

Live Healthy Georgia - Seniors Taking Charge: A Community Intervention Report



**Division of Aging Services and The University of Georgia
2006**

Live Healthy Georgia - Seniors Taking Charge: A Community Intervention Report

This publication was produced by the cooperative efforts of:

Division of Aging Services, Georgia Department of Human Resources

The Aging Services Network

Department of Foods and Nutrition, The University of Georgia

Suggested Citation

Mary Ann Johnson, Sudha Reddy, Joan G. Fischer, Tiffany Sellers, Heather Stephens, Elizabeth M. Speer, Suzanne M. Elbon, and Sohyun Park. Live Healthy Georgia - Seniors Taking Charge: A Community Intervention Report. The University of Georgia and the Georgia Division of Aging Services, 2006. <http://www.livewellagewell.info/study/materials.htm>.

Funding

The development of the Community Intervention educational materials and evaluation instruments; technical oversight of the intervention; data analysis; report writing and printing; and development of a website was performed by the University of Georgia under the Georgia Department of Human Resources Contract #: #427-93-06060717-99, Mary Ann Johnson, PhD, Principal Investigator.

Cover Page Photos

From the Administration on Aging:

http://www.aoa.gov/press/multimed/photos/2002/01_Jan/Images_aging/photo_images_aging.asp



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As the baby boomers grow older, the number of Americans aged 65 and older will double to 70 million over the next 30 years. The coming surge in the number of seniors will significantly increase the demand for health care and social services. Chronic diseases cause almost half of all disability among older Americans. They also account for roughly 75 percent of health care costs each year. Physical inactivity and poor nutrition are the major causes behind the obesity epidemic, which is linked to 300,000 deaths each year in the United States and increased health care expenditures. Diabetes is the sixth leading cause of death in Georgia. The cost of diabetes in Georgia due to medical care, lost productivity, and premature death is over \$4 billion per year. Physical inactivity, smoking and making unhealthy food choices puts us at increased risk for chronic diseases such as diabetes, heart disease, stroke and other serious health problems. Despite the benefits of physical activity and consuming a diet rich in fruits and vegetables, only one in three adults engages in regular physical activity and consume recommended servings of fruits and vegetables.

The Division of Aging Services in partnership with public/private sector agencies is promoting healthy aging and healthy living by focusing on chronic disease prevention and health promotion. This report highlights the results and collaborative efforts between the DHR-Division of Aging Services, University of Georgia and the Georgia Aging Network in developing, implementing and evaluating a community based intervention program related to nutrition, physical activities and diabetes in older adults.

We hope that program planners, policy makers, members of the Georgia Aging Network, and all interested citizens will find this report useful in the continuing effort to respond to the challenges and opportunities presented by Georgia's older population.

A handwritten signature in cursive script that reads "Maria Greene".

Maria Greene, Director
Division of Aging Services



College of Family and Consumer Sciences
Department of Foods and Nutrition

Georgia has more than 870,000 people aged 65 and older, has the 11th fastest growing population of older people in the country, and ranks 7th in the number of older people with diabetes. With the aging of our population comes increased health care costs. Health promotion programs, especially those that serve low resource populations, can help control health care costs and improve the quality of life for older people.

It is with great pleasure that the Department of Foods and Nutrition at The University of Georgia continues its successful collaboration and long-standing relationship with the Georgia Division of Aging Services. This relationship has been further strengthened with the development, implementation, and evaluation of the “Live Healthy Georgia – Seniors Taking Charge” Community Intervention. The purpose of the Community Intervention is to implement an evidence-based intervention to improve nutrition, physical activity, and diabetes care in older adults. As outlined in this report, this intervention was very successful in increasing fruit and vegetable intake, physical activity, and diabetes self-management skills in older adults attending senior centers throughout the state. These improvements in health behaviors will help lower health care costs, improve independence, and delay nursing home placement in older Georgians.

Community and university partnerships are vital for successful development, implementation, and evaluation of evidence-based health promotion programs. Communities can identify the real needs of real people, while Universities can provide expertise in research and evaluation techniques. Our department values our collaboration with the Division of Aging Services and the aging network, and looks forward to working together to further improve the well being of our oldest citizens.

We hope this report will help program planners, policy makers, members of Georgia’s aging network, and interested citizens in continuing to serve and support the older adult community, while creating new avenues and partnerships to better support and assist this growing population.

Sincerely,

Arthur Grider, PhD
Acting Department Head, Foods and Nutrition
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EXECUTIVE SUMMARY

Live Healthy Georgia - Seniors Taking Charge: A Community Intervention Report

Georgia has the 11th fastest growing population of older adults in the country. Georgia also has the 7th highest prevalence of diabetes among older people. Among the major challenges related to aging and chronic diseases are controlling health care costs, maintaining independence, and enhancing quality of life through improved lifestyles and chronic disease management.

To begin to address some of these challenges, a partnership was created among the Division of Aging Services, Division of Public Health, Diabetes Association of Atlanta, Diabetes Technologies, Inc., University of Georgia, and the aging services network. Outcomes of the partnership include the website “Live Well Age Well” (www.livewellagewell.info) and a Community Intervention called “Seniors Taking Charge!” that support the Live Healthy Georgia campaign. The website provides information on healthy living for people aged 50 and older, and their families and caregivers. Since inception, this website has had over 4,300 unique visitors who made 6,100 visits to the site and viewed more than 19,000 different web pages.

The goal of the Community Intervention is to improve physical activity, nutrition, and diabetes self-management skills. This intervention was conducted in all 12 Planning Services Areas of Georgia that serve more than 30,000 older adults, and was evaluated in 40 Senior Centers in 815 older people (average age was 74 years, 16% men, 84% women, 44% white, 55% African American, 1% other ethnicity/race). The evaluation included pre-tests, interventions, and post-tests designed to measure improvements in lifestyle and diabetes self-management skills.

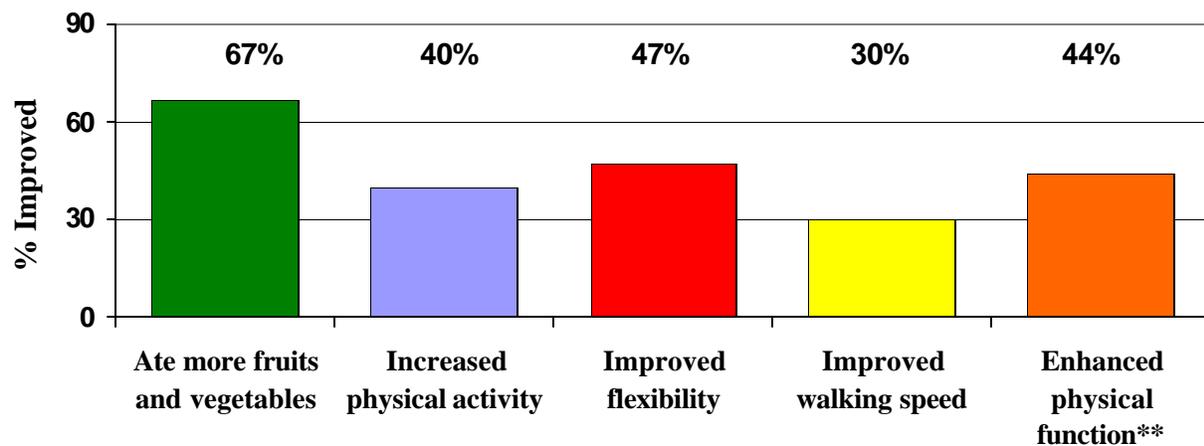
Among those with diabetes (45% of the participants), the diabetes intervention led to many improvements in nutrition, physical activity, and diabetes self-management (see table below).

