Signs of Progress in Childhood Obesity Declines

Site Summary Report
Granville County, NC
2015

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Members of the NCCOR advisory team include: Tina Kauh, RWJF; Carrie Dooyema, CDC Division of Nutrition, Physical Activity and Obesity (DNPAO); Deborah Young-Hyman, NIH Office of Behavioral and Social Sciences Research (OBSSR); Jan Jernigan, CDC DNPAO; Laura Kettel-Khan, CDC DNPAO; Melissa Abelev, USDA Food and Nutrition Services (FNS); Rachel Ballard, NIH National Cancer Institute; Sonia Arteaga, NIH National Heart, Lung, and Blood Institute (NHLBI); Toija Riggins, USDA FNS; Veronica Uzoebo, USDA FNS; and William Dietz, Redstone Global Center, Milken Institute School of Public Health, The George Washington University.

Members of the ICF Macro project team include: Nicola Dawkins-Lyn, Phyllis Ottley, Carole Harris, Joe Fruh, Kate Reddy, Michael Greenberg, Stacey Willocks, and Stephanie Frost.

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EXECUTIVE SUMMARY

BACKGROUND OF CHILDHOOD OBESITY DECLINES PROJECT

This project seeks to document current and past initiatives implemented in a sample of sites reporting childhood obesity declines and to identify the contextual factors that may have facilitated or hindered the initiatives, particularly those that might help understanding of disparities. The work is a collaborative effort guided by members of the National Collaborative on Childhood Obesity Research (NCCOR),[1] funded by the Robert Wood Johnson Foundation (RWJF), and implemented by ICF Macro (an ICF International company). After a careful review of study data and confirmation of the statistical significance of the decline, Granville County was selected as one of four sites for the case study. ICF Macro team members applied the following methods:

- A review of published studies, grey literature, and site obesity data, using established inclusion and exclusion criteria to select sites for case studies
- A review of documents describing relevant strategies and initiatives implemented in each selected site prior to and during the period of reported declines
- An inventory of strategies, applied as a survey, for knowledgeable respondents within the selected sites to identify which strategies occurred during the period of interest
- A policy and contextual scan to identify relevant policies implemented in each site
- A site visit to each of the selected cities with interviews of respondents across multiple settings who described the development and implementation of relevant strategies

Taken together, the information from each site (and the synthesis of information across sites) should provide initial insights about strategies that may contribute to declines, as well as information about the ways in which those strategies were implemented effectively.

OBESITY DECLINES IDENTIFIED IN GRANVILLE, NC

The ICF team reviewed reports noting a statistically significant decline in rates of childhood overweight and obesity in Granville County. The primary publication source[2] reported a relative decline in the prevalence of overweight and obesity in children 2–4 years of age between 2006 and 2010. Data were collected from WIC clinics, public health-sponsored child health clinics, and some school-based health centers. ICF performed significance testing on general overweight and obesity prevalence data and found a significant absolute decline of 6.3% ($p = 0.016$) between 2005 (36.0%) and 2010 (29.7%).

POLICY LANDSCAPE

The policy review identified 23 State policies related to nutrition, physical activity, and the built environment enacted in North Carolina between 2003 and 2010. Of the 23 policies, 10 were related to nutrition, 5 were related to physical activity, 3 addressed nutrition and physical activity, 2 addressed physical activity and the built environment, and 3 policies addressed nutrition, physical activity, and

[1] The four organizations represented in NCCOR are the Robert Wood Johnson Foundation (RWJF); the Centers for Disease Control and Prevention (CDC); the National Institutes of Health (NIH); and the United States Department of Agriculture (USDA).
[2] Granville-Vance District Health Department. (2012). *Granville & Vance 2012 State of the County Health Report.* Oxford, NC: Retrieved October 19, 2015, from http://gvph.org/wp-content/uploads/2014/08/SOTCH-2012-final_12-20-12.pdf

the built environment. The majority of these policies affected early care and education, and school settings.

ITEMS ENDORSED IN SITE STRATEGY INVENTORY

Through an inventory, we identified strategies that addressed physical activity, healthy eating, or both, and that were implemented in four settings: (1) early care and education (ECE), (2) schools, (3) community, and (4) health care. The strategies in the inventory included a broad range of activities such as programs, policies, initiatives, campaigns, and regulations. A total of nine individuals completed the strategy inventory (a 50% response rate). The results of the inventory are summarized in Table A below.

Table A: Results of Strategy Inventory in Granville

Setting	Strategies That Address Physical Activity	Strategies That Address Healthy Eating	Strategies That Address Physical Activity & Healthy Eating
(Early Care and Education (ECE)	3	6	8
Schools	7	3	15
Community	17	12	Not included in inventory
Health Care	0	1	0

SITE VISIT INTERVIEWS

In addition to the policy review and strategy inventory, more in-depth information was obtained about strategies through site visit interviews. This report presents results from the interviews, including strategies identified for focus and a timeline of strategies (Figure 1) developed by the site visit team. The interviews provided information for deeper descriptions of the strategies identified for focus. The interviews also provided some information describing the site overall, including general uses of data within the site; respondents' reports of champions who helped advance specific or multiple initiatives; respondents' perceptions of factors leading to the declines in rates of childhood obesity in the city; and lessons learned that respondents considered worth sharing with others working to reduce rates of childhood obesity in their own sites.

Strategies Identified for Focus

A subset of the strategies were identified for more focused inquiry. These include initiatives known to have had broad reach into the population where statistically significant declines were documented. These initiatives targeted children at the community- or district-wide levels so that potential exposure to the initiative was far-reaching. Some initiatives also were raised by respondents in the interviews as ones they considered important to understand in relation to the declines. Table B below shows the strategies of focus, indicates those that most directly touched the population that experienced the declines, and provides information about the settings, focus areas, and types of approaches used for each.

Table B: Strategies Identified for Focus in Granville

Name of Strategy	Most Directly Targeted Population with Declines	Setting				Focus Area			Type		
		ECE	Schools	Community	Health Care	Nutrition	Physical Activity	Built Environment	Program	Policy	Media Campaign
1. Child Care Nutrition	X	X				X				X	
2. Child Care Physical Activity	X	X					X			X	
3. Health Care Referral Program	X				X	X	X		X	X	
4. Eat Smart, Move More				X		X	X				X
5. School Nutrition			X			X				X	
6. School Physical Activity			X				X			X	

Additional Strategies Implemented

The strategies above were described in detail because they either directly targeted or had great reach to the population of children wherein declines were found. However, we learned of several additional initiatives undertaken in Granville in the school, community and health care settings. We learned of over 20 total initiatives, some of which were implemented in multiple settings—11 in the community setting, 9 in the school setting, 4 in the ECE setting, and 1 in the health care setting. A list of all strategies discussed during the site visit, matrixed by setting and type, is in Appendix E.

Strategies Addressing Health Disparities

Additionally, in Granville, many of the strategies implemented to address nutrition or physical activity, though not specifically targeting populations experiencing health disparities, by design would reach these individuals. As an example, among the strategies of focus, the Eat Smart Move More and the Health Care Referral programs were designed to reach primarily low-income populations and children receiving Medicaid, respectively.

SITE FINDINGS

Overall Site Use of Data

Interviewees' descriptions of the use of data spanned from broad to more limited applications. In one localized example, members of a Greenways advisory committee talked about using different types of data to emphasize the importance of the initiative (e.g., health data on obesity; data on housing prices after trails had been developed showing the economic benefit; data on air quality to show the potential impact of active transportation). At the State level, the North Carolina (NC) Department of Health and Human Services provides "stats" sheets as one of many types of tools made available to counties, and particularly to health promotion coordinators.

Site Reports of Champions

Interviewees repeatedly mentioned a small group of individuals as having been champions for the various initiatives implemented in Granville. Interviewees repeatedly cited Jackie Sergent, Health Promotion Coordinator for the Granville-Vance Health Department, as a champion for the work. She helped lead the Granville Greenways initiative; established partnerships throughout the county; and was very active in promoting policy, systems and environmental change initiatives for obesity prevention. Her excitement for the work and her commitment to healthy living and economic development were widely discussed. Scottie Cornett also was named as a champion for health in Granville County. She is the program director for transportation planning, parks and recreation, and marketing and public relations for Creedmoor (since 2009), and she is a former transportation planner for Granville County. She was heavily involved in grant writing, securing nearly $4 million to build trails and sidewalks and improve parks. She also was instrumental in creating buy-in for, and awareness of, the new physical activity opportunities in Granville County. At the State level, two people were named as champions for the work occurring more locally: Cathy Thomas (Branch Manager, Community and Clinical Connections for Prevention and Health, NC Department of Health and Human Services) and Lynn Harvey (Director of School Nutrition Services, NC Department of Public Instruction). Ms. Thomas provided ongoing support to the local health departments through regular meetings and technical assistance along with health promotion tools. Ms. Harvey was instrumental in the nutrition improvements implemented in NC prior to the Healthy, Hunger-Free Kids Act, and she was noted for being willing to speak up about what was and was not working in child nutrition. Several of the people interviewed also noted that Dudley Watts, the Granville County Manager, had been a champion for health and wellness in the early to mid-2000s, starting a wellness mini-grants program that helped fund walking tracks at schools, churches and health care sites.

Respondent Perceptions of Factors Leading to Declines

Interviewees discussed a variety of topics as potential factors contributing to the declines in childhood obesity among 2–4 year olds in Granville. Long-standing partnerships, innovative programs, and a strong community were the primary themes mentioned. Granville County has been successful in leveraging outside funding for Granville Greenways (an initiative to develop greenways and trails for physical activity and active transport, particularly around schools) from an $11,000 grant awarded to the county to develop the master plan. Respondents also observed that the Greenways have been getting ample use in the community. For children, interviewees thought the requirements for physical activity in child care and schools could have contributed to children maintaining a healthier weight. Also, interviewees mentioned the 2010 change to the preschool cafeteria menu, which removed chocolate milk and strawberry milk, in addition to other improvements to increase healthy foods, as a likely factor that improved healthy eating and weight among young children.

Lessons Learned for Other Sites

Interviewees also shared various lessons they had learned that might be of value to other communities working to address childhood obesity. Interviewees stressed the value of having strong champions, gaining the support of elected officials and gatekeepers, and engaging the whole community to deal with challenges like childhood obesity. Champions help develop an idea for change and build the momentum to bring others on board. The support of elected officials and gate keepers is important for obtaining funding and for gaining permissions and building partnerships to implement strategies. One interviewee also noted that funders and the community may want to see rapid change, but introducing change gradually to facilitate greater adoption was an important lesson learned. Another

theme noted was engaging the community in planning and implementation in order to increase local buy-in. For the school and child care nutrition strategies, county-level staff specifically noted that having the students involved in taste testing new foods was an important activity when implementing changes.

Limitations

Although the site visit interviews and data collected from existing sources highlight a number of factors that may have contributed to the childhood obesity declines observed in Granville County, some limitations to the study should be noted. First, this study was exploratory in nature and not causal. That is, through interviews, policy scans, and document reviews, many items emerged that likely impacted childhood obesity declines in Granville County, but the study does not allow for making any direct causal conclusions about what led to those declines. Further, the snowball sampling and a limited timeframe meant that the team was limited in how many individuals could complete the inventory worksheet and be interviewed during the study period. Our team was able to speak to only a small subset of individuals in the public, private, and nonprofit sector who played a role in advancing change that appeared to contribute to obesity declines.

