

Development of Evaluation and Capacity Building Plans for the Chapel Hill-Carrboro City Schools' Local Wellness Policy

*Capstone Summary Report
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UNC Master of Public Health Students in Health Behavior

Kathryn Bawden, Aubrey Delaney, Jennifer Delcourt, E. Grace Friedberger, & Amy Gatto

Partner Organization

Chapel Hill-Carrboro City Schools

Preceptor

Stephanie Willis, MPH, RN, NCSN

Faculty Advisor

Mike Bowling, PhD

On our honor, we have neither given nor received unauthorized aid on this assignment.

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Acronyms

AHG - Alliance for a Healthier Generation

BMI - Body Mass Index

CHCCS - Chapel Hill-Carrboro City Schools

FA - Faculty Advisor

HB - Health Behavior

HHFKA - Healthy, Hunger-Free Kids Act

HSAC - Healthy Schools Advisory Council

LEA – Local Education Agency

LWP - Local Wellness Policy

PE – Physical Education

SBWT - Site-Based Wellness Team

SWOT - Strengths, Weaknesses, Opportunities, Threats

TT - Teaching Team

USDA - United States Department of Agriculture

UNC – University of North Carolina at Chapel Hill

Public Health Terms

Fidelity – The extent to which stakeholders implement and adhere to a policy or protocol as planned.

Grey literature – Material that is published outside of academic journals and typically includes reports, news articles, and Internet sources.

Preceptor – Mentor at the Capstone organization who plans and oversees the scope of work in collaboration with the Capstone team, teaching team, and faculty advisor.

Process evaluation – A type of evaluation that focuses on the extent to which a program or policy is implemented as planned and reaches the intended beneficiaries.

Stakeholder – a person or group of persons who have an interest or concern in a policy or program, especially those who are directly affected by it or who are involved in creating and implementing it.

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Executive Summary

Research shows that students who eat a healthy diet and regularly engage in physical activity show improved behavior and academic performance in schools. However, many children in North Carolina, and across the nation, are not healthy: rates of childhood obesity and overweight are high and continue to rise. Schools provide a unique opportunity for interventions to improve healthy eating and physical activity, and there is ample evidence to show that school-based interventions are effective in improving students' health.

For this reason, in 2004, Congress mandated that all schools participating in the National School Lunch Program must develop and implement a Local Wellness Policy (LWP), as well as a plan to evaluate the policy. Our Capstone team worked with Chapel Hill-Carrboro City Schools (CHCCS) to design an evaluation plan to measure implementation of their LWP and a capacity building plan to increase CHCCS' ability to successfully implement the policy.

First, we conducted a literature review to learn more about LWPs and their implementation across the country. Next, we created a process evaluation plan and a survey tool to collect information from stakeholders to measure LWP implementation annually. Throughout the project, we attended monthly meetings of the Healthy Schools Advisory Council (HSAC) to interact with stakeholders and update them on our progress. We assisted school nurses at three schools in applying for national awards to recognize their wellness efforts. Lastly, we created a capacity building plan to help the district improve its ability to fully and consistently implement the LWP.

These Capstone deliverables expand CHCCS' capacity to evaluate the implementation of its LWP and use the results to make improvements, thus making progress toward the ultimate goal of improving student and staff health. As a result of this project, the Capstone team gained knowledge and experience in designing evaluations and writing clearly for a wide audience. By disseminating our deliverables through CHCCS and online in the form of a public Drop Box folder, the team added to the field of resources on LWP implementation, evaluation, and capacity-building, allowing future projects to use our deliverables to inform their own work.

I. Introduction

In the 2012 to 2013 academic year, our five-person team of Master of Public Health (MPH) students in the department of Health Behavior (HB) at the University of North Carolina at Chapel Hill (UNC) partnered with Chapel Hill-Carrboro City Schools (CHCCS) for this Capstone project. Capstone is a nine-month, mentored project that combines fieldwork and coursework to satisfy the thesis requirement of the UNC Graduate School. This Capstone Summary Report is a detailed record of the work we completed with CHCCS and its impact on us, our partner organization, and the field of school wellness.

CHCCS, located in Orange County, North Carolina, is the school district for the towns of Chapel Hill and Carrboro. CHCCS serves 12,000 students at 12 elementary schools, four middle schools, and four high schools (Chapel-Hill Carrboro City Schools, 2013). The mission of CHCCS is to, “enable all students to acquire, through programs of excellence and fairness, the knowledge, skills, and insights necessary to live rewarding, productive lives in an ever-changing society” (Chapel-Hill Carrboro City Schools, 2013).

CHCCS already has some of the necessary infrastructure to strengthen implementation of their LWP. For example, a highly-functioning district-level group called the Healthy Schools Advisory Council (HSAC) exists to make health-related policy recommendations to the school board. This group is led by the CHCCS Coordinator of Health Services and Programs, Stephanie Willis, and meets once a month during the academic year. Members of the HSAC include the child nutrition director, school nurses, teachers, physical education (PE) teachers, parents, and students. In addition, each school is required to have a site-based wellness team (SBWT) to promote staff and student health, and these teams support the HSAC at the school level. These teams are usually headed by the school nurse or PE teacher, and members include parents, teachers, administrators, and students. Throughout the year, each Capstone team member worked with one SBWT at the elementary level.

Capstone Partner Organization Need

The Child Nutrition and WIC Reauthorization Act of 2004 mandated that every Local Education Agency (LEA), or school district, participating in the United States Department of Agriculture (USDA) National School Lunch program develop and implement a LWP by the 2006 - 2007 school year. Although federal law mandates the implementation and evaluation of LWPs, as of writing this report, no additional funding has been directed toward policy development or enforcement. As a result, CHCCS, along with school districts across the United States, faces barriers to successful implementation of their LWP. CHCCS' LWP was officially approved in 2006, though parts of it had been approved as early as 2004 as part of separate nutrition and physical activity policies. Ms. Willis, Coordinator of Health Services and Programs, oversees development and implementation of the LWP. Without funding for activities related to the LWP, Ms. Willis sought a Capstone team to address CHCCS' need to evaluate implementation of the LWP and to determine the district's capacity building needs for improved implementation and continued evaluation.