	Before Community Intervention	After Community Intervention
<i>Does the participant with diabetes...</i>	5 or more days per week (%)	
• Follow a healthful eating plan	61	79
• Follow an eating plan prescribed by health care provider	40	62
• Space carbohydrates evenly	40	55
• Do at least 30 minutes of moderate physical activity	53	64
• Test blood sugar as recommended	58	65
• Take diabetes medications as prescribed	92	91
• Check feet	74	84

Diabetes was poorly controlled among many participants: 30% had high blood sugar and 41% had blood A1c > 7% before the intervention. A1c is the “gold standard” test of blood sugar and diabetes management. There was a decrease in A1c among the total sample of people with diabetes. Moreover, those with very poorly controlled A1c (initial A1c > 8%) had a large and clinically significant decrease in their A1c after the intervention, which can lead to decreases in healthcare costs and reduction of some consequences of diabetes such as heart disease, stroke, amputation, kidney failure, nerve damage, and blindness. The 1% decrease in A1c that occurred in these participants (initial A1c > 8%) translates into a 35% reduction in the risk for these types of diabetes-related complications and an 18% decrease in risk of fatal and non-fatal heart attacks (American Diabetes Association, 2002).

Among all of the older adult participants in the evaluation, there were also many improvements in nutrition and physical activity that can enhance well-being. The improvements included:

- **Fruit and vegetable intake:** 67% added one or more servings daily
- **Physical activity:** 40% added 10 additional minutes daily
- **Flexibility:** 47% added 1 inch or more to their reach forward from a seated position
- **Physical function:** 30% improved walking speed by 1 second or more in an 8-foot walk
- **Lower risk of nursing home placement through enhanced physical function:** 44% of those with poor physical function improved to a better category of function**



The most common reason reported by the participants for not being physically active most days of the week was having a health condition that limits activity (35%). This problem can be addressed through expansion of physical activity programs for people with various chronic conditions. The most common reason reported by the participants for not eating more fruits and vegetables was cost (23%). Cost can be addressed through expansion of the Senior Farmers’ Market Nutrition Program. Many older adults with diabetes improved their diabetes self-management skills, but did not adhere to these practices on a daily basis. Thus, continued promotion of diabetes self-management skills is needed. Overall, the program was well received and more than 94% of participants rated the Community Interventions as good to excellent.

Recommendations

- Expand collaborations with community partners, universities, and the media to promote nutrition and physical activity in all older adults in Georgia.
- Increase funding to develop and implement evidence-based nutrition, physical activity, and chronic disease management interventions for older adults in Georgia.
- Provide funding for expansion of the Senior Farmers’ Market Nutrition Program in Georgia.
- Continue to develop interventions that are culturally appropriate for older adults who are of Hispanic or African-American heritage, as well as for older adults with low literacy skills.
- Expand the “Live Well Age Well” website to cover additional healthy aging topics for Georgia’s older adults and their families and caregivers.

STATEWIDE SUMMARY

Live Healthy Georgia - Seniors Taking Charge: A Community Intervention Report

Georgia has the 11th fastest growing population of older adults in the country. Georgia also has the 7th highest prevalence of diabetes among older people. The cost of diabetes due to medical care, lost productivity, and premature death is over \$4 billion per year in our state. Among the major challenges related to aging and chronic diseases are controlling health care costs and maintaining independence and quality of life.

To begin to address some of these challenges, a partnership was created among the Division of Aging Services, Division of Public Health, Diabetes Association of Atlanta, Diabetes Technologies, Inc., University of Georgia, and the aging services network. Outcomes of the partnership include a website “Live Well Age Well” (www.livewellagewell.info) and a Community Intervention called “Seniors Taking Charge!” that support the Live Healthy Georgia campaign. The website provides information on healthy living for people aged 50 and older, and their families and caregivers. This report summarizes the outcomes from the Community Intervention and the website “Live Well Age Well.”

COMMUNITY INTERVENTION

Purpose, Procedures, and Participants

The purpose of the Community Intervention called “**Seniors Taking Charge!**” was to improve the physical activity, nutrition, and diabetes self-management skills of older adults in order to help them prevent and manage chronic diseases and remain living independently in their homes.

This intervention was led by the Wellness Coordinators in all 12 Planning Services Areas of Georgia, which serve more than 30,000 older adults. The timeline is shown in **Table 1**. The Community Intervention was formally evaluated in a subgroup of the participants to document the need for and the benefits of the intervention, as well as to develop a competitive advantage for scarce resources from local, state, and federal sources for health promotion programs for older people. The procedures for evaluation of the intervention were approved by the Institutional Review Boards of the Department of Human Resources and The University of Georgia.

Table 1. Community Intervention Timeline (2005-2006)

January – June, 2005	Planning meetings with collaborators and community partners
July – September, 2005	Development of Community Intervention materials Submission of Human Research Subjects materials
October, 2005	Statewide training and identification of senior centers for evaluation
November – December, 2005	Pre-testing of older adults in the evaluation of the intervention
January – April, 2006	Community Intervention lessons given at 40 senior centers
May – June, 2006	Post-testing of older adults in the evaluation of the intervention
July – August, 2006	Data analysis and report writing

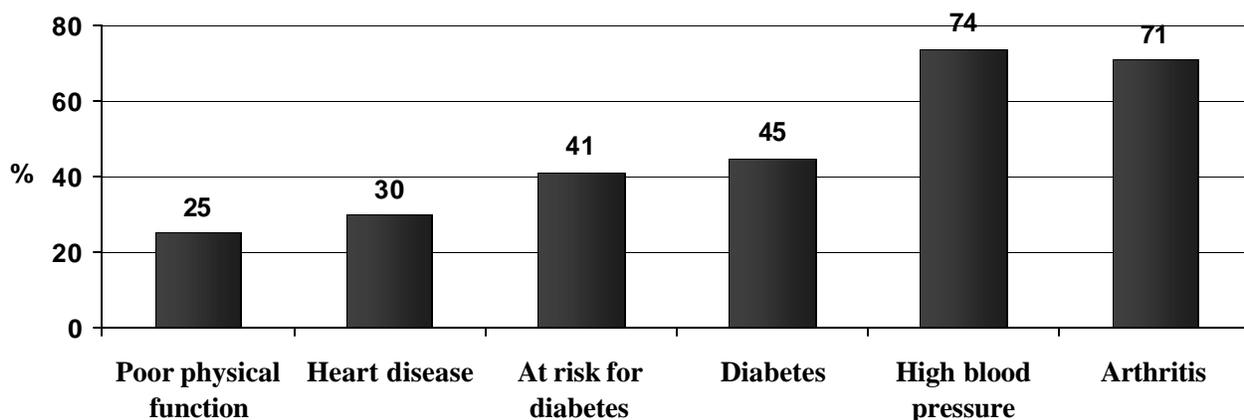
The Department of Foods and Nutrition, University of Georgia, developed all intervention materials, including questionnaires (pre- and post-test questionnaires) and educational materials (lesson plans, physical activities, menus, recipes, food demonstrations, games, and other activities); completed all aspects of obtaining approval for research with human subjects through the Institutional Review Boards of The University of Georgia and the Department of Human Resources; coordinated the state-wide training; and conducted all data analyses and report writing. Wellness Coordinators implemented and evaluated the Community Intervention at 40 senior centers representing all Area Agencies on Aging. To implement and evaluate the intervention, Wellness Coordinators ensured that all pre- and post-testing was performed and collaborated with many community partners including the aging services network, senior centers, public health departments, extension service, hospitals, pharmacies, other health service providers, recreation departments, and universities. The interventional materials and this report are available at <http://www.livewellagewell.info/study/materials.htm>.

The 815 participants in the evaluation represented the diversity of older people attending senior centers in Georgia: their average age was 74 years, 16% were men, 84% were women, 44% were white, 55% were African American, and 1% were another ethnicity/race.