Also, the information gleaned from this study is characteristic of the types of policies, strategies, challenges, and facilitators related to combating obesity declines in Granville County. Despite the amount of information acquired before, during, and after the site visit, that information cannot be considered comprehensive. Finally, a great deal of the information collected was retrospective. Interviewees responded to the best of their ability as to strategies undertaken 4 to 10 years prior, but their memories may not always be complete or precise about the specifics and timeframe of developing and implementing various strategies. When possible, the study team used documented reports to try to confirm the exact details and timing of policy changes and strategy implementation.

CONCLUSION

Overall, Granville County, as well as the State of North Carolina, put forth a great deal of effort to address obesity. Stakeholders addressed childhood obesity in children aged 2–4, where the declines were found, with targeted strategies like child care guidelines concerning nutrition and physical activity. Through the dedication, commitment, and collaboration of many stakeholders, community members, and local organizations, Granville addressed the issue of obesity through multiple strategies and across multiple settings, ensuring that a broad range of residents gained an awareness of the need to eat smart and move more, and that they were provided with the opportunities to do so in the settings where they live, work, learn, play, and pray.

I. BACKGROUND AND PURPOSE OF CHILDHOOD OBESITY DECLINES PROJECT

PROJECT BACKGROUND

As the search for ways to address childhood obesity continues, organizations and communities across the country are experimenting with various strategies aimed at changing children's environments to prevent obesity. The project, *Signs of Progress in Childhood Obesity Declines* (Childhood Obesity Declines Project [CODP]), was conceived and implemented to identify and describe local-level strategies that have been implemented in municipalities that have experienced declines in rates of childhood obesity. The work is a collaborative effort guided by members of the National Collaborative on Childhood Obesity Research (NCCOR),[1] funded by the Robert Wood Johnson Foundation (RWJF), and implemented by ICF Macro (an ICF International company).

The CODP was conceived to help provide the field with a better understanding of how jurisdictions are operationalizing and implementing obesity prevention and reduction strategies. The project has sought to systematically document current and past initiatives implemented in a small sample of sites reporting childhood obesity declines and to identify the contextual factors that may have facilitated or hindered the initiatives, particularly those that might help understanding of the disparities that continue to persist in most sites. The CODP also collected information on how initiatives have been implemented and who the primary supporters have been. This project was conceived as an initial step in building knowledge about efforts that may be contributing to declines in childhood obesity. It will thus serve to supplement other work on this topic that is in progress but for which findings will not be available for some time.

Participating NCCOR members also engaged an expert panel to advise on the study. (See Appendix A for a full list of the expert panelists.) The multidisciplinary expert panel comprises 15 individuals with diverse yet complementary expertise and experiences. The panel has provided guidance and suggestions about the methodology of the project. Panel members represent academics, evaluators, researchers, Federal Government personnel, topic experts (e.g., nutrition, physical activity, and evaluation), practitioners, and program directors (of obesity reduction programs). In addition, expert panel members possessed substantial familiarity with the diverse settings (e.g., schools, communities, early childhood programs, and health care) in which obesity initiatives have been implemented.

PROJECT PURPOSE

As an exploratory endeavor, the CODP will provide the opportunity to examine strategies being implemented in jurisdictions that have attained declines in rates of childhood obesity. The goal of the CODP is to systematically explore the factors that may be contributing to reported declines in childhood obesity in a small sample of these jurisdictions. Specifically, this project aims to gain a better understanding of the initiatives, strategies, and practices that occurred in municipalities reporting childhood obesity declines, along with the contextual factors that may have influenced these efforts. Another goal is to identify commonalities and differences in approaches and strategies, in populations and disparities, and in implementation of obesity prevention efforts across the selected jurisdictions.

[1] The four organizations represented in NCCOR are the Robert Wood Johnson Foundation (RWJF); the Centers for Disease Control and Prevention (CDC); the National Institutes of Health (NIH); and the United States Department of Agriculture (USDA).

The CODP also will help to increase our knowledge about how obesity prevention efforts operate in conjunction with other health promotion efforts.

The primary questions for the CODP include the following:

1. What current and past initiatives, strategies, practices, and contextual factors are occurring in selected sites with reported childhood obesity declines?
2. What have selected sites reported in terms of reductions among diverse populations (e.g., racial/ethnic groups, low-income populations, underserved communities), and how does this address health disparities?
3. In what ways are obesity reduction initiatives and practices integrated with other health promotion efforts, and how have contextual factors played a role?
4. To what extent have selected sites employed similar or different obesity reduction/prevention strategies? [2]

Through the methods being employed, the CODP will provide information about the reported presence or absence of a broad range of strategies in the selected sites during the period of the declines, including strategies recommended by groups like the Institute of Medicine and CDC. Through closer examination, the project also will provide information about characteristics of a subset of these strategies and the process of developing and implementing particular initiatives.

PROJECT COMPONENTS

With initial input from the expert panel, ICF Macro and NCCOR CODP advisory team members determined five primary project components. Through a review of published studies and grey literature, sites reporting declines in rates of childhood obesity were identified. ICF Macro team members then applied the following methods:

- A review of the studies and of site obesity data, using established inclusion and exclusion criteria to confirm the statistical significance of the decline and select sites for case studies
- A review of documents accessible through the academic and grey literature describing relevant strategies and initiatives implemented in each selected site prior to and during the period of reported declines
- An inventory of strategies, applied as a survey, for knowledgeable respondents within the selected sites to identify which occurred during the period of interest
- A policy and contextual scan for each selected site to identify relevant policies implemented prior to and during the period of reported declines
- A site visit to each of the selected sites with interviews of respondents across multiple settings to describe the development and implementation of relevant strategies during the period of interest

[2] Question #4 will be addressed in a synthesis report of the study that examines similarities and differences across the four sites: ICF Macro (2015). *Signs of progress in childhood obesity declines: Synthesis report*, Unpublished Report.

Taken together, the information from each site should provide initial insights about strategies that may contribute to declines, as well as information about the ways in which those strategies were effectively implemented.

METHODS AND BACKGROUND FINDINGS

The study team conducted data reviews to aid in site selection and document reviews to obtain background information about the site and the various implemented strategies. In Granville County, statistically significant declines in overweight and obesity were noted among children 2–4 years of age between 2005 and 2010.[3] Data were collected from WIC clinics, public health-sponsored child health clinics, and some school-based health centers. The methods outlined in this section detail how the ICF Macro study team focused our investigation on this population and timeframe.

Site Strategy Inventory

In addition to reviewing information in documents about strategies implemented in sites with reported declines, the CODP team members developed an approach for documenting the numerous strategies that occurred in a site during the period through an online site strategy inventory. Team members from CDC's DNPAO identified strategies in the inventory through a review of several publications identifying evidence-based policy recommendations, promising actions, and strategies to address childhood obesity. The publications included reports that recommended policies and actions over the last decade to decrease childhood obesity at the population level, including Institute of Medicine childhood obesity reports, the Guide to Community Preventive Services, and multiple CDC nutrition and physical activity guidance documents. Respondents to the inventory were asked to note, to the best of their knowledge, the presence or absence of each listed strategy in the city during the period of the reported declines. Respondents were identified through a snowball sampling technique, beginning with the authors of studies reporting the declines, then broadened to include those referred to the CODP team members as individuals knowledgeable about strategies implemented in each of the four settings (early care and education [ECE], schools, community, and health care).

Policy and Contextual Data Reviews

To help understand the policy and environmental context in which strategies were implemented, we conducted a scan of the food, physical activity, and policy environments over the study time period, as well as an assessment of key demographic characteristics at baseline (2005) and follow-up (2010). To assess policy impacting childhood obesity, nutrition, and physical activity, ICF Macro study team members gathered policy information at both Federal and State levels. For Federal policies, we examined policies and programs noted in the 2004–2012 *F as in Fat* reports[4] as well as other reports[5] of Federal obesity prevention policy. To identify State policy over the study time period, we captured policies from existing databases (e.g., CDC's Chronic Disease State Policy Tracking System[6]) and

[3] Granville-Vance District Health Department. (2012). *Priority - Chronic Disease and Lifestyle Issues*. 2012 State of the County Health Report. Oxford, NC: Granville-Vance District Health Department. Retrieved October 19, 2015, from http://gvph.org/wp-content/uploads/2014/08/SOTCH-2012-final_12-20-12.pdf

[4] Trust for America's Health, *F as in fat. How obesity policies are failing in America*. Washington, DC: Trust for America's Health; reports: 2004 - 2011. Retrieved September 14, 2015, from http://healthyamericans.org/reports/

[5] Brill, A. (2013). *The long-term returns on obesity prevention policies.* Retrieved September 14, 2015, from https://depts.washington.edu/waaction/tools/docs/rwjf_returns_report.pdf

[6] Centers for Disease Control and Prevention: Chronic Disease State Policy Tracking System. Retrieved September 14, 2015, from http://nccd.cdc.gov/CDPHPPolicySearch/Default.aspx

policy updates from the National Conference of State Legislatures.[7] In addition to these sources, we also documented childhood obesity legislation noted in the Bridging the Gap review of State obesity-related policies[8] and the National Resource Center for Health and Safety in Child Care and Early Education's report on child care regulations.[9] It is important to note that we were not able to conduct a full policy search/extraction through Westlaw or similar legal research databases, given the resources that would have been required to conduct, extract, and code policies over the timespan across sites. However, we used multiple sources to arrive at a comprehensive snapshot of the policy context during the study period. Local level policies (county, municipality, or school district) were captured through the site strategy inventory sent to stakeholders or during site visit interviews.

ICF Macro study team members also collected sociodemographic and food and physical environment data for each site for baseline and follow-up years to better understand contextual factors in the community that may affect the population and any changes in health outcomes. Sociodemographic data were based on the U.S. Census American Community Survey,[10] and food and physical activity environment data were taken from the U.S. Census County Business Patterns,[11] for Granville County's baseline and follow-up years. Sociodemographic, and food and physical environment data can be found in Appendix B.

Site Visit and Interviews

The site visit to Granville took place May 18–22, 2015. Using semistructured interview guides, the site visit team conducted a total of 16 interviews, all of which were individual interviews. (See Appendix C for a list of those interviewed for the study.)

[7] National Conference of State Legislatures. (2013). *Childhood obesity legislation policy update.* Retrieved September 14, 2015, from http://www.ncsl.org/research/health/childhood-obesity-legislation-2013.aspx

[8] Bridging the Gap: State Obesity-Related Policies. Retrieved September 17, 2015, from http://www.bridgingthegapresearch.org/research/state_obesity-related_policies/

[9] National Resource Center for Health and Safety in Child Care and Early Education, University of Colorado Denver. (2011). *Achieving a state of healthy weight: A national assessment of obesity prevention terminology in child care regulations* 2010. Aurora, CO: Retrieved September 14, 2015, from http://nrckids.org/default/assets/File/Products/ASHW/regulations_report_2010.pdf National Resource Center for Health and Safety in Child Care and Early Education, University of Colorado Denver. (2013). Achieving a state of healthy weight 2012 update. Aurora, CO. Author. Retrieved September 14, 2015, from http://nrckids.org/default/assets/File/Products/ASHW/ASHW%202012%20Final%20Report%209-18-13%20reduced%20size.pdf

[10] U.S. Census American Community Survey. (2012). *American fact finder*. Retrieved September 17, 2015, from http://factfinder.census.gov/faces/nav/jsf/pages/searchresults.xhtml?refresh=t

[11] U.S. Census County Business Patterns. Retrieved September 17, 2015, from http://www.census.gov/econ/cbp/

II. SITE STRATEGY FINDINGS

The ICF Macro team explored data sources to collect information on strategies implemented in Granville County, North Carolina during and immediately preceding the period of time when a statistically significant decline in rates of childhood obesity had been reported. For Granville County, the study period is between 2005 and 2010. To assess the policies, programs, initiatives, and strategies implemented during this period, we reviewed policy data 2 years prior to the study period (2003) to account for potential lag time between policy enactment and implementation. Because we had an opportunity to learn more onsite during site visits, we also asked respondents to discuss strategies implemented during the pre- and post-study period. This section presents findings identified through policy reviews, the site strategy inventory, and the site visit interviews.

