

Healthy Hawks

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Abstract

Childhood obesity is a growing problem across the nation, the state, and Catawba County. In response to this problem, the Healthy Partners Coalition of Catawba County has developed a program that challenges local schools to become healthy schools. To be designated a healthy school; the school must meet specific criteria set forth by the coalition. While many of the area's elementary and high schools have been able to meet the criteria, local middle schools have fallen short in the area of physical activity. To help middle schools meet this challenge, the Healthy Hawks Pilot Program was designed to increase physical activity levels of the participating students using an idea of fitness is fun. Healthy Hawks is an afterschool school fitness club that teaches students fun physical activities in addition to imparting information on healthy eating habits.

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Healthy Hawks

Healthy Hawks Club

Obesity is a growing problem in the United States that has reached epic proportions. According to the Centers for Disease Control (CDC) in 2010, approximately 35.7% of the adult population was obese (Body Mass Index [BMI] >35) and another 12.5 million children ages 2-19 were considered obese (Ogden, Carroll, Kit, & Flegal, 2012). Healthy People 2020, a national consortium that addresses the health status of the nation, reviewed the goals and findings of the Healthy People 2010 initiative and found that target goals had not been met. In fact, trends showed that rather than decreasing, obesity rates had actually increased across the board with the greatest rises being seen with children and adults over the age of 60 (www.healthypeople.gov, 2012).

In North Carolina, the rates of residents that are overweight or obese are consistent with national data. Statistics collected by the NC Public Health Department in 2009 showed that 65.7% of the adult population in the state is overweight or obese and NC ranked 5th in the nation for childhood overweight/obesity rates (34.2%) (*NC-PASS*, 2009). Catawba County numbers for children who are overweight or obese (38.1%) are higher than the state average (Catawba County Public Health [CCPH], 2011, p. 87). The Catawba County Public Health Department's Health Partners coalition has partnered with the state sponsored Eat Smart, Move More campaign to create the Eat, Smart, Move More Catawba County program that specifically targets area schools to improve nutrition and physical activity of school age children.

Needs Assessment

Obesity has been linked to multiple chronic diseases including: diabetes, hypertension, coronary artery disease, osteoarthritis, sleep disorders, and mental health disorders (Catawba

County Public Health [CCPH], 2011). Chronic diseases such as these reduce an individual's quality of life by limiting functional abilities to perform activities of daily life and significantly reducing life expectancy. Studies have shown that overweight and sedentary adults tend to have children that are also overweight and sedentary which perpetuates the problem of obesity (www.cdc.gov, 2012). The American Academy of Pediatrics (AAP) has noted several other causal factors for childhood obesity which can be seen in Table 1. They recommend that all children be screened for: screen time (the amount of time per day watching television, playing video games, or time spent in front of a computer), amount of sweet drinks per day, number of meals away from home (meaning meals not prepared at home), number of servings of fruits and vegetables per day, family history, review of growth charts, socioeconomic status, cultural, and environmental factors at all well check visits (www2.aap.org/obesity, 2008). The AAP has also identified several physical, emotional, and social problem areas associated with childhood obesity, Table 2.

Table 1:

Causes of Childhood Obesity		
Sugar Drinks		Greater availability of high calorie/fat/sugar foods and drinks
Less healthy food choices on school campuses		Increased portion sizes
Advertising of less healthy foods		Lack of breastfeeding support
Unregulated policies for childcare centers food choices and activity requirements		Increased use of television and media
Lack of daily physical activity in schools		Limited access to healthy and affordable food
Lack of safe public spaces to allow for activity		

(www2.aap.org/obesity, 2008)

Table 2:

Problems Associated with Childhood Obesity		
Physical	Emotional	Social
Glucose Intolerance & Insulin Resistance	Low self-esteem	Stigma
Type 2 Diabetes	Negative body image	Teasing & bullying
Hypertension	Depression	Negative stereotyping
High Cholesterol		Discrimination
Fatty Liver Disease		Social Marginalization
Gall Stones		
Sleep Apnea		
Asthma		
Skin Disorders		
Menstrual abnormalities		
Impaired Balance		
Orthopedic Problems		

(www2.aap.org/obesity, 2008)

Catawba County recognized through the county health assessment that was completed in 2011 that obesity levels in children was a problem area that needed to be addressed. Therefore, the Catawba County Health Partner Board was developed by the health department to assist in the planning and implementation of programs that will achieve the goals set in the Community Health Assessment, including decreasing childhood obesity rates. Members of this board come from multiple walks of life and include: school nurses, public health educators, nutrition coordinators, doctors, school board members, and community business leaders. A listing of the current Healthy Partner Board can be seen in Table 3 (A. McCauley, personal communication, September 28, 2012).

Table 3:

Healthy Partners Board Members 2011-2012		
Name	Area of Expertise	Position on Board
Joel Miller, MD	Catawba Women's Center	Chairman
Susan Witherspoon	Catawba County Schools	Vice Chair
David Parsons, CPA	Davidson, Holland, Whitesell	Treasurer
Bobby Boyd	Community Volunteer	Access to Care Chair
Phil DiCasolo	Community Volunteer	Eat Smart, Move More Chair
Hani Nassar	Klingspor	Cancer task Force Chair
Michelle Roseman	Palliative Care Center & Hospice of Catawba Valley	A.S.A.P Chair
Lee Carter, MD	Adult Internal Medicine	
Carleen Crawford	Community Volunteer	
Guy Garino	Catawba Valley Medical Center	
Ed Salyards	Frye Regional Medical Center	
James Tilton	Alex Lee Inc.	
Doug Urand	Catawba County Public Health	
Kelly Isenhour	Catawba County Public Health (Ex Officio)	
Amy McCauley	Community Outreach Manager, Catawba County Health Partners	

