

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

**Program # 7**

**1. Name of the Planned Program**

Human Nutrition and Health

**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	15%	15%	15%	
703	Nutrition Education and Behavior	25%	25%	25%	
721	Insects and Other Pests Affecting Humans	10%	10%	10%	
724	Healthy Lifestyle	50%	50%	50%	
	<b>Total</b>	100%	100%	100%	

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

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	35.0	2.5	17.0	0.0
Actual	25.0	1.0	10.0	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
850000	123000	130000	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
850000	123000	130000	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
730000	5000	1130000	0

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

1. Brief description of the Activity

The Nutrition and Health program will promote optimum nutrition and health through diet and lifestyle in all North Carolinians regardless of gender, income, age, or race/ethnicity. Education programs addressing diet, healthy, and chronic disease prevention will be offered to North Carolinians of diverse income levels, age groups, genders, and/or cultural backgrounds across the state. Programs offered will include Give Your Heart A Healthy Beat, Project Eat Right: Add to Life Program, Color Me Healthy, Moving Towards a Healthier You, Dining with Diabetes, SyberShop, Women Living Healthy - Women Living Well, and Families Eating Smart and Moving More. Programs will be held in many different settings including congregate nutrition sites, senior centers, schools, churches, government buildings, businesses, daycare centers, work sites and outdoors. Various methods will be employed including using the Internet, computers, mailed materials, media, one-on-one contact, and public meeting. Research projects will continue or be undertaken to seek scientific discoveries that will enhance the quality of living for the states' and nation's human population.

**2. Brief description of the target audience**

Audiences reached included children, adults and the elderly, day care workers, hospital employees, housing authorities, Head Start, Red Cross, food banks, daycare home providers, food stamp and WIC recipients and community coalitions. No time is more important than childhood to promote healthy eating and health practices. Children in North Carolina do not consume enough fruits or vegetables and have diets that are low in fiber and higher in fat than recommended. Children in North Carolina 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 in North Carolina continues to rise. Treatment of overweight and obesity is difficult. Preventing overweight and obesity in children is essential to address this issue. Demographic changes in North Carolina's population continue to impact nutrition and health issues. The fastest growing age group in the state is the 65 years-and-over segment. The elderly run disproportionate risks of malnutrition and poverty as well as poor overall health status. In fact, over 85% of older adults suffer from chronic diseases and could benefit from dietary intervention. The general nutrition needs of the well elderly must be addressed; however, the needs of the elderly for prevention of malnutrition and chronic disease actually begin much earlier in life. Programs addressed to young adults and the middle-aged consumers will continue to impact the health of the population as it "ages." Women are employed in greater numbers, and many of them are among the ranks of the working poor. Over 80% of women who had school-aged children were working outside the home; 67% of women with 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 are a major concern.

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

**1. Standard output measures**

2010	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Plan</b>	98000	99000	25500	42500
<b>Actual</b>	250000	600000	70000	0

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

**Patent Applications Submitted**

Year: 2010

Plan: 2  
 Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
Plan	12	4	
Actual	12	4	16

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

**Output Target**

**Output #1**

**Output Measure**

- Non-degree credit group activities conducted on Foods and Nutrition Education

Year	Target	Actual
2010	2200	3200

**Output #2**

**Output Measure**

- Targeted audiences participate in workshops on food and nutrition

Year	Target	Actual
2010	19000	22000

**Output #3**

**Output Measure**

- Conduct research projects on vectors, their influences on human health and their control.

Year	Target	Actual
2010	5	5

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

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

O. No.	OUTCOME NAME
1	Program participants increase knowledge that will promote a healthier diet
2	Program participants increase skills that will promote a healthier diet
3	Educational program participants make one or more positive dietary change
4	Program participants decrease body weight.
5	Program participants decrease blood pressure.
6	Program participants increase physical activity.
7	Program participants increase their fruit and vegetable consumption by at least one serving.
8	Research projects produce findings that can and will have an impact on the knowledge of and control of vectors that impact human health and safety.

