V(A). Planned Program (Summary)

Program # 6

1. Name of the Planned Program
Food, Nutrition & Health

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
<th>%1862 Extension</th>
<th>%1890 Extension</th>
<th>%1862 Research</th>
<th>%1890 Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>New and Improved Food Products</td>
<td>2%</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>503</td>
<td>Quality Maintenance in Storing and Marketing Food Products</td>
<td>1%</td>
<td>2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>701</td>
<td>Nutrient Composition of Food</td>
<td>5%</td>
<td>1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>702</td>
<td>Requirements and Function of Nutrients and Other Food Components</td>
<td>12%</td>
<td>15%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
<td>25%</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>712</td>
<td>Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins</td>
<td>15%</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
<td>25%</td>
<td>25%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>806</td>
<td>Youth Development</td>
<td>15%</td>
<td>0%</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

V(C). Planned Program (Inputs)

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

<table>
<thead>
<tr>
<th>Year: 2009</th>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1862</td>
<td>1890</td>
</tr>
<tr>
<td>Plan</td>
<td>86.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Actual</td>
<td>52.5</td>
<td>0.0</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Extension</th>
<th>Research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Smith-Lever 3b &amp; 3c</td>
<td>Hatch</td>
</tr>
<tr>
<td>915302</td>
<td>0</td>
</tr>
<tr>
<td>1862 Matching</td>
<td>1890 Matching</td>
</tr>
<tr>
<td>743668</td>
<td>0</td>
</tr>
<tr>
<td>1862 All Other</td>
<td>1890 All Other</td>
</tr>
<tr>
<td>5281043</td>
<td>0</td>
</tr>
</tbody>
</table>

V(D). Planned Program (Activity)

1. Brief description of the Activity

Health and Nutrition:
The U of A Division of Agriculture faculty will develop, evaluate, and disseminate education programs, curricula, and educational publications. Conduct workshops, training and activities that incorporate new research emphasizing healthy lifestyles. Programs include but are not limited to:
Walk Across Arkansas (Adults and Youth)- MOVED TO CHILDHOOD OBESITY PLANNED PROGRAM
Strong Women
ServSafe- MOVED TO FOOD SAFETY PLANNED PROGRAM
Food Stamp Nutrition Education- MOVED TO CHILDHOOD OBESITY PLANNED PROGRAM
FF-News- MOVED TO CHILDHOOD OBESITY PLANNED PROGRAM
Expanded Food and Nutrition Education Program- MOVED TO GLOBAL FOOD SECURITY AND HUNGER
Reshape Yourself Healthy Weight Program
Arthritis Education Series
Medwise
Food Preservation and Safety- MOVED TO FOOD SAFETY

**Commercial Food Safety & Processing:**
1) To improve food processing efficiency through an improved understanding of food chemistry; 2) Determine the impact of food processing systems on product quality and food safety attributes; 3) Develop new food products that utilize Arkansas raw products; 4) Increase the research base on improved food processing systems to minimize food pathogens; 5) Improve detection systems for Listeria, Salmonella and other major food pathogens; 6) Identify health related nutritional factors that will improve human health; 7) Develop new food products that have improved nutritional content.

All of the activities below were moved to the new Food Safety Planned Programs:
Conduct quarterly HACCP Roundtable meeting
Conduct food safety workshops
Conduct Better Process Control School
Conduct labeling workshop
Conduct the ServSafe workshop
Provide online distance education in food safety and manufacturing
Conduct new product development workshop
Provide assistance to small food companies and entrepreneurs in the form of services, nutritional labeling, and consulting
Conduct culinology workshop for food technologist
Conduct research

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

Multiple groups are reached through various delivery methods. Audiences include:
Food companies- MOVED TO FOOD SAFETY
Entrepreneurs and restaurants- MOVED TO FOOD SAFETY
Food service employees and/or food handlers- MOVED TO FOOD SAFETY
Limited resource adults and youth
Minority adults
Youth, adults and senior adults
Employers & employees- MOVED TO FOOD SAFETY
Child care providers
School personnel

V(E). Planned Program (Outputs)

