North Carolina's Plan to Address Obesity:

Healthy Weight and Healthy Communities

2013–2020

Eat Smart Move More NORTH CAROLINA™

Making the Healthy Choice the Easy Choice

***All North Carolinians** should have the opportunity to make **healthy choices** for **eating** and **physical activity** that lead to **healthy weight**.*

Success will require:

- Individual commitment
- Tools to help individuals and families make healthier choices
- Policy changes
- Environmental changes
- Cultural changes

A plan to reverse the rising tide of obesity and chronic disease among North Carolinians by helping adults, children, and youth eat smart, move more, and achieve a healthy weight

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The Problem

Obesity affects everyone. Obesity is an American problem. It is also a North Carolina problem, from Murphy to Manteo and every town in between. Obesity affects our families, schools, and businesses, and it threatens our economy. Obesity is a health concern, a social dilemma, a personal challenge, an economic burden, and a policy issue. The obesity crisis harms some segments of society more than others, but this problem crosses all lines of ethnicity, race, socioeconomic class, gender, age, and ability.[1]

The primary concern related to overweight and obesity is the health risks they pose. Overweight and obesity increase the risk of chronic disease, including heart disease, stroke, type 2 diabetes, and some forms of cancer. The high rates of overweight and obesity in our state and nation cause decreases in life expectancy, productivity, and quality of life.

Overweight and Obesity Defined

Overweight

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

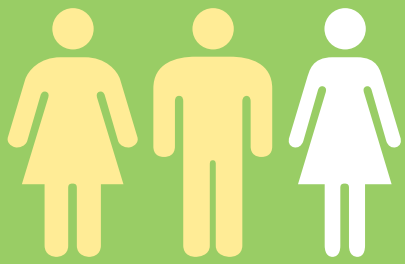
Children (aged 2-19 years):
BMI ≥ 85th percentile and < 95th percentile for children of the same age and sex

Obese

Adults (aged 20 years and older):
BMI 30 or higher

Children (aged 2-19 years):
BMI ≥ 95th percentile for children of the same age and sex

*BMI = body mass index, an approximate index of body fat. The formula for calculating BMI is: weight (kg) / [height (m)]^2 or weight (lb) / [height (in)]^2 x 703



More than 2/3 of adults in North Carolina are overweight or obese.[2]

An estimated 30% of children ages 10 to 17 in North Carolina are overweight or obese.[3]

Join the Eat Smart, Move More North Carolina Movement

To make the healthy choice the easy choice, we will all need to work together.

www.EatSmartMoveMoreNC.com

The Cost

The costs of overweight, obesity, and their associated health problems have a significant financial impact on the U.S. health care system and thus on the U.S. economy.

High rates of overweight and obesity cause increases in the costs of health care related to excess weight. A clear relationship exists between rising rates of overweight and obesity and increases in medical spending.[4] The costs of overweight, obesity, and their associated health problems have a significant financial impact on the U.S. health care system and thus on the U.S. economy.[5] The costs associated with overweight and obesity include both direct and indirect costs. Direct costs include diagnostic, preventive, and treatment services related to overweight, obesity, and their associated diseases, such as diabetes. Indirect costs include income lost as a result of decreased productivity, restricted activity, and absenteeism.[6,7]

It was estimated that in 1998 medical costs associated with overweight and obesity accounted for nine percent of total U.S. medical expenditures, or more than $78 billion per year. Today, it is estimated that the bill for overweight and obesity has risen to more than $140 billion per year. The increased costs associated with overweight and obesity put an economic burden on both public and private health care payers. Per capita health care spending for an obese person is roughly 42% higher than for someone of normal weight.[4] Medicaid and Medicare pay approximately half of the medical costs associated with obesity.[5,8] Excess weight in adults costs North Carolina over $17.6 billion annually (medical costs plus lost productivity).[9]

It is projected that the direct health care costs attributable to overweight and obesity will more than double every decade. By 2030, costs could be as high as $900 billion a year, or one in every six health care dollars.[4] As we search for ways to decrease health care costs, we must make healthy weight a top priority and reduce rates of overweight and obesity.

Core Behaviors to Address Overweight and Obesity

Increase physical activity[10-13]

Physical activity is critical for lifelong weight management. Physical activity burns calories both during and after activity. Physical activity must consist of not only aerobic activities that get the heart pumping, such as walking or bicycling, but also activities that strengthen muscles and bones and increase flexibility. Adults should do **at least** 150 minutes of moderate-intensity aerobic activity per week and muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week. Children and adolescents should do 60 minutes or more of physical activity daily. As part of their 60 or more minutes of daily physical activity, children and adolescents should include muscle-strengthening and bone-strengthening physical activity on at least 3 days of the week.

Increase consumption of fruits and vegetables[14-17]

Fruits and vegetables in their natural state are low in calories and high in vitamins and minerals. For people who eat a diet rich in fruits and vegetables, it is relatively easy to eat more food volume while consuming fewer calories. According to the Centers for Disease Control and Prevention, the consumption of low-calorie foods such as fruits and vegetables is associated with better weight management. The federal Dietary Guidelines for Americans recommend eating 2 cups of fruit and 2½ cups of vegetables each day, whether fresh, frozen, canned or dried. The guidelines stress the importance of choosing a variety of colors, with an emphasis on deep green and orange fruits and vegetables, such as spinach, kale, cantaloupe, and carrots.

Decrease consumption of sugar-sweetened beverages[18-26]

According to the United States Department of Agriculture, per capita soft drink consumption has increased almost 500 percent over the past fifty years. According to the National Health and Nutrition Examination Survey (2005–2008), calories from regular soft drinks (not diet) account for an estimated 200 dietary calories per day for 25 percent of Americans and 200 to 600 dietary calories per day for another 20 percent of Americans. Therefore, reducing the number of sugar-sweetened beverages, e.g., soda, sweet tea, energy drinks and sports drinks, that Americans drink each day will cut calories and lead to weight loss.

Core Behaviors to Address Overweight and Obesity, continued

Reduce consumption of energy-dense foods[27-41]

Foods that are energy-dense contain a large number of calories, mostly from fat and sugar. Foods and drinks can also be high in calories because of large portion sizes. Today Americans consume an average of 250 more calories per day than they did in the 1970s, mostly in the form of starches and sugars (men consume 168 more calories per day; women 335). Eating fewer calories by decreasing the number of calorie-rich foods consumed and/or decreasing the portion sizes of those foods are two evidence-based strategies for managing weight.

Decrease television viewing and screen time[42-46]

On average, American adults spend half their leisure time in front of a television screen. Kids now spend seven and a half hours every day in front of some type of screen, television or otherwise—often two or more screens at the same time. Studies show that adults who watch more than two hours of television a day tend to weigh more than people who watch less than that. Children who watch more television have higher body weights than children who watch less. Watching less television allows more time for physical activity, and it reduces exposure to food advertisements for foods that are high in fat and sugar.

Increase breastfeeding initiation, duration, and exclusivity[47-60]

The health effects of breastfeeding infants are well documented. Breastfeeding decreases many risks, including childhood overweight and obesity. Children who are not breastfed are more likely to be overweight and obese than those who are breastfed. The duration (length of time an infant is breastfed) and exclusivity (not feeding other foods or drinks while breastfeeding) of breastfeeding are both associated with lower rates of overweight and obesity.

The Solution

The Eat Smart, Move More North Carolina movement is not driven by the search for a "magic bullet." Rather, we are committed to continue to implement evidence-based solutions to reduce overweight and obesity.

Body weight is determined by two factors: inputs of food consumed and outputs of energy expended. There are several core behaviors that are related to body weight.

It is well recognized that small improvements in eating and activity behaviors will lead to improved health. However, many factors affect whether an individual practices healthy eating and activity behaviors. Although it is each individual's responsibility to eat smart and move more, societal barriers often make change improbable if not impossible. Factors that influence our ability to make healthy changes include the physical and social environments of families, communities, and organizations; the policies, practices and norms within our social and work settings; and our access to reliable information.

The social, environmental, and behavioral factors that contribute to the epidemic of obesity and other chronic diseases are deeply embedded in our society. Identifying and dislodging these factors will require deliberate, persistent action. Making these changes will require individual commitment, tools to help individuals and families make better decisions, policy changes, environmental changes, and ultimately a cultural change.

Policy and environmental interventions can improve the health of all people, not just small groups of motivated or high-risk individuals.
These interventions can affect a broad audience and produce long-term changes in health behaviors.
Collectively focusing on policy
and environmental changes can reduce or eliminate barriers to healthy eating and physical activity. In addition, policy and environmental changes must be supported by enhanced public awareness of the need for healthy eating and increased physical activity and their influence on health.

Changing policy is not just the job of lobbyists and elected officials. We can all play a role in policy change by educating policymakers and community members about the importance of needed policy changes. Eat Smart, Move More North Carolina is working on many fronts to create the political will to change policies so that environments can be more supportive of healthy eating and physical activity.

Be Part of the Solution

Yourself. Eat smart and move more to achieve and maintain a healthy weight.

Your Family. Create a home environment conducive to eating smart and moving more.

Your State and Community. Join the Eat Smart, Move More NC movement and help implement proven, recommended policies and practices where you live, learn, earn, play, and pray.

www.EatSmartMoveMoreNC.com

Why Aren't We at the Finish Line?

