

V(A). Planned Program (Summary)

Program # 2

1. Name of the Planned Program

Childhood Obesity - Youth/Adult Obesity

Reporting on this Program

V(B). Program Knowledge Area(s)

1. Program Knowledge Areas and Percentage

KA Code	Knowledge Area	%1862 Extension	%1890 Extension	%1862 Research	%1890 Research
701	Nutrient Composition of Food	10%		10%	
702	Requirements and Function of Nutrients and Other Food Components	10%		10%	
703	Nutrition Education and Behavior	25%		25%	
704	Nutrition and Hunger in the Population	15%		15%	
724	Healthy Lifestyle	40%		40%	
	Total	100%		100%	

V(C). Planned Program (Inputs)

1. Actual amount of FTE/SYs expended this Program

Year: 2013	Extension		Research	
	1862	1890	1862	1890
Plan	6.0	0.0	5.0	0.0
Actual Paid Professional	23.5	0.0	8.7	0.0
Actual Volunteer	196.0	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
500574	0	464801	0
1862 Matching	1890 Matching	1862 Matching	1890 Matching
1562453	0	1922068	0
1862 All Other	1890 All Other	1862 All Other	1890 All Other
423518	0	2012067	0

V(D). Planned Program (Activity)

1. Brief description of the Activity

- To identify the factors that promote excessive weight gain as well as protect against childhood obesity
- Measure how children born small for age are different with respect to body composition and risk for diabetes prior to developing diabetes or obesity.
- Investigate how perilipin A works in adipocytes to control fat storage and fat breakdown.
- Collect and analyze data on obesity-related measures (i.e., BMI) in adults and children
- Examine how weight loss affects calcium absorption and bone mass
- Create a multidisciplinary program comprising of faculty, staff, the medical community, industry partners and government officials
- Conduct adult/youth education and deliver targeted messages on healthy food choices and increased physical activity education using the following strategies:

Direct Methods:

- Educate Youth
- Educate Parents
- Educate Volunteers
- Food and Fitness Ambassadors
- Educate Child Health Summit Professionals
- Educate Teachers/School Nurses
- Educate Communities

Indirect Methods:

- Website
- Social Marketing

2. Brief description of the target audience

- Clinicians, Physicians and Nurses
- Health Care Professionals
- Hospitals (including teaching hospitals)
- Staff and students who gain valuable scientific experience
- Industry partners that benefit from fundamental and applied research in obesity and related chronic diseases
- Communities that benefit from increased knowledge about the mechanisms involved in obesity
- Other faculty and staff working on similar research
- Health-related organizations and foundations interested in obesity/nutrition issues
- School Age Youth
- Teens
- Teachers
- After School Providers
- Parents
- Volunteers
- Extension Professionals
- State and County Agencies and Organizations
- Schools

3. How was eXtension used?

RCE faculty used the following CoPs: Family Food and Fitness; Evaluation; Creating Healthy Communities; Healthy Food Choice in Schools; Community Nutrition Education; Diabetes and the Learning Network. Faculty answered the expert questions, developed collaborative educational products, conducted learn professional development sessions and provided leadership to CoPs.

V(E). Planned Program (Outputs)

1. Standard output measures

2013	Direct Contacts Adults	Indirect Contacts Adults	Direct Contacts Youth	Indirect Contacts Youth
Actual	924	21206	5563	11924

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

Patent Applications Submitted

Year: 2013
 Actual: 8

Patents listed

- 2013-035
- 2004-021
- 2006-088
- 2012-146
- 2004-021
- 2006-017
- 2006-033
- 2006-088

3. Publications (Standard General Output Measure)

Number of Peer Reviewed Publications

2013	Extension	Research	Total
Actual	13	55	68

V(F). State Defined Outputs

Output Target

Output #1

Output Measure

- A variety of strategies will be implemented to reach target audiences. This will include and not be limited to workshops, field visits, classes, newsletters, media releases, electronic communications, publications. In addition a trained volunteer teaching base will be developed. Quantitative reports of participation will be collected

