

**V(A). Planned Program (Summary)**

**Program # 5**

**1. Name of the Planned Program**

Childhood Obesity

Reporting on this Program

**V(B). Program Knowledge Area(s)**

**1. Program Knowledge Areas and Percentage**

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
702	Requirements and Function of Nutrients and Other Food Components	20%	0%	50%	0%
703	Nutrition Education and Behavior	30%	50%	30%	50%
724	Healthy Lifestyle	50%	50%	20%	50%
<b>Total</b>		100%	100%	100%	100%

**V(C). Planned Program (Inputs)**

**1. Actual amount of FTE/SYs expended this Program**

Year: 2014	Extension		Research	
	1862	1890	1862	1890
<b>Plan</b>	35.0	10.0	12.0	3.0
<b>Actual Paid</b>	43.0	16.0	8.0	1.1
<b>Actual Volunteer</b>	80.0	0.0	0.0	0.0

**2. Actual dollars expended in this Program (includes Carryover Funds from previous years)**

Extension		Research	
Smith-Lever 3b & 3c	1890 Extension	Hatch	Evans-Allen
758489	347135	142173	168815
1862 Matching	1890 Matching	1862 Matching	1890 Matching
758489	25001	142173	21509
1862 All Other	1890 All Other	1862 All Other	1890 All Other
2760600	217433	500000	0

**V(D). Planned Program (Activity)**

## 1. Brief description of the Activity

The Childhood Obesity Planned Program will provide science-based educational and experiential learning opportunities that focus on children, but actively engage an array of audiences--regardless of gender, income, age or race/ethnicity--because of the influence that these groups in society have on the health and well-being of themselves and their children. Programs developed and provided by NC Cooperative Extension in the area of healthy weight for children and adults is part of the larger initiative Eat Smart, Move More North Carolina. As a founding member of the movement, our programs are part of a larger effort to educate and change environments so that all North Carolinians have the opportunity to eat smart and move more. Important program activities include: **EFNEP**, the Expanded Food and Nutrition Education Program, is a federally funded educational program administered in North Carolina through NC State University and NCA&T State University. For more than three decades, EFNEP has been helping limited resource youth and families with children learn how to eat healthier meals and snacks, stretch their food dollars and reduce the risk of food-borne illnesses. The Supplemental Nutrition Assistance Program-Education (**SNAP-Ed**) serves limited resource families across North Carolina to assist those eligible for food assistance to eat smart and move more. SNAP-Ed works to help participants make healthy choices within a limited budget and choose physically active lifestyles. NC State University's SNAP-Ed Program is Steps to Health, which works with preschoolers, kindergarteners, 2nd grade students, 3rd grade students, and high school students. **Color Me Healthy** is a program developed to reach limited resource children ages four and five. Color Me Healthy uses color, music, and exploration of the senses to teach children that healthy food and physical activity are fun. Agents train child care providers in the use of the program in their setting. **Faithful Families Eating Smart and Moving More** is a program that helps faith communities in North Carolina make and sustain changes that promote healthy eating and physical activity. **Eat Smart, Move More Weigh Less (ESMMWL)** is a weight-management program for adults. This 15-week evidence-based program includes strategies proven to work to achieve and maintain a healthy weight and encourages small changes that can be sustained over time. The program includes a family component to influence the eating and physical activity of all family members. **Cook Smart, Eat Smart** is a program that teaches simple, basic cooking for teens and adults. Eating more meals at home is an important strategy for eating a healthy diet. Cook Smart, Eat Smart provides hands on education on how to plan, shop, fix and eat healthy family meals. In addition to the methods mentioned earlier, social media tools will be used by researchers as a means of helping to reinforce information about healthy eating and physical activity behaviors among adolescents.