Overview of Capstone Project

The logic model in Figure 1 provides a visual description of the project and its intended results and impact. It describes the resources provided, activities completed, outputs created, and expected outcomes and impact of the project on CHCCS and stakeholders. In particular, our work centered on six deliverables:

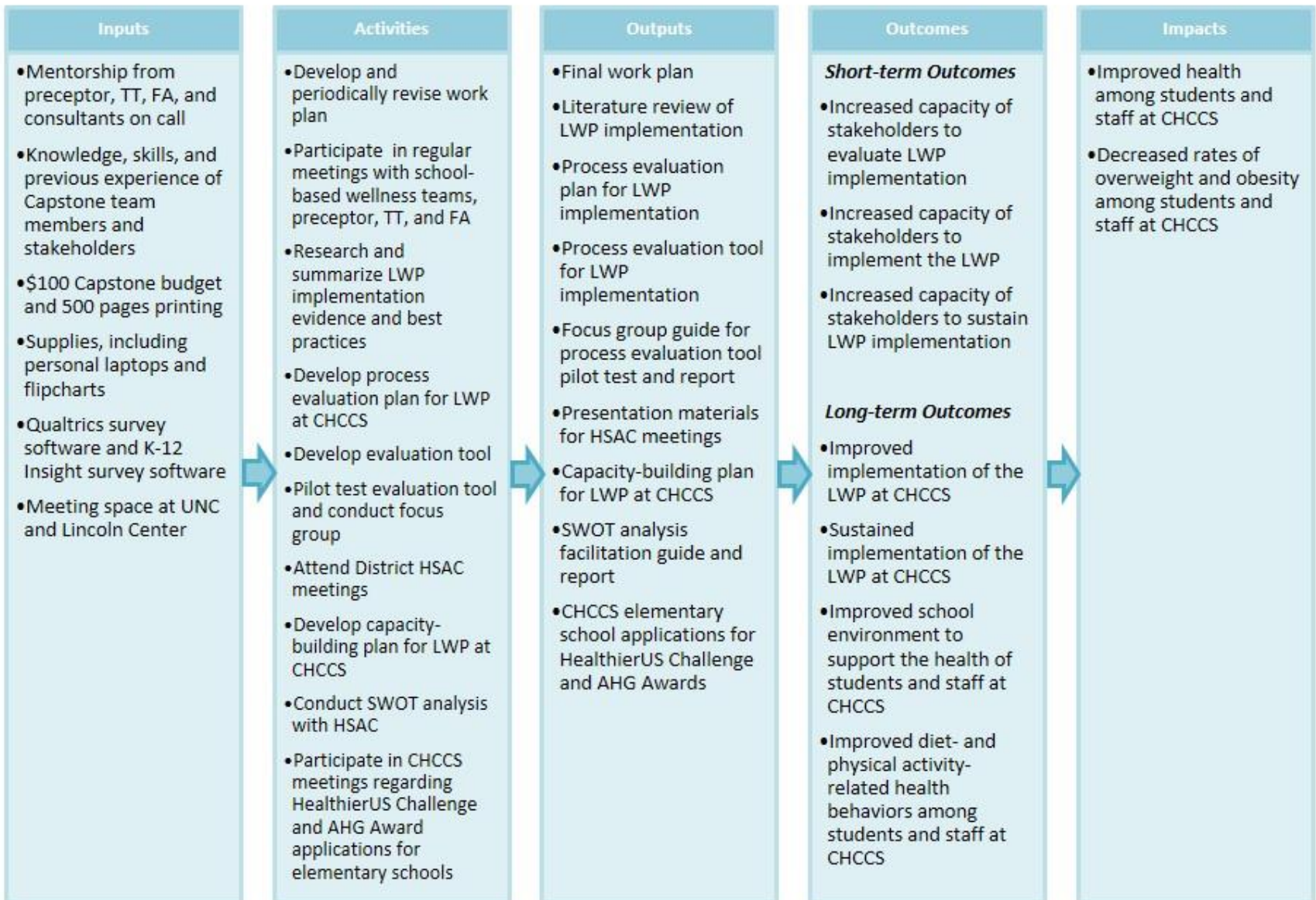
1. A literature review of resources for LWP implementation, evaluation, and capacity building;
2. A plan for conducting a process evaluation to measure implementation of the LWP at CHCCS;
3. A process evaluation tool (in the form of an online survey) to measure implementation of the LWP;
4. A capacity building plan for CHCCS to support improved, sustained implementation of the LWP;
5. Monthly presentations at HSAC meetings to engage key stakeholders in the project;
6. And assistance to the CHCCS Coordinator of Health Services and Programs and elementary school nurses in applying for the Alliance for a Healthier Generation (AHG) silver-level awards.

The next section of this summary report, Section II, includes relevant background information on the problem of childhood obesity, current literature on LWPs and how to evaluate and sustain them, and the

rationale for our approach to the project. In Section III, we describe each deliverable's format, purpose, activities, key findings, and resulting recommendations. Finally, in Section IV, we describe the broader implications of the Capstone project for stakeholders and the Capstone team members, including strengths and limitations of the team's approach, lessons learned, the impact of the team's work, and recommendations for next steps.

Figure 1. Chapel Hill-Carrboro City Schools Logic Model

Development of Evaluation and Capacity Building Plans for the Chapel Hill-Carrboro City Schools' Local Wellness Policy



II. Background

The Issue: Childhood Obesity

Childhood obesity affects 16.9% of children ages 6 to 11 in the United States (Ogden & Carroll, 2010). North Carolina's childhood obesity rates are higher than the national average: 17.8% of 4th and 5th graders are obese (North Carolina State Center for Health Statistics, 2011). Obesity is commonly measured and defined by Body Mass Index (BMI), a surrogate measure for body fat that is based on height and weight (Centers for Disease Control and Prevention, 2012; Ogden & Carroll, 2010). Children and adolescents are obese if their BMI falls above the 95th percentile of BMI among their peers (Centers for Disease Control and Prevention, 2012). Children are considered overweight if they have a BMI at or above the 85th and below the 95th percentile for children of the same age and sex (Freedman, Mei, Srinivasan, Berenson, & Dietz, 2007).

Childhood obesity is associated with other conditions that may emerge in childhood, adolescence, or adulthood, including diabetes, heart disease, and certain cancers, as well as premature death (Centers for Disease Control and Prevention, 2012; Singh, Mulder, Twisk, van Mechelen, & Chinapaw, 2008). For instance, the Bogalusa Heart Study found that 60% of overweight five to ten year-old children in the study had one risk factor for cardiovascular disease and 20% had two or more risk factors for cardiovascular disease (Freedman, Mei, Srinivasan, Berenson, & Dietz, 2007). Additionally, children who are obese are more likely to be obese as adults and experience lifelong health consequences as a result of their weight (Singh, Mulder, Twisk, van Mechelen, & Chinapaw, 2008).

Schools and Student Health

Schools are opportune locations for interventions to prevent or mediate the effects of childhood obesity (Institute of Medicine, 2007). By providing both healthy environments and health education, schools can equip students with the tools necessary to make healthy choices about diet and physical activity (Ebbeling, Pawlak, & Ludwig, 2002). Additionally, student health is shown to be positively

associated with academic achievement and mental and emotional health, thus aligning with a central component of schools' missions (McCreary, 2012; Story, Nannery, & Schwartz, 2009; United States Department of Agriculture Food and Nutrition Service, 2011).