The obesity crisis is simply too big and too entrenched in our society to be easily reversed. As Eat Smart, Move More North Carolina continues, we need more individuals and families to make healthier choices. We also need more funding, more partners, and more commitment from those who have the power to make healthy eating and active living a reality in our communities.

Moving from promoting obesity to promoting healthy weight

CURRENT ENVIRONMENT

An environment that promotes overweight and obesity is not conducive to healthy weight.

- Communities not designed for active transportation (i.e., biking, walking, and wheeling)
- Communities without adequate accessible space and facilities for physical activity
- Labor-saving devices of everyday living
- Availability of high energy-dense foods
- Sugar-sweetened beverages available everywhere
- High-calorie foods heavily marketed
- Lack of access to healthy foods
- Formula considered the infant feeding norm

Success will require:

Individual commitment

Tools to help individuals and families make better decisions

Policy changes

Environmental changes

Cultural changes

HEALTHY WEIGHT ENVIRONMENT

An environment that promotes and supports healthy behaviors makes the healthy choice the easy choice.

- Communities designed to support active transportation (i.e., biking, walking, and wheeling)
- Adequate and accessible space and facilities for physical activity in communities
- Individuals and families plan daily activity
- Availability of affordable healthy foods
- Non-caloric or low-calorie beverages available
- Education on choosing healthy foods, including media literacy for consumers
- Appropriate food marketing to children
- Access to healthy foods
- Support for breastfeeding as normal

Addressing Obesity One Step at a Time

We know that turning our culture into one where healthy eating and active living are the norm for every person will take time. It took us decades to get where we are; it will take us decades to get to where we want to be. We all need to work together to address overweight and obesity effectively. If we work together to pursue common goals on the basis of the best evidence, our state will ultimately move in the right direction. This plan is designed to guide the efforts of those working as part of the movement to make healthy eating and physical activity the easy choice for all North Carolinians.

Vision: A North Carolina where healthy eating and active living are the norm for all people. An economically competitive North Carolina with a healthy workforce, where the healthy choice is the easy choice, where families and individuals eat smart and move more, lessening the burden of obesity, chronic disease, and health care costs.

We have precious few resources. Therefore, we must use the resources we have to implement strategies that have been proven to work.

2020 Goal:

Increase the number of North Carolinians at a healthier weight.

Surveillance systems commonly use four weight-status categories: underweight, normal weight, overweight, and obese. These weight-status categories will be used to track our progress as a state. Our goal for 2020 is to see a smaller percentage of the population categorized as obese and a larger percentage of the population categorized as normal weight.

For some, this may mean moving from the obese category to the overweight category; for others, it may mean moving into the normal weight category from the overweight or obese category; and for still others it may mean maintaining weight to keep from moving into a higher weight category.

Strategies to Encourage Adoption of the Six Core Behaviors, Categorized by Setting

Everyone who supports this plan has three levels of responsibility to meet North Carolina's healthy weight goals:

- Individual
- Family
- Community

On the ***individual level,*** every adult and child can adopt the six core behaviors (see the behavior icons below), and on the ***family level,*** they can support the efforts of family members to do the same. Each individual can strive to have a healthier weight. For some people this may mean not moving into a higher weight category; for others it may mean a move downward into a healthier weight category. At the ***community level,*** we can increase the likelihood of people staying at or reaching a healthy weight by making the healthy choice the easy choice. You can be a part of the movement to help more communities become places where it is easy to eat smart and move more. You can help implement proven, recommended policies and practices where you live, learn, earn, play, and pray.

Below is a list of recommended strategies that can be applied in eight community settings:

- Health care
- Child care
- Schools
- Colleges and universities
- Work sites
- Faith-based organizations and other community organizations
- Local government
- Food and beverage industry

If we work together within and across these sectors of our communities, we can have the collective impact that it will take to make adopting the six core behaviors the easy choice for everyone across our state. We can increase the likelihood that more North Carolinians will remain at or move toward a healthier weight.

Every strategy in the following list is intended to encourage adoption of one or more of the six core behaviors that have been proven to reduce body weight. After each strategy, its associated core behaviors are listed according to this key:


Increase breastfeeding


Reduce consumption of energy-dense foods


Increase consumption of fruits and vegetables


Increase physical activity


Decrease consumption of sugar-sweetened beverages


Reduce screen time

Strategy Selection Method

The following section contains obesity prevention strategies based on the best available evidence published in the previous five years. The references for the strategies can be found on page 15. The following points should be considered when reading these strategies:

- The strategies are not prioritized. The first strategy listed in the section is not more important than the last.
- The icons are not prioritized. They are listed in alphabetical order from left to right.
- Each of the strategies contains a citation(s), and the corresponding reference(s) are on page 15.
- Strategies intended for implementation at the federal level were not included.

Health Care Strategies

Health care 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 health care professionals can screen for and diagnose overweight and obesity, provide treatment plans, and increase awareness of the health risks of obesity. They can advocate for time spent to counsel overweight and obese patients, and they can refer appropriately to community-based resources. Clinicians and health care professionals can work for the creation of healthy environments, including vending, in health care work sites (e.g., hospitals, clinics). They can promote and advocate for breastfeeding. Health care professionals can be powerful advocates for healthy eating and physical activity environments across all sectors of their communities.

 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 Centers for Disease Control and Prevention growth charts as part of every well-child doctor visit.[a,b]

 Counsel caregivers about risk factors for obesity, such as children's weight-for-length, body mass index (BMI), rate of weight gain, and parental weight status.[a,b,c]

 Practice healthy lifestyle behaviors, be role models for patients, and participate in community coalitions.[d,e,c]

 For treatment of people with severe mental illness who are at risk for overweight or obesity, consider medications that are more weight-neutral, and emphasize behaviors to minimize weight gain.[d]

 Establish policies and practices to offer counseling and behavioral interventions for adults identified as obese.[b,d,e,f]

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

 Promote effective prenatal counseling about maternal weight gain and the relationship between obesity and diabetes.[d,e]

 Assess and record information on patients' dietary patterns.[d]

 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.[a,c,d,e]

 Limit advertisements of less healthy foods and beverages in health care settings.[c,g]

 Implement and maintain baby-friendly hospital initiatives.[c]

 Promote exclusive breastfeeding for six months after birth and continuation of breastfeeding in conjunction with complementary food for one year or more.[a,c,h]

 Promote physical activity for all patients, record patients' physical activity levels, and stress the importance of consistent exercise and daily physical activity.[a,b,c,e]

 Provide point-of-decision prompts to encourage use of stairs in clinical settings.[f]

 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.[a,f]

State level policies

 Enact policies and regulations to support insurance coverage at no cost-sharing for counseling and behavioral interventions for those identified as obese.[f,b,c]

Child Care Strategies

Children often spend more waking hours in child care and preschool than they do with their families. Families can choose a child care 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. Child care 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. Child care facility owners and operators can adopt and monitor facilitywide policies that support healthy environments and behaviors. Legislators can examine current state and local policies and pass and enforce legislation to make good nutrition and physical activity the norm in child care facilities.

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

Accommodate the needs of breastfeeding mothers and infants.[c]

Implement policies and practices to give infants, toddlers, and preschool children opportunities to be physically active throughout the day.[a]

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

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

Implement policies that limit consumption of sugar-sweetened beverages and promote drinking water.[e,g,i]

Implement policies that reduce screen time.[f,g]

Implement 10 Steps to Breastfeeding-Friendly Child Care.[c]

State level policies

Direct the North Carolina Division of Child Development to work with the Child Care Commission to enact the following child care rules: Sugar-sweetened beverages shall not be served at child care centers or homes regulated by the Division of Child Development; fat-free or low-fat milk shall be served to children older than two years of age at child care centers or homes regulated by the Division of Child Development; and juice shall be limited to a total of four to six ounces per day for children older than one year of age at child care centers or homes regulated by the Division of Child Development.[h]

Direct the North Carolina Division of Child Development to examine the current levels of physical activity that children receive in child care facilities, and review model physical activity guidelines with the goal of promoting statewide model guidelines.[h]

School Strategies

Nearly 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, 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 and maintaining healthy weight. Teachers can educate students about healthy behaviors. Students can advocate for schools to support healthy eating and physical activity.

School building strategies

Coordinate healthy eating and physical activity policies and practices through a school health council and school health coordinator.[i,j]

Use a systematic approach to assess, develop, implement, and monitor school healthy eating and physical activity policies.[i,j,k,l,m,n]

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 weight-based teasing or stigmatizing healthy eating and physical activity.[j]

Discourage consumption of sugar-sweetened beverages, promote drinking water, and restrict availability of less healthy foods and beverages.[g,i]

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.[a,b,i]

Enhance personal safety in areas where children or adults are or could be physically active.[g]

Increase the amount of physical activity in physical education programs.[b,g,i,j]

Fully implement and monitor the North Carolina State Board of Education Healthy Active Children Policy requiring thirty minutes of physical activity per day for all K–8 students.[l,m]

School district strategies

Implement policies and practices to provide evidence-based Healthful Living curricula in schools.[b,f,h,l,j,k,l]

Implement polices and practices to provide school-based and school-linked health services.[b]

Comply with federal regulations regarding school meals and wellness policies.[h,n]

Implement policies and practices to improve availability of mechanisms for purchasing locally grown foods.[g,p]

Implement policies to limit advertisements for less healthy foods and beverages.[g]

Require high-quality physical education that meets North Carolina Department of Public Instruction standards in all district schools.[b,g,i,j]

Implement policies and practices that provide opportunities for extracurricular physical activity.[g,i,p]

Implement policies to enhance infrastructure that supports bicycling and walking.[g]

Implement policies and practices to promote joint use and community use of facilities.[b,g,i,h,p]

State-level policies

Budget funding to support (1) provision of school-based and school-linked health services and (2) staffing of school nurses to improve access to needed health care for all students.[b]

Establish a full-time Healthful Living coordinator in each school district.[e,m]

Require schools to implement evidence-based Healthful Living curricula in schools.[b]

Increase the number of jurisdictions with policies to locate schools within easy walking distance of residential areas.[g]

College and University Strategies

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.