Physical Function and Health Status

There was a high prevalence of poor physical function and chronic health problems in these older adults (**Figure 1**). Many of these health problems can benefit from improved physical activity and nutrition. People with good physical function are able to live independently and carry out their daily activities, such as cooking, shopping, driving, and personal hygiene and grooming. Poor physical function, seen in 25% of the participants, places older adults at high risk for premature disability, nursing home placement, and death (based on the Short Physical Performance Battery, Guralnik et al., 1994). Physical activity can improve physical function and help prevent nursing home placement, which in Georgia costs more than \$50,000 per person annually (Glass, 2005).

Figure 1. High Prevalence of Chronic Health Problems in Older Adults in Georgia's Wellness Programs



The prevalence of chronic disease is very high in those enrolled in this intervention (**Figure 1**): 30% have heart disease; 41% are at risk for diabetes based on their advanced age, family history of diabetes, being overweight, or being obese; 45% have diabetes; 74% have high blood pressure, which increases the risk of stroke; and 71% have arthritis, which limits daily activities. The prevalence of diabetes, high blood pressure, and arthritis in these older adults at senior centers is 14 to 27 percentage points higher than the general older adult population of Georgia (CDC, 2006a). There is a clear need for improved physical activity, nutrition, and self-management of chronic diseases in this population of Georgia’s older adults.

DIABETES INTERVENTION

Diabetes Prevalence

A major focus of the Community Intervention was to help older adults improve their diabetes self-management skills. Diabetes markedly impairs the quality of life, increases health care costs, and increases the likelihood of nursing home placement (Jack et al., 2003; Valiyeva et al., 2006). Diabetes also increases the risk of heart disease, stroke, amputation, kidney failure, nerve damage, and blindness. Health care costs are 2.4 times higher in people with diabetes compared to those without diabetes. **Every dollar spent on diabetes management programs can save as much as \$4 in health care costs** (Berg and Wadhwa, 2002). In Georgia, the cost of diabetes due to medical care, lost productivity, and premature death is over \$4 billion per year (Diabetes Association of Atlanta, 2005).

People with diabetes were targeted for this intervention, which may have somewhat inflated these estimates of the prevalence of diabetes. However, the high prevalence – 86% – of being “at risk” or having diabetes (**Figure 1**) is alarming in these older adults being served by Georgia’s Wellness programs. In 2003, diabetes was the sixth leading cause of death, and nearly 8% of Georgia’s adults have diabetes diagnosed by a physician (Jack et al., 2003). Thus, the older people served by Georgia’s Wellness programs in senior centers have a much larger problem with diabetes than the general adult population.

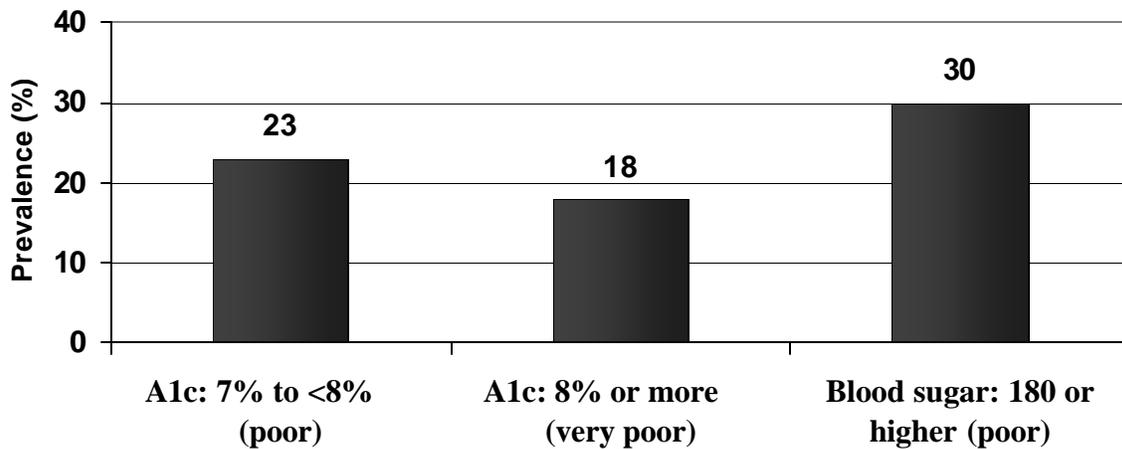
The characteristics of the participants who enrolled in the evaluation of the diabetes program are shown in **Table 2**.

Table 2. Characteristics of Participants with Diabetes at the Pre-test and Post-test

	Completed Blood Sugar and Blood A1c Tests		Completed Questionnaires	
	Pre-test	Post-test	Pre-test	Post-test
Men (%)	16	14	16	16
Women (%)	84	86	84	84
White (%)	36	38	38	39
African American (%)	62	61	60	60
Other race/ethnicity (%)	2	1	2	1
Total number	265	161	351	258

The Diabetes Association of Atlanta and Diabetes Technologies, Inc. visited 33 senior centers to measure blood sugar and blood A1c. A1c is the “gold standard” test of blood sugar control and diabetes management. An A1c of 7% or more is generally too high in those with diabetes; 7% to < 8% is considered “poor control” and 8% or more is considered “very poor control” of diabetes. Poor control of diabetes was very common; 41% of participants had an A1c that was too high and 28% had blood sugar that was too high (**Figure 2**). Thus, there is an urgent need for improved diabetes management in these older adults.

Figure 2. Poor Diabetes Control Shows Need for More Diabetes Self-management Skills



Diabetes Intervention Procedures

At the senior centers, participants completed a pre-test (blood A1c, blood sugar, and questions about diabetes self-management), the intervention, and a post-test that was similar to the pre-test. The diabetes self-management intervention was called “**Seniors Taking Charge of Diabetes!**” and included eight lessons with information on diabetes self-management, walking, chair exercises, menus, recipes, games, and other activities. The lessons were given about every two weeks at senior centers over a four-month period. Most participants with diabetes also attended another series of eight lessons about fruits and vegetables, which will be discussed later in this report. Wellness Coordinators oversaw all aspects of the diabetes intervention, often serving as the educator and enlisting the assistance of community partners with expertise in the various aspects of diabetes self-management, such as blood sugar testing, meal planning, medication management, physical activity, foot care, and other health services. Each lesson lasted about one hour and included ample time for participants to ask questions and share experiences.

The titles of the eight lessons were: 1) Six Daily Do’s for Diabetes, 2) Be Physically Active Everyday, 3) Check Your Feet, 4) Taking Medications and Testing Blood Sugar, 5) Eat Healthy - Plan Your Portions and Plates, 6) Eat Healthy - Meal Timing and Carbohydrate Counting, 7) Take Down Fat, Cholesterol and Sodium, and 8) Get Checked for Your A, B, C’s. Together

these lessons emphasized the self-management skills of choosing foods wisely, daily physical activity, medication management, blood sugar testing, foot care, and being positive with the help of family and friends.

The physical activity part of each lesson lasted up to 30 minutes and included demonstrations by the educator and participation in selected physical activities by the older adults. Each senior center had the option to choose physical activities that were appropriate for their population, however, the primary physical activity interventions were encouragement of walking and exercises for strength, balance, flexibility, and endurance adapted from the National Institute on Aging Exercise Guide (NIA, 2001). Participants were provided with pedometers to record their daily steps and led in performing chair exercises to improve balance, flexibility, and strength.

