



Issue Brief

Promoting Healthy Weight for Young Children A Blueprint for Preventing Early Childhood Obesity in North Carolina

September 2013

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.

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 0-4 years, shows that the obesity epidemic affects even the youngest individuals in the state. Roughly 3 out of every 10 (28.5%) low-income 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

Evidence shows that being overweight or obese in very early childhood is associated with an individual's future body weight. According to a longitudinal study of approximately 1,000 children, children who were overweight at ages 24,

36, or 54 months were 5 times more likely to be overweight at age 12 years than those children who were not overweight at those ages.³ Further, a study of about 800 individuals found that obese children over the age of 6 have more than a 50% probability of becoming obese adults compared to a 10% probability for non-obese children.⁴

The potential health impacts caused by being overweight or obese are extensive. Excess weight can negatively affect most organ systems including the circulatory, cardiovascular, skeletal, respiratory, reproductive, and digestive systems. People who are overweight or obese are more likely to develop type 2 diabetes, high blood pressure, heart disease, certain cancers, and stroke.⁵ Other complications stemming from being overweight or obese include high cholesterol, sleep apnea, osteoarthritis, liver and gall bladder disease, and gynecological problems.⁶

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.^{7,8} While some of these adverse health consequences can take years to develop (such as cancer), others are evident in the shorter-term (such as type 2 diabetes), cardiovascular disease risk factors (such as elevated cholesterol, insulin, or blood pressure),⁹ sleep apnea, bone and joint problems, and social and psychological problems.¹⁰ 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. 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.

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

North Carolina Institute of Medicine

In collaboration with the Blue Cross Blue Shield of North Carolina Foundation and the North Carolina Partnership for Children

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. 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 state and local policymakers, 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.

Focusing on early childhood obesity prevention can help promote child health and can reduce risk factors that contribute to chronic illnesses among adults.

Clinical Strategies

Studies have shown that health professionals play an important role in promoting healthy behaviors. Health professionals should assess the weight status of young children; provide valuable information to parents and other caregivers about healthy weight, nutrition, physical activity, and community resources; and refer patients for additional treatment when appropriate. The academic preparation of health professionals is important in ensuring they have the knowledge, skills, and self-efficacy to perform these tasks. Thus, the ECOP Task Force developed a strategy to **increase and enhance the education of health professionals while in training (pre-service) or in residency programs.** In

addition, to ensure that new health professionals are adequately trained in this area, a strategy was developed to **expand education for practicing health professionals, which could be met through enhanced continuing education opportunities.**

The Affordable Care Act requires coverage for services related to the prevention or treatment of early childhood obesity and includes assessment of weight for height and BMI percentile and obesity counseling.¹¹ 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. Thus, a strategy of the ECOP Task Force is to **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), and to ensure payment for these services.**

One of the barriers identified during ECOP Task Force meetings was the lack of community referral resources for health professionals to use with their patients and families. Therefore the ECOP Task Force developed a strategy that local health departments work with appropriate partners to **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.**

Community and Environment Strategies

In North Carolina, there are a few community and environment obesity prevention initiatives that focus on promoting healthy weight among very young children ages 0-5 years. The ECOP Task Force built on existing efforts and identified other strategies to reach these young children. 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 licensed, regulated child care programs. 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 like 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. To build on the existing efforts, the ECOP Task Force developed a strategy to **expand the use of evidence-based and evidence-informed strategies for physical activity and nutrition in pilot child care centers.**

Just as there is a need to enhance training for health professionals about strategies to promote healthy weight and reduce early childhood overweight and obesity, there is also a need to provide enhanced training for child care professionals. Therefore, a strategy was developed to **provide pre-service and in-service education for child care providers on evidence-based and evidence-informed strategies for physical activity and nutrition.** In-service training is also important for the consultants or technical assistance staff who are in frequent contact with the staff in child care programs. If trained, these consultants can provide child care professionals with consistent health information about childhood overweight and obesity and can help provide technical assistance about appropriate prevention strategies. Therefore, a strategy was developed to **cross-train all child care consultants and other support personnel on evidence-based and evidence-informed strategies for physical activity and nutrition.**

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. The first is to **increase Eat Smart, Move More North Carolina's focus on young children and their families.** Eat Smart, Move More North Carolina is a coalition of more than 80 organizations working to promote opportunities for healthy eating and physical activity in the community in order to help people achieve a healthy weight.¹² The second is to **form an ECOP Communications Committee to develop a communications campaign to support policy and behavior change to reduce early childhood obesity.**

Policy Strategies

The ECOP Task Force's policy strategies focus 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. In addition, the ECOP Task Force included strategies aimed at changing Medicaid payment policies.