Provide opportunities for students, faculty, and staff to volunteer with community coalitions or partnerships that address obesity.[b,g]

Within student health services, include routine BMI screening, counseling, and behavioral interventions to improve physical activity and dietary choices.[e]

Provide healthy food and beverage choices, including smaller portion sizes, at college and university dining facilities and university events.[g,i]

Implement menu-labeling policies and practices in college and university dining facilities.[b]

Improve the capacity of university dining services to purchase locally grown food.[g,p]

Limit advertisements for less healthy foods and beverages on campus.[g]

Institute policies to support breastfeeding mothers.[c,e]

Through the divisions of student life, residence life, and university recreation, increase the number of campus organizations with policies and practices that provide opportunities for physical activity.[g,l,p,q]

Enhance the university infrastructure to support all students, staff, and visitors in bicycling, walking, and wheeling on campus.[g,q]

Implement policies and practices to encourage joint use of fitness facilities by faculty, staff, and community members.[b,g,l,p,q]

Implement policies and practices that enhance personal safety in university settings where people are or could be physically active.[g,q]

Implement policies and practices that enhance traffic safety in areas on campus where people are or could be physically active.[g,q]

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.[b,f,g,u,p,q]

Implement policies to discourage consumption of sugar-sweetened beverages and increase consumption of water.[g,i]

State-level policies

Enact policies that enable the University of North Carolina system institutions to implement recommended strategies.

Adopt a budget that supports the University of North Carolina system institutions' implementation of recommended strategies.

Work Site Strategies

Healthy workers are more productive at work and at home. Avoiding preventable health costs helps both the bottom line and employees' personal finances. The work site 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 work sites and benefit plans that support health and productivity. State policymakers can create legislation that promotes a healthy, competitive workforce across the state.

Participate in community coalitions or partnerships to address obesity.[b,c,g]

Provide work site wellness programs, and promote healthy foods and physical activity.[b,c,q]

Assess health risks, and offer feedback and intervention support to employees.[b]

Offer BMI screening, counseling, and behavioral interventions for adults identified as obese.[b,f,h]

Offer health care plans that provide coverage at no cost-sharing for BMI screening, counseling, and behavioral interventions for adults identified as obese.[g,b,h]

Use point-of-decision prompts to encourage use of stairs, drinking water, and eating healthy.[f]

Implement healthier food and beverage choice policies and practices.[g,i]

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

Implement policies to limit advertisements for less healthy foods and beverages.[g]

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.[a,c,g,h]

Promote work site mechanisms for purchasing locally grown foods, including expanding farmers markets and farm stands.[g,h,p]

Enhance site infrastructure to support bicycling, walking, and wheeling.[g,q]

Implement policies and practices for joint use of site or community physical activity facilities with schools and community organizations.[b,g,i,h,p,q]

State-level policies

Implement policies that provide tax incentives to encourage comprehensive work site wellness programs.[b]

Increase the number of communities that implement comprehensive plans for land use and transportation.[b,f,h,i,p,q]

Faith-Based Organization and Other Community Organization Strategies

Community organizations, including faith-based organizations, have powerful influence over whether policies and environments support healthy weight. Faith-based and community organization members can start with their own members by making healthy choices available at 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.

 Ensure participation of organization leaders and members in community coalitions or partnerships to address obesity.[c,b,g]

 Implement budgets that provide community grants to promote physical activity and healthy eating.[b,c]

 Offer BMI screening, counseling, and behavioral interventions for adults identified as obese.[b,f,h]

 Implement healthier food and beverage choice policies and practices.[g,i]

 Provide access to affordable healthy foods.[a,e]

 Institute policies and practices to provide options for smaller portion sizes.[g]

 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.[a,b,i]

 Promote and support exclusive breastfeeding for six months and continuation of breastfeeding in conjunction with complementary food for one year or more.[c,g,j]

 Implement policies and practices to improve the availability of locally grown foods by expanding farmers markets and farm stands.[g,h,p]

 Provide incentives for the production, distribution, and procurement of foods from local farms.[g,p]

 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.[a]

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

 Strengthen programs that provide mother-mother support and peer counseling.[c]

 Increase point-of-decision prompts to encourage use of stairs.[f]

 Enhance infrastructure to support bicycling, walking, and wheeling.[g,q]

 Adopt practices that enhance personal safety in areas where people are or could be physically active.[g,q]

 Adopt practices that enhance traffic safety in areas where people are or could be physically active.[g,q]

 Allow community members to use facilities (e.g., outdoor space, meeting rooms, playgrounds) for physical activity.[b,g,i,p,q]

 Give all children opportunities to be physically active throughout the day.[a,q]

 Advocate for implementation of comprehensive local plans for land use and transportation.[b,f,g,i,p,q]

 Discourage consumption of sugar-sweetened beverages, and encourage drinking water.[g,i]

 Advise adults to limit screen time to less than two hours per day for all children.[f,j]

State-level policies

 Fund a sustained social marketing program that gives pregnant women and caregivers consistent, practical information about the risk factors and prevention strategies for obesity.[a,c]

 Adopt budgets that fund communitywide Eat Smart, Move More NC obesity prevention plans.[b,c]

Local Government Strategies

Local governments play a role in creating healthy weight environments in communities. Local government includes elected officials, local health departments, boards of health, planning departments, planning boards, parks and recreation departments, and police departments, among others. Local government has a role to play in making the healthy choice the easy choice 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.

Ensure that local government officials participate in community coalitions or partnerships to address obesity.[c,b,g]

Adopt healthier food and beverage policies and practices including offering smaller portion sizes, discouraging consumption of sugar-sweetened beverages, and restricting availability of less healthy foods in public venues.[g,i]

Increase the geographic availability of supermarkets in underserved areas.[g]

Provide incentives to food retailers to offer healthier food and beverage choices in underserved areas.[g,p]

Provide mechanisms for purchasing locally grown foods.[g,p]

Implement comprehensive plans for land use and transportation.[b,f,l,p,q]

Zone for mixed-use development.[f,g,p,q]

Enhance infrastructure that supports bicycling, walking, wheeling, and better access to public transportation consistent with the Americans with Disabilities Act.[g,q]

Locate schools within easy walking distance of residential areas.[g]

Promote joint use/community use of facilities.[b,g,h,i,p]

Enhance personal safety in areas where people are or could be physically active.[g]

State-level policies

Adopt a budget that funds high-priority population health initiatives that implement proven obesity prevention and control strategies.[c,h]

Increase geographic availability of supermarkets in underserved areas by offering food retailers incentives and by enacting zoning ordinances.[g,p]

Provide funds to expand greenway planning, construction, and maintenance projects.[h]

Pursue federal funding, and make efficient, effective use of this funding to ensure that sufficient mechanisms are in place to encourge children to walk to school.[h]

Food and Beverage Industry Strategies

The food and beverage industry's role in addressing the obesity crisis is critical to our success. The industry can make a commitment to healthier business practices by making and promoting healthier foods and beverages. Reformulation of some foods may improve their nutrition profile to be more conducive to healthy weight. The food industry can examine its marketing practices and change them to promote healthier choices to children and youth.

Participate in community coalitions or partnerships to address obesity.[b,c,g]

Implement policies to offer and promote healthier foods and beverages as part of an overall marketing mix, especially to children.[r]

Implement menu-labeling policies and practices in restaurants and other food service venues.[r]

Reduce saturated fats and added sugars in products.[r]

State-level policies

Increase the geographic availability of supermarkets in underserved areas.[g,p]

The following documents were used to identify strategies based on the best available evidence.

a. Birch LL, Parker L, eds. Early Childhood Obesity Prevention Policies. The National Academies Press; 2011. http://www.nap.edu/openbook.php?record_id=13124&page=R1. Accessed June 6, 2012.