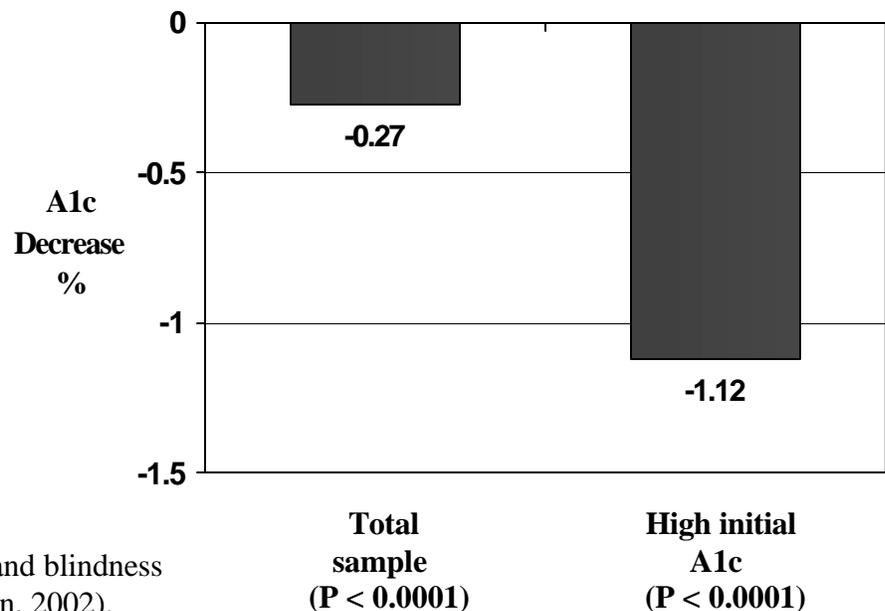
Diabetes Intervention Results

The diabetes intervention decreased A1c in the total sample (by -0.27%) and in those with high initial A1c (by -1.12%) (**Figure 3**).

These decreases were statistically significant, as well as clinically significant for those with the poorest initial A1c.

A decrease in A1c of as little as 1% translates into an 18% decrease in risk of fatal and non-fatal heart attacks and a 35% reduction in the risk for diabetes-related complications, such as heart disease, stroke, amputation, kidney failure, nerve damage, and blindness (American Diabetes Association, 2002).

Figure 3. Community Intervention Improves Diabetes Self-management Shown by Decreasing A1c



Participants also made many other specific improvements in their self-management of diabetes as shown in **Table 3**. Improvements in these behaviors most likely improved diabetes control as shown by the lowering of blood A1c (**Figure 3**).

All of the behaviors improved by at least seven to 25 percentage points, except for taking medications, which exceeded 90% before and after the intervention. Thus, it appears that participants need the most help with other complex aspects of diabetes self-management, such as meal planning, spacing dietary carbohydrates evenly throughout the day, being physically active, testing blood sugar as recommended, checking feet, and inspecting the inside of shoes.

**Table 3. Quantitative Changes in Diabetes Self-management Behaviors
(5 or More Days per Week)**

Does the participant with diabetes . . .	Before	After
	Intervention	Intervention
	5 or more days per week	
• Follow a healthful eating plan	61%	79% **
• Follow an eating plan prescribed by health care provider	40%	62% **
• Space carbohydrates evenly	40%	55% **
• Engage in at least 30 minutes of moderate physical activity	53%	64% **
• Test blood sugar as recommended	58%	65%
• Check feet	74%	84% **
• Inspect inside of shoes	48%	69% **
• Take diabetes medications as prescribed	92%	91%

** Indicates statistically significant improvement ($P < 0.05$).

Following the intervention, those with diabetes were asked generally about whether or not the diabetes program helped them to improve the ability to manage their diabetes. Their responses are shown in **Table 4**. While participants did not become completely compliant in all of the diabetes self-management behaviors, they certainly felt the program was helping them (**Table 4**).

**Table 4. Qualitative Changes in Diabetes Self-management Behaviors
(Yes or No)**

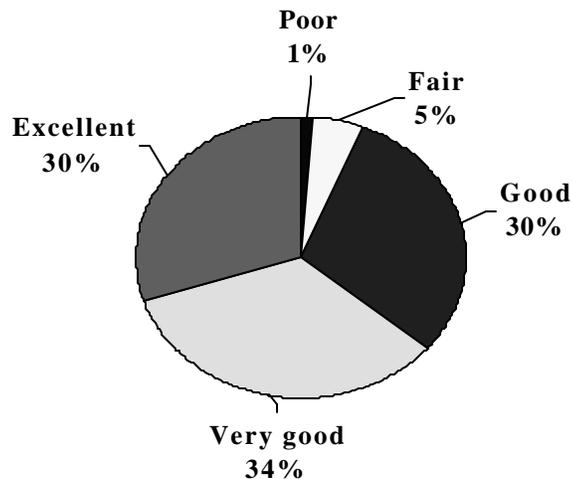
Has this diabetes education program helped you improve your ability to do any of the following?	(% yes)
• Follow your diet plan	87%
• Maintain portion control	88%
• Space carbohydrates over the day	81%
• Increase fruit and vegetable intake	88%
• Take better care of your feet	88%
• Maintain blood sugar levels	89%
• Increase physical activity	79%
• Take medications as recommended by doctor	84%
• Other improvements with managing your diabetes	33%

Diabetes Intervention: Comments from Participants

After the intervention, the participants were asked about their satisfaction with the program. Overall the program was well received, and 94% of the participants rated this diabetes self-management program as good, very good, or excellent (**Figure 4**).

Both the participants and the Wellness Coordinators were very positive about the diabetes intervention as illustrated from their comments.

Figure 4. Satisfaction with Diabetes Self-management Program "Seniors Taking Charge of Diabetes!"



“Thank you for the time you’ve spent with us. The sessions have helped me to focus more on what I need to improve on – not only for my weight, but also for my diabetes.”

Senior Center Participant

“The people with diabetes really enjoyed the lessons. It was general in a sense, but they soon realized that they didn’t know as much as they should about managing diabetes. It really helped them. Also, everyone loved the fruit and vegetable Bingo game.”

AAA Wellness Coordinator

“This program has helped me move without pain. I am exercising more and eating healthier. I am not on a bunch of medications. I am thankful for my family and I take life one day at a time. I recently found out I have diabetes and these lessons have helped so much.”

Senior Center Participant

Diabetes Intervention Summary

In summary, both the quantitative and qualitative outcome data from this diabetes intervention clearly demonstrated that the participants benefited enormously. These older adults improved their diabetes self-management skills in many ways, but since they did not adhere to all of these practices on a daily basis, additional assistance is needed to improve their management skills even more. Self-management of diabetes is a very complex process. Thus, it is strongly recommended that this program be continued and expanded to other senior centers to assist other older people throughout Georgia with improving their diabetes self-management.

FRUITS, VEGETABLES, AND PHYSICAL ACTIVITY INTERVENTION

Benefits of Fruits, Vegetables, and Physical Activity

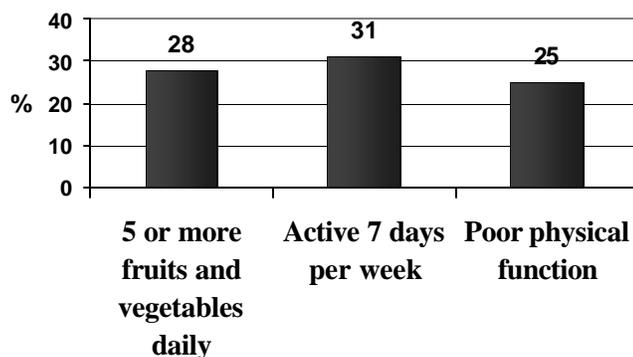
The 2005 Dietary Guidelines for Americans recommends seven to ten servings of fruits and vegetables daily for those with energy needs of 1,600 to 2,200 calories daily, which is typical for many older people (USDHHS and USDA, 2005). This is an increase above the previous recommendation of five servings of fruits and vegetables daily. High intakes of fruits and vegetables decrease the risk of stroke, high blood pressure, cardiovascular disease, certain cancers, type 2 diabetes, overweight, and obesity (USDHHS and USDA, 2005). These benefits appear to be quite large. For example, a longitudinal study reported that higher intakes of fruits and vegetables decreased the risk of developing diabetes by more than 20% (Ford and Mokdad, 2001). Similarly, in a longitudinal study of people age 60 and older, higher intakes of fruits and vegetables were associated with a 32% lower incidence of stroke and a 24% lower rate of mortality from cardiovascular disease, after adjusting for other factors that increase the risk of these conditions (Bazza no et al., 2002). Generous and varied amounts of fruits and vegetables may prevent 20% or more of all cancer cases world wide (World Cancer Research Fund and American Institute for Cancer Research, 1997).

