



Planning Tools for
Elder-Friendly Communities

www.AgingIndiana.org

EVIDENCE BASED INTERVENTIONS TO IMPROVE PHYSICAL ACTIVITY IN OLDER ADULTS

A Community Guidebook



by Jayme Levy, MPH

Copyright Indiana University 2009



PLANNING TOOLS FOR ELDER-FRIENDLY COMMUNITIES

This guide and others in the series are available for free download at www.agingindiana.org.

Funding for the document was made possible by the Daniels Fund, Denver, Colorado.



Center on Aging and Community

Indiana Institute on Disability and Community

Indiana's University Center for Excellence on Disabilities

2853 E. 10th Street

Bloomington, Indiana 47408

812-855-6508

www.iidc.indiana.edu

Contact:

Philip B. Stafford, Ph.D.

Director of the Center on Aging and Community

staffor@indiana.edu

Cover Design:

Jane Harlan-Simmons

Document Design:

Herbert Jeng

C

ontents

The Benefits of Regular Physical Activity.....	4
Cardiovascular Disease.....	5
Blood Pressure.....	6
Blood Lipids.....	6
Muscle Strength and Endurance.....	7
Bone Mass.....	7
Balance.....	8
Stroke.....	8
Diabetes.....	9
Depression and Anxiety.....	9
Sleep, Well-Being, and Cognitive Function	10
Inactivity.....	11
Healthy Moves Program.....	12
Eat Better and Move More Program.....	16
National Programs.....	19
Summary.....	22
References.....	23
Resources for More Information.....	25

A ccording to the Centers for Disease Control and Prevention (CDC), being physically active can prevent and help treat many of the most common chronic medical conditions associated with age. Physical activity is one of the most important steps older adults can take to maintain physical health and quality of life. A life of physical activity has been correlated with increased health and life expectancy in the later years. Interest in the benefits of physical activity has increased dramatically as a result of a wealth of recent studies that have documented that millions of Americans, especially older adults, suffer from chronic illnesses that may be better managed by participating in some type of physical activity.

The Benefits of Regular Physical Activity

In 1996, the Surgeon General released a report, *Physical Activity and Health*. The report concluded that physical activity reduces the risk of developing or dying from coronary heart disease, diabetes, and hypertension. Physical activity also reduces symptoms of anxiety and depression and maintains healthier bones, muscles, and joints. Physical activity enables older adults to maintain the ability to live independently and reduces the risk of falling. The report also suggested that many of the health benefits can be achieved with only a moderate level of activity—expending 150 calories a day everyday which is equivalent to a 30-minute brisk walk. The article did however state that the degree of benefit is related to the length and intensity; the longer and more vigorous, the greater the benefit to the individual. The report concluded that even individuals who were previously sedentary can achieve health benefits when they begin to participate in physical activity.

I ncreases Cardiovascular Endurance & Aerobic Capacity

Vigorous aerobic exercise improves many variables affecting the function of the heart and lungs. It strengthens the heart muscle, allowing a higher volume of blood to be expelled, thus increasing efficiency and creating less strain on the heart. Exercise lowers the resting heart rate and blood pressure. The decline in cardiovascular function can be slowed with regular physical activity. A number of studies also conclude that an aerobic exercise program initiated in later life can improve cardiovascular endurance even in those who were previously inactive.

Maximal oxygen consumption during exercise is often considered to be the best measure of cardiovascular fitness. It was initially thought that maximal oxygen consumption declines at a constant rate with advancing age, however several studies suggest that age-related changes in maximal oxygen consumption may be more variable than originally thought. It is not possible to postpone age-related declines in aerobic capacity forever; there is strong evidence to suggest that even modest levels of physical activity can result in significant increases in cardiovascular efficiency in old age.

R educes Blood Pressure

Hypertension is a serious medical problem that afflicts more than 20 million older Americans. On average, both systolic and diastolic blood pressure increase significantly with advancing age. Many exercise training studies suggest that physical activity can reduce both systolic and diastolic pressure in patients with borderline hypertension. Also, according to the Surgeon General's Report, several trial studies concluded that moderate-intensity activity may achieve a similar, or an even greater blood-pressure lowering effect than vigorous-intensity activity. Although the document suggests more research should be conducted, participants in the study had a large drop in systolic pressure compared to the control group.

C hange in Blood Lipids

Aging is associate with increases in both total cholesterol and serum triglycerides. Hypercholesterolemia and hyperlipidemia are major medical problems that lead to the premature development of coronary artery disease. It is now well documented that exercise training is associated with a reduction of coronary heart disease risk. There appears to be evidence to suggest that regular physical activity is associated with a decrease in body fat, which, in turn is associated with a decrease in circulating lipids. Interestingly, the effect of exercise on blood lipids appears to be transient and blood lipids return to pre-exercise values within a few days of cessation of physical activity.