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

c. US Department of Health and Human Services. The Surgeon General's call to action to support breastfeeding. http://surgeongeneral.gov/library/calls/breastfeeding/. Accessed June 6, 2012.

d. US Department of Health and Human Services. The Surgeon General's vision for a healthy and fit nation. Rockville, MD: U.S. http://www.ncbi.nlm.nih.gov/books/NBK44660/pdf/TOC.pdf. Accessed June 6, 2012.

e. Glickman D, Parker L, eds. Accelerating Progress in Obesity Prevention: Solving the Weight of the Nation. Washington, DC: The National Academies Press; 2012.

f. Guide to Community Preventive Services. http://www.thecommunityguide.org/index.html. Accessed September 21, 2012.

g. Keener, D., Goodman, K., Lowry, A., Zaro, S., & Kettel Khan, L. (2009). 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. http://www.cdc.gov/obesity/downloads/community_strategies_guide.pdf. Accessed June 6, 2012.

h. Eat Smart, Move More North Carolina Policy Strategy Platform. www.eatsmartmovemorenc.com/PolicyStrategy/Texts/ESMM%20Policy%20Strategy%20Platform.pdf. Accessed January 31, 2012.

i. Centers for Disease Control and Prevention (CDC). School Level Impact Measures (SLIMs), North Carolina Healthy Schools, www.nchealthyschools.org/docs/data/slims.pdf. Accessed January 31, 2012.

j. Centers for Disease Control and Prevention (CDC). School health guidelines to promote healthy eating and physical Activity. *MMWR* 2011;60(No.5):1-80.

k. Fitness Testing Guidelines, North Carolina State Board of Education, June 2011. North Carolina Department of Public Instruction. www.ncpublicschools.org/docs/stateboard/meetings/2011/06/hrs/06hrs01.pdf. Accessed January 31, 2012.

l. North Carolina State Board of Education Policy Manual Policy regarding physical education in the public schools, GCS-S-000. 2005. http://sbepolicy.dpi.state.nc.us/policies/GCS-S 000.asp?pri=01&cat=S&pol=000&acr=GCS. Accessed January 31, 2012.

m. Healthy Foundations for Healthy Youth: A Report of the NCIOM Task Force on Adolescent Health. North Carolina Institute of Medicine, 2009.

n. US PUBLIC LAW 111–296—DEC. 13, 2010. Healthy, Hunger-Free Kids Act of 2010, http://www.fns.usda.gov/cnd/governance/legislation/cnr_2010.htm.

o. Nutrition Standards in the National School Lunch and School Breakfast Programs Food and Nutrition Service USDA Final rule. *Federal Register / Vol. 77, No. 17 / Thursday, January 26, 2012 / Rules and Regulations*. http://www.gpo.gov/fdsys/pkg/FR-2012-01-26/pdf/2012-1010.pdf.

p. Public Prevention Health Fund: Community Transformation Grant. Appendix C, Amendment 1 www.grants.gov/search/announce.do;jsessionid=d8BVPyWHnQrWYHg5phgRr0GN93CLCXsVn3HSd7HsJgkMX1Q67h1g!755456391. Accessed January 31, 2012.

q. US Department of Justice. *2010 ADA Standards for Accessible Design*. www.ada.gov/2010ADAstandards_index.htm.

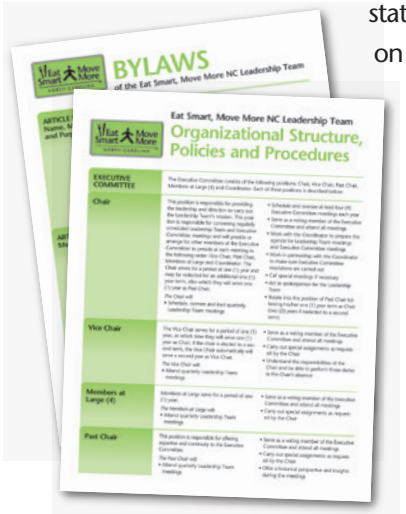
r. National Prevention Council. National Prevention Strategy. Washington D.C.: U.S. Department of Health and Human Services, Office of the Surgeon General, 2011.

Eat Smart, Move More North Carolina:

Statewide Coordinated Leadership for Obesity Prevention

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. Eat Smart, Move More NC is guided by the Eat Smart, Move More NC Leadership Team, a partnership of organizations who work to increase opportunities for healthy eating and physical activity. The Leadership Team is made up of a broad range of partners representing different sectors of the community.

The Leadership Team provides an opportunity for organizations across the state to come together, share resources, and learn from each other. Quarterly meetings are held to provide opportunities for members to hear from national, state, and local speakers on topics relevant to obesity prevention. In addition, members inform each other of current projects and events via an electronic newsletter that is distributed prior to each meeting.



The Leadership Team operates under a set of bylaws and policies and procedures. An Executive Committee plans the quarterly meetings, and ad hoc committees are established as needed to carry out the work of the Leadership Team. The Executive Committee led the development of this Plan, with extensive input from Leadership Team members, and will guide its implementation. The goal was to create one plan that all professionals working on obesity prevention can use to guide their efforts.

All who are working to make healthy eating and physical activity easier for North Carolinians are encouraged to incorporate the strategies from this Plan into their work and clearly communicate how their work supports *North Carolina's Plan to Address Obesity: Healthy Weight and Healthy Communities, 2013-2020*.

To learn more about the Leadership Team or to become a member, visit www.EatSmartMoveMoreNC.com, and click on the "contact us" link to request a membership application.

How to Support the Eat Smart, Move More North Carolina Movement

- Join the Eat Smart, Move More NC Leadership Team.
- Attend quarterly Leadership Team meetings.
- Recruit new partners to join the Leadership Team.
- Determine what strategies from this Plan your organization will put into place and share this work through your community and the Leadership Team.
- Co-brand relevant messages with the Eat Smart, Move More NC logo. Visit **www.EatSmartMoveMoreNC.com** to download the logo usage guidelines.
- Provide a link to **www.EatSmartMoveMoreNC.com** on your organization's Web site.
- Encourage members of the public to visit **www.MyEatSmartMoveMore.com** for tips, recipes, and other resources.
- Improve your organization's internal practices or policies to promote healthy eating and physical activity.
- Get involved with healthy eating and physical activity partnerships and coalitions in your community.

Media Environment and Public Awareness

The media have a role to play in helping North Carolina become a state where everyone can make healthier choices and be supported in those decisions. How the media frame stories about obesity influences how policy makers, organizational leaders and the public view the issue.

The majority of news stories about obesity talk about the problem from the perspective of individuals who struggle with their weight. And this makes sense from a "human interest" perspective. However, while making healthy eating and activity choices is a personal decision, those decisions are often influenced by how easy or hard it is to make that choice where people live, work and play. For example, choosing healthier foods in a restaurant is easier if nutrition information is available at the point of decision—where the individual orders a meal. Making a choice to be active in our neighborhoods is easier if we have well-lit and safe sidewalks or walking paths. Those environmental incentives are made possible by organizational and public policy—menu labeling laws and sidewalk ordinances are two examples.

Framing theory says that the way the news media "frame" stories determines how the public views an issue and even what they believe the solutions to be. For example, stories about obesity can be framed around how an individual struggles to make healthier lifestyle choices day to day. Stories can also be framed to help the reader understand the larger context in which individuals make health choices—such as the case in which a person finds him or herself trying to choose foods from a menu with no nutrition information on it.

If the media were to regularly frame stories about obesity to include the environmental and policy context that acts to either promote or deter healthy decisions, it would help educate all of us about the role those factors play, and may help shape better decision-making at the organizational and public policy levels.

Measuring Progress on North Carolina's Plan

Selecting Objectives

The objectives in this Plan are based on existing data sources. In some cases, the measures may not seem ideal from a programmatic viewpoint. However, they reflect the best available data. These objectives are intended to strike the necessary balance between programmatic relevance and alignment with available data sources.

Setting Targets

Targets for 2020 in the following objectives align with Healthy North Carolina 2020 objectives (for physical activity, fruit and vegetable consumption, and weight status) and Healthy People 2020 objectives (for breastfeeding) wherever possible. Otherwise, a simple, straightforward method was used for setting targets. For most objectives, target percentages were determined by changing the baseline percentages by a half percentage point per year (in either a positive or negative direction, whichever indicates improvement) and rounding to the nearest whole number.

Target-setting has its place. However, North Carolina has the potential to exceed every one of the targets included in the following objectives if partners across the state continue to build on the excellent work they are already doing. North Carolina's success will depend on (1) the amount of energy that partners put into obesity prevention and (2) the extent to which partners "work smart" by learning from each other and basing their work on the best available evidence.

Data Sources

The final year of data collection to measure progress on this Plan will be 2019 so that a final report can be compiled in 2020. Data from multiple sources will be used, some of which are available annually and some less often. Each key data source, along with its anticipated latest available year of data collection prior to 2020, is listed below:

- Behavioral Risk Factor Surveillance System: 2019
- Youth Risk Behavior Survey: 2019
- School Health Profiles Survey: 2018
- Child Health Assessment and Monitoring Program: 2019
- State Indicator Report for Fruits and Vegetables: 2019 (subject to change by CDC)
- CDC National Immunization Survey: 2016 Provisional Data (which will be incorporated into the 2019 Breastfeeding Report Card)

Objectives: Places and Practices

The settings from the Strategies section of this Plan (page 8) are represented in the following objectives. However, in the case of some settings (e.g., colleges and universities, local government, food and beverage industry), no data were available on places and practices to support healthy eating and active living. Objectives were only included if a data source for monitoring progress could be identified at the time of this Plan's development.