Year	Actual
2013	0

V(G). State Defined Outcomes

V. State Defined Outcomes Table of Content

O. No.	OUTCOME NAME
1	Short Term - Individuals gain awareness, knowledge, skills related to: Attitudes about healthy eating for adults/youth. Healthy food choices for adults/youth. Selection of healthy foods for adults/youth. Benefits of physical activity (reduced overweight and obesity, reduced risk of diabetes, heart disease and cancer.) Physical activity recommendations for health for adults/youth. Identify factors that promote excessive weight gain and protect against childhood obesity. Understand the molecular mechanisms of lipid transport in the intestinal cell. Demonstrate the affects on calcium absorbtion and bone mass by weight loss
2	Medium Term - Individuals incorporate skills/change behaviors related to: Increased adoption of healthy food practices. Increased consumption of fruits, vegetables, whole grains and low-fat dairy. Increased participation in family meals. Increased participation in physical activity. Increased participation in family-related physical activity. Increased use of new 'campaign' website. Improved understanding of the relationship between early nutrition and later risk for chronic disease. Understanding the process by which perilipins at the surface of lipid droplets control how much energy is released from the adipocyte at times of need. Understanding how the intestines and body uptake and process dairy fat. Identify genes, their protein product and how the proteins influence the way the body processes fat.
3	Long Term - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
4	Medium Term - Working Well in NJ, Worksite Wellness Toolkit - Individuals incorporate skills/change behaviors related to: Increased adoption of healthy food practices. Increased consumption of fruits, vegetables, whole grains and low-fat dairy. Increased participation in family meals. Increased participation in physical activity. Increased participation in family-related physical activity. Increased use of new 'campaign' website. Improved understanding of the relationship between early nutrition and later risk for chronic disease. Understanding the process by which perilipins at the surface of lipid droplets control how much energy is released from the adipocyte at times of need. Understanding how the intestines and body uptake and process dairy fat. Identify genes, their protein product and how the proteins influence the way the body processes fat.
5	Long Term - Get Moving-Get Healthy with NJ 4-H Program - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
6	Long Term - Building Collaborations and Distributing Fresh Produce to Seniors and Urban Residents at the Farmer's Market Union County, NJ - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

7	Long Term - Grow Healthy School Wellness Initiative - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
8	Long Term - Flemington-Raritan School District- School Wellness Environment Assessment and Improvement - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
9	Long Term - Small Steps to Health and Wealth - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
10	Long Term - Evaluation and Characterization of Novel Botanical Extracts for the Prevention and Treatment of Metabolic Syndrome and Diabetes - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
11	Long Term - Introducing New Crops, Nutraceuticals and other Value-Added Products - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.
12	Long Term - Health Finance Education - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

Outcome #1

1. Outcome Measures

Short Term - Individuals gain awareness, knowledge, skills related to: Attitudes about healthy eating for adults/youth. Healthy food choices for adults/youth. Selection of healthy foods for adults/youth. Benefits of physical activity (reduced overweight and obesity, reduced risk of diabetes, heart disease and cancer.) Physical activity recommendations for health for adults/youth. Identify factors that promote excessive weight gain and protect against childhood obesity. Understand the molecular mechanisms of lipid transport in the intestinal cell. Demonstrate the affects on calcium absorbtion and bone mass by weight loss

Not Reporting on this Outcome Measure

Outcome #2

1. Outcome Measures

Medium Term - Individuals incorporate skills/change behaviors related to: Increased adoption of healthy food practices. Increased consumption of fruits, vegetables, whole grains and low-fat dairy. Increased participation in family meals. Increased participation in physical activity. Increased participation in family-related physical activity. Increased use of new 'campaign' website. Improved understanding of the relationship between early nutrition and later risk for chronic disease. Understanding the process by which perilipins at the surface of lipid droplets control how much energy is released from the adipocyte at times of need. Understanding how the intestines and body uptake and process dairy fat. Identify genes, their protein product and how the proteins influence the way the body processes fat.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grow Healthy ? Team Nutrition ? Statewide School Food Service Training

Obesity prevention and improving the health of youth and adults is a national priority. Changes to the national school lunch program have also brought healthy eating to the forefront of attention. Youth and adults need education and help make behavior changes for themselves, their families, schools and communities to improve health.

What has been done

Statewide School Food Service Training for Smarter Lunchrooms for the New Jersey School Nutrition Association at their Annual Conference on August 14, 2013. Reached about 200 professionals.

Results

School Food Service Training ? reported,
?I learned??