I mproved Muscle Strength and Endurance

According to the American College of Sports Medicine, muscle strength and endurance decline significantly in advancing age. Until recently, strength training was seldom emphasized as a component of exercise programs designed for older adults. The lifting of weights requires maximal or near maximal muscular contractions and if correctly performed can result in sharp increases in blood pressure due to physiological mechanism known as the Valsalva maneuver. Since these acute elevations in blood pressure are potentially dangerous, many professionals have chosen to avoid or deemphasize strength training for older adults.

The maintenance of adequate levels of muscular strength is critical to successfully perform activities of daily living (ADL's). With this knowledge, many scientists have begun to reevaluate the importance of strength training as a component of exercise programs for older adults. The Surgeon General's report on physical activity and health recommends that muscle strengthening exercises be included as part of the exercise training regimen for older adults.

M aintains Bone Mass

A major contributor to the rate and degree of bone loss in osteoporosis is physical inactivity. A number of

studies show a high correlation between level of physical activity and bone mass in older women. Even when an exercise program is begun later in life, it can slow the rate of bone demineralization. Bone loss is a well-recognized complication of bed rest and immobilization of a limb. Many studies have found better conservation of bone mass in active than in sedentary subjects. Muscle development is also inversely related to bone loss.

Improved Balance

Age-related declines in postural stability and dynamic balance are risk factors for falls and fall-related injuries in older adults. Although falling occurs for many reasons, including medication use, cognitive status, environmental hazards, sensory decline, and decreased muscle strength and coordination, there is some evidence that improving postural stability reduces the likelihood of falling. Improvements in balance have been reported following participation in a general exercise program emphasizing walking, strength training, and flexibility.

Stroke

Regular physical activity is one of the recommended methods of stroke prevention. Physical activity has an influence not only on atherosclerosis but also on other risk factors of stroke, such as hypertension, HDL cholesterol, insulin resistance, and blood coagulation factors. Dietary changes may enhance the effects of exercise. According to the Surgeon General's Report, atherosclerosis of the extracranial and intracranial arteries, which triggers thrombosis, is thought to be the underlying pathologic basis of ischemic stroke. Cigarette smoking and high blood pressure are major risk factors for ischemic stroke, whereas high blood pressure is the major determinant of hemorrhagic stroke.

Also according to the report, because of the differing pathophysiologies physical activity may not affect ischemic and hemorrhagic stroke in the same way and that the issue requires more scientific research.

Type 2 Diabetes

A large amount of regular, moderate intensity endurance training and ample lifestyle activity integrated into daily activities have a beneficial effect on the various components of the metabolic syndrome, such as abdominal obesity. Participating in physical activity at least 3 days per week with at least moderate intensity increases insulin sensitivity and decreases the plasma insulin concentration and enhances glucose tolerance. Physical activity also reduces the risk of diabetic complications, such as coronary artery disease.

Depression and Anxiety

It is generally accepted by many people that the incidence of depression increases significantly with age. However, recent data suggest that depression may be at least partially due to the tendency for physical activity levels to decline with age and not simply the passage of time. With respect to the effect of exercise training on depression, several studies suggest that participation in regular exercise reduces clinical depression in patients with mild to moderate levels.

I

mproves Sleep, Well-Being, & Cognitive Function

Regular exercise reduces stress, improves the ability to sleep, and enhances feelings of well-being. Those who exercise regularly report less depression and better mood than those who do not exercise. Exercise may help release endorphins, natural pain killers that promote feelings of well being. Exercise also has positive psychological effects such as: distraction from problems, feeling more attractive, and interaction with others that may be responsible for the positive effects of exercise. A recent study also documented that older adults with moderate sleep complaints increased both their ease of getting to sleep and their duration with regular exercise.

Exercise may preserve memory, reaction time, and cognitive function in elders as well. According to new research at the University of Illinois concluded that aerobic exercise can increase the brain's amount of "gray matter" as well as "white matter," the connections between neurons in older adults. According to the researcher Dr. Arthur Kramer, "it was believed that age-related shrinkage and cognitive decline were inevitable, and that the brain can't grow new neurons. This view has changed with demonstrations in animals that older brains can show positive changes in response to exercise, diet, social and environmental stimulation." This is the first study of older human subjects to find that exercise can actually reverse the brain shrinkage and natural wear and tear that start in mid-life. Moderate levels of exercise especially walking may result in increased cognitive flexibility and the ability to lead independent lives for longer periods of time.

