Executive Summary

Obesity has become a leading health issue over recent decades. Obesity complicates existing health problems, creates increased risks for disease and other health conditions, and can substantially reduce length and quality of life. The adverse outcomes of obesity can occur throughout a person's lifetime—from childhood to adulthood. Despite this, there is often little focus on obesity among very young children, ages 0-5 years. Focusing on early childhood obesity prevention can help promote child health and can reduce risk factors that contribute to chronic illnesses among adults. Young children who are obese are more likely to become obese adults. Therefore, reaching this population is not only an opportunity for obesity prevention, but also an opportunity to prevent obesity-associated health problems from occurring in the adult population.

Roughly 3 out of 10 (28.5%) low-income young children ages 2-4 are either overweight or obese in North Carolina.

Obesity often starts in very young children. One in every 10 preschool-aged children in the United States was considered obese in 2010.[1] The North Carolina Pediatric Nutrition Surveillance System, which collects data on low-income children ages 0-5 years, shows that the obesity epidemic affects even the youngest individuals in the state. Roughly 3 out of every 10 (28.5%) young children ages 2-4 years are either overweight or obese in North Carolina. Over the past 30 years, the obesity rate has more than doubled among young children ages 2-4 years in North Carolina, increasing from 6.9% in 1981 to 15.4% in 2011. The percentage of overweight children in this age group also increased during this time from 11.7% in 1981 to 16.2% in 2011.[2]

The potential health impacts caused by being overweight or obese are extensive and can negatively affect nearly all major organ systems. People who are overweight or obese are more likely to develop type 2 diabetes, high blood pressure, heart disease, certain cancers, and stroke.[3] The majority of studies about the adverse health impacts of obesity among children are from studies with older children; however, there are some studies that show the health impacts of obesity in children ages 0-5 years.[4,5] Furthermore, children ages 0-5 years who are overweight or obese are at an increased risk of being overweight later in childhood, and therefore at a greater risk for developing health problems later in childhood.[6-9] Obese children are at increased risk for elevated cholesterol, insulin, and blood pressure; sleep apnea; bone and joint problems; and social and psychological problems.[10,11] Furthermore, children who are obese by age 6 years or overweight by age 12 years have greater than a 50% likelihood of becoming obese adults.[12]

Obesity is a multifactorial health outcome influenced by factors such as lifestyle, family history, community and environment, and genetics. As such, there is no one way to prevent obesity. However, there are many interventions that have been proven effective. Increasing physical activity, improving nutrition practices, reducing screen time, and improving sleep duration are ways to reduce

a young child's risk for obesity. While these are simple interventions in and of themselves, individuals' actual practice of these behaviors is often stymied by environments and communities that are not conducive to healthy behaviors. Other barriers to healthy weight in children ages 0-5 years include, but are not limited to, inadequate screening and treatment for unhealthy weight in the clinical setting, and a lack of education, knowledge, and skill surrounding issues of physical activity and nutrition among caretakers and role models for young children. Finally, the dearth of data for this age group hinders the ability to measure the full extent of the problem of obesity, as well as its risk factors, and, consequently, the ability to measure progress in reducing obesity or lack thereof.

The ECOP Task Force examined the recommendations from other expert groups in order to develop a blueprint for action in North Carolina.

At the request of the Blue Cross and Blue Shield of North Carolina Foundation (BCBSNC Foundation), the North Carolina Institute of Medicine (NCIOM) convened a task force to develop a blueprint to promote healthy weight and to prevent and reduce early childhood obesity. The NCIOM Task Force on Early Childhood Obesity Prevention (ECOP) was a collaborative effort between the BCBSNC Foundation, the North Carolina Partnership for Children (NCPC), and the NCIOM.

The ECOP Task Force was charged with examining recommendations of evidence-based and evidence-informed strategies from prior North Carolina and national task forces that focused on reducing childhood obesity, and developing a blueprint to prevent or reduce early childhood obesity in North Carolina. (Evidence-based strategies are those strategies with the strongest evidence, while evidence-informed are those strategies that are at the emerging or practice level.) To do this, the ECOP Task Force examined the evidence-based or evidence-informed recommendations from other expert groups in order to develop a blueprint for action in North Carolina. In essence, the blueprint for action includes the strategies needed to implement these recommendations. It includes the lead organizations and partners needed to implement the strategies, necessary funding and resources, and performance measures for evaluation. The blueprint is intended to serve as a common guide to focus the work of child care professionals, health professionals, public health professionals, state and local policymakers, nonprofits, and funders at the state, local, and, when appropriate, national level, who are interested in promoting healthy weight among young children in North Carolina.