1. **Standard output measures**

<table>
<thead>
<tr>
<th></th>
<th>Direct Contacts Adults</th>
<th>Indirect Contacts Adults</th>
<th>Direct Contacts Youth</th>
<th>Indirect Contacts Youth</th>
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<tbody>
<tr>
<td>Plan</td>
<td>56150</td>
<td>20000</td>
<td>60000</td>
<td>2000</td>
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<tr>
<td>Actual</td>
<td>50849</td>
<td>4556</td>
<td>292</td>
<td>325</td>
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</tbody>
</table>

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

**Patent Applications Submitted**

Year: 2009
Plan: 1
Actual: 0
3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

<table>
<thead>
<tr>
<th></th>
<th>Extension</th>
<th>Research</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plan</td>
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<td>40</td>
<td></td>
</tr>
<tr>
<td>Actual</td>
<td>0</td>
<td>40</td>
<td>70</td>
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</table>

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- # of grants written and funded in support of Food, Nutrition and Health programming and research

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>10</td>
<td>46</td>
</tr>
</tbody>
</table>

Output #2

Output Measure

- # of news articles, public service announcements, radio and TV media programs in support of Food, Nutrition and Health programs

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>444</td>
<td>750</td>
</tr>
</tbody>
</table>

Output #3

Output Measure

- # of participants in educational programs leading to certification for food handlers (ServSafe and Better Process Control School)

Not reporting on this Output for this Annual Report

Output #4

Output Measure

- # of participants in quarterly HACCP roundtable

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>30</td>
<td>0</td>
</tr>
</tbody>
</table>

Output #5

Output Measure

- # of ServSafe classes offered

Not reporting on this Output for this Annual Report

Output #6

Output Measure

- # of non-duplicated Food, Nutrition and Health 4-H Youth programs delivered

Not reporting on this Output for this Annual Report
Output #7

Output Measure

- # of non-duplicated participants in Food, Nutrition, and Health 4-H Youth programs

Not reporting on this Output for this Annual Report

Output #8

Output Measure

- # of Food, Nutrition and Health in-service trainings conducted

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>10</td>
<td>16</td>
</tr>
</tbody>
</table>

Output #9

Output Measure

- # of Arkansas Commodity Board Grants

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Output #10

Output Measure

- # of Federal grants and contracts

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>7</td>
<td>14</td>
</tr>
</tbody>
</table>

Output #11

Output Measure

- # of Food, Nutrition, and Health clientele contacts from education classes, workshops, group discussions, one-on-one interventions, demonstrations, and other educational methods

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>116150</td>
<td>50407</td>
</tr>
</tbody>
</table>

Output #12

Output Measure

- # of Food, Nutrition, and Health education classes, workshops, group discussions, one-on-one interventions, demonstrations, and other educational events

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>7825</td>
<td>2645</td>
</tr>
</tbody>
</table>

Output #13

Output Measure

- # of research projects conducted related to Food, Nutrition and Health-Experiment Station

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>20</td>
<td>75</td>
</tr>
</tbody>
</table>
### Output #14

**Output Measure**

- # of food processing and safety laboratory services provided

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>30</td>
<td>13</td>
</tr>
</tbody>
</table>

### Output #15

**Output Measure**

- # of extension educators involved in discussions regarding public and organizational nutrition and health policies, regulations and industry practices.

<table>
<thead>
<tr>
<th>Year</th>
<th>Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>15</td>
<td>23</td>
</tr>
</tbody>
</table>
# State Defined Outcomes

