

# North Carolina's Plan to Address Overweight and Obesity



# Balance how we eat, drink, and move.

A plan to guide professionals who work in the area of prevention and management of overweight, obesity, and related chronic diseases





# Eat Smart, Move More North Carolina **Movement**

Eat Smart, Move More North Carolina is a statewide movement that promotes increased opportunities for healthy eating and physical activity wherever people live, learn, earn, play, and pray.

We work to help communities, schools, and businesses make it possible for people to eat healthy food and be physically active. We also encourage individuals to think differently about what they eat and how much they move, and to make choices that will help them feel good and live better.

Eat Smart, Move More North Carolina is guided by the work of the Eat Smart, Move More Members, a multi-disciplinary team composed of statewide partners working together to increase opportunities for healthy eating and physical activity.

#### Vision

A North Carolina where healthy eating and active living are the norm, rather than the exception.

#### **Mission**

To reverse the rising tide of obesity and chronic disease among North Carolinians by helping them to eat smart, move more, and achieve a healthy weight.

We have gleaned evidence-informed or evidence-based strategies from the best available science to create a plan to guide professionals who work in the area of prevention and management of overweight, obesity, and related chronic diseases.



# Overweight and Obesity **Defined**

#### **Overweight**

Adults (aged 20 years and older): BMI\* between 25 and 29.9

**Children** (aged 2–19 years): BMI  $\geq$  85th and < 95th percentile for children of the same age and sex

#### Obese

Adults (aged 20 years and older):  $BMI \ge 30$ 

**Children** (aged 2–19 years): BMI  $\geq$  95th percentile for children of the same age and sex



\*BMI = body mass index, a ratio of weight to height that is used to classify adults with overweight or obesity. The formula for calculating BMI is: weight (kg) / [height (m)]<sup>2</sup> or weight (lb) / [height (in)]<sup>2</sup> x 703



Adults in North Carolina with overweight or obesity: 2 out of 3<sup>1</sup>



Adults in North Carolina with overweight or obesity: 5 million (68%)



Children and youth in North Carolina with overweight or obesity: 3 out of 10 (30%)<sup>2</sup>

# PREVENTABLE Obesity

#### **Obesity and Obesity-Related Conditions**



#### **Obesity Increases Medical Costs**



#### Type 2 Diabetes in North Carolina

Over 50,000 adults in North Carolina are newly diagnosed with Type 2 diabetes each year.

The prevalence of overweight or obesity among adults with Type 2 diabetes in North Carolina is 87%.<sup>5,6</sup>





NEW CASES OF TYPE 2 DIABETES EVERY YEAR IN NC THE PREVALENCE OF OVERWEIGHT OR OBESITY AMONG ADULTS WITH TYPE 2 DIABETES IN NORTH CAROLINA IS 87%

#### Impact on Employer Productivity

Obesity contributes to an increase in both job absenteeism and presenteeism.

Job presenteeism costs employers 10 times more than absenteeism.<sup>9,10</sup>



# Hunger-Obesity Paradox"

Hunger, food insecurity, and obesity can co-exist in the same individual, family, or community. Low-income individuals and families are particularly vulnerable to both food insecurity and obesity. While researchers continue to examine this relationship, several reasons for this paradox have emerged:



# Determinants of Health Model<sup>12</sup>

If we are going to be successful at preventing or treating obesity, we must find solutions to challenges facing individuals, families, and communities that directly correlate to where and how they live. We have learned that a person's zip code is as much a predictor of their health and lifespan as their genetic code—or more so. **We must consider**:



North Carolina's Plan to Address Overweight and Obesity: Balance how we eat, drink, and move.

# Core Behaviors should be addressed at the individual, interpersonal, institutional, com

individual, interpersonal, institutional, community, public policy, and physical environment levels.



#### **Move More**<sup>13</sup>

Physical activity is critical for lifelong weight management and overall health. Physical activity refers to any bodily movement that requires energy expenditure, whether it's for work or play, daily chores, or daily commuting. Because of its role in energy balance, physical activity is a critical factor in determining whether a person can maintain a healthy weight, lose excess weight, or sustain weight loss. Adults need at least 150 minutes of moderate-intensity physical activity per week and should perform muscle-strengthening activities at least two days a week. Adults who want to maintain weight loss or lose more than 5% of their body weight should increase their moderate-intensity physical activity to at least 300 minutes per week. People with chronic conditions or disabilities who are not able to follow the key guidelines for adults should adapt their physical activity program to match their abilities, in consultation with a healthcare professional or physical activity specialist. Children ages 6 to 17 need at least 60 minutes of physical activity every day and should get a mix of bone strengthening, muscle building, and aerobic activities.





#### Eat more healthy food, less junk and fast food<sup>14-15</sup>

Today's typical American diet is often higher in calories than needed and consists of food and beverage choices that are not nutritious. These empty calories are mostly from unhealthy fat and sugar. Similar to a financial budget, food choices can be evaluated by their cost to a daily calorie budget. In these terms, foods high in empty calories are also "expensive" calorie choices that may not fit into a daily calorie budget. In other words, they are not nutrient-dense. Tracking food choices can help determine when and how many calories to spend. To meet vital nutrient needs while staying within a calorie budget, choose more nutrient-dense foods, close to their natural state such as fruits, vegetables, nuts, seeds, lean meats, and low-fat dairy, and limit empty calorie foods.



#### Eat more fruits and vegetables<sup>16-18</sup>

Of all the healthy foods, fruits and vegetables are particularly important. Fruits and vegetables in their natural state are low in calories and high in vitamins and minerals. Eating a diet rich in fruits and vegetables makes it easier to consume fewer calories. The consumption of low-calorie foods such as fruits and vegetables is associated with better weight management. It is recommended to eat 2 cups of fruit and 2½ cups of non-starchy vegetables each day, whether fresh, frozen, canned, or dried. It is important to choose a variety of colors, especially deep green and orange fruits and vegetables, such as spinach, kale, collards, turnip greens, arugula, cantaloupe, and carrots.



#### Drink more water, less sugar-sweetened beverages<sup>16, 19-25</sup>

Make water your go-to beverage. Sugar-sweetened beverages include any drink that is sweetened with any form of sugar such as corn sweetener, corn syrup, dextrose, fructose, high-fructose corn syrup, honey, or sugar. This includes but is not limited to lemonade, sweet tea, cola, sports drinks, and energy drinks. Sugar-sweetened beverages are the leading source of added sugar in the American diet. Sugar-sweetened beverages are ubiquitous in our society and are consumed by an estimated 49% of adults and 63% of children daily. Drinking sugar-sweetened beverages is associated with weight gain, obesity, and type 2 diabetes. Limiting sugar-sweetened beverages can help maintain weight and protect against weight gain.



