

# *Replication Report* Activity Centers for Seniors

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**About Neighborhood Centers Inc.**

Neighborhood Centers Inc. (NCI) is a Texas 501(c)3 nonprofit organization founded in Houston in 1907 as part of the settlement house movement to assist a growing number of struggling households achieve their highest level of self-sufficiency, health, and wellness. Since then we have continued working within lower-income neighborhoods to enable individuals and families improve their opportunities for a better quality of life. We provide many direct services such as high-quality education and care for at-risk children, neighborhood-based care for aging residents, and multi-service community centers, to achieve our mission of *bringing resources, education and connections to underserved communities*.

Our operating model today focuses on collaborative, long-term economic and social development that connects neighbors, develops leaders, creates opportunities, and drives growth. In the greater Houston area we operate seven community centers with a variety of multi-generational programs, activities and events; a K-5 Charter School, nationally-accredited Early Childhood Development Centers, Head Start, Early Head Start and Healthy Start; the childcare management system for the local workforce board; and 15 NCI Senior Centers, six collaborative senior centers and home delivered meals. In 2005 NCI served 180,000 people in 13 counties.

On senior care issues, in 2000 we led the local collaboration that evolved into the county-wide Care for Elders partnership of 85 organizations that today, under the leadership of Sheltering Arms Senior Services, is improving care and services for vulnerable older adults and family caregivers. Currently NCI is preparing to obtain national accreditation of its Senior Centers, the first in Southeast Texas. In 2007, in partnership with the Texas Department of Aging and Disability Services, we will begin a further expansion of **Activity Centers for Seniors (ACES)** to another 20 sites. ACES is licensed by *EnhanceFitness* of Senior Services of Seattle/ King County.

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## I. Introduction/Background

### **Aging Well with Physical Activity**

In 2005, Harris County, Texas had 384,348 residents aged 60 and older, 11.2% of the population. Since 2000, this age segment has grown 9.2%, more than 10 times the total population growth in the county.<sup>1</sup> This local trend illustrates national demographic projections that show the elderly as the fastest growing segment of the population. These projections also show that people are living longer than ever.

More than any other factor, poor health and chronic disease impact an older person's ability to manage their daily affairs and age in place. Chronic health conditions cause almost half of all disability in older Americans.<sup>2</sup> At least 80% of older Americans have at least one chronic condition; 52% of those age 65 and older have multiple chronic conditions.<sup>3</sup>

Physical activity is immensely beneficial for the health of people of all ages. In the elderly, physical activity can significantly reduce the risk of many chronic health conditions and may relieve symptoms of depression, help maintain independent living, and enhance overall quality of life.<sup>4,5</sup> Research shows that even among frail and very old adults, physical activity can improve mobility and functioning. Yet despite such evidence, in 2004 just 22.4% of Americans age 65 and older reported engaging in light-to-moderate leisure time physical activity for at least 30 minutes five or more times a week, or engaging in vigorous leisure-time activity at least 20 minutes three or more times a week.<sup>6</sup>

For elders in low-income Harris County areas who want to exercise more, opportunities to engage in regular physical activity are hindered by neighborhood conditions, including crime, traffic, and poor air quality, that deter walking and other outdoor activities; a lack of supervised neighborhood group programs; and mobility and financial access barriers to programs that do exist.

Neighborhood Centers Inc. (NCI), founded in Houston, Texas, in 1907, has a long history of working with this population, having operated programs for seniors in urban community center settings since the 1940s and managed congregate meal sites for the local Area Agency on Aging (AAA) since 1983.

### **Evidence Basis**

In 1994, researchers at the University of Washington Health Promotion Research Center in Seattle, Washington, designed and piloted a physical activity program for participants at a senior center. Today, that original program has been expanded into the *EnhanceFitness* program operated by Project Enhance of Senior Services ([www.projectenhance.org](http://www.projectenhance.org)) in Seattle.<sup>7</sup> The original pilot study<sup>8</sup> demonstrated significant improvements in physical and

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<sup>1</sup> 2005 American Community Survey, U.S. Census Bureau; 2000 Census, U. S. Census Bureau.

<sup>2</sup> Merck Institute of Aging and Health and the Gerontological Society of America, 2002.

<sup>3</sup> National Center for Chronic Disease Prevention and Health Promotion, 1999.

<sup>4</sup> U. S. Dept. of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion. 1996.

<sup>5</sup> American College of Sports Medicine. Position Stand: Exercise and Physical Activity for Older Adults. Med Sci Sports Exerc 30(6):992-1008. 1998.

<sup>6</sup> Federal Interagency Forum on Aging-Related Statistics. Older Americans Update 2006: Key Indicators of Well-Being. Washington, DC: U.S. Government Printing Office. May 2006.