- Techniques to "nudge" students to make healthier food choices
- Techniques to increase sales of healthier foods
- Best practices you plan to try at school this fall
- Fruit ideas: fruit next to checkout, serving more fresh fruits, asking "would you like an apple with that?"
- Entrée ideas: moving target entrée to first spot, clever names
- Vegetable ideas: clever names, talking it up, having 2 or more choices
- Reimbursable meals ideas: charge cash for dessert and snacks, grab & go meals
- Dairy ideas: move white milk to front of case

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #3

1. Outcome Measures

Long Term - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Get Moving Get Healthy NJ Workforce Program

Health benefits are rising quickly in the US due to the increased risk of diabetes, heart disease, high blood pressure, and other chronic disease. New Jersey Counties are challenged with managing increased health benefits for their employees.

What has been done

Get Moving Get Healthy NJ Workforce was created as a means of engaging County employees in a walking program that takes existing knowledge of healthy lifestyle and physical activity and improves the retention of learning after the event. The program was offered in Somerset, Warren, Ocean and Union Counties, as well as to 8 NJ employers around the state. The goal is for employees to live longer, healthier lives by: increasing awareness of the importance of sustaining good health with proper nutrition and physical activity; increasing awareness of the importance of physical activity as a component of healthy lifestyle; and increasing awareness of the effect of healthy eating habits, physical activity and stress reduction.

Results

Follow-up survey taken by 117 employees. Results to date are as follows: Increased knowledge of Body Mass Index: 53% increased knowledge of Body Mass Index, 31% reported a Body mass Index of 26 or higher after the weekly focus lesson. Increased the number of steps taken per day: 80% increased their knowledge of the number of steps taken per day, 4% increased their steps to the recommended 10,000 steps per day. 52% improved physical condition, 62% lost some body weight, 42% lost some inches around the body, 36% improved physical appearance, 53% fit better in clothing, 33% improved level of energy, 26% improved sleep, 55% improved diet, 63% increased consumption of fruit, 62% increased consumption of vegetables, 20% decreased level of stress, 40% increased level of exercise.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #4

1. Outcome Measures

Medium Term - Working Well in NJ, Worksite Wellness Toolkit - Individuals incorporate skills/change behaviors related to: Increased adoption of healthy food practices. Increased consumption of fruits, vegetables, whole grains and low-fat dairy. Increased participation in family meals. Increased participation in physical activity. Increased participation in family-related physical activity. Increased use of new 'campaign' website. Improved understanding of the relationship between early nutrition and later risk for chronic disease. Understanding the process by which perilipins at the surface of lipid droplets control how much energy is released from the adipocyte at times of need. Understanding how the intestines and body uptake and process dairy fat. Identify genes, their protein product and how the proteins influence the way the body processes fat.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Action Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Working Well in NJ, Worksite Wellness Toolkit

The cost of health benefits are rising quickly in the US due to the increased risk of diabetes, heart disease, high blood pressure and other chronic diseases.

What has been done

With the assistance of the Employers Association of NJ, 24 worksites were identified to participate in the pilot of the toolkit, developed by Educators within the Department of Family and Community Health Sciences. Technical assistance was provided for the employers by means of: 3 Face-to-face meetings, 24 online webinars, 2 telephone calls or more per employer, and monthly email messages linking to resources to create a culture of wellness in their worksite. Twenty-four employers, representing a potential 10,000+ employees in 20 NJ counties. 2,951 employees completed the Employee Baseline Behavior & Interest Survey: 85% of the respondents reported their job as mostly sitting/standing, 10% mostly walking, 5% mostly heavy labor or physically demanding work.

Results

2,951 employees completed the Employee Baseline Behavior & Interest Survey: 50% reported feeling stress 3 or more days per week; 26% met the physical activity recommendations of the CDC; 4% consumed the recommended amount of fruit per day; 7% consumed the recommended amount of vegetables per day; 15% smoke cigarettes; 79% are interested in learning about healthy food choices; 85% would like the availability of healthy snacks on the job (vending machine choices); 85% want to increase their level of physical activity; 82% want information about stress management; 21% want information about tobacco use; 17% want smoking cessation sessions; 44% want wellness information via email messages; 22% want wellness information via online newsletter; 11% want information via hardcopy newsletter; and 18% want lunch and learn sessions.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #5

1. Outcome Measures

Long Term - Get Moving-Get Healthy with NJ 4-H Program - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Get Moving-Get Healthy with NJ 4-H Program

Research shows that children and families have increased their consumption of sugary drinks, eat larger portion sizes, and spend more time in front of a screen than outdoors. As a result, there has been a decrease in healthy eating, physical activity, and family meals.