Health Care

1. **By January 1, 2020, at least 32 maternity centers in North Carolina will be recognized as awardees by the North Carolina Maternity Center Breastfeeding Friendly Designation Program.**
   - Baseline (2011): There were eight awardees through the North Carolina Maternity Center Breastfeeding-Friendly Designation Program as of December 2011.
   - Data source: *Promoting, Protecting and Supporting Breastfeeding in North Carolina: Blueprint Status Report, 2011*. North Carolina Division of Public Health. Available at www.nutritionnc.com. Accessed May 24, 2012.
   - Explanation of target: Increase by three maternity centers per year from baseline through year 2019.

2. **By January 1, 2020, at least 8% of the maternity centers in North Carolina will be recognized as Baby-Friendly by Baby-Friendly USA, the accrediting body for the Baby Friendly Hospital Initiative in the United States.**
   - Baseline (2011): 3.4% of North Carolina's maternity centers were designated as Baby-Friendly as of December 2011.
   - Data source: Baby-Friendly USA. Available at www.babyfriendlyusa.org/. Accessed August 25, 2012.
   - Explanation of target: Align with the Healthy People 2020 goal for 8.1% of maternity centers to be designated as Baby-Friendly nationally.
   - Additional information: The global Baby Friendly Hospital Initiative is sponsored by the World Health Organization and the United Nations Children's Fund to encourage and recognize hospitals and birthing centers that offer an optimal level of care for infant feeding.

Child Care

3. **By January 1, 2020, at least 16 child care centers in North Carolina will receive the Breastfeeding Friendly Child Care designation.**
   - Baseline (2011): 0 child care centers. This designation program was in the final stages of development and had not yet been implemented when this Plan was written.
   - Data source: North Carolina Division of Public Health, Nutrition Services Branch
   - Explanation of target: Two child care centers will achieve the designation per year from 2012 through 2019.
   - Additional information: This designation will initially be available to child care centers in North Carolina that are enrolled in the Child and Adult Care Food Program. It will then be made available to all licensed child care centers in the state.

Schools

4. **By January 1, 2020, at least 9% of public schools in North Carolina will receive a HealthierUS School Challenge award, indicating that the school has created a healthier environment that promotes nutrition and physical activity.**
   - Baseline (2012): 5% of North Carolina schools (116 of 2,524) had received an award (including Bronze, Silver, Gold and Gold Award of Distinction) as of February 2012.
   - Data source: HealthierUS School Challenge website. Available at www.fns.usda.gov/tn/healthierus/index.html. Accessed May 15, 2012.
   - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).
   - Additional information: The HealthierUS School challenge is a voluntary certification initiative established in 2004 to recognize those schools participating in the National School Lunch Program that have created healthier school environments through promotion of nutrition and physical activity.

5. **By January 1, 2020, at least 66% of public middle and high schools in North Carolina will offer opportunities for students to participate in intramural activities or physical activity clubs.**
   - Baseline (2010): 61%
   - Data source: North Carolina School Health Profiles Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/profiles/. Accessed October 18, 2012.
   - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (4.5 percentage points over nine years).

6. **By January 1, 2020, at least 76% of public middle and high schools in North Carolina will allow children and/or adolescents to use some or all of the indoor physical activity or athletic facilities for community sponsored physical activity classes or lessons outside of school hours or when school is not in session.**
   - Baseline (2010): 71%
   - Data source: North Carolina School Health Profiles Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/profiles/. Accessed October 18, 2012.
   - Explanation of target: Increase by a half percentage point per year from baseline through 2019 (4.5 percentage points over nine years).

7. **By January 1, 2020, the percentage of parents in North Carolina who report that one or more schools in their community allow people to use the school playing fields, playgrounds, or athletic facilities for their own personal exercise or recreation will increase by 3.5 percentage points from 2012 baseline.**
   - Baseline (2012): Data will be available in the summer of 2013.
   - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html.
   - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).

8. **By January 1, 2020, the percentage of parents in North Carolina who report that they or their children use school playing fields, playgrounds, or athletic facilities for their own personal exercise or recreation will increase by 3.5 percentage points from 2012 baseline.**
   - Baseline (2012): Data will be available in the summer of 2013.
   - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html.
   - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).
   - Additional information: "Use" will be defined as "a few times per year" or more often.

Work Sites

9. **By January 1, 2020, at least 51% of North Carolina work sites will use motivational signs or point-of-decision prompts to encourage people to be more physically active.**
   - Baseline (2011): 47% of WorkHealthy America℠ users
   - Data source: NC Prevention Partners, WorkHealthy America℠
   - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).
   - Additional information: The denominator for this measure is North Carolina work sites that use WorkHealthy America℠, a voluntary on-line survey assessing worksite wellness policies, benefits, and environments (n=90 at baseline).

10. **By January 1, 2020, at least 24% of North Carolina work sites will provide individualized feedback to employees who take the Health Risk Assessment.**
    - Baseline (2011): 20% of WorkHealthy America℠ users
    - Data source: NC Prevention Partners, WorkHealthy America℠
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).
    - Additional information: The denominator for this measure is North Carolina work sites that use WorkHealthy America℠, a voluntary on-line survey assessing worksite wellness policies, benefits, and environments (n=91 at baseline).

11. **By January 1, 2020, at least 67% of North Carolina work sites will provide employees with clean, comfortable, and private areas in which breastfeeding mothers can express their milk during work hours.**
    - Baseline (2011): 63% of WorkHealthy America℠ users
    - Data source: NC Prevention Partners, WorkHealthy America℠

- Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).
- Additional information: The denominator for this measure is North Carolina work sites that use WorkHealthy America℠, a voluntary on-line survey assessing worksite wellness policies, benefits, and environments (n=101 at baseline). In January 2012, the survey question will change to "Does your worksite have a written breastfeeding support policy that includes… a clean, comfortable, and private area to breastfeed?"

Community

12. **By January 1, 2020, the percentage of North Carolina adults who report that their community has trails, greenways, bike paths, or sidewalks for biking, walking, or other activities will increase by 3.5 percentage points from 2012 baseline.**
    - Baseline (2012): Data will be available in the summer of 2013.
    - Data Source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).

13. **By January 1, 2020, the percentage of North Carolina adults who use trails, greenways, bike paths, or sidewalks for biking, walking or other activities will increase by 3.5 percentage points from 2012 baseline.**
    - Baseline (2012): Data will be available in the summer of 2013.
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).
    - Additional information: "Use" will be defined as "a few times per year" or more often.

14. **By January 1, 2020, the percentage of North Carolina adults who report that it is easy to purchase healthy foods (e.g., whole grain foods, low-fat options, fruits, and vegetables) in their neighborhood will increase by 3.5 percentage points from 2012 baseline.**
    - Baseline (2012): Data will be available in the summer of 2013.
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (3.5 percentage points over seven years).

15. **By January 1, 2020, North Carolina will have at least 2.7 farmers' markets per 100,000 state residents.**
    - Baseline (2008): 1.6/100,000 (national comparison: 1.7/100,000)
    - Data source: *State Indicator Report on Fruits and Vegetables, 2009*. Centers for Disease Control and Prevention. Available at www.fruitsandveggiesmatter.gov/indicatorreport. Accessed February 15, 2012.
    - Explanation of target: Increase by 0.1 per 100,000 state residents per year from baseline through year 2019.
    - Additional information: The *State Indicator Report on Fruits and Vegetables, 2009,* provides the following information for the calculation of the percentage of farmers' markets: *Numerator:* Farmers Market List. United States Department of Agriculture, Agricultural Marketing Services. Released August 2008. Date accessed September 1, 2009. Available at apps.ams.usda.gov/FarmersMarkets/. *Denominator:* Population Estimates United States Census Bureau. July 2008. Date accessed July 1, 2009. Available at www.census.gov/popest/states/NST-ann-est.html

16. **By January 1, 2020, at least 77% of census tracts in North Carolina will have healthier food retailers located within the tract or within a half mile of tract boundaries.**
    - Baseline (2007): 74.2% (national comparison: 72.0%)
    - Data source: *State Indicator Report on Fruits and Vegetables, 2009*. Centers for Disease Control and Prevention. Available at www.fruitsandveggiesmatter.gov/indicatorreport. Accessed February 15, 2012.
    - Explanation of target: Increase by a half percentage point every two years from baseline through year 2019 (three percentage points over 12 years).
    - Additional information: The *State Indicator Report on Fruits and Vegetables, 2009,* provides the following information for the calculation of the percentage of census tracts in North Carolina that have healthier food retailers located within the tract or within a half mile of tract boundaries: *Numerator:* Retail Data, U.S. Department of Homeland Security Database last updated November 2007 which includes information on retail food establishments derived from Dun and Bradstreet commercial data. The following stores as defined by North American Industry Classification Codes (NAICS) were included: Supermarkets and larger grocery stores (NAICS 445110; supermarkets further defined as stores with >= 50 annual payroll employees and larger grocery stores defined as stores with

10-49 employees); Fruit and Vegetable Markets (NAICS 445230); Warehouse Clubs (NAICS 452910). Fruit and vegetable markets include establishments that retail produce and include stands, permanent stands, markets, and permanent markets. Produce is typically from wholesale but can include local. The 2007 North American Industry Classification Codes descriptions. Available at www.census.gov/eos/www/naics/. Accessed July 1, 2009. *Denominator:* Census Tract Information, 2000 U.S. Census Bureau. Available at www.census.gov/geo/www/tractez.html. Accessed July 1, 2009.