<sup>7</sup> Formerly known as the Lifetime Fitness Program of the Senior Wellness Project.

psychosocial functioning for elderly participants who completed the six-month exercise intervention. The program consisted of three, one-hour classes a week involving cardiovascular conditioning, resistance and strength training, and flexibility and balance training.<sup>9</sup>

However, researchers cautioned that their study participants – predominantly white, relatively well-educated and socially active with moderate incomes – might not be representative of many senior center or congregate meal site participants. Nonetheless, the translation and expansion of the intervention by *EnhanceFitness* at numerous senior centers throughout the state of Washington and the other parts of the country (although not in southern states) demonstrates its popularity and effectiveness with diverse populations.

### **Replicating *EnhanceFitness***

By 2002, NCI operated 15 AAA congregate meal sites at senior centers and other locations, mostly in the lowest-income areas of Harris County. Neighborhood Centers also co-led a local coalition of organizations focused on improving community-based long-term care services and resources, and was exploring senior center accreditation by the National Institute of Senior Centers.

While researching model senior centers nationally, NCI became aware of the many benefits the elderly could receive from regular physical activity sessions at senior centers and began searching for a program to implement in Harris County.

In 2003, NCI received a three-year grant from the Administration on Aging (AoA) to establish an evidence-based prevention program based on physical activity at our senior centers. With guidance from the National Council on Aging, in 2003-04 we researched, adopted and began replicating the *EnhanceFitness* program, using the name Activity Centers for Seniors (ACES). We chose *EnhanceFitness* because:

- It was based on solid research and had a proven track record of success.
- It was center-based, and we felt that the social group cohesion/reinforcement would improve retention.
- It was a cost-effective model, which would help with sustainability.
- It could accommodate all levels of fitness.
- It included instructor training and site support, participant and program-level outcome data collection and analysis.
- It was packaged for replication and had been replicated many times.

However, *EnhanceFitness* had not been replicated in southern states with very low-income, under-educated populations of color, a population that might have different values and attitudes regarding exercise. Since this was the target population NCI served, replicating *EnhanceFitness* in this population became our greatest concern.

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<sup>8</sup> Wallace, J.I., Buchner, D.M., Grothaus, L., Leveille, S., Tyll, L. La Croix, A.Z., Wagner, E.H. (1998). Implementation and effectiveness of a community-based health promotion program for older adults. *Journal of Gerontology*, 53(4), M301-306. Also see Leveille, S.G., Wagner, E.H., Davis, C. Grothaus, L., Wallace, J., LoGerfo, M. (1998). Preventing disability and managing chronic illness in frail older adults: A randomized trial of a community-based partnership with primary care. *American Geriatrics Society*, 46(10),1191-1198.

<sup>9</sup> Ibid.

Several factors led NCI to adopt an evidence-based program more generally:

- Our long experience with the elderly population in low-income Houston neighborhoods and in operating congregate meal sites, which had positioned us within the aging services network and increased our awareness of the need for different and more effective intervention strategies;
- Our lack of direct experience in physical activity programs for seniors paired with our recent research into a variety of such programs;
- Our core values of leadership and excellence. These values had sparked our initial and continuing interest in senior center accreditation and higher-quality programs.
- An evidence-based physical activity program removes doubt about the intervention's safety and effectiveness;
- Measurable improvements in participant health indicators would be critical to sustain the program;
- Health plan managers and insurers would be interested in an evidence-based prevention program; and
- Our grant with the AoA required an evidence-based program.

We also knew that issues surrounding the health and independent functioning of the elderly would grow in importance with the growing numbers of elderly, putting mounting pressure on our healthcare industry to adopt more preventive strategies to control costs. And, indeed, recent research confirms that healthcare costs for older adults drop after participation in *EnhanceFitness*.<sup>10</sup>

### **Local Partnerships Add Value**

Prior to ACES implementation, NCI had – and continues to have – a strong partnership with CHRISTUS St. Joseph Hospital in Houston.<sup>11</sup> The hospital's community outreach mobile clinic visits our larger senior centers' congregate meal sites on an annual basis to provide free health check-ups to seniors. This has been an invaluable service because most seniors in our program are dependent on overcrowded public health clinics for their health care, and few had private physicians who still accepted Medicare.

CHRISTUS gladly agreed to be our health care partner in ACES and visit every ACES site during the three-year AoA grant period to provide more thorough baseline health assessments for enrollees and annual follow-ups. This effort was designed to obtain valid indicators of changes in health status for later use in program marketing and dissemination and to provide participants with reliable feedback on the benefits of regular exercise.

