Report to the Texas Legislature

The Early Childhood Health and Nutrition Interagency Council

November 1, 2012

Senate Bill 395

This report was ordered by Senate Bill 395 of the 81st Regular Session and represents a collaboration of the following State Agencies:

Texas Education Agency

Texas Health and Human Services Commission

Texas Department of Family and Protective Services

Texas Department of State Health Services

Texas Department of Agriculture

Texas Workforce Commission

Texas A&M AgriLife Extension

Table of Contents

COUNCIL MEMBERS

Mary Riggs
Office of Program Coordination for Children and Youth
Health and Human Services Commission

Natalie Clifton, MEd, CHES
Physical Activity Coordinator for the Nutrition, Physical Activity and Obesity Prevention Program
Texas Department of State Health Services

Tracy Erickson, RD, IBCLC
WIC Breastfeeding Coordinator
Texas Department of State Health Services

Joseph Segovia
Texas Workforce Commission

Linda Simmons, MSHP, RD, LD
Nutrition Specialist, Child & Adult Care Food Program
Texas Department of Agriculture

Gina Day
Director of Early Childhood Education Services
Texas Education Agency

Lee Roberts
Child Care Licensing Division
Department of Family and Protective Services

Sharon Robinson, PhD, RD, LD
Associate Professor and Extension Nutrition Specialist
Texas A&M AgriLife Extension Service

STAKEHOLDERS

Glenda Overfelt
Head Start Director, Child Inc.
Expertise: Managing child care facilities

Blake Stanford
Southwest Human Development
Expertise: Managing child care facilities operated in a private residence

Arthi Krishnan, MD
Texas Pediatric Society Obesity Committee, Dallas, Texas
Expertise: Pediatric health

Stephen Pont, MD, MPH
Medical Director, Dell Children's Pediatric Obesity Programs
Expertise: Early childhood health

Kim Updegrove, RN, CNM, MSN, MPH
Clinical Director, Mothers' Milk Bank at Austin
Expertise: Registered nurse with medical experience in early childhood health

Norma Neal
Child Care Health Consultant
Expertise: Nonprofit organizations that provide family or wellness services

Deanna M. Hoelscher, PhD, RD, LD, CNS
Director, Michael & Susan Dell Center for Advancement of Healthy Living
Expertise: Community health education and outreach

Margaret Briley, PhD, RD, LD
Professor of Nutritional Sciences
The University of Texas at Austin
Expertise: Community health education and outreach

Rhonda Lane, MS, CNS
Expertise: Early childhood nutrition and physical activity

EXECUTIVE SUMMARY

BACKGROUND

Senate Bill 395, passed during the 81st Regular Session of the Texas Legislature, created the Early Childhood Health and Nutrition Interagency Council (the Council) to improve the health of Texas infants and children under the age of six. The Council was tasked with reviewing current research and making recommendations for improving the health of Texas children under the age of six. The Council centralizes the efforts of Texas state agencies to combat childhood obesity and address malnutrition and undernourishment by involving children, parents, families, caretakers and communities.

ISSUES

Teaching the youngest Texans how to eat right and exercise can benefit the state far into the future. Children and adolescents who are obese or overweight can carry poor health and nutrition habits into adulthood. The future implications for physical inaction include a wide range of economic, social and political consequences. Today, forming good health habits at an early age means giving parents and child care providers the tools they need to feed children healthy meals and to incorporate exercise into their daily routines. Improving infant health also means encouraging parents to make human breast milk available to their children.

A wide range of environmental factors can influence a child's risk for obesity in the first years of life. While important steps have been taken to reduce the incidence of obesity in the general population, many national efforts to prevent obesity overlook infants, toddlers and preschool children. Understanding the implications of that oversight and preventing its continuation is imperative.[1]

Texas has made great strides in educating parents and child care providers about the steps needed to improve health and nutrition for children under the age of six. Statewide initiatives, education efforts and research endeavors have improved nutrition and increased physical activity for many young Texans. Despite considerable progress, barriers to realizing the Council's charge remain.

The Council has compiled the following recommendations to advance Texas efforts in improving early childhood health and nutrition.

RECOMMENDATIONS OF THE EARLY CHILDHOOD HEALTH AND NUTRITION INTERAGENCY COUNCIL

- Provide statewide support and recognition of the Texas Mother-Friendly Worksite program that provides businesses with a written policy of support of breastfeeding for employees, including suitable accommodations and flexible scheduling for breastfeeding or milk expression.
- Support statewide the Texas Ten Step Program that recognizes hospitals and birthing facilities that address 85 percent of the "Ten Steps to Successful Breastfeeding" and provide technical assistance to help facilitate earning the Baby Friendly designation.
- Provide statewide support and implement a campaign to increase awareness of and access to nutrition assistance programs such as Child and Adult Care Food Program (CACFP), Supplemental Nutrition Program for Women, Infants and Children (WIC), Supplemental Nutrition Assistance Program (SNAP), Supplemental Nutrition Assistance Program Education (SNAPEd), and Expanded Food and Nutrition Education Program (EFNEP) that provide guidance for improving nutrition and health in early childhood settings.
- Align nutrition standards and meal patterns between CACFP and Texas Department of Family and Protective Services (DFPS) Child Care Licensing (CCL) for consistency and improved nutrient quality across all child care facilities preparing foods for infants and children under the age of six.
- Efforts will continue to work within child care facilities to increase the offering of fruits and vegetables on menus within cost restraints. However, "consumption" of vegetables and fruits as noted in SB 395 would incur evaluation cost that is not feasible for the Council. The Council will continue to receive feedback from these facilities on "consumption" but recognize this data cannot be validated.
- Continue efforts with DFPS CCL to include additional minimum physical activity standards in child care facilities for infants and children under the age of six.

INTRODUCTION

Texas Senate Bill 395, introduced by Senator Eddie Lucio, Jr., and Representative Eddie Lucio, III, in May 2009 during the 81st Texas Legislature called for the creation of a council to improve the health of Texas infants and children under the age of six by addressing the nutrition and physical activity practices in early childhood care settings.

The Council has been tasked with using its findings to provide the legislature with recommendations for removing barriers to improving nutrition and physical activity standards in early childhood care settings to lower the incidence of childhood obesity and food insecurity.

As mandated by SB 395, a council was formed with representatives from seven state agencies:

- Texas Department of Agriculture (TDA)
- Texas Department of State Health Services (DSHS): The Supplemental Nutrition Program for Women, Infants and Children (WIC) and the Nutrition, Physical Activity, and Obesity Prevention (NPAOP) Program
- Texas A&M AgriLife Extension Service
- Texas Workforce Commission (TWC)
- Texas Department of Family and Protective Services (DFPS)
- Texas Health and Human Services Commission (HHSC)
- Texas Education Agency (TEA)

These agencies have authority and expertise in the areas of infant and early childhood nutrition, physical activity and health. Each agency's commissioner or director appointed the corresponding representative.

SB 395 required the Council to ask for input and participation from stakeholders in at least two council meetings each year. The Council was required to invite at least six stakeholders with expertise in areas such as early childhood nutrition, child care, physical activity, community health, and pediatric medicine. Stakeholders contributed outcomes specific to their programs and/or profession through surveys, data collection and evaluations which are noted in the report.

THE EARLY CHILDHOOD NUTRITION AND PHYSICAL ACTIVITY SIX-YEAR PLAN

The Council's six-year plan calls for creating an evidence-based approach to promoting best practices for improving early childhood health through good nutrition and physical activity for children under the age of six. The Council was tasked with improving the health of young children in the state of Texas by centralizing efforts among Texas state agencies to combat childhood obesity, address malnutrition and undernourishment by involving children, parents, families, caretakers and communities. The Council reviewed existing standards for early childhood care settings and examined state programs that promote good nutrition and physical activity in early childhood. The Council and stakeholders used the information to prepare the six-year Early Childhood Nutrition and Physical Activity Plan. The six-year plan included numerous objectives, strategies and action steps for each council member and stakeholder to research and pursue. The plan was developed and approved by majority vote of Council members in July 2010 and submitted to the Texas Legislature and Governor in November 2010.

As mandated by SB 395, the six-year plan included recommendations to:

- Facilitate the consumption of breast milk in early childhood care settings
- Increase awareness among parents of the benefits of breastfeeding, healthy eating and appropriate activity in children under the age of six
- Increase fruit and vegetable consumption among children under the age of six
- Increase daily structured and unstructured physical activity in early childhood care settings
- Decrease malnutrition and undernourishment among children under the age of six
- Engage existing community and state resources and service providers to educate and increase the awareness of parents and caretakers regarding the need for proper nutrition

Sec. 115.011 of SB 395 requires the Council to submit a written report to both houses of the Texas Legislature and the Governor on or before November 1 of each even-numbered year beginning in 2012. This report satisfies the 2012 requirement and includes:

- The actions taken in furtherance of the six-year plan
- The areas that need improvement in implementing the six-year plan
- The programs and practices that address nutrition and physical activity in early childhood settings in the state

Data gathered in the past year from outcomes in the six-year plan were used to prepare the following report. These outcomes highlight the success and opportunities the state agencies and stakeholders have promoted to:

- Increase access to breast milk, whether direct-fed, expressed, or donor milk
- Increase consumption of fruits and vegetables
- Increase physical activity for infants and children under six
- Increase participation in nutrition assistance programs

The Council members and stakeholders gathered information from current data, surveys of existing programs, previous studies and held public meetings in 2010, 2011 and 2012 to discuss, collaborate and compile the information contained in this report. Background material and meeting minutes for the preparation of this report may be obtained by contacting TDA at (877) TEX-MEAL.

Organization of the Report

This report explains the Council's work in furtherance of the approved Early Childhood Nutrition and Physical Activity Six-Year Plan by listing the action steps found in the plan followed by background information related to the Action Step and the Council's response since November 2010. The responses include information submitted by state agency representatives and stakeholders that show successes, relevant data and other detailed information. For this report, each piece of the six-year plan will be organized in the following way:

- Action step from the approved Early Childhood Nutrition and Physical Activity Six-Year Plan followed by the description as it appears in the plan
- Background information and research relating to the action step
- Actions taken in furtherance of the six-year plan from November 2010-April 2012

CHILDHOOD HEALTH AND NUTRITION: DEFINITIONS

Phases in Early Childhood

Because of significant changes during the formative years of early childhood, the terms describing the different age groups need to be specific. This report uses the terms from The Minimum Standards for Child-Care Centers Definitions of Terms from DFPS, and they are as follows:[2]

- Infant — from birth to 17 months
- Toddler — from 18 months through 35 months
- Pre-kindergarten age — three and four years of age
- Kindergarten age — at least five years of age on Sept. 1
- School age — five years old or older and will attend school in August or September of that year

Levels of Activity

In an early childhood care setting, the caregiver can control a child's level of physical activity. It is important that any physical activity is age appropriate. According to the Physical Activity Definitions from National Policy & Legal Analysis Network to Prevent Childhood Obesity (NPLAN) the following are definitions used for physical activity:[3]

- Physical activity — any bodily movement produced by skeletal muscles that result in energy expenditure
- Structured physical activity — developmentally appropriate physical activity that is guided by the caregiver
- Unstructured physical activity — child-initiated physical activity that occurs as the child explores his or her environment

Food Insecurity and Hunger

In 2011 more than a quarter of children in Texas were food insecure.[4] Definitions of food insecurity and hunger are as follows:

- Food insecurity — the condition as assessed in the food security survey and represented in USDA food security reports as a household-level economic and social condition of limited or uncertain access to adequate food
- Hunger — an individual-level physiological condition that may result from food insecurity or prolonged, involuntary lack of food; results in discomfort, illness, weakness, or pain that goes beyond the usual uneasy sensation[5]

Childhood Overweight and Obesity

The Centers for Disease Control and Prevention (CDC) uses Body Mass Index (BMI) to determine a child's overweight or obesity level.[6] Important information regarding BMI includes:

- BMI at or above the 85th percentile but below the 95th percentile is the overweight category
- BMI above the 95th percentile is the obese category

Breast Milk and Breastfeeding

Breast milk is human milk fed directly from the breast or expressed and fed via bottle, cup, or other device and contains nutrients that closely match infant requirements for brain development, growth, and a healthy immune system. Human milk also contains immunologic agents and other compounds that act against viruses, bacteria and parasites.

