V(A). Planned Program (Summary)

Program # 4

1. Name of the Planned Program
Childhood Obesity, Nutrition and Health

☑ Reporting on this Program

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>
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</thead>
<tbody>
<tr>
<td>501</td>
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V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

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<tr>
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2. Actual dollars expended in this Program (includes Carryover Funds from previous years)
V(D). Planned Program (Activity)

1. Brief description of the Activity

West Virginia citizens have the second highest level of obesity in the nation. West Virginia is also above the national averages for incidence of diabetes, high blood pressure, and cardiovascular disease, as well as for osteopenia and osteoporosis.

WVU-AFES

Multi-faceted nutritional interventions were shown to improve diet quality and reduce chronic disease risk in midlife and older adults in rural WV. The effectiveness of identifying biomarkers and influencing and promoting healthy weight in middle aged adults via increased fruit, vegetables and grains intake and increased physical activity was shown. A Healthy Community Index pilot study advanced understanding lifestyle behaviors and environmental factors that influence healthy behaviors and the health status of young adults. Advanced understanding of mechanism(s) by which conjugated linoleic acid (CLA) reduces body fat in pigs and rodents and enhances intramuscular fat in pigs and establishing a model for human insulin resistance and type II diabetes. Studies advanced understanding of n-3 fatty acids metabolism and diet therapies were investigated to slow polycystic kidney disease (PKD) progression to renal failure. Studies showed utility of by-products of fruits and vegetables for agricultural weed and foodborne pathogen control.

Research program highlights for 2017 include:

• Several related projects are assessing and addressing individual and environmental factors that influence eating behavior of young adults with the goal of reducing obesity and obesity-related illnesses
  • Distribution of a survey to community representatives; and translation of study materials and findings into teaching materials.
• Four (4) teams created a footprint report of 75 university sites and 6 high school sites as part of a new dissemination model (eB4CAST).

WVUES

WVUES units and program teams conducted the following programs within this program area: the 4-H Health Initiative, the Adult and Youth Family Nutrition Program (EFNP and SNAP- ED), Dining with Diabetes, Health Rocks, Early Childhood Obesity Prevention, Healthy Children Project, Choosy Kids, Health Motivator, Eat a Rainbow, Farmer’s Market Voucher Program, Health Science Technology
Academy, Kids Cooking Camp and Farmers Market, and Key 2 Healthy Start Physical Activity Physical Activity Technical Assistance. Other activities include CEOS health-related lesson plans, Pre-school Farmers Market, Rethink Your Drink, Smarter Lunchroom Assessment, Stress Less with Mindfulness, Summer Foods Training for 4-H Camps, Take Charge, Active for Life, Aging Gracefully, Apple a Day and health fairs.

WVUES has offered individual training programs to improve skills in nutrition, chronic disease management, and general health behaviors. They include cooking classes at schools and camps, physical activity instruction such as yoga and adult exercise; community wellness programs including cancer awareness, dental health prevention, farm to school, food allergies, menu planning, general nutrition, and smokeless tobacco.

WVSU-GRDI

Programming in human nutrition and health is implemented and evaluated to target the aspects of personal behavior and environmental barriers that hinder personal healthy lifestyles. Through the Expanded Food and Nutrition Education Program adults and youth are educated on proper serving sizes, healthy food selection and preparation, and monitoring intake. WVSU Extension Service faculty and staff instruct lessons about kitchen and food safety, food preparation, healthy food selection, and economical ways to practice health and nutrition, and engage in physical activities. The EFNEP program partnered with local hospitals, addiction recovery centers to provide programming to underserved audiences such as pregnant women, individuals transitioning from prison and/or recovering from drug abuse. Ag and Natural resources programming focuses on education of how to grow healthy foods.

Highlights for 2017 include:

- 95% of participants in drug recovery programs increased their consumption of healthy foods.

2. Brief description of the target audience

The target audience for this program area includes dieticians, nutritionists, health care professionals, policy makers, researchers, Extension educators, 4-H and other youth program developers, community leaders, low-income West Virginia adults and youth, West Virginians who have diabetes and their caregivers, and older adults and their caregivers.