A number of programs have found success in improving students' health through school-based interventions, and two studies are particularly noteworthy. One two-year educational intervention for middle school students that focused on healthy eating and increasing physical activity resulted in a significant decrease in the obesity rate among female students (Gortmaker, 1999). Even though there was not a corresponding decrease among male students, the researchers concluded that the results were positive and helped support the case for school-based health interventions. Another intervention attempted to prevent and address overweight and obesity among fourth, fifth, and sixth grade students by focusing on policy changes in addition to education. The intervention, which included nutrition education, nutrition policy, social marketing, and parent outreach, resulted in a 50% reduction in the incidence of overweight among children in target schools (Foster, 2008). These interventions support the rationale for additional health education and environmental changes in schools.

Overview of Local Wellness Policies

As demonstrated in the literature, policy change is an effective method for improving student health, including reducing overweight and obesity. Congress sought to address childhood obesity in 2004 with the passage of the Child Nutrition and WIC Reauthorization Act, which established requirements for LWPs in school districts that receive federal money through the National School Lunch Program (U.S. Code, 2004). At a minimum, LWPs must include nutrition guidelines for all food available on campus during the school day; standards for nutrition education, physical activity, and other school-based activities; and a plan to evaluate the policy's implementation (U.S. Code, 2004). Nutrition guidelines include standards for the Child Nutrition program, which covers food served in the cafeteria, and for "competitive foods", which includes all other food served or sold at school events, in classrooms,

in vending machines, and for fundraisers, but not food brought to school from students' homes (U.S. Code, 2010). In 2010, the Healthy, Hunger-Free Kids Act (HHFKA) updated and strengthened the requirements for LWPs, requiring that a team of stakeholders, including parents, students, the school food authority, the school administration, the school board, and the general public, collaboratively develop and implement the LWP (U.S. Code, 2010). The updates in the HHFKA also require public communication regarding the status of LWP implementation (U.S. Code, 2010).

While resources on how to craft LWPs abound, peer-reviewed literature on best practices for implementing LWPs are scarce (United States Department of Agriculture Food and Nutrition Service, 2012). Specific components of LWPs (i.e., improving opportunities for physical activity and healthy eating) in elementary schools have been associated with improvements in health, academic achievement, and behavior among students (McCreary, 2012). However, there is limited evidence for the effectiveness of LWPs as an intervention to change students' health behaviors and improve health outcomes.

Though the evidence base regarding LWP effectiveness is still developing, school board members, school wellness advocates, and national leaders in the field of childhood obesity prevention believe that LWPs can have positive effects on students' health and academic achievement (Agron, Berends, Ellis, & Gonzalez, 2010; Centers for Disease Control and Prevention, 2012; Chriqui, Schneider, Chaloupka, & Pugach, 2009; Rudd Center for Food Policy & Obesity, 2009). According to Agron et al. (2010), LWPs that are implemented and enforced have great potential to improve children's access to healthy foods and physical activity. A nutritious diet and regular physical activity are the recommended way to prevent childhood obesity, and LWPs improve students' access to both (Ebbeling, Pawlak, & Ludwig, 2002). Thus, LWPs can play a major role in improving students' immediate and long-term health.

Local Wellness Policy Process Evaluation

The HHFKA requires that schools evaluate three components of the LWP: 1) the extent to which the school district's LWP compares to model LWPs; 2) the extent to which the LWP has been implemented in the schools; and 3) the progress that has been made in achieving LWP goals and objectives (United States Department of Agriculture Food and Nutrition Service, 2011). In a report from the School Nutrition Association (SNA), 89% of schools surveyed reported that they had a plan for implementation and evaluation of their LWP (School Nutrition Association, 2006). However, a second report from the SNA released a year later shows that only 42% of schools surveyed reported having evaluated their LWP (School Nutrition Association, 2007). An additional 48.8% of schools surveyed reported that they were planning to evaluate their policies, but had not yet done so (School Nutrition Association, 2007). Evaluation is necessary not only to comply with the federal mandate, but also because data from effective evaluations can help improve development and implementation of LWPs.

The Rudd Center for Food Policy and Obesity at Yale University has compiled best practices for creating an evaluation plan for LWPs. According to their recommendations, an LWP evaluation plan must include specific language on how the evaluation will be conducted (Rudd Center for Food Policy & Obesity, 2009). Second, a permanent school wellness committee should carry out the evaluation and lead policy revision efforts based on evaluation results. Additionally, the Rudd Center recommends the use of observational methods to accurately and completely document stakeholders' fidelity to the LWP, meaning the extent to which stakeholders are implementing and adhering to the LWP as planned (Rudd Center for Food Policy & Obesity, 2009; Story, Nanney, & Schwartz, 2009).

The tools currently available for evaluating LWPs predominantly focus on evaluating the content of a school's LWP rather than evaluating the process of LWP implementation. A process evaluation is an appropriate method to evaluate implementation because it measures the extent to which a program or policy is implemented as planned (fidelity) and whether or not it reaches the intended beneficiaries

(reach). Process data help to identify barriers to implementation and establish accountability of stakeholders, which can assist in revising policies (Connecticut State Department of Education, 2009). Process evaluation is especially useful in evaluating complex programs or policies such as the LWP because it evaluates the steps taken to achieve the desired outcome, leading to a better understanding of how the program or policy is achieving the desired effect. In this way, a process evaluation can support the sustainability and success of the LWP.

There is very little information in the literature that provides guidelines for conducting process evaluations of LWPs. Some states have developed guidelines with sample process questions for evaluating LWP implementation, but do not provide a plan or tools with which to evaluate the policies (Connecticut State Department of Education, 2009; Maryland State Department of Education, 2009).

Capacity to Sustain LWPs

The success of the LWP depends on the capacity of the school district to improve and sustain implementation of the policy over time. Without assessing the district's capacity to sustain LWP implementation and building a responsive plan to improve areas of weakness, the potential benefits of the LWP are less likely to come to fruition (Rudd Center for Food Policy & Obesity, 2009). Thus, a strategy for sustaining the LWP over time is vital.