Another key local partner in implementing ACES was Steven Applewhite, Ph.D., from the University of Houston's College of Social Work. His first task was to ensure our fidelity to the *EnhanceFitness* model through early staff orientations and trainings. Later, he helped us prepare and clean the outcome data tabulations sent to *EnhanceFitness* and helped us understand the analysis reports *EnhanceFitness* returned to us. Finally, he designed and conducted research with program participants and non-participants to identify and explore perceptions, attitudes, beliefs, and values of African-American, Hispanic, and Asian elders

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<sup>10</sup> Ackerman, R.T., Cheadle, A., Sandhu, N., Madsen, L., Wagner, E.H., LoGerfo, J.P. (2003). Community exercise program use and changes in healthcare costs for older adults. *American Journal of Preventive Medicine*, 25(3), 232-237.

<sup>11</sup> In August 2006 Christus St. Joseph was sold to the for-profit Hospital Partners of America, so the continuation of the Community Outreach service may be in jeopardy long-term.

towards a regular exercise regimen. These populations comprised 93% of ACES participants. Dr. Applewhite’s findings are summarized in Section IV of this report.

NCI began the replication using existing senior centers in which participants had already requested some type of scheduled exercise class. Thus, we did not need local dissemination partners to begin. Nevertheless, we were and continue to be supported by the Harris County AAA and the Care for Elders Partnership for Long-Term Care.

The AAA, with a United Way match, provides congregate meals funding to help pay for staffing and facility space, which enables the co-location of physical activity classes. In Harris County, the AAA is operated by the City of Houston’s Health and Human Services Department.

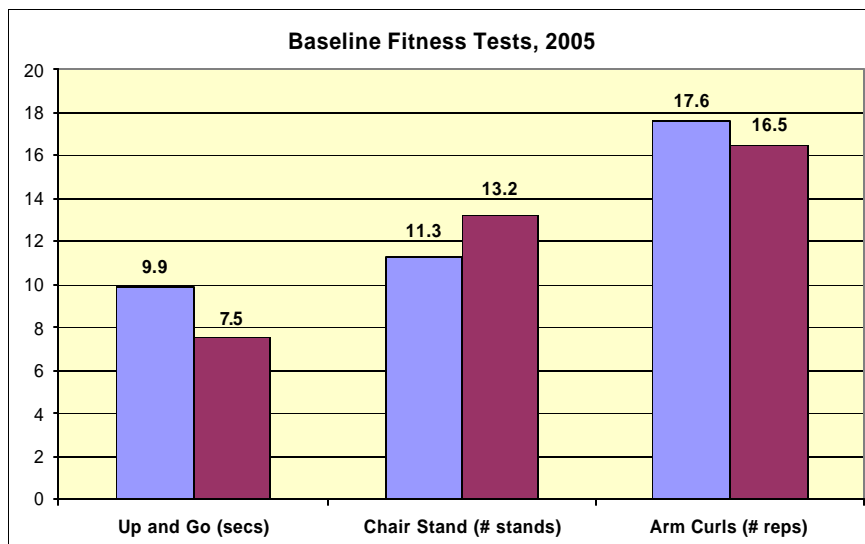
Care for Elders (<http://careforelders.org>) is a coalition of 85 public and private senior adult service providers throughout Harris County that NCI helped create in 2002. It has been a valuable resource for feedback regarding ACES and has also served as a conduit for broadly disseminating information about ACES and referring new participants to ACES’ sites.

National partners in our ACES implementation are *EnhanceFitness* of Project Enhance, and the National Council on Aging (NCOA) in collaboration with AoA. *EnhanceFitness* licenses the program to NCI, while NCOA provides professional consultation and support to all AoA-funded evidence-based demonstration programs from 2003. This support includes annual site visits and national conferences, monthly conference calls with grantees, as-needed consultations, and a website for sharing information (<http://www.healthyagingprograms.com>).

The local agencies that participated with NCI to implement ACES experienced increased exposure to a successful, evidence-based chronic disease/condition prevention program. Thus, they have gained a better understanding of the various approaches available to provide physical activity opportunities for older adults. This improved understanding represents part of the “diffusion of innovations” process that NCOA has been exploring since 2004 as a means of assessing the readiness of senior centers for new programs.<sup>12</sup> For aging network organizations such as the AAA and Care for Elders, this program opens the door wider for dissemination of ACES and other evidence-based interventions.

**Outstanding Benefits and Outcomes**

Currently, there are 320 ACES program participants and their caregivers enrolled in 17 classes at 12 sites. Their composition reflects a population that typically does not have access to such a program: 85% with low- to very-low incomes; 56% Hispanic, 27% African-American, and 10% Asian; 64% ages 65-79, 24% ages 80 and over; and 85% female (versus 66% of all senior center participants).



Our ACES participants have significantly worse baseline fitness test scores in the “up and go” and “chair stand” tests compared to other *EnhanceFitness* sites throughout the nation, but no significant difference in

“arm curls.” There is no significant difference between groups in terms of average participant age (~74).

