

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

**Program # 10**

**1. Name of the Planned Program**

Global Food Security and Hunger: Health & Human Nutrition

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
311	Animal Diseases	0%		10%	
701	Nutrient Composition of Food	10%		0%	
703	Nutrition Education and Behavior	30%		10%	
704	Nutrition and Hunger in the Population	20%		0%	
722	Zoonotic Diseases and Parasites Affecting Humans	0%		10%	
723	Hazards to Human Health and Safety	10%		20%	
724	Healthy Lifestyle	30%		25%	
802	Human Development and Family Well-Being	0%		5%	
803	Sociological and Technological Change Affecting Individuals, Families, and Communities	0%		5%	
903	Communication, Education, and Information Delivery	0%		15%	
	<b>Total</b>	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>	6.9	0.0	3.0	0.0
<b>Actual Paid</b>	8.5	0.0	1.0	0.0
<b>Actual Volunteer</b>	0.0	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
250510	0	76022	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
250510	0	76022	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
353938	0	327958	0

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

### 1. Brief description of the Activity

The Health and Nutrition team reported 70,207 direct educational contacts through Extension programs and 88,084 indirect contacts. Team members published two refereed journal articles, one peer reviewed Extension publication, and participated in projects supported by \$1,374,986 in grants.

The Health and Nutrition logged more than 1,000 individual teaching events and engagement activities in 2014. In total, these efforts reached more than 70,000 Idaho contacts. Activities of this team are grouped into several projects described below.

Faculty working on the Healthy Lifestyles/physical activity project presented in 219 individual fitness events reaching more than 9,900 contacts. Fitness events included 30 Kick Your Bootcamp classes to help with obesity issues and also pedometer fitness challenges. Additionally, 130 sessions of Strong Women were delivered for more than 1,150 contacts. Many other Strong Women sessions were taught by Extension-trained community members. Two hundred two classes and workshops about nutrition (exclusive of the SNAP-Ed and EFNEP projects) reached more than 2,000 contacts with information about healthy foods, MyPlate, etc. Fifty-eight classes reached more than 1,300 youth and adults about preparing and cooking healthy foods including cooking whole wheat breads, using fats and oils, selecting and preparing fruits and vegetables., Twenty-two educational events reached 117 learners about diet-related diseases including (mostly diabetes) and 43 events targeted overweight and obesity teaching topics such as hunger and fullness, weight-healthy kids, and portion sizes. A number of nutrition faculty have invested heavily in partnerships with local food system interests, community gardens, farmers' markets, and farm-to school projects that produced a combined 38 community-based events and reached more than 4,800 community members.

The 4-H Food Smart Families pilot project in Idaho engaged youth through 28 different educational venues including healthy living camps. The Food Smart Families project was also delivered as a major youth component of Eat Smart Idaho. Eat Smart Idaho includes both of the Low-Income and Underserved Audience projects (EFNEP and SNAP-Ed) delivered through UI Extension. Eat Smart Idaho delivered approximately 900 educational classes reaching more than 47,000 contacts in 30 counties. More than 27% of Eat Smart Idaho learners were identified as Hispanic and nearly 7% as Native American (the state population is 11.8% Hispanic and 1.7% Native American).

### 2. Brief description of the target audience

The target audience varies by program. For the program targeting low-income and underserved audience, the UI Extension reaches these individuals in 37 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Supplemental Nutrition Assistance

Program Education (SNAP Ed), and the Senior Extension Nutrition Program (SENP). EFNEP and SNAP Ed, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or vulnerable. The target audience for the Nutrition and Chronic Disease program includes those interested in learning how to manage or prevent type 2 diabetes and osteoporosis. The target audience for the diabetes classes includes adults with type 2 diabetes, pre-diabetes, or caregivers. The target audience for the osteoporosis classes includes adults with osteoporosis, osteopenia, or those who have a history of these diseases in their family and youth whose bones are still growing and developing. The target audience for the Healthy Lifestyles program includes adult and youth who have poor nutritional habits, are inactive, overweight or obese., and adults that are role models who would influence youth and others to follow a healthy lifestyle.

Idaho reaches the underserved population in 37 counties through three programs - the Expanded Food and Nutrition Education Program (EFNEP), the Supplemental Nutrition Assistance Program Education (SNAP Ed) and the Senior Extension Nutrition Program (SENP). EFNEP and ENP, funded through USDA, target mainly adults and youth while the SENP, funded through the Area Agency on Aging (AAA), targets seniors at high-nutritional risk and most of them are low-income or vulnerable. The individuals who benefit directly from these programs are low-income adults, youth, and elderly. Adults in the EFNEP, SNAP Ed and SENP learn how to eat healthy, plan menus and stretch their food dollars. Youth in the EFNEP and SNAP Ed learn healthy eating principles and physical activity, which are promoted as methods to target childhood obesity. Adults, elderly, and youth who participate in these programs will improve their eating habits, their nutritional status, food safety behaviors and decrease their level of food hunger and food insecurity.