Inactivity

Despite overwhelming evidence that suggests engaging in exercise has significant health benefits, the majority of all older adults remain largely sedentary. Recent data indicate that about 31% of individuals between the ages of 65-74 and 23% of those 75+ participate in physical activity 3 or more days per week. This inactive lifestyle may lead to loss of muscle, which may compromise balance, fractures, and many other preventable conditions. Inactivity is one of the most disadvantageous factors contributing to impaired functioning and disability with age.

Current national initiatives are now shifting to a strong emphasis on the adoption of evidence-based programs in the community to help alleviate such problems. These types of programs are built on research findings on programs that are proven to work effectively. It is important in today's economy to offer cost-effective and replicable programs that have been proven through research. Community-based organizations and their health care partners are effective vehicles for addressing the battle of inactivity among the aging cohort.

Healthy Moves

Many books and research articles will discuss the Healthy Moves for Aging Well activity program which was implemented in 2002. Healthy Moves is a simple and safe evidence-based physical activity program designed to enhance health outcomes for frail and diverse older adults receiving services in their home. The program utilizes care managers from community-based care management agencies to teach the exercises to the older adults in their own home. The care managers are regularly scheduled to visit and while they visit, the care managers enroll the client into the program after assessing their ability and readiness to participate. The care managers also use motivational interviewing techniques to engage each client in setting a realistic goal. The target population for this program is frail, sedentary, older adults enrolled in community-based care. The participants also need help with 2 to 4 activities of daily living (ADL's). The client must be willing to participate at home and if the client lives alone or has no caregiver available, the client must have ability to stand unassisted in order to exercise safely.

The Healthy Moves program is an integrated model consisting of two evidence-based components: the physical activity component and the behavior change component. The physical activity component is based on five simple and safe seated and standing in-home exercises. The seated component consists of: arm curls, step-in-place, and ankle point and flex. The standing component consists of chair stand, and standing step-in-place.

The behavior change component consists of the lifestyle change counseling method called Brief Negotiation developed by Prochaska and DiClemente. If you are not familiar with Prochaska and DiClemente, they developed the Stages of Change Model also called the Transtheoretical Model (TTM). This model puts each person in to one of the six stages: Precontemplation, Contemplation, Preparation, Action, Maintenance and Relapse. This model was established to recognize that people cycle through a series of stages as they strive to make and sustain lifestyle changes.



Source: Prochaska & DiClemente, 1984.

The length for the Healthy Moves program varies depending on each participant, but most are encouraged by their care managers and motivational phone coaches to do the movements three to five days per week, multiple times. For the care managers, only a 15 minute session is needed with each client to determine personal goals to incorporate the movements into their daily routine. The motivational phone coaches contact the clients weekly or bi-weekly for a three month period to reinforce new behavior change.

To measure the Healthy Moves program, the program incorporates a pre-test and a three month post-test. Tests include the arm curl to test upper body strength, the chair stand to test lower body strength, and the step-in place to measure balance, endurance, and stamina. The care managers are responsible for measuring changes in the level of pain, depression, fear of falling, and fall injuries. The clients verbalize how ready they are to increase their physical activity level and choose an obtainable goal. After the three months of regular monitoring by phone, the life coaches reassess the clients. The new data is compared with the original data to determine what improvements have been made in regards to the client's mental and physical well-being. Six months from the start of the program, clients are asked if they are still performing the exercises regularly and the progress is documented.

Evidence Supporting Healthy Moves

In a 2002-2004 pilot study by Wieckowski and Simmons, care managers succeeded in engaging very frail elders with multiple functional losses and chronic conditions in adopting and maintaining sustainability of the program. After six months of participation, 76% continued to participate in regular exercise.

More recently, self-reported data from the program has indicated that there has been a significant increase in strength and confidence as well as improvements in pain and depression. There has also been a reduction in the number of falls and fear of falling. Preliminary findings suggest that the use of care managers is an effective approach to encourage physical activity among frail elders.

P rogram Costs

A behavior change expert will cost around \$1,000 to \$1,500 a day for training and \$100.00 an hour for mentoring and follow-up. The fitness expert will cost around \$400.00 to \$1,000 a day for training with a mentoring session at about \$50.00 an hour. The client materials are \$3.00 per participant and a stop watch (optional) is about \$9.00 per participant. The process of finding a behavior change expert will likely require an exhaustive search because the person must have the right skills and qualifications. Also, a search for an available consultant who has skills to provide group education as well as individual and telephone consultation will be needed.