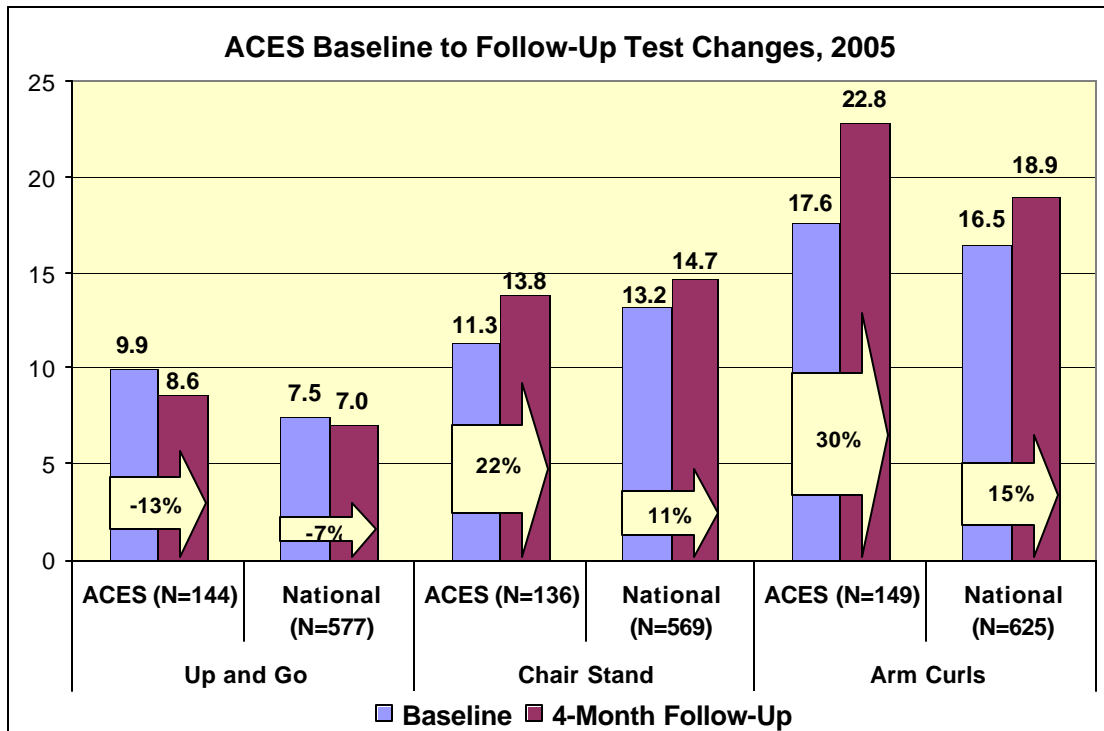
At the four-month follow-up testing, the national sample and the ACES sample both significantly improved on all tests, but ACES participants showed twice the improvement on average as other *EnhanceFitness* sites (see chart on page 8). Just as important, most participants reported feeling better, having more energy and agility, experiencing fewer aches and pains, and being highly satisfied with the program.

In the post-intervention focus groups moderated by Dr. Applewhite, participants said that exercise is essential to better health in old age. They also said that they were not motivated to exercise on their own and that they needed the structure and social support of classes.

For community-based organizations serving the elderly, including healthcare providers, the benefits of ACES come from a small but growing number of elderly who are now more active and less sedentary. Thus, they should be less vulnerable to chronic health conditions, putting less of a burden on service delivery systems. For these service providers, ACES becomes a valuable community resource on the continuum of long-term care for client/patient referrals and agency/client/third-party cost-sharing arrangements. Plus, healthier seniors are more likely to volunteer with these organizations, thus increasing the organization’s reach without added costs.

For the local philanthropic community, ACES becomes a strong contender for grant support, meeting the need for programs that demonstrate a clear return on investment.

For the community, healthier seniors provide a greater asset and reduced deficit since they are more likely to become involved in community life and in their immediate neighborhoods. ACES participants are also more likely to be compelling advocates for more evidence-based prevention programs, leading to changes in public policies and resource allocation decisions that could benefit even greater numbers of older adults.



## II. Planning and Partners

### Preparation and Planning for Success

#### Local Needs Determination

Older adults have a widespread, unmet need for more physical activity, a need that will likely continue to grow as the Baby Boomers age. The research cited at the beginning of Section I can help guide the collection of enough local data to provide a convincing portrait of the need for an evidence-based physical activity program in your area.