## 2. Brief description of the target audience

Intended audiences include children of all ages, youth, their adult family members, child-care providers, Head Start workers, food banks, food stamp and WIC recipients and community coalitions. No time is more critical than childhood to promote healthy eating and sound health practices. Children do not consume sufficient fruits or vegetables and have diets that are low in fiber and higher in fat than recommended. Children need quality nutrition education to help positively influence their food choices. For nutrition education efforts to be effective, they must also include parents and care givers. Helping families make informed decisions about their nutrition will help ensure that North Carolina's children grow to reach their full mental and physical potential. Overweight in children continues to rise. Treatment of overweight and obesity is difficult. Prevention of overweight and obesity in children is essential to address this issue. Demographic changes in the state's population continue to impact nutrition and health issues. The fastest growing age group is the 65 years and older segment, and the elderly have disproportionate risk of malnutrition and poverty, as well as poor overall health, and in many cases they are either care-givers or influence the care of children. Because of the influence that adults have with different age groups, and because of their own health concerns, healthy nutrition and well-being

educational programs are important for adults as well. Programs addressed to young adults and middle-aged consumers will continue to impact the health of the population as it ages, but including children as well. Women are employed outside the home in greater numbers, and many of them are among the working poor. Over 80% of women who had school-aged children were working outside the home; 67% of women with the youngest child under six years were in the labor force. For working parents with very limited resources, lack of after-school and summer programs for youth is a major concern, as it relates to nutrition, health, and obesity as well as other developmental needs of children.

**3. How was eXtension used?**

The Families Food and Fitness CoP of eXtension offers frequently asked questions, articles, online learning activities, and interactive tools on families, food and fitness topics. The CoP's aim is to become a source of research-based information for families as they work to eat smart, move more and achieve a healthy weight. The Families Food and Fitness CoP provides education and skills to help families make informed decisions about healthy eating and physical activity by providing them with science-based information and learning opportunities through eXtension.

Families Food and Fitness is organized around three goals:

- improved diets
  - increased physical activity
  - maintenance of body weight in a healthy range and avoidance of excess weight gain
- The website content is focused on six key behaviors that have been identified in the literature to be associated with maintaining and achieving a healthy body weight:

- move more everyday
- tame the tube
- control portion size
- enjoy more fruits and vegetables
- prepare more meals at home
- re-think your drink

**V(E). Planned Program (Outputs)**

**1. Standard output measures**

2014	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	174650	135826	29730	0

**2. Number of Patent Applications Submitted (Standard Research Output)**

**Patent Applications Submitted**

Year: 2014  
 Actual: 0

**Patents listed**

**3. Publications (Standard General Output Measure)**

**Number of Peer Reviewed Publications**

<b>2014</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	17	4	21

**V(F). State Defined Outputs**

**Output Target**

**Output #1**

**Output Measure**

- Non-degree credit group activities conducted Healthy Eating, Physical Activity and Chronic Disease Reduction

<b>Year</b>	<b>Actual</b>
2014	3686

**Output #2**

**Output Measure**

- Targeted audiences participate in workshops on Food, Nutrition and Childhood Obesity

<b>Year</b>	<b>Actual</b>
2014	126126

**V(G). State Defined Outcomes**

**V. State Defined Outcomes Table of Content**

O. No.	OUTCOME NAME
1	Program participants (adults) increase fruit and vegetable consumption
2	Program participants (youth) increase their fruit and vegetable consumption
3	Program participants increase their physical activity
4	Program participant reduce their BMI
5	Program participants (adults) decrease blood pressure
6	Program participants (adults) improve their blood glucose (A1c.) level
7	Program participants (adults) reduce their cholesterol
8	Program participants consume less sodium in their diet

## **Outcome #1**

### **1. Outcome Measures**

Program participants (adults) increase fruit and vegetable consumption

### **2. Associated Institution Types**

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	15691

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

In North Carolina, about 66% of adults are overweight or obese. Twenty-seven percent of U.S. health care costs are related to obesity. Many limited-resource families struggle with food resource management, food security, meeting the nutritional needs of their family, and keeping food safe and nutritionally sound. Additionally, limited-resource families are at greater risk of chronic diseases associated with poor nutrition.