3. How was eXtension used?

eXtension was not used in this program

V(E). Planned Program (Outputs)

1. Standard output measures

<table>
<thead>
<tr>
<th>2017</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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Report Date 06/18/2018
2. Number of Patent Applications Submitted (Standard Research Output)

Patent Applications Submitted

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Patents listed

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

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V(F). State Defined Outputs

Output Target

Output #1

Output Measure

● Number of General Press Articles

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Output #2

Output Measure

● Number of Professional/Academic Presentations

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</table>

Output #3

Output Measure

● Number of Graduate Students Earning Degrees

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</thead>
<tbody>
<tr>
<td>2017</td>
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### V(G). State Defined Outcomes

#### V. 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>Number of youth who gained awareness and knowledge about eating more healthy foods.</td>
</tr>
<tr>
<td>2</td>
<td>Number of adults/families who gained awareness and knowledge about eating more healthy foods.</td>
</tr>
<tr>
<td>3</td>
<td>Number of youth who gained awareness and knowledge becoming more active.</td>
</tr>
<tr>
<td>4</td>
<td>Number of adults/families who gained awareness and knowledge about becoming more active</td>
</tr>
<tr>
<td>5</td>
<td>Number of participants that gained knowledge of how to access and produce healthy foods.</td>
</tr>
<tr>
<td>6</td>
<td>Number of youth who change a behavior or use a new skill related to nutrition and health such as choosing healthier foods and increasing physical exercise.</td>
</tr>
<tr>
<td>7</td>
<td>Number of adults/families who change a behavior or use a new skill related to nutrition and health such as choosing healthier foods and increasing physical.</td>
</tr>
<tr>
<td>8</td>
<td>Number of participants who train others to eat more healthy foods and/or become more active.</td>
</tr>
<tr>
<td>9</td>
<td>Several related projects are assessing and addressing individual and environmental factors that influence eating behavior of young adults with the goal of reducing obesity and obesity-related illnesses</td>
</tr>
<tr>
<td>10</td>
<td>Distribution of a survey to community representatives; and translation of study materials and findings into teaching materials.</td>
</tr>
<tr>
<td>11</td>
<td>Four (4) teams created a footprint report of 75 university sites and 6 high school sites as part of a new dissemination model (eB4CAST).</td>
</tr>
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</table>
Outcome #1

1. Outcome Measures

   Number of youth who gained awareness and knowledge about eating more healthy foods.

2. Associated Institution Types

   ● 1862 Extension
   ● 1890 Extension

3a. Outcome Type:

   Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
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<th>Year</th>
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</thead>
<tbody>
<tr>
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</table>

3c. Qualitative Outcome or Impact Statement

   Issue (Who cares and Why)
   WV ranks 4th in the nation in the number of adults who eat less than one fruit or vegetable daily. This is a major risk factor for citizens of WV, who already suffer from high rates of obesity, diabetes and heart disease. Children in WV are at a disadvantage when it comes to establishing preferences for and accessing fruits and vegetables due to the lack of consumption by adults. Once students have a better understanding of where their food comes from, they are more likely to make healthier choices at home.

   What has been done
   The WVUES Family Nutrition Program, which targets limited income children, expanded the "Kids Coupon" project statewide which allows children to receive $4 in farmers' market vouchers to purchase fruits and vegetables from a market brought to childcare centers, schools or community events. Families participate in nutrition education and food sampling and receive recipes, shopping bags, and small kitchen items. Through WVSUES programs, youth are instructed on science and gardening and have been given opportunities to grow, taste, or learn about producing fresh fruits and vegetables. The WVSUES 4-H Mentoring program has 20 students who participate with their parents at evening events to gain awareness about eating more healthy foods.

   Results
   In 2017, kids markets were hosted at 53 sites in 30 counties, reaching 5,400 children. 724 parent evaluations were completed with 91% reporting their child ate the produce they purchased. Over
40 farmers participated in the markets and proceeds supplemented their incomes. In addition to the $20,000 gained from kids’ coupons, farmers made an additional $6,177. Through WVSUES efforts, the schools in their catchment area have become more involved with school gardens. More parents have come to volunteer on plant/STEM Days. The high school FFA program members have become mentors to elementary school children and community members have volunteered to come into the classrooms to share their skills and knowledge.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
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<tbody>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
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<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
<tr>
<td>801</td>
<td>Individual and Family Resource Management</td>
</tr>
<tr>
<td>802</td>
<td>Human Development and Family Well-Being</td>
</tr>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #2

1. Outcome Measures

Number of adults/families who gained awareness and knowledge about eating more healthy foods.