Population statistics for local geographic areas, available from the Census Bureau ([www.census.gov](http://www.census.gov)), provides the dimensions and characteristics of the senior adult population down to the neighborhood level. Local AAAs and United Ways often conduct needs assessments to identify service gaps. Vital statistics and other health indicators on the prevalence of chronic conditions among local elderly are useful. They may be obtained from state and local health departments. Your state Department on Aging may have completed its own research – the Texas Department of Aging and Disability Services commissioned a study called *Aging Texas Well: Indicators Survey Results 2005*.<sup>13</sup> In addition, local elder advocacy groups, such as the Care for Elders Partnership in Harris County, may have additional quantitative and qualitative data available.

These data provide the local background/context required to convince potential partners of the need to support an evidence-based physical activity program for seniors and may even help target local neighborhoods with the greatest needs.

#### Choosing Partners

When choosing potential partners to provide ACES, make sure they have a vested interest, if not a stated priority, in serving the low-income segment of the elderly population. They should also be inclined to support the program financially. Not to be overlooked, however, are programs with a higher but still moderate-income customer base that could cover program costs with participant fees.

#### Resources Needed

The single most important resource for an ACES site is a certified fitness instructor trained in the *EnhanceFitness* techniques. Organizations such as the YMCA offer certification courses that cost about \$500 per student, while *EnhanceFitness* or ACES can provide the specific *EnhanceFitness* training. Instructor pay ranges from \$20/hour in Seattle to \$30/hour in Houston, so reliable sources of funding are critical.

Other requirements include:

- A room with a hard floor that can hold 15-25 seniors for an exercise class
- Sturdy chairs
- Soft, adjustable wrist/ankle weights
- A computer with a broadband Internet connection

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<sup>13</sup> [http://www.dads.state.tx.us/news\\_info/publications/studies/](http://www.dads.state.tx.us/news_info/publications/studies/)

**Forming Partnerships**

Partnerships should be formed in the early stages of planning to insure legitimate buy-in and sustainability. Local governments, AAAs, and United Ways are key potential partners in the replication. All can provide connections and resources.

Local governments are often the major healthcare providers for low-income older adults, and thus are naturally supportive of additional community-based (and evidence-based) health improvement resources for this population. The local United Way can lend important credibility to the replication, ranging from support letters to start-up grants and longer-term funding. Meanwhile, AAAs can provide essential information on issues affecting the elderly, local service provision and service gaps, connections within the aging services network, and funding.

Also important are relationships with local foundations that focus on elder issues. These foundations not only provide critical start-up grants, but are also indispensable in seeking longer-term support from larger local and national foundations.

One way to identify such partners is through Internet research and the local United Way's Community Resource Directory. A copy of the record format NCI compiled with such research is found in Section VIII.

Ideally, your organization should have a pre-existing working relationship with these partners before asking for ACES replication support. For instance, NCI has a 100-year track record in Houston/Harris County, at least 70 years of local United Way funding, a 40-year relationship with the local government beginning with the War on Poverty, and a 20-year funding relationship with the Harris County AAA. If your organization does not have such connections, consider partnering with another organization that does to expedite and sustain the replication.

### III. Adoption – Recruiting Implementation Sites and Staff

#### Potential Implementation Sites

Potential host sites for ACES must meet the program's criteria for replication, serve a population interested in such a program but without access to one, and be able to accommodate an exercise program compatible with its existing site activities/routines. *EnhanceFitness* has been replicated at more than 100 sites across the country in a variety of settings.

Since Activity Centers for Seniors (ACES) is a group exercise program, it must be implemented at sites where older adults already gather or could gather on a regular basis for activities.

Potential locations include congregate meals sites, senior centers, and residential facilities with an activity or recreation room that could be used by 15 to 25 participants for regularly scheduled exercise classes.

An assessment thus begins by compiling a local inventory of such sites in your community. Such a list may already exist in whole or in part through your local government, AAA, and/or United Way.

After identifying the appropriate organizations and the right contact person, survey the sites (by mail with telephone follow-up) regarding their interest in and site readiness for ACES. Find out:

- Does the site has an existing, regular, satisfactory exercise program?
- Among sites without an exercise program, is there enough room for three, one-hour classes a week?
- Among the sites with both the need and the capacity for an ACES program, can they contribute financially to the program, whether from external funding, participant fees, or a combination of sources? To this end, the site operator must consider:
  - Participants' ability and willingness to pay a fee, and how much that fee should be
  - The availability of third-party funding for start-up and long-term costs
  - The additional unfunded burden another program might have on site resources

#### ACES vs. Other Physical Activity Programs for Seniors

If the site being considered already has a physical fitness component – such as *Active Living Every Day* or *OASIS*– then the initial discussion should focus on the relative benefits of the evidence-based ACES program. This involves asking (and answering) the question: “Would ACES replace what we already have or be compatible with it, and why would we want to change?” ACES differs from other available physical activity programs for seniors in that it is both evidence-based and has a long track record of success with diverse populations (see footnote 8 on page 4). It does not require equipment or a club membership (like SilverSneakers), nor is it a short-term behavioral and lifestyle change intervention (such as *Active Living Every Day* and *OASIS*). While these other programs have their benefits and, indeed, may even be compatible with ACES, the ACES program provides a basic, very effective direct activity intervention that is relatively simple to implement and manage for seniors of all levels of ability and motivation.

