

# Nutrition and Fitness in Early Childhood: A Foundation for Lifelong Health

*When children are healthy during the first years of life, they are more likely to maintain a healthy weight throughout their childhood, be successful in school, and achieve lifelong health. Unfortunately, Texas children as young as two are already on track to grow up at an unhealthy weight. With the majority of young Texas children spending significant portions of the day in child care settings, Texas parents need child care providers to be a strong partner in providing healthy food and drinks and plenty of active play time. Fortunately, there are steps state leaders can take to help parents identify healthier child care providers and ensure child care providers partner with parents in supporting healthy kids.*

## Background

*Early experiences shape children for a lifetime.* Helping kids learn healthy habits and achieve a healthy weight during the first years of life will help them stay healthy as they grow up. Children who are overweight or obese as preschoolers are *five times more likely* to be overweight or obese as adults.<sup>1</sup>

*Ensuring our youngest children have opportunities to eat nutritious foods, stay active, and develop healthy habits has many benefits.*

- *It reduces health care costs and facilitates a more productive workforce by preventing expensive chronic conditions.* Overweight and obese children are at a higher risk of bone and joint problems, social and psychological conditions, and chronic conditions like heart disease, stroke, asthma, and certain forms of cancer.<sup>2</sup> Helping kids start off at a healthy weight is essential for savings to our health care system, healthier students, and a more prosperous Texas.
- *Establishing a healthy foundation in early childhood gives children a greater opportunity to succeed in school and later in the workplace.* Being physically active and having a healthy diet before the age of five is associated with improved child development and cognitive outcomes.<sup>3</sup> For example, research shows that young kids that eat a healthy diet – high in lean protein and fresh fruits and vegetables – are more likely to have a higher IQ at age eight.<sup>4</sup> In contrast, dietary patterns high in processed foods and added sugars are associated with lower school achievement and nonverbal reasoning.<sup>5</sup> Research has shown that as the amount of television a young child watches increases so does the likelihood they will have a poor quality diet and risk for obesity.<sup>6</sup> Children need to be engaged in interactive activities that promote brain and physical development, such as talking,

playing, running, jumping, singing, and reading together in order to develop their muscles and minds.<sup>7</sup>

*Unfortunately, many young Texans are already at an unhealthy weight at an early age.* About *one in twelve* kids age two to four have obesity – and, looking more broadly, *one in four* two-to-five-year-olds are overweight or obese.<sup>8</sup> While this challenge is present in all Texas communities – rural, suburban, and urban – some Texas children are at a higher risk. In fact, one in seven children age two to four (14.9 percent) from low-income Texas families participating in the Women, Infant, and Children (WIC) program are obese, a rate that exceeds the national average for this age group.<sup>9</sup>

*Families' difficulty obtaining healthy, nutritious foods on a daily basis exacerbates the challenge of childhood obesity.* Many Texas families struggle to afford healthy, unprocessed foods, which tend to cost more on a per-calorie basis. Children of all backgrounds, including 17 percent of White children, live in families that struggle to consistently put food on the table. However, children of color in Texas, including 38 percent of Black children and 31 percent of Hispanic children, are at a higher risk of going to bed hungry on any given day.<sup>10</sup>

*Child care providers are a key partner for parents in helping young kids eat healthy, stay active, and maintain a healthy weight.* Child care providers play a valuable role in the health and safety of young children. The majority of kids under age six spend much of their day in child care outside the home,<sup>11</sup> where parents aren't in charge of decisions about snacking on carrots or cookies and playing outside or watching a movie. In Texas, about one million young kids learn, play, and grow in licensed or regulated child care programs (child care centers or child care homes).<sup>12</sup> Parents know their children deserve the benefits of healthy foods and active play time, and they want to know their child care providers are encouraging and reinforcing positive habits. To do this, child care providers and staff need the right tools, resources, and guidance to fulfill their important role.

## Policy Recommendations

To ensure children served in child care centers and homes receive healthy foods and drinks as they learn and develop in early care environments, Texas policymakers must take the following steps.