The Task Force was co-chaired by Kathy Higgins, president, Blue Cross and Blue Shield of North Carolina Foundation, and Olson Huff, MD, former chair, North Carolina Partnership for Children, Inc, and chair, North Carolina Early Childhood Foundation. They were joined by more than 70 other ECOP Task Force members including representatives of state and local policy makers, health professionals, public health professionals, child care providers, nutrition experts, faith community representatives, nonprofit community organizations,

and philanthropic organizations. The ECOP Task Force met 14 times between September 2011 and May 2013 and developed a total of 15 strategies in the clinical, community/environment, and policy areas. These strategies are summarized below.

Clinical Strategies

The clinical setting provides a valuable opportunity for health professionals to assess the weight status of young children, refer patients for additional treatment when appropriate, and provide important information to caregivers about healthy weight, nutrition, physical activity, and community resources. The continuing education of practicing health professionals, as well as the academic preparation of aspiring health professionals, is necessary to ensure they have the knowledge, skills, and self-efficacy to perform these tasks.

Clinical Strategy 1: Increase and enhance the education of health professionals while in training (pre-service) or in residency programs

North Carolina and national funders should fund an inter-educational council to develop a systematic and ongoing plan focused on increasing the education and skills of health professional students and post-graduate trainees in North Carolina around obesity prevention and treatment. The council should include representation from the North Carolina Area Health Education Centers Program (AHEC); public and private schools of nursing, medicine, pharmacy, nutrition, public health, behavioral health, and allied health; and clinicians from across North Carolina. The council should review existing educational curricula and identify gaps or opportunities to strengthen health professional education and clinical training opportunities around early childhood obesity. In addition, health professionals should receive information to share with parents and caregivers about healthy weight at different life stages, as well as obesity prevention strategies.

Clinical Strategy 2: Expand education for practicing health professionals, which could be met through enhanced continuing education opportunities

North Carolina and national funders should provide funding to the Area Health Education Centers (AHEC) program and to CCNC to strengthen and expand the work of the quality improvement consultants to work with pediatric, family medicine, and obstetric practices to incorporate obesity prevention and treatment into clinical practice and systems (e.g. BMI coding and pediatric obesity prevention, assessments, and treatment). AHEC and CCNC should continue to develop a module for Maintenance of Certification (MOC) on early childhood obesity assessment, prevention, and treatment.

Education should occur through learning collaboratives and through work with individual practices. The core curriculum of this educational program should be developed into a high-quality online continuing education (CE) course, which can be used by health professionals through one of the AHECs. To the extent possible, AHEC and CCNC should help practices gain continuing education and MOC credits. In addition, CCNC should ensure that prompts for regular BMI screening are built into the pediatric electronic health records (EHR) and BMI or weight for length percentiles are built into the EHR.

The ACA requires coverage for services related to the prevention or treatment of early childhood obesity, including assessment of weight for height, assessment of BMI percentile, and obesity counseling.[13] However, it does not mandate how insurers pay for these services. Many insurers may be covering this as part of the well-child check-up, and may not be providing additional reimbursement to encourage health professionals to spend the time necessary for obesity counseling.

Clinical Strategy 3: Ensure adherence of insurers/ payers to the Affordable Care Act requirements for coverage of the prevention, diagnosis, and treatment of obesity (and as outlined in the American Academy of Pediatrics' Bright Futures guidelines).

All payers should review their coverage policies, including payment models and benefit design, to ensure that pediatric obesity prevention and treatment can be delivered by the most appropriate and qualified professionals in pediatric, family, ob/gyn, and specialty practices. Insurers should evaluate benefit design and work with employers and others to encourage members to take advantage of healthy lifestyle programs and covered benefits.