**3. How was eXtension used?**

eXtension was not used in this program

**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>	22604	88084	47603	7190

**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**

2014	Extension	Research	Total
Actual	2	8	10

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

**Output Target**

**Output #1**

**Output Measure**

- Develop Extension publications that can be used in either the low-income underseved population project, the nutrition anc chronic disease project, or the healthy lifestyles project

Year	Actual
2014	2

**Output #2**

**Output Measure**

- Submit a journal article based on research conducted in either the low-income, underserved population project, healthy lifestyles project or the nutrition and chronic disease project

Year	Actual
2014	2

**Output #3**

**Output Measure**

- The number of youth who attend health and nutrition educational events

Year	Actual
2014	30631

**Output #4**

**Output Measure**

- The number of adults who attend health and nutrition educational events

Year	Actual
2014	13008

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

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

O. No.	OUTCOME NAME
1	Adult SNAP Ed participants will adopt improved dietary behaviors after completing four core classes. I: Number of adult SNAP Ed participants who consume more fruits, vegetables, whole grains, or low-fat dairy products
2	O: Adult EFNEP participants will improve their diets after completing 6 core lessons. I: Number of adults that improve their diets by at least one food group (determined through pre/post 24 hour recalls).
3	O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.
4	Increased fruit and vegetable intake of people attending multiple Eat Smart Idaho events. I: Number of individuals who increased fruit and vegetable intake after attending multiple Eat Smart Idaho events.

## **Outcome #1**

### **1. Outcome Measures**

Adult SNAP Ed participants will adopt improved dietary behaviors after completing four core classes. I: Number of adult SNAP Ed participants who consume more fruits, vegetables, whole grains, or low-fat dairy products

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

- 1862 Extension

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

Change in Action Outcome Measure

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

<b>Year</b>	<b>Actual</b>
2014	1363

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

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

Poverty is of great concern to the public health community because of its influence on health status and access to care. In Idaho, 62% of adults are either overweight or obese. The rate of diabetes has increased by 38%, blood pressure by 25% and high cholesterol by 6%. The number of people who do not eat the recommended number of servings of fruits and vegetables has increased from 76% to 82%.

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

SNAP-Ed Nutrition Advisors taught 2,572 adults during this year. UI faculty gathered data using 24 hour food recall surveys and food behavior checklists to understand if Eat Smart Idaho participants could improve food security and reduce risks for diet-related diseases.

#### **Results**

28-39% of adult SNAP eligibles who attended a class on fruits and vegetables, whole grains, low-fat dairy and physical activity reported an increase in consumption of fruits and vegetables, whole grains, low-fat dairy or an increase in physical activity. By improving shopping and meal planning skills, healthy eating habits and motivation to be physical active, Eat Smart Idaho improves food security and reduces risks for diet-related diseases. Research showed that adults who complete a series of four basic Eat Smart Idaho classes measurably improve their eating and physical activity behavior.

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

<b>KA Code</b>	<b>Knowledge Area</b>
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701	Nutrient Composition of Food
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

**Outcome #2**

**1. Outcome Measures**

O: Adult EFNEP participants will improve their diets after completing 6 core lessons. I: Number of adults that improve their diets by at least one food group (determined through pre/post 24 hour recalls).

**2. Associated Institution Types**

- 1862 Extension

**3a. Outcome Type:**

Change in Action Outcome Measure

**3b. Quantitative Outcome**

<b>Year</b>	<b>Actual</b>
2014	246

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

**Issue (Who cares and Why)**

Poverty is of great concern to the public health community because of its influence on health status and access to care. In Idaho, 62% of adults are either overweight or obese. The rate of diabetes has increased by 38%, blood pressure by 25% and high cholesterol by 6%. The number of people who do not eat the recommended number of servings of fruits and vegetables has increased from 76% to 82%.

**What has been done**

Staff presented the EFNEP series of lessons to 298 program participants.

**Results**

82% of adult SNAP eligibles who attended a class on fruits and vegetables, whole grains, low-fat dairy and physical activity reported an increase in consumption of fruits and vegetables, whole grains, low-fat dairy or an increase in physical activity. By improving shopping and meal planning skills, healthy eating habits and motivation to be physical active, Eat Smart Idaho improves food security and reduces risks for diet-related diseases. Research showed that adults who complete a series of four basic Eat Smart Idaho classes measurably improve their eating and physical activity behavior.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

#### Outcome #3

##### 1. Outcome Measures

O: An increase in the number of trained graduate students prepared to enter the workforce. I: Number of M.S. and Ph.D. candidates relevant to this topic team.