- 1) *Align minimum standards for child care providers that serve food to match the best practice nutrition and meal patterns in the Child and Adult Care Food Program (CACFP). This is key for clarity and consistency and to ensure kids receive enough nutrients and variety of foods.* Currently, the state's minimum standards provide guidance on serving sizes and food groups to serve kids at different ages. But, the standards only cover kids age one and older – there is no mention of feeding practices for infants and toddlers under 12 months. The guidelines are also very confusing. For example, to meet 1/3<sup>rd</sup> of the daily food needs for children three to five years old, a child should receive 2/3<sup>rd</sup>s of a serving of milk, where a serving is a 3/4<sup>th</sup> cup of milk.

Minimum standards should provide clear, easy-to-read guidance on healthy meals by drawing on CACFP's nutrition and meal patterns. Texas has participated in CACFP for decades. Administered by the Texas Department of Agriculture, this voluntary program sets out clear guidelines for meals and snacks that are proven to ensure kids of different ages receive enough nutrients and variety of foods while they are in child care – including a variety of fruits, vegetables, whole grains, and milk and less added sugars and saturated fats.<sup>13</sup> The federally-funded program reimburses child care centers and homes for providing nutritious foods and drinks that contribute to healthy growth and development of young children. Thousands of child care centers and homes in Texas already participate in the CACFP program.<sup>14</sup> In fact, over the last decade CACFP participation for child care centers has increased by 141 percent, highlighting the growing desire of providers to offer healthy lunches and snacks while children are in their care.<sup>15</sup>

Studies show that children in CACFP-participating programs receive foods of higher nutritional quality compared to those served in comparable child care settings without CACFP.<sup>16</sup> In particular, children at CACFP sites are more likely to receive more fruits, vegetables, and milk, while eating fewer saturated fats and sweets.<sup>17</sup> They also obtain more protein, vitamin A, B vitamins, calcium, magnesium, iron, and zinc.<sup>18</sup> Participation in federal child care and school meal programs, such as the CACFP, is associated with a lower body mass index in children, particularly for low-income children.<sup>19</sup>

Thirty-one other states have adopted laws that align their child care minimum standards with CACFP standards,<sup>20</sup> and it is time for Texas to do so as well. Notably, aligning the state's minimum standards with CACFP meal patterns is consistent with the recommendation of the Texas Early Childhood Health and Nutrition Interagency Council, a council of seven Texas agencies created by Senate Bill 395 during the 81<sup>st</sup> Legislative Session.<sup>21</sup>

- 2) ***Strengthen minimum standards for physical activity and media time to align with national best practices.*** Young children need opportunities to be active – to jump, run, dance, and move their bodies – and to learn through interactions with each other. A positive early learning environment that reinforces active play habits helps kids build strong bodies and strong minds and reach their developmental milestones.

Research has found television viewing before the age of three can have a modest negative impact on cognitive development of young children.<sup>22</sup> Additionally, studies have found there is a connection between the amount of television a young child watches and the likelihood she will have a poor quality diet and increased risk for obesity.<sup>23</sup>

Currently, state standards only specify that kids should have daily outdoor play in the morning and afternoon, weather permitting. Also, time sitting in front of a screen is not permitted for toddlers

under age two and is limited to two hours per day for kids above age two. This should be updated to align with the most up-to-date research and best practices supported by the CDC, American Academy of Pediatrics, and American Public Health Association.<sup>24</sup> For instance, standards should specify that children should be provided at least 60 minutes of physical activity per day while in child care so they can develop their motor and movement skills. Texas child care centers are on the right track. In a recent survey of Texas child care providers, over 90 percent met or exceeded 60 minutes of physical activity per day for children ages two to five years old.<sup>25</sup> Updating these standards would help ensure all children in care are getting more interactive and physical activities during their time in care.