17. **By January 1, 2020, at least 18% of North Carolina farmers' markets will accept NC Food and Nutrition Services benefits (SNAP) via electronic benefit transfer (EBT).**
    - Baseline (2009): 1.4% (national comparison: 7.6%)
    - Data source: *State Indicator Report on Fruits and Vegetables, 2009*. Centers for Disease Control and Prevention. Available at www.fruitsandveggiesmatter.gov/indicatorreport. Accessed February 15, 2012.
    - Explanation of target: The 2020 target of 18% aligns with the 2009 national percentage (17.7%) of farmers' markets accepting SNAP via EBT provided in the June 2010 report, *Real Food, Real Choice: Connecting SNAP Recipients with Farmers Markets*, by Briggs et al., funded by the Convergence Partnership Fund of the Tides Foundation and private donations to the Community Food Security Coalition. Available at freshtaste.typepad.com/files/realfoodrealchoice_snap_farmersmarkets.pdf. Accessed October 15, 2012. This report was not used as the data source for this objective since it may not be reproduced in the future to allow for the monitoring of progress over time; however, it was a valuable reference for helping to establish a 2020 target.
    - Additional information: The *State Indicator Report on Fruits and Vegetables, 2009,* provides the following information for the calculation of the percentage of farmers' markets that accept electronic benefit transfer (EBT): *Numerator:* Farmers markets that accept EBT. United States Department of Agriculture, Agricultural Marketing Services. Released September 2009. Farmers' Market Search. Accessed September 1, 2009. Available at apps.ams.usda.gov/FarmersMarkets/. *Denominator:* Total farmers markets. United States Department of Agriculture, Agricultural Marketing Services. Released September 2009. Farmers' Market Search. Accessed August 1, 2009. Available at apps.ams.usda.gov/FarmersMarkets/.

18. **By January 1, 2020, at least 28% of the cropland acreage in North Carolina will be harvested for fruits and vegetables.**
    - Baseline (2007): 25.2% (national comparison: 20.9%)
    - Data source: *State Indicator Report on Fruits and Vegetables, 2009*. Centers for Disease Control and Prevention. Available at www.fruitsandveggiesmatter.gov/indicatorreport. Accessed February 15, 2012.
    - Explanation of target: Increase by a half percentage point every two years from baseline through year 2019 (three percentage points over 12 years).
    - Additional information: The *State Indicator Report on Fruits and Vegetables, 2009,* provides the following information for the calculation of cropland acreage harvested for fruits and vegetables: *Numerator:* National Agricultural Statistics Service, United States Department of Agriculture. 2007. Census of Agriculture. Available at www.agcensus.usda.gov/Publications/2007/Full_Report/usv1.pdf. Table 29 Vegetables, page 508; Table 32 Fruits (excluding nuts), page 543; Table 33 Berries, page 560. *Denominator:* National Agricultural Statistics Service, United States Department of Agriculture. 2007. Census of Agriculture. Available at www.agcensus.usda.gov/Publications/2007/Full_Report/usv1.pdf. Table 1, State Summary Highlights: 2007, page 276. Harvested cropland in acres, state-specific total acres.

Media and Public Awareness

19. **By January 1, 2020, at least 42% of print, broadcast, and internet stories generated across North Carolina related to obesity will suggest solutions that require changes to places and practices.**
    - Baseline (2010): Baseline was calculated by averaging the monthly percentages for all 12 months of 2010. The average was 37%.
    - Data source: *Denominator:* the total number of North Carolina print, broadcast and internet stories related to obesity in a month. *Numerator:* the number of North Carolina print, broadcast, and internet stores related to obesity that suggest solutions that require changes to places and practices. Tracked by the North Carolina Division of Public Health, Physical Activity and Nutrition Branch, on a monthly basis.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (4.5 percentage points over nine years).

20. **By January 1, 2020, at least 37% of North Carolina adults will have heard of Eat Smart, Move More North Carolina.**
    - Baseline (2011): 32.9%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Coordinated Leadership

21. **By January 1, 2020, at least 100 organizations will serve on the Eat Smart, Move More North Carolina Leadership Team.**
    - Baseline (2011): 71 member organizations as of December 2011
    - Data source: Eat Smart, Move More North Carolina Leadership Team records, on file at the North Carolina Division of Public Health, Physical Activity and Nutrition Branch.
    - Explanation of target: Recommendation of the Eat Smart, Move More NC Leadership Team Chair, based on growth rated during years 2011 and 2012

22. **By January 1, 2020, at least 65% of Eat Smart, Move More North Carolina Leadership Team member organizations will participate in at least one Leadership Team meeting per year.**
    - Baseline (2011): 61% (43 of 71) member organizations participated in at least one quarterly Leadership Team meeting in 2011.
    - Data source: Eat Smart, Move More Leadership Team records, on file at the North Carolina Division of Public Health, Physical Activity and Nutrition Branch.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Objectives: Healthy Behaviors

Target numbers for 2020 in the following healthy behavior objectives align with Healthy North Carolina 2020 objectives for physical activity and fruit and vegetable consumption where possible. They align with Healthy People 2020 objectives for breastfeeding. Target numbers are rounded to the nearest whole number.

Physical Activity

23. **By January 1, 2020, at least 61% of North Carolina adults will meet the physical activity recommendation for aerobic activities.**
    - Baseline (2011): 46.8%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Healthy North Carolina 2020 objective for adults getting the recommended amount of physical activity, rounded to the nearest whole number.

24. **By January 1, 2020, at least 22% of North Carolina adults will meet the physical activity recommendations for both aerobic activities and muscle strengthening activities.**
    - Baseline (2011): 18.3%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

25. **By January 1, 2020, at least 52% of high school students will be physically active for a total of at least 60 minutes per day on five or more days per week.**
    - Baseline (2011): 47.6%
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

26. **By January 1, 2020, at least 58% of North Carolina children and youth ages 2 to17 years will exercise, play a sport, or participate in physical activity for at least 60 minutes that makes them sweat or breathe hard on four or more days per week.**
    - Baseline (2011): 53.5%
    - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Screen Time

27. **By January 1, 2020, no more than 31% of North Carolina high school students will watch television for three or more hours on an average school day.**
    - Baseline (2011): 34.7%
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

28. **By January 1, 2020, no more than 24% of North Carolina high school students will play video or computer games or use a computer for something other than school work for three or more hours on an average school day.**
    - Baseline (2011): 27.8%
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

29. **By January 1, 2020, no more than 41% of North Carolina children and youth ages 2 to 17 years will participate in more than two hours of screen time per day.**
    - Baseline (2011): 45.0%
    - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Fruits and Vegetables

30. **By January 1, 2020, at least 29% of North Carolina adults will consume five or more servings of fruits and vegetables per day.**
    - Baseline (2011): 13.7%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Healthy North Carolina 2020 objective rounded to the nearest whole number

31. **By January 1, 2020, the percentage of North Carolina adults who consume fruits less than one time daily will decrease by four percentage points from 2011 baseline.**
    - Baseline (2011): Data for 2011 were not yet available when this Plan was developed.
    - Data source: Behavioral Risk Factor Surveillance System data, as reported in the Centers for Disease Control and Prevention's 2012 *State Indicator Report on Fruits and Vegetables*
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

32. **By January 1, 2020, the percentage of North Carolina adults who consume vegetables less than one time daily will decrease by four percentage points from 2011 baseline.**
    - Baseline (2011): Data for 2011 were not yet available when this Plan was developed.
    - Data source: Behavioral Risk Factor Surveillance System data, as reported in the Centers for Disease Control and Prevention's 2012 *State Indicator Report on Fruits and Vegetables*
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

33. **By January 1, 2020, at least 23% of North Carolina high school students will eat fruits and vegetables five or more times per day in a typical week.**
    - Baseline (2011): 19.4%
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

34. **By January 1, 2020, at least 68% of North Carolina children and youth ages 1 to 17 years will consume five or more servings of fruits and vegetables, including 100% fruit juice, on a typical day.**
    - Baseline (2011): 64.0%

- Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
- Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Sugar-Sweetened Beverages

35. **By January 1, 2020, no more than 29% of North Carolina adults will drink sugar-sweetened beverages two or more times per day.**
    - Baseline (2011): 33.0%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

36. **By January 1, 2020, no more than 33% of North Carolina high school students will drink two or more sugar-sweetened beverages per day.**
    - Baseline (2011): 37.1%
    - Data source: North Carolina Youth Risk Behavior Survey
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).
    - Additional information: To obtain baseline data for this objective, the State Center for Health Statistics conducted a data analysis to combine data from two Youth Risk Behavior Survey questions. One survey question pertained to drinking soda, and one pertained to drinking any other sugar-sweetened beverage.