What has been done

The Get Moving-Get Healthy (GMGH) with New Jersey 4-H program is an interactive and fun way to learn healthy eating habits, portion sizes, USDA's new Choose My Plate, and simple exercises. The program focuses on understanding Choose My Plate, identifying portion sizes, and learning easy ways to exercise. A key component of the program are the hands-on activities including: Exercise Challenge, Choose My Plate, Measure Up, Portion Distortion, Read the Label, Serving Match, Think What You Drink, Food Groups, and What Counts.

Results

Post-tests show that as a result of the Get Moving-Get Healthy with New Jersey 4-H program: 96% of participants feel they understand the importance of proper nutrition and physical activity,

90% of participants feel they now are prepared to make healthy eating and physical activity a part of their daily lives, 85% of participants noted they will reduce their consumption of sugar sweetened beverages, 81% of participants noted they now know how to build a healthy plate and the correct portion sizes for each meal.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #6

1. Outcome Measures

Long Term - Building Collaborations and Distributing Fresh Produce to Seniors and Urban Residents at the Farmer's Market Union County, NJ - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Building Collaborations and Distributing Fresh Produce to Seniors and Urban Residents at the Farmer's Market Union County, NJ

Food security and access to fresh fruits and vegetables is a challenge for urban residents and seniors.

What has been done

Union County Freeholders, NJ Dept. of Agriculture and the Senior Meals Coordinator along with Rutgers Cooperative Extension FCHS Educator, SNAP-Ed Supervisor and Staff, Ag agent, Master Gardeners in Elizabeth, Plainfield, Roselle, Rahway, along with WIC in Elizabeth and Plainfield supported bringing Fresh Produce to Farmers Markets at various sites in Union county fostering a collaborative effort of Rutgers Cooperative Extension, county and city agencies with NJ farmers. To provide nutrition education and distribution of vouchers for free produce at the participating markets.

Results

Vouchers (\$ 20) for free produce for seniors were distributed in Union County. Three farmers visited 9 towns to deliver produce to Union County senior residents. Nutrition education was provided by SNAP-Ed at the sites and SNAP-Ed assists with distributing vouchers with Union County Division on Aging Staff. In FY 2013?Eighteen thousand \$ 5.00 vouchers worth \$ 90,000 were given to eligible seniors in Union County to purchase Jersey Fresh fruits and vegetables as part of the WIC Senior Farmers Market program. Seniors get a maximum of 4 vouchers @ \$ 5.00 each or a total of \$ 20 per senior. Transportation to the farmer?s markets is provided by county paratransit system.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #7

1. Outcome Measures

Long Term - Grow Healthy School Wellness Initiative - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Grow Healthy School Wellness Initiative

Childhood obesity continues to be a concern in America, with roughly 17% of children and adolescents aged 2-19 classified as obese. Health experts continue to emphasize the impatience of making changes to policy and the environment affecting children and families to promote healthy lifestyles.

What has been done

2,270 students participate in food, nutrition and edible garden programming, including vegetable taste-testing?s to identify new vegetable options to achieve USDA vegetable subgroup requirements in school cafeterias. ~150 school nutrition professionals participated in two in-person workshops. 21 volunteers were trained to teach supplementary food/nutrition lessons in schools, serve on school wellness councils, and provide support to school wellness activities throughout the school year. 58 students at 2 schools joined Youth Advisory Councils to conduct a wellness assessment via the Students Taking Charge assessment and develop plans to address identified needs in areas of nutrition & physical activity. 52 teachers, nurses and administrators participated in professional development workshops to complete the CDC School Health Index (SHI) assessment tool to develop school wellness plans, and identify strategies to enhance nutrition and physical activity in their schools.