Since NCI already operated 20 congregate meal sites in partnership with the Harris County AAA and United Way that met most of the required site criteria, we did not need to conduct such a survey. If we had, we would have asked our partners to help us identify operators of the 175

senior adult housing complexes and nearly 100 senior centers listed in a local senior services' resource guide. We would have then asked our partners to co-sign the initial mail survey to help legitimize the undertaking.

Once the survey is completed, it is blended with the needs assessment to create a recruitment and enrollment process (see Recruitment/Enrollment Timeline, page 13) that focuses on the specific needs of individual sites and their participants.

#### **Tools: First Impressions Count**

When introducing ACES *Enhance/Fitness* to owners and operators of potential replication sites, it is essential to be convincing. That means providing references, data, and a turn-key product. See Section VIII for the program flyer and introductory letter Neighborhood Centers Inc. used.

#### **Site Management**

ACES replication sites expect the lead agency to provide:

- **Reliability** in terms of delivering a well-attended, effective physical activity program at a reasonable cost
- **Guidance** in adopting ACES to fit the environment and culture of the existing site activity schedule and participants while ensuring fidelity to *EnhanceFitness*, the evidence-based precursor program
- **Support** in acquiring/sustaining financial resources to start and sustain ACES

Site management for an ACES replication after classes begin includes the following:

- A back-up instructor available to fill in as necessary
- Monitoring the first classes to insure fidelity to *EnhanceFitness* methods
- Taking attendance at each class
- Collecting participant fees and negotiating waivers and payment schedules
- Contacting participants who miss consecutive classes to inquire about absences and identify/ resolve barriers to regular attendance
- Surveying participants periodically (more often at start up) regarding their satisfaction with the program
- Completing the tests and paperwork required to document fitness improvements
- Refereeing conflicts that might arise over facility space
- Ensuring that the instructor is paid regularly and is happy with the program

For these partnerships to work, all parties should be candid from the outset about what is involved in adopting the ACES program. There should also be flexibility in the implementation within the constraints of fidelity.

For example, the NCI-ACES rollout in Harris County encountered suspicion from sites regarding fees. While the program is still free, it is entering the phase where participant fees at affordable levels are inevitable. We responded that while the start-up phase of the program was government-funded, participant fees would be required for long-term sustainability. We brought this up early enough so that sites and participants had time to budget for fees. This approach was acceptable to site participants and operators.

Activity Centers for Seniors	Business Days Elapsed														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<b>Recruitment Process</b>															
1. ACES Coordinator identifies sites meeting readiness criteria - existing senior adult center or residence w/o regular fitness classes.	Ongoing														
2. Coordinator meets with site staff to discuss benefits of ACES, site requirements, logistics.															
3. Coordinator recruits ACES instructor* for site, procures weights.															
4. Coordinator schedules date for Informational Session at site and distributes flyers to seniors.															
5. Coordinator and instructor conduct the Informational Session with a demonstration; after Session, participants sign-up to enroll (N>15).															
6. Recruits receive <i>Enrollment Packet</i> (a) to review themselves and with family members/ caregivers.															
<b>Enrollment Process</b>	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1. Recruits complete enrollment forms with assistance from Coordinator, Instructor and site staff, and turn in to site staff.															
2. Site staff and Coordinator create a <i>Participant File</i> (b) for each enrollee - Coordinator keeps original, copy stays at site.															
3. Consent letter sent to enrollees' physician; consent must be received before enrollee can begin class.															
4. ACES Instructor schedules baseline fitness tests.															
5. If available, on-site health assessments conducted by Mobile Clinic.															
6. ACES Instructor conducts fitness tests, completes Baseline Assessment forms.															
7. ACES classes begin within 10 days of fitness tests.															

- (a) Enrollment Packet includes:
- ACES/EnhanceFitness Enrollment Form
  - Enrollment Instructions
  - Physician's Notification Letter

- (b) Participant File includes:
- Participant's Information Form
  - Consent
  - Enrollment Form
  - Participant's Questionnaire
  - Participant's Comments
  - Home & Safety Checklist

\*Instructor must complete the 6 hour training in the EnhanceFitness curriculum before starting classes.

## **IV. Recruiting Participants**

### **The ACES “Customer”**

The target population for ACES is anyone age 50 years and older including frail older seniors using walkers or wheelchairs, who may not be able to participate in other physical activity programs. At greatest risk for a sedentary lifestyle are low-income populations of color with limited or no access to group exercise classes. Such classes are much more effective at expanding seniors' daily physical activity than individual exercise regimens at home.