The Healthy Moves program was developed to improve physical activity levels in frail, older adults enrolled in care management programs. The program was designed to be cost-effective and culturally sensitive and to eliminate time constraints from the staff. The program was also developed to be widely replicable in care management agencies throughout the country. When using the program, it must be designed to fit the practice environment of all parties involved and the program must be adaptable in order to work. Each care giver needs to be open-minded and flexible in order to facilitate change. All staff members need to be trained in research-based physical activity approaches in the aging population. Overall, the program has been shown to be cost-effective, culturally sensitive, and sustainable. For more information on Healthy Moves and examples of exercises please visit:

<http://www.ncoa.org/Downloads/ModelProgramsHealthyMoves.pdf>

Eat Better & Move More

Another program of interest which not only alters physical activity levels but also nutrition is the Eat Better and Move More (EBMM) program. The EBMM program was specifically developed for local Older Americans Act (OAA) Nutrition Program sites and the Administration on Aging's national You Can! Campaign. The campaign encourages all people, including older adults, to live longer, healthier lives by being physically active, eating a nutritious diet, obtaining preventive screenings, and making healthy decisions, such as not smoking. EBMM is simple, ready-to-use, and designed to fit modest local agency resources.

The EBMM is a 12-week nutrition and exercise program that was designed specifically for older adults. The program teaches older adults how to eat healthier, exercise safely, stay motivated, and develop a physical activity plan. Each week includes a combination of "mini-talks," activities, resources, and "take home" assignments. Beginning with week 3, participants are asked to record their eating habits on a check-off form and each week the participants focus on a different part of their nutrition plan: weeks 3 and 4 focus on fruits and vegetables, weeks 5 and 6 focus on calcium-rich foods, weeks 7 and 8 focus on consuming more fiber, weeks 9 and 10 focus on measuring everything to be eaten, and the remaining weeks focus on consuming a balanced diet. Beginning with week 2, participants learn to use pedometers and to record the number of steps taken daily.

The overall goal of the EBMM is to assure that participants are able to maintain their health and independence increase their daily intake of fruits and vegetables, fiber, and calcium. The program also encourages participants to eat smaller, more sensible portions and to exercise 30 minutes or more on most, if not all, days of the week.

Evidence Supporting EBMM

In the April 2007 edition of the American Journal of Public Health, the EBMM was evaluated. A ten-site intervention study was conducted with preintervention and postintervention assessments which focused on dietary intakes, physical activity, and program satisfaction. The conclusions revealed that the EBMM intervention significantly improved nutrition and physical activity behaviors among the 620 individuals who completed the program, who were primarily female and were from ethnically/racially diverse backgrounds. According to the data, daily intakes of fruits, vegetables, fiber, calcium-rich foods, and fluids increased dramatically. Also, the number of steps taken per day increased by 35% and the number of blocks walked and stairs climbed increased. The risk of falling decreased.

According to the article, the EBMM intervention significantly improved nutrition and physical activity behavior among the participants who completed the program. The feedback regarding EBMM was overwhelmingly positive with 99% of participants indicating that they would recommend the program to others.

Two other pilot tests were conducted in Florida and Iowa and 15% of participants used canes and walkers, over 75% were considered overweight or obese and many had arthritis, heart disease, and diabetes. Overall, daily steps ranged from 100 to 10,000 a day at baseline and from 430 to 13,000 at program completion. Average daily steps increased by 50% and 80% wore step counters and kept regular logs.

At the end of the program, participants regularly met nutrition goals of increasing daily fruit and vegetable intake and made progress toward achieving a goal of 30 minutes or more of physical activity on most days of the week.

P rogram Costs

According to the EBMM website, the program is available at no cost as part of the YouCan! National Program if you sign up as a YouCan! Partner. Additional copies can be purchased for \$8.00 or \$7.00 in bulk. This cost should include: staff time to implement, samples of food, prizes for activities, photocopying tip sheets and handouts, and healthy snacks.

The EBMM was designed to fit the interests and needs of older adults who want to maintain their quality of life and independence and live longer and better lives. By the end of the program, participants should be making healthier food selections by selecting more fruits and vegetables, fiber, and more calcium. Participants should also be eating sensible portions for a healthy weight and should have made progress toward or achieved the goal of accumulating 30 minutes or more of physical activity on most, if not all, days of the week.

For more information on EBMM:

<http://www.aoa.gov/youcan/EBMM/ebmm.asp>

National Programs

Many programs though not evidence based may still prove to be beneficial at increasing physical activity levels. Scientists and researchers have proven that walking alone may be just as beneficial as strength training and conditioning in the elderly. One program in rural Mississippi used community based participatory research (CBPR) to develop a walking intervention. The program was planned and implemented in Hollandale, Mississippi which has a population of 83% African American and local levels of income, education, and literacy are low compared to state and national averages. The partnership in this community was between the residents, the United States Department of Agriculture (USDA), and three universities; Alcorn State University, the University of Southern Mississippi, and the Mississippi State University Cooperative Extension Service.