Results

Follow-up surveys and outreach indicate a number of changes have resulted: New vegetables have been added to school lunch menus, based on results of student taste-testing?s, enabling school nutrition professionals to increase the variety of vegetables served and better meet USDA vegetable subgroup requirements. Schools developed SHI assessments and developed wellness implementation plans and strategies. YACs developed youth-led projects to increase physical activity during indoor recess. YACs developed youth-led projects to increase healthy offers in the cafeteria. FCHS Wellness Champions are teaching nutrition lessons in elementary school classrooms, leading after-school food & garden clubs and supporting school garden and wellness council projects.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #8

1. Outcome Measures

Long Term - Flemington-Raritan School District- School Wellness Environment Assessment and Improvement - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Flemington-Raritan School District- School Wellness Environment Assessment and Improvement

Childhood obesity continues to be a concern in America, with roughly 17% of children and adolescents aged 2-19 classified as obese. Health experts continue to emphasize the importance of making changes to policy and the environment affecting children and families to promote healthy lifestyles. Providing a healthy school environment is a key strategy, one which emphasizes provision of healthy foods served/sold on campus, adequate physical activity, role modeling of healthy behaviors by school adults, and parent involvement in school health.

What has been done

As part of a comprehensive and ongoing school wellness partnership between FCHS and the Flemington-Raritan School District (serving approximately 3,400 Pre-K through 8th Grade students) training and mentorship was provided to the District Wellness Council on conducting the Center for Disease Control's School Health Index (SHI) Assessment, an evidenced-based tool which evaluates areas of strength and weakness in the overall school wellness environment. The assessment was completed in November of 2013. Teams of 4-5 participants were assembled around each SHI topic area, and utilizing the SHI discussion questions, each area of school health was scored. Once the assessment was complete, preliminary action items were identified for development of improvement strategies. Follow-up included formation of school-level wellness teams to further refine/implement the strategies.

Results

As a result of the SHI Assessment, a formal process for making changes to the school wellness environment was established. The process fostered dialog with school administrators and has led to action planning in the following areas identified as in need of improvement: School Nutrition Services-investigation of improvements to competitive foods and school meal menu choices; investigation of improved School Food Service contract specifications; input from parents on school nutrition issues. Health Promotion for Staff-identification and linking of community resources to fill staff wellness gaps, via Hunterdon County Partnership for Health and other resources. Family and Community Involvement-Promulgation of results of a Parent and Student School Foods Survey to address school foods concerns; empowerment of parents to provide input to School Board on school wellness issues.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #9

1. Outcome Measures

Long Term - Small Steps to Health and Wealth - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Small Steps to Health and Wealth

Many Americans have health and personal finance ?issues.? Major societal problems that have been widely reported in recent years include an increasing incidence of diabetes, more overweight and obese adults and children, low household savings rates, and high household debt and bankruptcy rates. There are also many ways that health affects personal finances (e.g., the high cost of unhealthy habits (e.g., smoking) and medical expenses) and personal finances affect health (e.g., physical symptoms and poor health care associated with financial distress). A need exists to teach consumers about health finance topics (e.g., health insurance, long-term care, the financial cost of unhealthy behaviors) and behavior change strategies that can be simultaneously applied to improve health and increase wealth.

What has been done

RCE Extension Specialist provides national leadership to Small Steps to Health and Wealth (SSHW), a national Cooperative Extension program that integrates health and personal finance subject matter and encourages participants to simultaneously improve both aspects of their lives. Research-based program outputs during the past year include new archived monthly health and financial messages on the SSHW Web site, <http://njaes.rutgers.edu/sshw/>, completion of the second edition of the Small Steps to Health and Wealth workbook in April 2013 (see the PALS Publishing Web site at Cornell University for details: http://palspublishing.cals.cornell.edu/nra_order.taf?_function=detail&pr_id=159&_UserReference=390EA92CF91370F352AF368A), and two online SSHW Challenges which tracked participants' performance of ten recommended practices on a daily basis, five related to health/nutrition and five related to personal finance.

Results

Follow-up research using an online survey was conducted. Survey findings indicated that the online SSHW challenge fostered several positive behavior changes with the following results reported by 30 participants in the two challenges: Eat healthier foods (74% Winter Challenge, 100% Spring Challenge), Increased daily physical activity (57%, 86%), Improved spending habits (30%, 57%), Lost weight (30%, 29%), and Saved money (43%, 71%). In the January-February Challenge, 25% saved up to \$300, 25% saved \$301 to \$400, and 50% saved \$501 or more. In the April-May 2013 Challenge, 25% saved up to 300, 25% saved \$301 to \$400, and 50% saved \$501 or more. Over 70% of respondents to the follow-up evaluation surveys for the two Challenges rated them as "very positive and motivational." Independent third-party research of the New York Public Library, using the Critical Incident Technique, produced noteworthy findings. Respondents recalled 41 successful critical incidents, which were sorted into categories also found in the Pre-training Survey. Post-training results saw an increase in Enable Patron to Solve Problem (from 7% Pre-training, to 15% Post-training) and a decrease in Provided Referral (from 20% Pre-training, to 4% Post-training). These results suggest that staff are working more closely with patrons to solve problems, and are better prepared to do so more frequently without referrals, a very positive result.