## Table of Content

<table>
<thead>
<tr>
<th>O. No.</th>
<th>Outcome Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td># of participants who indicated that they increased their knowledge related to food, nutrition and health following an educational class, seminar or workshop</td>
</tr>
<tr>
<td>2</td>
<td># of participants receiving certification in Better Process Control School, Culinary Scientists and ServSafe</td>
</tr>
<tr>
<td>3</td>
<td># of 4-H journals completed in Food, Nutrition and Health</td>
</tr>
<tr>
<td>4</td>
<td># of individuals who increased physical activities as a result of completing an Extension program</td>
</tr>
<tr>
<td>5</td>
<td># of nutritional labels developed</td>
</tr>
<tr>
<td>6</td>
<td># of Journal articles accepted</td>
</tr>
<tr>
<td>7</td>
<td># of participants who adopted positive nutrition practices.</td>
</tr>
<tr>
<td>8</td>
<td># of participants reporting reduction in body weight after completing a nutrition education program</td>
</tr>
<tr>
<td>9</td>
<td># of participants reporting reduction in blood pressure after completing a nutrition education program</td>
</tr>
<tr>
<td>10</td>
<td># of participants reporting a reduction in blood cholesterol after completing a nutrition education program</td>
</tr>
<tr>
<td>11</td>
<td># of participants reporting a reduction in blood glucose after completing a nutrition education program</td>
</tr>
<tr>
<td>12</td>
<td># of new food businesses started</td>
</tr>
<tr>
<td>13</td>
<td># of participants who indicate that they intend to adopt one or more healthy food/nutrition practices</td>
</tr>
<tr>
<td>14</td>
<td># of culinary participants sampled by survey that reported actual practice change as a result of the workshop within 2 years</td>
</tr>
<tr>
<td>15</td>
<td># of small and very small meat and poultry plants that successfully completed an Action Plan developed in consultation with the University of Arkansas after a USDA-FSIS Food Safety Assessment</td>
</tr>
</tbody>
</table>
Outcome #1

1. Outcome Measures

   # of participants who indicated that they increased their knowledge related to food, nutrition and health following an educational class, seminar or workshop

2. Associated Institution Types

   ● 1862 Extension

3a. Outcome Type:

   Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>18000</td>
<td>1380</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

   Issue (Who cares and Why)
   In 2002, 59% of Americans reported consumption of over-the-counter (OTC) medication within the previous 6 months. Medication misuse costs the nation well over $177 billion dollars annually, resulting in extra physician visits, avoidable medication side effects, loss of productivity on the job, prolonged or exacerbated illnesses, unnecessary emergency room visits, hospitalizations and even death.

   What has been done
   A medication literacy awareness initiative entitled "Be MedWise Arkansas" was launched in 2009 to address the serious and rising problem of medication misuse. This program partners with the National Council for Patient Information and Education (NCPIE) and several local agencies, including the Poison Control Center and the University of Arkansas for Medical Sciences College of Pharmacy. The first of several interactive lessons was taught to raise awareness of reading drug facts labels before taking medicines and utilizing pharmacists for patient education.

   Results
   During 2009 over 600 Arkansans were taught how to read the drug facts label. Of the two hundred individuals surveyed (average age of 62), 80% reported they took an OTC in the last two weeks. Most medicines were taken for pain, followed by cold/allergy symptoms. Only 41% of participants reported that they always read the drugs facts label before buying an OTC, 28.5% reported overdosing on OTCs, 68% of all surveyed were taking both OTC and prescription drugs at the same time. After the lessons, 97% of participants indicated an improvement in knowledge and intended to use at least 1 technique they learned in class. Participants reported the most important things learned were to read the entire drug facts label, be more careful about mixing medicines, and utilize their pharmacists more with questions.

4. Associated Knowledge Areas

   KA Code  Knowledge Area
   701      Nutrient Composition of Food
   702      Requirements and Function of Nutrients and Other Food Components
   703      Nutrition Education and Behavior
   724      Healthy Lifestyle
Outcome #2

1. Outcome Measures

# of participants receiving certification in Better Process Control School, Culinary Scientists and ServSafe

Not Reporting on this Outcome Measure

Outcome #3

1. Outcome Measures

# of 4-H journals completed in Food, Nutrition and Health

2. Associated Institution Types

● 1862 Extension

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>200</td>
<td>172</td>
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</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>702</td>
<td>Requirements and Function of Nutrients and Other Food Components</td>
</tr>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #4

1. Outcome Measures

# of individuals who increased physical activities as a result of completing an Extension program

2. Associated Institution Types

● 1862 Extension
3a. Outcome Type:
Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1000</td>
<td>585</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
Obesity has reached epidemic proportions with over a third of the U.S. population weighing in as obese (indicated by a BMI of 30 kg² or higher). Obesity increases the risk of mortality and many chronic diseases (i.e., heart disease, cancer, diabetes, etc.) and other health problems (i.e., respiratory, gynecological, developmental, etc). Ultimately, obesity decreases a person's quality of life and overburdens the health care system, attributing up to $1 billion dollars in health care costs in Arkansas alone.