World Health Organization (WHO) Breastfeeding Terminology[7]

Exclusive Breastfeeding

- Requires that the infant receive breast milk (including milk expressed or from a wet nurse)
- Allows the infant to receive medically necessary drops, syrups (vitamins, minerals, medicines)
- Does not allow the infant to receive anything else

Predominant Breastfeeding

- Requires that the infant receive breast milk (including milk expressed or from a wet nurse) as the predominant source of nourishment

- Allows the infant to receive liquids (water and water-based drinks, fruit, juice, oral rehydration solution), ritual fluids and drops or syrups (vitamins, minerals, medicines)
- Does not allow the infant to receive anything else (in particular non-human milk, food-based fluids)

Complementary Feeding

- Requires that the infant receive breast milk and solid or semi-solid foods
- Allows the infant to receive any food or liquid including non-human milk

Breastfeeding

- Requires that the infant receive breast milk
- Allows the infant to receive any food or liquid including non-human milk

Breastfeeding Peer Counselors

- Provide basic breastfeeding support

Certified Lactation Consultants

- Assist moms with more complicated issues

Child Care Facilities and Caregivers

Child care in early childhood can range from the parents or grandparents caring for a single child to a network of centers in different locales overseeing the care of hundreds of children. The licensing division of DFPS oversees these facilities using The Minimum Standards for Child-Care Centers. For this report, the current DFPS descriptions from its Definitions of Terms will be used.[8]

- Caregiver — A person whose duties include the supervision, guidance and protection of a child or children
- Center-based — A type of child day care in which the operation is licensed to care for seven or more children for less than 24 hours per day
- Child care center — A child day-care operation that is licensed to care for seven or more children for less than 24 hours per day, at a location other than the permit holder's home
- Child care home — The registered primary caregiver provides care in the caregiver's own residence for not more than six children from birth through 13 years, and may

provide care after school hours for not more than six additional elementary school children. The total number of children in care at any given time, including the children related to the caregiver, must not exceed 12. The term does not include a home that provides care exclusively for any number of children who are related to the caregiver.

- Child care facility — An establishment subject to regulation by licensing that provides assessment, care, training, education, custody, treatment or supervision for a child who is not related by blood, marriage, or adoption to the owner or operator of the facility, for all or part of the 24-hour day, whether or not the establishment operates for profit or charges for its services. A child care facility includes the people, administration, governing body, activities on or off the premises, operations, buildings, grounds, equipment, furnishings, and materials.

- Child day care — The care, supervision, training, or education of an unrelated child or children under 14 years old for less than 24 hours per day that occurs in a place other than the child's own home. This definition includes child day care provided to school-age children before the customary school day, after the customary school day, or both.

- Children who are related to the caregiver — Children who are the children, grandchildren, siblings, great-grandchildren, first cousins, nieces, or nephews of the caregiver, whether by affinity (marriage), consanguinity (blood) or as the result of a relationship created by court decree

- Home-based care — A type of child day care in which the operation is licensed or registered to care for up to 12 children for less than 24 hours per day

- Licensed child care home — A child day-care operation that is licensed. The primary caregiver provides care in the caregiver's own residence for children from birth through 13 years. The total number of children in care varies with the ages of the children, but the total number of children in care at any given time, including the children related to the caregiver, must not exceed 12.

- Listed family home — A child day-care operation that receives a listing permit. The caregiver is at least 18 years old and provides care for compensation in the caregiver's own home, for three or fewer children unrelated to the caregiver, birth through 13 years. Care is provided for at least four hours a day, three or more days a week, and for more than nine consecutive weeks. The total number of children in care, including children related to the caregiver, may not exceed 12.

- Parent — A person who has legal responsibility for or legal custody of a child, including the managing conservator or legal guardian

- Primary caregiver — The permit holder for a licensed or registered child care home. The primary caregiver is the person with ultimate authority and responsibility for the child care home's overall operation and compliance with Chapter 747, Minimum Standards for Child-Care Homes, Licensing statutes, and DFPS rules. The primary caregiver must live in the home where the care is provided.
- Regular care — A child care arrangement in which care is provided at least four hours a day, three or more days a week, for more than three consecutive weeks or four hours a day for 40 or more days in a period of 12 months in a registered child care home or listed family home

In Texas, there are 6,921 licensed child care centers providing infant care, which represents a capacity for 105,360 children under the age of 18 months. There are 9,814 licensed child care centers providing care to infant, toddler or pre-kindergarten children or all three groups. There are 1,904 licensed child care homes providing infant care and 6,861 registered child care homes providing infant care. Teaching these children good nutrition habits could impact Texas health costs for years to come.

Actions Taken in Furtherance of the Six-Year Plan and Programs and Practices that Address Nutrition and Physical Activity in Early Childhood Settings in the State

In the three years since the Council's creation, the state agencies and stakeholders participating on the Council have taken numerous steps to combat obesity and reduce food insecurity through outreach efforts that increase awareness of and access to nutrition-assistance programs for infants and children under the age of six.

The six-year plan divides the approach into action steps that address ways to increase breastfeeding; raise nutrition standards and increase physical activity in licensed child care facilities; increase consumption of fruits and vegetables for children under the age of six; and increase structured and unstructured moderate to vigorous physical activity requirements that simultaneously reduce screen time for infants and children under the age of six at licensed day care centers and homes. Following are the action steps, background information and the Council's actions in furtherance of the six-year plan.

Action A: Breast Milk and Breastfeeding

Increase the health and well-being of infants by promoting awareness among parents, families, caretakers and communities about the benefits of breastfeeding and facilitate the consumption of breast milk in early childhood care settings.

Background Information and Research

Infants receiving non-maternal care are likely to experience a variety of feeding patterns that lead to cessation of maternal breastfeeding or fewer breastfeeds a day.[9] Nearly 35 percent of U.S. mothers report that their babies, at just three months old, were cared for regularly by someone other than the mother.[10] Among mothers of three-month-old babies cared for outside of the home, 27 percent reported that their child care providers do not feed the baby pumped breast milk from the mother.[11] Even if a mother provides both formula and breast milk for her infant to receive during child care, some breastfeeding or expressed human milk from their mothers is beneficial.[12] Making breast milk available to infants when they are not in the care of their mothers is a critical step in improving the availability of breast milk. Providing worksite lactation support programs, such as the "Mother-Friendly Worksite" designation, so that mothers may maintain lactation and provide breast milk for their child even during periods of separation due to employment and day care facilities providing arrangements for breastfeeding supports such availability.

Because of the proven impact of maternity practices on breastfeeding outcomes, national Healthy People 2020 objectives include:

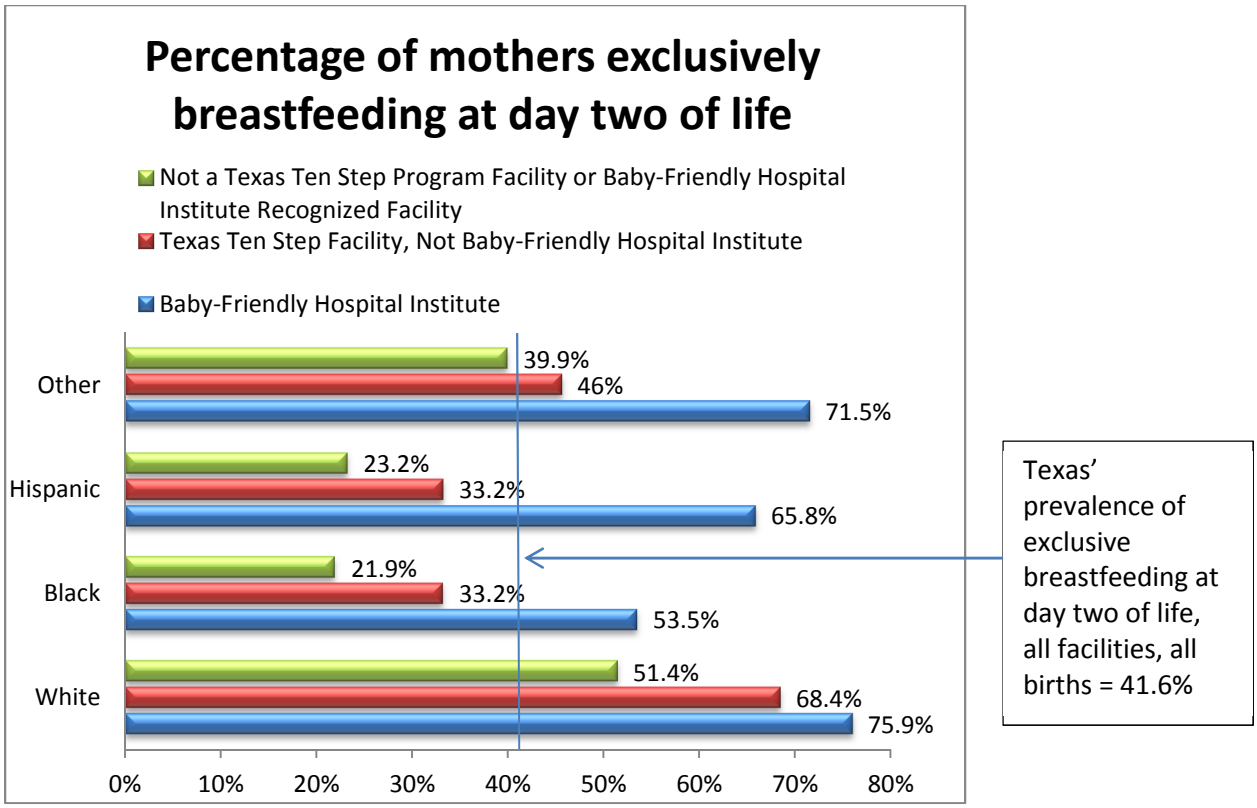
- Increase the proportion of live births that occur in facilities that provide recommended care for lactating mothers and their babies [as measured by number of live births occurring in Baby-Friendly designated facilities]
- Reduce the proportion of breastfed newborns who receive formula supplementation within the first two days of life

Actions Taken in Furtherance of the Six-Year Plan

DSHS promotes awareness to the community about the benefits of breastfeeding through the "Texas Mother-Friendly Worksite" designation. This is a recognition program that provides businesses with a written policy of support of breastfeeding for employees, including suitable accommodations and flexible scheduling for breastfeeding or milk expression. It was developed to fulfill requirements of Texas Health and Safety Code 165.003, Breastfeeding. DSHS was directed to establish recommendations supporting the practice of worksite breastfeeding and to maintain a registry of worksites that have a written breastfeeding policy addressing the recommendations, including provision of: work schedule flexibility for expression of milk; accessible locations allowing privacy; access to clean running water; and access to hygienic storage alternatives for storage of mother's breast milk. The department designated 501 new "Mother-Friendly Worksites" between November 1, 2010, and October 31, 2011.

DSHS launched a "Better by Breastfeeding/Right from the Start" campaign in November 2011 to increase awareness among key decision makers of the impact of hospital policies and practices on breastfeeding outcomes. The campaign illustrates the impact that hospital policies and practices have on breastfeeding outcomes and encourages hospitals to assess their current practices and consider opportunities for improvement.

The DSHS Texas Ten Step (TTS) Program recognizes hospitals and birthing facilities that are addressing 85 percent of the "Ten Steps to Successful Breastfeeding." The program itself is free and allows for total support throughout the application process. Technical assistance provided includes free on-site training with contracting entities, policy writing assistance, and identification and assistance with areas of needed improvement. Hospitals and birthing facilities that fully adopt the "Ten Steps to Successful Breastfeeding" are well-poised to achieve the Baby-Friendly designation, the gold standard for maternity care. However, any hospital is eligible to apply for Baby-Friendly and does not have to complete TTS first. DSHS designated 75 TTS facilities between November 1, 2010, and October 31, 2011. There are currently seven Baby-Friendly facilities in the state (out of 252) that have been designated through Baby-Friendly USA. An additional 26 facilities have officially started the Baby-Friendly certification process.



This chart shows how evidenced based maternity practices in Texas birthing facilities impact breastfeeding outcomes. Data Source: Texas DSHS Office of Program Decision Support. Texas Vital Statistics, Provisional Live Births, 2009. Newborn Screening, 2009

WIC offers breastfeeding consultations to its clients through 75 local agencies that oversee more than 500 clinics. The program employs and trains breastfeeding peer counselors who provide basic breastfeeding support and international board certified lactation consultants to assist moms with more complicated issues. WIC has lactation resource and training centers in Houston, Dallas and Austin that provide breastfeeding assistance to high-risk infant/mother pairs and act as training centers for WIC staff. DSHS breastfeeding trainers offer nationally recognized breastfeeding trainings throughout the state. A total of 210 community breastfeeding trainings were held between Nov. 1, 2010 and Oct. 31, 2011.