#### Sit less<sup>13, 26</sup>

One in four adults sits for over eight hours per day. This sedentary lifestyle, regardless of other physical activity, can increase the risk of cardiovascular disease and all cause mortality in adults. The more sedentary a person is, the less likely they are to maintain a healthy weight. Moving more and sitting less, even short episodes of physical activity, has proven immediate and long-term health benefits. Light-intensity physical activity can be a beneficial first step in replacing sedentary behavior. Given the high levels of sitting and low levels of physical activity in the US population, most people would benefit from sitting less and moving more. When adults with chronic conditions or disabilities are not able to meet the above key guidelines, they should engage in regular physical activity according to their abilities and should avoid inactivity.



## Start and continue to breastfeed<sup>27-30</sup>

The health benefits of breastfeeding are well documented. Breast milk is a dynamic, bioactive fluid, that changes in composition throughout lactation to mirror the child's needs. This allows for breast milk to respond to maternal and environmental factors to provide the optimal nutritional benefit to children. Breastfeeding is associated with a decreased rate of childhood, adolescence, and adulthood overweight and obesity. The duration (the length of time a child is breastfed) and exclusivity (providing only human milk) of breastfeeding are both linked to reducing childhood obesity risk by up to 25%. The American Academy of Pediatrics recommends that children be exclusively breastfed for the first 6 months and continued breastfeeding with complementary foods through 12 months.



#### Get enough sleep<sup>31-35</sup>

Insufficient sleep is a widespread problem in the US with as many as one in three adults not getting at least seven hours. Sleep is a restorative process and plays an important role in overall health of the entire body and mind. There is a growing body of evidence on the importance of sleep as it relates to increased risk of obesity. There is a link between low sleep quality and short sleep duration (less than 7 hours of sleep per day) to increased risk of obesity and poor obesity treatment outcomes. Poor sleep (either duration or quality) results in many metabolic and endocrine alterations that can impact risk of obesity. Improving sleep quality and quantity is important in addressing overweight and obesity.

North Carolina's Plan to Address Overweight and Obesity: Balance how we eat, drink, and move.



#### Manage stress 36-39

High levels of stress are common in our society. Demands from work and family may cause stress. There are added stress burdens in those who are living in poverty or are food insecure. Stress has been linked to overweight and obesity through multiple interactions. The hormone cortisol is secreted during times of stress. This hormone causes higher levels of insulin and can trigger overeating. Stress also interferes with cognitive processes including self regulation. Stress also causes physiological changes that may be related to overweight and obesity, including changes to hunger and satiety hormones as well as changes to the gut microbiome. Studies have shown a relationship between stress and weight in children and adults. Managing stress through mindfulness, physical activity, or other means is an important part of addressing overweight and obesity.

# Mindfulness 40-46

In recent years, there has been increased interest in mindfulness as it relates to obesity. Mindfulness refers to the learned ability to be open, accepting, and present in the moment. The practice of mindfulness includes being consciously aware of habits, thoughts, emotions, and behaviors. Mindful individuals demonstrate more self-compassion, self-regulation, self-control, and emotional regulation. An increase in mindfulness may allow an individual to be more purposeful in food selection.

Mindful eating, a specific type of mindfulness, is eating with awareness of what food we choose and how the food smells and tastes. When we eat mindfully, we are fully present and eat as a singular event without distraction of computers, TV, phone, or while driving.

Mindful eating increases an individual's sensitivity to the physical signs of hunger, satiety cues, pace of eating, the food environment, and food characteristics. These cues are important to be able to control the urge to consume high-calorie foods. There is strong support for inclusion of mindful eating as a component of weight management programs and may provide substantial benefit to the treatment of overweight and obesity.

# Be Part of the **SOLUTION**



#### You

Eat smart and move more to achieve and maintain a healthy weight. Track your steps or minutes of exercise each day. Include fruits and vegetables at every meal. Learn to recognize hunger and satiety. We are all role models and can be part of the solution.

#### Friends and Family

Encourage the families you work with to plan and fix simple healthy meals and make healthy snacks easy to "grab and go". Suggest they meet a friend for a walk or start a walking group in their neighborhood or work place. Have them explore local parks and playgrounds. Have them find outdoor and indoor recreational activities that are fun for them and their family.

#### The Places You Go

Make it easier and safer for people to be physically active, whether at the office, in the neighborhood, or to and from school. Advocate for more walking paths, trails, sidewalks, and greenways. Help make fruits and vegetables accessible to all including mobile markets and farmers markets. When serving meals or snacks, offer water and healthy food options. Make healthy choices possible for your employees, clients, patients, or students.

# Strategies

There are 8 strategies listed in no particular order. Each strategy represents the best available evidence. An extensive review was conducted to assure that the most up-to-date resources were used. This included personal contacts with national leaders at CDC and USDA. See page 22 for the documents used.

# Healthcare Care for others

Healthcare can help individuals achieve and maintain a healthy weight, and can support environments and policies that enable individuals to carry out their personal health prescriptions. Clinicians and other healthcare professionals can screen for and diagnose overweight and obesity, provide treatment plans, and increase awareness of the health risks of obesity. They can accept and support the inherent diversity of body shapes and sizes. They can advocate for time spent to counsel patients with overweight or obesity, and they can refer appropriately to community-based resources. Clinicians and healthcare professionals can work for the creation of healthy environments, including vending, in healthcare worksites (e.g., hospitals, clinics). They can promote and advocate for breastfeeding. Healthcare professionals can be powerful advocates for healthy eating and physical activity environments across all sectors of their communities.

**Assess**, counsel, and advise patients on physical activity and how to do it safely.

**Screen** all adults annually using a BMI measurement; in most populations a cutoff point of  $\ge 25$  kg/m<sup>2</sup> should be used to initiate further evaluation of overweight or obesity.

**Measure** waist circumference when evaluating patients for adiposity-related disease risk. Men should have a waist circumference < 40 inches, women < 35 inches.

**Implement** a practice policy to require measurement of weight and length or height in a standardized way and plotting of information on World Health Organization or the CDC growth charts as part of every well-child healthcare provider visit. **Screen** patients with overweight or obesity and patients experiencing progressive weight gain for prediabetes and type 2 diabetes and evaluate for metabolic syndrome by assessing waist circumference, fasting glucose, A1C, blood pressure, and lipid panel that includes triglycerides and HDL.

**Screen** patients with overweight or obesity for obstructive sleep apnea.

**Treat** patients with overweight or obesity with lifestyle therapy that includes healthy eating and physical activity to reduce the risk of type 2 diabetes and hypertension.

**Treat** patients with medications that are more weightneutral, and emphasize behaviors to minimize weight gain. Healthcare Strategies, continued

**Screen** all patients for food insecurity using standardized questions and refer them to appropriate federal, state, or local food and nutrition assistance programs.

**Promote** a positive, comfortable, welcoming, and accessible office environment to reduce weight bias and improve patient care.

**Accommodate** patients of all sizes by providing access to armless chairs, scales for patients above 350 pounds, longer speculums, and extra-large blood pressure cuffs.

**Utilize** patient-first language for individuals with overweight or obesity.

**Counter** and minimize the abundance of unscientific and inappropriate weight-loss products and claims.

**Shift** to healthier food and beverage choices. Offer nutrient-dense foods and beverages across and within all food groups in place of less healthy choices.

