit: • Avoid concentrated sweets such as candy, sodas, sweetened drinks, fruit nectars, and flavored milk • Limit salty foods such as chips and pretzels

CACFP National Professional Association

In 2008, the National Professional Association of the Child and Adult Care Food Program (CACFP) released a more specific set of recommendations targeted at the CACFP meal pattern guidelines.

To better align the CACFP meal pattern guidelines with the Dietary Guidelines for Americans, the CACFP National Professional Association recommended the following:

Milk	Require that the fat content of milk for children ages 2 and above be fat free or 1% milk.
Fruit and Vegetables	Require • Serving vegetables or fruits high in Vitamin C (40% or more of the RDA) daily • Serving vegetables high in Vitamin A (40% or more of the RDA) 3 times per week • Fresh fruits or vegetables be served at least 3 times per week • A vegetable be served at lunch/supper
Juice	Require that fruit juice for children be limited to once a day
Whole Grains	Require that whole grains be served at least once daily. To be considered a whole grain, the first grain ingredient must be whole grain, not enriched.
Cereal	Require that CACFP creditable cereals contain less than 10 grams of sugar per ounce.
Sweet Grains	• Require that sweet grains (e.g. cinnamon rolls, doughnuts, brownies, cookies, etc.) be limited to no more than one breakfast item and no more than two snack items per week. • Require prepackaged sweet grain/bread foods must have enriched flour or meal, or whole-grain, instead of sugar, as the first ingredient listed on the package.
Processed Meats	• Require that processed meats (bacon, sausage, hot dogs, ham, and cold cuts) be limited to no more than twice a month. • Encourage, but not require: - serving lean or low fat meat, chicken, turkey and fish that has been grilled, broiled, steamed or baked - serving bean based entrees once a week

APPENDIX F: GOALS AND OBJECTIVES OF KIDS ESMM

Goal 1: **Develop policy and environmental change strategies to promote healthy eating and increased physical activity in child care facilities.**

Objective 1.1**:** By March 30, 2011, develop child care nutrition and physical activity standards that reflect the most recent guidance of the Dietary Guidelines and physical activity.

Objective 1.2: By September 30, 2011, develop educational materials for parents to access for information on incorporating healthy eating and increasing physical activity in the family structure.

Objective 1.3: By November 30, 2011, develop and distribute nutrition and physical activity educational materials for child care facilities, including materials for parents.

Objective 1.4: By December 30, 2011, begin the implementation of "Breastfeeding-Friendly Child Care" initiative.

Objective 1.5: By September 30, 2012, develop a physical activity and nutrition module in partnership with the North Carolina Community College system.

Objective 1.6: By November 30, 2012, solicit contractor and develop a web-based nutrition education and physical activity behavior change system for child care providers and parents.

Goal 2: Conduct training on resources to be used to promote healthy eating and increased physical activity in child care facilities and families.

Objective 2.1**:** By August 15, 2011, host a training session focusing on preschool nutrition and physical activity for Institutions participating in the CACFP. Training will be funded out of State Administrative Funds (SAE) and registration costs.

Objective 2.2: By June 30, 2012, develop nutrition and physical activity education and training using webinars, message boards, and social networking sites.

Objective 2.3: By September 30, 2012, conduct a total of eight trainings for child care institutions. Four trainings each offered two times regionally.

Objective 2.4: By November 30, 2012, develop a web-based nutrition and physical activity self-study module for child care providers.

Goal 3: Fund 200 *Kids* ESMM grants to implement policy and environmental strategies to promote healthy eating and increased physical activity in child care facilities.

Objective 3.1: By June 30, 2011, send the Request for Application to institutions participating in the Child and Adult Care Food Program.

Objective 3.2: By September 15, 2011, receive applications for *Kids* ESMM implementation from institutions.

Objective 3.3: By November 15, 2011, fund a total of 185 *Kids* ESMM grantees to implement policy and environmental strategies to promote healthy eating and increased physical activity.

Objective 3.4: By February 29, 2012, *Kids* ESMM project will receive quarterly reports from the *Kids* ESMM grantees.

Objective 3.5: By November 30, 2012, *Kids* ESMM will receive final report from *Kids* ESMM grantees.

Goal 4: Develop an outreach campaign designed to increase access to the program in underserved areas.

Objective 4.1: By March 30, 2011, update program logo and incorporate into outreach materials to convey consistent messaging across the state.

