

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

**Program # 6**

**1. Name of the Planned Program**

Food, 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	20%	0%	35%	0%
703	Nutrition Education and Behavior	40%	60%	35%	0%
724	Healthy Lifestyle	40%	40%	30%	0%
	<b>Total</b>	100%	100%	100%	0%

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

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

Year: 2010	Extension		Research	
	1862	1890	1862	1890
Plan	38.0	2.0	32.8	3.0
Actual	8.3	1.0	7.6	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
205165	154869	143572	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
232735	123468	483984	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
570801	5000	1764086	0

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

1. Brief description of the Activity

Conduct educational classes, workshops, meetings, and trainings, develop products, curriculum, resources, facilitate coalitions and/or task forces, conduct assessments and community surveys, partner

with community agencies and institutions to facilitate programs and community development, create/revise social systems and public policies, conduct research studies, disseminate program and research results through papers, reports, and media, develop and implement marketing strategies using various outlets to promote program participation, disseminate research-based information to consumers using a variety of media and technology resources, cooperate with media and other community agencies to seek effective means of reaching new and non-traditional audiences, and respond to consumer inquiries.

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

Young adults (ages 25 - 59), older adults (age 60 and older), caregivers of older adults, adults with type 2 diabetes, parents and caregivers of individuals with type 2 diabetes, senior center and meal site staff and volunteers, and Extension educators.

**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>	120000	100000	120000	5000
<b>Actual</b>	23011	292710	8481	1260

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

**Patent Applications Submitted**

Year: 2010  
 Plan: 0  
 Actual: 2

**Patents listed**

- Using routine blood chemistry results to estimate plasma amino acids during an acute or chronic transmissible disease episode
- Mixture of non-starch polysaccharidases increases the metabolizable energy content of co-products fed to livestock and poultry.

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

**Number of Peer Reviewed Publications**

2010	Extension	Research	Total
<b>Plan</b>	3	20	
<b>Actual</b>	5	67	72

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

**Output Target**

### **Output #1**

#### **Output Measure**

- Food Safety - Number of food service managers, supervisors and food handling personnel from restaurants, cafeterias, daycare and other food service facilities completing food safety training offered by extension educators in Virginia  
Not reporting on this Output for this Annual Report

### **Output #2**

#### **Output Measure**

- Adult Nutrition and Chronic Disease Prevention - Number of adults participating in diabetes educational programs.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	120	266

### **Output #3**

#### **Output Measure**

- Childhood Nutrition and Fitness - Number of pre-school aged youth participating in Extension educational programs at childcare centers or schools  
Not reporting on this Output for this Annual Report

### **Output #4**

#### **Output Measure**

- Childhood Nutrition and Fitness - Number of elementary and middle school-aged youth participating in Extension nutrition education programs  
Not reporting on this Output for this Annual Report

### **Output #5**

#### **Output Measure**

- Childhood Nutrition and Fitness - Number of adolescents participating in Virginia Cooperative Extension nutrition education programs  
Not reporting on this Output for this Annual Report

### **Output #6**

#### **Output Measure**

- Childhood Nutrition and Fitness - Number of youth participating in Virginia Cooperative Extension school-based wellness initiatives or efforts to address local school wellness policies aimed at improving available foods and physical activity opportunities  
Not reporting on this Output for this Annual Report

### **Output #7**

#### **Output Measure**

- Adult Nutrition and Chronic Disease Prevention - Number of adults participating in at least one session on adult nutrition, fitness, or health

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	2700	20700

**Output #8**

**Output Measure**

- Food Safety - Number of home-based food business workshops conducted for food product formulation, facility planning, food processing and safety, product evaluation, food packaging and labeling, and record keeping  
Not reporting on this Output for this Annual Report

**Output #9**

**Output Measure**

- Food Safety - Number of short courses provided on food safety practices including HACCP training, Good Agricultural Practices and recall workshops for industry personnel, consumer organizations, Extension Agents and local, state, and federal health inspectors  
Not reporting on this Output for this Annual Report