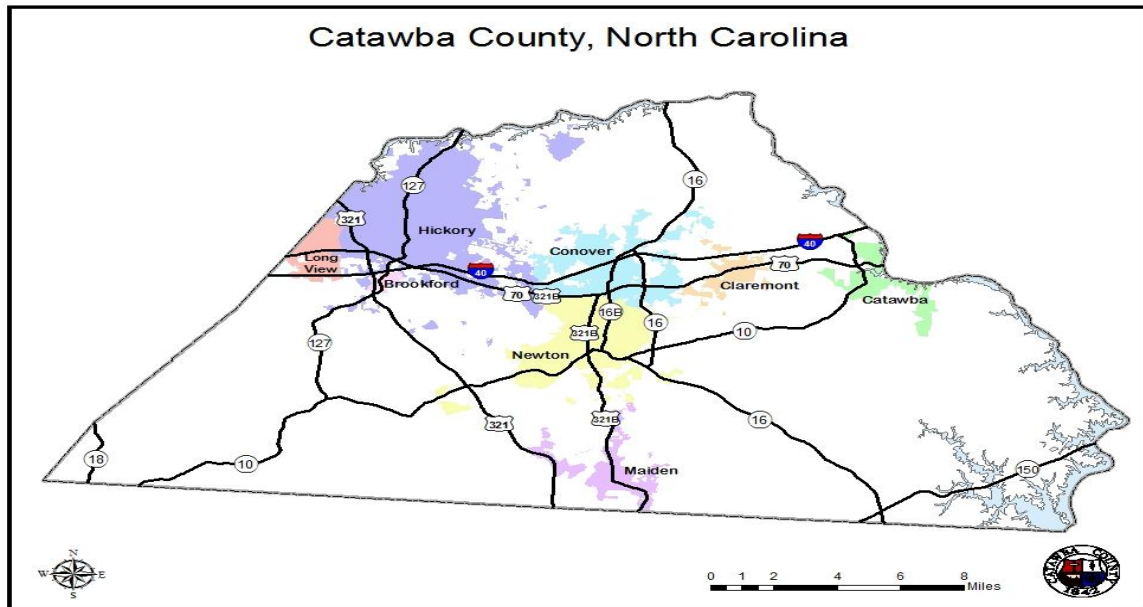
Catawba County Health Partners created a collaborative coalition to find ways of combatting the problem of childhood obesity called the Healthy Schools recognition Program. The Healthy Schools Recognition Program debuted in the 2010-2011 school year as part of the Eat Smart, Move More Catawba County program. The goal of this initiative is to improve nutrition and physical activity in Catawba County's three school systems. In the inaugural year of the

program, 16 of 44 schools participated and 10 achieved “Healthy School” status. A “Healthy School” meets the following seven criteria:

1. “Have a school Wellness Council in place that is committed to the health and well being of the school population. This council should meet monthly and consist of school personnel and parents who act as positive role models.
2. Offer fresh or frozen fruits and vegetables at least three times per week at lunch.
3. Offer plain bottled water at lunch (or make available a water fountain or container of water).
4. 100% of classrooms comply with North Carolina’s “Healthy Active Children” statute requiring 30 minutes of physical activity per day in K-8.
5. Have in place and comply with a school policy for healthy fundraisers.
6. Have in place and comply with a healthy school store policy.
7. Have in place and enforce a school policy for healthy concessions (A. McCauley, personal communication, September 28, 2012)”.

The main objective of this program is to have all schools participate and achieve “Healthy School” status thereby improving the overall health of the children of Catawba County.

Community Capacity Assessment



(CCPH, 2011, p. 10)

Catawba County is composed of eight small towns/cities and is located in the foothills of the Blue Ridge Mountains; the largest of these cities is Hickory. According to 2010 census results, approximately 154,358 residents called Catawba County home (CCPH, 2011, p. 10). The county is composed of 44 public schools in 3 different school systems (Hickory Public Schools, Newton-Conover Schools, and Catawba County Schools). There are 2 universities, 1 community college, and 1 technical school in the area. A large number of recreational facilities, parks, and pools are available throughout the county for public use (CCPH, 2011, p.10).

The economy in Catawba County has primarily been based on the furniture, textile, and hosiery industries. However, with cheaper labor and resources being supplied by foreign countries, a lot of these jobs have been outsourced. As a result, the unemployment rate in Catawba County is approximately 12.6%, which is higher than the

state unemployment level of 9.8% (CCPH, 2011, p. 11). The largest employers in the county are: Catawba County School System, Catawba Valley Medical Center (CVMC), Frye Regional Medical Center (FRMC), and Merchant Distributors International (MDI) (CCPH, 2011, p.11).

Catawba County has several assets that contribute to successful community outreach programs. Having two hospitals within such close proximity to each other and multiple physician offices and specialty areas, there is a high level of medical knowledge in the community that can be obtained for medical conditions such as obesity. The area has a locally renowned surgical weight loss program that runs through CVMC and a community outreach program for local children with the Healthy House. Catawba County also has a history of great social support in the community, i.e., food bank volunteers, United Way fundraisers, Brett's Ride for Cancer research, and the Susan G. Komen foundation Race for the Cure volunteers and participants. Even though Catawba County has a high unemployment rate and a high poverty level, there are also several big name companies that have corporate headquarters in the county and offer significant financial support to various community programs. Catawba County has a large number of green spaces that are available for public use. Finally, there are many empty building spaces from old mills that have relocated that could be used to house different community outreach programs (CCPH, 2011, p.11).

According to the 2011 Community Health Assessment data, the childhood obesity rate in Catawba County has been steadily increasing. The Healthy Partners group thinks that two of the contributing factors to the childhood obesity levels could be a lack of structured physical activity time while in school and unhealthy food choices. The county

needs a method to improve education to school aged children about the need for increased physical activity and how to make better/more healthy food choices.