The literature provides four recommendations for sustaining LWPs, all of which are tied to a school district's capacity for supporting LWP implementation (Budd, Schwarz, Yount, & Haire-Joshu, 2012; Schwartz, 2012). First, recent studies demonstrate that writing the LWP in strong, clear language improves the likelihood that the policy will be implemented (Budd, Schwarz, Yount, & Haire-Joshu, 2012; Schwartz, 2012). Second, the Rudd Center for Food Policy and Obesity at Yale University advises that adequate support for personnel (i.e., teachers, school staff and administrators) is key to policy implementation and sustainability. This includes a permanent committee tasked with monitoring and evaluating the LWP, and using the results of the evaluation to inform subsequent revisions and

enforcements of the LWP (Rudd Center for Food Policy & Obesity, 2009). Third, funding is necessary to support LWP implementation and sustainability. Securing funding for implementing the policies over multiple years should be a high priority for schools seeking to sustain a LWP (Moag-Stahlberg, Howley, & Luscri, 2008). Finally, districts are more likely to mandate and follow LWP components that are also required by other government agencies (Metos, 2007). This suggests that districts should align the LWP with broader district, state, or national policies to promote effective implementation and sustainability of the LWP (Metos, 2007).

Rationale for Approach

Confronted by a lack of evidence-based practices or tools for LWP process evaluation in the academic literature, we relied on recommendations in the grey literature that were described earlier to develop our deliverables. The evaluation plan and tool were developed so that they would be feasible in a school environment with many competing demands for time and resources and to include a wide variety of stakeholder input. It is our goal that the evaluation plan and tool will further engage the school community and support the implementation of the LWP within the school environment.

Given that the LWP is relatively new for CHCCS, the district still needs to build its capacity for successful, sustained implementation. To support this goal, we developed a capacity building plan with recommendations for steps that stakeholders at CHCCS can take to improve implementation of the LWP. This plan incorporates recommendations from the grey literature as described earlier, as well as the results of the evaluation tool pilot test and Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis. The capacity building plan is intended to be a living document that supports the policy's implementation and ongoing evaluation.

The creation of the process evaluation plan and evaluation tool will assist CHCCS in fulfilling the federal requirements for the HHFKA as well as help to inform future iterations of the district's LWP.

Additionally, by creating a process evaluation plan and tool to measure LWP implementation, the CHCCS Capstone team will contribute to the gap in literature about LWP evaluation.

III. Deliverables

In order to help CHCCS evaluate and sustain implementation of the LWP, we developed the following six deliverables: (1) LWP literature review, (2) process evaluation plan, (3) process evaluation survey tool, (4) HSAC presentation materials, (5) capacity building plan, and (6) award applications. Specific details regarding the format, purpose, development activities, key findings, and recommendations for future use are described in the tables below.

These six deliverables represent the outputs in the Capstone logic model. They will lead to the anticipated outcomes and impact, including increased capacity of CHCCS to improve, evaluate, and sustain the LWP, and improved health among students and staff at CHCCS. The scope of work for the deliverables was guided by a work plan developed in ongoing collaboration with the Capstone team, preceptor, teaching team, and faculty advisor. Each deliverable was reviewed and approved by the preceptor, teaching team, and faculty advisor, as specified in the work plan.

<i>Deliverable 1: Literature Review</i>	
<i>Format:</i>	A 5-page document reviewing both academic and grey literature and a one-page policy brief.
<i>Purpose:</i>	To provide the CHCCS Coordinator of Health Services and Programs with a summary of the literature about LWP implementation, evaluation, and sustainability, and model LWPs. This document also informed the development of the evaluation plan, evaluation tool, and capacity building plan (Deliverables 2, 3, and 6.)
<i>Activities:</i>	<ul style="list-style-type: none"> • Searched for literature through PubMed, Google Scholar, and Google Search using terms such as “local wellness policy”, “local wellness policy evaluation”, “local wellness policy best practices”, and “local wellness policy implementation”. • Developed evidence table for internal use by Capstone team to summarize

	<p>articles based on purpose of article, methods, specific aspects of LWPs addressed, LWP implementation approaches, LWP assessment tool(s) used, key findings, strengths, and limitations.</p> <ul style="list-style-type: none"> • Synthesized information from evidence table to write the literature review, including sections addressing the issue of childhood obesity, schools and student health, background on LWPs, evaluation of LWPs, building capacity to sustain LWPs, and rationale for our approach to the project. (This information is part of the Capstone Summary Report and can be found under these headings in earlier sections of this document). • Developed a one-page policy brief to communicate literature review findings to CHCCS stakeholders • Presented findings to HSAC and SBWT.
<i>Key Findings:</i>	<ul style="list-style-type: none"> • LWPs have great potential for short and long-term benefits to student health. • Schools are an ideal setting for intervention because they are able to provide children with both healthy environments and health education. • Student health has been shown to have a positive impact on achievement and discipline, making it even more important for schools to address this issue. • LWPs can be improved in the following ways: include strong, clear language in the policy itself; provide adequate human resources for LWP implementation; use evaluation results to improve and sustain the policy; and provide funding for LWP implementation. • There are major gaps in the literature on LWPs, including a lack of information regarding how to evaluate the implementation of LWPs.
<i>Recommendations:</i>	<ul style="list-style-type: none"> • The policy brief should be used as a tool to communicate the background and importance of the LWP with stakeholders.

<i>Deliverable 2: Process Evaluation Plan for LWP Implementation</i>	
<i>Format:</i>	A 10-page narrative document that details the purpose of the evaluation, how to use the evaluation tool, the analysis and dissemination plan, timeline, and roles and responsibilities of major stakeholders.
<i>Purpose:</i>	To develop a plan for CHCCS stakeholders to evaluate LWP implementation annually.
<i>Activities:</i>	<ul style="list-style-type: none"> • Reviewed process evaluation literature, as described in Deliverable 1. • Met with experts (Dr. Allan Steckler and Dr. Leslie Lytle) to discuss process evaluation in school settings.

	<ul style="list-style-type: none"> • Discussed preceptor’s ideas and goals for a process evaluation of the LWP, as well as possible evaluation designs, constraints, timeline, use, dissemination, and other considerations. • Drafted process goals and objectives for LWP implementation based on LWP focus areas (e.g. nutrition education, physical education, etc.) and stakeholder groups (e.g. teachers, parents). • Created an outline for evaluation plan and drafted sections (summary, intended use and users, program description narrative, evaluation focus, methods, analysis and interpretation, and use and dissemination). • Shortened document from 23 pages to 10 pages, based on feedback from preceptor and teaching team. Simplified and clarified the language to be a stand-alone document, usable to multiple audiences and stakeholders.
<i>Key Findings:</i>	<ul style="list-style-type: none"> • A simple, utilization-focused, brief plan is most appropriate for this audience and setting. • The plan should detail how to conduct the evaluation using the online survey, how to analyze and disseminate the results, and how to incorporate the results into school improvement plans. It should also clearly outline roles and responsibilities in clear terms.
<i>Recommendations:</i>	<ul style="list-style-type: none"> • The CHCCS Coordinator of Health Services and Programs should share the plan with the superintendent and other relevant partners at CHCCS. This plan should be followed each year to evaluate the LWP implementation. School stakeholders (e.g., HSAC, SBWT) should revise this plan and the evaluation tool as necessary.