In addition to the in-person trainings offered through the WIC program, a one-hour breastfeeding module for health care professionals is available on the "Texas Health Steps Online Provider Education" portal. The NPAOP Program is working in collaboration with DSHS' breastfeeding subject-matter experts to provide and promote a new five- to six-hour online breastfeeding training module for health care professionals in maternity care settings. The module has been designed to fulfill free staff training requirements (step 2) of the "Ten Steps to Successful Breastfeeding," providing Texas hospitals with an accessible tool to aid work toward Baby-Friendly designation. The training module will provide comprehensive, professional, continuing education in a self-paced format and is expected to be available in 2013.

The WIC program developed "The Physician's Pocket Guide to Breastfeeding" in 1999. The fourth edition (2011), now called "The Health Care Provider's Guide to Breastfeeding," was recently developed into a free application for Apple devices.

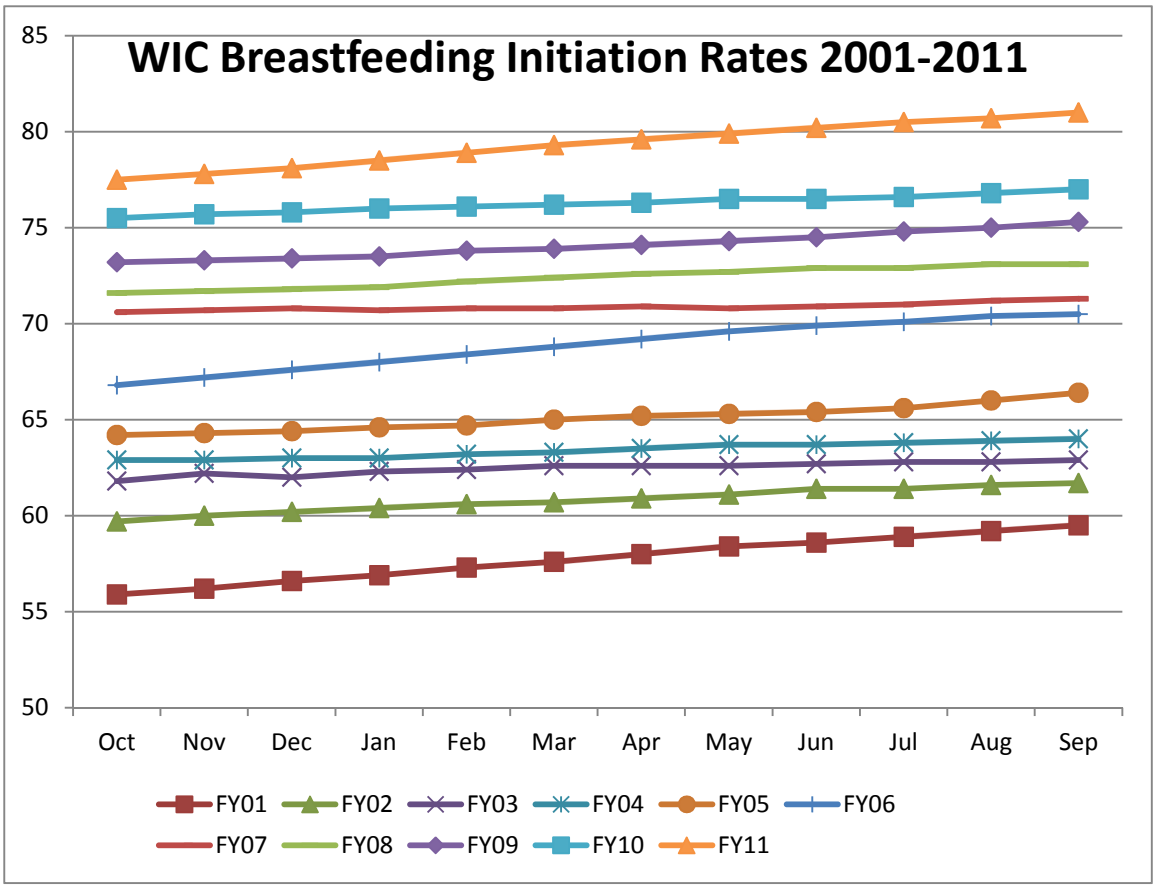
DSHS also provided support to Baby Cafés in El Paso and Edinburg which staff lactation counselors to provide mom-to-mom support and individual counseling for mothers who need more professional assistance.

As an adjunct to individualized counseling, WIC peer counselors issue prenatal breastfeeding education bags to every pregnant WIC participant regardless of their infant-feeding intent. Breastfeeding education bags accompany counseling. The bags contain a breastfeeding book, a two-part DVD, and a brochure for dads and grandparents. During a 2008 pilot of the bags, 60 percent of moms said the contents of the bag helped them overcome concerns about breastfeeding, 56 percent said it made their partners and/or grandparent(s) more supportive of breastfeeding, 50 percent said it influenced their decision to breastfeed, and 17 percent said they used items in the bag to keep them going when they thought they might quit. DSHS issued 57,425 Spanish-language bags and 129,525 English-language bags between November 1, 2010, and October 31, 2011.

The Texas Lactation Support Hotline — (800) 514-6667 — serves as a referral system for people in need of breastfeeding support. The toll-free line is available to anyone in Texas. Lactation specialists provide answers to breastfeeding questions. They will also give referral numbers of lactation specialists local to the Texas caller.

WIC's Every Ounce Counts campaign features an easy-to-use website, breastmilkcounts.com, which highlights important information about breastfeeding for mothers. The website outlines steps mothers need to take to prepare for the baby, what to do in the first days after their child is born, and what to do when they get home. Additional information for working mothers includes the protections breastfeeding mothers are allowed under Texas law. The site also features TV, radio and outdoor ads and a downloadable lullaby album including songs about breastfeeding. Of the 91,030 total visits to www.breastmilkcounts.com, there were 43,638 visits from 466 cities in Texas between Nov. 1, 2010, and Oct. 31, 2011.

WIC has seen a steady increase in breastfeeding initiation rates over the last decade, with a 4.3 percent increase between Nov. 1, 2010, and Oct. 31, 2011. Texas WIC reached the Healthy People 2020 target of 81.9 percent for breastfeeding initiation in April 2012.



This chart shows breastfeeding initiation rates in Texas' Supplemental Nutrition Program for Women, Infants and Children (WIC) only.

The NPAOP Program is a part of the Texas Interagency Obesity Council and DSHS Obesity Workgroup.[13] The NPAOP Program supports and promotes projects that focus on CDC's six target areas for obesity prevention:

- Increasing physical activity
- Increasing consumption of fruits and vegetables
- Decreasing consumption of sugar-sweetened beverages
- Reducing consumption of high-energy-dense foods
- Increasing breastfeeding initiation, duration and exclusivity
- Decreasing television viewing

DSHS's Growing Community communications campaign and NPAOP Program highlight community-based change strategies in Texas using video clips that are six to eight minutes long and correspond to the

CDC's six target areas for obesity prevention, one of which is a segment on breastfeeding. The videos are available in English and Spanish.

Currently, DFPS minimum standards for child care centers states a comfortable room other than a restroom must be established for breastfeeding. Providing a mother with a place to sit and breastfeed her child helps to support this practice. Use of an adult-size chair in the classroom meets the intent of this requirement. A place where mothers feel they are welcome to breastfeed or pump breast milk can create a positive environment when offered in a supportive way. Day cares should ensure that all staff receive training in breastfeeding support and promotions and are trained in the proper handling and feeding of each milk product, including human milk.[14]

Other suggestions to provide additional support include providing:

- Pillow to support her infant in her lap
- Stepstool for her to prop her feet and prevent back strain
- Water or other liquid to help her stay hydrated

CACFP, which is administered by TDA, received a $1 million USDA CACFP Child Care Wellness Grant which partially funds "Breastfeeding Supportive Child Care Practices" that provides funds for CACFP child care centers and day care homes to enhance breastfeeding support.

In 2011, grant awards were given to three CACFP contracting entities:

- Brighton School, Inc., San Antonio
- El Paso Human Services, Inc., El Paso
- Cen-Tex Family Services, Inc., Bastrop

These grants established increased support for breastfeeding mothers through enhancing child care practices and policies. Child care organizations are currently using funds in the following ways to create a culturally appropriate and breastfeeding friendly environment:

- Offer private accommodations to express milk
- Conduct training on storage and handling of breast milk
- Provide informational handouts and breastfeeding signage
- Provide resources for best practices and policy information

TDA also offered to all contracting entities with CACFP the free face-to-face training, "Feeding Infants: The First Year of Life." The training covers benefits, handling and storage of breast milk. The CACFP Infant Meal Pattern allows breast milk as a creditable food item toward a reimbursable meal. In 2011, as

a contractor for TDA's CACFP program funded by USDA, Texas A&M AgriLife Extension Service conducted 11 "Feeding Infants: The First Year of Life" trainings with a total attendance of 78 participants.

"Infant and Toddler Care Training for Parents and Families" features eight free courses covering a variety of infant and toddler care topics on the Texas A&M AgriLife Extension Service website. These include:

- "Infant Nutrition — Baby's First Year," developed by AgriLife is available to county extension agents for their use with new and expectant parents. The session plan emphasizes the value and benefits of breastfeeding.
- Breastfeeding-related online educational courses for caregivers and parents include "Supporting Breast Feeding in Child Care Settings" (2011 attendance — 63) and "Infant and Toddler Nutrition in Childcare Settings" (2011 attendance — 3,190).

AgriLife made "Growing Healthy Little Ones" videos available online at:
www.youtube.com/texasfeedingminds

The Mothers' Milk Bank at Austin (MMBA) is a community-based non-profit organization whose mission is to accept, pasteurize and dispense donor human milk by physician prescription, primarily to premature and ill infants. This non-profit organization reviews scientific literature regarding the benefits of human milk in preventing obesity and communicates these data via social media, print media, and presentations to health care providers and the public. Specifically, weekly Breastfeeding Facts via www.milkbank.org, and biweekly Facebook postings, help to inform regarding breast milk benefits.

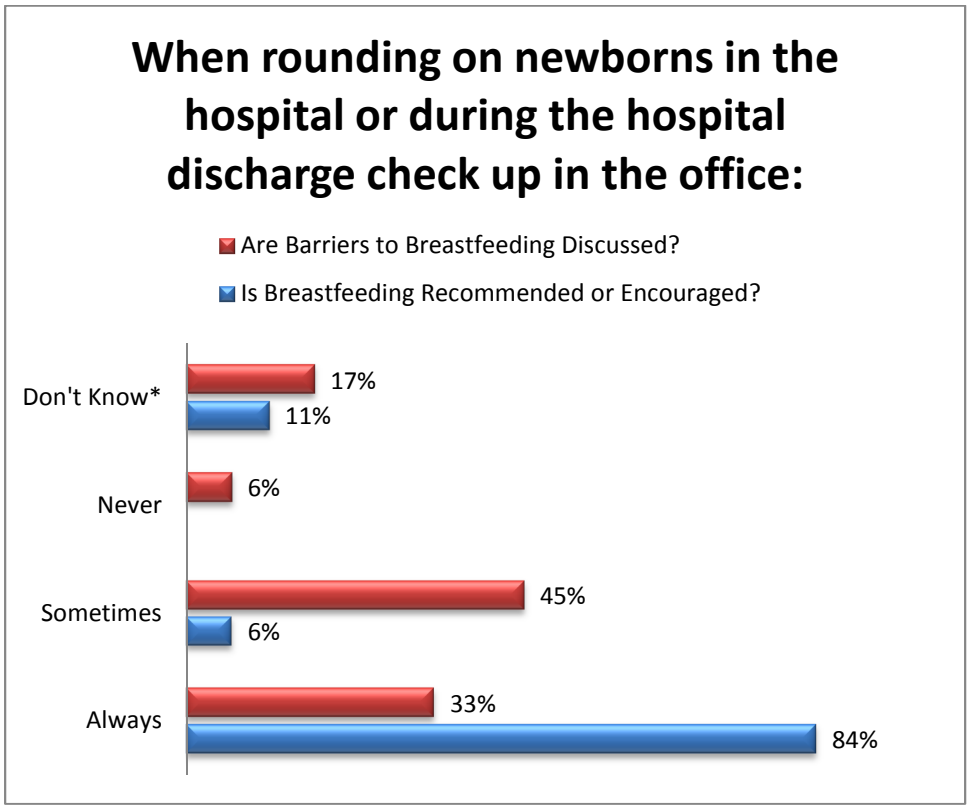
MMBA research regarding nutritional composition of human milk and its relationship to infant growth is presented to appropriate conferences (research conferences of the American Academy of Pediatrics (AAP) and the annual conference of the American College of Nurse Midwives) and published in appropriate scientific journals. Also, scientific evidence of human milk benefits is presented on a regular, rotational basis at many of the 60 hospitals served by the milk bank in and around Texas.