Program Outcomes

The goal of the Healthy Schools program is to reduce the incidence of overweight and obese children in Catawba County. At this time the program is available to all forty-four elementary, middle, and high schools in the county. The elementary schools are well represented in the number of schools who have achieved recognition and several high schools have also participated, but the middle school representation at this time is low due to the difficulty of balancing academic requirements with the physical activity component of the criteria to achieve recognition. Many schools in the county receive Title 1 monies from the government and must meet a certain number of daily educational hours. In order to meet these requirements, elective classes have been shortened so that the school day does not lengthen. Unfortunately, physical education classes are included under the electives umbrella (A. McCauley, personal communication, September 28, 2012).

While the Healthy Schools program is finding ways to help the elementary aged children increase physical activity and knowledge of healthy food choices, gaining access and acceptance in the middle schools is proving to be more difficult. After interviewing a 6th grade student at Northview Middle School about the availability of exercise at the school, it was theorized that if an after school club were available that offered exercise and nutrition education Healthy Partners would be able to gain an entrance into that age group to espouse the objectives of the Eat Smart, Move More program (P. M. Starnes, personal communication, September 30, 2012).

After reviewing data collected from the Healthy Schools Recognition program and speaking with the program director, Amy McCauley, it was noted that middle school

involvement is very limited. According to Ms. McCauley, the reason for limited middle school involvement is primarily due to the inability of the schools to be able to incorporate daily physical activity into their limited schedules. Ms. McCauley developed a contest to be conducted at all middle schools in the county to try and come up with a solution to incorporate more physical activity into the school day. Unfortunately, there have been no good results to speak of.

An interview was conducted with two Northview Middle School students, one 6th grade and one 8th grade, to ascertain their thoughts on how to increase physical activity during the school day. Paige Starnes suggested that an after school club that encouraged physical activity once or twice a week could be a workable solution (P. M. Starnes, personal communication, September 30, 2012). Her brother, Josh Starnes, suggested adding a nutrition education section to the meetings as well (J. Starnes, personal communication, September 30, 2012). Taking the suggestions of these two children, led to a conversation with the principle of Northview Middle School, Stephanie Dischiavi. Mrs. Dischiavi stated that one her goals for this school year was to get the school to participate in the Healthy Schools Recognition program. Due to scheduling concerns though, she was unsure how she was going to accommodate the required daily physical activity into the schedule (S. Dischiavi, personal communication, October 24, 2012). A brainstorming session was held and the suggestions of two of her students were discussed. The result was the Healthy Hawks Club.

Healthy Hawks Program

Northview Middle School (NVMS) is one of two middle schools in the Hickory City School district. Located in the northwest section of Hickory, NVMS currently has approximately 500 students from a wide range of backgrounds. There are 11 organized sports teams at the school (football, boys & girls soccer, cross country, boys & girls basketball, wrestling, baseball,

volleyball, softball, and cheerleading), however these are only open to a limited number of students in 7th and 8th grades only (S. Dischiavi, personal communication, October 24, 2012). Students must try-out for these sports and many do not make the teams simply because of team number limits. Developing a program that is open to all students regardless of sports capability is vital to the success of the program according to Mrs. Dischiavi (S. Dischiavi, personal communication, October 24, 2012).

The Healthy Hawks Club is a pilot program that has been developed to try an increase physical activity in the middle school environment. The mission of the program is simple: a fun and interactive program that promotes a healthy lifestyle in middle school age children. Three program goals have been developed, Table 4:

1. Increase daily physical activity in middle school age children (short term goal).
2. Improve awareness of healthy food choices (short term goal).
3. Improving endurance and flexibility of participants by the end program participation (intermediate goal).
4. Decrease the number of overweight and obese middle school children (long term goal).

Decreasing the number of overweight and obese children will be a long-range outcome. Height and weight measurements, As well as Body Mass Index (BMI) will be conducted at the beginning of the program and then will need to be re-evaluated periodically throughout the program and then again at 3 years post program participation to adequately determine the long-term effectiveness of this program.

Table 4: Objectives and Goals with Determinants for Healthy Hawks Club

Objectives	Knowledge Outcomes	Self Efficacy Outcomes	Attitude Outcomes	Skill Outcomes
PO1: Increase daily physical activity of Healthy Hawks Club participants	Assess whether or not the middle school kids in Healthy Hawks Club know what constitutes physical activity; assess how much physical activity kids are getting now	Students will express confidence that they know what constitutes physical activity and will express confidence that they can make this change	Students will acknowledge that increasing physical activity will make them feel better	Students will receive instruction at Healthy Hawks meetings on what constitutes physical activity and will be taught different fun physical activities
PO2: Improve food choices and mealtime behaviors of Healthy Hawks Club participants	Assess whether or not the kids know which foods are healthy; assess mealtime and snacking behaviors. Teach kids how to recognize healthy foods as well as healthy mealtime and snacking behaviors	Assess how able the kids are to access healthy foods; Are they able to get the healthy food, Do they need to be able to cook healthy food? Are there cultural barriers to choosing and cooking healthy foods?	Do they want to change their eating habits? Do they have the support of their family? Cultural issues to make the change?	Do they need to know how to cook the healthier choices? If so, how much does the program need to be able to teach the kids about food preparation?
PO3: By the end of the year of participation in the Healthy Hawks Club none of the participants will have improved endurance and flexibility	Program activities will disseminate knowledge to kids on different physical activities that will improve endurance and flexibility	The children will feel comfortable and able to perform activities that will improve their physical endurance and flexibility	The participants in the program will want to increase their physical activity and flexibility	The participants will utilize the tools provided by program participation to develop skills needed to improve endurance and flexibility

PO4: Overall decrease in number of overweight children	Participants will be taught the importance of long term/permanent behaviors needed to achieve and a maintain healthy lifestyle	Participants will be empowered with the confidence that they can continue long term physical activity and healthy eating habits needed to maintain a healthy weight	Participation in the Healthy Hawks Club program will improve long term attitudes about physical activity and healthy eating habits	Health Hawks Club participants will be able to utilize the skills learned through their program participation throughout their lives thus will maintain healthy lifestyles
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Table 5: Stakeholders