The ECOP Task Force recommended the **creation of a voluntary recognition program for child care programs and early education programs that meet enhanced physical activity and nutrition standards.** These standards may include new nutrition standards for licensed child care facilities, a requirement for increased time in active play, and/or more limited screen time. This recognition system would be voluntary, not mandatory, (more like a "Good Housekeeping Seal of Approval") and could help lead to system change over time.

Home visiting programs like the Nurse Family Partnership and Healthy Families America rely on trained professionals

who work directly with at-risk families, and thus have an opportunity to provide valuable information on healthy weight and obesity directly to the families. Interventions that include parental involvement and the home setting are more likely to result in better weight outcomes than programs provided only in the school environment or other non-home settings.¹³ Therefore, the ECOP Task Force recommended **enhancing 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 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 younger 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. Therefore, the ECOP Task Force included a strategy to **expand the focus of state agencies to include early childhood health, physical activity, and nutrition through healthy community design.**

Having data to create an understanding of the current health status and behaviors of very young children and their environments is necessary to know how best to target interventions and to measure collective success in preventing obesity within this age group. Currently there is no source of information on the BMI of all young children in the state—only for low-income children. North Carolina needs consistent, reliable data on the BMI of a cross-section of all young children to be able to assess whether interventions are helping improve healthy weight among young children. Two strategies in the blueprint address the issue of gathering useful, reliable data. The first strategy is to **improve the collection and reporting of physical activity and nutrition data in multiple settings to more fully promote healthy weight among young children.** The second is to **improve the collection of 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.**

The last policy strategy of the ECOP Task Force is to **promote breastfeeding for more North Carolina infants through Medicaid.** Children who have been breastfed are less likely to develop acute disease in childhood or chronic illness such as diabetes and heart disease later in life.¹⁴ In addition, breastfeeding may offer modest protection against

obesity. Although private insurers are required to provide coverage of lactation support and counseling, and help pay for breastfeeding equipment, this same mandate does not apply to Medicaid. Current data suggests that Medicaid-eligible women are less likely to breastfeed than are women with other insurance coverage.

Conclusion

A young child's weight is influenced by his or her family, the community or environment in which he or she lives, public policies, and clinical interventions. Because the underlying factors that contribute to early childhood overweight or obesity are multifaceted, the interventions must be similarly targeted to those different levels of influence. Multifaceted

interventions 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. This blueprint is an invitation to any stakeholder interested in the health and well-being of young children to work collectively to address this critical problem. There is a role for everyone to play in ensuring a healthy start for our youngest children.

References

1. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion. Overweight and Obesity. <http://www.cdc.gov/obesity/index.html>. Published December 21, 2012. Accessed April 5, 2013.
2. Centers for Disease Control and Prevention. Nutrition Services Branch, Women's and Children's Health, NC Division of Public Health, NC Department of Health and Human Services. 2011 Pediatric Nutrition Surveillance: North Carolina Summary of Demographic Indicators Children Aged < 5 Years. <http://www.nutritionnc.com/pdf/PregPed/PNSS/PedNSS2011StateTables.pdf>. Published March 13, 2012. Accessed April 5, 2013.
3. Nader PR, O'Brien M, Houts R, et al. Identifying risk for obesity in early childhood. *Pediatrics*. 2006;118(3):e594-601.
4. Whitaker RC, Wright JA, Pepe MS, Seidel KD, Dietz WH. Predicting obesity in young adulthood from childhood and parental obesity. *N Engl J Med*. 1997;337(13):869-873.
5. Division of Nutrition, Physical Activity and Obesity, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. Overweight and Obesity: Causes and Consequences. <http://www.cdc.gov/obesity/adult/causes/index.html>. Published April 27, 2012. Accessed April 5, 2013.
6. Division of Nutrition, Physical Activity, and Obesity, National Center for Chronic Disease Prevention and Health Promotion, Centers for Disease Control and Prevention. About BMI for Adults. http://www.cdc.gov/healthyweight/assessing/bmi/adult_bmi/index.html. Published September 13, 2011. Accessed April 5, 2013.
7. Skinner AC, Steiner MJ, Perrin EM. Healthy for now? A cross-sectional study of the co-morbidities in obese preschool children in the united states. *Clin Pediatr*. 2010;49(7):648.
8. Skinner AC, Steiner MJ, Henderson FW, Perrin EM. Multiple markers of inflammation and weight status: Cross-sectional analyses throughout childhood. *Pediatrics*. 2010;125(4):1.
9. Freedman DS, Mei Z, Srinivasan SR, Berenson GS, Dietz WH. Cardiovascular risk factors and excess adiposity among overweight children and adolescents: The bogalusa heart study. *J Pediatr*. 2007;150(1):12-17.e2.
10. Centers for Disease Control and Prevention. Childhood Obesity Facts. <http://www.cdc.gov/healthyyouth/obesity/facts.htm>. Published February 19, 2013. Accessed April 5, 2013.
11. HealthCare.gov Website. 27 Covered Preventive Services for Children. US Department of Health & Human Services website. <http://www.healthcare.gov/news/factsheets/2010/07/preventive-services-list.html#CoveredPreventiveServicesforChildren>. Published September 23, 2010. Published September 27, 2012. Accessed April 5, 2013.
12. Eat Smart, Move More NC. Leadership Team. <http://www.eatsmartmove.morenc.com/ESMMLeadership/ESMMLeadership.html>. Published April 15, 2013.
13. Casazza K, Fontaine KR, Astrup A, et al. Myths, presumptions, and facts about obesity. *N Engl J Med*. 2013;368(5):446-454.
14. Mims SR, Lisenbee JH. Maternal care practices and breastfeeding in north carolina: Becoming baby-friendly. *N C Med J*. 2013;74(1):44-47.
15. Bernstein R. *Praxis and Action*. Ed. Anonymous Philadelphia: University of Pennsylvania Press; 1971.