2. Associated Institution Types

- 1862 Extension
- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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

**Issue (Who cares and Why)**

West Virginia is ranked first in the nation for adult rates of obesity and ninth for youth ages 2-4, seventh for youth age 10-17, and fifth for high school students. SNAP serves 363,000 people or 1 in 5 West Virginians. 66% of all WV SNAP participants are in families with children (CBPP, 2015) which is the EFNEP target audience. The WVUES EFNEP Program served 575 adults in 2015. This represents a 5% effort toward adult programming which was well below the national average.
of 20%.

What has been done
The WVUES EFNEP administrative team began to pursue both state and local partnerships that could enhance the program's outreach to limited resource adults. It developed formal and informal relationships with partner agencies that helped both parties achieve mutual goals of increasing service to adult populations. Many of these relationships continue and new partnerships are developed as opportunities arise. One such partnership is with the WVSU EFNEP that enrolled 148 adults. They offered training workshops in three counties at locations that have a population that is need of life skills and assistance such as local recovery centers and mental health sites.

Results
In 2017 the EFNEP program was able to serve 1180 adults which represents a 105% relative increase in reach (and an 8% actual increase in adult participating in overall programming). The adult graduation rate (minimum of 6 of 8 lessons) was 79% compared to 70% at baseline. Eighty-seven percent of participants improved one or more nutrition practices, 60% improved food safety practices and 82% improved food resource management. Ninety % (133 of 148) participants showed improvement in one or more food resource management. In the WVSUES EFNEP program, 90% (133 of 148) participants showed improvement in one or more food resource management practice; 97% (144 of 148) participants showed improvement in one or more nutrition practice; 46% (68 of 148) participants showed improvement in one or more food safety practice; 94% of adult participants reported a positive change in food group intake. The healthy eating index showed improvement at exit of adult program.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>703</td>
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<tr>
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<td>Healthy Lifestyle</td>
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<tr>
<td>801</td>
<td>Individual and Family Resource Management</td>
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<tr>
<td>802</td>
<td>Human Development and Family Well-Being</td>
</tr>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>

Outcome #3

1. Outcome Measures

   Number of youth who gained awareness and knowledge becoming more active.

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

3b. **Quantitative Outcome**

<table>
<thead>
<tr>
<th>Year</th>
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</thead>
<tbody>
<tr>
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</table>

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

**Issue (Who cares and Why)**

According to the National Survey of Children’s Health, WV is ranked 3rd highest for the prevalence of childhood obesity, with nearly a one third of children being classified as overweight or obese. Young children spend much of their day within an early childcare and education setting, often eating the majority of their meals within this setting and having limited access for physical activity opportunities.

**What has been done**

WVUES, in partnership with the CDC and the WV Prevention Research Center, implemented the WV Healthy Children Project (WVHCP) to promote proper nutrition and physical activity within early childcare and education settings in Barbour, Gilmer and Pleasants counties. In addition, the WVHCP implemented strategies for these best practices to be extended into the children’s home and community environments. The initiative awarded $66,000 in mini grants to 12 community organizations. The Youth EFNEP program at WVSUES implemented gardening activity programs for middle school youth in the Eastern Kanawha County, Charleston area schools and Huntington WV in Cabell County.

**Results**

- 39 early childcare providers serving 400 children within Pre-K/Headstart classrooms, child care centers and in-home facilities gained skill in implementing best practices for nutrition and physical activity;
- 32 Farm to Early Childcare providers were able to teach gardening skill by receiving garden supplies;
- 11 child care sites and 74 families improved their healthy food intake by receiving weekly CSA boxes as did Pre-K/Headstart families who shopped at 10 pop-up markets at their classrooms;
- 600 family members gained knowledge of how to have a healthy lifestyle by being exposed to healthy family messages;
- 12 community organizations in 3 counties enhanced their physical activity and nutrition opportunities by receiving a mini grant provided by the project.

4. **Associated Knowledge Areas**
KA Code  Knowledge Area
703      Nutrition Education and Behavior
724      Healthy Lifestyle
801      Individual and Family Resource Management
802      Human Development and Family Well-Being
806      Youth Development

Outcome #4

1. Outcome Measures

   Number of adults/families who gained awareness and knowledge about becoming more active

2. Associated Institution Types

   ● 1862 Extension

3a. Outcome Type:

   Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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

   **Issue (Who cares and Why)**

   Health education and chronic disease prevention efforts targeting women are supported by health statistics. Women who have knowledge and skills may be able to create healthy home environments and make the best health care decisions for themselves and their families. Women's personal actions and attitudes will likely influence those of family and community members. Another compelling reason for women's health education is that health problems are costly and debilitating.