#### **What has been done**

The Expanded Food and Nutrition Education Program (EFNEP) helps food insecure families acquire the knowledge, skills and attitudes needed to manage food resources efficiently and to ensure nutritionally sound diets can be consumed on a consistent basis. In addition, EFNEP participants learn how to provide nutritious, safe meals for their families on limited budgets. EFNEP Nutrition Program Assistants enroll youth and families with children ages 0-19. In addition, EFNEP provides supplemental nutrition education through its social media including Facebook, You Tube, Google+, and blog.

#### **Results**

In 2014, 4,742 families and 27,230 school-aged youth participated in a series of EFNEP nutrition education classes. Statewide, nearly 16,000 adults increased fruit and vegetable consumption as a result of participating in Extension programs.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

#### Outcome #2

##### 1. Outcome Measures

Program participants (youth) increase their fruit and vegetable consumption

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	21206

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Only one in four children in North Carolina eat recommended amounts of fruits and vegetables. According to the North Carolina Nutrition and Physical Activity Surveillance System (2012), 15.4% of the children ages 2-4 years old in Montgomery County are overweight or obese.

###### **What has been done**

In order to decrease health risks, Montgomery County Cooperative Extension taught the Color Me Healthy program 228 kindergarten and pre-k students. Teaching methods were interactive and designed to educate and facilitate behavioral change in the students; tests enhanced the multi-sensory learning experience.

###### **Results**

According to parent feedback forms, 93.2% of parents reported their child's improved willingness to try fruits, 85.6% reported an improved willingness to try vegetables, 91.7% reported an

increase in their child's physical activity, and 66.7% reported observing other positive changes in their child regarding health. Statewide, nearly 21,000 youth increased fruit and vegetable consumption as a result of participating in Extension programs.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

#### Outcome #3

##### 1. Outcome Measures

Program participants increase their physical activity

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	25833

##### 3c. Qualitative Outcome or Impact Statement

###### **Issue (Who cares and Why)**

Nearly half of the children in North Carolina spend more than two hours watching television every day. The prevalence of food insecurity in North Carolina is higher than the national average, with 25% of children living in households that lack access to adequate food, and three of 10 kids in North Carolina relying on SNAP to meet their nutritional needs.

###### **What has been done**

Steps to Health provided nutrition education with the ultimate goal of promoting positive behavior change related to nutrition and physical activity. Six programs targeting preschool/kindergarten students, 2nd graders, and 3rd graders, adults, older adults and Latino/Hispanic families were provided at low-income sites in counties across North Carolina. New this year, steps were taken

to assess healthy eating and physical activity environments, systems, and policies at Head Starts, schools, and congregate nutrition sites. Cooperative Extension agents used interactive teaching methods including lecture, discussion, games, worksheets, music, cooking demonstrations and taste tests, designed to educate and facilitate behavioral change.

**Results**

Steps to Health reached 6,193 participants (5,376 children and 817 adults) and made 46,520 educational contacts within 56 counties across North Carolina. Additionally, 100% of Head Start sites, schools, and congregate nutrition sites reported making a change in their environment and/or policies since a Steps to Health program was delivered at their site. Statewide, nearly 26,000 individuals increased their physical activity as a result of participating in Extension programs.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #4**

**1. Outcome Measures**

Program participant reduce their BMI

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	2761

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

The issue of overweight and obesity continues to be the most pressing public health problem of our time. An estimated 50% of adults attempt to lose weight or not gain weight each year. North Carolina, like many other states, has a plan to prevent overweight, obesity and related chronic diseases. To achieve the goals of the state plan, accessible and affordable, family-based, culturally relevant, interdisciplinary weight management services for adults are needed. Local educators need educational materials that address weight management that are built on accurate content.