**What has been done**
To combat the rise in obesity rates and in increasing the physical level of Arkansas residents, the Cooperative Extension Service offered several programs including Strong Women (strength training program for middle-aged and older women), Walk Across Arkansas (an 8-week walking program for youth through senior adults), and the Arthritis Foundation Life Improvement Series (AF exercise program, AF Aquatic Program, AF Tai Chi, and AF Self-Help with exercise option).

**Results**
With the Strong Women program, 40,840 individuals participated and of those surveyed, 65% improved upper body strength, 65% improved lower body strength, 60% improved balance, 59% improved upper body flexibility, and 58% increased aerobic endurance. The Walk Across Program included 3,156 participants walking a total of 198,770 miles leading to a potential cost benefit in healthcare savings for Arkansas of $797,540 for 2009. Participants also reported improvement in energy, food habits, sleep, blood work, quality of life, stress as well as deepening relationships. With the Arthritis Foundation Life Improvement series, 1,399 individuals participated and of those surveyed, 91% reported joint benefit.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
</tbody>
</table>

Outcome #5

1. Outcome Measures

# of nutritional labels developed

2. Associated Institution Types

- 1862 Extension
- 1862 Research
3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

What has been done

Results

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>New and Improved Food Products</td>
</tr>
<tr>
<td>503</td>
<td>Quality Maintenance in Storing and Marketing Food Products</td>
</tr>
</tbody>
</table>

Outcome #6

1. Outcome Measures

# of Journal articles accepted

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>40</td>
<td>70</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Obesity is a multifactorial condition and a major public health concern affecting all demographic segments of the population, independent of race, culture, and/or ethnicity. For decades obesity has been an epidemic in the United States (US), and the proportion of overweight and obese adults in the population continues to rise. An alarming 34% of adults in the US are currently obese, which is significantly greater than was reported a decade ago. Although, obesity is a major health problem in the US, there are no proven, long-lasting, and widely applicable approaches to weight loss. Obesity has been recognized as a national epidemic and it is anticipated that soon it will surpass smoking as the number one behavior-related cause of mortality among adults in the US. However, it is well accepted that nutrition plays a major role in the prevention/treatment of obesity.

What has been done

The incidence of obesity in the State of Arkansas was greater than 26% in 2008. Preventing obesity is the focus of this proposed project as it is associated with increased risk of hypercholesterolemia, diabetes and hypertension. We are currently conducting animal studies that are evaluating the role of functional foods such as blackberries (both processed and fresh), fructooligosaccharides, and conjugate linoleic acid in the prevention of chronic conditions associated with increased body weight.

Results

The findings of the study are of significance as they can bring forth evidence that certain foods can help reduce the complications associated with excess body weight. This will translate to decreased burden on our health care costs and loss of productivity costs. Furthermore, the findings are of commercial interests. Soybeans and Blackberries are important crops in Arkansas. As they are shown to be beneficial in preventing obesity, these foods can be included more broadly in our diets, thereby improving our agricultural economy and decreasing our
health care burden.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>New and Improved Food Products</td>
<td>503</td>
<td>Quality Maintenance in Storing and Marketing Food Products</td>
</tr>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
<td>712</td>
<td>Protect Food from Contamination by Pathogenic Microorganisms, Parasites, and Naturally Occurring Toxins</td>
</tr>
</tbody>
</table>

Outcome #7

1. Outcome Measures

   # of participants who adopted positive nutrition practices.

2. Associated Institution Types

   ● 1862 Extension

3a. Outcome Type:

   Change in Action Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>1300</td>
<td>619</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

   Issue (Who cares and Why)

   What has been done

   Results

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>702</td>
<td>Requirements and Function of Nutrients and Other Food Components</td>
</tr>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
</tbody>
</table>

Outcome #8

1. Outcome Measures

   # of participants reporting reduction in body weight after completing a nutrition education program

2. Associated Institution Types
3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>170</td>
<td>156</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
Excess weight in the form of body fat is linked to increased risk for cardiovascular disease, diabetes and certain types of cancer. In Arkansas, two-thirds of adults are overweight or obese. Research shows that even small decreases in weight can lower the risks for these chronic diseases. It is estimated that obesity may cost Arkansas over $1 billion in health care costs and lost productivity annually. More than half the costs are paid by taxpayers via Medicare or Medicaid.