The health benefits of regular physical activity are well documented. Among the many benefits for young and old alike are improved cardiovascular health, better body composition (more muscle), enhanced metabolism (higher energy expenditure and lower blood lipids), stronger bones, enhanced psychological well-being, improved strength and flexibility, reduced risk of falls, improved balance, and improved physical function (Cress et al., 2005). A well-rounded physical activity program should include exercises that maintain or improve endurance, strength, balance, and flexibility (Cress et al., 2005). Also, it is recommended that people accumulate at least 30 minutes of moderate physical activity daily (USDHHS and USDA, 2005).

Need for Improved Fruit and Vegetable Intake, Physical Activity, and Physical Function

The 815 older adults who were in the evaluation of the Community Intervention showed a great need for improvements in their intakes of fruits and vegetables, physical activity and physical function. As shown in **Figure 5**, only 28% reported eating five or more fruits and vegetables daily, and only 31% reported being physically active seven days per week. Moreover, 25% had such poor physical function that they were at increased risk of nursing home placement in the near future (based on the Short Physical Performance Battery, Guralnik et al., 1994).

Figure 5. Nutrition, Physical Activity, and Physical Function Need Improvement in Older Adults in Georgia's Wellness Programs



Fruit, Vegetable, and Physical Activity Intervention

To assist older people with improving their intakes of fruits and vegetables, as well as their physical activity and physical function, a Community Intervention called “**Serving Up Fruits, Vegetables, and Physical Activity Everyday!**” was implemented and evaluated in 40 senior centers throughout Georgia. Wellness Coordinators oversaw all aspects of the evaluation and intervention, often serving as the educator, and enlisting the assistance of community partners with expertise in healthy eating and physical activity. Participants at the senior centers completed a pre-test (questionnaires about dietary and physical activity habits), the intervention, and a post-test that was similar to the pre-test.

The intervention consisted of eight lessons about fruits, vegetables and physical activity, with information about the health benefits, menus, recipes, food demonstrations, games, chair exercises, and other activities. The lessons were given about every two weeks at senior centers over a four-month period. Each lesson lasted about one hour and included ample time for participants to ask questions and share ideas about how to improve their dietary and physical activity habits. The titles of the eight lessons were: 1) Serving Up Fruits, Vegetables, and Physical Activity Everyday, 2) Staying Healthy with Fruits, Vegetables, and Physical Activity, 3) Easy Colorful Snacks, 4) Canned and Frozen Fruits and Vegetables, 5) Serve Up Healthy Fruits and Vegetables with Breakfast, 6) Loading Up Lunch with Healthy Fruits and Vegetables, 7) Serving Up Healthy Fruits and Vegetables for the Evening Meal, and 8) Eating Healthy Fruits and Vegetables Away from Home.

Physical activity was also included in each lesson. For up to 30 minutes, the educator demonstrated selected physical activities and performed them along with the older adults. Each Wellness Coordinator was free to choose physical activities most appropriate for their older adults. Most sites encouraged walking and exercises for strength, balance, flexibility, and endurance from the National Institute on Aging Exercise Guide (NIA, 2001). Participants received pedometers to record their daily steps and handouts with instructions for chair exercises to improve balance, flexibility, and strength.

Fruit, Vegetable, and Physical Activity Intervention Results

Of the 815 older people who enrolled in the intervention, 605 completed both the pre-test and the post-test. The most common reasons for participants not completing the post-test were that the participant no longer attended the center, the staff was unable to locate the participant, or that the participant was hospitalized, had an illness, refused, or had died.

Findings from the participants show that the intervention improved many aspects of nutrition, physical activity, and physical function as shown in the following tables. There was an eight-fold increase in the number of participants who knew that seven or more fruits and vegetables are recommended daily for older people (**Table 5**). The number of participants who consumed at least five servings of fruits and vegetables daily increased by more than 20 percentage points. Sixty-seven percent of participants added at least one serving of fruits or vegetables daily after the intervention.

Table 5. Improvements in Fruit and Vegetable Knowledge and Intake

	Before Intervention	After Intervention
• Know that seven or more fruits and vegetables daily are recommended for older people	7%	58% **
• Consume at least five servings of fruits and vegetables daily	29%	52% **
• Eat at least one more serving of fruit or vegetable daily following the intervention		67%

** Significantly improved after the intervention ($P < 0.05$).

Before and after the Community Intervention, participants had many reasons for not consuming more fruits and vegetables (**Table 6**). The most common reasons were cost (23%), difficulties with digestion (16% to 21%), and chewing or dental problems (17% to 20%). Generally, there were few changes in these reasons following the intervention, so future interventions should be developed to address these potential barriers. For example, participants could benefit from more information about selecting certain fruits and vegetables and preparing and cooking them in ways that ease problems with chewing and digestion. Expansion of the Senior Farmers' Market Nutrition Program can help begin to address the problem of cost as a barrier to increasing fruit and vegetable consumption.

Table 6. Reasons for not Consuming More Fruits and Vegetables

	Before Intervention	After Intervention
• Chewing or dental problems	20%	17%
• Cooking problems	11%	9%
• Cost	23%	23%
• Difficulties with digestion	21%	16% **
• Don't like the taste	14%	14%
• Grocery store does not have what I like	10%	11%
• Lack of storage space	7%	8%
• Not in season	17%	15%
• Spouse doesn't like them	3%	2%
• Takes too much time	11%	8%
• Too heavy to carry home from the store	7%	6%
• Too many are recommended	16%	13%
• Too much trouble	14%	10% **
• Transportation problems	10%	12%
• Doctor told me not to eat some fruits and vegetables	14%	13%
• Other reasons	12%	11%

** Significantly decreased after the intervention ($P < 0.05$).

Participants reported increasing the number of days they were physically active by 0.7 days per week and added an average of seven additional minutes to their daily physical activity (**Table 7**). There was an increase of 12 percentage points in the number of participants who were physically active for at least 30 minutes daily. Also, 40% added at least ten additional minutes to their daily physical activity.

Table 7. Improvements in Physical Activity

	Before Intervention	After Intervention
• Number of days per week physically active	4.2	4.9 **
• Average daily minutes of physical activity	25	32 **
• Thirty or more minutes of physical activity daily	33%	45% **
• Added at least ten more minutes of daily physical activity after the intervention		40%

** Significantly improved after the intervention ($P < 0.05$).

Despite these improvements in physical activity, participants reported many reasons for not being more active. For about one-third of the participants, the most common reason was having a health condition that kept them from being active (**Table 8**). Not liking to be physically active was another common reason, but this decreased from 17% before the intervention to 11% after the intervention. These results suggest that some barriers to physical activity can be decreased through interventions that promote physical activities designed specifically for older people. However, additional interventions that are appropriate for various health conditions are needed in this population.

Table 8. Reasons for not being More Physically Active

	Before Intervention	After Intervention
• Health condition that keeps me from being active	34%	30%
• It costs too much	3%	3%
• I don't have time	9%	4% **
• I don't like to	17%	11% **
• It's not safe	12%	7% **
• It's too late to improve my health	5%	4%
• Thirty minutes a day is too much for me	13%	13%

** Significantly decreased after the intervention ($P < 0.05$).

Regular physical activity and healthy food choices help maintain and improve physical function. Physical function is an indicator of how well people can perform their daily activities and whether or not they can live independently in the community. Good physical function can delay or prevent placement into a nursing home. Several measures of physical function are shown in **Table 9**.