##### 2. Associated Institution Types

- 1862 Research

##### 3a. Outcome Type:

Change in Knowledge Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	0

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

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

Adult feeding practices impact young children's health and well-being in a number of ways: supporting a healthy weight, combating an obesigenic environment, managing portion distortion, managing allergies and food intolerances, preventing a negative association with food, and developing a positive relationship with food. The purpose of this research is to gain knowledge about factors influencing adult feeding practices of young children and to develop educational tools about feeding young children. Increasing our understanding of factors affecting adult feeding practices allows researchers and educators to address those factors to enhance or improve the current feeding practices used with children.

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

Data has been collected on factors affecting maternal feeding practices, examination of children's self-service and changes in plate waste with an adult sitting and eating with the children. Another component of this work includes the examination of fruit and vegetable liking and intake and comparing fruit intake to vegetable intake resulting in two publications.

###### **Results**

The project has resulted in review of current materials, education, and training for graduate students. These results have been disseminated through local and national communities. A presentation was given to the Idaho Early Years Conference and an abstract publication was completed on plate waste with an adult sitting and eating with children.

#### 4. Associated Knowledge Areas

KA Code	Knowledge Area
703	Nutrition Education and Behavior

#### Outcome #4

##### 1. Outcome Measures

Increased fruit and vegetable intake of people attending multiple Eat Smart Idaho events. I: Number of individuals who increased fruit and vegetable intake after attending multiple Eat Smart Idaho events.

##### 2. Associated Institution Types

- 1862 Extension

##### 3a. Outcome Type:

Change in Action Outcome Measure

##### 3b. Quantitative Outcome

Year	Actual
2014	2958

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

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

Studies have shown that limited income individuals and families (similar to other residents) fail to follow the recommended dietary guidelines, particularly those related to fruit and vegetable consumption.

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

Eat Smart Idaho Nutrition Advisors taught a series of lessons to more than 2,850 adults and more than 7,500 youth in 2014. Our goal was to teach a series of lessons and that 25% of participants who complete the series will report an increase in their consumption of fruits and vegetables.

###### **Results**

For those who completed the series of lessons, 38% of adults and 25% of youth report increased consumption of fruits and vegetables.

#### 4. Associated Knowledge Areas

<b>KA Code</b>	<b>Knowledge Area</b>
701	Nutrient Composition of Food
703	Nutrition Education and Behavior
724	Healthy Lifestyle

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

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

- Other (environmental factors)

#### **Brief Explanation**

significantly increased public attention on obesity and healthy eating may have had a positive impact on our results.

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

#### **Evaluation Results**

Two hundred forty-four women, ages 29 to 89, participated twice a week in a Strong Women Stay Young Extension program for six weeks. Participants completed six strength-training exercises and received nutrition information at each class.

Statistical analysis was used to determine if there was a significant change in the amount of weight used from Class 1 to Class 12 for the six exercises. From Class 1 to Class 12, participants reported that they significantly ( $p < 0.001$ ) increased their arm and leg strength for all six exercises. From Class 1 to Class 12, participants increased arm strength from 46 to 67 percent and leg strength from 73 to 80 percent. The average amount of weight lifted by the participating women increased with the progression of the twelve-class program, irrespective of exercise. However, the amount of weight lifted appeared to depend on the exercise. For example, at both Class 1 and Class 12, the biceps curl was associated with the highest amount of weight lifted, whereas the bent forward fly was associated with the lowest amount of weight lifted. Two activities that participants consistently reported were significantly improved, having more energy and sleeping better. Participants also reported improved abilities to get in and out of their chair or car, to complete gardening activities, and, for some, to try other physical activities because of their increased strength. These activities included golfing, kayaking, hiking up a mountain, snow shoeing, and walking more frequently.

At the end of the SWSY program, participants significantly improved their fruit and vegetable, whole grain, and low-fat dairy intake and met the Dietary Guideline recommendations for whole grains and dairy. They did not meet the Dietary Guideline recommendations for consuming 2 cups of fruit and 2.5 cups of vegetables per day. Participants commented that they ate healthier by reducing portion sizes, drinking more water, eating breakfast, reducing fat intake, and eating more whole grains.

Researchers have hypothesized that individuals who are physically active may develop the cognitive resources to improve eating behaviors (Joseph et al. 2011).

#### **Key Items of Evaluation**

Two hundred forty-four women, ages 29 to 89, participated twice a week in a Strong Women Stay Young Extension program for six weeks. Participants completed six strength-training exercises and received nutrition information at each class. Participants reported that they increased their arm and leg strength by 46 to 80 percent; increased their intake of fruits, vegetables, whole grains, and low-fat dairy products; and improved their ability to complete daily activities.