37. **By January 1, 2020, no more than 30% of children and youth ages 1 to 17 years will drink sugar-sweetened beverages two or more times per day.**
    - Baseline (2011): 34.1%
    - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

Breastfeeding

38. **By January 1, 2020, breastfeeding will be initiated among at least 82% of North Carolina infants.**
    - Baseline (2009 births): 68.2%
    - Data source: *Breastfeeding Report Card 2012*, United States: Outcome Indicators. CDC National Immunization Survey, Provisional Data, 2009 births. Available at www.cdc.gov/breastfeeding/data/reportcard2.htm. Accessed August 26, 2012.
    - Explanation of target: Healthy People 2020 objective (81.9%) rounded to the nearest whole number

39. **By January 1, 2020, at least 46% of North Carolina infants will be breastfed exclusively through three months of age.**
    - Baseline (2009 births): 37.6%
    - Data source: *Breastfeeding Report Card 2012*, United States: Outcome Indicators. CDC National Immunization Survey, Provisional Data, 2009 births. Available at www.cdc.gov/breastfeeding/data/reportcard2.htm. Accessed August 26, 2012.
    - Explanation of target: Healthy People 2020 objective (46.2%) rounded to the nearest whole number

40. **By January 1, 2020, at least 25.5% of North Carolina infants will be breastfed exclusively through six months of age.**
    - Baseline (2009 births): 15.3%
    - Data source: *Breastfeeding Report Card 2012*, United States: Outcome Indicators. CDC National Immunization Survey, Provisional Data, 2009 births. Available at www.cdc.gov/breastfeeding/data/reportcard2.htm. Accessed August 26, 2012.
    - Explanation of target: Healthy People 2020 objective (25.5%) rounded to the nearest whole number

Objectives: Weight Status

Target numbers for 2020 in the following weight status objectives align with Healthy North Carolina 2020 objectives where possible. Target numbers are rounded to the nearest whole number.

41. **By January 1, 2020, no more than 25% of North Carolina adults will be obese.**
    - Baseline (2011): 29.1%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

42. **By January 1, 2020, at least 38% of North Carolina adults will be neither overweight nor obese.**
    - Baseline (2011): 34.9%
    - Data source: Behavioral Risk Factor Surveillance System. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/brfss/results.html. Accessed October 18, 2012.
    - Explanation of target: Healthy North Carolina 2020 objective rounded to the nearest whole number

43. **By January 1, 2020, no more than 9% of North Carolina high school students will be obese.**
    - Baseline (2011): 12.9%
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

44. **By January 1, 2020, at least 79% of North Carolina high school students will be neither overweight nor obese.**
    - Baseline (2011): 71.2% (12.9% obese, 15.9% overweight)
    - Data source: North Carolina Youth Risk Behavior Survey. North Carolina Healthy Schools Initiative. Available at www.nchealthyschools.org/data/yrbs/. Accessed October 18, 2012.
    - Explanation of target: Healthy North Carolina 2020 objective rounded to the nearest whole number

45. **By January 1, 2020, no more than 14% of North Carolina middle school students will be obese.**
    - Baseline (2011): 17.9%
    - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics. Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
    - Explanation of target: Decrease by a half percentage point per year from baseline through year 2019 (four percentage points over eight years).

46. **By January 1, 2020, at least 68% of middle school students will be neither overweight nor obese.**
    - Baseline (2011): 64.3%
    - Data source: Child Health Assessment and Monitoring Program. North Carolina State Center for Health Statistics.Available at www.schs.state.nc.us/SCHS/champ/results.html. Accessed November 11, 2012.
    - Explanation of target: Increase by a half percentage point per year from baseline through year 2019 (four percentage points over eight years). The wording of this objective (i.e., "neither overweight nor obese") aligns with the Healthy North Carolina 2020 objectives related to weight status.

References

1. Ogden CL, Carroll MD, Kit BK, Flegal KM. Prevalence of obesity and trends in body mass index among US children and adolescents, 1999-2010. *JAMA.* 2012;307(5):483-490. doi: 10.1001/jama.2012.40.

2. F as in fat: How obesity threatens America's future 2010—Trust for America's Health http://healthyamericans.org/reports/obesity2010/. Accessed May 30, 2012.

3. 2011 CHAMP topics http://www.schs.state.nc.us/schs/champ/2011/bmi_cat10all.html. Accessed November 11, 2012.

4. Finkelstein EA, Trogdon JG, Cohen JW, Dietz W. Annual medical spending attributable to obesity: Payer-and service-specific estimates. *Health Aff (Millwood).* 2009;28(5):w822-31. doi: 10.1377/hlthaff.28.5.w822.

5. Finkelstein EA, Fiebelkorn IC, Wang G. National medical spending attributable to overweight and obesity: How much, and who's paying?. *Health Aff (Millwood).* 2003;Suppl Web Exclusives:W3-219-26.

6. Wolf AM, Colditz GA. Current estimates of the economic cost of obesity in the united states. *Obes Res.* 1998;6(2):97-106.

7. Wolf AM. What is the economic case for treating obesity? *Obes Res.* 1998;6 Suppl 1:2S-7S.

8. Finkelstein EA, Fiebelkorn IC, Wang G. State-level estimates of annual medical expenditures attributable to obesity. *Obes Res.* 2004;12(1):18-24. doi: 10.1038/oby.2004.4.

9. Be Active North Carolina Inc., Chenoweth & Associates. Tipping the scales: the high cost of unhealthy behavior in North Carolina. 2012:1-23. http://www.beactivenc.org/tippingthescales/. Accessed June 5, 2012.

10. Anderson JW, Konz EC, Frederich RC, Wood CL. Long-term weight-loss maintenance: A meta-analysis of US studies. *Am J Clin Nutr.* 2001;74(5):579-584.

11. US Department of Health and Human Services. Physical activity guidelines advisory committee report part G. section 4: Energy balance. http://www.health.gov/paguidelines/Report/G4_energy.aspx. Accessed May 30, 2012.

12. Obesity and overweight for professionals: Adult: Causes—DNPAO—CDC http://www.cdc.gov/obesity/adult/causes/index.html. Accessed May 30, 2012.

13. Can lifestyle modifications using therapeutic lifestyle changes (TLC) reduce weight and the risk for chronic disease? *Research to Practice Series No. 7.* http://www.cdc.gov/nutrition/downloads/R2P_life_change.pdf. Accessed February 26, 2012.

14. Rolls BJ, Ello-Martin JA, Tohill BC. What can intervention studies tell us about the relationship between fruit and vegetable consumption and weight management?. *Nutr Rev.* 2004;62(1):1-17.

15. Yao M, Roberts SB. Dietary energy density and weight regulation. *Nutr Rev.* 2001;59(8 Pt 1):247-258.

16. Bell EA, Rolls BJ. Energy density of foods affects energy intake across multiple levels of fat content in lean and obese women. *Am J Clin Nutr.* 2001;73:1010-1018.

17. Can eating fruits and vegetables help people to manage their weight? *Research to Practice Series, No.1.* http://www.cdc.gov/nccdphp/dnpa/nutrition/pdf/rtp_practitioner_10_07.pdf.

18. Centers for Disease Control and Prevention (CDC). Trends in intake of energy and macronutrients—United States, 1971-2000. *MMWR Morb Mortal Wkly Rep.* 2004;53(4):80-82.

19. Mourao DM, Bressan J, Campbell WW, Mattes RD. Effects of food form on appetite and energy intake in lean and obese young adults. *Int J Obes (Lond).* 2007;31(11):1688-1695. doi: 10.1038/sj.ijo.0803667.

20. DiMeglio DP, Mattes RD. Liquid versus solid carbohydrate: Effects on food intake and body weight. *Int J Obes Relat Metab Disord.* 2000;24(6):794-800.

21. Bray GA, Nielsen SJ, Popkin BM. Consumption of high-fructose corn syrup in beverages may play a role in the epidemic of obesity. *Am J Clin Nutr.* 2004;79(4):537-543.

22. Does drinking beverages with added sugars increase the risk of overweight? *Research to Practice Series, No.3.* http://www.cdc.gov/nccdphp/dnpa/nutrition/pdf/r2p_sweetend_beverages.pdf Accessed August 8, 2009.

23. 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.

24. Vartanian LR, Schwartz MB, Brownell KD. Effects of soft drink consumption on nutrition and health: A systematic review and meta-analysis. *Am J Public Health.* 2007;97(4):667-675. doi: 10.2105/AJPH.2005.083782.

25. Ebbeling CB, Feldman HA, Osganian SK, Chomitz VR, Ellenbogen SJ, Ludwig DS. Effects of decreasing sugar-sweetened beverage consumption on body weight in adolescents: A randomized, controlled pilot study. *Pediatrics.* 2006;117(3):673-680. doi: 10.1542/peds.2005-0983.

26. Schulze MB, Manson JE, Ludwig DS, et al. Sugar-sweetened beverages, weight gain, and incidence of type 2 diabetes in young and middle-aged women. *JAMA.* 2004;292(8):927-934. doi: 10.1001/jama.292.8.927.

27. Young LR, Nestle M. The contribution of expanding portion sizes to the US obesity epidemic. *Am J Public Health.* 2002;92(2):246-249.

28. Nielsen SJ, Popkin BM. Patterns and trends in food portion sizes, 1977-1998. *JAMA.* 2003;289(4):450-453.

29. Rolls BJ, Roe LS, Kral TV, Meengs JS, Wall DE. Increasing the portion size of a packaged snack increases energy intake in men and women. *Appetite.* 2004;42(1):63-69. doi: 10.1016/S0195-6663(03)00117-X.