Healthy Hawks Program Stakeholders
School Principle
PTA President
Guidance Counselor
Teacher (1 from each grade level- 3 total)
2 children each grade level (1 boy, 1 girl-6 total)
School Dietitian or Healthy House member
Eat Smart, Move More Committee member
Physical Education teacher
School Nurse

Implementation

Program participation will be open to all students regardless of physical ability. Meetings will be held weekly after school. Mrs. Dischiavi, or the current principal at the commencement

of the program, will select a several teachers that are well liked and respected by students to serve as advisors and facilitators for the program. By selecting multiple teachers, the time commitment for each teacher is decreased creating less of a burden for anyone teacher and also opening up the possibility for more variety in programming. At the start of the program, a pre-survey (Appendix 1) will be given to the students to assess their level of wellness (what is considered physical activity and healthy food choices). At the conclusion of the program, this same survey will be given to the students and re-evaluated to see how answers have changed based on knowledge gained from the program. Students will also be asked to sign an activity pledge that asks them to complete 30 minutes of activity at least twice per week in addition to the activities done during club meetings.

Club meetings will last for 1 hour on whatever day of the week is most convenient for the facilitator. The first thirty minutes of the meeting will be focused on a nutritional component. Simple lessons such as “What is cholesterol and how does it impact my health?” Guest speakers will also be utilized to teach various nutrition lessons or to do food demonstrations such as making a healthy snack or figuring out how to choose the healthiest option on a fast food menu. The second half hour of the meeting will consist of participating in physical activity. Activities can range from simple games such as kickball or badminton to having different volunteers come in to teach a variety of fun activities like Zumba, line dancing, or even karate. The objective being to show the kids that physical activity isn’t just organized sports, but rather anything that gets them moving and raises their heart rates

The program can take place over a time period convenient for the school. As it is a pilot program, Northview may want to do it over a semester to determine interest level and work out problems. It could also be done over the entire academic year if there is enough interest and

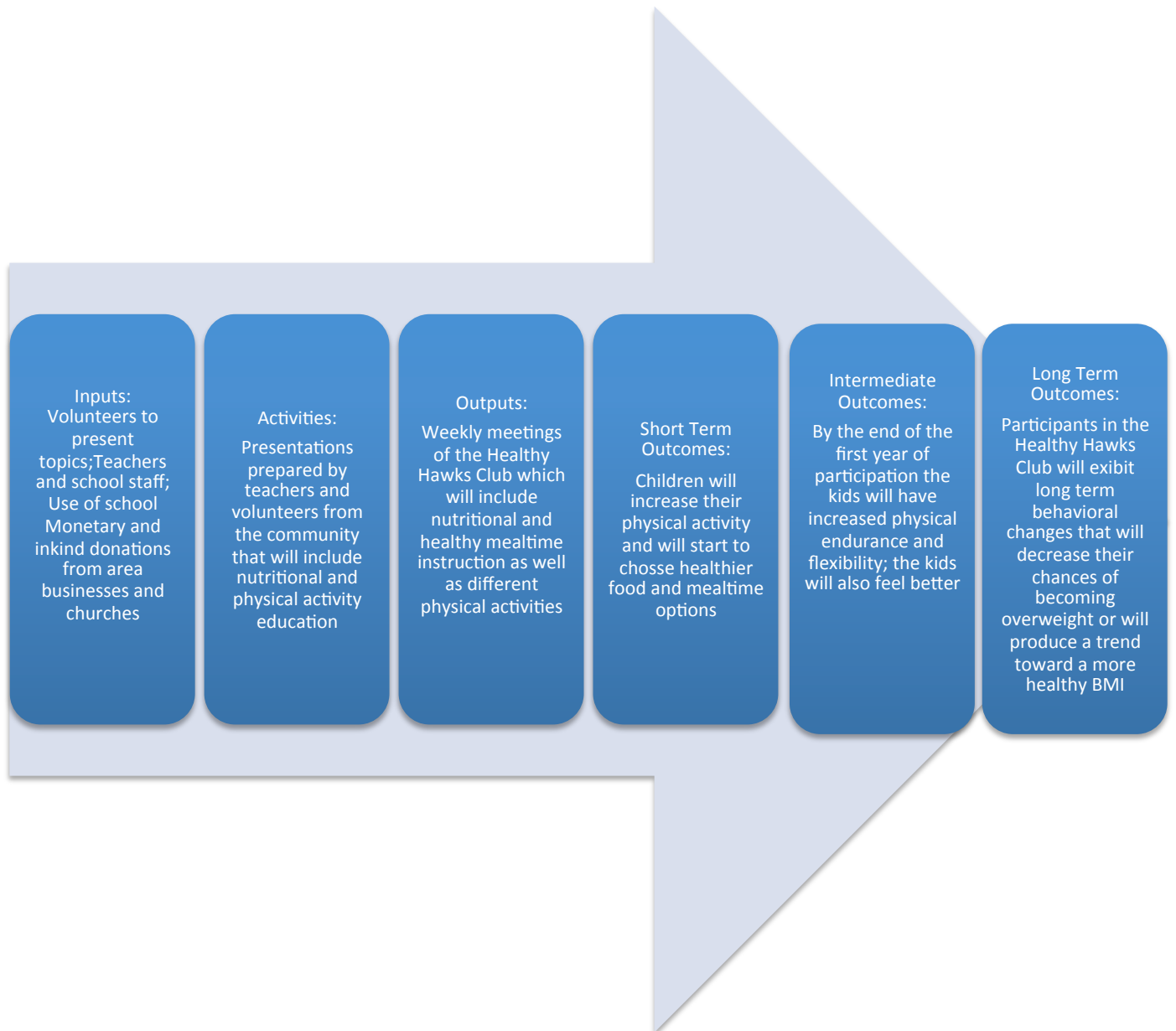
support. A number of logistical issues need to be considered as well: what spacing will be allotted for the activities, how many adults need to be present for what number of participants, how will the children participating get home after club meetings, etc. These issues will need to be worked out by the school planning committee (stakeholders).