The walking intervention lasted for 6 months and it focused on improving the physical activity and the health of residents living in Hollandale who joined in the walking groups led by volunteers. The participants also had access to monthly classes in nutrition and physical activity. The participants used self-monitoring to gauge their level of involvement with the program.

Overall, participants exhibited significant improvements in waist circumference, systolic blood pressure, and HDL cholesterol. Self-reported minutes walking per day at the beginning of the intervention were 44.8 and at 3 months the minutes increased to 76 and at 65.9 at 6 months. The researchers concluded from their intervention that the walking intervention was successful as evidenced by the community's active contribution and participation throughout the process.

For more on this program:

http://www.ars.usda.gov/research/publications/Publications.htm?seq_no_115=197764t

Another program that made national headlines was in Wheeling, West Virginia called Wheeling Walks. The program was funded by West Virginia University and the Robert Wood Johnson Foundation. This program targeted people ages 50 to 65 years of age living in Wheeling. The program encouraged this population to walk at least 30 minutes a day, three times a week. The program used mass media campaigns to target television watchers, radio listeners, and newspaper readers. Researchers compared this town to another town and concluded that because of the intervention, there was a 23% increase in the number of walkers in Wheeling. Also, 32% of the participants walked 30 minutes a day, five times a week. To date, nearly 2,500 walkers have logged 29,000 miles and they continue to use Wheeling's sidewalks and trails.

Another program sponsored by the Robert Wood Johnson Foundation is the Strong-for-Life Program which began in Boston. This program trains volunteers to assist frail and disabled elders in their home with an exercise program designed to increase strength and balance and improve overall health. Volunteers spend part of their time helping their match learn and perform their exercises which are guided by a 30-minute video. The participants use elastic bands to provide resistance for strengthening muscles. The exercises can be made more or less difficult depending on the participant. Each participant also exercises twice a week on their own. The program has been a great success in Boston and has been replicated in other cities. The participants note faster recovery times, increased energy, and better moods since beginning the program.

More on Strong-For-Life at:

<http://www.bu.edu/hdr/products/stronglife/index.html> tDPS/ACCD/
PR/2005/05-06-01.htm

There are simple programs that can be replicated and that can help get people motivated to make a change. One program in Indianapolis, Indiana has had really great outcomes. The program is called Walk a Hound, Lose a Pound. This program has two goals; to get homeless dogs in Indianapolis adopted and to get the local community off the couch and walking. The program is sponsored by the National Institute for Fitness and Sport and Indianapolis Animal Care and Control. The adoptable hounds are brought to the Indiana University (IUPUI) campus where the walkers meet and walk them. The walkers can walk the same dog for as long as they want. The program is every Saturday from 9am to 12pm. According to the website “the goals of the program are to provide an alternative and creative means to physical fitness to a currently unfit population to publicize the plight of homeless animals in Indianapolis and Marion County and to encourage responsible pet ownership and the adoption of these animals into permanent homes; and to promote the positive physical and mental benefits of pet ownership.” So far, the program has been successful for the participants and for the four-legged friends. If you’re in the Indianapolis area or want to learn more:

<http://www.indygov.org/eGov/City/DPS/ACCD/PR/2005/05-06-01.htm>

S ummary

Regular physical activity has been documented to reduce many of the changes associated with the aging process. An active lifestyle contributes to good health and well-being, increases life-expectancy, and reduces the risk of many chronic conditions such as cancer and heart disease. Inactivity may lead to a significant increase in the number of falls and the fear of falling in older adults. Inactivity has serious effects on almost every body system.

Many groups, including the Centers for Disease Control, the Surgeon General, and the National Institute of Health have issued recommendations for physical activity to enhance health and to reduce the effects of chronic illness. The Surgeon General's Report recommends 30 minutes of physical activity on five or more days a week. Current national initiatives are focusing on evidence based programs that are easy to replicate and easy to use. There are many programs available for each type of individual-the person who likes to exercise alone to the person who likes to exercise with their pet. Resources are available for the professional interested in developing and implementing exercise strategies that are appropriate for older adults. Due to the growing number of "baby boomers," several local, state, and national governmental and private organizations are working to improve fitness among our nation's growing elderly population.