**Limit** advertisements of less healthy foods and beverages in healthcare settings.

**Counsel** caregivers about risk factors for obesity, such as children's weight-for-length, BMI, rate of weight gain, and parental weight status.

**Establish** policies and practices to offer counseling and behavioral interventions for adults identified as obese, and integrate with other community-based interventions.

**Use** terms that are appropriate for families and children to define healthy weight and BMI, and explain how to achieve this goal.

**Promote** effective prenatal counseling about maternal weight gain and the relationship between obesity and diabetes.

**Assess** and record information on patients' dietary patterns.

**Establish** policies and practices to train and educate health professionals to increase children's healthy eating, and counsel parents or caregivers about their children's diet.

**Implement** and maintain Baby-Friendly hospital initiatives.

- Comply fully with the International Code of Marketing of Breast Milk Substitutes.
- Develop a written breastfeeding policy that is routinely communicated to all healthcare staff and parents.

- Establish ongoing monitoring and data-management systems.
- Ensure that all staff have sufficient knowledge, competence, and skills to support breastfeeding.
- Inform all pregnant women about the benefits and management of breastfeeding.
- Facilitate immediate and uninterrupted skin-to-skin contact and support mothers to initiate breastfeeding as soon as possible after birth.
- Support mothers to initiate and maintain breastfeeding and manage common difficulties.
- Give newborns no food or drink other than breast milk, unless medically indicated.
- Practice "rooming in"—allow mothers and infants to remain together 24 hours per day.
- Encourage breastfeeding on demand.
- Give no artificial teats, pacifiers, or bottle nipples to breastfeeding infants.
- Coordinate discharge so that parents and their infants have timely access to ongoing support and care.

**Achieve** and maintain the North Carolina Maternity Center Breastfeeding-Friendly Designation.

**Promote** exclusive breastfeeding for six months after birth and continuation of breastfeeding in conjunction with complementary food for one year or more.

**Provide** point-of-decision prompts to encourage the use of stairs in clinical settings.

Advise caregivers of children ages two to five years to limit screen time to less than two hours per day, including discouraging the placement of televisions, computers, or other digital media devices in children's bedrooms or other sleeping areas.

**Train** healthcare providers in the area of prevention and management of obesity based on the National Academies of Science, Engineering, and Medicine suggested provider competencies.

**Partner** with other sectors to promote access to community-based physical activity programs.

**Practice** healthy lifestyle behaviors, be role models for patients, and participate in community coalitions.

# Childcare Care for children

Children often spend more waking hours in childcare and preschool than with their families. Ideally, families can choose a childcare facility that provides healthy foods daily, offers a variety of physical activity, includes nutrition education in the curriculum, and supports the development of healthy eating and physical activity habits in all children. Childcare providers and preschool teachers can adopt and implement policies and practices in their classrooms that promote healthy eating, allow for active play, and reduce sedentary time. Childcare facility owners and operators can adopt and monitor facility-wide policies that support healthy environments and behaviors. Legislators and other childcare policy makers pass and enforce legislation to make good nutrition and physical activity the norm in childcare facilities.

**Implement** policies that give preschool-aged children physical activity throughout the day regardless of ability.

**Train** adult caregivers of preschool-aged children to encourage active play that includes a variety of activity types.

**Implement** policies that ensure that the amount of time toddlers and preschoolers spend sitting or standing still is minimized.

**Implement** policies that reduce screen time.

**Complete** the GO NAPSACC Self-Assessments for Infant and Child Physical Activity and Nutrition, Outdoor Play and Learning, Oral Health, Screen Time, and Breastfeeding.

**Implement** policies that limit consumption of sugarsweetened beverages and promote drinking water.

**Implement** policies that require child care providers and early childhood educators to practice responsive feeding.

**Implement** educational programs tailored to individuals and change organizational practices, approaches, and/or policies to support healthy food choices where food decisions are being made. **Implement** and maintain breastfeeding-friendly child care initiatives.

- Develop a written policy that promotes and supports breastfeeding, especially exclusive breastfeeding, and share with employees as part of orientation/training, and families as part of enrollment.
- Offer community breastfeeding resources and information about continued breastfeeding in the child care setting.
- Train early educators in skills to promote breastfeeding and support family feeding choices.
- Provide a breastfeeding-friendly environment.
- Provide interactive and developmentally appropriate learning opportunities that normalize breastfeeding for children in the program.

**Achieve** and maintain the North Carolina Breastfeeding-Friendly Child Care Designation.

**Implement** policies and practices that support any or all aspects of Farm to ECE (local foods purchased, promoted and served in meals, snacks or taste tests; education activities related to agriculture, food, health and nutrition; and childcare gardens where children engage in hand-on experiential learning through gardening).

## Schools Care for students, teachers, and staff

Over 1.5 million students attend North Carolina schools. Schools have considerable influence on what children eat and how they move. Many people can help schools promote healthy weight for North Carolina's children and youth, including superintendents, school board members, administrators, teachers, child nutrition staff, school nurses, and families. Families are powerful advocates for making schools places that support healthy weight behaviors. School staff can model healthy weight behaviors for young people. School administrators can establish policies and procedures that support students in achieving healthy behaviors and maintaining healthy weight. Teachers can educate students about healthy behaviors. Students can advocate for schools to support healthy eating and physical activity.

**Implement** the Move More North Carolina: Recommended Standards for After-School Physical Activity in all after-school programs.

**Implement** and monitor all sections of the Healthy Active Children Policy to ensure schools provide the recommended minutes of quality physical education, required minutes of daily physical activity and required nutrition guidelines.

**Establish** policies and practices to create a school environment that encourages a healthy body image, shape, and size among all students and staff members, accepts diverse abilities, and does not tolerate weightbased teasing or stigmatizing healthy eating and physical activity.

**Provide** a quality school meal program and ensure that students have only appealing, healthy food and beverage choices offered outside of the school meal program.

**Implement** a comprehensive physical activity program with quality physical education as the cornerstone.

**Implement** health education that provides students with the knowledge attitudes, skills, and experiences needed for healthy eating and physical activity.

**Discourage** consumption of sugar-sweetened beverages, promote drinking water, and restrict the availability of less healthy foods and beverages.

**Teach** educators and other school personnel how to increase children's physical activity, decrease their

sedentary behavior, and advise parents or caregivers about their children's physical activity.

**Implement** policies and practices to provide evidencebased Healthful Living curricula in schools.

**Comply** with federal regulations regarding school meals and wellness policies.

**Implement** policies and practices to improve the availability of mechanisms for purchasing locally grown foods.

**Implement** policies to limit advertisements for less healthy foods and beverages.

**Require** high-quality physical education that meets North Carolina Department of Public Instruction standards in all district schools.