Health providers often need to refer patients and their families to supportive and complementary resources. However many do not have ready access to up-to-date, relevant state and local resources.

Clinical Strategy 4: Convene a group to identify and catalog core statewide and local services, resources, and supports for health professionals to refer families and children for additional support or intervention to enhance clinical recommendations

The Local health departments should collaborate with the appropriate partners to identify core services, resources, and supports available statewide. In addition, the North Carolina Association of State Health Directors, in collaboration with North Carolina Partnership for Children, North Carolina Child Care Resource and Referral Council, Community Care of North Carolina, and Eat Smart, Move More North Carolina should work together to create a template to identify the various local services, resources, and supports that are available at the county level to prevent or reduce early childhood obesity. Together, these groups should develop a method that enables health professionals to connect families and children with the identified services, resources, and supports.

Community and Environment Strategies

In North Carolina, there are a few community and environment obesity prevention initiatives that specifically focus on promoting healthy weight among young children ages 0-5 years. Thus, the ECOP Task Force developed three strategies that would reach many young children in the state. Three of the five priority Community/Environment strategies focus on child care programs since most children ages 0-5 years spend part of their early childhood in child care programs. In fact, at any point in time, one in four children in this age group are in a licensed, regulated child care program (see Table 4.1, Chapter 4). Throughout the year, many more children spend time in child care programs, as many families enroll and disenroll.

There has already been considerable effort to implement evidence-based and evidence-informed physical activity and nutrition strategies in child care programs through existing programs such as Shape NC, Nutrition and Physical Activity Self Assessment in Child Care (NAP SACC), Preventing Obesity by Design (POD), and Be Active Kids®. The ECOP Task Force members believed it was both important and practical to support the progress made in improving health and wellness in pilot child care centers, and to then spread the innovations to other child care programs across the state. The ECOP Community/Environment strategies are summarized below.

Community/Environment Strategy 1: Expand the Use of evidence-based and evidence-informed strategies for physical activity and nutrition in pilot child care centers

The Blue Cross and Blue Shield of North Carolina Foundation, along with other funders and state agencies with shared missions and goals, should develop incentives to incorporate evidence-based and evidence-informed obesity prevention strategies into programs and policies in child care centers located in counties with high obesity rates among children. As part of this initiative, child care teachers and directors should be educated and coached about obesity trends and prevention strategies.

Just as there is a need to enhance training for health professionals about strategies to promote healthy weight and ways to reduce early childhood overweight and obesity, there is a similar need to do this for child care professionals, child care consultants, and other support personnel.

Community/Environment Strategy 2: Provide pre-service and In-Service education for child care providers on evidence-based and evidence-informed strategies for physical activity and nutrition

The North Carolina Center for Health and Wellness (NCCHW), in partnership with Eat Smart, Move More North Carolina, should survey administrators in North Carolina's public and private two- and four-year colleges and universities that offer child care and early education degree programs about the existing curricula used to teach upcoming child care and early education professionals about early childhood health and obesity prevention strategies. After the survey, NCCHW should host a summit for North Carolina child care and early education professionals to identify strategies to enhance the curricula. The North Carolina Institute for Child Development Professionals, in collaboration with NCCHW, the North Carolina Child Care Health and Safety Resource Center, and the North Carolina Child Care Resource and Referral Council, North Carolina Pediatric Society, and two- and four-year college and university representatives, should lead the development of education modules and materials that can be pilot-tested and incorporated into existing curricula. These education modules and materials should also be used for continuing education credits offered through the North Carolina Child Care Resource and Referral Council, Smart Start partnerships, child care health consultants' networks, and the North Carolina Child Care Health and Safety Resource Center to certified early educators.

Community/Environment Strategy 3: Cross train all child care consultants and other support personnel on evidence-based and evidence-informed strategies for physical activity and nutrition

All child care consultants and other support personnel who provide training and technical assistance to child care and early education programs should be cross trained in evidence-based and evidence-informed strategies to support early educators in promoting healthy weight among young children. Using the education materials developed in Community/Environment Strategy 2 as a starting point, the North Carolina Child Care Health and Safety Resource Center should take the lead in developing the cross training curricula and promoting it among the different child care consultants including, but not limited to, child care health consultants, Shape NC consultants, Smart Start quality enhancement specialists, Child Care Resource and Referral technical assistance specialists, Head Start consultants, Child and Adult Care Food Program consultants, infant/toddler specialists, and the staff in the North Carolina Division of Child Development and Early Education who provide training and technical assistance to licensed child care programs. In addition, the modules and materials should be deliverable through multiple mediums, and organizations that employ consultants and other support personnel should require this cross training as part of their professional training requirements.