SITE CONTEXT

Granville County, North Carolina is a largely rural county[12] located in north-central North Carolina with a population of approximately 60,000 residents and land area of 537 square miles. The southern end of the county borders Durham, NC with many residents of southern Granville County working in the Durham area (the southern end of the county is a 30 minute drive from Research Triangle Park). The northern half of the county is largely driven by agriculture and has a history of tobacco farming. Granville County is comprised two cities, Oxford (population 8700) and Creedmoor (4300), and three towns (Butner, Stem and Stovall); the remaining areas of the county are townships and unincorporated communities. Approximately 8100 students are enrolled in the county's schools (nine elementary, four middle and four high schools). Schools throughout the county are located in towns as well as more remote/rural settings. The county is racially and ethnically diverse with 60% of the residents being White, 30% African American/Black and nearly 10% Hispanic or Latino.

The main offices of the Granville-Vance Health Department are located in Oxford, in close proximity to the County's Transportation and Planning Office and Extension office. In the early 2000s, the County Manager started a program to award organizations throughout the county with recreation mini-grants which helped to implement some of the first school walking tracks in the county.

POLICY LANDSCAPE

Federal policy. Between 2000 and 2012, several notable Federal policies were passed impacting efforts to address childhood obesity at the State and local levels. First, in 2004, Reauthorization of the Child Nutrition and WIC Act included a requirement that all local education agencies participating in the National School Lunch Program would establish a local wellness policy by the start of the 2006–2007 school year. These policies required school districts to address the following: (1) goals for nutrition education, physical activity, and other school-based activities; (2) nutrition guidelines for all foods sold on school campus during the school day to promote health and reduce obesity; (3) a plan to ensure implementation of the policy; (4) involvement of parents, students, and representatives of the school administration and staff as well as the public in a local wellness committee; and (5) guidelines for reimbursable school meals that are not less restrictive than national guidelines. In addition to the local wellness policies, the 2004 reauthorization revised the requirements of the fruit and vegetables program. It emphasized that the majority of schools participating should be low income (at least 50%

[12] Granville County, NC is defined as a nonmetro area with an urban population of 20,000 or more, adjacent to a metro area. http://www.ers.usda.gov/data-products/rural-urban-continuum-codes/.aspx

of students receiving free or reduced-price lunch), and it provided funds for districts and schools related to farm-to-school programs, as well as nutrition education (e.g., Team Nutrition grants). In 2007, Federal legislation was passed addressing requirements for the Child and Adult Care Food Program, including standards for the nutritional content of foods served and portion sizes. Funding was also provided to USDA to support centers in increasing physical activity and decreasing sedentary time. Lastly, the Healthy, Hunger-Free Kids Act (HHFKA) was passed in 2010. It reauthorized several child nutrition programs, outlined standards for the nutritional content of foods and beverages sold outside the school meals program, and updated nutrition standards for school meals. The HHFKA also updated requirements for the content and tracking of local wellness policies.

State policy. The policy review identified 23 State policies related to nutrition, physical activity, and the built environment in North Carolina between 2003 and 2010. Of the 23 policies, 10 were related to nutrition, 5 were related to physical activity, 3 addressed nutrition and physical activity, 2 addressed nutrition and the built environment, and 3 policies addressed nutrition, physical activity, and the built environment. The majority of these policies affected the ECE and school settings. For more information about these policies, see the timeline provided in Figure 1 and a complete list of the policies in Appendix D.

Local level policy. Due to resource limitations, the ICF Macro team could not conduct a comprehensive scan of local-level policies. However, we used the site strategy inventory and site visit interviews to capture key policies enacted or implemented during the study time period.

ITEMS ENDORSED IN SITE STRATEGY INVENTORY

Through the inventory, we identified strategies that addressed physical activity, healthy eating, or both that were implemented in the ECE, schools, community, and health care settings. The strategies might include a broad range of activities such as programs, policies, initiatives, campaigns, and regulations. The Granville strategy inventory focused on those strategies implemented between 2005 and 2010. A total of 9 individuals completed the Granville strategy inventory (a 50% response rate). Table 1 shows the overall number of strategies identified per setting.

Table 1: Results of Strategy Inventory in Granville, North Carolina

Setting	Strategies That Address Physical Activity	Strategies That Address Healthy Eating	Strategies That Address Physical Activity and Healthy Eating
ECE	3	6	8
Schools	7	3	15
Community	17	12	Not included in inventory
Health Care	0	1	0

SITE VISIT INTERVIEWS

In addition to the policy review and strategy inventory, more in-depth information was obtained about strategies through site visit interviews. This section presents results from the interviews, including the strategies identified for focus, and a timeline of strategies developed by the site visit team. The interviews also provided information for the next section, which presents deeper descriptions of the focal strategies. A later section presents information taken from the site visit interviews to describe the site overall, including general use of data within the site, respondents' perceptions of factors

leading to the declines in rates of childhood obesity in the city, and lessons that respondents share for other sites that might be working to reduce childhood obesity.

Strategies of Focus

A subset of the strategies were identified for more focused inquiry. These include initiatives known to have had broad reach into the population where statistically significant declines were documented. Some initiatives also were raised by respondents in the interviews as important to understand in relation to the declines, similarly for their relevant community- or student-level focus. Table 2 shows the strategies of focus, indicates those that most directly touched the population that experienced the declines, and provides information about the settings, focus areas, and types of approaches used for each.

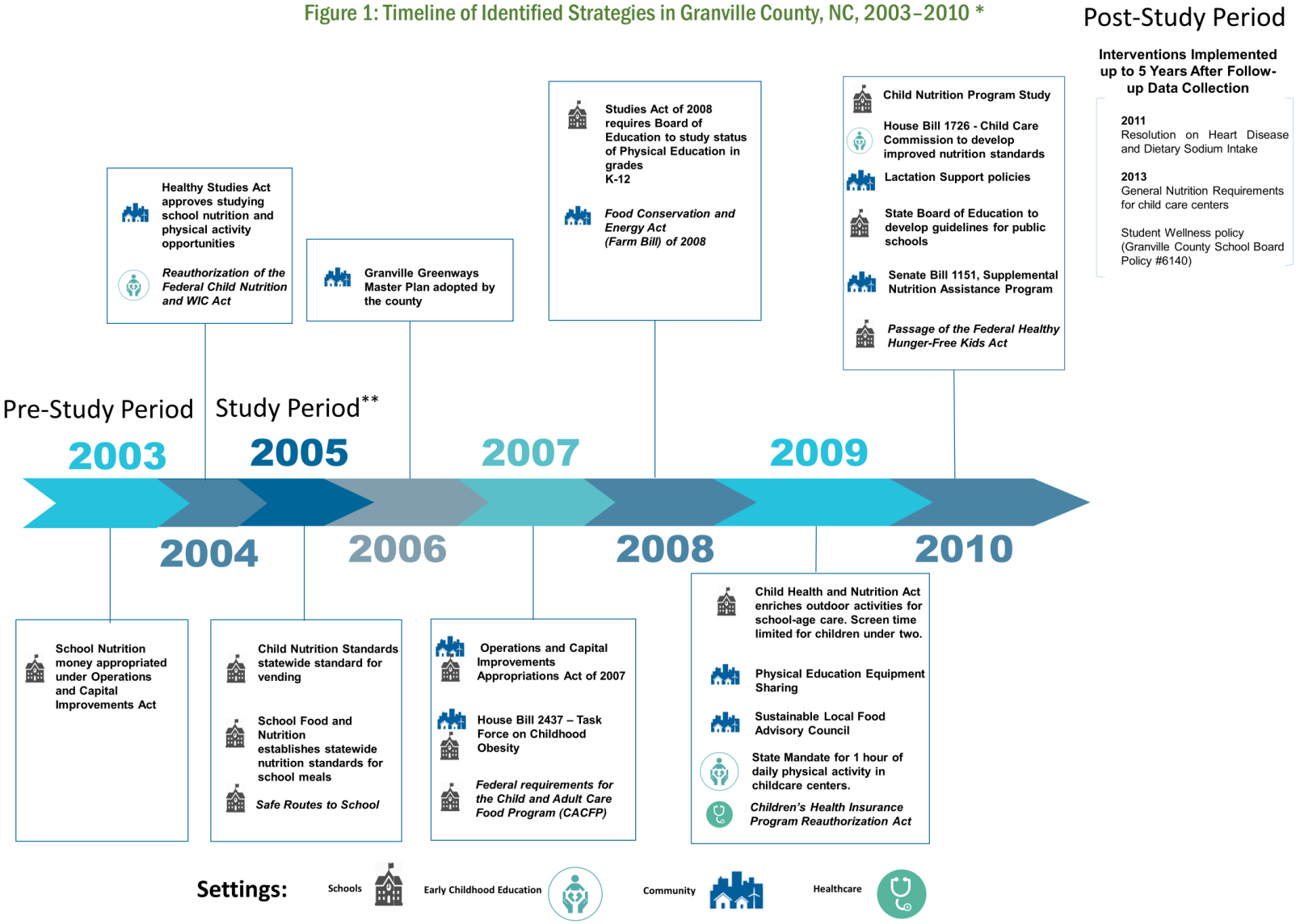
Table 2: Strategies Identified for Focus in Granville County, North Carolina

Name of Strategy	Most Directly Targeted Population with Declines	Setting				Focus Area			Type		
		ECE	Schools	Community	Health Care	Nutrition	Physical Activity	Built Environment	Program	Policy	Media Campaign
1. Child Care Nutrition	X	X				X				X	
2. Child Care Physical Activity	X	X					X			X	
3. Health Care Referral Program	X				X	X	X		X	X	
4. Eat Smart, Move More				X		X	X				X
5. School Nutrition			X			X				X	
6. School Physical Activity			X				X			X	

Strategy Timeline

A number of relevant initiatives addressing multiple strategies were reported during and prior to the period of documented childhood obesity declines. Site visit team members shared a draft of the timeline with interviewees prior to the interviews and reviewed the document with them during the interview. As additional initiatives were raised by interviewees, site visit team members revised the timeline to include them. The timeline in Figure 1 presents these identified strategies in the ECE, school, community, and health care settings.

Figure 1: Timeline of Identified Strategies in Granville County, NC, 2003–2010 *



Post-Study Period

Interventions Implemented up to 5 Years After Follow-up Data Collection

2011
Resolution on Heart Disease and Dietary Sodium Intake

2013
General Nutrition Requirements for child care centers

Student Wellness policy (Granville County School Board Policy #6140)

* The timeline represents state and local policies and programs. Key Federal policies are italicized.
** The study period is the period of time where the childhood obesity declines were noted. For Granville County, this period is between 2005 – 2010.