Table 9. Improvements in Physical Function

Physical function measure	Before Intervention	After Intervention
• Chair sit-and-reach, a measure of flexibility assessed as inches within reaching their toes from a seated position	-2.1	-1.0 **
• Added 1 inch or more to their reach after the intervention		47%
• Standing balance, highest category	34%	48% **
• 8-foot-walk, measured in seconds	4.5	4.0 **
• Added 1 or more seconds to their walking speed after the intervention		30%
• Chair stands, measured as seconds to do five chair stands	13.5	12.1 **
• Physical function:		
Poor (score 0 to 5)	25%	20%
Moderate (score 6 to 9)	51%	46%
Good (score 10 to 12)	24%	34% **
• Movement from the poorest function category to a higher category after the intervention ***		44%

** Indicates a significant improvement ($P < 0.05$).

*** Of the 140 people classified as “poor function” before the intervention, 61 of them moved to a higher category of function after the intervention ($61/140 = 44\%$).

The standing balance, 8-foot-walk, and chair stand measures can be combined into an overall physical function score, such that people are assessed as having poor, moderate, or good physical function (on a scale of 0 to 12 points, **Table 9**). The poor category has a 3.6 times higher risk of nursing home placement (Guralnik et al., 1994). Thus, moving from the poor physical function category to the moderate or good category may lower the risk of being admitted to a nursing home. Overall, this measure of physical function improved significantly (**Table 9**). Moreover, 61 of the 140 people classified as having “poor function” before the intervention moved to a higher category of function following the intervention (44%).

This improved physical function may lead to substantial cost savings, because nursing homes cost more than \$50,000 per person per year in Georgia (Glass, 2005). Even preventing ten people from entering a nursing home could save \$500,000 in annual nursing home costs

(\$50,000/year X ten admissions). Cost savings may be quite large, especially when the intervention programs reach several hundred people in our communities.

Following the intervention, participants were asked about what general changes in their health habits they made related to the fruit, vegetable, and physical activity programs. Their responses are shown in **Table 10**.

Table 10. Qualitative Changes in Fruit and Vegetable Intakes and Physical Activity (Yes or No)

After attending the fruit, vegetable, and physical activity programs, have you done any of the following?	(% yes)
• Increased your physical activity	73%
• Tried to follow a healthier diet	87%
• Increased your intake of fruit	79%
• Increased your intake of vegetables	76%
• Ate more fruits and vegetables as snacks	67%
• Ate more fruits and vegetables with breakfast	54%
• Ate more fruits and vegetables with lunch	73%
• Ate more fruits and vegetables with evening meal	67%
• Prepared a recipe from one of the lessons	31%

Overall these programs were well received, and the majority of participants rated the interventions as good, very good, or excellent (**Table 11**).

Table 11. Overall Level of Satisfaction with Fruit and Vegetable Program and with Physical Activity Program

	Poor	Fair	Good	Very Good	Excellent
• Fruits and vegetables program (%)	0.2	2	32	38	28
• Physical activity program (%)	0.3	5	37	32	26

Fruits, Vegetables, and Physical Activity Intervention: Comments from Participants

Comments from the participants and others involved in the fruit, vegetable, and physical activity interventions are summarized below. This intervention was clearly enjoyed by those involved in the program.

“I enjoyed our instructor very much. She was very informative, nice, and polite. All the information she gave us was very useful. All her classes were well planned. I really did enjoy her class and I am trying to put into practice what I learned from her.”

Senior Center Participant

“We just love this program. Thanks so much for doing this for us. We have learned so much.”

Married Senior Center Participants

“I participated in the Live Healthy Georgia - Seniors Taking Charge study and lost 8 pounds and am down 2 clothing sizes. Stay active - don't sit down with folded hands. Be on the move!”

Senior Center Participant

“I participated in the Live Healthy Georgia Community Intervention Study. I attended the classes and have increased my physical activity and eating fruits and vegetables.” [sic]

Senior Center Participant

“The Center has helped me to become more healthy. I take vitamins and eat well. My doctor is proud of how well I take care of myself.”

Senior Center Participant

“The participants will really miss the weekly classes. They have learned a lot.”

AAA Wellness Coordinator

“The fruit and vegetable lessons and games make you have to think. But, we all enjoy it.”

Senior Center Participant

“I continue to enjoy the lessons and have already increased my weekly step count by 10,000 steps.”

Senior Center Participant

“The seniors just love when you come to teach every week. They always bring their notebooks for the class and watch for when you walk in the door. They miss you when you don't come.”

Senior Center Activities Director

“This was a good program. The handouts were awesome! Made me make better menus with more veggies and fruits. Thank you!” *Senior Center Participant*

“I enjoyed the nutrition class. Our educator did a wonderful job. She gave us good information, explained it well, and gave printouts. I feel I learned something about keeping myself healthy and about having a better attitude by eating right, eating the healthier darker colors of vegetables and fruits, and ingredients on the labels of boxes. I had never thought much about it until this class. Our educator explained how to set goals for healthier life styles, how to plan a plate and about healthier snacks. I think I liked about all the snacks and enjoyed making some at home. I am making healthier meals and snacks since this class. The discussions were helpful and someone always had something to say. I really feel like the time spent in nutrition class was time well spent and walking is a blessing. I am going to miss the class and the educator. Thanks for giving of yourself and time.” *Senior Center Participant*

“Lesson plans made very good discussion topics. The bingo was good. The seniors learned as they played.” *AAA Wellness Coordinator*

“I liked the enthusiasm of the individuals and their active participation.” *Nutrition Educator Volunteer*

“I think the consistency of the lessons from week to week kept the participants motivated and interested. The format of the lessons, along with the handouts made it easy for the educators to present the lessons with little preparation time.” *AAA Wellness Coordinator*

Fruits, Vegetables, and Physical Activity Intervention Summary

In summary, participants reported many improvements in their fruit and vegetable intake, physical activity, and physical function. One of the most common reasons reported by the participants for not being physically active most days of the week was having a health condition that limits activity. This problem can be addressed through expansion of physical activity programs for people with various chronic conditions. Also, cost was one of the most common reasons reported by the participants for not eating more fruits and vegetables. Cost can be addressed through expansion of the Senior Farmers’ Market Nutrition Program.

WEBSITE FOR LIVE HEALTHY GEORGIA – SENIORS TAKING CHARGE

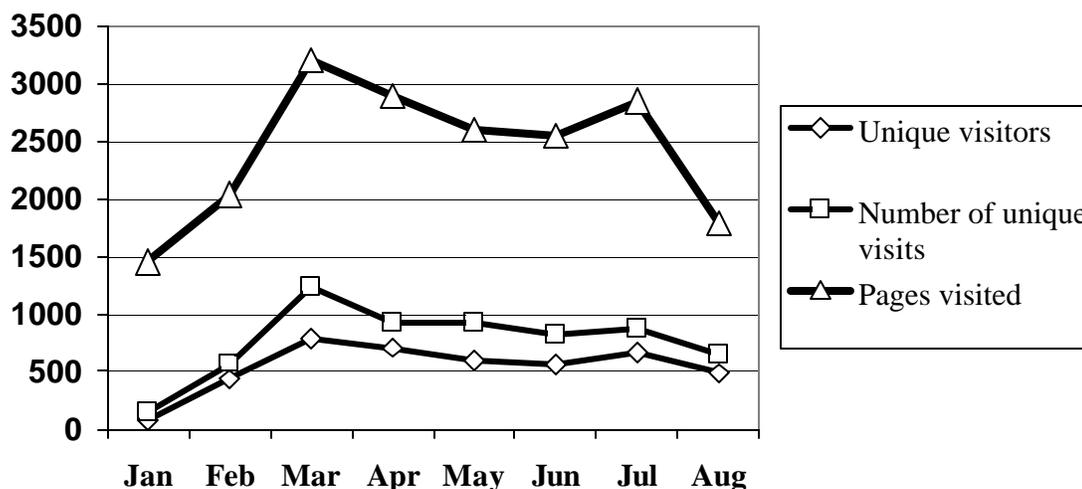
The Division of Aging Services partnered with The University of Georgia to develop a new website called *Live Healthy Georgia-Seniors Taking Charge*. It can be accessed at www.livewellagewell.info.