Objective 4.2: By April 30, 2011, participate with community organizations to promote the CACFP.

Objective 4.3: By July 15, 2011, schedule and host quarterly webinars with pre-licensed facilities to inform them about the CACFP.

Objective 4.4: By May 30, 2012, develop media packets for institutions to use in their local communities.

APPENDIX G: SAMPLE OF CREDITABLE FOODS GUIDE

Revised 1/2000 MEAT/MEAT ALTERNATES

CACFP regulations require that a lunch or supper must contain the required serving amount of meat or meat/alternate specified in the meal pattern. A serving of meat or meat/alternate may be used as one of the two components of a snack. When a meat meat/alternate is served as one of the two required components of a reimbursable snack, the amount specified in the snack pattern must be served. There is no requirement that a meat/meat alternate be served as part of a breakfast but it may be served as an optional component. A menu item must provide a minimum of ¼ ounce of cooked, lean meat or it's equivalent, to be counted toward meeting any part of the meat or meat/alternate requirement.

Meat and meat/alternates include lean meat, poultry, fish, cheese, an egg; yogurt, cooked dry beans or peas; nuts and seeds and their butters (except for acorn, chestnut and coconut); or an equivalent quantity of any combination of these foods. When cooked, dried beans or peas are counted as a meat alternative, they may not also be credited as a vegetable in the same meal.

Crediting for shellfish has been included. However, when including shellfish in menus, you should consider costing factors, acceptability, and the potential for food intolerances among both preschool and adult day care populations.

Alternate (formerly Textured Vegetable) Protein products are processed from soy or other vegetable protein sources and may be in a dehydrated granule, particle, or flake form. They also may be in a formed meat patty, chopped meat shape; resembling a meat product. The product may be colored or uncolored, seasoned or unseasoned, The current regulations **remove** the restrictions 1) that APP must be fortified with vitamins and minerals and 2) that no more than 30% of the meat/meat alternate component be APP; up to 100% APP may now meet the meat/meat alternate component. Alternative Protein products will resemble cooked meat, poultry, or fish. These products currently are being used successfully as meat/meat alternate extenders and/or substitutes in large Child Nutrition Programs. However, before using alternate vegetable protein products and claiming these meals for reimbursement, contact the FNS Regional office and/or your State agency for information and assistance on the preparation, serving, and crediting of these products.

Nuts and seeds may fulfill no more than one-half of the meat/meat alternate requirement for lunch/supper. You also should be aware of potential food intolerances or allergies with some populations. In such circumstances, you should make appropriate accommodations under the medical substitution requirement.

MEAT/ MEAT ALTERNATE

Food	Creditable yes	no	Comments
Acorns		x	Acorns have a low protein content.
Baco - Bits		x	
Bacon and Imitation Bacon Products		x	These products are considered as fats with little protein.
Bacon, Turkey	x		Turkey bacon is creditable only if it is a CN labeled product.
Beans, Dried or Canned	x		See pages 24-26 of the Food Buying Guide.
Beef Jerky	x		Beef jerky made with pure beef may be credited. 1 ounce of dried jerky equals 1 ounce lean, cooked meat. This product has a high sodium content and is difficult to chew.
Bologna	x		All meat (or poultry) products that do not contain by products, cereal, or extenders.
Canadian Bacon or Mild Cured Pork	x		1 lb. (16 oz.) will yield 11 - 1 oz servings of cooked, lean meat. See page 42 of the Food Buying Guide.
Canned or Frozen: Beef Stew Beef-a-Roni Chili Macaroni Meat Stew Pizza Pot Pies Ravioli	x		These products are creditable only if (1) they have a CN label or (2) a product analysis sheet signed by an official of the manufacturer (not a sales person). The documentation should state the amount of cooked, lean meat per serving.
Canned, Pressed Luncheon Meat (Potted/Deviled)		x	This product has a high salt and fat content.
Cheese Foods, Cheese Substitutes and Cheese Spreads	x		A 2 oz serving equals 1 oz of meat alternate. See page 31 of the Food Buying Guide.
Cheese, Imitation		x	
Cheese, Products		x	While cheese foods and spreads have a Standard of Identity, cheese products do not.
Cheese, Natural or Processed	x		
Cheese, Cottage or Ricotta	x		The portion size must be doubled. (A 2 ounce serving equals 1 ounce meat/meat alternate).