**Output #10**

**Output Measure**

- Number of home food preservation trainings offered by Extension educators in Virginia  
Not reporting on this Output for this Annual Report

**Output #11**

**Output Measure**

- Number of consumers completing safe food handling and preparation classes for civic/community groups and volunteer fund raisers supplying food for large groups of people.  
Not reporting on this Output for this Annual Report

**Output #12**

**Output Measure**

- Chronic Disease: Number of research projects completed or in progress on obesity and related chronic disease.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	10	65

**Output #13**

**Output Measure**

- Chronic Disease: Number of research papers published on obesity and related chronic disease.

<b>Year</b>	<b>Target</b>	<b>Actual</b>
2010	6	65

**Output #14**

**Output Measure**

- Food Safety: Number of research projects completed or in progress in the area of food safety.  
Not reporting on this Output for this Annual Report

**Output #15**

**Output Measure**

- Food Safety - Number of home based business entrepreneurs that have products evaluated for thier safety by the 'Food Processor Technical Assistance Program' to prevent foodborne illness across the commonwealth.  
Not reporting on this Output for this Annual Report

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

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

O. No.	OUTCOME NAME
1	Food Safety - Increase in the number of food handlers (managers, supervisors, and food handling personnel from restaurants, public school and hospital cafeterias, daycare centers, nursing homes, university food service, correctional centers, civic/community groups and volunteers) who increase knowledge and skills in safe food handling practices.
2	Food Safety - Increase in number of home-based business entrepreneurs that increase awareness and knowledge in producing safe high acid and acidified food products.
3	Chronic Disease Prevention - Increase in the number of individuals with diabetes who have lowered their Hemoglobin A1c level at least 0.5, three months after participating in a Diabetes Education programs offered in collaboration with a local health care provider.
4	Nutrition, Physical Activity and Health - Increase in number of youth and adults that make lifestyle changes which improve their dietary quality and/or physical activity level after participation in VCE programs.
5	Food Safety Research - Increase in number of discoveries from completed food related research projects which focus on enhancing the safety of the Nation's food supply and the development of value added foods.
6	Chronic Disease Prevention Research - Number of discoveries from completed obesity related research projects which focus on examining obesity from its root causes to its association with disease.
7	Diabetes Education
8	Nutrition Education in the Workplace
9	Expanded Food and Nutrition Education Program Promotes Positive Health Behavior Change
10	The Expanded Food and Nutrition Education Program (EFNEP) and the Supplemental Nutrition Assistance Education Program (SNAP-Ed) Reduces Health Care Costs in Virginia.
11	Virginia Cooperative Extension Partnering with Share Our Strength Cooking Matters.

### **Outcome #1**

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

Food Safety - Increase in the number of food handlers (managers, supervisors, and food handling personnel from restaurants, public school and hospital cafeterias, daycare centers, nursing homes, university food service, correctional centers, civic/community groups and volunteers) who increase knowledge and skills in safe food handling practices.

Not Reporting on this Outcome Measure

### **Outcome #2**

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

Food Safety - Increase in number of home-based business entrepreneurs that increase awareness and knowledge in producing safe high acid and acidified food products.

Not Reporting on this Outcome Measure

### **Outcome #3**

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

Chronic Disease Prevention - Increase in the number of individuals with diabetes who have lowered their Hemoglobin A1c level at least 0.5, three months after participating in a Diabetes Education programs offered in collaboration with a local health care provider.

#### **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	6550	239

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

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

Approximately 466,800 Virginians have been diagnosed with diabetes (DM) and another 233,441 have undiagnosed DM. DM is the 6th leading cause of death in VA and adds to deaths from heart disease and stroke. DM and related complications carry a high cost in money, loss of productivity, and a lower quality of life. In VA, DM leads to 11,700 hospitalizations each year, adding nearly

\$173 million to VA's health care bill.