III. FOCAL STRATEGY DESCRIPTIONS

This section presents a more in-depth description of each strategy of focus, including settings they addressed; their strength, reach, and target audiences; barriers and facilitators encountered in their implementation; and the role of partners in carrying them out. As noted above, these strategies are described in more detail because they directly targeted and had the greatest reach to the population of children wherein declines were found, or they were raised by respondents as important to understand in relation to the declines.

Specifically, in Granville, statistically significant declines were identified in rates of overweight and obesity among children 2–4 years of age. Data were collected from WIC clinics, public health-sponsored child health clinics, and some school-based health centers. Data were not available to examine rates of overweight and obesity within socioeconomic or racial/ethnic subpopulations. In this section, we begin by describing some of the initiatives occurring during this time period (between 2005 and 2010) that were more likely to reach this population of children. These include: 1) child care nutrition policies, 2) child care physical activity policies, and 3) the Health Care Referral program. Following the description of those initiatives, we describe in detail four additional programs that, though not directly targeting young children, were considered by interviewees as important to understand in relation to the declines: 4) the Eat Smart, Move More program, 5) school nutrition policies, 6) school physical activity policies, and 7) the Granville Greenways initiative (providing active, safe transportation).

Following the detailed descriptions of these initiatives, we note additional strategies that took place across the school, ECE, health care and community settings in Granville. We also note ways these strategies may have addressed children from populations experiencing health disparities.

STRATEGY #1: CHILD CARE NUTRITION

In 2007, the Legislative Task Force on Childhood Obesity was created with the goal of studying issues related to childhood obesity and recommend strategies for addressing the epidemic, including strategies focused on the child care setting. Between 2009 and 2010, the North Carolina Child Care Commission created licensing requirements related to physical activity and nutrition. A full report of the development and implementation of the child care nutrition standards can be found at http://ncchildcare.dhhs.state.nc.us/pdf_forms/child_nutrition_study.pdf. The nutrition requirements for licensed child care centers introduced in 2010 included the following:

- Prohibit the serving of sweetened beverages, other than 100% fruit juice, to children of any age.
- Prohibit the serving of more than six ounces of juice per day to children of any age.
- Prohibit the serving of juice from a bottle.
- Prohibit the serving of whole milk to children 2 years of age or older.
- Prohibit the serving of flavored milk to children of any age.
- Create an exception from the rules for parents of children who have medical needs, special diets, or food allergies.
- Limit the number of grains containing added sugars and increase the number of whole grains.

- Limit foods high in fat and salt.

These guidelines impacted children in Head Start (approximately 51 in Granville County), pre-K (approximately 155), and children in licensed child care centers. Those interviewed representing Head Start, early care and education, or child care commented that the standards were easy to implement. Because these providers were reimbursed for providing the nutritious food through the Child and Adult Care Food Program, funding was not an issue. In addition, trainings were provided to help support the implementation of the standards, offering education to cooks about how to prepare healthy foods and how to create menus that would meet the child care nutrition standards. The only standard that respondents stated took time to gain parent buy-in was the requirement banning flavored milk and whole milk. One interviewee noted that parents were not initially in agreement with these requirements, but educating them that milk with 1% or less fat was a healthier option eventually resulted in their support. A significant component of implementing the nutrition standards and getting the buy-in from parents and teachers was keeping everyone informed of changes and educated about why the changes were taking place.

To ensure teachers were modeling healthy dietary behaviors, centers also stopped allowing teachers to bring in fast food or any food prepared outside the school. All teachers now must eat what the children are eating and sit with them to eat. One respondent noted that teachers now eat breakfast, lunch, and snacks with the children, and a number of teachers have lost weight through the meals being served.

Child care and early care and education settings have carried the guidelines through to celebrations as well. Cakes, cupcakes, and candy are no longer allowed for celebrations or birthdays. Less focus is placed on food. Parents are instead encouraged to bring in, for example, pencils or stickers. One respondent described that for holidays teachers may give children bags with pencils, erasers, sharpeners, etc., and they do not provide cake or candy. During the site visit we did not learn of any evaluations conducted to assess the effectiveness of the child care nutrition interventions. However, addressing child care nutrition was noted as an important obesity prevention strategy because it increased the availability of healthy foods, decreased the availability of less healthy foods and increased staff awareness of healthy eating practices.

Strategy Barriers and Facilitators

Barriers

Parent opposition. As noted above, the only barrier to implementation of the child care nutrition standards noted was parent opposition to the ban on whole and flavored milk. However, after educating the parents about the standards and the reason for only providing 1% milk to children over 2 years of age, parents were more receptive.

Facilitators

Training and registered dietician support for cooks. The training provided to cooks helped with the implementation of standards because it made the cooks aware of the importance of the standards and taught them how to prepare foods that would meet the child care nutrition guidelines. Having a registered dietician available to review menus and work with cooks also was noted as a facilitator for implementation of the guidelines.

Role of Partners

The State was a key partner in that it provided the education and training that could then be shared with all staff members at a given child care center. Teachers also were key partners because having to eat with students and eat the same foods as the students established them as role models of healthy eating and increased children's acceptance of the new foods.

STRATEGY #2: CHILD CARE PHYSICAL ACTIVITY

Strategy Description

In 2007, the State of North Carolina mandated 1 hour of play per day, preferably outside, for all child care centers. Centers in Granville implemented the requirement by including instructor-led time for the first 30 minutes, and free play for the last 30 minutes. It was no longer up to the teacher to decide if they would take the children out and for how long; the center directors required it. The requirement was enforced by center directors or principals for the pre-K setting, and teachers were required to build the hour into their schedules and have schedules approved by administrators. The child care coordinator and her staff conducted a lot of training to educate center directors and principals about the requirement, particularly school principals, because pre-K is a different environment than the K-12 school environment. Several interviewees said that teachers also found ways to improve outdoor play spaces, noting that several had applied for—and received—grants to enhance playgrounds. When asked what made the implementation of the physical activity requirement successful, one respondent noted that the teachers made it happen. In addition to the physical activity requirements, centers also were required to limit the amount of screen time for children to a 20-minute maximum per day. Centers placed timers at computers to ensure the 20-minute time limit was not exceeded. We did not learn of evaluations conducted to assess the effectiveness of the child care physical activity policies. However, the child care physical activity policies were noted as an important obesity prevention strategy because they mandated regular activity for students helped teachers and staff recognize the importance of physical activity.

Strategy Barriers and Facilitators

Barriers

No barriers to implementation were noted among those people interviewed. We did not speak directly with classroom teachers who may have been able to discuss implementation barriers,

Facilitators

Teacher and administrator buy-in. Getting buy-in from teachers and from administrators to enforce the policy through documented physical activity time on classroom schedules was a facilitator to implementation.

Role of Partners

Teachers were described as having been key partners in meeting the requirements. Teachers built the time into their schedules and were creative in providing activities for students to be active. Some teachers applied for funds or used their own money to purchase physical activity equipment and supplies to use during active time.

STRATEGY #3: HEALTH CARE REFERRAL PROGRAM

Strategy Description

In 2005, the Community Care Network clinics in Granville and Vance counties took over the Health Check program from the Granville-Vance Health Department. The Health Check program assures children have their follow-up screenings and yearly check-ups and focuses on children receiving Medicaid. (In 2011, approximately 5,000 infants and children under age 18 in Granville County were on Medicaid, and approximately another 1,000 were covered by Health Choice, a total of about 46% of children in Granville County.[1]).) Health Check coordinators contact parents and educate them about why children need to have yearly physicals. Also at that time, the clinics increased focus on incorporating BMI screenings into yearly physicals as a regular practice, as well as on educating providers and parents about childhood obesity. Education and professional development opportunities were offered to providers by the North Carolina Pediatric Society. The Eat Smart, Move More initiative (an initiative by the NC Department of Health and Human Services, described later) delivered training to providers and case managers, and gave providers prescription pads to implement the "5,3,2,1 almost none" intervention. As part of this intervention, providers or case managers would give "prescriptions" to parents reminding them that children should have five or more servings of fruits and vegetables, three structured meals per day, 2 hours or less of TV or video games, 1 hour or more of moderate to vigorous activity per day, and "almost none" with regard to sugar-sweetened drinks.

From 2009 through 2010, Community Care's work in childhood obesity prevention evolved and expanded to include family referrals to nutrition education. A provider at the clinic saw the impact the epidemic of childhood obesity was having and partnered with a nutritionist to educate and train other providers. A referral system was implemented in which any child found to be at risk for overweight or obesity would be referred to a nutritionist. One respondent from Community Care noted that they determined a number of families needed nutrition education, for example, ways to avoid so many juices. Providers referred children and their families to nutrition education, and families returned for a series of hands-on education classes. The nutrition education offered to parents included demonstrations about the amount of sugar in a Coke, meal planning, grocery store tours, and strategies for purchasing healthy items on a limited budget. Similar to the strategies in the child care setting, we did not learn of any evaluations that were conducted for the Health Check referral program.

Strategy Barriers and Facilitators

Barriers

Timely referrals by providers. One of the barriers noted was having providers refer children and families in a timely manner. When referrals to nutrition education first began, the nutritionist saw a lot of older children and children who were already obese. These individuals needed assistance and received nutrition education, but the Community Care team had to work with providers to ensure they were measuring BMI on each visit and referring children and their families at the first signs of weight increases, not after a child was obese and habits had been fully formed.

Sufficient time or staff for implementation. A second barrier was not having sufficient time to organize the program or the right amount of staff to keep it going. However, because the program

[1] Action for Children. (Nov. 2012) *2012 Granville child health county report card*. Retrieved May 15, 2012 from http://www.ncchild.org/wp-content/uploads/2014/05/2012_CHRC-Granville_0.pdf.

saw success in reducing weight among the child patient population, and because providers had gotten fully on board, staff were dedicated to doing what was needed to make the program work.

Facilitators

Provider as champion. Having a provider that was a champion for childhood obesity prevention was key to the intervention gaining traction. This helped to bring other providers on board and also helped with implementing the suggested practice of BMI screening and referral.

Nutritionist developing program. In addition to having the provider champion, the nutritionist for the clinic was key in implementing the referral program. She developed the lessons and classes for families and educated the case managers conducting in-home visits about nutrition and physical activity recommendations.

Ongoing training from health departments. Outside of the clinic, the county and State health departments, and the North Carolina Pediatric Society also were facilitators. They provided ongoing education and training on obesity prevention, BMI screenings, and parent nutrition education.

Role of Partners

The North Carolina Pediatric Society provided training related to obesity screening and obesity prevention to all health care providers in the practice. In addition, the Granville-Vance Health Department provided trainings through materials developed by the NC Department of Health and Human Services. These materials primarily focused on the "5,3,2,1 almost none" program, training providers on nutrition and physical activity education for parents. The health care providers in each of the community care clinics also were key partners for this program. They invested time in the extra education and training and also adjusted their routine to incorporate BMI screenings during every child appointment and to make referrals for children at risk.