MMBA promotes breastfeeding using a variety of methods including, but not limited to, outreach and educational brochures, fliers and newsletters for families of childbearing ages and their health care providers (especially pediatricians and obstetricians). MMBA speaks with local and national press outlets about the benefits of breastfeeding at least bimonthly, and offers monthly breastfeeding classes free to the public in both English and Spanish. The MMBA website and Facebook are sources of educational materials about breastfeeding that are updated on a weekly basis.

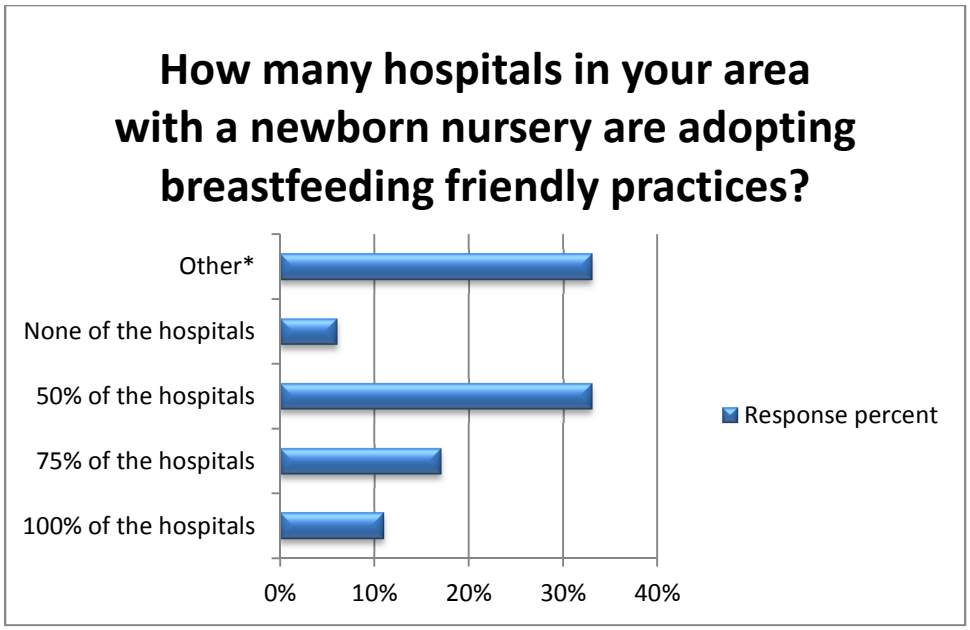
WIC personnel who are peer counselors tour the milk bank and receive an educational lecture on a monthly basis — typically three to four persons per month attend the lectures. Educational sessions regarding breast milk are provided to multiple WIC sites during August. There were 11 sessions provided in 2011.

The Texas Association of Local Health Officials (TALHO) is a non-profit organization that promotes health, prevents disease and protects the environment. TALHO represents the collective interests of a membership body comprised of local health departments and districts throughout the state of Texas. TALHO is committed to the principles of public health practice in local communities and strives through advocacy, leadership, innovation and technology to assist members in reaching their goals. The Infant Nutrition Brochure is available online at talho.org, and its goal is to increase the health and well being of infants by promoting awareness of the benefits of breastfeeding.

Dr. Stephen Pont, MD, MPH, and Dr. Arthi Krishnan, MD, FAAP, prepared a survey that was mailed to 39 pediatricians who are members of the Texas Pediatric Society (TPS) Committee on Obesity. The TPS pediatricians practice in different parts of the state and in a variety of practice settings. Of the 39 members that received the invitation to take the survey, 18 responded (46 percent response rate) and answered the questions based on their individual practice patterns and routines. Below are results relating to breastfeeding practices:



***These respondents do not see newborns in their practices.**



***Four respondents stated they do not know since they do not see newborns in the hospital setting. One respondent stated that less than 10 percent of the hospitals in their area are breastfeeding friendly.**

ACTION B: INCREASE CONSUMPTION OF FRUITS AND VEGETABLES

Increase consumption of fruits and vegetables by promoting educational, recreational and hands-on opportunities that encourage healthy eating for children under the age of six and raise nutrition standards in licensed day care facilities for children under the age of six by promoting recommendations and policies to improve the child care minimum standards guidelines.

Background Information and Research

Increasing fruit and vegetable consumption provides children a diet based on a variety of nutrient-dense foods that provide substantial amounts of essential nutrients and appropriate calories to meet the child's needs. For children, the availability of a variety of clean, safe, nourishing foods is essential during a period of rapid growth and development. Beyond providing these foods, family homes and center-based out-of-home early childhood care facilities have the opportunity to guide and support children's sound eating habits and food learning experiences.[15]

The 2010 Dietary Guidelines for Americans (DGA) recommendations are intended for people two years of age and older. DGA recommends two cups per day for fruits and 2½ cups per day for vegetables for adults. Vegetables are adjusted to include dark green vegetables, red and orange vegetables, legumes, starchy vegetables and other vegetables with weekly recommendations designed to maintain a dietary

balanced vegetable consumption. The MyPlate eating plan from the U.S. Department of Agriculture's Center for Nutrition Policy and Promotion outlines serving amounts according to age groups and recommends children aged two to three years consume at least one cup of fruits and one cup of vegetables daily and all children aged four to eight years should aim for 1½ cups fruits and 1½ cups vegetables daily.

Nationally, WIC improves the health of low-income pregnant women, new mothers and children by providing nutritional education, nutritious foods and assistance in accessing health care. WIC food packages were updated in 2009 to encourage exclusive breastfeeding, to increase fiber, and to reduce saturated fat and cholesterol. New food packages include a cash value for fruits and vegetables for children and adults and jarred fruits and vegetables for infants to increase fiber, reduce saturated fat and cholesterol. The updated packages also delay introduction of infant cereal and eliminate infant juice.

CACFP improves the nutrition and health of the nation's most vulnerable individuals — more than 3 million infants and children primarily from low-income households. The meals and snacks provided by the program can account for the majority of food consumed by many of these individuals, so the quality of the foods provided has the potential to affect their diets substantially.[16]

The CDC released its first set of comprehensive recommended strategies and measures for obesity prevention and one of the strategies includes improving the mechanisms for purchasing foods from farms.[17] While evidence is limited regarding a direct link to improved diet, experts suggest that this strategy could reduce costs and increase access to fresh fruits and vegetables in areas without adequate markets, and improve the appeal and taste of produce by harvesting produce at peak ripeness. An additional CDC strategy includes providing incentives for the production, distribution and procurement of foods from local farms.

Experts suggest this strategy could impact the amount of produce that is grown and available throughout the country, since the U.S. currently does not produce enough fruits and vegetables to meet the expected demand if all residents ate the amounts recommended in the 2010 DGA. USDA launched the "Know Your Farmer, Know Your Food" campaign to start a national dialogue on the issue.

Actions Taken in Furtherance of the Six-Year Plan

TDA administers the CACFP in Texas. CACFP required meal and snack patterns state that vegetables and fruits must be served at each breakfast, lunch and supper and are optional at snacks. Child care settings, such as that at CACFP facilities, provide numerous opportunities to promote healthy eating and physical activity behaviors among preschool children.

TDA has a long history of working with Texas farmers, promoting their products and expanding their produce markets throughout the state. The agency now has the opportunity to educate the early childhood audience and use outreach to enhance these efforts. TDA's "Farm to Child Care" initiative in

Texas will improve the connection between local farmers, local produce and children in early child care settings. This type of initiative could create a sustainable system change that enables CACFP sites to purchase directly from Texas farmers.

In 2010, TDA received a $1 million USDA CACFP Child Care Wellness Grant which partially funds "Farm to Child Care," a program that provides funds for CACFP child care centers and day care homes to establish a connection between local farmers, local produce and children in early child care settings. Establishing a connection between these children and fresh produce from local farms could help instill good nutritional habits as children grow older.

In 2011, TDA awarded grant funds to four CACFP contracting entities:

- Mainspring Schools, Austin
- Community Services of Northeast Texas Inc., Linden
- Wesley Community Center, Inc., Houston
- Travis County Domestic Violence and Sexual Assault Survival Center, Austin

The funds were used to establish "Farm to Child Care" projects that promote purchasing from local producers and increasing fruits and vegetables served at snacks and meals to children on the CACFP. Grant funds have been used to create a sustainable program by providing resources to:

- Provide staff training
- Purchase equipment to store and prepare fruits and vegetables
- Organize field trips to local farms and urban gardens
- Purchase materials to grow a vegetable garden
- Provide fruits and vegetables for tasting parties
- Stage cooking demonstrations
- Provide information for parents on local food sources

"Farm to Child Care" wellness grants serve preschool children throughout Texas and can encourage child care providers to buy local produce and increase the appeal and nutrition of preschool meals. The "Farm to Child Care" strategy could shift children away from unhealthy, highly processed foods toward fresh produce. Preschool children will learn the nutritional value of fruits and veggies and how it helps little bodies grow strong and healthy and develop properly.

WIC encourages consumption of fruits and vegetables by promoting educational, recreational and hands-on opportunities, such as web-based lessons, nutrition fairs and cooking classes that encourage

healthy eating. The WIC program further encourages the consumption of fruits and vegetables by children through the recent distribution of two physical activity/healthy eating DVDs, “The Adventures of Zobey Barnyard Dance Party” and “The Adventures of Zobey Jungle Jive.”

Local WIC agencies may apply for “Obesity Prevention Mini Grants” from the state agency each fiscal year to help fund obesity prevention activities in their communities. Objectives of the grants include promoting and supporting healthy lifestyles for WIC families and WIC staff, involving the whole family to move toward healthier eating and regular physical activity, supporting parents in making healthy food choices, and helping parents develop skills to become good role models for their children. About half of all WIC agencies received the grants between November 1, 2010, and October 31, 2011. Examples of projects include: cooking classes focused on foods in the WIC package such as fruits, vegetables and whole grains; and gardening activities, including community gardens and simple container gardening.

The DSHS NPAOP Program assisted Tarrant County Public Health in making available two Electronic Benefit Transfer (EBT) machines for use at farmers markets located near WIC clinics throughout the Dallas-Fort Worth area. These EBT machines provide an opportunity for those wishing to use WIC, Lone Star/SNAP, credit and debit, in addition to cash, thereby increasing access to fruits and vegetables for WIC mothers and their families.

Through TEA’s public outreach campaign at prekindergartenprepares.com, the agency provides health, physical activity, and nutrition resources. The resources are grouped into categories, including Healthy Meals, which provides healthy recipes both for serving children and for children to create alongside a caregiver.

TALHO’s “Nutrition & Physical Activity Education Curriculum” consists of 18 week lesson plans and educational handouts for the children’s families. This project included the placement of a customized hydroponic garden growing system to allow the child care center to grow selected fruits and vegetables on site with the involvement of the children and parents. The project targeted 59 children aged three to five years in The Children’s Courtyard Center on Parmer Lane in Austin and their families.

TWC encourages child care providers to acquire accreditation from organizations such as The National Association for the Education of Young Children (NAEYC). It also offers the Texas Rising Star (TRS) Provider certification to improve the quality of child care in Texas. A TRS is a child care provider that has an agreement with a board's child care contractor to serve TWC subsidized children and that voluntarily meets requirements that exceed the state's DFPS Minimum Licensing Standards for child care facilities.