### **What has been done**

Dining with Diabetes helps individuals with diabetes and their families learn about healthy eating and active living to lower blood sugar levels and prevent complications. In 2010 FCS agents with funding from the National Institutes of Health cooperated with the College of Osteopathic Medicine, the Carilion Clinic CNRV Diabetes Program, and the Virginia Tech Center for Research in Health Behavior to offer this series. This program teaches people about self care, appropriate food choices, and life style patterns relating to diet and physical activity to prevent or slow disease complications.

### **Results**

Lifestyle changes such as healthier eating, increased activity, and modest weight loss were shown to substantially reduce progression from pre-diabetes to type 2 diabetes by 58%. In one group class, the average HgbA1c, a marker of the level of control of diabetes, dropped, on average, from 8.9% to 8.3%. Research published in the Journal of the American Medical Association found that people who decrease their hemoglobin A1c by even 0.5% may require fewer physician visits in the years following and could save at least \$685 per year in health care costs. A 1.0% drop in hemoglobin A1c is associated with a 40% decrease in risk of diabetes complications including blindness, kidney failure, and amputations.

## **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**

Nutrition, Physical Activity and Health - Increase in number of youth and adults that make lifestyle changes which improve their dietary quality and/or physical activity level after participation in VCE programs.

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

- 1862 Extension
- 1890 Extension

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

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	90000	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Health care costs have nearly tripled in the past 30 years in the US. In 2004, it was estimated that health care expenditures per Virginian were \$4,822. Obesity and diabetes contribute to these rising costs, as well as an increasing aging population and emergency room visits by uninsured persons. It has been estimated that one in 8 Virginian adults, including middle-income, are uninsured, based on estimates before the recession.

An individual who is obese will require more health care over a lifetime than an individual who has a healthy weight. It is estimated that individuals who are roughly 100 pounds overweight have twice the healthcare costs than healthy weight individuals and cost the US \$73.1 billion. Currently, 62% of adult Virginians are overweight or obese, 466,883 adult Virginians have diabetes, 233,441 adult Virginians have diabetes and do not know it (undiagnosed), and 1.2 million Virginians 40 to 74 years-of-age have pre-diabetes.

#### What has been done

Good nutrition and physical activity are central in preventing chronic diseases, such as obesity and diabetes, and saving healthcare costs. VCE offers education on a wide variety of food, nutrition, health, and chronic disease topics for individuals to reduce the number of visits to doctors and other healthcare providers, fewer costly laboratory tests, and lower numbers of hospital visits for unmanaged diabetes for uninsured individuals. One of the signature VCE programs includes the FIT Extension program. The FIT Extension program was conducted in 19 Virginia localities to increase physical activity and consumption of fruits and vegetables. Teams of approximately six people pooled miles walking or actively moving across Virginia in eight weeks. Accumulated miles of physical activity and cups of fruits and vegetables were posted weekly on the FIT Extension website and participants received weekly newsletters with behavior change strategies. VCE educators trained an additional 2,000 volunteers, who contributed over 100,000 hours of time to the delivery of programs.

#### Results

Across the state of Virginia 1188 people participated in FIT Extension alone. Participants of Fit Extension who were not meeting the physical activity guidelines prior to the start of the program showed significant increases in physical activity by 40 minutes. Specifically, previously inactive participants increased their moderate to vigorous activity by an average of 77.5 minutes per week. Participants who were somewhat active prior to the start of the program increased their moderate to vigorous activity by 41 minutes per week. The proportion of participants meeting the program goal of 5 cups of fruits and vegetables improved from 36.8% at the start of the program to 70.4% at the end of the program, which reflects, on average, an increase of 2.25 cups per day. Similar improvements were seen in other community-based programs delivered by VCE Educators.