**Implement** policies and practices that provide opportunities for extracurricular physical activity.

**Implement** policies to enhance infrastructure that supports bicycling and walking to school.

**Implement** policies and practices to promote joint use and community use of school facilities.

**Implement** policies and practices that support any or all aspects of Farm to School (local foods purchased, promoted and served in meals, snacks or taste tests; education activities related to agriculture, food, health and nutrition; and school gardens where children engage in hand-on experiential learning through gardening).

# Colleges and Universities Care for students, staff, and faculty

North Carolina has more than one million students in the community college, college, and university settings, along with tens of thousands of staff and faculty. The environment of a college campus can support healthy weight behaviors. From the president or chancellor to the student entering college for the first time, each person has a role to play. Students can identify ways in which the environment could be more supportive of healthy eating and physical activity, and they can help make appropriate environmental changes. College officials can consider health in policies related to campus food offerings, food procurement, and land use. Student health providers can include healthy eating and physical activity as critical points in plans to address student health. Faculty, staff, and students can engage communities to disseminate evidence-based practices and best practices to promote health.

**Expand** intramural sports and campus recreation opportunities for students of all abilities.

**Provide** opportunities for students, faculty, and staff to volunteer with community coalitions or partnerships that address obesity.

**Limit** advertisements for less healthy foods and beverages on campus.

**Improve** the capacity of university dining services to purchase locally grown food.

**Increase** the number of campus organizations with policies and practices that provide opportunities for physical activity and healthy eating.

**Enhance** the university infrastructure to support all students, staff, faculty, and visitors in bicycling, walking, and wheeling on campus.

**Implement** policies and practices to encourage joint use of fitness facilities by faculty, staff, and community members.

**Implement** policies and practices that enhance personal safety in university settings where people are or could be physically active. **Implement** policies and practices that enhance traffic safety in areas on campus where people are or could be physically active.

**Develop** and implement a campuswide comprehensive plan for land use and transportation that creates opportunities for physical activity and that aligns with comprehensive plans for the city and county.

**Implement** policies to discourage consumption of sugar-sweetened beverages and increase consumption of water.

**Implement** routine BMI screening, counseling, and behavioral interventions to improve physical activity and healthy eating within student health services.

**Shift** to healthier food and beverage choices. Offer nutrient-dense foods and beverages across and within all food groups in place of less healthy choices.

**Implement** educational programs tailored to individuals and change organizational practices, approaches, and/or policies to support health food choices where food decisions are being made.

**Implement** menu-labeling policies and practices in college and university dining facilities.

# Worksite Care for employees

Healthy workers are more productive at work and at home. Avoiding preventable health costs helps both the bottom line and employees' personal finances. The worksite can support healthy weight behaviors. Team members and co-workers can help create a workplace environment that supports healthy weight behaviors. They can encourage each other to make healthy choices in food and physical activity. Supervisors can use their authority to make the healthy choice the easy choice in areas they control. Owners and management can maintain worksites and benefit plans that support health and productivity. State policymakers can create legislation that promotes a healthy, competitive workforce across the state.

**Encourage** workers to be physically active. Provide facilities and encourage their use through outreach activities.

**Encourage** opportunities in the workplace for regular physical activity though active commuting, activity breaks, and walking meetings.

**Consider** access to opportunities for active transportation and public transit when selecting new worksite locations.

**Shift** to healthier food and beverage choice policies and practices. Offer nutrient-dense foods and beverages across and within all food groups in place of less healthy choices.

**Implement** educational programs tailored to individuals and change organizational practices, approaches, and/or policies to support healthy food choices where food decisions are being made.

**Participate** in community coalitions or partnerships to address obesity.

**Institute** policies and practices to offer options for smaller portion sizes in food services and vending.

**Provide** and promote free or subsidized lifestyle coaching/counseling or self-management programs that equip employees with skills and motivation to set and meet their personal nutrition goals.

**Implement** policies to limit advertisements for less healthy foods and beverages.

**Support** exclusive breastfeeding for six months and continuation of breastfeeding for as long as mothers desire by providing a clean, private, comfortable space with a lockable door and electric outlets for pumping. This area cannot be a bathroom.

**Achieve** and maintain the Breastfeeding-Friendly Business and Workplace award.

**Provide** all lactating employees breaks to express milk or nurse their children.

**Promote** worksite mechanisms for purchasing locally grown foods, including expanding farmers markets and farm stands.

**Enhance** site infrastructure to support bicycling, walking, and wheeling.

**Implement** policies and practices for joint use of site or community physical activity facilities with schools and community organizations.

**Provide** worksite wellness programs, and promote healthy foods and physical activity.

**Assess** health risks, and offer feedback and intervention support to employees.

**Use** point-of-decision prompts to encourage the use of stairs, drinking water, and eating healthy.

A wide range of business and industry partners can promote healthy lifestyles and prevent obesity through the products they develop. Shared value is a concept that merges the priorities of meeting important social needs and making a profit, claiming that the two can happen simultaneously. Business and industry partners are encouraged to check out sharedvalue.org for information.

# Community Care for its members

Community-based organizations, including faith-based organizations and other non-profits, have powerful influence over whether policies and environments support healthy weight. Faithbased and community-based organizations can start with their own members by making healthy choices available at meetings, events, and gatherings. Faith and community leaders can encourage members to take action in changing the local environment to support physical activity and healthy eating. If an organization has assets such as playgrounds or walking trails, it can share them during off hours with the community at large.

**Participate** in community coalitions or partnerships to address obesity.

**Implement** healthier food and beverage policies and practices.

**Provide** access to affordable healthy foods.

**Institute** policies and practices to provide options for smaller portion sizes.

**Train** lay leaders to increase children's physical activity, decrease children's sedentary behavior, and advise parents or caregivers about their children's physical activity.

**Promote** and support exclusive breastfeeding for six months and continuation of breastfeeding in conjunction with complementary food for one year or more.

**Implement** policies and practices to improve the availability of locally grown foods by expanding farmers markets and farm stands.

**Provide** incentives for the production, distribution, and procurement of foods from local farms

**Implement** policies ensuring that the amount of time toddlers and preschoolers spend sitting or standing still is minimized by limiting the use of equipment that restricts movement.

**Increase** point-of-decision prompts to encourage the use of stairs.

**Enhance** infrastructure to support bicycling, walking, and wheeling.

Adopt practices that enhance personal safety in areas where people are or could be physically active.

**Adopt** practices that enhance traffic safety in areas where people are or could be physically active.

**Allow** community members to use facilities (e.g., outdoor space, meeting rooms, playgrounds) for physical activity.

**Give** all children opportunities to be physically active throughout the day.

**Advocate** for implementation of comprehensive local plans for land use and transportation.

**Discourage** consumption of sugar-sweetened beverages, and encourage drinking water.

Advise adults to limit screen time to less than two hours per day for all children.

# Local and State Government Care for residents

Local and state government play a role in creating healthy weight environments in communities. Local and state government include elected officials, local and state health departments, boards of health, planning departments, planning boards, parks and recreation departments, and police departments, among others. Local and state government can make the healthy choice easier by creating safe places to be active, planning land use with physical activity and access to healthy foods in mind, providing public transportation, and supporting farm stands and grocery stores, especially in underserved areas.

