

# Improving Older Adults' Health Trajectory through Diet & Activity Modifications

NE-1039 (2009-2014)

## *Diet & Exercise Among Older Adults*

Over one-third of adults over age 75 in the U.S. have three or more chronic conditions, such as cardiovascular disease, eye disease, certain cancers, and obesity. Ethnic minorities and low income populations are most at risk. Regular exercise and a diet rich in fruits, vegetables, and whole grains can lower the risk of many chronic conditions. Despite these benefits, only 6% of older adults consume at least three daily servings of vegetables, and only 4% of older women and 11% of older men consume at least six daily servings of grain products. Fewer than 10% of adults over age 64 engage in physical activities that enhance and maintain strength, endurance, and cardiorespiratory fitness more than two days per week.

Older adults who are disabled by or hospitalized for largely preventable, diet-related diseases represent a disproportionate amount of national health care costs. If older adults' health trajectories are not improved, health care costs will skyrocket as the baby boom generation ages. Even when implemented later in life, changes in diet and exercise can effectively improve quality of life and reduce the strain on the health care system.

## *Multistate Project Creates Programs & Tools to Encourage Healthy Habits, Reduce Risks for Seniors*

Over the last five years, Multistate Research Project NE-1039 has brought scientists together to share responsibilities and resources, standardize methods, and recruit subjects in order to research and develop effective diet and exercise interventions for older adults.

NE-1039 developed educational curricula for teaching older adults about the benefits of increased fruit, vegetable, and whole grain consumption and created motivational curricula to encourage seniors to adopt healthy eating habits. Researchers also identified strategies to increase physical fitness.

Strategies included developing a specialized program for overweight older adults to reduce coronary heart disease risk. NE-1039 also designed materials and trained leaders for the LIFE Program, a community-based, intergenerational “exer-gaming” program implemented at rural meal sites.

To pilot new intervention programs, NE-1039 conducted focus groups, surveys, and regular evaluations. Researchers analyzed data from the programs to determine which exercise regimes and diets are having the greatest impact on health. As part of this effort, scientists identified effective biomarkers that indicate improved diet, physical functioning, and chronic disease risk in older adults. For example, scientists assessed how lutein affects macular pigment density and eye disease risk and collected data that showed how dietary folic acid affects cholesterol, triglycerides, glucose, and cognitive function.

NE-1039 members also revised existing programs. Modeling tools developed by NE-1039 pinpointed areas where programs were falling short, for instance, areas where older adults have limited nearby options for nutritional foods. These models helped researchers and communities extend programs and other resources to fill these gaps. For example, NE-1039 designed a more efficient system for delivering food to meal site programs and came up with ways to improve the food safety of home delivery meals. The team also designed models to determine how certain life events and lifestyle factors affect older adults' health, so that programs can take these factors into account. Using these models, researchers found that as a woman's age, body mass index (fatness), and number of pregnancies increase, the probability of being diagnosed with adult macular degeneration increases.



Older adults who are also ethnic minorities are more likely to be at risk of a chronic disease. Often, these risks can be reduced by eating more fruits, vegetables, and whole grains and increasing physical activity. Top photo courtesy of the National Institute on Aging. Bottom photo courtesy of City of North Charleston, Flickr, CC BY-SA 2.0 License.

# NE-1039 Programs Impact Older Adults' Health

Revising existing programs and creating new ones ensures that diet and physical activity interventions are effective for a growing and diverse population of older adults. With more precise biomarker indicators, health assessments are better able to measure disease risks and intervention impacts. Over 900 older adults have been screened for diet-related risks since the start of NE-1039. Early identification of health risks could save individuals \$1,500 in annual health care costs if they make recommended lifestyle changes. Collectively, the NE-1039 project has provided over 5,100 older adults access to nutrition and/or physical activity interventions and other resources that have had remarkable impacts:

- Communities have used NE-1039's model to illustrate gaps in availability of nutritious foods, opportunities for physical activity, and programs that support these habits. This has helped programs reach those who are in need.
- 50% of older adults participating in the whole grain foods education program have increased their whole grain food consumption.
- 50% of older adults visiting congregate meal sites in Washington, D.C. have increased their intake of fruits, vegetables, and whole grains.
- 50% of older adults receiving home-delivered meals have changed their food safety practices at home, reducing their risk of food-borne illness.
- After six months, participants in a monthly nutrition program at group meal sites had lower nutritional risk.
- Older adults who were at risk for obesity-related disabilities and morbidities have improved health indicators.
- The LIFE program has improved functional fitness, wellbeing, and readiness to change among older adults while reducing ageism among young adults. Of the 21 participants in the LIFE Program who were classified as inactive at Week 1, five became active by Week 8, and six more became active by Week 25. All participants increased the number of chair stands they were able to complete in 30 seconds, handgrip strength, and flexibility during the program.



## Want to know more?

The NE-1039 project was supported, in part, through USDA's National Institute of Food and Agriculture by the Multistate Research Fund established in 1998 by the Agricultural Research, Extension, and Education Reform Act (an amendment to the Hatch Act of 1888) to encourage and enhance multistate, multidisciplinary research on critical issues that have a national or regional priority. Additional funds were provided by contracts and grants to participating scientists. For more information, visit <http://nera.umd.edu>.

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### Participating Institutions:

University of the District of Columbia  
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Louisiana State University  
University of Maryland  
University of Massachusetts  
University of Missouri  
University of New Hampshire  
New Hampshire Cooperative Extension  
Rutgers University  
University of Rhode Island  
West Virginia University

This Impact Summary was compiled by Sara Delheimer.

As part of the LIFE program run by NE-1039 researchers, young adults and older adults do exergaming activities together to improve fitness (top photo, courtesy of Iowa State University Extension and Outreach). NE-1039 researchers and Extension agents also host food demonstrations for seniors to teach them about healthy foods and appropriate portions and give them ideas for how to incorporate more fruits, vegetables, and whole grains in their meals (middle and bottom photos, courtesy of the University of the District of Columbia).