## 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**

Food Safety Research - Increase in number of discoveries from completed food related research projects which focus on enhancing the safety of the Nation's food supply and the development of value added foods.

Not Reporting on this Outcome Measure

### **Outcome #6**

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

Chronic Disease Prevention Research - Number of discoveries from completed obesity related research projects which focus on examining obesity from its root causes to its association with disease.

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

- 1862 Research

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	4	52

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

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

Recent data indicate 17% of children and adolescents are obese and more than 30% of adults. Excess body fat increases the risk of hypertension, cardiovascular disease, and diabetes, major contributors to health care costs, loss of productivity, early mortality, and diminished quality of life. Obesity-related illnesses place a significant burden on the economy and obesity is believed to account for as much as 9 percent of total health care expenditures and a minimum of \$26.8 billion in medical spending.

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

The etiology of obesity extends beyond energy imbalance to include genomic, molecular, cellular, and organ components that interact with individual preferences, family and community, work life,

economics, and public policy. Virginia Tech scientists are striving to examine obesity from bench to behavior through inter-disciplinary and translational science and applications that will result in positive public health impacts.

### Results

In 2010, 52 peer-reviewed articles (in childhood obesity and food, nutrition, and health) were published or in press. Current research studies aim to explore a multitude of factors and interventions related to obesity, health, and well-being, including: Hypothalamic control of body weight, using mouse models; If economics can influence genetics and whether the genetics of an individual can influence economic decisions using mice and an operant behavior chamber to set food prices; The effect of resistance training as an approach to prevent diabetes from developing among older, overweight individuals with pre-diabetes; The potential effectiveness of the magnitude, type, and timing of financial incentives in stimulating weight loss program reach in overweight and obese adults; Identification and characterizing of phytochemicals from food sources or medicinal herbs that provide beneficial effects on cardio-vascular disease and diabetes; Conceptualization and implementation of a cost-effectiveness analysis of a youth nutrition education program for limited resource youth; The impact of lifestyle and pharmacological therapies, both alone and in combination, to alter the course of the cardiovascular and metabolic consequences that occur with aging and obesity.

## 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 #7

#### 1. Outcome Measures

Diabetes Education

#### 2. Associated Institution Types

- 1890 Extension

#### 3a. Outcome Type:

Change in Knowledge Outcome Measure

#### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

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

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

The American Diabetes Association (ADA), reports that 25.8 million children and adults in the United States, 8.3% of the population have diabetes. Diabetes rate in Virginia has nearly doubled from 3.8 percent in 1995 to 8.0 in 2008. In 2006, there over 11,880 hospital discharges listing diabetes as the primary cause in Virginia, costing over \$227 million dollars. Nationwide the cost of diabetes in the U.S. exceed \$174 billion in 2007. The chronic disease of diabetes increases the risk of adult Virginians to have high blood pressure, high cholesterol, engage in less physical activity, than adults without diabetes.

### **What has been done**

Our program seeks to alleviate the growing diabetes trend. Research has shown that good diabetes management can help to reduce or delay complications and thus the cost of diabetes. Virginia State University conducts a series of classes themed "Fitting together the Pieces of Diabetes" to give type 2 diabetics, those at risk, and their families information on nutrition, physical activity, and community support for complications.

### **Results**

Approximately 90% of the participants have increased their knowledge of how to choose healthy foods, read nutrition labels, the importance of physical activity and advocating for their health. They are now, "more willing to try new {healthy} foods?". Several participants have commented on their improved A1C levels and less need for medication since becoming part of the program. A support has been started by the participants.

## **4. Associated Knowledge Areas**

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

### **Outcome #8**

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

Nutrition Education in the Workplace

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

- 1890 Extension

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

Change in Knowledge Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	{No Data Entered}	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Health and wellness education implemented in America workplaces have proven to reduce costs related to medical insurance provisions and have proven to increase employee production while at work. Half of all diseases have a link to poor health behaviors, and 20% of employees account for 80% of medical claims costs. With almost a seventy percent rate of obesity, the American workforce is in need of healthy food choice education. Obesity is often the result of poor nutrition and misinformation. Virginia is striving for healthy communities, healthy behaviors, such as eating nutritious foods and being physically active are important.