**Increase** community access to healthy foods through supermarkets, grocery stores, and convenience/ corner stores by creating incentive programs to attract supermarkets and grocery stores to underserved neighborhoods, providing transportation, and implementing zoning regulations to enable healthy food providers to locate in underserved neighborhoods.

**Improve** the availability and identification of healthful foods in restaurants by requiring menu labeling in nonchain restaurants and offering incentives for restaurants that promote healthier options.

**Promote** efforts to provide fruits and vegetables in a variety of settings, such as farmers' markets, farm stands, mobile markets, community gardens, and youth-focused gardens.

**Ensure** that publicly-run entities such as after-school programs, child-care facilities, recreation centers, and local government worksites implement policies and practices to promote healthy foods and beverages, and reduce or eliminate the availability of calorie-dense, nutrient-poor foods.

**Increase** participation in federal, state, and local government food and nutrition assistance programs (e.g., WIC, the National Breakfast and Lunch Programs, the Child and Adult Care Food Program [CACFP], the Afterschool Snack Service, the Summer Food Service Program, SNAP, Expanded Food and Nutrition Education Program [EFNEP]).

**Encourage** breastfeeding and promote breastfeedingfriendly communities by adopting the Baby-Friendly Hospital Initiative USA (United Nations Children's Fund/ World Health Organization), informing parents of their right to breastfeed in public, supporting construction laws that require government buildings to have lactation rooms, and allocating funding to WIC clinics for the Breastfeeding Peer Counselor Program.

**Increase** access to free, safe drinking water in public places to encourage water consumption instead of sugar-sweetened beverages.

**Implement** fiscal policies and local ordinances to discourage the consumption of calorie-dense, nutrient-poor foods and beverages (e.g., taxes, incentives, land use and zoning regulations).

**Promote** media and social marketing campaigns on healthy eating and childhood obesity prevention.

**Encourage** walking and bicycling for transportation and recreation through improvements in the built environment by adopting a pedestrian and bicycle master plan, building and maintaining a network of sidewalks and street crossings that creates a safe and comfortable walking environment and that connects to important destinations.

**Promote** programs that support walking and bicycling for transportation and recreation by adopting community policing strategies that improve safety and security of streets, collaborating with schools to develop and implement a Safe Routes to School program, and increasing transit use.

**Promote** other forms of recreational physical activity by building and maintaining parks and playgrounds that are safe and attractive, adopting community policing strategies that improve safety and security for park use, collaborating with school districts and other organizations to establish joint use of facilities agreements, and other similar strategies. Local and State Government Strategies, continued

**Promote** policies that build physical activity into daily routines by instituting regulatory policies mandating minimum play space, physical equipment, and duration of play in preschool, after-school, and child-care programs; creating incentives for remote parking and drop-off zones and/or disincentives for nearby parking and drop-off zones at schools, public facilities, shopping malls, and other destinations, and improving stairway access and appeal. **Promote** policies that reduce sedentary screen time.

**Adopt** regulatory policies limiting screen time in preschool and after-school programs.

**Develop** a social marketing program that emphasizes the multiple benefits for children and adults of sustained physical activity.

## Food and Beverage Industry Make healthy choices possible

The food and beverage industry's role in developing and marketing healthy products is critical to our success. Reformulation of some foods may improve their nutritional content in ways that better support healthy weight. The food industry can examine its marketing practices and increase marketing of healthy choices. Industry trade associations can work with government or nonprofit partners to develop or institutionalize formal guidelines, promising practices, competitions, incentives, or recognition programs that encourage corporate members to develop and promote food and beverage products that support a healthy diet and reward them for doing so.

**Partner** with government, academic institutions, and other interested stakeholders to evaluate progress in preventing childhood obesity and promoting healthy lifestyles.

**Utilize** a variety of in-store merchandising and promotion activities to bring healthier choices to the attention of consumers. These include product sampling, price promotions, shelf markers, package icons or logos, and special displays that can be used to flag healthier products.

**Conduct** educational tours and provide print and online information and menu planning ideas for families.

**Reduce** portion sizes and provide options for selecting smaller portions.

**Reformulate** products to reduce calories, sodium, saturated fats, and trans fats.

**Use** low-saturated fat oils in food preparation.

**Provide** vegetable options prepared with minimal

added calories and salt.

Provide fruit options served without added sugar.

**Display** calorie content on menus.

**Develop** packaging that allows greater preservation and palatability of fresh fruits and vegetables.

**Make** whole-grain options available for bread, crackers, pasta, and rice.

**Decrease** the salt and sugar contents of processed foods.

**Replace** the saturated fat with low-saturated fat liquid vegetable oils in prepared foods.

**Develop** innovative approaches to market fruits and vegetables to make them more appealing, and increase the convenience of purchasing them.

## Media and Entertainment Industry Promote healthy lifestyles

Media and the entertainment industry have roles to play in helping North Carolinians make healthier choices. How the media frame stories about healthy eating and active living influences consumer choices, as well as how policy makers and organizational leaders see how their decisions support individuals' choices. Reporters must ensure their reporting is scientifically sound. Entertainment media have an opportunity, especially with children's programming, to encourage healthier choices by depicting children and families enjoying healthy, active lifestyles.

**Promote** capacity to serve as accurate interpreters and reporters to the public on findings, claims, and practices related to the diets of children and youth.

**Incorporate** into multiple media platforms (e.g., print, broadcast, cable, Internet, and wireless-based programming) foods, beverages, and storylines that promote healthful diets.

**Use** celebrity endorsements and partnerships to extend outreach to children and families to encourage physical activity and making choices that contribute to a healthful diet.

**Promote** fruit and vegetable consumption and other healthy behaviors for entertainment media, particularly television programs and broadcast and cable television networks targeting children and youth.

**Ensure** that licensed characters are used only for the promotion of foods and beverages that support healthful diets for children and youth.

#### REFERENCES

1. North Carolina State Center for Health Statistics.4 Accessed at https:// schs.dph.ncdhhs.gov/data/brfss/2017/nc/all/rf2.html on July 1, 2019.

2. Child and Adolescent Health Measurement Initiative. Data Resource Center for Child and Adolescent Health. 2017 National Survey of Children's Health (NSCH) data query. Accessed at: www.childhealthdata. org/browse/survey on July 1, 2019.

3. Obesity and overweight fact sheet. World Health Organization. www.who.int/news-room/fact-sheets/detail/obesity-and-overweight. Updated February 16, 2018.

4. Overweight and Obesity. National Heart, Lung, and Blood Institute www.nhlbi.nih.gov/health/health-topics/topics/obe Updated February 23, 2017.

5. Type 2 Diabetes in North Carolina Fact Sheet. Community and Clinical Connections for Prevention and Health Branch, North Carolina Division of Public Health. www.communityclinicalconnections.com/\_ downloads/0518/CCCPH\_FactSheet\_Diabetes\_FINAL\_May2018.pdf. Updated May 2018.