30. Rolls BJ, Morris EL, Roe LS. Portion size of food affects energy intake in normal-weight and overweight men and women. *Am J Clin Nutr.* 2002;76(6):1207-1213.

31. Rolls BJ, Roe LS, Meengs JS, Wall DE. Increasing the portion size of a sandwich increases energy intake. *J Am Diet Assoc.* 2004;104(3):367-372. doi: 10.1016/j.jada.2003.12.013.

32. Wansink B, Park SB. At the movies: How external cues and perceived taste impact consumption volume. *Food Quality and Preference.* 2001;12(1):69-74. doi: 10.1016/S0950-3293(00)00031-8.

33. Wansink B. Can package size accelerate usage volume? *The Journal of Marketing.* 1996;60(3):1-14.

34. Ello-Martin J, Roe L, Meengs J, Wall D, Robinson T. Increasing the portion size of a unit food increases energy intake. *Appetite.* 2002;39:74.

35. Bowman SA, Gortmaker SL, Ebbeling CB, Pereira MA, Ludwig DS. Effects of fast-food consumption on energy intake and diet quality among children in a national household survey. *Pediatrics.* 2004;113(1 Pt 1):112-118.

36. Bowman SA, Vinyard BT. Fast food consumption of U.S. adults: Impact on energy and nutrient intakes and overweight status. *J Am Coll Nutr.* 2004;23(2):163-168.

37. Gillman MW, Rifas-Shiman SL, Frazier AL, et al. Family dinner and diet quality among older children and adolescents. *Arch Fam Med.* 2000;9(3):235-240.

38. McLaughlin C, Tarasuk V, Kreiger N. An examination of at-home food preparation activity among low-income, food-insecure women. *J Am Diet Assoc.* 2003;103(11):1506-1512. doi: 10.1016/S0002.

39. Neumark-Sztainer D, Hannan PJ, Story M, Croll J, Perry C. Family meal patterns: Associations with sociodemographic characteristics and improved dietary intake among adolescents. *J Am Diet Assoc.* 2003;103(3):317-322. doi: 10.1053/jada.2003.50048.

40. Kant AK, Graubard BI. Eating out in America, 1987-2000: Trends and nutritional correlates. *Prev Med.* 2004;38(2):243-249.

41. Boutelle KN, Birnbaum AS, Lytle LA, Murray DM, Story M. Associations between perceived family meal environment and parent intake of fruit, vegetables, and fat. *J Nutr Educ Behav.* 2003;35(1):24-29.

42. Zero-to-six-electronic-media-in-the-lives-of-infants-toddlers-and-preschoolers-PDF.pdf (application/pdf object) http://www.kff.org/entmedia/upload/zero-to-six-electronic-media-in-the-lives-of-infants-toddlers-and-preschoolers-PDF.pdf. Accessed June 5, 2012.

43. Bowman SA. Television-viewing characteristics of adults: Correlations to eating practices and overweight and health status. *Prev Chronic Dis.* 2006;3(2):A38.

44. Gable S, Chang Y, Krull JL. Television watching and frequency of family meals are predictive of overweight onset and persistence in a national sample of school-aged children. *J Am Diet Assoc.* 2007;107(1):53-61. doi: 10.1016/j.jada.2006.10.010.

45. French SA, Story M, Jeffery RW. Environmental influences on eating and physical activity. *Annu Rev Public Health.* 2001;22:309-335. doi: 10.1146/annurev.publhealth.22.1.309.

46. Harris JL, Bargh JA, Brownell KD. Priming effects of television food advertising on eating behavior. *Health Psychol.* 2009;28(4):404-413. doi: 10.1037/a0014399.

47. Breastfeeding, family physicians supporting (position paper)—AAFP policies—American Academy of Family Physicians http://www.aafp.org/online/en/home/policy/policies/b/breastfeedingpositionpaper.html. Accessed June 6, 2012.

48. Gartner LM, Morton J, Lawrence RA, et al. Breastfeeding and the use of human milk. *Pediatrics.* 2005;115(2):496-506. doi: 10.1542/peds.2004-2491.

49. ACOG—breastfeeding: Maternal and infant aspects http://www.acog.org/Resources_And_Publications/Committee_Opinions/Committee_on_Health_Care_for_Underserved_Women/Breastfeeding_Maternal_and_Infant_Aspects. Accessed June 5, 2012.

50. James DC, Lessen R, American Dietetic Association. Position of the american dietetic association: Promoting and supporting breastfeeding. *J Am Diet Assoc.* 2009;109(11):1926-1942.

51. WHO | evidence on the long-term effects of breastfeeding http://www.who.int/maternal_child_adolescent/documents/9241595230/en/. Accessed June 5, 2012.

52. Ip S, Chung M, Raman G, et al. Breastfeeding and maternal and infant health outcomes in developed countries. *Evid Rep Technol Assess* (Full Rep). 2007;(153)(153):1-186.

53. Kramer MS, Kakuma R. Optimal duration of exclusive breastfeeding. *Cochrane Database of Systematic Reviews.* 2009;1.

54. The Surgeon General's call to action to support breastfeeding. http://www.surgeongeneral.gov/library/calls/breastfeeding/. Accessed May 31, 2012.

55. BreastfeedingPromotionandSupportintheWICProgram.pdf (application/pdf object) http://www.paramountcommunication.com/nwica/BreastfeedingPromotionandSupportintheWICProgram.pdf. Accessed June 5, 2012.

56. Arenz S, Ruckerl R, Koletzko B, von Kries R. Breast-feeding and childhood obesity—a systematic review. *Int J Obes Relat Metab Disord.* 2004;28(10):1247-1256. doi: 10.1038/sj.ijo.0802758.

57. Owen CG, Martin RM, Whincup PH, Smith GD, Cook DG. Effect of infant feeding on the risk of obesity across the life course: A quantitative review of published evidence. *Pediatrics.* 2005;115(5):1367-1377. doi: 10.1542/peds.2004-1176.

58. Harder T, Bergmann R, Kallischnigg G, Plagemann A. Duration of breastfeeding and risk of overweight: A meta-analysis. *Am J Epidemiol.* 2005;162(5):397-403. doi: 10.1093/aje/kwi222.

59. Lucas A, Boyes S, Bloom SR, Aynsley-Green A. Metabolic and endocrine responses to a milk feed in six-day-old term infants: Differences between breast and cow's milk formula feeding. *Acta Paediatr Scand.* 1981;70(2):195-200.

60. Fisher JO, Birch LL, Smiciklas-Wright H, Picciano MF. Breast-feeding through the first year predicts maternal control in feeding and subsequent toddler energy intakes. *J Am Diet Assoc.* 2000;100(6):641-646. doi: 10.1016/S0002-8223(00)00190-5.

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Members of the writing team have no financial relationship with any entity discussed in this plan. The writing team served without remuneration or reimbursement for expenses incurred during the writing of the plan.

Process for the development of *North Carolina's Plan to Address Obesity: Healthy Weight and Healthy Communities, 2013-2020*

North Carolina's Plan to Address Obesity: Healthy Weight and Healthy Communities, 2013-2020 was created under the guidance of the 2011-2012 Eat Smart, Move More NC Executive Committee. The Executive Committee established a writing team and a planning team to oversee the development and review of the Plan. The six-member writing team was led by the Past Chair of the Executive Committee. The writing team was responsible for the overall writing and coordination of the Plan development. The planning team consisted of members of the writing team plus seven additional members from the Eat Smart, Move More North Carolina Leadership Team. The planning team guided the development of the Plan and provided feedback on early drafts of the Plan.

Development of the Plan began in September 2011 with an on-line survey. The purpose of the survey was to assess the strengths and weaknesses of *Eat Smart, Move More: North Carolina's Plan to Prevent Overweight, Obesity and Related Chronic Diseases 2007-2012*, collect suggestions for the new Plan, and allow for participants to recommend subject matter experts to serve as technical reviewers. The survey link was emailed to the Leadership Team distribution list. Recipients were encouraged to forward the survey to additional obesity prevention partners as appropriate. The survey yielded 124 responses.

The planning team reviewed the survey results and conceptualized North Carolina's Plan for 2013–2020, and the writing team developed the first draft. In March 2012, this draft was reviewed by 14 subject matter experts. These experts were asked to specifically examine the Plan through the lens of the science of physical activity, nutrition, and overweight prevention and treatment. These reviewers had been recommended in the on-line survey and were confirmed by the Executive Committee.

In June 2012, the Plan underwent statewide review. A draft of the Plan and link to an on-line survey to capture reviewers' comments were sent to the Leadership Team members, who were invited to share this information with interested partners. Over 60 people responded to the survey. In addition, two virtual Town Hall meetings were held via Webinar. These Town Hall meetings, with a collective attendance of nearly 70 participants, provided an overview of the development process for the Plan, an overview of the draft of the Plan, and an opportunity for participants to discuss how to implement the Plan in North Carolina. The writing team revised the Plan based on feedback collected during statewide review and then submitted it to the Eat Smart, Move More NC Executive Committee for final approval.

2013–2020

Suggested Citation

Eat Smart, Move More North Carolina Leadership Team. 2013. *North Carolina's Plan to Address Obesity: Healthy Weight and Healthy Communities 2013–2020*. Eat Smart, Move More NC, Raleigh, NC. Available at: www.eatsmartmovemorenc.com.

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