   **What has been done**

   Since 2008, the WVUES has partnered with the WV Community Educational Outreach Service (CEOS) Clubs and other groups to share research-based health information through a designated "Health Motivator" member (HM). An annual Health Motivator theme-based curriculum includes engaging health activities which groups use during meetings. Statewide training is offered every fall and local training sessions are held to prepare Health Motivators. A study was conducted to determine the effectiveness and impacts of the initiative.

   **Results**
Surveys were conducted with 46 Health Motivators, 265 CEOS club members, and 46 Extension Agents. Respondents perceived that the program led to improved health habits and conditions among Health Motivators and club members. Examples: 97% of HM reported the program affected their everyday health habits; 75% of group members reported increased physical activity and 14.7% improved their blood pressure measurements.

4. Associated Knowledge Areas

<table>
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<tr>
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<tbody>
<tr>
<td>703</td>
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<td>Healthy Lifestyle</td>
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<td>Individual and Family Resource Management</td>
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<td>Human Development and Family Well-Being</td>
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</table>

Outcome #5

1. Outcome Measures

Number of participants that gained knowledge of how to access and produce healthy foods.

2. Associated Institution Types

- 1890 Extension

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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

Issue (Who cares and Why)

West Virginia is ranked first in the nation for adult rates of obesity and ninth for youth ages 2-4; seventh for youth age 10-17; and fifth for high school students. Discussing healthy life choices, including nutrition, is essential and must begin as early as possible if we hope to see real change. According to the 2015 county health rankings by the Robert Wood Johnson Foundation, Kanawha and Cabell counties rank 38 and 39, respectively, out of 55 counties in health outcomes. Each targeted county has been labeled by Appalachian Regional Commission (2015) as distressed, at-risk, or transitional, whereas Cabell County alone was reported an average US poverty rate of 145% from 2009-2013.

What has been done
WVSUES has a program called PLANTERS that provides several tastings in which students have had the opportunity to taste fresh fruits and vegetables as well as simple, healthy recipes such as smoothies or salads. PLANTERS also has school gardens at most school sites. Children work in the gardens as well as grow food and eat what they grow. PLANTERS has also partnered with schools to make outdoor spaces integrate with the garden and include physical activities such as trike trails. The adult nutrition program has provided lessons on accessing healthy foods through the Eating Smart Being Active curriculum.

**Results**

During tastings a few students who are eager to try new things can change the dynamic classroom. Their positive feedback encourages more students to taste unfamiliar foods. Students are quicker to eat what they have grown. Results of the WVSUES EFNEP program through the national evaluation tool WebNEERS this year showed that there was self-reported improvement of food shopping habits, healthier selections and storage of foods. Of concern is that more than a quarter of the students said that their access to foods decreased: 17% improved their access to foods, 56% stayed the same and 27% decreased.

4. Associated Knowledge Areas

<table>
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<tbody>
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<td>Human Development and Family Well-Being</td>
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<tr>
<td>806</td>
<td>Youth Development</td>
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**Outcome #6**

1. **Outcome Measures**

   Number of youth who change a behavior or use a new skill related to nutrition and health such as choosing healthier foods and increasing physical exercise.

2. **Associated Institution Types**

   ● 1862 Extension
   ● 1890 Extension

3a. **Outcome Type:**

   Change in Action Outcome Measure

3b. **Quantitative Outcome**

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3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
According to the findings of the 2016 National Survey of Children’s Health more than 46% of U. S. youth in the US have had at least one ACE or Adverse Childhood Experience. In WV, 52.4% of children under age 18 have had at least one adverse childhood experience. Cabell County, WV, with a population of just under 100,000 is often referred to as Ground Zero for the drug epidemic. It is still among the highest in the nation for overdoses. One solution to this problem is to give those in recovery the skills that they need to replace nutrients that addiction has stolen from them, abstain from use of alcohol, illicit drugs, and non-prescribed medications, and make informed, healthy choices that support physical and emotional well-being. The role of family and community in solving the drug program is critical.