- 3) *Ensure child care providers that do not serve their own food are effective partners with parents by providing information to parents on healthy meals and snacks, food allergies, and choking hazards.* Some child care programs do not serve their own food and ask parents to supply lunches or snacks. Given the importance of nutrition in the first few years of life, and the absence of other channels for effectively communicating with parents of young children about nutrition, the state should leverage child care providers' relationships with parents to promote healthy eating even in cases where providers have families bring their own meals and snacks from home. Minimum standards should require these providers to give information to parents about nutritional value of food, including sample healthy menus, and foods that may cause allergic reactions or are potential choking hazards.
- 4) *Include child nutrition, physical activity, and screen time as one of the training topic options in the annual training the state requires for child care staff and directors.* Directors and staff for child care providers must complete a certain number of training hours in specific topics, such as teacher-child interaction and discipline. Child health is merely an optional training topic. To ensure child care programs deliver what is best for children to maintain a healthy weight and achieve lifelong health, child care staff and directors must have annual training opportunities to further their skills and knowledge in child nutrition and learn more ways to incorporate active play throughout the day.
- 5) *Further encourage child care providers to offer healthy foods by improving the Texas Rising Star program's rating system to take into account CACFP guidelines and a scoring methodology that rewards participation in CACFP.* The Texas Workforce Commission (TWC) manages the Texas Rising Star (TRS) program, a voluntary system that recognizes providers that go above and beyond minimum child care licensing standards and rewards them with higher child care reimbursement rates.

TRS awards two-, three-, and four-star ratings to programs that offer high quality care in certain areas, such as caregiver/child interactions, nutrition and physical activity, and parent involvement. Providers must show certain measures for two-star TRS certification (e.g., have programs in place to increase parent education and involvement). Then, child care providers can gain additional points for a three-

or four-star rating if they go above and beyond (e.g., implementing best practices for lesson plans and planning for kids with special needs). Currently, programs can receive a two-star rating if they do one of following: (a) have 12 months of menus approved by a dietician; (b) have menu policies designed to give kids a variety of foods to meet USDA dietary guidelines; or (c) participate in CACFP.

Given CACFP's proven track record in increasing the nutrient quality of foods served and improving kids' health and weight, the state should use TRS to actively incentivize participation in CACFP. TRS guidelines and scoring methodology should make clear that child care providers receive additional points or scores for CACFP participation.

The policy actions above will facilitate improvements in child care settings that will help ensure young Texans eat healthy and grow up at a healthy weight.

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<sup>1</sup> One study showed that children who became obese as early as age two were more likely to be obese as adults. Centers for Disease Control. Progress on Childhood Obesity. (Aug. 2013). Available at <http://www.cdc.gov/vitalsigns/childhoodobesity/>.

<sup>2</sup> Freedman DS, Zugno M, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: the Bogalusa Heart Study. *Journal of Pediatrics* 150(1):12–17 (2007). Kushi LH, Byers T, Doyle C, Bandera EV, McCullough M, Gansler T, et al. American Cancer Society guidelines on nutrition and physical activity for cancer prevention: reducing the risk of cancer with healthy food choices and physical activity. *CA: A Cancer Journal for Clinicians* 56:254–281 (2006).

<sup>3</sup> Pooja Tandon, et. al. The Relationships between physical activity and diet and young children's cognitive development: A systemic review. *Preventive Medicine Reports*. 3 (2016) 379-390.

<sup>4</sup> LG Smithers, et al. Dietary patterns at 6, 15 and 24 months of age are associated with IQ at 8 years of age. *Eur. J. Epidemiol.* 27, 7 (2012) 525–535.

<sup>5</sup> L. Feinstein, et al., Dietary patterns related to attainment in school: the importance of early eating patterns. *J. Epidemiol. Community Health.* 62, 8 (2008) 734–739. A. Nyaradi, et. al. Diet in the early years of life influences cognitive outcomes at 10 years: a prospective cohort study. *Acta Paediatr.* 102, 12 (2013) 1165–1173.