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

704 Nutrition and Hunger in the Population
724 Healthy Lifestyle

Outcome #10

1. Outcome Measures

Long Term - Evaluation and Characterization of Novel Botanical Extracts for the Prevention and Treatment of Metabolic Syndrome and Diabetes - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Evaluation and Characterization of Novel Botanical Extracts for the Prevention and Treatment of Metabolic Syndrome and Diabetes

The occurrence of type 2 diabetes continues to soar to epidemic proportions reaching almost 8% (23.6 million) of the population in the U.S. alone. Another 57 million Americans have prediabetes, defined by an impaired fasting glucose values as a result of insulin resistance.

What has been done

NJAES research is an extension of the work completed under the project entitled "Mechanisms of Phytochemical Elicitation with Acetate - a New Window into Inducible Biochemical Pathways". The research focuses on botanicals that can be used for the prevention/treatment of metabolic syndrome, defined as a condition whose major features consist of obesity, development of Type 2 diabetes and accelerated cardiovascular disease, and how the constituents of botanicals affect insulin signaling pathways and improve insulin resistance, the underlying metabolic dysregulation associated with metabolic syndrome.

Results

Our research findings indicate that specific food formulations of Artemisia polyphenols exhibit improved bioaccessibility, bioavailability and bioactivity. More specifically, these studies examined how the active compounds from plants can be formulated with a food component such as soy protein to significantly improve the parameters related to the overall effectiveness of the botanicals in future clinical work. These efforts provide significant benefits to the biotechnology and pharmaceutical industries in the State and contribute to value added agriculture of New Jersey.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #11

1. Outcome Measures

Long Term - Introducing New Crops, Nutraceuticals and other Value-Added Products - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Introducing New Crops, Nutraceuticals and other Value-Added Products

In the 21st century, success in commercial farming in the East will depend largely on the ability of

the growers to focus on high value, specialty crops such as ethnic produce targeted at specific niche markets for favorable competitive advantages as does the rise in interest of locally grown produce and leaving a greener footprint with lowered transportation costs. Economic opportunities have arisen in the last decade for specialty crop agriculture catering to the ethnically diverse consumers along the eastern coast of the United States.

What has been done

NJAES Researchers conducted work to understand the ethnic crops and herbs in market demand and develop new crops for Jersey agriculture, and to identify new uses and applications of plants, with a focus on fruits and vegetables and herbs. This program seeks to bring together the scientific disciplines ranging from genetics and plant variety development, through production and processing, product standardization, and to identify new bioactive compounds in the plants and foodstuffs that are of potential health and/or commercial interest. Most of the ethnic greens and herbs reviewed can be grown in production systems similar to those used to grow traditional American crops. This project also seeks to identify those crops which can be developed as nutraceuticals. Thus, the chemical profiling of a selected range of fruits, vegetables, herbs and botanicals will be extensively studied. These extracts will be assessed as dietary supplements and disease prevention agents. New products will be developed, the processing and extraction of the value-added products will be determined, and private sector partnerships will be sought to achieve fast track commercialization.

Results

Results of this work included germplasm collection and study of plant diversity, several new crops and plant species were greenhouse and field evaluated for their production, yield and adaptability, as well as nutritional quality. Progress was accomplished in the design and improvement of several culinary herbs and aromatic plants in biomass production, higher yield of essential oils, disease resistance and the identification of several compounds in these plants that are responsible for the species medicinal activity. Studies in quality control of dietary supplements and nutraceuticals showed that many commercial products now in the US marketplace do not meet their own label claim, as well as were found to contain adulterants. International projects in new crop development and the use of agriculture and horticultural production to provide income generating activities and food security have continued to use our market-first scientific-driven models with success in several regions in sub-Saharan Africa. The linkages between agriculture and human health and nutrition continue to be featured in evaluations with ethnic vegetables, greens and herbs and indigenous plants in developing countries. The quality control systems put in place and used have allowed commercial growers in the USA and abroad to produce and market improved higher quality products which have facilitated market demand and sales/trade.