Not all children ages 0-5 years can be reached through child care or early education settings. Thus, the ECOP Task Force developed other strategies to reach young children and their families.

Community/Environment Strategy 4: Increase the focus of Eat Smart, Move More North Carolina on young children and their families

Eat Smart, Move More North Carolina should increase the focus of its community engagement efforts to implement evidence-based and evidence-informed strategies to promote healthy weight among young children and their families. To do this, it should survey member organizations to collect information on existing early childhood initiatives and programs; work with other appropriate organizations to identify and create an inventory of evidence-based and evidence-informed tools, policies, programs, and practices to improve healthy nutrition and physical activity for young children; educate member organizations about the importance of intervening to improve nutrition and physical activity among young children ages 0-5 years and

their families; and promote the availability of evidence-based and evidence-informed tools, policies, programs, and practices across the state.

Community/Environment Strategy 5: Form an ECOP Communications Committee to develop a communications campaign to support policy and behavior change to reduce early childhood obesity

The North Carolina Institute of Medicine should convene an ECOP Communications Committee comprising North Carolina funders; academicians with expertise in obesity; communications professionals; the North Carolina Division of Public Health; Eat Smart, Move More North Carolina; representatives from North Carolina colleges and universities with expertise in communications, obesity, and/or young children; and other appropriate groups such as grocery stores, hospitals, and others to develop a carefully crafted communications campaign to promote healthy weight in very young children. This group should specifically examine opportunities for communications activities that would best support the ECOP Task Force's blueprint.

Policy Strategies

This section of the ECOP Task Force's blueprint focuses primarily on voluntary efforts that the state can take to improve early childhood nutrition, expand physical activity, enhance the outdoor learning environment, and support breastfeeding. These "voluntary" efforts are not typically considered "policies," as policies are generally a regulatory or legislative action that mandates—rather than encourages—actions. However, because these efforts build on an existing regulatory or publicly funded programmatic structure, the ECOP Task Force included these strategies in the policy section. In addition, the ECOP Task Force included strategies aimed at changing Medicaid payment policies, which are considered policy changes in the more traditional use of the term "public policy."

Policy Strategy 1: Create a voluntary recognition program for child care programs and early education programs that meet enhanced physical activity and nutrition standards

The North Carolina Division of Child Development and Early Education (DCDEE), the Child and Adult Care Food Program, the North Carolina

Partnership for Children, the Carolina Global Breastfeeding Initiative, Child Care Resource and Referral Network, and the North Carolina Child Care Health and Safety Resource Center should develop a voluntary recognition program for licensed child care programs, family care homes, Head Start, North Carolina Pre-K, and other child care and early education settings that meet enhanced nutrition, including breastfeeding, physical activity, and naturalized outdoor learning environment standards for infants and young children. These groups should seek public input into the voluntary recognition standards before implementing the program. In addition, DCDEE should seek additional funding to provide financial incentives to child care programs that meet the voluntary standards for enhanced health and wellness recognition.

Policy Strategy 2: Enhance family education about early childhood healthy weight and obesity prevention strategies through existing maternal, infant, and early childhood home visiting and family strengthening programs

The Children and Youth Branch in the North Carolina Division of Public Health (DPH) should train the Nurse Family Partnership (NFP) and Healthy Families America (HFA) parent educators it funds about early childhood physical activity, nutrition, healthy weight, and obesity prevention. This training should include appropriate parent education on healthy weight, breastfeeding, nutrition, physical activity, and sleep into existing home visiting or family strengthening programs. NCPC should collaborate with DPH to ensure Parents as Teachers (PAT) parent educators receive similar training. DPH should examine possibilities to track this information in the home visiting data systems for the programs funded through the DPH.