#### What has been done

Virginia State University's FCS health specialist created an interactive program that helps persons to make better food choices using MyPyramid. Partnering with Chesterfield County government employees through their employee training program, twice a year, "Balancing Nutrition" is offered through Chesterfield University, to promote better food choices to interested employees. A version of the program is also offer to other community groups that request nutrition education.

#### Results

The program reaches approximately 100 Chesterfield county employees with nutrition education. 90% of participants in a recent class said they would recommend the class to others. Additional comments on what they would change as a result of the class included: Cut portion sizes, "I will ensure that all food categories are included in each meal," "start eating a variety of healthy foods" "start snacking on nuts and fruits rather than sugary alternatives". The FCS program also partnered with the faith-based and other community organizations to reach an additional 225 person with nutrition information.

### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #9

##### 1. Outcome Measures

Expanded Food and Nutrition Education Program Promotes Positive Health Behavior Change

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

### 3c. Qualitative Outcome or Impact Statement

#### Issue (Who cares and Why)

Obesity has reached epidemic proportions in the United States and 30% of children bear the burden at larger proportion than ever before. The highest rates of obesity incidence are in low income populations. The combination of poor or compromised health status (high blood pressure, stroke, diabetes, cancers) and low income has significant emotional, physical and spiritual impacts. It is critical that education programs operate with a health promotion/disease prevention mindset to alter this trend through positive behavior change.

#### What has been done

In 2009, the Virginia Cooperative Extension's Expanded Food and Nutrition Education Program (EFNEP) enrolled 2045 low income adults and 14,669 low income youth whose incomes were up to 185% of federal poverty guidelines. Through a six nutrition lesson series, participants learned to select, buy, prepare, and store foods to meet the nutritional needs of their families, while operating within sound budget and gaining organizational skills.

#### Results

Pre and post program measures showed that of adults participating in EFNEP:

83% showed improvement in food resource management practices

88% engaged in sound nutrition practices more often

70% followed food safety recommendations more often

Youth participating in EFNEP:

81% increased their consumption of vegetables.

82% increased their consumption of whole grains.

86% increased their consumption of nutrient dense snacks

74% decreased their consumption of soft drinks.

86% increased their physical activity level.

### 4. Associated Knowledge Areas

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

## **Outcome #10**

### **1. Outcome Measures**

The Expanded Food and Nutrition Education Program (EFNEP) and the Supplemental Nutrition Assistance Education Program (SNAP-Ed) Reduces Health Care Costs in Virginia.

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

- 1862 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Quantitative Target</b>	<b>Actual</b>
2010	{No Data Entered}	0

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

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

Chronic diseases are the leading cause of morbidity and mortality in the United States. A sedentary lifestyle and poor diet are linked to being overweight and obese. Unhealthy lifestyles and poor diets can also lead to an early onset of chronic diseases. Heart disease, stroke, cancer, and diabetes are the most prevalent, but respond best to sustainable health behavior changes. The Centers for Disease Control and Prevention reports, of the deaths occurring in Virginia during 2005, 25% were linked to heart disease and 24% were associated with cancer. A reported 1,642 Virginians died from diabetes in 2005. In 2007, 62% of Virginians were overweight or obese and 74% consumed less than 5 fruits and vegetables each day (Centers for Disease Control and Prevention, 2008). Chronic diseases results from unhealthy lifestyle and are become a financial burden to the state and federal government. The estimated medical cost associated with obesity is \$147 billion. Likewise, an obese person has medical costs that are \$1,429 more than his or her normal weight counterpart (Centers for Disease Control and Prevention, 2010).