**What has been done**

The Eat Smart, Move More, Weigh Less (ESMMWL) weight-management curriculum was created by a team of professionals with expertise in nutrition, physical activity, and behavior change. Published research data were used to identify strategies that were associated with weight loss and/or weight maintenance. These strategies were used to create 15 Eat Smart, Move More, Weigh Less lessons. Since January 2011, the program has been delivered in a real-time, online environment. These classes are conducted by a live instructor using synchronous, distance-education technology.

**Results**

As of December 2014, a total of 216 ESMMWL online classes with 4,348 participants enrolled have been provided to members of the North Carolina State Health Plan. Statewide, nearly 3,000 individuals reported reduced Body Mass Index (BMI) as a result of participating in Extension programs. The ESMMWL program gained the attention of Blue Cross and Blue Shield of North Carolina (BCBS) as a possible way for them to expand their wellness offerings. The ESMMWL team continues to work with BCBS to offer the program as a covered as a medical expense. Plans are underway for the program to be fully covered by BCBS insurance in 2015.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

**Outcome #5**

**1. Outcome Measures**

Program participants (adults) decrease blood pressure

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

### 3b. Quantitative Outcome

Year	Actual
2014	741

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

The leading cause of death in Craven County is heart disease. Cooperative Extension plays a big role in working with faith-based communities on this and other issues.

#### What has been done

Cooperative Extension and three faith-based communities collaborated to offer the Faithful Families program to their congregations. This program offered 38 families simple solutions to help them eat smart and move more. The program also provided families with skills to be able to prepare more meals at home. During each session, participants' blood pressures and weights were measured. The program is based on making behavior changes at home relating to healthy meals and physical activity, and participants are required to log weight and blood pressure.

#### Results

Weight loss and lower blood pressure are among the potential results. Additionally, all of the participating families learned new recipes, and the churches made two policy changes to improve the health of their congregations. Statewide, 750 adults reduced their blood pressure as a result of participating in Extension programs.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

### Outcome #6

#### 1. Outcome Measures

Program participants (adults) improve their blood glucose (A1c.) level

#### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

#### 3a. Outcome Type:

### Change in Action Outcome Measure

#### 3b. Quantitative Outcome

Year	Actual
2014	225

#### 3c. Qualitative Outcome or Impact Statement

##### Issue (Who cares and Why)

In western North Carolina the mean estimated percent prevalence of diagnosed diabetes among adults rose from 8.5% in 2005 to 9.0% in 2009 (2013 Graham County Community Health Improvement Plan). This is a major health crisis in the community, and hardly any diabetes education exists in Graham County.

##### What has been done

Graham County Cooperative Extension partnered with the Community Health Team, Graham County Health Department and the Graham County Diabetes Coalition to recruit a certified diabetes educator and registered dietician to create the diabetes support and educational class, Sugar Free. Program participants learned to count carbohydrates, meal plan, and manage Type II Diabetes through diet, exercise and medicine.

##### Results

Participants measured their glucose (A1c.) levels before starting the class and after participating in the class. Four participants reported lowered glucose (A1c.) levels. Two participants with Type I Diabetes reported a better understanding of their medicine and how diabetes affects their bodies. Statewide, 225 Extension program participants improved their blood glucose levels. Additionally, NCSU is part of a multi-agency team working with the N.C. Division of Public Health to develop an online portal to be used by primary health care providers. This portal would allow for referral of patients to resources in the community to help them live with chronic diseases including diabetes, heart disease, stroke, and obesity. It is proposed that Eat Smart, Move More, Weigh Less be the first intervention to test the portal.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior
724	Healthy Lifestyle

#### Outcome #7

##### 1. Outcome Measures

Program participants (adults) reduce their cholesterol

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension
- 1862 Research
- 1890 Research

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	295

**3c. Qualitative Outcome or Impact Statement**

**Issue (Who cares and Why)**

Obesity and related chronic diseases are prevalent among North Carolinians. The number one killer in Craven County is heart disease. Elevated cholesterol levels, overweight, waist hip ratio, and elevated blood pressures are all documented as risk factors for heart disease and stroke. Cooperative Extension has been on the front lines offering nutrition and wellness programs to Craven County citizens.