**What has been done**
The WVSUES EFNEP adult educator taught 11 nutrition and physical education lessons to 148 program participants who were enrolled in a drug recovery program. WVUES has two programs that address substance abuse: Health Rocks and the PROSPER program. Health Rocks provides information to youth participants at 4-H camps, clubs and after-school programs. The PROSPER program, an evidence-based program that is funded through the CYFAR project engages parents, community members, and school personnel in family life and life school programs, which taken together, have been shown to reduce the use of substances by youth.

**Results**
In the WVSUES EFNEP program, the overall impact was a 95% change in their consumption of healthier foods and a 54% increase in the number of participants who increased their physical activity to one hour per day. Participants in the WVUES PROSPER program increased in measures of workforce preparation, supportive relationships, positive social norms, and opportunities for skill building.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
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<th>Knowledge Area</th>
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<tr>
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<td>Human Development and Family Well-Being</td>
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<td>806</td>
<td>Youth Development</td>
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**Outcome #7**

1. Outcome Measures

   Number of adults/families who change a behavior or use a new skill related to nutrition and health such as choosing healthier foods and increasing physical.

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

3b. Quantitative Outcome

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>39000</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Soda and energy and sports drinks are the 4th highest contributor of calories for people over the age of 2 and contribute over 37% of the sugar consumed. Reducing the consumption of sugar sweetened beverages could improve health and reduce obesity.

What has been done
At WVUES, A Rethink Your Drink (RYD) campaign was implemented to address high rates of sugar sweetened beverage intake. Educational messages have been integrated into all Family Nutrition Programs, the RYD@Camp and the RYD@School programs. A media campaign has promoted these messages reach 39,000 West Virginians who were exposed to the messages. WVSUES, through the EFNEP program, taught a specific lesson on drinking more water and no sodas. Each participant was given a water bottle and every time they came to class with that bottle filled with water and consumed the water they received points toward an established goal.

Results
West Virginians of all ages have gained understanding of the sugar content of beverages and healthier options. People who make better choices have the potential to improve health, lower their healthcare costs and improve their quality of life. Students at WV schools in WVUES catchment area have reported consuming more water and less sugar filled beverages.

4. Associated Knowledge Areas

<table>
<thead>
<tr>
<th>KA Code</th>
<th>Knowledge Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>701</td>
<td>Nutrient Composition of Food</td>
</tr>
<tr>
<td>703</td>
<td>Nutrition Education and Behavior</td>
</tr>
<tr>
<td>724</td>
<td>Healthy Lifestyle</td>
</tr>
<tr>
<td>801</td>
<td>Individual and Family Resource Management</td>
</tr>
<tr>
<td>802</td>
<td>Human Development and Family Well-Being</td>
</tr>
<tr>
<td>806</td>
<td>Youth Development</td>
</tr>
</tbody>
</table>
Outcome #8

1. Outcome Measures
   Number of participants who train others to eat more healthy foods and/or become more active.

2. Associated Institution Types
   ● 1862 Extension

3a. Outcome Type:
   Change in Action Outcome Measure

3b. Quantitative Outcome
<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
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</thead>
<tbody>
<tr>
<td>2017</td>
<td>6011</td>
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</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

   **Issue (Who cares and Why)**
   Heart disease is the leading cause of death of women in West Virginia. Programming is needed to raise awareness of the risk factors and prevention methods associated with heart disease. Resources and information on heart health, specifically for women are needed.

   **What has been done**
   The Love Your Heart Partnership is a collaboration led by WVUES in partnership with various organizations. Partially funded by the Foundation of the National Institutes of Health, LYHP educates, motivates, and supports women to: 1) assess their personal/family heart disease risks; 2) identify and set personal/family goals to reduce risks; and 3) take action to pursue goals. The project includes training of organizational partners to use woman-to-woman strategies to disseminate Heart Truth® messages, and a public media campaign. Direct education activities reached participants in 39 of West Virginia’s 55 counties which covered 70% of the state. These activities took place 2015-2017.