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

EFNEP and SNAP-Ed teaches families, youth and seniors skills necessary to promote healthy lifestyles eat more meals at home, prepare healthy and tasty meals for their families, increase fruit and vegetable consumption, control portion sizes, move more everyday, move more and watch less, and replace sugary beverages with healthy options.

#### **Results**

Participants completing the EFNEP and SNAP-ED series of 6 lessons improved nutrition and food behavior. Post lesson data gathered through behavior change questionnaires in EFNEP have shown:

- 61% used food labels more often to make food choices
- 18% of participants increased physical activity
- 96% of participants improved their diet

44% increased fruit consumption  
54% increased vegetable consumption  
53% increased consumption of calcium-rich foods  
Post-lesson data gathered through behavior change questionnaires in SNAP-ED have shown:  
53% used food labels more often to make food choices.  
83% of participants improved their diets

#### 4. Associated Knowledge Areas

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

#### Outcome #11

##### 1. Outcome Measures

Virginia Cooperative Extension Partnering with Share Our Strength Cooking Matters.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Quantitative Target	Actual
2010	{No Data Entered}	0

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

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

Overweight and obesity are major health and economic issues, costing Americans over \$147 billion each year. Likewise, an obese person has medical costs that are \$1429 more than his or her normal weight counterpart (Centers for Disease Control and Prevention, 2010). Thirty percent of children and adolescents are overweight and 64% of adults are overweight or obese in the US. Families of low-socioeconomic status suffer disproportionately from poor health.

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

Virginia Cooperative Extension's (VCE) Family Nutrition Program, Family Consumer Science Agents, 4-H Agents and chef volunteers collaborated with Share Our Strength to deliver interdisciplinary programs to address nutritional needs of limited income communities and/or family systems whose income was up to 150% of federal poverty guidelines. Participants were taught to select, buy, prepare, and store foods to meet the nutritional needs of

their families, while operating within sound budget, and develop organizational skills. Courses are offered exclusively to low-income families; most participants are enrolled in food assistance programs including SNAP (food stamps) and free or reduced-price school meals. Families were provided take-home groceries after each class to supplement the family food budget. In addition, VCE has the capacity to provide financial management, family and youth development skills.

### **Results**

Beginning in 2008, Virginia received a 3 year grant for \$100,000. Twelve units were awarded \$2500 - \$3500 to pilot and conduct 3- six week (24) courses each year. Twenty- six courses were conducted. National Extension Agents contributed more time to limited income family programming therefore increasing the amount of cost share for the SNAP-Ed program. Evaluation data from the first year were 76 staff and volunteers conducted 26 courses for 38 teens, 69 youth and 163 adults. 100% of children learned at least one new thing about cooking; 88% practiced preparing recipes at home with their parents, 92% reported that cooking skills were improved, 70% are eating more fruits and vegetables. The average cost of 978 take-home groceries were \$25.00 per bag (an average of \$19, 560). Additional collaboration with local agencies and program sustainability were established.

### **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
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

#### **Brief Explanation**

The economy (i.e. employment opportunities, etc.) can directly influence food purchases and food security of adults and families and furthermore weight status.

Public policy changes, such as the Affordable Healthcare Act, may impact a multitude of factors related to food, nutrition, health, and healthcare access in 2011 and beyond.

Several populations, particularly Hispanic and African American individuals, have higher rates of obesity. With population shifts within Virginia, it is possible to see changes in obesity prevalence rates.

## **V(I). Planned Program (Evaluation Studies and Data Collection)**

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

- After Only (post program)
- Retrospective (post program)
- Before-After (before and after program)
- During (during program)
- Time series (multiple points before and after program)

### **Evaluation Results**

All major programs relating to children and youth are evaluated to determine program effectiveness, although outcomes may not be available from all locations statewide. Research funding has enabled us to expand our reach in various program areas and in that situation, data are gathered at every location.

### **Key Items of Evaluation**