<i>Deliverable 3: Process Evaluation Tool for LWP Implementation</i>	
<i>Format:</i>	A 34 to 66 question (varies based on respondent role) quantitative online survey to be administered by the CHCCS Coordinator of Health Services and Programs.
<i>Purpose:</i>	To create a tool to be used by the CHCCS Coordinator of Health Services and Programs/CHCCS stakeholders to monitor implementation of the LWP.
<i>Activities:</i>	<ul style="list-style-type: none"> • Collected existing examples of LWP evaluation tools, as described in Deliverable 1. • Based on evaluation plan goals and objectives, identified constructs to measure using the RE-AIM framework, created operational definitions of those constructs, and developed questions to assess them. • Drafted survey questions based on goals and objectives. • Identified Mary Scroggs Elementary School for pilot testing and recruited participants.

	<ul style="list-style-type: none"> • Created focus group guide for pilot test (Appendix A). • Piloted evaluation tool at Mary Scroggs Elementary School with volunteer participants and conducted a focus group with participants. • Incorporated pilot test results into revised survey and finalized the tool. • Shared tool with CHCCS Coordinator of Health Services and Programs
<i>Key Findings:</i>	<ul style="list-style-type: none"> • It is important to tailor the survey tool so that different types of respondents answer questions that are most relevant to their role. Branching capabilities were utilized to create one survey tool to be used with six stakeholder groups (Administrators, Nurses, Parents, PE Teachers, Teachers/TAs, and Other Staff). Respondents answer between 34 and 66 questions based on role and involvement in select activities.. • In measuring LWP implementation, it’s important to not only ask about how people are following the policy, but also to ask about their awareness of the policy, necessary training and resources, facilitators and barriers to implementation, as well as the perceived value of the policy. • A process evaluation can also be used to assess certain outcome measures, such as awareness of the LWP.
<i>Recommendations:</i>	<ul style="list-style-type: none"> • The survey should be distributed by the CHCSS Coordinator of Health Services and Programs once a year according to the recommendations in Deliverable 2: Process Evaluation Plan for LWP Implementation. • The school teams conducting the evaluations should seek the largest number of survey respondents possible from all stakeholder groups (Administrators, Nurses, Parents, PE Teachers, Teachers/TAs, and Other Staff) to gain a complete perspective of LWP implementation. • The evaluation results should be utilized by school nurses and the School Improvement Teams (SIT) at each school to inform the School Improvement Plan (SIP) and guide the implementation of the LWP in their school.

<i>Deliverable 4: District Healthy Schools Advisory Council Presentation Materials</i>	
<i>Format:</i>	Agendas for HSAC meetings describing progress on Capstone project.
<i>Purpose:</i>	To share the Capstone team’s progress with HSAC.
<i>Activities:</i>	<ul style="list-style-type: none"> • Met monthly with school-based wellness teams to develop rapport and understand wellness concerns in CHCCS. • Based on monthly progress, identified materials to be presented to the HSAC. These included the policy brief and SWOT analysis results. • Developed agendas for HSAC meetings.

	<ul style="list-style-type: none"> Presented Capstone progress at HSAC meetings based on agenda items. Documented HSAC meeting minutes for Capstone team.
<i>Key Findings:</i>	<ul style="list-style-type: none"> Stakeholders were involved in the process and given regular updates through our attendance at six meetings throughout the 2012 to 2013 academic year. Engaged with teachers, administrators, parents, PE teachers, the CHCSS Coordinator of Health Services and Programs, and Child Nutrition staff.
<i>Recommendations:</i>	<ul style="list-style-type: none"> The CHCSS Coordinator of Health Services and Programs should continue to utilize HSAC members to support implementation, evaluation, and sustainability for LWP.

<i>Deliverable 5: Capacity Building Plan</i>	
<i>Format:</i>	A 16-page narrative document describing the top five prioritized capacity building areas and corresponding action steps, as well as cross-cutting themes and a list of resources.
<i>Purpose:</i>	To help stakeholders at CHCCS build district and school capacity for implementing and sustaining the LWP.
<i>Activities:</i>	<ul style="list-style-type: none"> Reviewed findings from the literature review regarding sustainability and capacity building, as described in Deliverable 1. Tailored existing program sustainability assessment tool developed by Washington University in St. Louis to assess perceptions of CHCCS' current capacity to sustain the LWP. Eliminated questions that did not apply to CHCCS policies and modified others based on literature review findings. Sent the survey out by email, then summarized and shared results with HSAC. Facilitated Strengths, Weaknesses, Opportunities, Threats (SWOT) analysis with HSAC, including parents, teachers, representatives from Child Nutrition, and other school staff. This group exercise required stakeholders to think critically about issues related to LWP implementation (Appendix B). Identified priority areas for capacity building and sustainability based on SWOT analysis and literature review findings. Summarized and shared results from SWOT analysis with HSAC. Created recommendations and action steps for each priority area. Each action step details responsibilities, timeline, and suggested resources. Shared capacity building plan with the CHCCS Coordinator of Health Services and Programs and HSAC.
<i>Key Findings:</i>	<ul style="list-style-type: none"> Stakeholders see many strengths regarding current implementation of the LWP, including the fact that CHCCS even has a LWP, support from the HSAC and SBWTs, resources in the community (e.g., UNC), and multiple channels

	<p>for communicating the LWP.</p> <ul style="list-style-type: none"> Stakeholders’ biggest concerns regarding implementation of the LWP revolved around the lack of communication regarding the LWP, as well as a lack of consistency in implementation across schools in the district.
<i>Recommendations:</i>	<ul style="list-style-type: none"> The CHCCS Coordinator of Health Services and Programs should disseminate the Capacity Building Plan to the HSAC, SBWTs, and school administrators. The CHCCS stakeholders (e.g., HSAC, SBWT, SIT) should use the recommendations, action steps, and resources included in the capacity building plan to improve implementation and sustainability of the LWP.

<i>Deliverable 6: Application for Alliance for a Healthier Generation Awards</i>	
<i>Format:</i>	Three applications for Alliance for a Healthier Generation (AHG) awards at the bronze or silver levels.
<i>Purpose:</i>	To seek national recognition for LWP implementation in CHCCS.
<i>Activities:</i>	<ul style="list-style-type: none"> Researched HealthierUS and AHG applications. Attended four working meetings where applications were completed. Assisted school nurses in the completion of online applications at working meetings.
<i>Key Findings:</i>	<ul style="list-style-type: none"> CHCCS schools are at varying levels of eligibility for the HealthierUS and AHG applications. CHCCS schools pursue these awards for national and local recognition and for funding for wellness activities.
<i>Recommendations:</i>	<ul style="list-style-type: none"> The CHCCS Coordinator of Health Services and Programs should provide schools with guidance regarding how to improve their award status earlier in the academic year. This can be done through workshops at the beginning of the school year about the application process to provide details on the types of data to collect and strategies to engage stakeholders.