6. Overweight and Obesity Among Adults in North Carolina Fact Sheet. Community and Clinical Connections for Prevention and Health Branch, North Carolina Division of Public Health. www.communityclinicalconnections.com/\_downloads/0319/CCCPHB\_ FactSheet\_Obesity\_AdultObesity\_FINAL\_March2019.pdf. Updated March 2019. 7. Beiner A, Cawley J, Meyerhoefer. The High and Rising Costs of Obesity to the US Health Care System, Journal of General Internal Medicine, 2017; 32(1): S6-S8. www.ncbi.nlm.nih.gov/pmc/articles/PMC5359159/pdf/11606\_2016\_Article\_3968.pdf.

8. Arterburn DE, Maciejewski ML, Tsevat J. Impact of morbid obesity on medical expenditures in adults. Int J Obes, 29(3): 334-339, 2005. www.nature.com/articles/0802896.pdf.

9. Asay GRB, Roy K, Lang JE, Payne RL, Howard DH. Absenteeism and Employer Costs Associated With Chronic Diseases and Health Risk Factors in the US Workforce. Preventing Chronic Disease 2016; 13:150503. www.cdc.gov/pcd/issues/2016/15\_0503.htm.

10. Obesity's Hidden Cost: Lost Productivity at Work. WebMD. www.webmd.com/a-to-z-guides/news/20101008/obesity-hidden-costlost-productivity-at-work#1. October 8, 2010.

11. Hartline-Grafton H. Understanding the connections: Food insecurity and obesity. Food Research & Action Center. 2015. Available at: http://frac.org/wp-content/uploads/frac\_brief\_understanding\_the\_ connections.pdf.

12. Centers for Disease Control and Prevention. Social Determinants of Health: Know What Affects Health, 2018. Accessed at: https://www.cdc. gov/socialdeterminants/index.htm on October 23, 2019.

13. US Department of Health and Human Services. Physical activity guidelines for Americans 2nd edition. Washington DC: US Department of Health and Human Services; 2018.

#### **REFERENCES**, continued

14. Wilson MM, Reedy J, Krebs-Smith SM. American diet quality: where it is, where it is heading, and what it could be. JAND. 2016;116(2):302-310. https://doi.org/10.1016/j.and.2015.09.020.

15. Vernarelli JA, Mitchell DC, Rolls BJ, Hartman TJ. Dietary energy density and obesity: how consumption patterns differ by body weight status. Eur J Nutr; 2018;57(1):351-361.

16. US Department of Health and Human Services and US Department of Agriculture. 2015-2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Available at http://health.gov/dietaryguidelines/2015/guidelines.

17. Schwingshackl L, Hoffmann G, Kalle-Uhlmann T, Arregui M, Buijsse B, Boeing H. Fruit and vegetable consumption and changes in anthropometric variables in adult populations: a systematic review and meta-analysis of prospective cohort studies. PLoS ONE. 2015;10(10): e0140846.

18. Sabrina Schlesinger, Manuela Neuenschwander, Carolina Schwedhelm, Georg Hoffmann, Angela Bechthold, Heiner Boeing, Lukas Schwingshackl, Food Groups and Risk of Overweight, Obesity, and Weight Gain: A Systematic Review and Dose-Response Meta-Analysis of Prospective Studies, *Advances in Nutrition*, Volume 10, Issue 2, March 2019, Pages 205–218

19. Zheng M, Allman-Farinelli M, Heitmann BL, Rangan A. Substitution of sugar-sweetened beverages with other beverage alternatives: A review of long-term health outcomes. J Acad Nutr Diet. 2015;115:767-779.

20. Luger M, Lafontan M, Bes-Rastrollo MWinzer E, Yumuk V, Farpour-Lambert N. Sugar-sweetened beverages and weight gain in children and adults: a systematic review from 2013 to 2015 and a comparison with previous studies. Obesity Facts. 2017;10:674-693.

21. Malik VS, Schulze MB, Hu FB. Intake of sugar-sweetened beverages and weight gain: a systematic review. Am J Clin Nutr. 2006;84(2):274-288.

22. Rosinger A, Herrick K, Gahche J, Park S. Sugar-sweetened beverage consumption among U.S. youth, 2011–2014. *NCHS Data Brief.* No 271. Hyattsville, MD: National Center for Health Statistics. 2017.

23. Rosinger A, Herrick K, Gahche J, Park S. Sugar-sweetened beverage consumption among U.S. adults, 2011–2014. NCHS Data Brief. No 270. Hyattsville, MD: National Center for Health Statistics. 2017.

24. Malik V, Popkin B, Bray G, Despres J-P, Hu F. Sugar-sweetened beverages, obesity, type 2 diabetes mellitus, and cardiovascular disease risk. *Circulation*. 2010;121(11):1356-1364.

25. Fumiaki I, O'Connor L, Zheng Y, Mursu J, Hayashino Y, Bhupathiraju S, Forouhi NG. Consumption of sugar sweetened beverages, artificially sweetened beverages, and fruit juice and incidence of type 2 diabetes: systematic review, meta-analysis, and estimation of population attributable fraction *BMJ*. 2015;351:h3576.

26. Ussery EN, Fulton JE, Galuska DA, Katzmarzyk PT, Carlson SA. Joint prevalence of sitting time and leisure-time physical acidity amoung US adults, 2015-2016. JAMA. 2018;320(19):2036-2038.

27. Rito A, I, Buoncristiano M, Spinelli A, Salanave B, Kunešová M, Hejgaard T, García Solano M, Fijałkowska A, Sturua L, Hyska J, Kelleher C, Duleva V, Musić Milanović S, Farrugia Sant'Angelo V, Abdrakhmanova S, Kujundzic E, Peterkova V, Gualtieri A, Pudule I, Petrauskiene A, Tanrygulyyeva M, Sherali R, Huidumac-Petrescu C, Williams J, Ahrens W, Breda J. Association between characteristics at birth, breastfeeding and obesity in 22 countries: The WHO European Childhood Obesity Surveillance Initiative. *Obes Facts*. 2019; 12:226-243.

28. BL Horta, C Loret De Mola, CG Victora. Long-term consequences of breastfeeding on cholesterol, obesity, systolic blood pressure and type 2 diabetes: a systematic review and meta-analysis. *Acta Paediatrica*. 2015;104(S467):30-37.

29. Horta BL, Bahl R, Victora CG. Long-term effects of breastfeeding: a systematic review. World Health Organization 2013. https://apps. who.int/iris/bitstream/handle/10665/43623/9789241595230\_eng. pdf;sequence=1

30. Byrne, M, Schwartz, O, Simmons, J. Sheeber, L. Whittle, S, Allen. N. Duration of breastfeeding and subsequent adolescent obesity effects of maternal behavior and socioeconomic status. *J Adolescent Health.* 2018. 62:471-479.