STRATEGY #4: EAT SMART, MOVE MORE

Strategy Description

Though not directly targeted to children ages 2–4 for whom the declines in rates of obesity were identified, respondents considered the Eat Smart, Move More initiative important for helping create a community environment supporting healthier eating and physical activity for children. Eat Smart, Move More was created by the NC Department of Health and Human Services beginning in the early 2000s, reaching residents in all counties. The initiative was included in the State's 5-year obesity prevention plan for 2007–2012. To support all the counties in addressing obesity and related health behaviors, the State Health Department developed and provided trainings so each county could implement the strategies that would be most useful in that community. Though it did not directly target children, the Eat Smart, Move More initiative promoted healthy dietary behavior, regular physical activity, drinking water, and reduced sedentary time. Since the launch of the initiative, the NC Department of Health and Human Services has developed a variety of tools and interventions. They include Faithful Families (healthy living education disseminated through churches); Eating Smart, Moving More (nutrition and physical activity programs and education); Families Eating Smart, Moving More (with a focus on families), Eat Smart, Move More, Weigh Less (with information about weight loss benefits), and Color Me Healthy (a healthy living education intervention for preschool children. A complete list of the Eat Smart, Move More tools and resources developed to date can be found at: *http://www.eatsmartmovemorenc.com/ProgramsNTools/ProgramsNTools.html*. The work and resources

required for developing a plan were taken on by the NC Department of Health and Human Services and its partners. At the local level, county boards of health or county extension coordinators could focus on selecting which strategies would be best for their community and putting the plan into action.

In Granville, a number of the Eat Smart, Move More tools and resources were used to reach both children and adults throughout the community. The county also used Eat Smart, Move More to create a cohesive branding of all the obesity prevention efforts in its jurisdiction. When the work was beginning and gaining traction, partners and committee members expressed the importance of having a clear message. They noted that the State had Eat Smart, Move More North Carolina, a message with an existing Web site and talking points. The county added Eat Smart, Move More to the messaging for any county initiative that advanced the goals of the Eat Smart, Move More initiative and included the county's name, "Eat Smart, Move More Granville."

The county also began an Eat Smart, Move More Granville-Vance minigrants program. The grants (maximum of $1500), were provided by the State's Eat Smart, Move More program and the Granville-Vance District Health Department. They offered funding to community organizations to support the implementation of policy and environmental change interventions. The grant program was carried out from 2008 to 2009 with five small grants offered each year, in each county (five grants per year in Granville County and five in Vance County). County organizations (schools, businesses, governmental agencies, churches, nonprofits) with the ability to impact 100 people or more and sustain policy or environmental change were invited to apply. The minigrants program funded a variety of environmental and policy change initiatives such as:

- ***Healthy eating environments in churches***: grant funds awarded to one church in Granville County to purchase water pitchers and steaming equipment for church dinners in order to prepare healthier meals and decrease consumption of sugar sweetened beverages. The church also implemented a wellness committee to oversee and sustain the environmental changes.
- ***Improved physical activity levels in PE class***: grant funds awarded to a school in Granville County to purchase heart monitors to help students and PE teachers track physical activity levels and increase the amount of moderate to vigorous activity engaged in during PE.
- ***Increased opportunities for physical activity***: grant funds awarded to the town of Butner and one Granville County church (the largest in the area) to develop a fitness room that employees or the congregation could access. The church also included Eat Smart, Move More educational tips in the weekly bulletin.
- ***Increased opportunities for healthy eating and physical activity in parks***: grant funds awarded to Oxford Parks and Recreation to implement guidelines for healthy concessions, which included production and purchase of signage for healthy items. Oxford also implemented a policy requiring all concession stands to offer healthy snack and drink choices.

These minigrants were awarded in front of the county commission in an effort to increase stakeholder awareness of the community-wide efforts impacting healthy living through policy and environmental change. When organizations were awarded funds, they were required to attend three lunch-and-learn sessions that provided technical assistance to the grantees, allowed time for grantees to share successes and challenges with peers, and provided grantees with resources and tools available through the State's Eat Smart, Move More portal. At the end of the grant period, awardees were given recognition awards in front of the County Board. A summary of the minigrant program can be found at:

http://www.eatsmartmovemorenc.com/Funding/Texts/2008-09%20CG%20Report%20Final%201-8-10.pdf
Respondents indicated that local evaluation of the Eat Smart, Move More in Granville was not conducted due to resource limitations. Evaluations of the State's Eat Smart, Move More, Weigh Less online weight management program found an average weight loss of 8 pounds[2] and that, for every $1 spent on Eat Smart, Move More, Weigh Less, approximately $2.75 can be avoided in medical care and lost productivity costs.[3]

Strategy Barriers and Facilitators

Barriers

Understanding nature of work for environment and policy change For the minigrants program, one respondent noted the challenge of teaching the concept of environmental and policy change to interested applicants. The Granville-Vance Health Department tried to address this by providing an information session to organizations interested in the minigrant program and by providing attendees with examples of strong policy and environmental change interventions. Despite these efforts, some grant applicants still remained focused on individual-level interventions.

Lack of funding for program. At the state level, one respondent from the NC Department of Health and Human Services expressed that funding was the greatest challenge. There might have been promising ideas for tools and resources for the initiative, but the funding or staffing needed to produce them was not always available. However, partners in other divisions, at other agencies, or in academic settings often came together to make things happen, lending resources or staff to support others' ideas, and vice versa.

Facilitators

Cross-sector partners. At the State level, one primary facilitator of the initiative was the partnership with other divisions within the NC Department of Health and Human Services, as well as academic institutions in the State. As mentioned above, these collaborations and partnerships helped create the obesity plan, media campaigns and tools, and resources that were shared with county boards of health and extension offices for implementation at the local level.

Training and consultation. At the county-level, one of the main facilitators for starting the initiative implemented in Granville was the training and support received from the State Health Department. Both health promotion coordinators and county extension agents were trained on a variety of health promotion interventions and given tool kits to take to their communities. Once trained, they were able to determine whether they would implement the initiative together or independently in their local communities. In addition to the training and tools, the State Health Department also provided counties such as Granville with a consultant who worked with local health promotion coordinators, helping them implement and evaluate the work being performed at the local level. The Granville-Vance health promotion coordinator and the consultant assigned to Granville were noted as having a strong relationship.

[2] Dunn C, Whetstone LM, Kolasa KM, Jayaratne KSU, Thomas C, Aggarwal S, Nordby K, Riley K. Using synchronous distance-education technology to deliver a weight management intervention. *JNEB*. 2014;46(6):602-609.
[3] Chenoweth D. Eat Smart, Move More, Weigh Less Online for State employees: benefit-cost analysis and present value adjustment report. Chenoweth & Associates. August 2013.

Role of Partners

As noted above, Eat Smart, Move More at the State level benefited from partnerships within the NC Department of Health and Human Services, with other agencies such as the Department of Public Instruction and the Department of Extension, and with universities and schools of public health in NC. Other divisions or agencies often could help support the development of tools and resources, and each provided creative ideas, and at times, staff, to help in development and training. One respondent commented that the universities in the area developed an obesity collaborative that would meet regularly to share information and work collectively on obesity prevention projects. Also noted above, at the local level, the local hospital was a key partner in the weight loss campaign. The hospital provided locations for people to weigh-in and weigh-out, resources for incentives, and support to publicize the initiative and create community awareness through the hospital's communication team.

STRATEGY #5: SCHOOL NUTRITION

Strategy Description

Though not directly targeted to children ages 2–4 for whom the declines were noted, respondents expressed that school nutrition policies helped create an environment supporting healthier eating for children. Staff from Child Nutrition in Granville County commented that the State and the county had been ahead of many of the nutrition guidelines that were rolled out under the Healthy, Hunger-Free Kids Act. In 2005, North Carolina enacted statewide standards for vending in schools and standards for school meals, with the requirement that vending guidelines (also known as the NC Eat Smart Nutrition Standards) had to be implemented by 2006–2007. All snack vending was removed from elementary schools. In middle and high schools, vending machines were removed from the cafeterias, and if kept in the school, were moved to another location. Any vending machine that stayed on school grounds had to be set to a timer so that vended items were available only up to 30 minutes before the start of the school day and 30 minutes after the end of the school day. The contents of the vending machines were to be healthy items, defined as 75% of the items having 200 calories or less per serving. Standards also were placed on vended beverages, banning the sale of soft drinks to elementary students and restricting the sale of vended beverages to the hours outside the school day for middle and high schools. The policy also stated that fewer than 50% of the vended beverages available to high schoolers could be soft drinks and required bottled water to be available in all vending machines. Having the time to implement the standards over the course of the school year helped, and most elementary schools went a step further and removed all vending machines.

In addition to the vending standards, the State policy outlined a process for improving the nutritional content of food available through school meals, a la carte, and afterschool snack programs. The policy called for a gradual change to increase fruits and vegetables; increase whole grains; decrease fat, saturated fat and trans fat; and decrease sugar. The standards were implemented in the elementary schools first, by 2009–2011, followed by the middle and high schools. Even with the gradual rollout proposed in State policy, Granville's Child Nutrition staff members stated that they began implementing the standards early. They knew the nutrition guidelines would be changing, and so prior to requirement, they began telling schools in the district to make the changes. The schools also conducted taste tests of new foods that would meet the stricter nutrition standards. Recipes were developed at the district level and sent to the schools to test. Cafeteria managers typically tried to survey 100 students, asking them if they liked or did not like the food and why. If more than 75 children liked the item, it would be something to try on the menu. The schools also gradually increased the whole grain in foods by slowly adding in whole wheat flower along with white flower in rolls and

cookies. During the site visit we did not learn of any evaluations conducted to assess the effectiveness of the school nutrition interventions. However, addressing school nutrition was noted as an important obesity prevention strategy because it improved the quality of foods available for students.

Strategy Barriers and Facilitators

Barriers

Resistance to changing menus from school cooks. Getting cooks from local schools on board was noted as a challenge. Many of the cooks had been there for a long time and did not want to change the way they had been doing their job. The nutrition director also found that the resistance to change came from having a strong sense of pride in their work. Interviewees representing the school setting talked about how the cooks enjoy when the students eat their food and when the students tell the cooks how much they like their lunch. If children did not like the food, it would diminish that sense of pride the cooks have in doing their job. As noted above, the nutrition director addressed this later in the implementation process by asking the cooks how to improve the recipes in order to create greater buy-in from the cooks.

Resistance from students. Several school personnel also noted that, although many of the nutrition standards from the Healthy, Hunger-Free Kids Act had been implemented years ago through the gradual increases outlined in the 2005 State policy, now that the Federal legislation has been implemented, they have observed pushback from students and a decrease in school lunch participation. One respondent attributed this resistance to awareness brought about by discussions on the news, etc., drawing attention to the changes.

Facilitators

Training of cafeteria managers and cooks. Nutrition staff members from Granville County were adamant that training the cafeteria managers and cooks and allowing cooks and students the opportunity to provide feedback about recipes and new foods helped create buy-in.

Vendors providing healthier food items. Respondents also expressed that vendors had been helpful in providing foods that have less fats, salt, and sugar.

Role of Partners

Interviewees saw the State as a key partner in implementing the standards because it delivered statewide trainings for nutrition directors and cafeteria managers. The cafeteria managers and cooks also were key partners because they were the feet on the ground, cooking the new recipes and changing the way they had performed their jobs for years or decades. School nurses also were noted as an important partner for the nutrition staff because they helped educate students and staff about the importance of healthy eating and the changes to school meals.