   **Results**
   Organizational partners are equipped to serve as heart health advocates. Pre/post participant surveys (n=469) showed positive impacts (98.5% of participants felt motivated by the LYH program to make important life changes, especially eating healthier foods; 99.3% rated presentations as easy to understand; and 97.2% said they gained new heart health information. A two-tailed paired non-parametric t-test showed statistically significant (p=0.000) improvements in five key areas of heart health (knowledge of the signs of heart disease, questions to ask a doctor, ways to reduce risks, personal behaviors that increase heart disease risks, and awareness of heart health resources).
4. Associated Knowledge Areas

<table>
<thead>
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</tbody>
</table>

Outcome #9

1. Outcome Measures

Several related projects are assessing and addressing individual and environmental factors that influence eating behavior of young adults with the goal of reducing obesity and obesity-related illnesses.

2. Associated Institution Types

- 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

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

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Many factors contribute to contemporary issues related to eating behaviors (preferences) and obesity of young adults in West Virginia and the United States. Conceivably, improved information about environmental factors that influence such decisions will improve health care workers ability to mitigate this problem, thereby resulting in reduced young adult obesity and improved life-long health.

What has been done
Several related projects are assessing and addressing individual and environmental factors that influence eating behavior of young adults with the goal of reducing obesity and obesity-related illnesses.

Results
Multiple new projects have been initiated to address this(ese) issues. Preliminary results are informative and encourage ongoing work. It is anticipated that future reporting will provide more specific results including publication and dissemination.

4. Associated Knowledge Areas
KA Code  Knowledge Area
701  Nutrient Composition of Food
703  Nutrition Education and Behavior
724  Healthy Lifestyle
801  Individual and Family Resource Management
802  Human Development and Family Well-Being
806  Youth Development

Outcome #10

1. Outcome Measures

Distribution of a survey to community representatives; and translation of study materials and findings into teaching materials.

2. Associated Institution Types

● 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)
Particularly pertaining to young adult obesity, but more broadly the technique(s) of polling citizens for information (sometimes sensitive) that can be informative towards finding solutions.

What has been done
Surveys were distributed through community representatives for dissemination for collection and translation for teaching materials.

Results
Results to date seem to indicate that survey thoroughness and specificity can be improved by dissemination through trusted community representatives, thereby resulting in more targeted and better translated materials for teaching. Ongoing work will include analyses and reports (publications).

4. Associated Knowledge Areas
KA Code  Knowledge Area
703  Nutrition Education and Behavior
724  Healthy Lifestyle
802  Human Development and Family Well-Being
806  Youth Development

Outcome #11

1. Outcome Measures

Four (4) teams created a footprint report of 75 university sites and 6 high school sites as part of a new dissemination model (eB4CAST).

2. Associated Institution Types

● 1862 Research

3a. Outcome Type:

Change in Knowledge Outcome Measure

3b. Quantitative Outcome

<table>
<thead>
<tr>
<th>Year</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>0</td>
</tr>
</tbody>
</table>

3c. Qualitative Outcome or Impact Statement

**Issue (Who cares and Why)**
eB4CAST is an evaluation tool used to help justify program needs, determine both positive and negative outcomes within the program, and predict the continuation of the program in needed communities. Using a community based research approach, eB4CAST captures the overall impact and effect of evidence based programming in implementation and dissemination.
eB4CAST is an evaluation of the concepts of capture, assemble, sustain and timelessness of a research project used as an evidence-based dissemination tool. Without eB4CAST, evidence-based community research fails to reach its full potential and maximize beneficial outcomes for communities.

**What has been done**
Four (4) teams created a footprint report of 75 university sites and 6 high school sites as part of a new dissemination model (eB4CAST).

**Results**
eB4CAST provides researchers and administrators with the necessary data to create a footprint that will measure the impact, reach and longevity of the research project. The project resulted in at least two publications in 2017.
4. Associated Knowledge Areas

<table>
<thead>
<tr>
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<td>703</td>
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<td>802</td>
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</tbody>
</table>

V(H). Planned Program (External Factors)

External factors which affected outcomes
- Natural Disasters (drought, weather extremes, etc.)
- Economy
- Appropriations changes
- Public Policy changes
- Government Regulations
- Competing Public priorities
- Competing Programmatic Challenges
- Populations changes (immigration, new cultural groupings, etc.)

Brief Explanation
School and other site location schedules, weather conditions, and changes in economy all affected program implementation in the current reporting year. As shown in previous years, it is challenging to keep a consistent schedule due to class schedule changes and unforeseen issues at the recovery centers.

At WVUES, funding constraints have resulted in a reduction in staff and an evaluation of the programmatic strategic plan.

