

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

**Program # 4**

**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
701	Nutrient Composition of Food	5%	0%	0%	
703	Nutrition Education and Behavior	95%	100%	0%	
	<b>Total</b>	100%	100%	0%	

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

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	99.0	12.0	13.0	0.0
Actual Paid Professional	75.0	10.3	0.0	0.0
Actual Volunteer	22.0	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
1328278	429147	0	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
6087324	429147	0	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
5884343	0	0	0

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

1. Brief description of the Activity

UT and TSU Extension used the Power U curriculum in Tennessee schools and afterschool programs. Extension personnel and volunteers used the curriculum to teach diet quality to young adolescents. The program was delivered through 10 interactive lessons. Extension obesity prevention programs emphasized the following:

- how to use MyPlate.gov and following Dietary Guidelines.
- how to use the Healthy Plate Method.
- decreasing consumption of high-fat foods like fried foods, bologna, hot dogs, etc.
- increasing consumption of fruits, vegetables and whole-grains.

We conduct applied and basic research in food-borne risks and nutrition to address high priority issues for consumers of food products. We disseminate information gained from these studies to food industries and consumers through outreach programs, including workshops and educational events at the county level, and through a variety of publications.

TSU Extension continues to provide education via an annual Children Healthy and Eating Well (CHEW) Conference. This is a USDA grant funded program designed to provide and highlight the latest research and public health initiative to promote healthy eating and active living with a focus on preventing childhood obesity.

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

Tennesseans targeted included consumers and youth. Because of the prevalence of obesity in the state, all consumers were targeted. The TNCEP and EFNEP programs specifically targeted the state's limited resource population. In addition, the TSU Food Nutrition Education Program targeted eligible food stamp recipients.

**3. How was eXtension used?**

This Childhood Obesity planned program was enhanced through the service of:

- 12 Tennessee Extension personnel on the "Families, Food, and Fitness" CoP, and one of the leaders of this CoP is the Director of Strategic Planning for UT Extension.
- two Tennessee Extension personnel on the "A,B,Cs of Omega 3's" CoP.

The "Families, Food, and Fitness" CoP continues to make extensive use of social media in Tennessee to promote educational programs and resources related to improving dietary quality and increasing physical activity.

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

**1. Standard output measures**

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
<b>Actual</b>	226612	7376438	392207	0

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

**Patent Applications Submitted**

Year: 2013  
 Actual: 0

**Patents listed**

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

**Number of Peer Reviewed Publications**

<b>2013</b>	<b>Extension</b>	<b>Research</b>	<b>Total</b>
<b>Actual</b>	1	20	21

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

**Output Target**

**Output #1**

**Output Measure**

- Number of exhibits displayed to promote program awareness and participation.

<b>Year</b>	<b>Actual</b>
2013	3806

**Output #2**

**Output Measure**

- Number of research-based publications distributed as part of this program.

<b>Year</b>	<b>Actual</b>
2013	362723

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

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

O. No.	OUTCOME NAME
1	Tennessee Shapes Up: Number of participants who decreased consumption of high-fat foods such as chips, fast food, fried foods, sausage, bacon, bologna, hot dogs, etc.
2	Tennessee Shapes Up: Number of participants who decreased consumption of high-sugar foods and sweetened beverages, such as soft drinks, Kool Aide type beverages, sweetened tea, etc.
3	Tennessee Shapes Up: Number of participants who increased consumption of dairy foods.
4	Tennessee Shapes Up: Number of participants who increased consumption of fruits.
5	Tennessee Shapes Up: Number of participants who increased consumption of vegetables.
6	Tennessee Shapes Up: Number of participants increased consumption of whole grains.
7	Tennessee Shapes Up: Number of participants who improved their blood sugar.
8	Tennessee Shapes Up: Number of participants who improved their cholesterol levels.
9	Power U: Helping Youth Make Healthy Choices and Increase Physical Activity
10	Healthy Steps: Extension's Obesity Prevention Program for Pre-Schoolers

## **Outcome #1**

### **1. Outcome Measures**

Tennessee Shapes Up: Number of participants who decreased consumption of high-fat foods such as chips, fast food, fried foods, sausage, bacon, bologna, hot dogs, etc.

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

- 1862 Extension
- 1890 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2013	7660

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

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

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

## **Outcome #2**

### **1. Outcome Measures**

Tennessee Shapes Up: Number of participants who decreased consumption of high-sugar foods and sweetened beverages, such as soft drinks, Kool Aide type beverages, sweetened tea, etc.

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

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	7660

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #3**

**1. Outcome Measures**

Tennessee Shapes Up: Number of participants who increased consumption of dairy foods.

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	6052

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #4**

**1. Outcome Measures**

Tennessee Shapes Up: Number of participants who increased consumption of fruits.

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	7660

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

## **Outcome #5**

### **1. Outcome Measures**

Tennessee Shapes Up: Number of participants who increased consumption of vegetables.

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

- 1862 Extension
- 1890 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2013	7068

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

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

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

## **Outcome #6**

### **1. Outcome Measures**

Tennessee Shapes Up: Number of participants increased consumption of whole grains.

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

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	3382

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #7**

**1. Outcome Measures**

Tennessee Shapes Up: Number of participants who improved their blood sugar.

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	260

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

**Outcome #8**

**1. Outcome Measures**

Tennessee Shapes Up: Number of participants who improved their cholesterol levels.