<sup>6</sup> Reilly, J. J., J. Armstrong, A. R. Dorosty. Early life risk factors for obesity in childhood: Cohort study. *British Medical J* 330:1357 (2005). Available at <http://www.bmj.com/content/330/7504/1357> (finding that more than eight hours spent watching television per week at age three increased risk for obesity). Lumeng, J. C., S. Rahnama, D. Appugliese, N. Kaciroti, R. H. Bradley. Television exposure and overweight risk in preschoolers. *Arch Pediatric Adolescent Med* 160:417-22 (2006). Available at <http://jamanetwork.com/journals/jamapediatrics/fullarticle/204808> (finding that excessive television exposure is a risk factor for overweight in preschoolers independent of a number of potential confounders associated with the quality of the home environment). Levin, S., M. W. Martin, W. F. Riner. TV viewing habits and Body Mass Index among South Carolina Head Start children. *Ethnicity and Disease* 14:336-39 (2004). Available at <http://europepmc.org/abstract/MED/15328934> (finding that among 148 four-year-old children in Head Start, as BMI increased, average hours of TV viewing increased slightly). Miller, S. A., E. M. Taveras, S. L. Rifas-Shiman, M. W. Gillman. Association between television viewing and poor diet quality in young children. *Int J Pediatric Obesity* 3:168-76 (2008). Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4249761/> (finding more TV viewing among three-year-olds is associated with adverse dietary practices).

<sup>7</sup> See American Academy of Pediatrics, American Public Health Association, and National Resource Center for Health and Safety in Child Care and Early Education. *Preventing Childhood Obesity in Early Care and Education: Selected Standards from Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs*, 3rd Edition. at p. 67 (2012).

<sup>8</sup> *The State of Obesity: Obesity Among WIC Participants Ages 2-4* Project of the Trust for America's Health and the Robert Wood Johnson Foundation (Nov. 2016). Available at <http://stateofobesity.org/wic/> (noting that 8.9 percent of two-to-four-year olds have obesity). See Cynthia Ogden. *Prevalence of Childhood and Adult Obesity in the United States, 2011-2012* *Journal of American Medical Association.* (2014) 311(8):806-815 (finding that 22.8 percent of two-to-five-year-olds are overweight or

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obese and 8.9 percent of two-to-five-year-olds were obese). This is the most recent nationwide study on obesity looking at children ages 2 to 17 and adults. For Texas, while data is available on prevalence of obesity and overweight among low-income Texas children ages 2 to 5, this prevalence data is not available for all Texas children ages two to five.

<sup>9</sup> To determine obesity rates, the CDC and the USDA conducted a study analyzing trends in obesity from 2000 to 2014 among 2- to 4-year-olds enrolled in WIC, the Special Supplemental Nutrition Program for Women, Infants, and Children. In Texas, the rate of obesity among two-to-four-year-olds from low-income families enrolled in WIC has declined significantly in recent years – from 16.9 percent in 2010 to 14.9 percent in 2014. National obesity rates have declined as well. In 2014, 14.5 percent of two-to-four-year-olds enrolled in WIC had obesity, down from 15.9 percent in 2010. *The State of Obesity: Obesity Among WIC Participants Ages 2-4* Project of the Trust for America's Health and the Robert Wood Johnson Foundation (Nov. 2016). Available at <http://stateofobesity.org/wic/>.

<sup>10</sup> State of Texas Children 2016: Race and Equity." *Center for Public Policy Priorities* Page 20, [http://forabettertexas.org/images/KC\\_2016\\_SOTCReport\\_web.pdf](http://forabettertexas.org/images/KC_2016_SOTCReport_web.pdf).