IV. Discussion

Stakeholder Engagement

Stakeholder engagement and feedback on this project was essential, since LWPs impact the entire school community. Key stakeholders engaged for this project included parents, teachers, school

nurses, administrators, and PE teachers. Two of our deliverables directly addressed stakeholder engagement; deliverable 4 required that we attend the monthly HSAC meetings to present on our work; and deliverable 6 involved working with the SBWTs at three elementary schools to complete the AHG award application. In addition, we included methods for stakeholder engagement in two other deliverables. For deliverable 3, we pilot tested the survey tool with stakeholders at Mary Scroggs Elementary School, and for deliverable 5, we surveyed a small sample of stakeholders regarding perceptions of district capacity and facilitated a SWOT analysis with the HSAC. In addition, each Capstone team member was paired with an elementary school, where we participated in regular SBWT meetings.

Competing priorities for time and attention and difficulties in reaching some stakeholder groups (i.e., teachers and principals) challenged our efforts to involve all stakeholders in the project. However, the opportunities to engage stakeholders that we built into our work resulted in valuable feedback and facilitated stakeholder ownership of the Capstone project.

Lessons Learned and Skills Developed

As a culminating experience, Capstone is designed to provide practical skills-building opportunities to future public health practitioners. We learned a great deal from this project, and our most valuable lesson learned was about the importance of clear communication. When our project began, we were unclear about our preceptor's expectations. After working with our preceptor and the teaching team to clarify our role and the specific project deliverables, we were better able to define the scope of our work and begin planning specific activities.

In addition, because our project brought us into regular contact with members of the local school community, we also gained experience in translating public health knowledge and best practices into a real world setting. We learned to stay flexible when working with a community partner and adapted our deliverables to the needs and context of the organization. For example, when developing

the evaluation tool, we wrestled with balancing the dual goals of a product that provides rigorous data with a product that is user-friendly. We learned that outside help is instrumental in developing resources and tools for a client, since we received invaluable guidance from our teaching team (TT), faculty advisor (FA), preceptor, and the other consultants.

Capstone provided an opportunity for us to apply the public health principles and practices we learned from the HB curriculum, including applied research methods, community engagement, focus group facilitation, program planning, and literature reviews. We drew upon resources that we learned to use in our classes, such as the CDC evaluation framework and the RE-AIM framework.

Finally, through this project we experienced firsthand how a federal policy with no universal standards or funding support was translated to implementation at the local level. As future developers of public health programs and policies, this experience will remind us to be thoughtful to the people who will be implementing and affected by a policy or program.

Impact of Capstone Project on CHCCS

The Capstone project has been mutually beneficial, as the Capstone team developed valuable skills and the Capstone partner organization received products to increase their capacity to implement and sustain the LWP. The Capstone project deliverables have the potential to impact CHCCS in many ways, and we believe that having stakeholders involved in the process of creating the deliverables has increased the impact that these products will have on the CHCCS community. The three main impacts of our project, which we will expand upon below, include improving stakeholder support and capacity for evaluating the LWP, building awareness about CHCCS capacity and LWP sustainability, and building rapport between HB and CHCCS.

First, the evaluation plan builds the capacity of CHCCS stakeholders by guiding them step-by-step through the process of evaluating LWP implementation, analyzing and disseminating data, and actually using the data. By developing the process evaluation plan and tool with regular, structured

input from school stakeholders, we were able to raise awareness to the importance of evaluating the LWP while gathering input to make the evaluation tool appropriate for its users.

Second, the capacity building plan has the potential to influence LWP sustainability at the district- and school-levels through recommendations, concrete action-steps, and a list of relevant resources. The content of this plan was driven by input from district- and school-level stakeholders through a survey and SWOT analysis, as well as relevant literature. We believe that the process by which we sought this information is equally valuable to the deliverable itself. Gathering information about capacity and sustainability through surveys and conversations with stakeholders has the potential to spark more conversations at the district and school levels in the future. The capacity building plan will provide structure and content to these conversations by outlining potential action steps and resources.

Finally, our Capstone project helped to strengthen the relationship between CHCCS and the HB department. We attended SBWT meetings at five local elementary schools as well as monthly HSAC meetings. As a result, we met and developed rapport with stakeholders and community members, which built support for our deliverables. Conducting the SWOT analysis deepened our connection with the HSAC, and its members expressed appreciation for our work on the LWP. Additionally, we assisted school nurses in the completion of the Alliance for a Healthier Generation national award applications and learned more about the everyday challenges that school nurses face with regard to student health and wellness. We believe this relationship has the potential to open doors to future partnerships between the HB department and CHCCS to enhance the learning of HB students while providing useful services and expertise to CHCCS.

Impact of Capstone Project on the Field of LWPs

Through our literature review we learned that there are gaps in the academic and grey literature regarding the practices of implementing LWPs in schools. For example, most school districts have not evaluated their LWP implementation, nor have they created a capacity building plan to sustain their

LWP. Our main deliverables seek to address this gap by creating tools for CHCCS that reflect the best practices for implementing LWPs. These tools may be useful for other school districts as well, and we have published them on a public Drop Box site to facilitate the circulation of these resources within and outside CHCCS. The literature review and policy brief provide a summary of LWP best practices, with a focus on evaluation and sustainability, which could be relevant for schools that are in the process of developing their LWP. While the process evaluation plan and tool are tailored to CHCCS, they can serve as an example for school districts throughout the country that would like to evaluate the implementation of their LWPs. The capacity building plan, while also tailored to CHCCS's context, contains considerations and resources that could be useful for other school districts as they consider how to best build their schools' capacity to implement the LWP.

Going forward, CHCCS's LWP work is relevant for other districts, as CHCCS is a model school district for the development and implementation of a LWP. Their district LWP was evaluated using the Yale WellSAT, a tool to measure the strength of LWP policy language, which showed that its' LWP standards are strong. Other school districts can use CHCCS as an example for LWP development, implementation, and evaluation. It is our hope that CHCCS will be recognized for its efforts in the district's elementary schools by being awarded silver or bronze status by the AHG. Additionally, the results of the evaluation and a description of the process of evaluating and sustaining the LWP, if documented by CHCCS, will be relevant for the field of LWPs.

Recommendations and Next Steps

This Capstone project helped begin the conversation about evaluation of the LWP at CHCCS. We recommend that the CHCCS Coordinator of Health Services and Programs, the HSAC, and SBWTs evaluate the implementation of the LWP annually. In order to do this, it is imperative that CHCCS supports the leadership responsible for fulfilling the plan and securing stakeholder buy-in. Further, the evaluation plan and evaluation tool should be revised as necessary in the future.