**2. Associated Institution Types**

- 1862 Extension
- 1890 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2013	235

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

**Issue (Who cares and Why)**

**What has been done**

**Results**

**4. Associated Knowledge Areas**

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

## **Outcome #9**

### **1. Outcome Measures**

Power U: Helping Youth Make Healthy Choices and Increase Physical Activity

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

- 1862 Extension
- 1890 Extension

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

Change in Condition Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2013	0

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

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

According to the Tennessee Department of Education: "Tennessee has the third highest rate of pediatric obesity in the United States and ranks 44th among the 50 states in health outcomes for its adult populace. Since health habits learned during the formative years are crucial to preventing negative health outcomes later in life, early intervention among school-aged youth is necessary and essential in reducing these alarming trends."

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

Power U is a statewide program designed to help fourth and fifth graders learn to make healthy choices and increase physical activity. Power U incorporates Common Core State Standards to help students apply decisions about food and physical activity while learning skills needed for successful careers. Students are exposed to a variety of new fruits and vegetables through tasting experiences. Educational messages are reinforced through family newsletters. In 2013, Power U was implemented in 178 classrooms in 50 schools in 20 Tennessee Counties. This represented 11,386 contacts by Extension personnel and 933 contacts by volunteers.

#### **Results**

Impact data collected using a behavior checklist survey and through teacher and parent comments showed that:

2162 of 2987 participants (72%) decreased consumption of high-sugar foods.

2113 of 2987 participants (71%) decreased consumption of high-fat foods.

2466 of 2987 participants (83%) ate more fruit.

1949 of 2987 participants (65%) ate more vegetables.

1974 of 2980 participants (66%) increased their intake of dairy foods.

2597 of 2987 participants (87%) increased amount of time in physical activity.

1913 of 2987 participants (64%) increased their intake of whole grains.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #10

##### 1. Outcome Measures

Healthy Steps: Extension's Obesity Prevention Program for Pre-Schoolers

##### 2. Associated Institution Types

- 1862 Extension
- 1890 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2013	0

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

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

In 2012-13, almost 31% of children enrolled in kindergarten in Tennessee were overweight or obese. Research shows that children who were overweight in kindergarten were four times more likely to become obese nearly a decade later than five-year-olds of a healthy weight.

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

Healthy Steps, a nutrition and physical activity program for preschoolers was implemented in 18 Tennessee counties in 2013. 3,117 direct contacts were made in Voluntary Pre-K, Head Start and center-based classrooms; 72,871 indirect contacts were made through exhibits, newspaper articles, publications and television. In addition 4,083 contacts were made by volunteers.

###### **Results**

Surveys were completed by teachers at the end of the program to document program outcomes. ?172 of 175 teachers reported preschool children in their classes were more actively engaged in physical activity.

?177 of 178 teachers reported preschool children in their classes were more willing to taste fruit.

?181 of 184 teachers reported preschool children in their classes were more willing to taste vegetables.

?158 of 167 teachers reported preschool children in their classes were more willing to taste whole-grain foods.

?160 of 169 teachers reported using physical activities from Healthy Steps at least three times per week.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

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

##### External factors which affected outcomes

- Competing Programmatic Challenges

##### Brief Explanation

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

##### Evaluation Results

Power U is a statewide program designed to help fourth and fifth graders learn to make healthy choices and increase physical activity. Power U incorporates Common Core State Standards to help students apply decisions about food and physical activity while learning skills needed for successful careers. Students are exposed to a variety of new fruits and vegetables through tasting experiences. Educational messages are reinforced through family newsletters. In 2013, Power U was implemented in 178 classrooms in 50 schools in 20 Tennessee Counties. Impact data collected using a behavior checklist survey and through teacher and parent comments showed that:

- 2162 of 2987 participants (72%) decreased consumption of high-sugar foods.
- 2113 of 2987 participants (71%) decreased consumption of high-fat foods.
- 2466 of 2987 participants (83%) ate more fruit.
- 1949 of 2987 participants (65%) ate more vegetables.
- 1974 of 2980 participants (66%) increased their intake of dairy foods.
- 2597 of 2987 participants (87%) increased amount of time in physical activity.
- 1913 of 2987 participants (64%) increased their intake of whole grains.

The TSU Extension component of a CHEW pilot study using two TSU undergraduate students who were trained as peer educators and facilitated the interactive nutrition education sessions was also evaluated. Pre- and three months post- program surveys of dietary knowledge and behavior were conducted and height and weight measurements were taken on the first day of camp and at three months post-program. Chi-square tests determined if significant differences existed between those measurements taken prior to the program and those taken three months afterward. Statistically significant improvements included:

- consuming more fresh, frozen or dried fruits for snacks

- consuming more whole grain cereal for snacks using lower fat salad dressing
- reading food labels and percentage categorized as obese (26.7% pre to 20.0% post).

### **Key Items of Evaluation**

Power U is a statewide program designed to help fourth and fifth graders learn to make healthy choices and increase physical activity. Power U incorporates Common Core State Standards to help students apply decisions about food and physical activity while learning skills needed for successful careers. Students are exposed to a variety of new fruits and vegetables through tasting experiences. Educational messages are reinforced through family newsletters. In 2013, Power U was implemented in 178 classrooms in 50 schools in 20 Tennessee Counties. Impact data collected using a behavior checklist survey and through teacher and parent comments showed that:

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- 2597 of 2987 participants (87%) increased amount of time in physical activity.
- 1913 of 2987 participants (64%) increased their intake of whole grains.

The TSU Extension CHEW small pilot study suggests that larger programs using intensive but short-term exposure to healthy food choices could have lasting benefits.