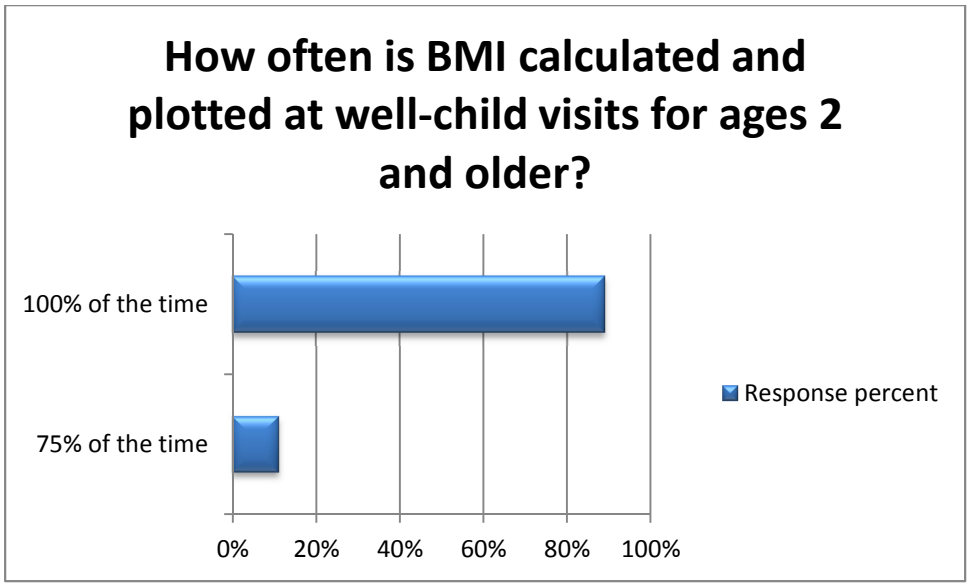
The IBM initiative, called “A Blueprint for a Healthy Start: Obesity Prevention in Early Childhood,” provides train-the-trainer events for child care providers and has several parts, including the development of a training curriculum, a toolkit for child care providers, strategies for providers to promote a more healthful environment, a parent involvement and education component, resources for providers, and a grant program for providers to implement a program improvement plan. The IBM Global Work/Life Fund funded the development of this program that targeted preventing obesity in pre-school age children (birth to five years old) by providing information, training, tools, and support to early

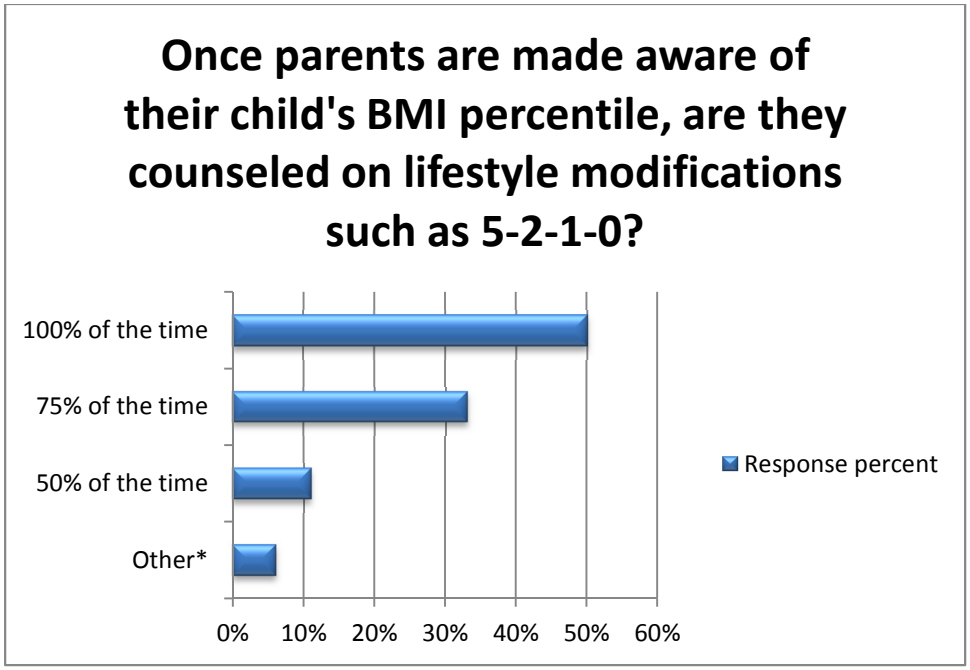
childhood caregivers, educators, and parents. Components of the toolkit stress the importance of vegetables and fruits to the overall health of pre-school children.[18]

Texas Action for Healthy Kids (TAHK) efforts to increase fruits and vegetables consumption and daily physical activity for children included promoting the website, actionforhealthykids.org, to licensed day care facilities for children under the age of six. Three early childhood brochures were posted to the TAHK website, as well as the TALHO website at talho.org. These brochures were entitled "Toddler Nutrition," "Infant Nutrition" and "Appropriate Physical Activities." More than 17,000 child care centers have access to these brochures. These websites offer access to DFPS and the HHSC Office of Early Childhood Coordination, which houses the program to train Child Care Health Consultants — Healthy Child Care Texas.

Head Start is a federal program that promotes the school readiness of children ages birth to five from low income families by enhancing their cognitive social and emotional development. Early Head Start serves infants, toddlers, pregnant women and their families who have incomes below the federal poverty level. Head Start centers follow the CACFP meal patterns and add enhancements to accommodate children who are at a nutritional disadvantage. Child Inc. Head Start, with headquarters in Austin, was able to track obesity trends at its facility from May 2009 through October 2010. The percentages of overweight children declined from 32 percent in May 2009 to 11.5 percent in October 2010, while the percentage of obese children declined from 18 percent to 15.6 percent in October 2010. The steps taken to reach these outcomes included distributing bimonthly nutrition and health newsletters, parenting classes on nutrition as needed, and resources distributed at individual counseling sessions, which totaled 40 to 45 per calendar year. Vegetable and fruit offerings to pre-school children are mandatory in the meal patterns for Head Start programs, and information about the importance of vegetables and fruits for the health and development of pre-school children are included in the nutrition and health newsletters.

Dr. Pont's TPS survey questions "How often is BMI calculated?" and "What, if any, nutrition education materials/resources are made available to your patients?" are analyzed below. Those responses included three of the 13 pediatricians indicating they provided information about the food pyramid at MyPyramid.gov. Most of the pediatricians provided various handouts including materials created by the individual offices, TDA handouts and other healthy living handouts.





***No specific written materials for overweight/obesity are given, just basic nutrition information handout.**

Southwest Human Development Services reported their individual efforts within Texas, which included 59 workshops covering 30 different subjects provided to 1,729 day home child care providers. Self-instruction nutrition modules were used by 672 providers. The providers were in all regions of Texas. The self-instructional training included only the mandatory CACFP program training and civil rights. Optional nutrition training was taken by 1,057 providers in all regions. There were 242 new day home providers trained on program requirements and nutrition. The topics for optional training included "Adventures in Zobeyland," "Building Blocks for Nutrition" and "Happy Meals for Healthy Kids." These

trainings include a section on eating fruits and vegetables and including on meals and snacks served in day care homes.

Texas A&M AgriLife Extension Service's "Healthy Food Healthy Families" curriculum from the Expanded Food and Nutrition Education Program (EFNEP) reached 18,604 parents of children under the age of 5. Self-paced, online courses that explained the importance of physical activity and nutrition for pre-school children were made available. A total of 4,788 individuals completed the online training in 2011. Courses were offered with titles such as "Developing Healthy Eating Habits in Preschoolers" and "Growing Healthy Little Ones" videos are available online.[19]

FOOD BROUGHT FROM HOME

This is treated as a separate component of Action B because it applies to increasing fruit and vegetable consumption by developing relationships between child care providers and parents instead of changing behaviors in the child care environment.

Background Information and Research

Changes in Texas state regulations of child care food service in 2003 (effective date Sept. 1, 2003) resulted in more centers halting meal and snack preparation and requiring parents to provide food from home for their children. The minimum child nutrition standards for child care centers changed from a required nutrition standard similar to that set forth by the American Dietetic Association recommendations to an option that allows facilities to request that parents sign an affidavit that releases the center from the responsibility of meeting the child's nutritional needs and providing safe and proper food storage.[20]

Drs. Margret Briley and Deanna Hoelscher worked on the pilot study, "Lunch is in the Bag," that evaluated effects on behavioral constructs and their predictive relationship to lunch-packing behaviors of parents of young children in child care facilities. The recommendations related to this study are as follows:

- The child care facility should provide parents/guardians with written guidelines that outline the facility's comprehensive plan to meet the nutritional requirements of the children in the facility's care and suggest ways parents and guardians can assist the facility in meeting these guidelines. The facility should develop policies for foods brought from home, with parent/guardian consultation, so that expectations are the same for all families.
- The facility should have food available to supplement a child's food brought from home if the food brought from home is deficient in meeting the child's nutrient requirements. If

the food the parent or guardian provides consistently does not meet the nutritional or food safety requirements, the facility should provide the food and refer the parent or guardian for consultation to a nutritionist or registered dietitian, to the child's primary care provider, or to community resources with trained nutritionists or registered dietitians such as WIC Supplemental Food Program, extension services and health departments.

- The parent or guardian may provide meals for the child upon written agreement between the parent or guardian and the staff. Food brought into the facility should have a clear label showing the child's full name, the date, and the type of food. Lunches and snacks the parent or guardian provides for one individual child's meals should not be shared with other children. When foods are brought to the facility from home or elsewhere, these foods should be limited to those listed in the facility's written policy on nutritional quality of food brought from home. Potentially hazardous and perishable foods should be refrigerated and all foods should be protected against contamination.

- The facility, in collaboration with parents and the food service staff, nutritionist or registered dietitian, should establish a policy on foods brought from home for celebrating a child's birthday or any similar festive occasion. Programs should inform parents/guardians about healthy food alternatives like fresh fruit cups or fruit salad for such celebrations. Sweetened treats are highly discouraged, but if provided by the parent or guardian, then the portion size of the treat served should be small.

The study examined ways parents could be influenced to include fruits, vegetables and whole grains in children's sack lunches. The study included researching "Lunch is in the Bag," a five-week program for parents and children who use child care centers requiring lunches sent from home. The program includes classes created to provide education for the children and prompt parents to include healthy foods in their children's lunches. The program also includes activity stations outside the class once a week when parents pick up their children.

ACTION C: RAISE NUTRITION STANDARDS

Raise nutrition standards in licensed child care facilities for children (under the age of six) by promoting recommendations and policies to improve the child care minimum standards guidelines.

Background Information and Research

Meeting a child's needs for growth and activity is important. Today, parents and caregivers often share the responsibility for facilitating these needs through nutrition and exercise.

Providing a stable and consistent diet of whole, minimally processed, nutritious foods becomes more challenging when children divide their time between home and outside child care. Providing children with a consistent nutrition message that is balanced requires coordination between parents and caregivers.

Just as parents and caregivers have different influences at different times; children change from year to year. During the second and third years of life, the child grows much less rapidly than during the first year of life. Whether they're experiencing periods of rapid or slower growth, children must continue to eat nutritious foods.

When children are thirsty between meals and snacks, water is the best choice. Encouraging children to learn to drink water in place of fruit drinks, soda, fruit nectars or other sweetened drinks builds a beneficial habit. Drinking water during the day can reduce the extra caloric intake that is associated with being overweight and obese.[21] Drinking water is good for a child's hydration and reduces acid in the mouth that contributes to early childhood caries, or tooth decay.[22] Water needs vary among young children and increase when exercising or during dry days when dehydration is a risk. [23]

Clean, sanitary, drinking water should be readily available in both indoor and outdoor areas throughout the day. Water should not be a substitute for milk at meals or snacks where milk is a required food component unless it is recommended by the child's primary care provider. The AAP recommends that children aged two and older should be served skim or 1 percent milk.[24]

Actions Taken in Furtherance of the Six-Year Plan

In December 2010, DFPS revised the nutrition standards for child-care centers in Title 40 of the Texas Administrative Code, Chapter 746, Minimum Standards for Child Care Centers. The revisions included the following requirements:

- Caregivers must ensure a supply of drinking water is always available to each child and is served at every snack, at mealtime and after active play. It must be made available in a safe and sanitary manner
- Caregivers must not serve beverages with added sugars, such as carbonated beverages, fruit punch or sweetened milk except for a special occasion such as a holiday or birthday celebration
- Caregivers must serve only 100 percent fruit or vegetable juice
- Fruit juice must be served only to children ages 12 months and older

- Caregivers only can serve up to four ounces of fruit juice for children ages 12 months through five years of age and six ounces for children ages six and older per day when using towards daily food needs

For child care centers, DFPS revised minimum standards for servings of fruits and vegetables, activity requirements and added limits on screen time. These standards outline the required number of meals and snacks a child needs depending on the amount of time they spend at the center. Accompanying charts make it easy to determine the various food groups that should be represented and the number of servings and serving sizes required for each meal or snack. Different charts are available for different ages.