However, seniors from all income and ethnic backgrounds are susceptible to the early onset of chronic conditions due to a sedentary lifestyle and poor nutrition. Thus, sites that cater to other income groups should not be overlooked. Such sites are potentially self-supporting.

Each class has 15-25 participants. Larger sites can accommodate more than one class. In NCI's experience at congregate meals sites, it is best to hold the one-hour ACES classes between 9 a.m. and noon on Mondays, Wednesdays, and Fridays. This preference may cause problems with instructor availability, however, when adding more sites.

### **Recruitment and Enrollment Process**

The chart on page 13 depicts the process for site recruitment and participant enrollment, which are intertwined.

The informational sessions cover the evidence for and safety of the ACES classes, the need for physician approval to participate, and the instructor's qualifications. NCI can provide additional information targeted to minorities based on their attitudes and values about physical activity that may help improve enrollment and retention rates. As this very likely is the first regular group exercise they have joined since high school, it is important to stress from the beginning that this is really a lifestyle change, not just a temporary diversion. It is also important to be realistic with them about what to expect, such as noticeable gains in energy, strength, and agility followed by a leveling off when they approach reach their own fitness peak.

### **Overcoming Enrollment Barriers**

According to Dr. Applewhite's research on ACES, men are more reluctant to participate than women. This reluctance appears to have its roots in the cultural experiences and values of the primarily Hispanic, African-American, and Asian populations ACES serves.

For example, men often view the classes as female-oriented with more emphasis on conditioning than body-building. For this and other reasons, they are often reluctant to join a mostly female activity. Since NCI has successfully overcome this perspective, we can provide ACES replicators with valuable advice on increasing male enrollment through factual and culturally-relevant education. For example, many Hispanic men are uncomfortable exercising with women and may need additional encouragement to overcome their anxiety. Men also tend to favor more weight resistance exercise than aerobics and may need additional education about the value of both.

Here are some other findings from Dr. Applewhite's research that can be used in recruiting and retaining participants:

- Most center participants view exercise as important, even essential, at their stage in life. They recognize that it has major health benefits. Also, their doctors recommend it.

- Seniors are motivated to exercise at the center far more so than at home. They identify the center's group environment, especially the instructor, as prime motivators.
- The mostly non-white, foreign-born population NCI-ACES serves differentiate between exercise/physical activity and leisure or recreational activity. Women view housework and yard work as physical activity, while men view dominoes and swimming as activity.
- Women are more likely than men to feel that their adult children and neighbors support their desire to exercise more.
- There are minimal opportunities for exercise among the elderly living in low-income because of:
  - Neighborhood conditions, including crime, heat/humidity, poor air quality, traffic, lack of sidewalks, and lack of companions for walks
  - Lack of supervised group programs in neighborhoods
  - Mobility and financial access barriers to existing programs

***EnhanceFitness Resources***

As a licensee of *EnhanceFitness*, NCI-ACES has benefited from Project Enhance's experience and resources. This is reflected not only in the outreach and enrollment tools we share here, but in the methods we use. Several such tools are included in Section VIII. For more information, please contact NCI-ACES ([cpollet@neighborhood-centers.org](mailto:cpollet@neighborhood-centers.org)) or *EnhanceFitness* ([www.projectenhance.org/pro/index.html](http://www.projectenhance.org/pro/index.html))

## V. Implementation

### Program Details

ACES consists of three, one-hour classes a week (typically on a Monday, Wednesday, and Friday). A certified, specially trained instructor leads 15-25 older adults in cardiovascular conditioning, resistance and strength training, and flexibility and balance exercises. Participants gain significant documented fitness improvements within four months, and most report feeling better, having more energy and agility, experiencing fewer aches and pains, and achieving high satisfaction levels with the program.

The structure and social support of the classes results in good attendance and retention. The organization hosting ACES benefits from healthier clientele who are more likely to become active in other program offerings and from having a dynamic centerpiece around which to build a stronger overall program package.

The core components of ACES are:

1. **The instructor.** NCI initially contracted with a local individual to provide instructors, but that did not work. Today, instructors are paid by NCI as temporary employees with no benefits.
2. **The EnhanceFitness curriculum.** One major advantage of adopting this model is that it is a turnkey program complete with procedures, forms, training manual, consultation, and data management all provided
3. **The participants and facility where classes are held.** It should have a hard floor and enough space for 15 to 25 older adults, background music, and be equipped with sturdy chairs. Soft ankle/wrist weights are also needed.