## **Outcome #1**

### **1. Outcome Measures**

Program participants increase knowledge that will promote a healthier diet

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

- 1862 Extension
- 1890 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	20700	126000

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

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

The importance of promoting nutrition and wellness throughout life has been clearly established. Dietary factors are associated with five of the 10 leading causes of death in North Carolina and the United States. Programs that provide consumers with research-based information on healthy eating are imperative to increase their knowledge of the importance of making changes in their dietary patterns to optimize health. Further, consumers need knowledge as to how to go about making these changes based on their lifestyle and environments.

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

NC Cooperative Extension has used multiple delivery strategies to increase the knowledge of participants in healthy eating. Agents have conducted workshops and demonstrations in a variety of settings, including after school, faith community, work site, and others. Media were used to effectively disseminate a clear message about healthy eating to even more citizens

#### **Results**

More than 126,000 North Carolinians who participated in programs conducted by NC Cooperative Extension increased knowledge of how to promote a healthy diet. While knowledge does not indicate behavior change, it is a step in moving toward lifestyle changes in diet that promote optimal health.

### **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 #2**

### **1. Outcome Measures**

Program participants increase skills that will promote a healthier diet

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

- 1862 Extension
- 1890 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	20700	34000

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

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

The importance of promoting nutrition and wellness throughout life has been clearly established. Dietary factors are associated with five of the 10 leading causes of death in North Carolina and the United States. Programs that provide consumers with research-based information on healthy eating are imperative to increase their knowledge of the importance of making changes in their dietary patterns to optimize health. Further, consumers need knowledge as to how to go about making these changes based on their lifestyle and environments.

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

NC Cooperative Extension has used multiple delivery strategies to increase the knowledge of participants in healthy eating. Agents have conducted workshops and demonstrations in a variety of settings, including after school, faith community, work site, and others. Media were used to effectively disseminate a clear message about healthy eating to even more citizens.

#### **Results**

Nearly 34,000 North Carolinians who participated in programs conducted by NC Cooperative Extension acquired skills needed to have a healthy diet. While acquiring skills does not indicate behavior change, it is a step in moving toward lifestyle changes in diet that promote optimal health.

### **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 #3**

#### **1. Outcome Measures**

Educational program participants make one or more positive dietary change

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

- 1862 Extension
- 1890 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	16700	125000

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

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

The importance of promoting nutrition and wellness throughout life has been clearly established. Dietary factors are associated with five of the 10 leading causes of death in North Carolina and the United States. Programs that provide consumers with research-based information on healthy eating are imperative to increase their knowledge of the importance of making changes in their dietary patterns to optimize health. Further, consumers need knowledge as to how to go about making these changes based on their lifestyle and environments.

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

NC Cooperative Extension has used multiple delivery strategies to increase the knowledge of participants in healthy eating. Agents have conducted workshops and demonstrations in a variety of settings including after school, faith community, work site and others. Media were used to effectively disseminate a clear message about healthy eating to even more citizens.

##### **Results**

More than 125,000 North Carolinians who participated in programs conducted by NC Cooperative Extension made at least one positive dietary change. Changes include increased consumption of fruits and vegetables, increased breakfast consumption, decreased fat consumption, increased dairy consumption, and change in portion sizes to better match recommendations per mypyramid.gov. All of these behaviors reduce the risk of chronic diseases including heart disease, stroke, and some forms of cancer. Also, these dietary behaviors are related to an increased likelihood of achieving and maintaining a healthy weight.

#### 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 #4

##### 1. Outcome Measures

Program participants decrease body weight.

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1300	1250

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

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

Overweight and obesity are issues of critical importance to the public's health. Overweight and obesity increases the risk of many chronic conditions, including sleep apnea, arthritis, type 2 diabetes, heart disease, and some forms of cancer. In addition, the economic toll of overweight and obesity in North Carolina is billions of dollars each year in health care costs and loss of productivity.

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

NC Cooperative Extension, in partnership with NC Division of Public Health, offers the Eat Smart, Move More, Weigh Less program. Eat Smart, Move More, Weigh Less is a 15-week weight management program that offers dietary, physical activity, and lifestyle strategies that are consistent with a healthy weight. Participants plan, track and live mindfully in addition to eating healthy and being physically active.