STRATEGY #6: SCHOOL PHYSICAL ACTIVITY

Strategy Description

Like school nutrition policies, though these were not directly targeted to children ages 2–4 who experienced the declines, respondents believed that school physical activity policies and environmental changes helped support healthier behaviors for children. Starting in the early 2000s, Granville County schools began installing walking tracks with the support of funds from the county commissioner. The

walking tracks have been a resource for both the students and the greater community. All elementary schools now have the tracks, and schools that have one have incorporated them into physical education, recess, and class-based activity. For physical education, many teachers use the track for warm-up at every class, requiring students to complete a certain number of laps. Similarly, at recess, teachers try to promote movement by having elementary students walk the track for a certain number of laps before they can go on to free play; teachers model the behavior by walking with the students. One principal noted that teachers try to promote movement and encourage students to conduct group activities during recess rather than sitting and being inactive. In doing so, teachers are also more active, and their modeling further encourages the students' activity. As a 2005 State requirement, at recess, elementary schools are to provide 150 minutes of play or active involvement per week. The Board of Education has supported this initiative, strongly reminding administrators and teachers not to take recess away as a form of punishment, nor to use recess for punishment. To address this, schools have tried to be creative by allowing students to do an activity, but not their favorite activity (e.g., basketball, which is popular among fifth graders). Sometimes a child who has misbehaved will walk the track with their teacher, which one respondent noted allows for conversation with the teacher. In addition to encouraging students to be physically active during recess, many teachers have also incorporated physical activity breaks into the classroom using resources like GoNoodle (https://www.gonoodle.com/). Similar to school nutrition, we did not learn of any evaluations conducted to assess the effectiveness of the school physical activity interventions. However, addressing school physical activity was noted as an important obesity prevention strategy because it included a minutes-based requirement for physical activity and reinforced that teachers should not use physical activity for punishment.

Strategy Barriers and Facilitators

Barriers

Developing alternate ways to discipline students. Several interviewees working in the school environment noted the challenge of identifying other ways to punish students for misbehavior without taking away recess or PE time, and teachers and principals have tried to develop creative alternatives.

Finding time to dedicate for physical activity during school day. Interviewees also noted that dedicating the time for physical activity during the school day can be a challenge, given competing demands, but the school district has been supportive and has emphasized the importance of making time for physical activity during the school day.

Facilitators

Leadership support for physical activity requirement. The Board of Education has been very supportive of the requirement for 150 minutes of physical activity for students, particularly in the elementary schools. The board has continued to communicate the importance of this physical activity time to administrators and teachers. They are frequently reminded of the expectation and required to build the time into their schedules, and the schedules in turn have to be submitted to the central office. One interviewee expressed that having the administration take childhood obesity seriously had been very helpful.

Ongoing support from teachers. Minimal teacher turnover was another factor that helped to create and sustain support from teachers for providing physical activity opportunities and encouraging students to be active during recess. The presence of teachers who had seen the positive impact of physical activity on children's behavior and experienced the positive messages of the Eat Smart, Move

More campaign in the community helped to foster and sustain buy-in among teachers. Although it may have taken time, one principal noted that the teachers have been a major driving force in keeping the students active and engaged, often taking the time to go out during recess and walk the track with students.

Role of Partners

Those who were interviewed about physical activity strategies in schools did not speak about any outside partners but did state that support from the Granville County School Board and superintendent was critical. Their support made schools accountable for planning time for physical activity during the school day because schools were required to submit schedules to the central office. The teachers themselves also were key partners, because implementing school-based physical activity required teachers to set aside instruction time, as well as their own free time in the case of those who walked the track with students.

OTHER STRATEGIES ACROSS SETTINGS

The focal strategies described above are some of the key strategies implemented in Granville during the study period. Across settings, several other strategies were discussed during the site visit interviews. Though these strategies did not necessarily reach 2 – 4 year olds, they helped to build a shared value for health, contributing to a culture of health where the environment could promote healthier lifestyles. The reach of these strategies ranged from a few schools, to communitywide initiatives, to State and Federal policies implemented locally. Below, we discuss a few of these strategies. Appendix E shows all the strategies reported from the site visit interviews, matrixed by setting and type.

Granville Greenways

The Granville Greenways project was initiated in 2004 with the goal of creating increased opportunity for physical activity and active transport, particularly in areas around schools. In 2005, roughly $11,000 was awarded to the county as part of North Carolina's Eat Smart, Move More initiative to support the development of greenways and trails outlined in the master plan, and momentum continued to build. The team preparing the Master Plan for Granville Greenways established a greenways workgroup (a team of individuals, including planners and construction workers, who would deal with the day-to-day implementation) and an oversight Granville Greenways Advisory Council, bringing together people with authority throughout the county. In 2008, the Granville County Board of Commissioners approved the Granville Greenways implementation plan, the marketing and education plan, and the organizational plan. A nine-member multijurisdictional advisory council was appointed, and with a technical committee, helped develop several sidewalks and greenways throughout the county. The groups specifically sought to link neighborhoods to schools and shopping districts, in an effort to maximize use for physical activity and active transportation, particularly among youth. It was estimated that the county was able to bring in nearly $8.1 million in grant funding as a result of the master plan and subsequent municipal-level plans. Several members of the advisory council and technical committee noted that the master plan and the ability to bring in funding created awareness about physical activity and active transportation and helped gain the attention of elected officials. As of the writing of this report, six of nine schools in the county had a walking track, and nearly 12.5 miles of sidewalk or multi-use paths were planned, under construction, or completed. As new sidewalks and trails have been completed, Granville Greenways has also partnered with schools to implement educational programs around walking and biking to school. The technical committee and advisory

council continue to meet and seek opportunities to fund the development of more greenways throughout the county.

Health Policies for Local Organizations

During the period of the study, it was noted that there was an almost constant request from local businesses and organizations for the Health Department to participate in health fairs. For health department staff to attend a health fair, the requesting organization was required to commit to adopting a policy or environmental change. The organization was provided with a list of possible options related to nutrition, tobacco use or physical activity and a draft contract noting the name of the organization and policy or environmental change. To have health department participation in the health fair or to have health department staff provide health promotion education, the organization had to first submit a signed copy of the contract to the health promotion coordinator.

Signage

In addition to the Granville Greenways project, the health promotion coordinator for Granville County also talked about using existing infrastructure to create and promote physical activity opportunities. In some of the downtown areas, where there was even a small area with sidewalks, the Granville Health Department partnered with others in the community to design and install signs that encourage residents to be active. The health promotion coordinator explained that the mayor had received some funding from Carolina Power and Light. They used the resources to design signs indicating that walking twice around the city hall block would equal one mile. The mayor also had the Boy Scouts build benches in the middle of each block, with motivational signs such as, "Keep walking. You're doing a great job," and "Your heart will thank you." Similar signage was also installed in other towns around the county, in parks, and around churches. The health promotion coordinator measured the circumference of the block on which one church in the town sits, and then had signs placed saying that walking four times around the block would equal one mile. This simple strategy to increase physical activity reached many of the adults in the county because walking routes were marked in most of the primary locations where residents commonly went to work, play, or pray.

Weight Loss Challenge

In 2009, the Granville-Vance Health Department partnered with the local hospitals in Granville County to sponsor a weight loss challenge. For the first 2 years the program was offered, the weight loss challenge had 1,000 participants per year, with the goal of each person losing 10 pounds in 10 weeks. In the first year of the program, participants lost a total of 5,000 pounds. Weekly tips about healthy eating were sent to participants via email, and participants could link to My Eat Smart, Move More for more information about healthy eating and physical activity. Community members participated in teams of four with each team having a captain. Each team that was successful in losing weight was eligible to be in a drawing for gift cards and other prizes. The hospitals contributed money for prizes and, along with the health department, served as weigh in and weigh out sites for weight loss challenge participants. The local YMCA also offered free lunch time and evening exercise classes to participants. Several of the people interviewed from Granville County commented that, though the program did not target children, it was reaching and influencing adults, including those who had children. Many people thought the weight loss challenge helped raise awareness about the importance of healthy eating and active living.

IV. DISCUSSION

SCOPE AND SETTINGS OF STRATEGIES

Prior to, during, and following the period of noted childhood obesity declines, Granville County implemented a number of strategies in the child care, school, community, and health care settings. Strategies in the child care setting largely included the implementation of a statewide policy to increase physical activity, improve child care nutrition, and decrease sedentary time. At the State and local level, the implementation of the child care policies was supported through training and education, particularly for the implementation of nutrition standards. The county also provided education to teachers and administrators to create buy-in for healthy eating and regular physical activity. To generate support for the nutrition standards, teachers began eating the same meals as children. To implement physical activity guidelines, teachers were asked to plan at least 60 minutes of physical activity for students daily with oversight provided by administrators or early care education center directors.

In the health care setting, a systematic screening process was implemented to identify children who were overweight or obese or at risk in the county's Medicaid clinic. This process, which needed the support of health care providers, required that height and weight be tracked during every visit, and that referrals to nutrition education be made for the family of any child found to be overweight or obese or at risk for overweight or obesity.

Strategies also were implemented in the school and community settings. In schools, efforts took place to improve physical activity during the school day by requiring 150 minutes of physical activity per week, and schools implemented many of the standards outlined in the Healthy, Hunger-Free Kids Act long before the legislation went into effect. In communities, initiatives like Eat Smart, Move More and Granville Greenways helped encourage increased physical activity and healthy eating. These school and community initiatives helped contribute to a culture of health where the environment could promote healthier lifestyles. Respondents indicated that this multi-strategy, multi-setting approach, though not planned, helped to provide consistent messaging and the environmental supports for the residents of Granville County to adopt and sustain positive health behaviors.

Notably, not all the strategies implemented in Granville County were focused solely on addressing childhood obesity. Instead, initiatives like Granville Greenways and the Health Check program that launched the health care referral efforts addressed other health promotion goals, including physical activity and obesity prevention for adults, and general health promotion for children. These initiatives present an example of how Granville County integrated childhood obesity prevention efforts with other health promoting initiatives.

NATURE OF DECLINES IDENTIFIED

In Granville County, significant declines in rates of childhood overweight and obesity were identified in children ages 2–4 based on height and weight data collected in 2005 (N=586) and 2010 (N=703). Data were collected from WIC clinics, public health-sponsored clinics, child health clinics, and some school-based health centers. A 6.3% decline was noted between 2005 and 2010; data were not available to examine differences by race/ethnicity. Interviewees noted that fewer interventions targeted this group of young children specifically, but they thought the combination of strategies implemented in ECE, school, community, and health care settings contributed to the overall declines noted.

EXAMINING HEALTH DISPARITIES

Data were not available to determine any differences in rates of obesity for children by racial/ethnic subgroups. While most of the strategies identified for focus did not specifically target populations experiencing health disparities, many of the strategies implemented in Granville County had a broad reach in that they impacted all children in early care and educations settings or all children attending school. In addition, community strategies, such as school tracks built through recreation minigrants, have provided increased opportunities to be physically active for all county residents. The health care referral program was the only strategy discussed that specifically targeted a health disparate population as the intervention was delivered to parents of children on Medicaid.

STATE INFRASTRUCTURE

One theme that emerged across several interviews was the importance of State infrastructure. There were certainly many champions for health promotion in Granville County and many reasons for the successful implementation of strategies, but the infrastructure at the State level seems to have contributed to the County's successes. As discussed, the NC Department of Health and Human Services had been examining the problem of obesity since the early 2000s, and it developed a statewide obesity plan to provide local communities with a road map for addressing obesity while allowing enough flexibility for communities to take different routes to arrive at the same destination of obesity prevention. Beyond the State obesity plan, the Eat Smart, Move More initiative provided tools, resources, and training for health promotion coordinators working at the local level. The State Health Department and extension agency also initiated the partnership at the county level, in which all health promotion trainings were delivered to county health promotion coordinators and county extension agents at the same time. This created an understanding that health departments and extension agencies should work together to support each other.