**What has been done**
The UACES offered the 15-week Reshape Yourself program in thirteen counties in FY09. Reshape Yourself supports the idea that people of all sizes and shapes can improve health by adopting healthy practices. Participants learn to plan balanced diets based on MyPyramid, balance calorie intake with calorie expenditure, read food labels, determine which foods are high in calories and fat, find enjoyable ways to be physically active and many more ideas for maintaining a healthy weight.

**Results**
The Reshape Yourself program experienced a 76% graduation rate. The average weight loss per graduate was 14.7 pounds. Graduates walked 18,109 miles and lost 2,418 pounds.
94% of participants reported altering behavior to follow standard serving sizes.
95% of participants decreased body weight.
83% of participants reported an increase in walking activity.
54% of participants asked about, or screened, reported decreased blood pressure.
76% of participants asked about, or screened, reported decreased blood cholesterol.
57% of participants asked about, or screened, reported decreased blood glucose.
26% of participants asked about decreasing medication reported their doctor had reduced or eliminated prescribed medication as a result of lifestyle changes made.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
</tbody>
</table>

**Outcome #9**

1. Outcome Measures

# of participants reporting reduction in blood pressure after completing a nutrition education program

2. Associated Institution Types
3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantitative Target</th>
<th>Actual</th>
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<tbody>
<tr>
<td>2009</td>
<td>68</td>
<td>46</td>
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
What has been done
Results

4. Associated Knowledge Areas

<table>
<thead>
<tr>
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<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
</tbody>
</table>

Outcome #10

1. Outcome Measures

# of participants reporting a reduction in blood cholesterol after completing a nutrition education program

2. Associated Institution Types

● 1862 Extension

3a. Outcome Type:
Change in Condition Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
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<tr>
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3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
What has been done
Results

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
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<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
</tbody>
</table>
**Outcome #11**

1. **Outcome Measures**
   
   # of participants reporting a reduction in blood glucose after completing a nutrition education program

2. **Associated Institution Types**
   
   ● 1862 Extension

3a. **Outcome Type:**
   
   Change in Condition Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
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<th>Actual</th>
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</thead>
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<td>42</td>
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3c. **Qualitative Outcome or Impact Statement**

   **Issue (Who cares and Why)**

   What has been done

   **Results**

4. **Associated Knowledge Areas**

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
</tbody>
</table>

**Outcome #12**

1. **Outcome Measures**

   # of new food businesses started

2. **Associated Institution Types**

   ● 1862 Extension

3a. **Outcome Type:**

   Change in Action Outcome Measure

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
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<th>Actual</th>
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</thead>
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3c. **Qualitative Outcome or Impact Statement**

   **Issue (Who cares and Why)**
What has been done

Results

4. Associated Knowledge Areas

<table>
<thead>
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<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>502</td>
<td>New and Improved Food Products</td>
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</tbody>
</table>

Outcome #13

1. Outcome Measures

# of participants who indicate that they intend to adopt one or more healthy food/nutrition practices

Not Reporting on this Outcome Measure

Outcome #14

1. Outcome Measures

# of culinary participants sampled by survey that reported actual practice change as a result of the workshop within 2 years

Not Reporting on this Outcome Measure

Outcome #15

1. Outcome Measures

# of small and very small meat and poultry plants that successfully completed an Action Plan developed in consultation with the University of Arkansas after a USDA-FSIS Food Safety Assessment

Not Reporting on this Outcome Measure

V(H). Planned Program (External Factors)

External factors which affected outcomes

- Economy
- Appropriations changes
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation

External funding and a change in priority programming impacted the reporting efforts for several of the programs originally designated as priorities within the Food, Nutrition and Health initiative. The economic downturn during the year impacted how programming resources were aligned; therefore, impacting the delivery of some programs. Additionally, a reduction in staff (FTEs) also had a negative impact on program delivery and reporting.