The website's main purpose is to provide information on healthy living for people aged 50 and older, their families, and their caregivers. Features include current information and links for healthy living, disease risk management, community resources, an events calendar, and success stories of older Georgians who are aging well.

Healthy living topics include information on aging well, food safety, dietary supplements, medications, eating healthy, being active, getting checked, being smoke free, and being positive. Disease risk management topics include Alzheimer's disease, arthritis, cancer, depression, diabetes, heart disease, mental health, obesity, osteoporosis, oral health, and hypertension. In the community resources section, users can find links to government websites, health sites and associations, food and community resources, and nutrition websites. These resources can help the growing number of older Georgians improve their health and well-being.

Usage of the website has increased steadily since inception. In January 2006, the website went online, and in February 2006 the Division of Aging Services had a press release announcing the new website. Usage statistics over the past several months are shown in **Figure 6**.

Figure 6. Website Usage Summary



Unique visitors : A unique visitor is a host that has made at least one hit on one page of the web site during the current period shown by the report. If this host makes several visits during this period, it is counted only once. There has been a great increase in visits to the website upon its official release, followed by a leveling off. Use has gradually increased over the past three months as a result of promoting the website.

Number of unique visits: One person may have visited the site more than once during the month. This statistic tracks visits and accounts for the same person visiting more than once. When comparing the number of unique visitors to unique visits, it is evident that people are returning to the site because this number is higher than unique visitors.

Pages visited: This indicates the number of web pages visited. This number is two to three times higher than the number of visits, which shows that people “are looking around,” not just opening the Home Page and leaving. Compared to June, July visitors accessed a higher number of unique pages.

Comments from Users

Current users of the website were asked to make some informal comments about the web site. A formal evaluation of the website will be conducted in the upcoming year. These users who commented about the website included senior center staff, an instructional designer from the Centers for Disease Control and Prevention, graduate students from the Department of Foods and Nutrition, The University of Georgia, and individuals with aging parents.

Their comments about what they liked best about the website are summarized below.

“All this was great for people that work with seniors and for the seniors. I think this will help with our seniors. Thank you.”

“The variety of topics and ways to access topics more in depth. You could catch the monthly topic quickly or dive into a health topic in depth.”

“There’s not much I don’t enjoy! I love the graphics, the organization, the back issue availability, ask an expert, changing topics...”

“I really like the “In the News” section. It helps keep up with current topics. I also really like the “Take Charge...” section.”

“I really enjoyed the success stories; all the information was very interesting.”

“Multi-informational nutritional.” [sic]

“I really liked the creativity – different fonts and crisp photos. The links across the top were descriptive. My favorite sections were the stories from real people. It wasn’t expected and made the site seem more personal.”

“There is a lot of information that can be used in the senior centers as well as for my monthly wellness newsletters for employees of the AAA.”

“It is well organized.”

“Health finder/ topics are good.”

“The improvements and positive changes made since the beginning.”

“It was colorful and welcoming. Some websites look fake and ominous, but this is super.”

“Of course what I “enjoy” are the success stories, but what is especially helpful and will be more so as I use it are the links to the “Live Healthy” sites. I plan to use these as I develop my program for the year.”

In summary, the usage statistics and comments from current users indicate that the website is a much needed service that is becoming an increasingly valuable resources for older Georgians and their families and caregivers.

OVERALL RECOMMENDATIONS

Implementation of evidence-based community interventions for older adults led to many improvements in the participants’ dietary habits, physical activity, and diabetes self-management. The website is proving to be an excellent resource for Georgia’s older adults, and their families and caregivers. It is recommended that these types of community-based programs be maintained and expanded in the following ways:

- Expand collaborations with community partners, universities, and the media to promote nutrition and physical activity in all older adults in Georgia.
- Increase funding to develop and implement evidence-based nutrition, physical activity, and chronic disease management interventions for older adults in Georgia.
- Provide funding for expansion of the Senior Farmers’ Market Nutrition Program in Georgia.
- Continue to develop interventions that are culturally appropriate for older adults who are of Hispanic or African-American heritage, as well as for older adults with low literacy skills.
- Expand the “Live Well Age Well” website to cover additional healthy aging topics for Georgia’s older adults and their families and caregivers.

References and Further Reading about Healthy Aging

American Association of Retired Persons (2004). Step Up to Better Health.
<http://aarp.stepuptobetterhealth.com/default.asp>.

Administration on Aging (2004a). Older Americans 2004: Key Indicators of Well-Being.
<http://www.aoa.gov/default.htm>.

Administration on Aging. (2004b). You Can! Steps to healthier aging.
<http://www.aoa.gov/youcan/youcan.asp>.

American Diabetes Association (2002). Lowering A1c scores – even a small amount – prevents complications. <http://www.diabetes.org/diabetes-cholesterol/news-a1c.jsp>.

American Diabetes Association (2005). Diabetes Fact Sheet.
<http://www.diabetes.org/diabetes-statistics/national-diabetes-fact-sheet.jsp>.

American Diabetes Association (2005). Diabetes Risk Test.
<http://www.diabetes.org/risk-test.jsp>.

(Also note information about pre-diabetes at: <http://www.diabetes.org/pre-diabetes.jsp>).

American Diabetes Association (2006) Diabetes Care, Volume 29, pgs. S1-S85.
http://care.diabetesjournals.org/content/vol29/suppl_1/.

American Heart Association (2006). Consumer and Patient Education Materials,
<http://www.americanheart.org/presenter.jhtml?identifier=1200021>.

AARP Public Policy Institute (2005). Reforming the Health Care System, State Profiles, 13th Edition, http://assets.aarp.org/rgcenter/health/d18258_reform_2005_ga.pdf.

Bazzano, L.A., He, J., Ogden, L.G., Loria, C.M., Vupputuri, S., Myers, L., and Whelton, P.K. (2002) Fruit and vegetable intake and risk of cardiovascular disease in US adults: the first National Health and Nutrition Examination Survey Epidemiologic Follow-up Study. American Journal of Clinical Nutrition, 76(1):93-9, <http://www.ajcn.org/cgi/reprint/76/1/93>.

Berg, G. D., and Wadhwa, S. (2002). Diabetes Disease Management in a Community-Based Setting. Managed Care, 11 (6): 45-50.
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=12098874&query_hl=1&itool=pubmed_DocSum.

Borenstein, M. and Cohen, M. (1988). Statistical Power Analysis: A Computer Program. Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.

Burge, R.T., Worley, D., and King, A.B. (2000). The Cost of Osteoporosis in Georgia: Projections for 2000 – 2025. Procter & Gamble Pharmaceuticals. September 8, 2000, http://www.gafp.org/documents/osteoporosis_cost_projection.pdf.

Burnett, S.M. (2003). A nutrition and diabetes education program improves A1c knowledge and A1c blood levels. Master's Thesis, University of Georgia Electronic Theses and Dissertations, http://graduate.gradsch.uga.edu/etdarchive/summer2003/burnett_sarah_m_200308_ms.pdf.

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control, 2005. <http://www.cdc.gov/ncipc/factsheets/fallcost.htm>,
<http://www.cdc.gov/ncipc/factsheets/falls.htm>.

Centers for Disease Control and Prevention (2002). Growing Stronger: Strength Training for Older Adults, http://www.cdc.gov/nccdphp/dnpa/physical/growing_stronger/growing_stronger.pdf.

Centers for Disease Control and Prevention (2006a). Behavioral Risk Factor Surveillance System, <http://apps.nccd.cdc.gov/brfss/>.