<sup>11</sup> About 41 percent of children ages 0 to five are cared for in non-parental care arrangements, such as Head Start programs, child care centers, or child care homes. Participation rates vary by age group. About 19% of children who are younger than age one receive care in child care centers or child care homes. The percentage increases to about 64% for children aged 3 to 5 years. US Department of Education, National Center for Education Statistics, National Household Education Surveys Program (NHES), Early Childhood Program Participation (ECP) Survey, 2012 [http://nces.ed.gov/nhes/tables/nonrelative\\_care.asp](http://nces.ed.gov/nhes/tables/nonrelative_care.asp)

<sup>12</sup> In FY 2015, child care centers served 877,717 kids in Texas; licensed child care homes served 20,494 kids; and registered child care homes served 54,604 kids. Department of Family and Protective Services. *2015 Annual Report and Databook* Child Day Care Licensing. p. 76. Available at [https://www.dfps.state.tx.us/About\\_DFPS/Data\\_Books\\_and\\_Annual\\_Reports/2015/pdf/6DCLAll.pdf](https://www.dfps.state.tx.us/About_DFPS/Data_Books_and_Annual_Reports/2015/pdf/6DCLAll.pdf).

<sup>13</sup> CACFP meal pattern standards for infants and children was recently updated by USDA to ensure that meals and snacks served to kids in child care include a greater variety of vegetables and fruit, more whole grains, and less added sugar and saturated fat. The new standards are based on the Dietary Guidelines for Americans, science-based recommendations made by the National Academy of Medicine, cost and practical considerations, and stakeholder's input.

<sup>14</sup> Texas Department of Agriculture CACFP Statistics for October 1, 2014 through September 30, 2015 shows 7,391 child care center sites and 6,661 day care homes participating in CACFP. Available at <http://www.squaremeals.org/Programs/ChildandAdultCareFoodProgram/CACFPStatistics.aspx>.

<sup>15</sup> See Food Research Action Centers, Texas: Profile of Hunger, Poverty, and Federal Nutrition Programs (2016). Available at <http://frac.org/wp-content/uploads/2016/10/tx.pdf>.

<sup>16</sup> For a summary of research showing how CACFP improves nutritional quality of foods kids receive in child care, see Food and Research Center. *CACFP Supports Good Nutrition in Quality Child Care*. Available at [http://www.frac.org/pdf/CACFP\\_factsheet.pdf](http://www.frac.org/pdf/CACFP_factsheet.pdf). Another study found that, compared to children who rely on food from home, children who received food from their CACFP child care program were 62% less likely to be in fair or poor health and 64% less likely to have been hospitalized. These children were also more likely to be a healthy height and weight for their age. Children's Health Watch Policy Brief. *Child Care Feeding Programs Support Young Children's Healthy Development* (January 2010). Available at [http://www.childrenshealthwatch.org/upload/resource/cacfp\\_brief\\_jan10.pdf](http://www.childrenshealthwatch.org/upload/resource/cacfp_brief_jan10.pdf).

<sup>17</sup> See Sander Korenman, et. al. The Child and Adult Care Food Program and the Nutrition of Preschoolers. *Early Child Res Q.* 2013 Spring;28(2):325-336. Available at <http://www.ncbi.nlm.nih.gov/pubmed/23687405>. Mary Kay Crepinsek, et. al. Maternal Employment and Children's Nutrition: Volume I, Diet Quality and the Role of CACFP. Economic Research Service. (June 2004). Available at <http://www.ers.usda.gov/media/1191571/efan04006-1fm.pdf>. KS Bruening, et. al. Dietary intake and health outcomes among young children attending two urban day-care centers. *Journal of American Dietary Association.* 1999 Dec; 99(12):1529-35. Available at <http://www.ncbi.nlm.nih.gov/pubmed/10608946>.

<sup>18</sup> Ibid.

<sup>19</sup> Rachel Tolbert Kimbro and Elizabeth Rigby. Federal Food Policy And Childhood Obesity: A Solution Or Part Of The Problem? *Health Affairs* 29, no.3 (2010):411-418. See Sander Korenman, et. al. The Child and Adult Care Food Program and the Nutrition of Preschoolers. *Early Child Res Q.* 2013 Spring;28(2):325-336. Available at <http://www.ncbi.nlm.nih.gov/pubmed/23687405> (finding that Research CACFP may reduce the risk of overweight and underweight among participating children). Notably, a 2015 study found that CACFP reduced the risk of food insecurity for families. Controlling for other factors, a 4.9% reduction in household food insecurity was evident for the sample of children who attended CACFP-participating child care programs. Colleen Heflin, et. al. The Child and Adult Care Food Program and Food Insecurity. *Social Service Review.* (March 2015). Available at <http://foodsecurity.missouri.edu/wp-content/uploads/2015/04/cacfp-heflin-arteaga-gable-2015.pdf>.