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)
• Comparisons between different groups of individuals or program participants experiencing different levels of program intensity.

Evaluation Results

Instructors designing programming content utilized numerous strategies for determining the outcome and impacts of their educational programs. The types of evaluations applied to these programs are: goals-based, process-based and outcome-based. Program evaluations are used to; verify and/or increase the impact of the programs offered; improve program delivery; produce data to determine program/activity results; compare programs; determine program effectiveness; prioritize funding.

Program participants in the Arthritis series engaged in physical activities to determine skill mastery. Participants reported increased knowledge, intent to adopt a new practice, and reported improvement of healthy lifestyles practices. The Strong Women program conducted Senior Fitness Tests before the first class, 12 weeks later, and then periodically after the first 12 weeks. For ongoing groups, the Senior Fitness Test is conducted at least twice a year. Evaluation outcomes revealed that 40,840 individuals participated and of those surveyed, 65% improved upper body strength, 65% improved lower body strength, 60% improved balance, 59% improved upper body flexibility, and 58% increased aerobic endurance.

Weigh-ins are conducted before and after program completion to determine weight loss and increases in physical activity during and following the Reshape Yourself program. In FY2009 219 Reshape Yourself participants enrolled in the multi-session program. Of the 219 participants 166 completed the program, for a graduation rate of 76%. The average weight loss for each graduate was 14.5 pounds. Data from the program indicates that graduates: walked 18,109 miles; altered behavior by following standard serving sizes (94%); lost a total of 2,418 pounds. Health Screenings were also used to determine behavioral changes and differences within physiologically-related measurement levels (e.g.; blood pressure levels, blood glucose levels, cholesterol levels).

172 4-H Journals were rated by a team of reviewers. A panel of judges was utilized to evaluate each journal entry on the caliber of the activities and educational programming the young person recorded. Participants must exhibit an increase in knowledge, a change in behavior, skills enhancement, and contribution to the community. Scholarships are offered to senior 4-H’ers who are journal winners.

Explanation for Evaluation Variances

State Outputs:
• Data for #3, 4, 5- Moved to Food Safety Planned Program
• Data for # 6, 7- Moved to Childhood Obesity Planned Program
• Pertinent data extracted from Outputs #11-12 and #14 and utilized in Childhood Obesity, Food Safety and/or Global Food Security and Hunger Planned Programs.

State Outcomes:
• Outcomes #1,2,4,7,13- Pertinent data extracted from various outcomes to use in new areas of focus (i.e.; Food Safety, Childhood Obesity, Global Security and Hunger)
• Outcome #3- A shift in program emphasis to Science Technology, Engineering and Math
• Outcome #5- Economic downturn impacted number of entrepreneurs involved
• Outcome #6- Increased focus on publishing
• Outcome#8- Reduction in county FTEs and number of programs offered.
• Outcomes #14 and #15- Data not collected

Key Items of Evaluation

Outcome data from key programs reveal the following impacts:

Arthritis Initiative
1399 participant contacts, of those surveyed:
91% (42 of 46) of individuals increased knowledge as a result of the Arthritis program.
82% (27 of 33) of individuals intend to adopt a new practice following the Arthritis program.
43% (6 of 14) of individuals reported improvement of healthy lifestyle practices as a result of the Arthritis program.

Health (Medwise Arkansas)
After polling 37 participants as to how they store their medicines, only 2 out of 37 (5%) kept their medicine locked up. On the other hand, 22/37 or (59%) kept their medicine in plain site in the kitchen. The others stores them in their bedroom or bathroom - both unsafe storage places for medicine. This practice raises the risk of being a victim of theft since prescription drug abuse is a leading problem in the state of Arkansas. Our classes address how to safely secure, monitor and dispose of medicine properly.

Acknowledging Aging
247 participant contacts, of those surveyed:
267 individuals gained knowledge of age related physical changes and disease processes.
225 gained knowledge of the myths of aging.

Reshape Yourself
Of participants who were asked about changes in medication, 26% reported their doctor had reduced or eliminated prescribed medication as a result of lifestyle changes made.

Of participants who were asked about or screened for blood pressure, cholesterol and glucose:
54% decreased blood pressure
76% decreased blood cholesterol
57% decreased blood glucose