The capacity building plan provides specific recommendations, action steps, and resources identified by the Capstone team which, when followed, have the potential to build CHCCS' capacity to implement the LWP. We recommend that the CHCCS Coordinator of Health Programs and Services circulate this document to the HSAC, SBWTs, school administrators, and other relevant stakeholders. It should be used by the HSAC and SBWTs to start a conversation to identify strengths and weaknesses of schools' LWP implementation and identify potential solutions to improve weaknesses.

In order to evaluate the implementation of the LWP and build the district's capacity to better implement it, we recommend that CHCCS solicit the assistance of one or two graduate students to continue this work as part of an internship or practicum. Since the upcoming school year will be the first in which the evaluation plan and capacity building recommendations can be applied, it would be beneficial to have a graduate student(s) to work with stakeholders to guide the evaluation process and implement the capacity building recommendations. It is our hope that once these key steps are taken, both evaluation and capacity building for the LWP will become more institutionalized and sustainable at CHCCS.

We developed each deliverable to be a stand-alone document, available to anyone involved with the LWP. The CHCCS Coordinator of Health Programs and Services has copies of each of these documents, and they are also available on a public Drop Box site (available at www.tinyurl.com/chccs-unc-capstone). We hope that our work will add to existing resources on LWPs and support the efforts of school districts around North Carolina, and potentially the country, in implementing and evaluating LWPs.

Conclusion

Our Capstone team's deliverables seek to expand CHCCS' capacity to implement the LWP, thus making progress toward the ultimate goal of improving students' and staff's health. By disseminating our deliverables throughout the CHCCS community in the form of a publicly accessible online Drop Box

folder, we improved the transparency of the LWP and its supporting materials. Additionally, these documents are available for CHCCS to share in public forums such as conferences and online clearinghouses. If CHCCS chooses to share these materials outside the district, this will add to the available non-academic resources on LWP implementation, evaluation, and capacity in North Carolina and the United States. The experiences and skills gained by the Capstone team throughout this process have been essential to the HB MPH experience. Above all, learning to translate public health knowledge, principles, and ideals into pragmatic, context-driven, and stakeholder-oriented deliverables has been an invaluable experience that has already shaped our careers and worldviews.

Appendix A. Focus Group Guide for Pilot Test of Process Evaluation Survey Tool

Date: Thursday, February 28th

Time: 3:00 – 4:30 PM

Setting: Computer lab at Scroggs Elementary. Printers and a projector will be in the room. Snacks will be available.

Roles:

- Amy - children
- Aubrey - facilitator
- Grace - children
- Kat - facilitator
- Jen - note taker

1. Introduction and Overview (5 – 10 minutes)

Introductions of capstone team members and participants (name and title)

As part of our Capstone work, we are creating an evaluation plan and online survey to evaluate how the wellness policy is being implemented in the schools. This also covers what kind of resources teachers, parents, and nurses feel they need, as well as their thoughts on the wellness policy overall. We created the survey based on the components of the wellness policy and other evaluation tools from around the country.

The survey will be sent out once a year to all teachers, staff, administrators, principals, and parents of students. So you all are the intended users.

Our objectives for today include:

- Get feedback on the survey from its intended users, you all
- Strategize the best ways to get a high response rate

First, everyone will take the online survey. It should take about 10-15 minutes, but don't worry if it takes you longer. The survey branches based on responses, so there are more questions for some people than others. Don't feel like you need to rush through it. If you'd like to jot down any thoughts while you take it, we have scratch paper.

After this, you'll print out your survey, and I'll ask some questions about how it went.

2. Participants Take Survey (20 - 25 minutes)

Provide time for participants to complete survey. Participants will print surveys upon completion.

3. Focus Group Discussion (1 hour)

Facilitator: The survey branches based on your role in the school and your responses, so not everyone saw the same questions.

There are no wrong answers, and everyone's opinion is valuable. Please be honest. Any information you provide is great – we just want to hear your thoughts.

We will de-identify your responses, and we will use the information from the discussion in revising the survey and the plan for its use.

Question 1: How long did it take you to complete the survey?

Probes:

- Was the length reasonable for you?

Question 2: How did the format of the survey work for you?

Probes:

- Was it easy to use?
- Any suggestions for improving it?

Question 3: To what extent were the questions and responses clear and easy to understand?

Probes:

- After completing the survey, what suggestions do you have to improve the questions and response options?
- As you were taking the survey what errors did you notice that should be corrected?
- Were you confused?

Question 4: Do you think we missed anything? Should we add questions about anything related to how people are implementing the policy?

Probes:

- What background information (about the LWP policy and regulations), if any, should be incorporated?
- Did the survey mention anything that you didn't know about?

Question 5: What, if any, information on the survey should be removed?

Probes:

- Any suggestions for rewording specific questions or responses?

Question 6: How can we increase the response rate for the survey? What strategies do you recommend?

Probes:

- How many e-mail reminders should be sent to potential respondents?
- What subject line suggestions do you have that would encourage survey completion?
- Are there any incentives that could be used to improve participation? Would a raffle or school competition help?

Wrap-Up (5 minutes):

Facilitator: Thank you for your time and valuable assistance. As a reminder, your names will not be recorded or linked to our notes. So we will take this information and use it to revise the survey and create a plan for using the survey. Feel free to contact Kat if you think of anything after this session that you want to add.

Appendix B. Facilitation Guide for SWOT Analysis

Date: February 26, 2013

Setting: Healthy Schools Advisory Committee meeting at Scroggs Elementary

Materials: Flip chart, markers, snacks, handouts

Introduction:

Welcome everyone and describe who the Capstone team is and what we're doing. Ask if anyone has done a SWOT analysis before. Explain what SWOT analysis is, how to do it, why it is useful for HSAC to do it. Describe the Goals for this SWOT Analysis and how it will be used to inform the capacity building plan. Our focus is on sustainability and capacity building with regard to the *implementation* of the LWP at the district level. Does anyone have any questions?

Things to Keep in Mind:

- Consider the questions from your own point of view, as well as the people you work with.
- Be realistic and honest.

Strengths

- Questions
 - What advantages does CHCCS have?
 - What does CHCCS do well, or better than it used to?
 - What relevant resources do CHCCS and people at CHCCS have access to?
 - What do other people see as strengths of CHCCS?
- Prioritize
 - Choose one and discuss briefly how the top strength can best be leveraged

Weaknesses

- Questions
 - What could CHCCS improve?
 - What does CHCCS not do very well?
 - What should CHCCS avoid doing based on past mistakes and lessons learned?
 - What factors detract from CHCCS' ability to attain desired goals or objectives?
- Prioritize
 - Choose one and discuss briefly how the top weakness can best be addressed

Opportunities

- Questions
 - Where does CHCCS have a competitive advantage?
 - Are there any relevant trends affecting CHCCS?
 - Do the strengths that you identified create any opportunities?
- Prioritize
 - What is the greatest opportunity and how can we take advantage of it?