31. Beccuti G, Pannain S. Sleep and obesity. *Curr Opin Clin Nutr Metab Care*. 2011;14(4):402–412.

32. St-Onge MP. Sleep-obesity relation: underlying mechanisms and consequences for treatment. Obes Rev. 2017;18(suppl 1):34–393.

33. Bell JF, Zimmerman FJ. Shortened nighttime sleep duration in early life and subsequent childhood obesity. Arch Pediatr Adolesc Med. 2010;164(9):840–845.

34. Chaput JP, Gray CE, Poitras VJ, et al. Systematic review of the relationships between sleep duration and health indicators in school-aged children and youth. Appl Physiol Nutr Metab. 2016;41 (6 suppl 3):S266–82.

35. Wu Y, Gong Q, Zou Z, Li H, Zhang X. Short sleep duration and obesity among children: a systematic review and meta-analysis of prospective studies. Obes Res Clin Pract. 2017;11(2):140–150.

36. Tomiyama AJ. Stress and obesity. Annual Review of Psychology. 2019;70:703-718

37. Sisson SB, Sheffield-Morris A, Broyles S, Nesbit KC, Swyden K. Child and parent stress association with obesity and media use: National survey of children's health: 844 board #160. Medicine and Science in Sports and Exercise. 2016;48(5S):235.

38. Morris MJ, Beilharz JE, Maniam J, Reichelt AC, Westbrook F. Why is obesity such a problem in the 21st century? The intersection of palatable food, cues and reward pathways, stress, and cognition. Neuroscience and Biobehavioral Reviews. 2015;58:36-45.

39. Baskind MJ, Tavaras EM, Gerber MW, Fiechtner L, Horan C, Sharifi M. Parent-perceived stress and its association with children's weight and obesity-related behaviors. Preventing Chronic Disease. 2019;16:180368.

40. Dunn C, Olabode-Dada O, Whetstone L, Thomas C, Aggarwal S, Nordby K, Thompson S, Johnson M. Mindful eating and weight loss, results from a randomized trial. *J Fam Med Community Health.* 2018; 5(3): 1152.

41. Dunn C, Haubenreiser M, Johnson M, Nordby K, Aggarwal S, Myer S, Thomas C. Mindfulness approaches and weight loss, weight maintenance, and weight regain. Curr Obes Rep. 2018 Mar;7(1):37-49.

42. Rogers JM, Ferrari M, Mosely K, Lang CP, Brennan L. Mindfulnessbased interventions for adults who are overweight or obese: a metaanalysis of physical and psychological health out- comes. Obes Rev. 2017;18(1):51–67.

43. Baer RA. Mindfulness-based treatment approaches: Clinician's guide to evidence base and applications. Burlington: Academic Press; 2005.

44. Olson K, Emery CF. Mindfulness and weight loss: a systematic review. Psychosom Med. 2015;77(1):59–67.

45. Kidd LI, Groar CH, Murrock CJ. A mindful eating group intervention for obese women: a mixed methods feasibility study. Arch Psychiatr Nurs. 2013;27(5):211–8.

46. Mathieu J. What should you know about mindful eating and intuitive eating? J Am Diet Assoc. 2009;109(12):1982–7.

North Carolina's Plan to Address Overweight and Obesity: Balance how we eat, drink, and move.

#### **DOCUMENTS USED FOR STRATEGIES**

American Academy of Pediatrics, American Public Health Association, National Resource Center for Health and Safety in Child Care and Early Education. Caring for Our Children: National Health and Safety Performance Standards; Guidelines for Early Care and Education Programs. American Academy of Pediatrics; 2019. http://nrckids.org/files/ CFOC4 pdf-FINAL.pdf.

Centers for Disease Control and Prevention. School health Guidelines to Promote Healthy Eating and Physical Activity. *MMWR* 2011;60(No.5):1-80.

Centers for Disease Control and Prevention. Strategies to Prevent Obesity and Other Chronic Diseases: The CDC Guide to Strategies to Support Breastfeeding Mothers and Babies. Atlanta: U.S. Department of Health and Human Services; 2013.

Centers for Disease Control and Prevention, *Workplace Health Promotion* 2016. https://www.cdc.gov/workplacehealthpromotion/model/index. html. Accessed July 1, 2019.

Change Lab Solutions. Model Joint Use Agreement Resources. https:// www.changelabsolutions.org/product/model-joint-use-agreementresources. Accessed July 1, 2019.

Committee on Obesity Prevention Policies for Young Children. Early Childhood Obesity Prevention Policies. Washington, DC: The National Academies Press. 2011.

Domecq JP, Prutsky G, Leppin A, Sonobol MB, Altayar O, Undavalli C, Wang Z, Elraiyah T, Brito JP, Mauck KF, Lababidi MH, Prokop LJ, Asi N, Wei J, Fidahussein S, Montori VM, Murad MH. Clinical review: drugs commonly associated with weight change: a systematic review and metaanalysis. J Clin Endocrinol Metab. 2015;100(2):363-370.

Feltner C, Weber RP, Stuebe A, Grodensky CA, Orr C, Viswanathan M. Breastfeeding Programs and Policies, Breastfeeding Uptake, and Maternal Health Outcomes in Developed Countries. US Department of Health and Human Services' Comparative Effectiveness Review No. 210.

Garvey WT, Mechanick JI, Brett EM, Garber AJ, Hurley DL, Jastreboff AM, Nadolsky K, Pessah-Pollack R, Plodkowski R, American Association of Clinical Endocrinologists and American College of Endocrinology Clinical Practice Guidelines for Comprehensive Medical Care of Patients with Obesity. Endocrine Practice: 2016;22(S3):1-203.

Glickman D, Parker L, Sim LJ, Del Valle Cook H, Miller EA. (Eds.). Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. Washington, DC: The National Academies Press. 2012.

Institute of Medicine. Food Marketing to Children and Youth: Threat or Opportunity?. Washington, DC: The National Academies Press. 2006.

Institute of Medicine and National Research Council Committee on Childhood Obesity Prevention Actions for Local Governments; Parker L, Burns AC, Sanchez E (Eds). Local Government Actions to Prevent Childhood Obesity. Washington, DC: National Academies Press. 2009.

Institute of Medicine. Progress in Preventing Childhood Obesity: How Do We Measure Up?. Washington, DC: The National Academies Press. 2007.

Jastrerboff AM, Kotz CM, Kahan S, Kelly AS, Heymsfield SB. Obesity as a disease: the obesity society 2018 position statement. Obesity. 2019;27(1):7-9.

Keener, D., Goodman, K., Lowry, A., Zaro, S., & Kettel Khan, L. Recommended community strategies and measurements to prevent obesity in the United States: Implementation and measurement guide. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. 2009. National Academies of Sciences, Engineering, and Medicine. Assessing Prevalence and Trends in Obesity: Navigating the Evidence. Washington, DC: The National Academies Press. 2016.

National Academies of Sciences, Engineering, and Medicine. Driving Action and Progress on Obesity Prevention and Treatment: Proceedings of a Workshop. Washington, DC: The National Academies Press. 2017.