Below is a list of possible topics and activities to be presented. These are suggestions and would depend on interest and availability of appropriate teachers. If a parent has knowledge of particular topic and wants to come in and present, that effort would be welcomed.

Table 6: Suggested Topics/Activities

Nutritional Topic	Physical Activity
Preparing Healthy Snacks	Dance: square, line, ballroom
Healthier Fast Food Options	Karate Lessons
Measuring the Sugar in Sweet Beverages	Yoga Lessons
What is Cholesterol?	Tai Chi Demonstrations
How Do You Determine BMI and What Is It?	Hantis
What is Diabetes and Do I Have It?	Broom Ball
The Food Plate	Indoor Soccer
Growing Your Own Veggies	Dodge ball
Nutritional Terms: Organic, Lite, High Fiber	Badminton
Reading Food Labels	Zumba Lessons

Activities such as preparing healthy snacks can be done more than one time, especially if the program extends over several months and or meets more than once a week. The same applies to physical activities. School advisors may want to do a series of Zumba or dance lessons over a specified time period then start another activity when that one is completed. Feedback from participants is vital to success. Ideas from the students would be solicited on what they like to do or what they think would be fun to learn.

Logic Model

Budget and Timeline

The Healthy Hawks Pilot Program will be relatively low cost as it will be housed and staffed by Northview Middle School. The program will take place once a week after school and will be offered to any child attending the school. Initially transportation home from the afterschool program will not be offered, something that will keep the initial start up costs low but at the same time might limit the number of eligible participants.

Resources for the program will include donated time by volunteers, cash donations from area businesses as well as time and space given by Northview Middle School. The school will provide two teachers, one being a physical education teacher, to monitor the safety of the children as well as to fulfill any requirement required by the school due to the use of space in the school. The school will also offer use of the gymnasium for physical activities and the life-skills lab for nutrition demonstrations as well as any needed equipment. Area businesses will be asked to donate money for start up costs outlined in the budget. A \$500.00 donation will ensure the business is listed as a sponsor on the back of the Healthy Hawks club t-shirt. Businesses will have the option of offering cash donations or in-kind donations. For example, Active Edge, a local health food store, has tentatively offered to provide some of their products, which would save the club budget hundreds of dollars in snacks. NVMS is actively pursuing partnerships with area churches for fiduciary and volunteer resources. Stakeholders will be asked to provide their own expertise (for example the school nurse could talk about diabetes) as well as names of people in the community who would be willing to volunteer to lead a physical or brief nutritional activity for club meetings. Volunteers will be recruited from Healthy House, the local YMCA, Lenoir Rhyne University's Solmaz Institute, local churches, and gymnastic/dance studios. The members of the Children's Agenda as well as the PTA board members will also be asked to list

any local members of the community who have expertise in certain physical activities and nutrition.

Table 7: Expenses

Expenditures	
Print Materials	\$300.00
T-Shirts	\$300.00
Snacks/Food Preparation Items	\$1000.00
Criminal Background Checks for Volunteers	\$600.00
Incidentals	\$1000.00
Total	\$3200.00

Table 8: Resources

Resources	
School Gym, equipment, track, and athletic fields	Provided by Northview Middle School
Volunteers to facilitate physical and nutritional activities	
Teachers	Provided by Northview Middle School
Contributions Local Businesses including value of in kind donations	\$3000.00
Club Dues (\$10.00/child X 50 children)	\$500.00
Total	\$3500.00

Detailed Project Timeline

September 2012:

- Needs assessment completed, target populations identified
- Meeting with Amy McCauley, Community Outreach Coordinator CCHD, Healthy Schools Recognition Program discussed and chosen for program development

October 2012:

- Interviews conducted with Tracy Paul, Health Promotion Coordinator CCHD, and Stephanie Dischiavi, principal of Northview Middle School to discuss potential interest in Healthy Hawks Pilot Program

November /December 2012:

- Healthy Hawks Pilot Program presented to Northview Middle School Wellness Council, stakeholders suggested to the council; Initial Budget proposed
- Formative evaluation of Healthy Hawks Planning Process by NVMS principal and staff

January/February 2013:

- Final program updates and presentation of program to NVMS
- Meeting to determine potential volunteers/presenters
- Discussion with school as to the possible need for criminal background checks for volunteers; if needed, start process. Also discuss with stakeholders potential use of Fitness Gram for future evaluations of outcomes

March, April, May 2013:

- Finalize the weekly nutrition/activity programs; finalize presenter dates

- Develop advertising flyers and additional media advertising and submit for approval to principal with courtesy submission to the school superintendent
- Send first flyer home to introduce program; have principal add Healthy Hawks to weekly announcements
- Introduce program on the Northview Middle School Facebook page
- Start Twitter account, mention this account on Facebook, and start weekly “tweets” about program to generate interest

June, July, August 2013:

- Touch base with presenters; meet with teachers/facilitators
- Once school starts in August send out second flyer announcing club sign up date
- Update Facebook and Twitter announcing first club meeting date

September 2013 through April 2014:

- First meeting will be week of September 5, 2013; consent/permission slip for participation and health/emergency contact forms will be sent home with participants to be returned before at next meeting
- Height, weight, BMI measurements recorded in September, January, and April
- Weekly meetings; considering school calendar the club will meet approximately 26 times
- Monthly evaluation meetings between developers, facilitators, and stakeholders to assess program implementation: problems, interest level, changes/suggestions for improvement

May 2014:

- Recognition Program for participants first week of May

- Meet with stakeholders to evaluate success of program and feasibility of continuing for next year, evaluate outcomes, assess overall implementations, address changes needed for feasibility and sustainability.