To improve overall care, DFPS worked with Texas A&M AgriLife Extension Service to develop and offer a variety of online courses to child care providers. The different courses explained a variety of good child care techniques and were available in English, Spanish and Vietnamese. While not all of the nine courses available to child care providers were directed at nutrition or physical activity, titles included "Healthy Eaters: Infant and Toddler Nutrition in Child Care Settings" and "Understanding Infant and Toddler Development." Between Nov. 1, 2010, and Oct. 31, 2011, there were 38,807 completions of courses in English, 549 course completions in Spanish and 71 completions of the courses in Vietnamese.

In addition to the courses offered to child care providers, parents were offered eight courses in the same three languages and course titles included "Selecting Child Care: A Guide for Parents" and "Healthy Eaters: Infant and Toddler Nutrition in the Home Environment." Between November 1, 2010, and October 31, 2011, parents completed 1,788 of the courses available in English. Courses are available in Spanish and Vietnamese but none were completed by enrollees.

TDA's CACFP program oversees the serving of reimbursable meals and snacks at day care centers and day-care homes. To improve health and nutrition of Texas children in child care settings, TDA released a policy notice in August 2009 recommending that child care facilities:

- Serve lower fat milk
- Do not serve 100 percent juice more than once daily
- Increase availability of fresh and frozen fruits and vegetables
- Offer vitamin C rich food daily
- Offer vitamin A rich food three days per week
- Restrict snacks foods with added solid fats and added sugar (SoFAS)
- Serve dry, ready-to-eat cereals with less than 10 grams sugar per serving

In September 2011, USDA raised nutrition standards for participants in CACFP by requiring fat-free and low-fat milk be served in CACFP. This is consistent with the most recent version of the 2010 DGA. The 2010 DGA recommends that persons older than two years of age consume low-fat (1 percent) or fat-free fluid milk (skim). Therefore, fluid milk served in CACFP to participants two years of age and older must be: fat-free (flavored or unflavored) or low-fat milk; fat-free or low-fat lactose reduced milk; fat-free or low-fat lactose free milk; fat-free or low-fat buttermilk; or fat-free or low-fat acidified milk. Milk served must be pasteurized fluid milk that meets state and local standards, and may be flavored or unflavored. Whole milk and reduced-fat (2 percent) milk may not be served to participants two years and older.

The 2010 DGA report does not establish a minimum intake for water consumption, but does recommend that water be consumed daily. However, caregivers should not serve young children two to six years old too much water before or during meal times. Excess water may lead to meal displacement, reducing the amount of food and milk consumed by children. States and sponsors should encourage facilities to serve water with snacks when no other beverage is being served, and in lieu of other high calorie, sweetened beverages (juice drinks, sweetened milk, soda, sports drinks, etc.) that are served outside of meal times.

A new provision requires child care centers, family day care homes, at-risk afterschool programs, and shelters participating in CACFP to make drinking water available to children as nutritionally appropriate. Throughout the day, including at meal times, water should be made available to children to drink upon their request, but does not have to be available for children to self-serve. While drinking water must be made available to children during meal times, it is not part of the reimbursable meal and may not be served in lieu of fluid milk.

TDA provided nutrition training in three areas:

- Menu planning
- Planning nutritious snacks
- Feeding infants

Training was held throughout the fiscal year. The training titled “Feeding Infants: During the First Year” took place in nine Texas cities including Corpus Christi, Dallas and La Grange. There were a total of 78 participants in the 11 classes. The 17 cities hosting the “Menu Planning for Child Care” classes included San Benito, Lubbock and Lufkin. There were a total of 36 classes that drew 328 participants. Another 17 cities, including Beaumont, Houston and Rio Grande City, hosted the “Planning Nutritious Snacks for Child Care” sessions and 82 classes drew 710 participants.

The results of “Growing Healthy Little Ones” (Healthy Lifestyle Childcare SNAPEd Project in Brazos County) were made available to 105 parents and families of seven child care centers involved in the TDA-funded Nutrition Education Grant Program. A summary report was provided to the three centers in Brazos County and four centers in Travis County as well as a DVD illustrating all project components

including gardening, vegetable tasting and recipes for families, reading about nutrition and physical activity, and increasing physical activity at the center.

Texas A&M AgriLife Extension posted videos online[25] for the "Texas Feeding Minds Project." This made the project results available online to all target audiences including parents, families, caretakers and communities. By offering parents a curriculum called "Healthy Food Healthy Families," the Expanded Food and Nutrition Education Program (EFNEP) reached 18,604 parents of children under the age of 5.

ACTIONS B AND C: INCREASE PHYSICAL ACTIVITY FOR PRE-SCHOOL CHILDREN IN CHILD CARE

Increase minutes of structured and unstructured physical activity in licensed day care facilities for children under the age of six by promoting recommendations and policies to improve the child care minimum standards guidelines. Increase moderate to vigorous physical activity and minutes of structured and unstructured physical activity in licensed day care facilities for infants and children under the age of six by promoting recommendations and policies to improve the child care minimum standard guidelines.

Background Information and Research

Children in the United States are exposed to media use from their earliest years. A 2003 study from the Kaiser Family Foundation reported that children aged six years and younger spend an average of two hours per day with screen media, mostly watching television and videos.[26] The AAP recommends that television time should be limited to no more than one to two hours of quality programming per day for children over two years of age.[27] The 2010 DGA stated that it is "important during leisure time to limit sedentary behaviors, such as television watching and video viewing, and replace them with activities requiring more movement."[28] Research has found that television exposure is a risk factor for overweight in preschoolers.[29]

Physical activity and movement are essential to the development, learning and growth of young children. During the first six years of life, infants, toddlers, and preschoolers are learning fundamental gross motor skills, and need ample opportunities to practice these skills. Recent evidence suggests that children may be more attentive and learn better after periods of activity and movement.[30] Notably, physical activity is also a crucial part of maintaining a healthy weight and preventing obesity. Physical activity habits are established early in life and develop over time.[31] Therefore, the preschool years are a key time in which to instill healthy physical activity habits that will last a lifetime, primarily through active play.

Although physical activity is essential to young children's growth and learning, there are potential barriers to daily opportunities for active play, including concerns about children's safety, time, curricular constraints and inadequate knowledge or training among caregivers about how to integrate these opportunities into the curriculum.

Screen time is another barrier to children getting enough physical activity. A 2003 study showed children aged six and under spend an average of two hours per day watching a TV screen or other media device.[32] The maximum amount of time children older than two should be watching videos is actually one to two hours and it should be quality programming.[33] All this screen time can lead to overweight in pre-school children.[34]

Experts disagree about the appropriate amount of physical activity for toddlers and preschoolers, what proportion of children's physical activity should be structured, and to what extent structured activities are effective in producing children's physical activity. Researchers do agree that toddlers and preschoolers generally accumulate vigorous physical activity over the course of the day in very short bursts of 15 to 30 seconds.[35]

Daily physical activity is an important part of preventing excessive weight gain and childhood obesity. Some evidence also suggests that children may be able to learn better during or immediately after bursts of physical activity, due to improved attention and focus.[36]

Numerous reports suggest that children are not meeting daily recommendations for physical activity, and that children spend 70 percent to 87 percent of their time in early care and education being sedentary, i.e., sitting or lying down.[37] Excluding nap time, children are sedentary 83 percent of the time. Children may only spend about 2 percent to 3 percent of time being moderately or vigorously active.[38]

Very young children are entirely dependent on their caregivers and teachers for opportunities to be active.[39] Especially for children in full-time care and for children who live in unsafe neighborhoods, the early care and education facility may provide the child's only daily opportunity for active play. Evidence suggests that physical activity habits learned early in life may track into adolescence and adulthood supporting the importance for children to learn lifelong healthy physical activity habits while in the early care and education program.[40]

NAEYC requires accredited centers to follow the guidelines below:

- Children one year and older in full-day care should be physically active an hour a day
- Children three years and older should have at least 30 minutes structured movement activity
- Children should not remain sedentary for more than an hour at a time, except for rest time

National Association for Sport and Physical Education (NASPE) Physical Activity Guidelines for birth to age five[41]

Guidelines for Infants:

Guideline 1	Infants should interact with caregivers in daily physical activities that are dedicated to exploring movement and the environment.
Guideline 2	Caregivers should place infants in settings that encourage and stimulate movement experiences and active play for short periods of time several times a day.
Guideline 3	Infants' physical activity should promote skill development in movement.
Guideline 4	Infants should be placed in an environment that meets or exceeds recommended safety standards for performing large-muscle activities.
Guideline 5	Those in charge of infants' well-being are responsible for understanding the importance of physical activity and should promote movement skills by providing opportunities for structured and unstructured physical activity.

Guidelines for Toddlers:

Guideline 1	Toddlers should engage in a total of at least 30 minutes of structured physical activity each day.
Guideline 2	Toddlers should engage in at least 60 minutes – and up to several hours – per day of unstructured physical activity and should not be sedentary for more than 60 minutes at a time, except when sleeping.
Guideline 3	Toddlers should be given ample opportunities to develop movement skills that will serve as the building blocks for future motor skillfulness and physical activity.
Guideline 4	Toddlers should have access to indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
Guideline 5	Those in charge of toddlers' well-being are responsible for understanding the importance of physical activity and promoting movement skills by providing opportunities for structured and unstructured physical activity and movement experiences.

Guidelines for Preschoolers:

Guideline 1	Preschoolers should accumulate at least 60 minutes of structured physical activity each day.
Guideline 2	Preschoolers should engage in at least 60 minutes – and up to several hours – of unstructured physical activity each day, and should not be sedentary for more than 60 minutes at a time, except when sleeping.
Guideline 3	Preschoolers should be encouraged to develop competence in fundamental motor skills that will serve as the building blocks for future motor skillfulness and physical activity.
Guideline 4	Preschoolers should have access to indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.
Guideline 5	Caregivers and parents in charge of preschoolers' health and well-being are responsible for understanding the importance of physical activity and for promoting movement skills by providing opportunities for structured and unstructured physical activity.

Actions Taken in Furtherance of Six-Year Plan

In 2011, TEA produced a companion document to the Texas Prekindergarten Guidelines for instructors of students with developmental delays known titled "Early Childhood Outcomes and Prekindergarten Guidelines Alignment." Using the Prekindergarten Guidelines as a foundation, this document extends the guidance to include Early Childhood Outcome guiding questions for providers, the correlating Early Childhood Outcome established by the Individuals with Disabilities Education Act (IDEA), a more extensive developmental continuum that spans 36-48 months of age, foundational skills for those with disabilities and guidance for differentiation of instruction for children with learning differences.

As part of the agency's outreach website, prekindergartenprepares.com, and toolkit, which was made available starting in the fall of 2011, TEA provides a parent information page titled "Healthy Child." The website, available in English and Spanish, includes links to best practices and resources under the categories of Immunization, Child Passenger Safety, Exercise, Healthy Meals, Fun and Crafts, WIC, CHIP and Children's Medicaid, and the National School Lunch Program (NSLP). TEA used Title I state level funds to establish the site and conducted extensive stakeholder input and market research in its development. The website has been widely distributed by and among such partners as the more than 1,200 Independent School Districts; open enrollment charter schools; the Texas Early Learning Council; the Texas Early Childhood Education Coalition (now part of Texans Care for Children); 20 Regional Education Service Centers; the Texas Head Start Collaboration Office; and UT Health's Children's Learning Institute.