R

ferences

- Belza, B., Walwick, J., Shiu-Thornton, S., Schwartz, S., Taylor, M., LoGerfo, J. (2004). Older adults perspectives on physical activity and exercise: voices from multiple cultures. *Preventing Chronic Disease*. 1(4), A09.
- Blair, S.N., Dunn, A.L., Marcus, B.H., Carpenter, R.A., & Jaret, P. (2001). *Active Living Everyday: 20 Steps to Lifelong Vitality*. Champaign, IL: Human Kinetics.
- Cotton, R.T. (1998). *Exercise for Older Adults*. Champaign, IL: Human Kinetics.
- Enguidanos, S.M. (2006). *Evidence-Based Interventions for Community Dwelling Older Adults*. New York: Hawthorn Press.
- Ferrini, A.F. & Ferrini, R.L (2000). *Health in the Later Years*. Fairfield, PA: McGraw-Hill Company.
- Haber, D. (1999). *Health Promotion and Aging*. New York: Springer Publishing Company.
- Hanson, D., & Emler, C.A. (2006). Assessing a community's elder friendliness: a case example of the AdvantAge Initiative. *Family Community Health*. 29(4), 266-278.
- Jett, A.M., Lachman, M., Giorgetti, M.M., Assmann, S.F., Harris, B.A., Levenson, C., Wernick, M., & Krebs, D. (1999). Exercise-it's never too late: the Strong-for-Life Program. *American Journal of Public Health*. 89(1), 66-72.
- McElroy, M. (2002). *Resistance to Exercise*. Champaign, IL: Human Kinetics.
- Poon, L.W., Chodzko-Zajko, W., & Tomporowski, P.D. (2006). *Active Living and Cognitive Functioning, and Aging*. Champaign, IL: Human Kinetics.
- Prohaska, T., Belansky, E., Belza, B., Buchner, D., Marshall, V., McTigue, K., Satariano, W. & Wilcox, S. (2006). Physical activity, public health, and aging: critical issues and research priorities. *The Journals of Gerontology*. 61B (5), S267-S273.
- Saxon, S.V., & Etten, M.J. (1994). *Physical Change and Aging*. New York: Tiresias Press.
- Shephard, R.J. (1997). *Aging, Physical Activity and Health*. Champaign, IL: Human Kinetics.
- Strawbridge, W.J., Deleger, S., Roberts, R.E., & Kaplan, G.A. (2002). Physical activity reduces the risk of subsequent depression for older adults. *American Journal of Epidemiology*. 156(4), 328-334.
- Sundquist, K., Qvist, J., Sundquist, J., & Johansson, S.E. (2004). Frequent and occasional physical activity in the elderly. *American Journal of Preventive Medicine*. 27(1), 22-27.

US Department of Health and Human Services. Physical activity and health: a report of the Surgeon General. Atlanta, Georgia: US Department of Health and Human Services, Public Health Services, CDC, National Center for Chronic Disease and Prevention and Health Promotion, 1996.

Wellman, N., Weddle, D., Sanchez, N.K., & Rosenzweig, L. (2004). Eat better & move more: A guidebook for community programs. Miami, FL: National Resource Center on Nutrition, Physical Activity, & Aging. Zoellner, J., Connell, C., & Santell, R. (2007). Fit for life steps: results of a community walking intervention in the rural Mississippi delta. *Progress Community Health Partnership*. 1(1).

R

esources

AARP: Physical Activity

<http://www.aarp.org/health/fitness/>

Includes topics such as walking, sports, working out, getting motivated, and staying healthy.

Active for Life

<http://www.activeforlife.info/default.aspx>

Active for Life works to take research based programs into the community while providing social marketing support to evaluate the effectiveness of physical activity programs.

Active Living by Design

<http://www.activelivingbydesign.org>

Active Living by Design is a national program of the Robert Wood Johnson Foundation and is a part of the UNC School of Public Health in Chapel Hill, North Carolina. This program establishes innovative approaches to increase physical activity through community design, public policies and communications strategies.

Active Living Coalition

<http://www.alcoa.ca/e/index.htm>

The Active Living Coalition for Older Adults (ALCOA) strives to promote a society where all older Canadians are leading active lifestyles that contribute to their overall well-being.

Active Options for Aging Americans

<http://www.activeoptions.org>

A guide to local physical activity programs and opportunities for older adults.

AdvantAge Initiative: Improving Communities for an Aging Society

<http://www.vnsny.org/advantage>

The AdvantAge Initiative counties, cities, and towns prepare for the growing number of older adults who are “aging in place” while creating livable communities for people of all ages.

American Diabetes Association

<http://www.diabetes.org/home.jsp>

The American Diabetes Association is the nation’s leading 501(C) 3 nonprofit health organization providing diabetes research, information and advocacy.

American Geriatrics Association

http://www.healthinaging.org/agingintheknow/chapters/ch_11.asp

This site provides an exhaustive list of the benefits of physical activity.

America Walks

<http://www.americawalks.org/index.html>

America Walks is a national coalition of local advocacy groups dedicated to promoting walkable communities. Our members are autonomous grassroots organizations from across the country, each working to improve conditions for walking in their area.