Acknowledgements: The work of the Task Force would not have been possible without the hard work of the dedicated people who volunteered their time to serve on the Task Force and Steering Committee.

Task Force members: Kathy Higgins (co-chair); Olson Huff, MD(co-chair); **Clinical Group** - Mark E Archambault, DHSc, PA-C; Randall Best, MD, JD; Don W. Bradley, MD, MHS-CL; Anthony Emekalam, PharmD; Miriam Labbok, MD, MPH, FACPM, IBCLC, FABM; John T Newton, MD; Lisa H Oxedine, MAEd, PAC, DFAAPA; M. Alec Parker, DMD; Melissa Roupe, RN, MSN; Robert P Schwartz, MD; Elizabeth Cuervo Tilson, MD, MPH; Helene Zehnder, MSN, RN; **Community & Environment Group** - Alice Ammerman, DrPH, RD; Abena Asante, MHA; Nell Barnes, EdD; Tamara Barnes; Lindsey Bennett; Ron Bradford; Kevin Cain; Nancy Creamer, PhD; Alice Dean; Carolyn Dunn, PhD; Moses Goldmon, EdD; Julie Hunkins, PE; Emily Jackson; Kara D Jones; Terry Kinney, PhD, LRT/CTRS; Sarah Langer, MPH; Vickie Lipscomb; Mary Etta Moorachian, PhD, RD, LD, CCP, CFCS; Robin Moore, DiplArch, MCP, ASLA; Jim Morrison; Seth M Noar, PhD; Richard Rairigh; Richard Reich, PhD; James Rhodes, AICP; Bob Richardson; Susan Riordan; Alphonse Rodriguez; Meka Sales, MS, CHES; Irene Silva-Edwards; Florence Siman; Michelle Wells, MPA, CPRP; Henrietta Zalkind; **Core Group** - Deborah Cassidy; Diana Dolinsky, MD, MPH; Jeffrey Engel, MD; Stephanie Fanjul; David Gardner, MA, DA; Greg Griggs, MPA, CAE; Gibbie Harris, MPH, BSN, RN; Denise L Hewson, RN, BSN, MSPH; Brenda Jones, RN, BC; Jonathan Kotch, MD, MPH, FAAP; Alice Lenihan, RD, MPH; Jenni Owen, MPA; Eliana M. Perrin, MD, MPH; Steven E. Shore, MSW; Janet Singerman; Willona Stallings, MPH; Barbara Thompson; Edgar G. Villanueva, MHA, FACHE; Dianne S Ward, MS, EdD; **Public Policy Group** - Monique Bethell, PhD; Veronica Bryant, Joseph N. Dollar; Beth Lovette, MPH, RN; Chuck McGrady; Louis Pate; Gladys Robinson; Andrea C. Phillips, JD, MPA

Steering Committee members: Stephanie Fanjul; Jennifer MacDougall, MS; Pat Hansen, RN, MPH

A copy of the full report, including the complete recommendations, is available on the North Carolina Institute of Medicine website, <http://www.nciom.org>. North Carolina Institute of Medicine. In collaboration with the Blue Cross Blue Shield of North Carolina Foundation and the North Carolina Partnership for Children. Funded by Blue Cross Blue Shield of North Carolina Foundation



North Carolina Institute of Medicine
shaping policy for a healthier state

630 Davis Drive, Suite 100 • Morrisville, NC 27560 • 919.401.6599 • www.nciom.org • www.ncmedicaljournal.com