In Granville, the health promotion coordinator worked on policy and environmental strategies and often had the county's extension agent work with her to provide educational sessions and trainings on nutrition. For several years, the State was also able to provide county health departments with consultants (three across the State) who were available to work with health promotion coordinators to create intervention plans, trouble shoot challenges, and be thought partners for the work being implemented at the local level. In addition, during the time that funding was available, the consultants were an important link between county health departments and the State, allowing for a constant flow of feedback. It is important to note that the State-level infrastructure came not only from the NC Department of Health and Human Services but from the partnership and support of the academic institutions and public health organizations around the State. One respondent described that there are a number of strong universities in the state, and there has been a North Carolina Public Health Association in place for over 100 years. The local health directors meet monthly with the State health director to discuss policies being implemented at the State level, challenges being experienced locally, and ways they can support one another.

STUDY LIMITATIONS

Although the site visit interviews and data collected from existing sources highlight a number of factors that may have contributed to the childhood obesity declines observed in Granville County, some limitations to the study should be noted. First, this study was exploratory in nature and not causal. That is, through interviews, policy scans, and document reviews, many items emerged that likely impacted childhood obesity declines in Granville County, but the study does not allow for

making any direct causal conclusions about what led to those declines. Further, the snowball sampling and a limited timeframe meant that the team was limited in how many individuals could complete the inventory worksheet and be interviewed during the study period. Our team was able to speak to only a small subset of individuals in the public, private, and nonprofit sector who played a role in advancing change that appeared to contribute to obesity declines.

Also, the information gleaned from this study is characteristic of the types of policies, strategies, challenges, and facilitators related to combating obesity declines in Granville County. Despite the amount of information acquired before, during, and after the site visit, that information cannot be considered comprehensive. Finally, a great deal of the information collected was retrospective. Interviewees responded to the best of their ability as to strategies undertaken 4 to 10 years prior, but their memories may not always be complete or precise about the specifics and timeframe of developing and implementing various strategies. When possible, the study team used documented reports to try to confirm the exact details and timing of policy changes and strategy implementation.

V. CONCLUSION

Granville County implemented a number of initiatives, programs, and policies reaching residents of all age groups. In addition, the strategies implemented reached residents from each city/town as efforts to increase physical activity and promote healthy eating took place in child care, school and community settings as well as health care centers and churches. Although the declines were noted in children aged 2–4 in the county, those interviewed believed many more residents have made positive changes to their health behavior. Although many of the initiatives taking place during the study time period were not directed at the population experiencing the declines, many interviewees thought that the messaging and environmental changes to support healthy eating and active living were so widespread that families, including those of young children, were making positive changes.

The work in the churches and community health care clinics was particularly important because it provided an opportunity to have direct contact with populations at risk. The faith community in the county was a key player and an important place in the community to develop and foster partnerships. The Community Care Clinic was another important component in Granville County's obesity prevention efforts because of its ability to reach low-income residents and those living at or below the Federal poverty level. These two settings were critical to advancing obesity prevention in the county because each bolstered the work taking place more broadly at the community level as trusted leaders (physicians and ministers) worked to carry the messages of healthy living to their patients or congregations.

Granville is also helpful to consider as a case study of obesity prevention in rural areas. With less than 60,000 people in the county and residents in the northern part of the county living 15–20 miles from a town center, there are many potential challenges to creating cost-effective environmental changes for health promotion. However, the Greenways initiative outlined a plan to place trails and greenways in all communities, and the minigrants program provided an opportunity for local organizations to implement small environmental changes in parks, churches, or workplaces. Granville also presents an example for other communities on how to leverage resources. The Greenways Master Plan began with an $11,000 grant and has led to over $7 million in funding to date.

Overall, our findings indicate that Granville County, as well as the State of North Carolina, put forth a great deal of effort to address obesity. Through the dedication, commitment, and collaboration of many stakeholders, community members, and local organizations, Granville addressed the issue through multiple strategies and across multiple settings, ensuring that a broad range of residents gained an awareness of the need to eat smart and move more, and were provided with the opportunities to do so in the settings where they live, work, learn, play, and pray. Stakeholders in Granville also addressed childhood obesity in children aged 2–4, where the declines were found, with more targeted strategies like the healthcare referral program and the child care guidelines concerning nutrition and physical activity.

APPENDIX A: CHILDHOOD OBESITY DECLINES PROJECT EXPERT PANEL MEMBERS

Childhood Obesity Declines Expert Panel Members	
Name	**Organization**
1. Rachel Ballard-Barbash	National Cancer Institute, National Institutes of Health
2. Nisha Botchwey	School of City and Regional Planning, Georgia Institute of Technology
3. Bridget Catlin	Population Health Institute, University of Wisconsin
4. Allen Cheadle	Center for Community Health & Evaluation, Group Health Research Institute
5. Jamie Chriqui	Institute for Health Research and Policy, University of Illinois at Chicago
6. Patricia Crawford	School of Public Health, University of California, Berkeley
7. Christina Economos	Friedman School of Nutrition Science and Policy, Tufts University
8. Karen Glanz	Perelman School of Medicine, University of Pennsylvania
9. Shiriki Kumanyika	Perelman School of Medicine, University of Pennsylvania
10. Cathy Nonas	New York City Department of Health and Mental Hygiene
11. Punam Ohri-Vachaspati	Arizona State University
12. Debra Rog	Westat
13. Brian Saelens	Seattle Children's Hospital
14. Jay Variyam	Economic Research Service, U.S. Department of Agriculture
15. Sallie Yoshida	The Sarah Samuels Center for Public Health Research & Evaluation

APPENDIX B. CONTEXTUAL DATA

DEMOGRAPHIC CONTEXT

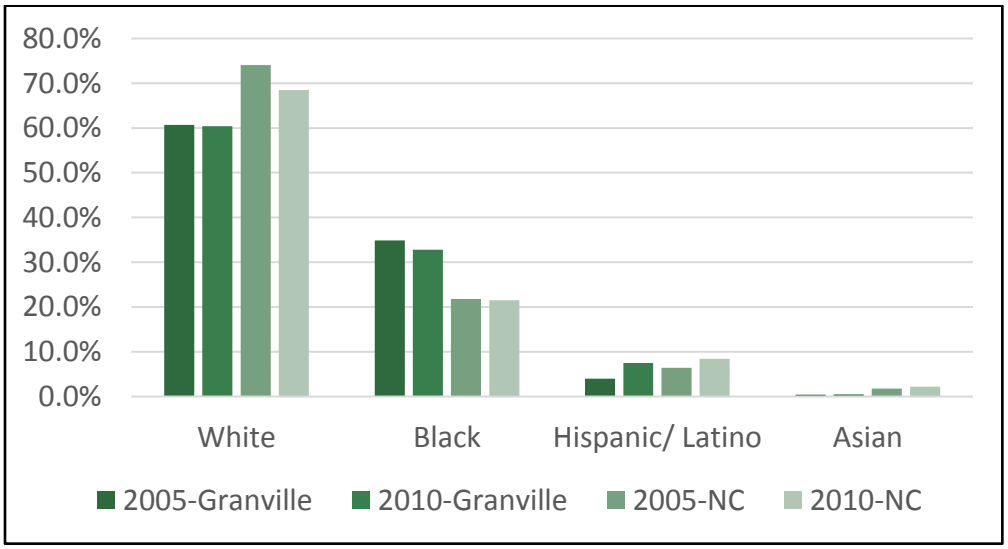
The ICF Macro team collected county-level sociodemographic data for the baseline and follow-up years of Granville County's timeline—2005 and 2010, respectively. The data gathered prior to the site visit were helpful to better understand contextual factors in the community that might affect the population and any changes in health outcomes. Variables collected include basic demographics such as age, race, and education, as well as economic indicators like employment, income, access to health insurance, etc. To establish a baseline, demographic data at the county level were taken from the 2005 U.S. Census American Community Survey. (Data from 2000 were used when county-level data for 2005 were unavailable.) Follow-up demographic data were gathered from the 2010 U.S. Census American Community Survey reported at the county level.

The data presented below in Table B.1 and Figure B.1 provide a snapshot of the demographic shifts that took place in Granville County between 2005 and 2010 as compared with the state of North Carolina overall.

Table B.1 Granville and North Carolina Demographic Data, 2005 and 2010

Demographic Variable	Granville		North Carolina	
	2005	2010	2005	2010
Population	53,674	59,916	8.68 million	9.53 million
Unemployment rate	6.0%	5.0%	5.2%	5.6%
Living below poverty level	12.8%	8.3%	14.5%	11.4%
No health insurance	Not available	Not available	Not available	Not available
High school diploma or less	27.0%	Not available	21.9%	Not available

Figure B.1: Granville and North Carolina Population Percentage by Race/Ethnicity, 2005 and 2010



American Indian/Alaska Native:
0.5% (2005-Granville), 0.5% (2010-Granville)
1.3% (2005-NC), 1.3% (2010-NC)

Nutrition and Physical Activity Context

ICF Macro also collected food and physical environment data for 2005 and 2010 to provide a more comprehensive snapshot of Granville County at the project baseline and in follow-up years. Environmental data were compiled from County Business Patterns (CBP), an annual series producing economic data by industry. This series includes the number of establishments at the county level by industry and further broken down by subindustries. These data help measure economic activity in smaller areas like an individual county, and serve as a benchmark between economic censuses. CBP uses the North American Industry Classification System (NAICS), the standard used by Federal statistical agencies in classifying business establishments "for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy."

The food environment data suggests an overall increase in the availability of food-related establishments from 2005 to 2010: see Table B.2 below.

Table B.2 Granville County Food Environment, 2005 and 2010

Store Type	Establishments 2005	Establishments 2010
Grocery Store	20 *.37 per 1,000 residents*	17 *.28 per 1,000 residents*
Convenience Stores (with and without gas stations)	27 *.50 per 1,000 residents*	42 *.70 per 1,000 residents*
Fruit & Vegetable Markets	N/A	N/A
Full Service Restaurants	17 *.32 per 1,000 residents*	21 *.35 per 1,000 residents*
Limited Service Restaurants	28 *.52 per 1,000 residents*	36 *.60 per 1,000 residents*
Farmers Markets		
4 as of 2014	None listed as providing SNAP or WIC	

The physical activity environment access data suggest an overall slight increase in the availability of fitness centers from .06 per 1,000 residents in 2005 to .10 per 1,000 residents in 2010. As seen in Table B.3, in 2014 (when data were available), 55% of Granville residents had access to at least one recreation opportunity.

Table B.3 Granville County Physical Activity Environment, 2005 and 2010

Type of Physical Activity Environment Available	Establishments 2005	Establishments 2010
Availability of Fitness Centers	3 *.06 per 1,000 residents*	6 *.10 per 1,000 residents*
Recreational opportunities (2014)		
55% of Granville residents lived within 1 mile of at least one recreation opportunity.		

APPENDIX C. INTERVIEWEES AND TITLES

Site visitors conducted a total of 16 interviews. On average, the interviews lasted approximately one hour. Below is a list of the interviewees for Granville County and their titles at the time of the interviews.