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
704	Nutrition and Hunger in the Population
724	Healthy Lifestyle

Outcome #12

1. Outcome Measures

Long Term - Health Finance Education - Individuals experience: Decreased overweight and obesity for youth/adults. Decreased risk factors for nutrition-related health problems and chronic diseases that are affected by diet and physical activity for youth/adults. A clear and comprehensive understanding of the genetic and physiological mechanisms of obesity and related chronic diseases. Pharmacological and/or medical treatments to alleviate the effects of obesity and related diseases.

2. Associated Institution Types

- 1862 Extension
- 1862 Research

3a. Outcome Type:

Change in Condition Outcome Measure

3b. Quantitative Outcome

Year	Actual
2013	0

3c. Qualitative Outcome or Impact Statement

Issue (Who cares and Why)

Health Finance Education

With passage of the 2010 health care law and high unemployment rates during 2013, much attention was paid to health and personal finances and relationships between both aspects of people's lives. A need exists to teach consumers about health finance topics (e.g., health insurance, long-term care, financial cost of unhealthy behaviors) and behavior change strategies that can be simultaneously applied to improve health and increase wealth. In addition, the implementation of the Affordable Care Act (ACA) in October 2013 prompted increased public interest in the issue of health insurance literacy as well as understanding the nuances of the ACA.

What has been done

The RCE Extension Specialist delivered the following health finance education programs to New Jersey residents: Wrote monthly Small Steps to Health and Wealth? (SSHW) financial messages that are archived at <http://njaes.rutgers.edu/sshw>. Added and updated health finance content on the RCE Financial Aspects of Health Web site: <http://njaes.rutgers.edu/healthfinance/> (e.g., current annual limits for Health Savings Accounts). Served on the advisory committee of the state Senior Medicare Patrol (SMP) program. SMP addresses issues related to Medicare fraud and committee membership provides opportunities for networking with health-related government and human services agencies. Created a series of ten SSHW animated videos with speaking avatars that discuss key health and financial behavior change strategies. The videos are available at: <http://www.youtube.com/user/moneytalkBMO>. Successfully completed the Certified Application

Counselor (CAC) certification program from the Centers for Medicare & Medicaid Services (CMS) to become more familiar with the process of enrolling people in a health insurance plan in a government-facilitated health insurance exchange and to better understand the nuances of the Affordable Care Act (ACA).

Results

The Winter and Spring 2013 challenges resulted in many positive changes. Well over half of the follow-up evaluation respondents in both challenges reported eating healthier foods and increased physical activity. In the Spring 2013 challenge, all respondents reported healthier eating. In addition, over a quarter of respondents in the Winter challenges and over a half of the respondents in the Spring challenge reported improved spending habits. Over a quarter of the evaluation respondents also reported losing weight and saving money. Forty percent or more of respondents in both challenges saved over \$500 and 100% lost between one and ten pounds. For both health and financial practices, these initial reported behaviors have the potential for significant impact over time.

4. Associated Knowledge Areas

KA Code	Knowledge Area
701	Nutrient Composition of Food
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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

{No Data Entered}

V(I). Planned Program (Evaluation Studies)

Evaluation Results

NJAES research and extension outcomes related to this planned program were evaluated utilizing a variety of evaluation methods appropriate for each initiative to determine effectiveness on both a qualitative and quantitative level. For KASA and practice

change we included the measurement of knowledge gained as measured by pre/post Likert-scale assessments. Surveys were used to measure increase in skills acquired, behavior change and practice adoption. For process evaluation we focused on program delivery, participation, relevance and timeliness. Data was collected at appropriate times for each initiative that supports this planned program. IRB approved evaluation instruments were used to collect research and extension data. Data analyses and comparisons relevant to basic and applied research and demonstration were collected and analyzed and reported utilizing a variety of data collection methods appropriate to each research question.

The major goal of evaluating is the demonstration of social, economic, behavior and environmental changes in conditions that contribute to improved quality of life as a result of participation in programs and benefits of research solutions. See state defined outcomes for detailed results of each initiative.

Key Items of Evaluation

No items to report.