Administration on Aging

http://www.aoa.gov/eldfam/Healthy_Lifestyles/Phy_Act_Nut/Phy_Act_Nut.asp

This site is designed to provide a comprehensive overview of a wide variety of topics, programs and services related to aging. Whether you are an older individual, a caregiver, a community service provider, a researcher, or a student, you will find valuable information provided in a user-friendly way.

Centers for Disease Control and Prevention

http://www.cdc.gov/aging/pdf/Community-Based_Physical_Activity_Programs_For_Older_Adults.pdf

Strategies and tools to plan, conduct, and maintain effective community-based physical activity programs for older adults: A brief guide

Center for Home Care Policy and Research

http://www.vnsny.org/advantage/tools/Advantage_best.pdf

Best Practices publication for supporting the health, well-being, and independence of older people.

Coalition for Living Well After 50

<http://www.livingwellafter50.org/index.html>

Environmental Protection Agency Aging Initiative

www.epa.gov/aging

A major goal of the Aging Initiative is the development of a National Agenda for the Environment and the Aging. The National Agenda will prioritize environmental health hazards that affect older persons, examine the environmental impact of an aging population in a smart growth context, and encourage civic involvement among older persons in their communities to reduce hazards. The National Agenda for the Environment and the Aging, being developed through a public participatory process, will help guide the Agency's work to protect the health of older persons now and in the future.

First Step to Active Health Interactive Program

<http://www.firststeptoactivehealth.com>

First Step to Active Health provides an evidence-based, progressive activity program. The goal of the program is to improve health and functional ability, to promote independence, and to help prevent chronic disease and disability in adults over age 50. The program includes a step-by-step approach to improve your physical abilities with a variety of simple activities, including cardio/aerobic, flexibility, strength, and balance activities.

Healthier US

<http://www.healthierus.gov>

The HealthierUS initiative is a national effort to improve people's lives, prevent and reduce the costs of disease, and promote community health and wellness. Deciding to live a healthier life is easy; it's the follow-through that's hard. You've already made a good start by coming to HealthierUS.gov to get the right information on how to improve your health habits. On HealthierUS.gov you will learn how to: Make physical activity a part of your day, eat more healthy foods, protect yourself and your family from illness, and avoid risks to your health and the health of your loved ones. Bad habits are not easily broken. Good ones are not easily won. But you can do it!

Healthways Silver Sneakers Fitness Program:

<http://www.silversneakers.com/Default.aspx>

SilverSneakers offers an innovative blend of physical activity, healthy lifestyle and socially oriented programming that allows older adults to take greater control of their health.

Healthy Aging Campaign

<http://www.healthyaging.net/index.html>

The healthy aging campaign is a national ongoing health promotion designed to broaden awareness of the positive aspects of aging and to provide information and inspiration for adults, age 50+, to improve their physical, mental, social, and financial fitness. Healthy Aging® is a U.S. registered trade and service mark. Healthy Aging® represents the best there is about aging.

Healthy Moves for Aging Well

<http://www.picf.org>

Healthy Moves for Aging Well is a simple and safe in-home physical activity intervention developed and tested by Partners in Care to enhance the activity level of frail high-risk sedentary seniors living at home. The model was developed for community-based care management programs arranging and delivering services to seniors in the home. Healthy Moves is an additional service that can be added to the care manager's scope of work without significant additional time or expenses.

Healthy People 2010

<http://www.healthypeople.gov>

Healthy People 2010 provides a framework for prevention for the Nation. It is a statement of national health objectives designed to identify the most significant preventable threats to health and to establish national goals to reduce these threats.

Indian Health Service (U.S. Department of Health and Human Resources): Division of Diabetes Treatment and Prevention:

http://www.ihs.gov/MedicalPrograms/Diabetes/links/l_npe.asp

The mission of the Indian Health Service (I H S) Division of Diabetes Treatment and Prevention is to develop, document, and sustain a public health effort to prevent and control diabetes in American Indian and Alaska Native peoples

InShape Indiana and Indiana's Senior Games:

<http://www.in.gov/inshape/healthy>

INShape Indiana is designed to provide a framework for a personal or organizational fitness initiative. Hoosiers and the companies that employ them have much to gain from improved health. Healthy people perform better and save money for themselves, their employers, and the state.

International Society for Aging and Activity:

<http://www.isapa.org>

ISAPA is an international not-for-profit society promoting research, clinical practice, and public policy initiatives in the area of aging and physical activity.