**What has been done**

Cooperative Extension and the Craven County Health Department collaborated to offer "Give Your Heart a Healthy Beat" twice a year. Twelve at-risk citizens attended 10 weekly sessions held at Carolina East Medical Center during 2014.

**Results**

As a result of the program, participants lowered their triglycerides levels by a group total of 374.5 points; cholesterol levels by 268 points; and weight by 35.8 pounds. Statewide, 295 adults reduced total cholesterol as a result of participating in Extension programs.

**4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
702	Requirements and Function of Nutrients and Other Food Components
703	Nutrition Education and Behavior
724	Healthy Lifestyle

## **Outcome #8**

### **1. Outcome Measures**

Program participants consume less sodium in their diet

### **2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

### **3a. Outcome Type:**

Change in Knowledge Outcome Measure

### **3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	5647

### **3c. Qualitative Outcome or Impact Statement**

#### **Issue (Who cares and Why)**

According to the North Carolina State Center for Health Statistics, the two leading cause of death in Surry County are cancer and heart disease.

#### **What has been done**

In an effort to help combat this problem, the Nutrition Program Associate in Surry County has been using the EFNEP's Families Eating Smart Moving More Curriculum to provide limited-income families basic nutrition information.

#### **Results**

Of the 83 families graduating from the program, 96% of participants showed improvement in one or more nutrition practice (i.e. plans meals, makes healthy food choices, prepares food without adding salt), and 100% of participants showed a positive change in any food group (fruits, vegetables, whole grains, etc.). Statewide, 5,647 individuals reduced the amount of sodium in their diets.

### **4. Associated Knowledge Areas**

<b>KA Code</b>	<b>Knowledge Area</b>
703	Nutrition Education and Behavior
724	Healthy Lifestyle

## **V(H). Planned Program (External Factors)**

### **External factors which affected outcomes**

- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

### **Brief Explanation**

Many factors affect individuals' decisions and abilities to practice positive behaviors with respect to healthy eating and physical activity. These factors include the physical and social environment of families, communities, and organizations; the policies, practices and norms within the social and work settings; and access to reliable information. Lasting changes in healthy behaviors require physical environments and social systems that support positive lifestyle habits. In order for individuals (adults and children) to make positive lifestyle changes with respect to healthy eating and physical activity, changes need to be made in the surrounding organizational, community, social and physical environments. Without these changes, successful health behavior change is difficult to achieve and sustain. Confidence in adopting and maintaining a behavior may be strengthened when the physical and social environment supports the new behavior. Policy and environmental interventions can improve the health of all people, not just small groups of motivated or high-risk individuals. NC Cooperative Extension continues to work using the multilevel model or socioecological model for behavior change. It is within that context that we provide education to participants while working at the county and state levels to make systems, policy, and environmental changes. These changes are systemic and societal, thus do not happen quickly. Slow changes in policy and environments that support healthy eating and physical activity continue to challenge our ability to make improvements in eating and physical activity patterns.

## **V(I). Planned Program (Evaluation Studies)**

### **Evaluation Results**

Adults and youth alike made incremental changes in a number of health enhancing eating behaviors as well as physical activity (detailed in the state defined outcomes above). The educational programs supporting these changes are continuing, as additional opportunities exist for further advances in these lifestyle changes. The program will continue to stress that those individuals who make healthy food choices and are physically active are more likely to achieve and maintain a healthy weight and reduce incidence of chronic disease. Ultimately, this will lead to a reduction in health care costs, increased longevity, greater productivity and improved quality of life.

### **Key Items of Evaluation**

Eat Smart, Move More, Weigh Less is a weight-management program that uses research-based strategies for weight-loss/weight maintenance. This 15-week program informs, empowers and motivates participants to live mindfully as they make choices about eating and physical activity. The program provides opportunities for participants to track their progress and keep a journal of healthy eating and physical activity behaviors.