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<sup>20</sup> Based on analysis by Public Health Law Center at Mitchell Hamline School of Law. States with CACFP aligned standards: Alabama, Alaska, Arkansas, California (for centers), Colorado, Connecticut, Delaware (for homes), Georgia (for centers), Hawaii, Iowa, Louisiana, Massachusetts, Michigan, Minnesota (for centers), Montana, Nebraska, New Jersey (for centers), New Mexico, New York (for centers), North Carolina, North Dakota, Ohio, Oklahoma (for centers), Oregon, Rhode Island, South Carolina (for centers), Utah, Virginia, Washington (for homes), West Virginia (for centers), and Wisconsin. Unless otherwise indicated, these states have CACFP-aligned standards for child care centers and child care homes.

<sup>21</sup> The Interagency Council reviews current research, assesses current and best practices to combat childhood obesity, and makes recommendations to the Legislature for improving the health of Texas children under age six. In its November 2016 report to the Legislature, the Interagency Council recommended aligning minimum standards for child care licensing with CACFP “for consistency and improved nutrient quality across all child care facilities preparing foods for infants and children under age six.” *Report to the Texas Legislature: Early Childhood Health and Nutrition Interagency Council* (Nov. 2016). Available at <http://squaremeals.org/Portals/8/files/publications/Reports/SB%20395%20Legislative%20Report%202016.pdf>.

<sup>22</sup> Zimmerman, F. J., D. A. Christakis. Children’s television viewing and cognitive outcomes. *Arch Pediatric Adolescent Med* 159:619-25(2005). Available at <http://jamanetwork.com/journals/jamapediatrics/fullarticle/486070>

<sup>23</sup> Reilly, J. J., J. Armstrong, A. R. Dorosty. Early life risk factors for obesity in childhood: Cohort study. *British Medical J* 330:1357 (2005). Available at <http://www.bmj.com/content/330/7504/1357> (finding that more than eight hours spent watching television per week at age three increased risk for obesity). Lumeng, J. C., S. Rahnema, D. Appugliese, N. Kaciroti, R. H. Bradley. Television exposure and overweight risk in preschoolers. *Arch Pediatric Adolescent Med* 160:417-22 (2006). Available at <http://jamanetwork.com/journals/jamapediatrics/fullarticle/204808> (finding that excessive television exposure is a risk factor for overweight in preschoolers independent of a number of potential confounders associated with the quality of the home environment). Levin, S., M. W. Martin, W. F. Riner. TV viewing habits and Body Mass Index among South Carolina Head Start children. *Ethnicity and Disease* 14:336-39 (2004). Available at <http://europepmc.org/abstract/MED/15328934> (finding that among 148 four-year-old children in Head Start, as BMI increased, average hours of TV viewing increased slightly). Miller, S. A., E. M. Taveras, S. L. Rifas-Shiman, M. W. Gillman. Association between television viewing and poor diet quality in young children. *Int J Pediatric Obesity* 3:168-76 (2008). Available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4249761/> (finding more TV viewing among three-year-olds is associated with adverse dietary practices).

<sup>24</sup> See *Ibid.* (describing evidence-based best practices for physical activity and screen time at pages 51-59).

<sup>25</sup> *Report to the Texas Legislature: Early Childhood Health and Nutrition Interagency Council* at Table 6. “Amount of time provided to preschool children (age 2-5 years) for indoor and outdoor physical activity each day, Texas, 2016.” (Nov. 2016). Available at <http://squaremeals.org/Portals/8/files/publications/Reports/SB%20395%20Legislative%20Report%202016.pdf> (Combined percentages for 60-89 minutes, 90-119 minutes and 120 minutes or more equals over 90 percent).