Evaluation Design

The purpose of evaluating any program is to decide if the program is addressing the needs of the community as seen in the needs assessment. More in depth evaluation addresses whether or not the goals of the program are being achieved. While the long-term goal of the Healthy Hawks Pilot Program is to decrease the number of overweight children in Catawba County, the program must address the simple question, “Are the activities in this program changing the physical activity and eating habits of these children in such a way that they will be less likely to be overweight or obese?”(Silverman, Mai, Boulet, & O’Leary, 2012).

After reviewing the literature, it has been discovered that this program idea is not new. Similar programs have been attempted, but they were all part of a required school curriculum that met during school hours and were taught by health or physical education teachers. The goal of these previous programs has been to disseminate knowledge to students, but not to actively encourage them to make a lifestyle change. The Community Guide (www.thecommunityguide.org/obesity/communitysettings.html) has reviewed several school based programs and found that there was insufficient evidence to prove if these programs were beneficial in making any significant lifestyle changes in students. With this knowledge in mind, the Healthy Hawks program will be a learning process for all involved that will hopefully adapt as new knowledge is gained from the experience.

A similar program that the developers have discovered is at Jefferson Middle School in Winston-Salem, North Carolina. This is a pilot middle school for a program the state is testing. The children are sent home with a list of suitable physical activities along with an activity log. Parents are to sign the log to verify that their child has participated in at least thirty minutes of

physical activity daily. The completed logs are part of the child's Physical Education (PE) grade. (E.Brown, personal communication, November 15, 2012).

Prior programs discussed in The Community Guide have used control groups to whom the program was not administered and compared the knowledge and eating habits of those children with those who had participated in the program. This was done using a 24-hour recall of what the children had eaten and comparing each group. The Healthy Hawks Program will use a survey (Appendix A) that will be administered to all of the children participating before they begin the program and again after they have completed the first year of club participation. With the program being voluntary, a control group will not be used. Instead, this will be a longitudinal study with the participants being measured for changes over time. While this will be the main focus of evaluating the program over the long term, the planners will also be evaluating each activity as well as the presenters of each activity for accuracy and validity of the information being presented. Presenters will provide their handouts and/or an outline of their activity/presentation so that the program planners can research the information being disseminated and make plans to reuse some or all of the presented materials in future variations of the project.

At the start of the program, height and weight measurements of all participants will be recorded. These measurements along with each child's birthdate and gender will then be entered into the KidsHealth BMI Calculator at the following web address:

http://kidshealth.org/parent/growth/growth/bmi_charts.html to determine each child's BMI (www.kidshealth.org, 2012). The BMI will also be graphed with this program. Measurements will again be taken midway through the program and again at the conclusion. Results will be compared from initial measurements to determine the level of change, if any, is made

Table 9: Goal Evaluation

Goals of Healthy Hawks Program	Evaluation Methods
1. Increase daily physical activity	1. Log books will be given to children to keep track of all physical activity done outside of school and turned in weekly for review by facilitator. Expectation is for 60 minutes of activity weekly, in addition to the activity performed during program meetings.
2. Nutritional presentations will improve awareness of healthy food choices	2. A pre-assessment survey will be given at the beginning of the program to evaluate knowledge of healthy food choices. This same assessment will also be given at the conclusion of the program and compared with previous responses to see if knowledge of healthy choices has been gained. **The program developers have developed this survey, so currently there is no measure of validity with the survey. Program developers were unable to find a suitable survey that had already been tested for reliability and validity in the literature. This will be established after use of the tool.
3. Improving endurance and flexibility of participants by the end of program participation	3. Utilize the state sponsored NCISPOD (NC In-school Prevention of Obesity and Disease program) tool called Fitness Gram. This tool collects data on endurance and flexibility
4. Decrease the number of overweight children	4. Determining the number of overweight children will be a long-range outcome. Height, weight, and Body Mass Index (BMI) measurements will be taken at the beginning of the program and then re-evaluated at 3 years post program participation to adequately determine effectiveness rate.

The current model of the program is set to take place over one school year (September-April); however, NVMS can carry out the program over a semester to determine initial interest level and to work out any potential conflicts that may arise. If the interest level in the program is

strong enough to warrant carrying it out over an entire school year, then NVMS may elect to run the program in the manner in which it was designed. Since this is a pilot program and was designed with NVMS in mind, the name “Healthy Hawks” is specific to that school. However, if this program proves to be successful, it can be modified for use at other schools. The name of the program can be altered to represent whatever the mascot at each school is, i.e., Healthy Lions, Healthy Cougars, Healthy Mustangs, etc. Stakeholders will be dependent upon each school, however the general framework (i.e. utilizing the physical education staff, teachers, the nurse assigned to that school etc.) for the Healthy Hawks program should be used as a guideline.

Essentially, summative evaluation of the Healthy Hawks Program will be two-fold. Initial evaluation will be in the form of a survey that will be administered to the children before participation then again after completion of the program. The survey has numerical values attached to each question. The questions address physical activity and healthy eating behaviors separately so each component of the program can be addressed. An increase in the scores on the survey would indicate that the children have achieved the goals of increasing their knowledge of and participation in physical activity. An increased score in the nutritional aspect of the survey would indicate improved knowledge of and implementation of healthier food choices and mealtime behaviors. The program planners will compare the pre and post program survey scores and multiple BMI readings of the participants and review the compiled information to determine if the program has met the initial needs and goals of the stakeholders, taking into consideration outside factors that could have influenced results (sickness, surgeries, hormonal changes new onset emotional issues). Participants will also be given a brief course evaluation weekly to evaluate subject matter and presenters.