The concept of healthy community design is based on the tenet that both the physical built environment and the food environment are important ways to respond to the obesity epidemic and related chronic diseases. Increasing access to healthy foods and places to be active is an integral part of a larger strategic plan to help individuals maintain healthy weight and reduce chronic diseases. All North Carolina agencies that make decisions affecting the built environment and food environment should consider the impact their decisions have on the health and well-being of North Carolinians. Ensuring equitable access to opportunities for physical activity, as well as to healthy and affordable food, should also be part of the planning process.

Policy Strategy 3: Expand the focus of state agencies to include early childhood health, physical activity, and nutrition through healthy community design

State agencies should adopt and promote policies and practices that focus on healthy community design to create opportunities for physical activity and access to healthy, affordable foods for families with young children ages 0-5 years, targeting at-risk communities. The 2013 North Carolina Statewide Pedestrian and Bicycle Plan should be used as a standard reference for designing communities with pedestrian mobility in mind. In addition, the American Planning Association's Policy Guide on Community and Regional Food Planning should be used as a standard reference for designing communities with healthy and affordable food access in mind.

Having data to create an understanding of the current health status and behaviors of very young children and their environments is necessary in order to know how best to target interventions and to measure collective success in preventing obesity within this age group.

Policy Strategy 4: Improve the collection and reporting of physical activity and nutrition data in multiple settings to more fully promote healthy weight among young children

The North Carolina Partnership for Children (NCPC), North Carolina Division of Child Development and Early Education, and the Child and Adult Care Food Program within the North Carolina Division of Public Health should collect data on the extent to which child care programs are implementing best practices related to nutrition and physical activity. This information should be shared with NCPC. In addition, the North Carolina State Center for Health Statistics should aggregate data across multiple years on young children, ages 0-5 years, to obtain reliable data on physical activity, nutrition, and other data that would provide information about activities that influence healthy weight.

Policy Strategy 5: Improve the collection of body mass index (BMI) data for young children and make the information available to policymakers, health professionals, and the public to evaluate existing programmatic and policy initiatives and to inform future ones

Community Care of North Carolina should continue to encourage primary care professionals to measure weight and height (to calculate BMI percentile) for all Medicaid recipients at least once annually. In addition, the North Carolina Division of Public Health should explore the possibility of capturing BMI data from electronic health records, and the Kindergarten Entry Assessment (KEA) should capture BMI data for each child entering kindergarten.

Children who have been breastfed are less likely to develop acute disease in childhood or chronic illness such diabetes or heart disease later in life.[14] In addition, breastfeeding may offer modest protection against obesity. Despite the known benefits of breastfeeding exclusively for the first six months of life and continued breastfeeding for the first year of life, mothers' decisions to breastfeed and continue breastfeeding can be influenced by the presence or lack of social support offered by hospital maternity practices, health care professionals, child care settings, and employers.[14]

Policy Strategy 6: Promote breastfeeding for all North Carolina infants

The North Carolina Division of Medical Assistance, in conjunction with Community Care of North Carolina, should promote Baby-Friendly Hospitals; promote breastfeeding as part of the Pregnancy Medical Home program; encourage pediatricians, family physicians, and other health care professionals to work with parents to promote breastfeeding and to provide referrals to lactation consultants, as needed; provide reimbursement to lactation consultants that have IBLCE certification; and pay to rent or purchase breastfeeding equipment.

Conclusion

Because of the multifactorial nature of obesity, there are many potential strategies and opportunities to reduce and prevent it. Multifaceted interventions that use a socioecological model of health interventions to target interventions at the interpersonal, clinical, community, environment, and policy levels have a far greater likelihood of improving population health than any single intervention.[15]

Progress in early childhood obesity prevention cannot be accomplished through one method, one policy, one funder, or any one type of intervention—and it can certainly not be done alone. The ECOP Task Force's blueprint builds on resources and partners already dedicated to improving child health, and it depends heavily on those settings where very young children can best be reached. Furthermore, the blueprint is an invitation to any stakeholder not currently investing resources in early childhood obesity prevention to do so. The early childhood obesity prevention blueprint is an inclusive one; there is a role for everyone to play.

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