In fall 2010, the TEA distributed approximately 250 Early Childhood Obesity Prevention training notebooks for early childhood practitioners, trainers and mentors. The recipients included representatives of licensed child care, Head Start and public prekindergarten instructors. The notebooks were incorporated into the Texas School Ready! grant; a two-year, 24 module early childhood

education training and mentoring program to improve the school readiness of three and four year olds. Included alongside the training and notebooks were the links below:

- **Bright Futures:** The guide provides current information on screening, assessment, and counseling to promote physical activity and to meet the needs of health professionals, families, and communities. http://www.brightfutures.org/physicalactivity/about.htm
- **CDC:** Information for Early Childhood Educators. http://www.cdc.gov/ncbddd/actearly/ccp/index.html
- **NAEYC:** Provides articles and resources about fitness and nutrition programs for young children. http://www.naeyc.org/yc/pastissues/2006/may
- **NASPE:** Features the Early childhood Brochure Kids in Action that presents parents and caregivers with simple ideas for physical activities that they can do with children from birth to age five. http://www.aahperd.org/Naspe/template.cfm?template=kids_brochure.html
- **NASPE also offers Active Start:** A Statement of Physical Activity Guidelines for Children from Birth to Age 5, 2nd Edition: http://www.aahperd.org/naspe/template.cfm?template=ns_active.html
- **PE Central:** Provides information helpful to those who are responsible for providing movement programs for young children. http://www.pecentral.org/preschool/preschoolindex.html
- **United States Department of Agriculture (USDA):** My Pyramid information for preschoolers. http://www.mypyramid.gov/preschoolers/PhysicalActivity/index.html

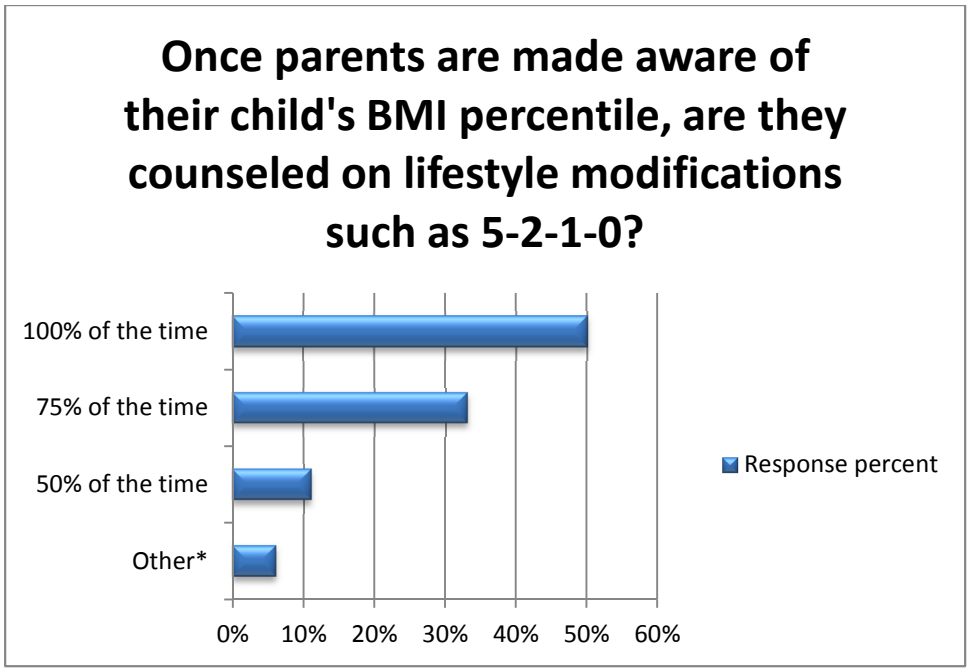
TEA's Texas Prekindergarten Guidelines have been established in recognition that the learning experiences of the preschool years provide a foundation that guides children academically, socially and emotionally. These experiences can influence the rest of a child's life. The guidelines include, as one of 10 domains, Physical Development. Although the guidelines are voluntary, they are widely used throughout the state by public prekindergarten programs and other early childhood education providers serving three and four year old children. The guidelines include both gross motor development and fine motor development. Descriptions are provided of the skills and abilities of typically developing children by around 48 months of age, at the end of their prekindergarten year. In addition, examples are provided of what instructors should observe in child behaviors and further examples of instructional strategies to support the child's development. The Guidelines are available in both English and Spanish from the agency's website.

Senate Bill 891, passed during the 81st Texas Legislative Session (2009), requires that students enrolled in full-day prekindergarten must participate in moderate to vigorous physical activity for a minimum of

30 minutes a day or 135 minutes per week. The legislation also states that to the extent practicable, a school district shall require a student enrolled in prekindergarten on less than a full-day basis to participate in the same type and amount of physical activity as a student enrolled in full-day prekindergarten. Full-day prekindergarten programs are defined in the Texas Education Code §25.082(a) as one that is at least seven hours each day including intermissions and recesses. A half-day program is a minimum of three hours.

The TPS Survey conducted by stakeholders who have expertise in pediatric health analyzed responses to educating parents on the 5-2-1-0 model that reaches children and families where they live, learn, work and play with a consistent message that promotes four healthy behaviors. These behaviors are based in science and recommended by the medical community to promote good health:

- 5 – vegetables & fruits daily
- 2 – hours or less of TV and video/computer games per day
- 1 – hour or more of physical activity
- 0 – sugary drinks



***No standard counseling message is delivered among the practice – varies by practitioner in their group**

Center and home-based child care providers are expected to provide planned activities on a daily basis and include a variety of both child-initiated and caregiver-initiated activities. The DFPS "Basic Care Requirements for Infants" calls for infant activities that include opportunities for reaching, grasping,

pulling up, creeping, crawling and walking in a safe, clean, uncluttered area. In addition, children ages 18 months and older are required to have morning and afternoon opportunities for outdoor play as well as opportunities for active play both indoors and outdoors on a daily basis.

DFPS also established guidelines for screen time in front of televisions, computers or video games in a child care center. In the guidelines, screen time is prohibited for children under the age of two. For children two years and older, televisions, computers or video games may be used to supplement, but not replace, activities. The guidelines also stipulate that any screen time must be related to the planned activities, age appropriate and must not exceed two hours per day.

Texas A&M AgriLife Extension offered child care providers a variety of self-paced online courses that explained the importance of physical activity and nutrition for pre-school children. A total of 4,788 individuals completed the online training in 2011. Courses with titles such as "Developing Healthy Eating Habits In Preschoolers" and "Supporting Breastfeeding In Child Care Settings" provided information on nutrition while courses with titles such as "The Value Of Play For Preschool Children" and "More Outside Play Please: Importance Of Outside Play" encouraged incorporating physical activities into a child's day.

HHSC's Healthy Child Care Texas initiative trains child care health consultants, professionals in the fields of health and/or child development, to partner with child care providers to promote health, safety, and nutrition for children in all child care settings. Texas has more than 100 child care health consultants that are trained using a nationally-recognized curriculum developed from the Caring for Our Children standards, which are issued by the AAP, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education. This includes standards around screen time in child care settings. In addition, the Healthy Child Care Texas website provides information and resources for parents, caregivers and child health professionals on improving the health of children in a child care setting.

Child care health consultants receive training on proper nutrition at all ages, including how to work with child care providers on building meal plans, and training on the importance of physical activity, including how to work with centers to increase activity in their daily routines. Many child care health consultants are also receiving training and working with child care centers around the Let's Move! initiative, which encourages structured and unstructured daily physical activity in child care centers to lower the incidence of childhood obesity In addition, the Healthy Child Care Texas website provides information and resources for parents, caregivers and child health professionals on improving the health of children in a child-care setting.

CACFP training tools and resources included "The Adventures of Zobey" DVDs. These 20 minute videos are available in English and Spanish. In an interagency effort to promote nutrition and exercise to two to five year olds, TDA partnered with WIC in the production and distribution of "The Adventures of Zobey Barn Dance Party/Jungle Jive" and educator DVD "The Adventures of Zobey in Preventing Childhood Obesity." The DVDs are designed to help the children be physically active and learn about healthy foods while viewing the video. Over 12,000 DVDs and nutrition education collateral materials were distributed through CACFP. Promotion of the Zobey videos during the 2009 and 2010 State Fair of Texas at the TDA

Food and Fiber Pavilion generated an estimated 450,000 impressions. The DVDs include recipes and nutrition tips as well as video clips of fun physical activities. Between November 1, 2010 and October 31, 2011, WIC taught 12,757 “Zobey Jungle Jive” and 4,337 “Zobey Barn Dance” classes and distributed 526,667 “The Adventures of Zobey Jungle Jive” and 152,177 “The Adventures of Zobey Barn Dance Party” DVDs.

Center and home-based child care providers are expected to provide planned activities on a daily basis and include a variety of both child-initiated and caregiver-initiated activities. DFPS offers a variety of online courses aimed at improving the child-health options available to child care providers and parents. The DFPS “Developmental Activities and Activity Plan” requirements for child care providers include helpful recommendations such as incorporating a variety of physical activities into each day and offering both child-initiated and caregiver-initiated activities.

Decreasing Malnutrition and Undernourishment Among Children Under the Age of Six

For food insecure children, meals provided in child care centers may comprise a large fraction of food that they eat — making the provision of healthy food through these programs especially important. Food insecurity also triggers obesity when young children develop poor nutritional habits. Texas is among the states with the highest rates of food insecurity in the nation for children with more than 1.8 million children living in food insecure households. It is also estimated that almost one in four Texas children live in food insecure households.[42] While national food assistance programs are invaluable in providing assistance to those in need, additional support and increasing participation in these nutrition programs is needed.

To reach very young children, food assistance programs must connect with early child care providers. While approximately 15 percent of preschool children are primarily cared for by their relatives, most preschoolers who spend time in non-parental care arrangements are placed in center-based care such as child care centers, preschools, Head Start programs or family child-care homes. Child care settings such as CACFP provide numerous opportunities to promote healthy eating and physical activity behaviors among preschool children.[43]

CACFP

Many low-income working parents rely on child care and afterschool programs to provide a safe and healthy place for their children while they commute and work. By providing partial reimbursement for nutritious meals and snacks for eligible children who are enrolled at participating child care centers, day care homes and Head Start programs, CACFP plays an important role in improving the quality of those programs and in making them more affordable for low-income parents.

While CACFP has several segments, the majority of CACFP participants are preschool-aged children attending participating family child homes, child care centers or Head Start programs. Depending on the type of program, eligibility is based either on the poverty status of the area or on the income of the enrolled children.

Each year the Food Research and Action Center (FRAC) analyzes CACFP participation data for child care centers and family child care homes provided by the United States Department of Agriculture (USDA) for the United States as a whole and for each of the 50 states and the District of Columbia. Key findings for fiscal year 2010 include:

Child Care Centers

Nearly 2.5 million children enrolled in child care centers benefited daily from CACFP in fiscal year 2010, a 4 percent increase from fiscal year 2009.

Nationally the number of child care centers participating in CACFP grew to 52,525 in fiscal year 2010, a 2.5 percent increase from the previous year.

Family Child Care Homes

In fiscal year 2010, 848,637 low-income children attending family child care homes relied on CACFP to provide healthy meals each day, a 0.3 percent increase from fiscal year 2009.

Nationally 137,063 family child care homes participated in CACFP in fiscal year 2010, a 2.5 percent decrease from the previous year.

Texas CACFP

Change in the Number of Child Care Centers, FY 2009 to FY 2010

Total Centers FY 2009	Total Centers FY 2010	Number Change
4118	4393	275

Change in the Average Daily Attendance (ADA) of Child Care Centers, FY 2009 to FY 2010

ADA Centers FY 2009	ADA Centers FY 2010	Number Change
246,531	256,727	10,196

Change in the Number of Family Child Care Homes, FY 2009 to FY 2010

Total Homes FY 2009	Total Homes FY 2010	Number Change
6,580	6,520	-60

Change in the Average Daily Attendance of Family Child Care Homes, FY 2009 to FY 2010

ADA Homes FY 2009	ADA Homes FY 2010	Number Change
35,620	35,866	246

CONCLUSION

Moving forward, the Council and stakeholders will continue efforts to increase access to breast milk, whether direct-fed, expressed, or donor milk throughout Texas and to increase consumption of fruits and vegetables, as well as increase physical activity in Texas child care to achieve improved health and nutrition outcomes for the state's youngest children.

SOURCES

[1] Institute of Medicine of the National Academies, Report Brief (June 2011), *Early Childhood Obesity Prevention Policies*

[2] Texas Department of Family and Protective Services. "Definition of Terms," retrieved from http://www.dfps.state.tx.us/handbooks/Licensing/Files/LPPH_px_Definitions_of_Terms.asp

[3] National Policy & Legal Analysis Network to Prevent Childhood Obesity (NPLAN), "Model Physical Activity Standards for Child-Care Providers" (For Infants Through Preschool age Children) retrieved from http://changelabsolutions.org/sites/phlpnet.org/files/ChildCarePAStandrds_FINAL_100315.pdf

[4] Map the Meal Gap: Child Food Insecurity 2011, Household Food Security in the United States in 2010, retrieved from http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx

[5] "Hunger" Merriam-Webster.com 2012 (22 August 2012)

[6] Centers for Disease Control and Prevention, "About BMI for Children and Teens" http://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html

[7] World Health Organization, "The World Health Organization's Infant Feeding Recommendation" http://www.who.int/nutrition/topics/infantfeeding_recommendation/en/ and "Infant and Young Child Feeding" retrieved from http://www.who.int/mediacentre/factsheets/fs342/en/

[8] Department of Family and Protective Services, Definition of Terms retrieved from http://www.dfps.state.tx.us/handbooks/Licensing/Files/LPPH_px_Definitions_of_Terms.asp

[9] Wang, Y. S., S. Y. Wu. (1996) "The effect of exclusive breast feeding on development and incidence of infection in infants." *J Hum Lactation* 12:2730.; WIC, "Infant Feeding Practices Study," (1997) retrieved from www.fns.usda.gov/ora/menu/published/WIC/FILES/WICIFPS.PDF

[10] WIC, "Infant Feeding Practices Study," (1997) retrieved from www.fns.usda.gov/ora/menu/published/WIC/FILES/WICIFPS.PDF

[11] Centers for Disease Control and Prevention. "Infant Feeding Practices Study" (2005)

[12] U.S. Department of Health and Human Services (2000) *Healthy people 2010: Understanding and improving health*. 2nd ed. Washington, DC: U.S. Government Printing Office. Retrieved from www.healthypeople.gov/Document/pdf/uih/2010uih.pdf.; American Academy of Pediatrics. "Policy Statement: Breastfeeding and the Use of Human Milk." *Pediatrics* Vol. 115, No. 2 (February 2005), pp. 496 – 506.; Wang, Y. S., S. Y. Wu. (1996). "The effect of exclusive breast feeding on development and incidence of infection in infants." *J Hum Lactation* 12:2730.