V(I). Planned Program (Evaluation Studies)

Evaluation Results

WVU-AFES

WVU Experiment Station research program evaluation takes place at two levels and on two different time cycles. All programs will be evaluated using these general criteria plus additional criteria tailored to each specific program as detailed in the Plan of Work under Outputs and State defined Outputs and Outcomes.

Annual evaluation will continue as before, looking at productivity in terms of immediate impact
- Professional presentations
- Referee journal articles and books
- General audience papers and news reports
- M.S. and PhD graduates
- Trends in terms of competitive funding

And in terms of longer-term impact:
- Citations in scientific journals
• Patents
• Successful technology transfer or start-ups based on research programs
• Awards based on continuing impact and research excellence

Every five years there will be a full portfolio review including:
• Long term productivity
• Relevance to our constituent groups and the State and Region
• The allocation of research inputs among the programs
• Consideration of eliminating some research programs that are not productive or have diminished relevance given NIFA and State priorities
• Consideration of adding additional program areas given NIFA and State priorities

This portfolio review will be conducted internally by a committee appointed by the Dean and externally by a committee composed by a subset of our College Visiting Committee.

West Virginia citizens have the second highest level of obesity in the nation. West Virginia is also above the national averages for incidence of diabetes, high blood pressure, and cardiovascular disease, as well as for osteopenia and osteoporosis. Given the prevalence in West Virginia, this goal area is of high importance to our State constituents. We invested in faculty positions in this area over the last few years, particularly in nutritional biochemistry, clinical work and public outreach. Our investments have paid off, we are having an increasingly visible role in the State with College, WVU extension and integrated activities. We have several existing multistate NIFA grants in this area and recently secured a new one that will start next year. Our evaluation of this program is very favorable, our main issue being one of trading off teaching needs for large enrollment undergraduate classes and our research and outreach needs.

WVUES
An example of an evaluation done in this planned program:
Healthy Children Project

A formative evaluation and outcome evaluation was employed to measure project results including:

• Key Informant Interviews
• Parent Focus Groups
• Provider Surveys
• Tracking ECE GoNAPSACC self-assessments, goals, and improvements related to healthy foods and beverages, PA and screen time 3. Environmental changes and impacts resulting from funded community projects
• Community Advisory Committee meetings and progress
• Community Project Tracking Forms to document mentors progress
• Observations of participation in Choosy classroom visits, and other events
• ECE Provider Surveys of knowledge and behavioral assessment related to healthy foods and beverages, PA and screen time
• Ripple Effect Mapping

Outcomes and Impacts
The grant began in October 2014. Following are the 2017 (3rd Year) highlights:

- Partnership Development (Service) The project continues to build strong partnerships with these organizations/individuals: o Centers for Disease Control and Prevention o WVU Extension Service faculty and staff from three program units o WV Prevention Research Center o WVU School of Public Health o Choosy Kids, LLC o Barbour, Gilmer and Pleasants County Boards of Education, Head Start, Pre-K, Childcare center staff (29 classrooms) o Parents, caregivers and their pre-k children (396 two to five-year olds enrolled) o Community stakeholders represented by the Community Advisory Committees · Healthy Community Environments (Service) o Counties have 8 new painted play spaces to engage young families.
- There are 28 total funded community projects (See descriptions below.) Round 2 projects were completed in 2017. Round 3 funded 7 additional projects.
- State and Local Advisory Committees have met regularly throughout the project.
- Further analysis of key informant interviews and focus groups is in process.
- Two rounds of EPAO classroom assessments were completed.
- Go NAPSACC self-assessments were all completed.
- NAPSACC - Extension agents continue the monthly technical assistance process.
- Three IMIL Booster trainings were conducted and evaluated.
- Choosy visits were made to classrooms where children got excited about their healthy habits.
- Raised garden supplies and kid garden reference books were distributed to 29 providers,
- Grow Light Tables to grow plants inside were distributed to 16 providers.
- 4 Pleasants County Pre-K classrooms were engaged in in Taste the Rainbow.
- Purchased $50,000 in physical activity and nutrition related items to enhance the ECE environments.
- 396 children plus their parents received monthly messages starting in 2017. The magnet is designed to frame the child's artwork depicting himself/herself doing the health behaviors referenced in the monthly handout.

Key Items of Evaluation

WVU-AFES
Our evaluation of this program is very favorable, our main issue being one of trading off teaching needs for large enrollment undergraduate classes and our research and outreach needs.