North Carolina Department of Public Instruction. NC Standard Course of Study. Healthful Living Essential Standards - Health Education and Physical Education. http://www.ncpublicschools.org/curriculum/healthfulliving/ scos/#healthful. Accessed July 1, 2019.

North Carolina Institute of Medicine. Healthy North Carolina 2020: A Better State of Health. Morrisville, NC: North Carolina Institute of Medicine. 2011.

North Carolina State Board of Education, *Healthy Active Children Policy SHLT-000*. https://simbli.eboardsolutions.com/ePolicy/policy. aspx?PC=SHLT-000&Sch=10399&S=10399&C=SHLT&RevNo=1.02&T=A &Z=P&St=ADOPTED&PG=6&SN=true. Accessed July 1, 2019.

Patil S, Craven K, Kolasa K. Food Insecurity: It is More Common Than you Think. Nutrition Today. 52(5):204-207, September/October 2017.

Phelan SM1, Burgess DJ, Yeazel MW, Hellerstedt WL, Griffin JM, van Ryn M. Impact of weight bias and stigma on quality of care and outcomes for patients with obesity. Obes Rev. 2015 Apr; 16(4):319-326. doi: 10.1111/ obr.12266.

The Benefits of Farm to School. National Farm to School Network. April 2017. http://www.farmtoschool.org/Resources/BenefitsFactSheet.pdf

The Institute of Health and Productivity Studies, Johns Hopkins Bloomberg School of Public Health. Physical Activity in the Workplace. 2015. https://www.workhealthresearchnetwork.org/wp-content/ uploads/2016/05/CDC-WHRN-Physical-Activity\_Employer-Guide-FINAL. pdf. Accessed July 1, 2019.

US Department of Health and Human Services, Food Service Guidelines Federal Workgroup. Food Service Guidelines for Federal Facilities. Washington, DC: US Department of Health and Human Services. 2017.

US Department of Health and Human Services and US Department of Agriculture. 2015–2020 Dietary Guidelines for Americans. 8th Edition. December 2015. Available at http://health.gov/dietaryguidelines/2015/guidelines.

US Department of Health and Human Services. Physical activity guidelines for Americans 2nd edition. Washington DC: US Department of Health and Human Services; 2018.

US Department of Health and Human Services. The Guide to Community Preventive Services. https://www.thecommunityguide.org.

US Department of Health and Human Services. *The Surgeon General's Call to Action to Support Breastfeeding*. Washington, DC: U.S. Department of Health and Human Services, Office of the Surgeon General; 2011.

US Department of Health and Human Services. The Surgeon General's Vision for a Healthy and Fit Nation. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General. 2010.

Wadden TA, Bray GA (Eds). Handbook of Obesity Treatment, 2nd Edition. The Guilford Press, New York. 2018.

Ward DS, Benjamin SE, Ammerman AS, Ball SC, Neelon BH, Bangdiwala SI. Nutrition and physical activity in child care: Results from an environmental intervention. *Am J Prev Med*. 2008;35(4):352–356.

**North Carolina's Plan to Address Overweight and Obesity** (Plan) was created under the guidance of the Eat Smart, Move More North Carolina Executive Committee. The Executive Committee established a volunteer writing team of Eat Smart, Move More North Carolina members to develop the new state plan. The 8-member writing team was led by a Past Chair of the Executive Committee and lead author of the previous plan, *North Carolina's Plan to Address Obesity: Healthy Weight and Healthy Communities 2013–2020*.

Development of the Plan began in March 2019 with the first writing team meeting. Discussions included documents that were to be used for evidence-based strategies, name of the new plan, sections to include in the new plan, and possible graphics. The writing team had three additional in-person meetings. Meetings were to discuss sections of the plan that were drafted by writing team members between meetings. The lead writer presented periodic updates to the Executive Committee. Two first-line reviewers provided feedback on the July 2019 draft to the writing team. The draft plan was also shared with the Executive Committee in July 2019.

At the September 12, 2019 Eat Smart, Move More North Carolina meeting, the lead writer presented the draft of the new state plan to members. Members were asked to provide feedback to the writing team by October 11, 2019. The writing team met and incorporated suggestions into the draft.

A final version of the Plan was released on December 5, 2019 at the Eat Smart, Move More North Carolina quarterly meeting.

#### WRITING TEAM

Jenni Albright, MPH, RDN Coordinator, Eat Smart, Move More NC

Carolyn Dunn, PhD, RDN, LDN William Neal Reynolds Professor and Head Department of Agricultural and Human Sciences NC State University

Dave Gardner, DA Worksite Wellness and Early Care and Education Coordinator Community and Clinical Connections for Prevention and Health NC Division of Public Health

#### Catherine Hill, MS, RDN, LDN

Healthy Eating and Communications Coordinator Community and Clinical Connections for Prevention and Health NC Division of Public Health

Kathy Kolasa, PhD, RDN, LDN Professor Emeritus Brody School of Medicine East Carolina University

#### Melissa Rockett, MPA

Built Environment Coordinator Community and Clinical Connections for Prevention and Health NC Division of Public Health Cathy Thomas, MAEd Branch Manager Community and Clinical Connections for Prevention and Health NC Division of Public Health

Sherée Vodicka, MA, RDN, LDN Chief Executive Officer NC Alliance of YMCAs

#### **FIRST-LINE REVIEWERS**

**Diane Beth, MS, RDN, LDN** Nutrition Program Consultant Division of Public Health, Children and Youth Branch

Tekeela S. Green, PhD, MPH, CHES Consultant **Special thanks** to Sarah Kuester, MS, RDN, Public Health Advisor, Centers for Disease Control and Prevention and Susan Kansagra, MD, MBA, Section Chief, Chronic Disease and Injury Section, NC Division of Public Health for their expert review of *North Carolina's Plan to Address Overweight and Obesity*.

#### **EXECUTIVE COMMITTEE**

Joanne Lee, MPH, RD, Chair Collaborative Learning Director Healthy Places by Design

Sherée Vodicka, MA, RDN, LDN, Vice Chair Chief Executive Officer NC Alliance of YMCAs Jenni Albright, MPH, RDN, Coordinator Coordinator, Eat Smart, Move More NC

Dave Gardner, DA, Member at Large Worksite Wellness and Early Care and Education Coordinator Community and Clinical Connections for Prevention and Health NC Division of Public Health

#### Jayne McBurney, MS

Steps to Health Program Coordinator North Carolina State University SNAP-Ed Department of Agricultural and Human Sciences

**Richard Rairigh, Member at Large** Director Be Active Kids

North Carolina's Plan to Address Overweight and Obesity: Balance how we eat, drink, and move.



#### **Suggested Citation**

Eat Smart, Move More North Carolina. 2020. *North Carolina's Plan to Address Overweight and Obesity*. Eat Smart, Move More North Carolina, Raleigh, NC. Available at: **www.eatsmartmovemorenc.com**.

eatsmartmovemorenc.com