Centers for Disease Control and Prevention (2006b). Healthy Aging, Preventing Disease and Improving Quality of Life Among Older Americans, http://www.cdc.gov/nccdphp/publications/aag/pdf/aag_aging2006.pdf.

Centers for Disease Control and Prevention, National Center for Injury Prevention and Control (undated), A Toolkit to Prevent Senior Falls, <http://www.cdc.gov/NCIPC/publications/toolkit/toolkit.htm>

Cheong, J.M.K., Johnson, M.A., Lewis, R.D., Fischer, J.G., and Johnson, J.T. (2003). Reduction in Modifiable Osteoporosis-Related Risk Factors Among Adults in the Older Americans Nutrition Program, Family Economics and Nutrition Review, 15(1): 83-91. <http://www.cnpp.usda.gov/FENR/FENRv15n1/fenrv15n1p83.pdf>.

Cress, M.E., Buchner, D.M., Prohaska, T., Rimmer, J., Brown, M., Macera, C., Dipietro, L., and Chodzko-Zajko, W. (2005). Best practices for physical activity programs and behavior counseling in older adult populations, Journal of Aging and Physical Activity, 13(1):61-74.

Diabetes Association of Atlanta. (2005) Costs of Diabetes. <http://www.diabetesatlanta.org/facts/Costs.aspx>.

DSS Tool Kit. (2006). http://www.dssresearch.com/toolkit/sscalc/size_a1.asp.

Ellis, J., Johnson, M.A., Fischer, J.G., and Hargrove, J.L. (2005). Nutrition and Health Education Intervention for Whole Grain Foods in the Georgia Older Americans Nutrition Program, Journal of Nutrition for the Elderly, 24(3), 67-83. See also her Master's Thesis, University of Georgia Electronic Theses and Dissertations, http://graduate.gradsch.uga.edu/etdarchive/summer2004/ellis_jeanna_m_200408_ms.pdf

Ford, E.S. and Mokdad, A.H. (2001). Fruit and vegetable consumption and diabetes mellitus incidence among U.S. adults. Preventive Medicine, 32(1):33-9.

Georgia Academy of Family Physicians (undated), The Human and Economic Costs of Osteoporosis in Georgia, http://www.gafp.org/documents/Human_Economic_Costs_Osteoporosis_Georgia.pdf.

Georgia Division of Public Health, Injury Prevention (2005), <http://health.state.ga.us/programs/injuryprevention/core.asp>, <http://health.sate.ga.us/pdfs/environmental/injuryprevention/falls.pdf>.

Georgia Department of Human Resources, Division of Public Health (2005). Cardiovascular Disease in Georgia, <http://health.state.ga.us/pdfs/epi/cdiee/cvhdiseasereport.05.pdf>.

Glass, A. P. (2005). Public Health and Older Georgians, Institute of Gerontology, College of Public Health, The University of Georgia, Technical Report #UGA1G-05-001, 2005, http://www.geron.uga.edu/pdfs/PublicHealth_Aging.pdf.

Guralnik, J.M., Simonsick, E.M., Ferrucci, L., Glynn, R.J., Berkman, L.F., Blazer, D.G. et al. (1994). A short physical performance battery assessing lower extremity function: Association with self-reported disability and prediction of mortality and nursing home admission. *Journal of Gerontology: Series A*, 49 (2), 85-94.

Jack, W.H., Mbadugha, M.M., Mertz, K.J., Wu, M., and Powell, K.E. (2003). Georgia Diabetes Report. Georgia Department of Human Resources, Division of Public Health, Chronic Disease prevention and Health Promotion Branch, <http://health.state.ga.us/pdfs/chronic/diabetesreport.03.pdf>.

McCamey, M.A., Hawthorne, N.A., Reddy, S., Lombardo, M., Cress, M.E., and Johnson, M.A. (2003). A statewide educational intervention to improve older Americans' nutrition and physical activity. *Family Economics and Nutrition Review*, 15(1): 56-66. <http://www.usda.gov/cnpp/FENR/FENRv15n1/fenrv15n1p47.pdf>.

Millen, B.E., Ohls, J.C., Ponza, M., and McCool, A.C. (2002). The Elderly Nutrition Program: An effective national framework for preventative nutrition interventions. *Journal of the American Dietetic Association*, 102, 234-240.

Merck Institute of Aging and Health and The Gerontological Society of America (2004). The State of Aging and Health in America. National Academy on an Aging Society website. http://www.agingsociety.org/aginigsociety/pdf/state_of_aging_report.pdf.

National Council on the Aging (2004). Facts about Senior Centers. <http://www.ncoa.org??content.cfm?sectionID=1077>.

National Governors Association (2006). Healthy Aging and States: Making Wellness the Rule, Not the Exception, <http://www.subnet.nga.org/ci/1-aging.html>.

National Institute on Aging (2004). Exercise: A Guide from the National Institute on Aging or Exercise: Video from the National Institute on Aging.

<http://www.niapublications.org/exercisebook/ExerciseGuideComplete.pdf>

National Institutes of Health (2002). Osteoporosis and Related Bone Diseases, National Resource Center, Hip Fractures in Older Adults, Volume 6, Number 1, October 2002,

<http://www.osteo.gov>.

National Osteoporosis Foundation (2006). <http://www.nof.org/>.

NOAHnet: Nutrition for Older Adults' Health (2005). Department of Foods and Nutrition, The University of Georgia. <http://www.arches.uga.edu/~noahnet/home.html>.

Redmond, E.H. (2004). Diabetes self-care activities in older adults and the ability of a nutrition and diabetes education program to effect change. Doctoral Dissertation, The University of Georgia, University of Georgia Electronic Theses and Dissertations,

http://graduate.gradsch.uga.edu/etdarchive/spring2004/redmond_elizabeth_h_200405_phd.pdf.

SAS Institute, Inc. (2001). Version 8, Cary, North Carolina.

Sellers, T.C. (2006). Home food safety intervention for the Georgia Older Americans Act Nutrition Program. Master's Thesis, The University of Georgia, Electronic Theses and Dissertations,

http://graduate.gradsch.uga.edu/etdarchive/summer2006/sellers_tiffany_200608_ms.pdf.

Stretcher, V.J. and Rosenstock, I.M. (1997). The Health Belief Model, Chapter 3, In Health Behavior and Health Education: Theory, Research and Practice, Glanz, K., Lewis, F.M., Rimer, B.K., editors, San Francisco, CA: Jossey-Bass, pages 41-59.

Toobert, D., Hampson, S., and Glasgow, R. (2000). The summary of diabetes self-care activities measure. Diabetes Care, 23, 943-950. <http://care.diabetesjournals.org/cgi/reprint/23/7/943>.

U.S. Department of Health and Human Services and U.S. Department of Agriculture (2005). Dietary Guidelines for Americans 2005.

<http://www.health.gov/dietaryguidelines/dga2005/document/>.

U.S. Department of Health and Human Services (2004). Bone Health and Osteoporosis: A Report of the Surgeon General. Rockville, MD: U.S. Department of Health and Human Services, Office of the Surgeon General,

http://www.surgeongeneral.gov/library/bonehealth/docs/full_report.pdf.

Valiyeva, E., Russell, L.B., Miller, J.E., Safford, M.M. (2006). Lifestyle-related risk factors and risk of future nursing home admission. Archives of Internal Medicine, 166(9):985-90.

<http://archinte.ama-assn.org/cgi/reprint/166/9/985>.

Wade, J.C. (2003). A fruit and vegetable nutrition education intervention in northeast Georgia Older Americans Act Nutrition Programs improves intake, knowledge, and barriers related to consumption. Master's Thesis, The University of Georgia, University of Georgia Electronic Theses and Dissertations,
http://graduate.gradsch.uga.edu/etdarchive/summer2003/wade_jacy_c_200308_ms.pdf.

World Cancer Research Fund and American Institute for Cancer Research. Food, nutrition and the prevention of cancer: A global perspective. Washington (DC):1997.