Threats

- Questions
 - What obstacles does CHCCS face?
 - What is happening with the competition?

- Are there factors beyond CHCCS' control to contend with?
 - Are the required specifications for your job, products or services changing?
- Prioritize
 - What is the most significant threat and how can we mitigate it?

Closing:

Explain how the results of the SWOT analysis will be used (making recommendations in the capacity-building plan) and what will happen next with regard to the Capstone project. Will we share the write-up of the SWOT Analysis with them?

Thank everyone for coming!

References

- Agron, P., Berends, V., Ellis, K., & Gonzalez, M. (2010). School wellness policies: Perceptions, barriers, and needs among school leaders and wellness advocates. *The Journal of School Health, 80*(11), 527-35; quiz 570-2. doi: 10.1111/j.1746-1561.2010.00538.x; 10.1111/j.1746-1561.2010.00538.x
- Barlow, S. E., & Expert Committee. (2007). Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: Summary report. *Pediatrics, 120 Suppl 4*, S164-92. doi: 10.1542/peds.2007-2329C
- Budd, E. L., Schwarz, C., Yount, B. W., & Haire-Joshu, D. (2012). Factors influencing the implementation of school wellness policies in the United States, 2009. *Preventing Chronic Disease, 9*, E118.
- Centers for Disease Control and Prevention. (2012). Adult obesity facts. Retrieved October 13, 2012, from <http://www.cdc.gov/obesity/data/adult.html>
- Chapel Hill-Carrboro City Schools (2013). *Chapel-Hill Carrboro City Schools*. Available at: <http://www.chccs.k12.nc.us/>
- Chriqui, J. F., Schneider, L., Chaloupka, F. J., & Pugach, O. (2009). *Local wellness policies: Assessing school district strategies for improving Children's health, school years 2006-07 and 2007-08*. Chicago, IL: Bridging the Gap, Health Policy Center, Institute for Health Research and Policy, University of Illinois at Chicago.
- Connecticut State Department of Education. (2009). *Action guide for school nutrition and physical activity policies*. Hartford, CT.

- Ebbeling, C. B., Pawlak, D. B., & Ludwig, D. S. (2002). Childhood obesity: Public-health crisis, common sense cure. *Lancet*, *360*(9331), 473-482. doi: 10.1016/S0140-6736(02)09678-2
- Foster, G. (2008). A policy-based school intervention to prevent overweight and obesity. *Pediatrics*, *121*(4), 794-802.
- Freedman, D. S., Mei, Z., Srinivasan, S. R., Berenson, G. S., & Dietz, W. H. (2007). Cardiovascular risk factors and excess adiposity among overweight children and adolescents: The Bogalusa heart study. *The Journal of Pediatrics*, *150*(1), 12-17.e2. doi: 10.1016/j.jpeds.2006.08.042
- Gortmaker, S. L. (1999). Reducing obesity via a school-based interdisciplinary intervention among youth. *Archives of Pediatrics & Adolescent Medicine*, *153*(4), 409.
- Koplan, J. (Ed.). (2007). *Progress in preventing childhood obesity: How do we measure up?* National Academies Press.
- Leeman, J., Sommers, J., Vu, M., Jernigan, J., Payne, G., Thompson, D., Ammerman, A. (2012). An evaluation framework for obesity prevention policy interventions. *Preventing Chronic Disease*, *9*, 120.
- Maryland State Department of Education. (2009). *Making wellness work: A guide to implementing and monitoring wellness policies in Maryland*.
- McCreary, L. L. L. (2012). A mixed-methods evaluation of school-based active living programs. *American Journal of Preventive Medicine*, *43*(5), 395-398.
- Metos, J. J. (2007). The strength of school wellness policies: One state's experience. *The Journal of School Health*, *77*(7), 367-372.

- Murray, N. G., Low, B. J., Hollis, C., Cross, A. W., & Davis, S. M. (2007). Coordinated school health programs and academic achievement: A systematic review of the literature. *The Journal of School Health, 77*(9), 589-600. doi: 10.1111/j.1746-1561.2007.00238.x
- Ogden, C. L., & Carroll, M. D. (2010). *Prevalence of obesity among children and adolescents: United States, trends 1963-1965 through 2007-2008*. (Health E-Stat). National Center for Health Statistics.
- Ogden, C. L., Carroll, M. D., Kit, B. K., & Flegal, K. M. (2012). Prevalence of obesity in the United States, 2009-2010. *NCHS Data Brief, (82)*, 1-8.
- Rudd Center for Food Policy & Obesity. (2009). *Rudd report: School wellness policies, A policy brief*. New Haven, CT: Yale University.
- School Nutrition Association. (2005). *School nutrition association wellness policy guidelines*. Retrieved from <http://www.schoolnutrition.org/Content.aspx?id=8504>
- School Nutrition Association. (2006). *A foundation for the future: Analysis of local wellness policies from the 100 largest school districts*. Retrieved from <http://www.schoolnutrition.org/Content.aspx?id=8504>
- School Nutrition Association. (2007). *From cupcakes to carrots: Local wellness policies one year later*. Retrieved from <http://www.schoolnutrition.org/Content.aspx?id=8504>
- Schwartz, M. B. (2012). Strength and comprehensiveness of district school wellness policies predict policy implementation at the school level. *The Journal of School Health, 82*(6), 262-267.
- Singh, A. S., Mulder, C., Twisk, J. W., van Mechelen, W., & Chinapaw, M. J. (2008). Tracking of childhood overweight into adulthood: A systematic review of the literature. *Obesity Reviews: An Official*

Journal of the International Association for the Study of Obesity, 9(5), 474-488. doi:
10.1111/j.1467-789X.2008.00475.x

Story, M., Nanney, M. S., & Schwartz, M. B. (2009). Schools and obesity prevention: Creating school environments and policies to promote healthy eating and physical activity. *The Milbank Quarterly*, 87(1), 71-100. doi: 10.1111/j.1468-0009.2009.00548.x

Child Nutrition and WIC Reauthorization Act of 2004, Public Law 108-265 (2004).

Healthy, Hunger-free Kids Act of 2010, Public Law 111-296 (2010).

United States Department of Agriculture Food and Nutrition Service. (2012). Local school wellness policy. Retrieved October 13, 2012, from http://teamnutrition.usda.gov/healthy/wellnesspolicy_tools.html