Phase two of evaluation will involve the program planners presenting the survey results to the stakeholders. Prior to the meeting, the stakeholders will be asked to meet with a randomly selected group of program participants (names will be written on a piece of paper, folded and placed in a bowl; 25% of the total names of participants will be chosen from the bowl by one of the stakeholders), the parents of those chosen students will be asked to discuss what they felt was effective and non-effective about the program and to solicit ideas for future areas to address. Together, the program planners and stakeholders will review the survey results and comments from parents and students. Use of the stakeholders and program developers will be a form of internal auditing which will be beneficial because of their familiarity with the program. Parental feedback will be viewed as an external audit and will be beneficial because of their limited knowledge of the program intentions. They will review the budget for the first year for cost effectiveness and will address whether or not the initial businesses that donated time, money, and materials will continue to financially support the program. If the program is deemed successful then it will be discussed whether or not the county will want to implement the program in other middle schools.

Formative and Process Evaluation Methods

Evaluation of both the planning and implementation phases of the program is vital in determining the overall success of the program. Mistakes that could doom the program to failure can be avoided by taking the time to adequately assess the program plan itself as well as how it is actually implemented. Through use of interviews with specific stakeholders and focus group discussions involving participants, parents, stakeholders, and planners, potential problems with the program can be identified and corrected. Group discussions will provide valuable feedback on what participants like and dislike about the program. Changes can be made accordingly to

maintain interest and participation. Stakeholder interviews are a valuable tool to ascertain if the program plan itself is doable as written. The stakeholders are comprised mainly of school personnel are uniquely qualified to know what will and will not work in a middle school setting, and how to generate and maintain interest in the program. Formative evaluation interviews with stakeholders should take place prior to presentation of the formal program intervention to the school staff. These interviews took place in November of 2012 and resulted in several modifications to the final program plan being presented to Northview Middle School. Once the school has decided to implement said program, process evaluation discussions should be held on a regular basis to assess how the program is running and to troubleshoot potential problems. The program's timeline reflects scheduled implementation discussions over the course of the 2013-2014 school year, the projected implementation date of the Healthy Hawks Pilot Program.

Process Evaluation Questions for Healthy Hawks Program:

Participants

1. Did you find the nutrition topics interesting and easy to understand?
2. What physical activities did you like?
3. Were there any physical activities you thought shouldn't be included?
4. Was enough time spent on physical activities? On nutrition, or too much time on either?
5. Were there any nutrition topics you thought should be left out?
6. Do you have suggestions for different activities/topics you would like to learn?

Presenters

1. Was there adequate space for the number of participants?
2. Did the topics and activities keep the participant's attention?

3. Was the time allotted for each component adequate or should it be rearranged?
4. Were there any technical or logistical problems that interfered with the program's quality?
5. Did you have adequate preparation and help to present/oversee the program?
6. Do you have suggestions of topics or activities that may be of interest to teach?

Stakeholders

1. Were the programs well attended?
2. Were there any facility or presenter issues that caused concern?
3. Were there any complaints from participants or parents?
4. Was the budget adequate to support the program?
5. Was the time and space allowed for the program sufficient to meet participant demands?
6. Do you have suggestions to improve the program? What should be done differently?

Formative Evaluation Questions

1. Did the planners meet the expectations of the stakeholders regarding the program's intended purpose?
2. Did the planners take into consideration any constraints/limitations that would need to be addressed in a middle school population?
3. Did the planners address stakeholder concerns arising from planning meetings?
4. Did the planners incorporate stakeholder suggestions into the program?
5. Is what is being designed able to be implemented by the intended parties?
6. Is there flexibility to the program should problems arise?

The Healthy Hawks program is a pilot program and as such may have problems that arise during its initial implementation. The program developers together with the Northview staff will need to meet on a regular basis in the beginning to work out any of these problems that may arise. These could include timing issues of the respective program components, lack of interest/attendance for particular topics/activities being presented, space constraints, etc. Regular evaluation of how things are going in the beginning stages of implementation may help maintain the viability and sustainability of the program. As problems are worked out and the program gets established, evaluation discussions may not need to be held as frequently as scheduled in the timeline.

Appendix 1

Healthy Hawks Club Survey

We are so glad that you have chosen to participate in the Healthy Hawks Club! This club is a place and time for you to have fun while you learn how to grow up to be healthy, happy and full of energy!

Did you know that simple things like exercising 30 minutes every day can give you more energy *and* can help you do better in school?

Please answer a few questions for us so that we can help you learn things that will help you be happier and healthier. We also think you will be able to teach these things to your families too!

1. What do you consider “physical activity”? Circle all that you think counts as physical activity:

- a. Playing a video game like Wii or Xbox “Just Dance”
- b. Walking briskly
- c. Dancing (hip hop, Zumba, ballet, tap dancing, ballroom or square dancing)
- d. Swimming
- e. Riding a bike
- f. Karate or Tae Kwon Do
- g. Yoga
- h. Hunting
- i. Archery
- j. Playing a video game like “Call of Duty”
- k. Reading a book
- l. Watching TV
- m. Facebook or Twitter

2. How much physical activity do you get every week?

- a. Less than 30 minutes
- b. 30-60 minutes per week
- c. 60-90 minutes per week
- d. >90 minutes per week