Name	Title
1. Amy Rice	Principal, Stovall-Shaw Elementary School
2. Cathy Thomas	NC Eat Smart/Move More Branch Manager, Community and Clinical Connections for Prevention and Health for the North Carolina Department of Health and Human Services
3. Cindy Newton	Lead School Nurse Granville County Schools
4. Eleanor Howell	Director, Data Dissemination Unit State Center for Health Statistics
5. Jackie Sergent	Mayor of Oxford, NC Former Granville Vance Health Promotion Coordinator
6. Jeaneen Beckham	Network Coordinator Northern Piedmont Community Care of North Carolina
7. Jennifer Carraway	Director of Student Services, Granville County Schools
8. Judy Wrenn	Child Nutrition Program Manager, Granville County Public Schools
9. Justin Jorgesen	Transportation Planner, Granville County Office
10. Lisa Harrison	Health Director, Granville-Vance Health Department
11. Michael McFadden	Technical Committee Chair Granville Greenways
12. Naima Mosley	Head Start Director
13. Scott Thomas	Administrative Director, Communications and Human Resources Granville Health System
14. Scottie Cornett	Program Director for the Parks and Recreation Department and the Planning and Zoning Department, City of Creedmoor
15. Stan Winborne	Public Information Officer, Granville County Schools
16. Vicki Hines	Finance Coordinator Prior Early Childhood Coordinator, Granville County

APPENDIX D: NORTH CAROLINA CHILDHOOD OBESITY POLICIES, 2003–2013

Year	Policy Name/ Number	Description
2003	The Current Operations and Capital Improvements Appropriations Act of 2004	This Act regards an appropriations bill from the General Fund of the State, designating amounts for institutes, agencies, including school nutrition.
	The Studies Act of 2003	Concerns the "Healthy Studies Act of 2004," and states that the Joint Legislative Education Oversight Committee may study school nutrition and opportunities for physical activity to keep children healthy.
2005	N.C. Gen. Stat. § 115C-264	Establishes a statewide standard for vending products sold during the school day, as recommended by the study committee for childhood overweight/obesity of the Health and Wellness Trust Fund.
	N.C. Gen. Stat. § 115C-264.3 (NC HB 855)	Directs the Board of Education to establish statewide nutrition standards for school meals, a la carte foods and beverages, and the After School Snack Program administered by the Department of Public Instruction, and child nutrition programs of local school administrative units. These standards promote gradual changes to increase fruits and vegetables, increase whole grain products, and decrease foods high in total fat, trans fat, saturated fat, and sugar. These standards phased in beginning in elementary schools in 2007–2008, followed by middle schools and high schools.
2007	Current Operations and Capital Improvements Appropriations Act of 2007	Directs the Board of Education to establish statewide nutrition standards for school meals, a la carte foods and beverages, and items served in the After School Snack Program administered by the Department of Public Instruction and child nutrition programs of local school administrative units. The nutrition standards will promote gradual changes to increase fruits and vegetables, increase whole grain products, and decrease foods high in total fat, trans fat, saturated fat, and sugar. To start in elementary schools followed by middle and high schools.
2008	House Bill 2437; An Act to Make Continuing Appropriations and Extend Certain Budget Provisions Until July 15, 2008	Provides funding through Maternal and Child Health block grant of $100,000 to establish a state Task Force on Childhood Obesity to undertake strategic planning to include following: (1) Providing healthier foods to students; (2) Improving the availability of healthy foods at home and in the community; (3) Increasing the frequency, intensity, and duration of physical activity in schools; (4) Encouraging communities to establish a master plan for pedestrian and bicycle pathways; (5) Improving access to safe places where children can play; and (6) Developing activities or programs that limit children's screen time, including limits on video games and television.
	NC HB 1473 (enacted)	This budget bill includes school nutrition standards requiring the State Board of Education, in direct consultation with a cross section of local directors of child nutrition services, to establish statewide nutrition standards for school meals, a la carte foods and beverages, and items served in the After School Snack Program administered by the Department of Public Instruction and child nutrition programs of local school administrative units. The nutrition standards will promote gradual changes to increase fruits and vegetables, increase whole grain products, and decrease foods high in total fat, trans fat, saturated fat, and sugar, effective in 2008–2009 for elementary schools, followed by middle and high school implementation.

Year	Policy Name/ Number	Description
	The Studies Act of 2008	Requires the State Board of Education study the current status of K-12 physical education in North Carolina. Requires, at a minimum, the study to include (1) minutes in physical education on a weekly basis; (2) number of physical education classes per week; (3) average physical education class size; (4) student Body Mass Index (BMI) data; (5) nutrition and physical activity knowledge and behaviors.
2009	10A NCAC 09.0102 and .0302, .0304, .0501, .0508-.0511, .0604, .0606, .0701-.0702, .0802, .0901, .1403.	These regulations clarify rules regarding children's health and nutrition by enriching outdoor activities and quality school-age care and activities for school-age care. It repeals rules regarding the three component Star Rated License System. The regulations also stipulate that for children under 2 years of age screen time, including television, videos, video games, and computer usage, is prohibited.
	NC HB 945 (enacted)	Among other study measures for 2009, this bill creates a Legislative Task Force on Childhood Obesity composed of six members of the House of Representatives and six members of the Senate. The bill requires the task force to study issues relating to childhood obesity and to consider and recommend to the General Assembly strategies for addressing the problem of childhood obesity and encouraging healthy eating and increased physical activity among children, including interventions in early childhood and through child care facilities.
	NC SB 202 (enacted)	This bill appropriates funds for public health programs based on a formula that takes into consideration the body mass index of public school students, in addition to other factors such as population (including percent of minorities), per capita income, rates of infant mortality, teenage pregnancy, tobacco use, cancer, heart disease, diabetes and stroke.
	N.C. Gen. Stat. § 115C-12	The statute directs the State Board of Education to encourage Local Boards of Education to enter into agreements with Local Governments and other entities regarding the joint use of their facilities for physical activity.
	N.C. Gen. Stat. § 106-830 through 833	This statue establishes the Sustainable Local Food Advisory Council to circulate money from local food sales within local communities, to decrease the use of fossil fuel reducing carbon emissions, to provide for an assessment of the foods that are served under school breakfast and lunch programs, relates to the possibility of making local food available under public assistance programs, the possibility of food stamp use at farmer's markets, and the possibility of promoting urban and backyard gardens.
2010	Senate Bill 1152 Child Nutrition Program Study	Authorizes the Joint Legislative Program Evaluation Oversight Committee to direct the Program Evaluation Division to study indirect costs under child nutrition programs in local school administrative units.
	NC SB 900 (enacted)	Provides for studies by the Legislative Research Commission, statutory oversight committees and commissions, and other agencies, committees, and commissions; among them, a study of physical education and physical activity in schools.
	NC HB 1827, SB 1153 (enacted)	Reestablishes the Legislative Task Force on Childhood Obesity to study and make recommendations to the General Assembly regarding strategies to address childhood obesity and encourage healthy eating and increased physical activity among children. Topics for consideration include early childhood interventions; child care facilities; before and after school programs; physical education and physical activity at school; higher nutrition standards; comprehensive nutrition education; and increased

Year	Policy Name/ Number	Description
		access to recreational facilities. The task force must report its finding and recommendations to the General Assembly in 2011 and 2012.
	25 NCAC 01N .0601 through .0605, Lactation Support	Provides guidelines that will assist agencies in the development of a work/life balance initiative which supports nursing mothers in North Carolina State Government. Guidelines include providing private space and time for breastfeeding at work.
	N.C. Gen. Stat. § 115C-12, Powers and duties of the Board generally	Directs the State Board of Education to develop guidelines for public schools to use evidence-based fitness testing for students statewide in grades kindergarten through eight, as recommended by the Legislative Task Force on Childhood Obesity.
	Senate Bill 1151, Supplemental Nutrition Assistance Program	Directs the Division of Social Services of the Department of Health and Human Services to examine ways to expand and enhance the Supplemental Nutrition Assistance Program, as recommended by the Legislative Task Force on Childhood Obesity.
	NC HB 1726 (enacted)	Requires the State's Child Care Commission to consult with the State's Division of Child Development in the Department of Health and Human Services, to develop improved nutrition standards for child care facilities. Directs the Division to study and recommend guidelines for increased levels of physical activity in child care facilities. Directs the Division of Public Health to work with other entities to examine and make recommendations for improving nutrition standards in child care facilities, all as recommended by the Legislative Task Force on Childhood Obesity.
	NC HB 1832 (enacted)	Establishes a position in the North Carolina Department of Agriculture to facilitate the farm to school program to provide technical assistance to increase the amount of North Carolina produce purchased by schools.
	NC HB 1757 (enacted)	Requires the State Board of Education to develop guidelines for evidence-based fitness testing for students in public schools statewide in grades kindergarten through eight.
	NC HB 1471 (enacted)	Directs the State Board of Education to encourage local boards of education to enter into agreements with local governments and other entities regarding the joint use of their facilities by the local community for physical activity. Recommends that joint use agreements delineate opportunities, guidelines, and the roles and responsibilities of the parties, including responsibilities for maintenance and liability.
2011	House Resolution 670, Heart Disease and Dietary Sodium Intake	Creates awareness about the benefits of eliminating excessive dietary sodium intake and related supporting measures aimed at decreasing heart disease and stroke.
	NC SB 415 (enacted)	Provides free school breakfasts for children who qualify for reduced-price meals at schools participating in the national school breakfast program. It requires the State Board of Education to report on public school nutrition programs operated by school districts under the jurisdiction of Child Nutrition Services in the Department of Public Instruction.
2013	10A N.C. ADMIN. CODE 09.0102, .0714, .0901, .0902, .1501 through .1504, .1506, .1702, .1706, .1708, General Nutrition Requirements	Requires meals and snacks in a child care centers to comply with nutrient intake guidelines from the USDA. Improves the nutrition standards in child care facilities by limiting juice intake and prohibiting soda, flavored milk, and food that doesn't meet nutritional requirements. Requires that menus be posted that show nutritious meals and snacks for the coming week. Provides children with supplemental food should food brought from home not meet nutritional requirements. Requires drinking water to be available. Requires that accommodations be made for breastfeeding mothers.

Year	Policy Name/ Number	Description
	NC HB 57, NC SB 193 (enacted)	Prohibits local school administrative units from assessing indirect costs to a school's child nutrition program unless the program is financially solvent with a minimum of one month's operating balance. Also provides that the North Carolina Procurement Alliance shall promote optimal pricing for child nutrition program food and supplies.
	NC SB 402 (enacted)	Among other provisions in this appropriations bill, provides for promoting healthy physical education, sports policies, and practices. This bill also funds programs promoting wellness, physical activity, and health education programming.

APPENDIX E: GRANVILLE MATRIX OF STRATEGIES

Name of Strategy	Setting				Focus Areas			Type		
	ECE	Schools	Community	Health Care	Nutrition	Physical Activity	Built Environment	Program	Policy	Media Campaign
Child Care Nutrition	X				X				X	
Child Care Physical Activity	X					X			X	
Health Care Referral Program				X	X			X		
Eat Smart, Move More			X		X	X		X		X
School Nutrition		X			X				X	
School Physical Activity		X				X			X	
Granville Greenways (active, safe transportation)		X	X			X	X	X	X	
Joint use agreements to increase physical activity opportunities.			X			X	X		X	
Health Promotion Coordinator		X			X	X	X	X		
Girls On The Run		X				X		X		
Nutrition in Faith-Based Organizations			X		X			X	X	
WIC Programs (Fresh Fruit and Vegetable program, etc.)	X				X			X	X	
Granville Athletic Park		X	X			X	X	X		
Other community-based nutrition (Kids Living Healthy program at schools, etc.)			X		X			X		
Other community-based physical activity (downtown festivals and other events, sports leagues, walks, etc.)			X			X		X		
Granville county community walks and 5ks			X			X				
Granville County sports leagues			X			X				
Downton festivals - Oxford			X			X				