[13] "Texas! Bringing Healthy Back" retrieved from http://www.dshs.state.tx.us/obesity/default.shtm

[14] U.S. Department of Agriculture, Food and Nutrition Service. "Benefits and services: Breastfeeding promotion and support in WIC." http://www.fns.usda.gov/wic/breastfeeding/mainpage.HTM

[15] U.S. Department of Health and Human Services, U.S. Department of Agriculture. (2005) "Dietary guidelines for Americans, 2005." 6th ed. Washington, DC: U.S. Government Printing Office. Retrieved from www.health.gov/dietaryguidelines/dga2005/document/pdf/DGA2005.pdf; U.S. Department of Agriculture (2010) MyPyramid. Retrieved from www.mypyramid.gov Zero to Three (2007) "Healthy from the start—How feeding nurtures your young child's body, heart, and mind." Washington, DC: Zero to Three.

[16] Institute of Medicine of the National Academies, (November 2010) Report Brief "Child and Adult Care Food Program Aligning Dietary Guidance for All."

[17] Centers for Disease Control and Prevention. "Recommended Community Strategies and Measurements to Prevent Obesity in the United States." MMWR 2009;58(No.RR-7): 1-11.

[18] "A Blueprint for a Healthy Start" retrieved from www.abcdependentcare.com/private/798624.shtml

[19] AgrilLife. "Growing Healthy Little Ones" retrieved from http://www.youtube.com/watch?v=FPatsyR7DBY

[20] Texas Department of Family and Protective Services. Texas standards and regulations. Texas Department of Family and Protective Services Web site. Retrieved from www.dfps.state.tx.us/child_care/Child_Care_Standards_and_Regulations/rules.asp. Accessed March 14, 2012

[21] Kleinman, R. E., ed. (2009). *Pediatric nutrition handbook*. 6th ed. "Preventing Childhood Obesity in Early Care and Education Programs" Elk Grove Village, IL: American Academy of Pediatrics.

[22] Kleinman, R. E., ed. 2009. *Pediatric nutrition handbook*. 6th ed. "Preventing Childhood Obesity in Early Care and Education Programs" Elk Grove Village, IL: American Academy of Pediatrics; Casamassimo, P., K. Holt, eds. 2004. "Bright futures in practice: Oral health – pocket guide." Washington, DC: National Maternal and Child Oral Health Resource Center. Retrieved from http://www.mchoralhealth.org/PDFs/BFOHPocketGuide.pdf; Centers for Disease Control and Prevention (2010) "Community water fluoridation: Frequently asked questions." Retrieved from http://www.cdc.gov/fluoridation/

[23] Manz, F. (2007). "Hydration in children." *J Am Coll Nutr* 26:562S-569S.

[24] Kleinman, R. E., ed. (2009). *Pediatric nutrition handbook*. 6th ed. 21 "Preventing Childhood Obesity in Early Care and Education Programs." Elk Grove Village, IL: American Academy of Pediatrics.

[25] Texas A&M AgriLife Extension Service "Texas Feeding Minds" available from www.youtube.com/texasfeedingminds#p/u/30/FPatsyR7DBY

[26] Kaiser Family Foundation. "Zero to six: electronic media in the lives of infants, toddlers and preschoolers." Menlo Park (CA): The Henry J. Kaiser Family Foundation (2003).

[27] American Academy of Pediatrics, Committee on Public Education. "American Academy of Pediatrics: children, adolescents, and television." Pediatrics 2001;107(2):423-6.

[28] U.S. Department of Health and Human Services, U.S. Department of Agriculture. (2005) "Dietary guidelines for Americans, 2005." 6th ed. Washington, DC: U.S. Government Printing Office. Retrieved from www.health.gov/dietaryguidelines/dga2005/document/pdf/DGA2005.pdf.

[29] Lumeng JC, Rahnama S, Appugliese D, Kaciroti N, Bradley RH. "Television exposure and overweight risk in preschoolers." Arch Pediatr Adolesc Med 2006;160(4):417-22; Dennison BA, Erb TA, Jenkins PL. "Television viewing and television in bedroom associated with overweight risk among low-income preschool children." *Pediatrics* 2002;109(6):1028-35.

[30] Barros, R. M., E. J. Silver, R. E. Stein (2009) "School recess and group classroom behavior." *Pediatrics* 123:431-36. Burdette, H. L., R. C. Whitaker (2005) "Resurrecting free play in young children: Looking beyond fitness and fatness to attention, affiliation, and affect." Arch Pediatr Adolesc Med 159:46-50; Pellegrini, A., C. Bohn (2005) "The role of recess in children's cognitive performance and school adjustment." Educ Res 34:13-19; Tomporowski, P. D., C. L. Davis, P. H. Miller, J. A. Naglieri (2008) "Exercise and children's intelligence, cognition, and academic achievement." Educ Psychol Rev 20:111-31.

[31] Sallis, J. F., J. J. Prochaska, W. C. Taylor. (2000). "A review of correlates of physical activity of children and adolescents." Med Sci Sports Exerc 32:963- 75.; Sallis, J. F., C. C. Berry, S. L. Broyles, T. L. McKenzie, P. R. Nader. (1995). Variability and tracking of physical activity over 2 yr in young children. Med Sci Sports Exerc 27:1042-49.; McKenzie, T. L., J. F. Sallis, P. R. Nader, S. L. Broyles, J. A. Nelson. (1992). "Anglo- and Mexican-American preschoolers at home and at recess: Activity patterns and environmental influences." J Dev Behav Pediatr 13:173-80; Pate, R. R., T. Baranowski, M. Dowda, S. G. Trost. (1996). "Tracking of physical activity in young children." Med Sci Sports Exerc 28:92-96.

[32] Kaiser Family Foundation. "Zero to six: electronic media in the lives of infants, toddlers and preschoolers." Menlo Park, CA. The Henry J. Kaiser Family Foundation; (2003).

[33] American Academy of Pediatrics, Committee on Public Education. American Academy of Pediatrics: children, adolescents, and television. *Pediatrics* 2001;107(2):423-6.

[34] Lumeng JC, Rahnama S, Appugliese D, Kaciroti N, Bradley RH. "Television exposure and overweight risk in preschoolers." Arch Pediatr Adolesc Med 2006;160(4):417-22.; Dennison BA, Erb TA, Jenkins PL. "Television viewing and television in bedroom associated with overweight risk among low-income preschool children." *Pediatrics* 2002;109(6):1028-35.

[35] Oliver, M., G. M. Schofield, G. S. Kolt. 2007. "Physical activity in preschoolers: Understanding prevalence and measurement issues." *Sports Med* 37:1045-70.

[36] Pellegrini, A., C. Bohn. (2005). "The role of recess in children's cognitive performance and school adjustment." Educ Res 34:13-19.; Mahar, M. T., S. K. Murphy, D. A. Rowe, J. Golden, A. T. Shields, T. D. Raedeke. (2006). "Effects of a classroom-based program on physical activity and on-task behavior." Med Sci Sports Exerc 38:2086-94.

[37] Pate, R. R., K. A. Pfeiffer, S. G. Trost, P. Ziegler, M. Dowda. (2004). "Physical activity among children attending preschools." *Pediatrics* 114:1258-63.; Pate, R. R., K. McIver, M. Dowda, W. H. Brown, A. Cheryl. (2008). "Directly observed physical activity levels in preschool children." J Sch Health 78:438-44.

[38] Pate, R. R., K. A. Pfeiffer, S. G. Trost, P. Ziegler, M. Dowda. (2004). "Physical activity among children attending preschools." *Pediatrics* 114:1258-63.; Pate, R. R., K. McIver, M. Dowda, W. H. Brown, A. Cheryl. 2008. "Directly observed physical activity levels in preschool children." J Sch Health 78:438-44.

[39] McKenzie, T. L., J. F. Sallis, J. P. Elder, C. C. Berry, P. L. Hoy, P. R. Nader, M. M. Zive, S. L. Broyles. (1997). "Physical activity levels and prompts in young children at recess: A two-year study of a bi-ethnic sample." Res Q Exerc Sport 68:195-202; McKenzie, T. L., J. F. Sallis, P. R. Nader, S. L. Broyles, J. A. Nelson. (1992). "Anglo- and Mexican-

American preschoolers at home and at recess: Activity patterns and environmental influences." J Dev Behav Pediatr 13:173-80.; Sallis, J. F., T. L. McKenzie, J. P. Elder, S. L. Broyles, P. R. Nader. (1997). "Factors parents use in selecting play spaces for young children." Arch Pediatr Adolesc Med 151:414-17.; Sallis, J. F., P. R. Nader, S. L. Broyles, J. P. Elder, T. L. McKenzie, J. A. Nelson. (1993). "Correlates of physical activity at home in Mexican-American and Anglo-American preschool children." Health Psychol 12:390-98.

[40] Sallis, J. F., P. R. Nader, S. L. Broyles, J. P. Elder, T. L. McKenzie, J. A. Nelson (1993). "Correlates of physical activity at home in Mexican-American and Anglo-American preschool children." Health Psychol 12:390-98.; Davis, K., K. K. Christoffel (1994). "Obesity in preschool and school-age children: Treatment early and often may be best." Arch Pediatr Adolesc Med 148:1257-61.; Sallis, J. F., C. C. Berry, S. L. Broyles, T. L. McKenzie, P. R. Nader (1995). "Variability and tracking of physical activity over 2 yr in young children." Med Sci Sports Exerc 27:1042-49. Pate, R. R., T. Baranowski, S. G. Trost (1996). "Tracking of physical activity in young children." Med Sci Sports Exerc 28:92-96.; Birch, L. L., J. O. Fisher. "Development of eating behaviors among children and adolescents." *Pediatrics*. (1998); 101: 539-549.; Sallis, J. F., J. J. Prochaska, W. C. Taylor (2000). "A review of correlates of physical activity of children and adolescents." Med Sci Sports Exerc.; Skinner, J. D., B. R. Carruth, W. Bounds, P. Ziegler, K. Reidy. (2002). "Do food-related experiences in the first 2 years of life predict dietary variety in school-aged children?" J Nutr Educ Behav 34:310-15.; Skinner, J. D., B. R. Carruth, B. Wendy, P. J. Ziegler (2002). "Children's food: A longitudinal analysis." J Am Diet Assoc 102:1638-47.; Oliver, M., G. M. Schofield, G. S. Kolt (2007). "Physical activity in preschoolers: Understanding prevalence and measurement issues." Sports Med 37:1045-70.; American Academy of Pediatrics, Council on Sports Medicine and Fitness, and Council on School Health (2006). "Active healthy living: Prevention of childhood obesity through increased physical activity." *Pediatrics* 117:1834-42.; Physical Activity Guidelines Advisory Committee (2008). Physical activity guidelines advisory committee report, (2008). Washington, D.C.: U.S. Department of Health and Human Services.

[41] National Association for Sports and Physical Activity. Retrieved from www.aahperd.org/naspe/standards/nationalGuidelines/ActiveStart.cfm

[42] Map the Meal Gap Child Food Insecurity 2011. Retrieved from http://feedingamerica.org/hunger-in-america/hunger-studies/map-the-meal-gap.aspx

[43] U.S. Department of Education, National Center for Education Statistics. Early Childhood Program Participation Survey of the National household Education Surveys Program (ECPP-Nhes:2005). Online 2006; Available from http://nces.edgov/programs/digest/d09/tables/dt09_044.asp. Accessed March 13 2012.