3. How do you feel most days? Circle all that apply:

- a. Energetic
- b. Sluggish/foggy
- c. Tired
- d. Sharp and alert

4. Would you be more willing to participate in physical activity if one or both of your parents or another person who lives with you did it with you?
 - a. Yes
 - b. No
5. Do you eat breakfast?
 - a. Every morning
 - b. Most days (4-6 days per week)
 - c. Some days (1-3 days per week)
 - d. Never
6. How many snacks do you eat on most days?
 - a. I never snack
 - b. 1-2 snacks per day
 - c. 3-4 snacks per day
 - d. More than 4 snacks per day
7. Which foods below would you chose to eat as a snack?
 - a. An apple, banana, or orange
 - b. A candy bar
 - c. A pack of lance crackers (for example peanut butter cheese crackers etc.)
 - d. Cookies
 - e. Ice cream
 - f. Cheese and crackers (sliced cheese or cubes of real cheese)
 - g. Cheese stick
 - h. Yogurt
 - i. Cereal
 - j. Fresh raw vegetables (carrots, celery, sliced peppers etc.)
 - k. Cereal
8. How many nights a week do you eat food that was not prepared at home?
 - a. Never
 - b. 1-3 nights
 - c. 4-6 nights
 - d. Every night
9. How many nights per week does your family eat a meal together?
 - a. Every night
 - b. 1-3 nights
 - c. 4-6 nights
 - d. Never
10. Some people talk about eating a “colorful” plate. This means there is more than one food color on that plate (red bell pepper, yellow squash, green beans, red tomato sauce etc.) Which supper plate would you chose?
 - a. One color (all the food is the same color for example the only food on the plate is macaroni and cheese)
 - b. Two colors
 - c. Three colors

- d. Four or more colors

Appendix 2

Instructions for Scoring Healthy Hawks Survey

The Healthy Hawks Club survey will be used to assess knowledge and behavior prior to as well as after participation in the program. The goal is to increase the activity level as well as improve awareness of healthy food choices and mealtime behaviors in the students at Northview Middle School. Prior to participation each participant will be asked to fill out a brief survey of questions addressing physical activity, food choices, as well as meal behaviors. Questions 1-4 address knowledge of different types of physical activities as well as how much time each student spends participating in physical activity each day. Questions 5-10 assess food knowledge as well as food habits.

In order to keep the goals measurable there must be a scoring system to address the answers in the survey. Question one assesses the knowledge the kids have about what constitutes physical activity. One point is assigned to each circled answer “a” through “i”. Each of the “j” through “m” activities circled result in the deduction of one point. Question two addresses the amount of physical activity. Circling “a” or “b” result in the deduction of a point choosing “c” is worth one point and “d” is two points. Question three would be scored one point each for answers “a” and “d”, zero points for “b” and “c”. Question four would not be scored as it is more to assist the program in evaluating if encouraging parental participation in physical activity programs at this age helps or hinders the participation of middle school kids.

The food choice questions would be scored separately. Question five would be scored four points for answer “a”, three points for “b”, two points for “c” and zero points for answer “d”. In question six “b” and “c” would each get one point, “a” and “d” would be worth zero. In question

seven all answers would be worth a point except “b”, “c”, “d”, and “e” which would be worth zero. For questions eight and nine, points would be assigned four for answer “a”, three for “b”, two for “c”, one for “d”. Question ten would be scored one point for “a”, two points for “b”, three for “c”, and four for “d”.

To evaluate the outcomes of the program each question will be addressed using pre and post program survey scores. Question one addresses the children’s knowledge of different types of physical activity. From a knowledge standpoint the post program survey score should be higher than the pre program score. One of the measurable goals is that physical activity will increase thus the post survey score for questions two and three should be higher than the pre program survey score. The nutritional outcome evaluation is knowledge as well as behavioral change based. The survey scores pre program will show knowledge of nutritionally sound food and meal choices as well as meal and snack behaviors. The goal of the program is to improve mealtime behaviors and food choices as well as increase physical activity thus, over time, decreasing the number of overweight and obese kids.

Appendix 3

Healthy Hawks **EMERGENCY CONTACTS**

2013 - 2014*



CHILD'S NAME:

PARENT'S / GUARDIAN NAME:

DATE OF BIRTH:

HOME PHONE:

AGE:

WORK PHONE:

CELL PHONE:

MEDICAL CONDITIONS:

ALTERNATE CONTACT'S NAME:

ALLERGIES:

HOME PHONE:

WORK PHONE:

CELL PHONE:

CURRENT MEDICATIONS:

ALTERNATE CONTACT'S NAME:

FAMILY DOCTOR:

HOME PHONE:

DOCTOR'S PHONE:

WORK PHONE:

CELL PHONE:

Notes:

*A NEW EMERGENCY CONTACTS SHEET MUST BE SUBMITTED YEARLY AND EVERY TIME INFORMATION CHANGES.

Appendix 4

**Healthy Hawks Program Informed Consent To Participate****Purpose**

Your child has chosen to participate in an after-school fitness and nutrition program that will meet one afternoon a week throughout the school year. The purpose of this program is to introduce your child to multiple forms of physical activity and provide a basic understanding of good nutrition.

Procedures

Once consent is obtained, height, weight and Body Mass Index (BMI) measurements will be taken and recorded. These numbers will be repeated in January and again in April and all readings will be trended to see if a change is made. A pre-program survey will be given to your student to assess their awareness of the importance for physical activity and good nutrition. This survey will be repeated in April and the results compared to the original survey. One hour, weekly meetings will be held throughout the school year. During the hour-long meetings, 30 minutes will consist of nutritional education and 30 minutes will consist of participating in a physical activity. At the end of each meeting, your student will be given a brief course survey to evaluate the material presented.

Risks and Benefits

All activities will be age appropriate for middle school children. Your child will be treated just as he/she would in the school setting. Risks associated with participation will be low. If an injury does occur, the school's policies will be followed to care for your child.

Benefits to your student include an opportunity to increase physical activity and learn important nutrition facts that can help him/her lead a healthier lifestyle.

Confidentiality

All data collected during this program will remain confidential. Data collection may be shared with the local Eat Smart, Move More coalition, but no names or other identifying information will be used.

Right to Ask Questions and to Withdraw

Your child is free to ask questions at any time during the program. Participation is completely voluntary and your child can elect to leave the program at any time if he/she chooses.

Consent

By signing this form, you agree to allow your child to participate in the Healthy Hawks Program.

Your Signature

Child's Name

Date

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