###### **Results**

The Eat Smart, Move More, Weigh Less program was in its second full year of implementation in 2010. Most participants set a healthy weight loss goal at the beginning of the program (some participants enroll to learn about healthy eating and physical activity and do not need to lose

weight). Average weight loss is 7 pounds during the 15-week program.

#### 4. Associated Knowledge Areas

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

#### Outcome #5

##### 1. Outcome Measures

Program participants decrease blood pressure.

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension

##### 3a. Outcome Type:

Change in Condition Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	1500	800

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

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

High blood pressure increases risk for heart disease and stroke.

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

Several programs conducted by NC Cooperative Extension promote eating and physical activity patterns that have been shown to decrease blood pressure.

###### **Results**

More than 800 participants decreased blood pressure as a result of participating in programs conducted by NC Cooperative Extension. Many other participants adopted physical activity or healthy eating behaviors that can positively affect blood pressure.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

724 Healthy Lifestyle

**Outcome #6**

**1. Outcome Measures**

Program participants increase physical activity.

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Condition Outcome Measure

**3b. Quantitative Outcome**

Year	Quantitative Target	Actual
2010	2000	19000

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

**Issue (Who cares and Why)**

Many North Carolinians are not active on a regular basis. Few are active to the level recommended by the Dietary Guidelines for Americans. Physical activity is widely accepted as a positive behavior for optimal health and can decrease the risk of heart disease, stroke, and high blood pressure, and can help control weight.

**What has been done**

NC Cooperative Extension encourages both moderate and vigorous physical activity in several lifestyle management programs. Participants are educated about recommended levels of physical activity and develop skills that can help them become physically active for life.

**Results**

More than 19,000 participants increased their physical activity. While this is the first step, we need to encourage participants to meet or exceed the minimum of 30 minutes of activity on most days. To that end, 10,105 participants met the minimum recommended physical activity guidelines, while 5,462 participants adopted behaviors exceeding the minimum recommended physical activity guidelines.

**4. Associated Knowledge Areas**

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

## **Outcome #7**

### **1. Outcome Measures**

Program participants increase their fruit and vegetable consumption by at least one serving.

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

- 1862 Extension
- 1890 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	2000	20000

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

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

Fruit and vegetable consumption is a critical component of a healthy diet. Increased fruit and vegetable consumption alone has been shown to be effective in decreasing fat and calories while increasing fiber and critical nutrients. Fruit and vegetable consumption is associated with an increased intake of phytonutrients that have been shown to decrease the risk of heart disease and certain forms of cancer.

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

Many programs and media campaigns across North Carolina focus on fruit and vegetable consumption. In addition to educational programs that include fruit and vegetable consumption as a healthy behavior that should be adopted, we also encourage community gardens, home gardening, and home food preservation.

#### **Results**

Nearly 20,000 participants across North Carolina increased their fruit and vegetable consumption by at least one serving.

### **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**

Research projects produce findings that can and will have an impact on the knowledge of and control of vectors that impact human health and safety.

Not Reporting on this Outcome Measure

### **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 environment. 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 level 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 and Data Collection)**

#### **1. Evaluation Studies Planned**

- After Only (post program)
- Before-After (before and after program)
- During (during program)
- Comparisons between program participants (individuals, group, organizations) and non-participants

## **Evaluation Results**

In 2010, 5,086 families enrolled in EFNEP, while 15,889 participated in 4-H EFNEP. The following data were compiled from pre- and post-evaluation surveys administered to participants by EFNEP program assistants across the state. Completing the series of lessons improved nutrition, food behavior, and food safety practices. As a result of participation in EFNEP 76% improved in one or more food safety practices, 90% improved in one or more food resource management practices, 41% of participants increased amount of physical activity, 57% increased fruit consumption, 53% increased vegetable consumption, and 55% increased consumption of calcium rich foods.

## **Key Items of Evaluation**

Eat Smart, Move More, Weigh Less (ESMMWL) 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.