Jewish Community Centers (all denominations welcome):

<http://www.jcca.org>

JCC Association is the continental umbrella organization for the Jewish Community Center Movement, which includes more than 350 JCCs, YM-YWHAs, and camp sites in the U.S. and Canada. JCC Association offers a wide range of services and resources to help its affiliates to provide educational, cultural, social, Jewish identity-building and recreational programs for people of all ages and backgrounds

Live Well, Live Long: Health Promotion and Disease Prevention for Older Adults:

http://www.asaging.org/cdc/module6/phase3/phase3_7.cfm

Physical activity programs all over the U.S. are engaging elders and encouraging them to lead active lives. The programs in this section are featured because they demonstrate innovation in their approach to promoting physical activity. These examples may be helpful to you to see how another program handled an issue or program component similar to yours. The programs are grouped into four areas:

1. Community-based programs (senior housing, senior centers, recreation and park departments)
2. Aging network, national/state level programs or university programs (national- or state-level initiatives, mass media campaigns, area agencies on aging)
3. Health-focused services (community-based health services)
4. Programs in culturally diverse communities (these examples follow the section on Strategies for Promoting Physical Activity in Culturally Diverse Communities)

National Center on Physical Activity and Disability (NCPAD):

<http://www.ncpad.org>

NCPAD is an information center concerned with physical activity and disability.

National Coalition for Promoting Physical Activity:

http://www.ncppa.org/statecoalitions_index.asp

NCPA began to develop state coalitions in 1996 to help increase public awareness of the U.S. Surgeon General's report on physical activity. State Coalitions work to promote physical activity by exchanging information on best practices in community organizing, outreach work, event planning, advocacy, and public education.

National Council on the Aging:

<https://www.ncoa.org/Downloads/healthyliving%2Epdf>

NCOA is the nation's first association of organizations and professionals dedicated to promoting the dignity, self-determination, well being, and contributions of older persons.

National Institute on Aging:

http://www.nia.nih.gov/NR/rdonlyres/8E3B798C-237E-469B-A508-94CA4E537D4C/0/NIA_Exercise_Guide407.pdf

An exercise guide for seniors developed by the National Institute on Aging.

National Resource Center on Nutrition, Physical Activity, & Aging:

<http://nutritionandaging.fiu.edu>

To increase food and nutrition services in home and community-based social, health, and long-term care systems serving older adults.

Partnership for Prevention:

http://www.prevent.org/images/stories/Files/publications/CCFAA_case_studies.pdf

This report, intended for program planners, describes four communities' efforts to promote active aging and suggests tips for success.

Sisters Together: Move More & Eat Better:

<http://www.hsph.harvard.edu/sisterstogether>

This web site has a lot of ideas, information, and materials that may help you start a local program about eating well and exercising more. We set up this website once our project ended so that others can learn from what we did. We also encourage you to use any materials that we developed.

United States Department of Agriculture (Fit For Life Program):

http://www.ars.usda.gov/research/publications/Publications.htm?seq_no_115=197764

To improve the nutrition and health of families of the Lower Mississippi River Delta region, the Agricultural Research Service of the U.S. Department of Agriculture is coordinating a major research initiative that brings together the talents of seven institutions in the three-state region, the Cooperative Extension Service in Arkansas, Louisiana, and Mississippi, three rural communities (AR, MS, & LA) in the tri-state region, along with an analytical center. Each of these partners bring a unique research experience to the initiative.

Walk A Hound, Lose A Pound (Indianapolis, IN):

<http://www.walkahound.org/Walkahound.html>

Walk a Hound, Lose a Pound, is a walking program for our four legged friends as well as the two legged members of our community. Walk a Hound, Lose a Pound, has been developed to address two major community challenges:

1. The growing rate of obesity in Indianapolis: Indiana has consistently ranked as one of the top heaviest states in the country. Indianapolis, itself, ranks as the 16th fattest in the country (25 Fattest Cities in the US; Men's Fitness Magazine. 2007). In addition, only 15% met recommendations for both moderate and vigorous physical activity.
2. The excessive number of unwanted animals: In 2005, Indianapolis Animal Care and Control (IACC) received over 19,000 animals and over 14,000 were euthanized.

Walk Score (How walkable is your community?):

<http://www.walkscore.com>

We help homebuyers, renters, and real estate agents find houses and apartments in great neighborhoods. Walk Score shows you a map of what's nearby and calculates a Walk Score for any property. Buying a house in a walkable neighborhood is good for your health and good for the environment.

Wheeling Walks (Wheeling, WV Walking Program):

<http://www.wheelingwalks.org/index.asp>

For more information on implementing a walking program similar to Wheeling Walks.

World Health Organization (Publications on Active Ageing):

<http://www.who.int/ageing/publications/active/en>

An exhaustive list on publications for active ageing.