The following outlines a typical class:

- 5-minute warm up
- 20-minute cardiovascular workout to music
- 5-minute cool down
- 20-minute strength-training workout with adjustable weights (0-20 lbs)
- 10-minutes of stretching/balancing (performed throughout the class)

Classes typically have a relaxed atmosphere with frequent talking and laughter among participants and the instructor. The social cohesion and mutual reinforcement of the group is critically important for consistent attendance and overall retention.

### Adaptations

NCI replicated *EnhanceFitness* with one adaptation: the addition of baseline and annual physical health assessments. This information provides participants with evidence of real health improvements, including reduced body mass index (BMI), and lower blood pressure and cholesterol levels. All are particularly important for high-risk African-Americans and Hispanics. This addition has not caused any deviation from fidelity to *EnhanceFitness*, however, nor was it intended to be a necessary component for those seeking to replicate ACES.

## Core Components

- **Location.** ACES is designed to fit in most environments where older adults gather on a regular basis for activities. These include senior centers and congregate meal sites, common rooms or recreation rooms at senior housing complexes and assisted living centers, public parks and recreation centers, community centers, churches, and schools. The only physical requirements are that the room has a hard floor and enough sturdy chairs for the group.
- **Class instructors.** Instructors must be certified fitness instructors before they can take the six-hour *EnhanceFitness* special training. Certification organizations include:
  - The American Council on Exercise (<http://www.acefitness.org/>)
  - The American Fitness Professionals and Associates (<http://www.afpafitness.com/>)
  - The National Association for Fitness Certification (<http://www.body-basics.com/>)
  - The National Federation of Fitness Trainers (<http://www.nfpt.com/>)

The training can be taught by *EnhanceFitness* or NCI Senior Trainers. Instructors can be recruited through local media advertising and/or targeted advertising via the fitness certification organizations listed above. These organizations are all eager to help graduates find jobs. Another option is to recruit a senior, a member of the program's staff, or a volunteer who is interested and willing to be the instructor and help pay for their fitness certification and then provide them with the *EnhanceFitness* training. The National Council on Aging's Center for Healthy Aging has published an *Issue Brief on Recruiting and Retaining Effective Instructors* (#3, Spring 2005) that offers excellent strategies for filling this critical position.<sup>14</sup>

## Class Management

Instructors have several duties (see Section VIII for a position description), including paperwork, but are primarily valued for their ability to interpret the protocols of the *EnhanceFitness* curriculum in their own style. At any age, instructors are especially valued for their ability to connect with and lead a group of older adults in physical activity classes that are fun and entertaining in addition to providing health benefits. It is also important that client independence and confidentiality are respected and protected throughout the program.

Because NCI has so many ACES sites, instructors are directly supervised by a full-time Program Coordinator. Smaller programs or single replication sites that become licensed to *EnhanceFitness*, but are not otherwise affiliated directly with NCI for ACES instructors or management services, can usually find alternative means of maintaining fidelity to the *EnhanceFitness* protocols. For example, NCI can support replication sites with technology after the *EnhanceFitness* training and on-site observations of initial classes. Simple videos of replication classes can be shot periodically and sent to NCI for verification that the instruction is still following the protocols.

## TOOLS

The tools required to implement ACES are available from *EnhanceFitness* or NCI. These include the instructor manual, registration, and baseline fitness test forms.

<sup>14</sup> <http://www.healthyagingprograms.com/content.asp?sectionid=73>

## VI. Maintenance

The best way to recruit new sites and/or participants is to them visit a class and provide them concise information on the evidence base for the program, outcome data, and procedures/ costs for start up and maintenance. NCI has made presentations and distributed brochures on ACES, set up and promoted a voice-mail phone number to recruit new participants, described ACES on the NCI website ([www.neighborhood-centers.org](http://www.neighborhood-centers.org)), and provided information to local information and referral services, such as the United Way's 211. Participants and instructors can also serve as excellent ambassadors for ACES.

Maintaining existing partnerships is vital for sustainability and dissemination of ACES sites. Such partnerships demonstrate a strong, long-term local commitment to the program. Sustaining the partnerships does not require much work. Primarily, it means keeping your partners aware of the program's progress and continuing to remind them how much you appreciate their continued support. Recognizing your partners in promotional materials and newsletter articles is an easy way to keep them involved.

These partnerships were vital in 2006, when NCI applied to the local United Way for additional funding to hire a Program Coordinator to expand the ACES marketing. These partnerships were also critical when the Texas Department of Aging and Disability Services selected ACES in 2006 as one of three local community programs it recommended for a new three-year grant from the AoA to replicate evidence-based prevention programs. Besides seeking new grant funds, NCI has been exploring participant fees, the potential for HMO Medicare payments, sponsorships from local businesses that cater to seniors, corporate sponsorships as an employee benefit, and other options to support the program. Section VIII includes a more detailed description of these Cost Recovery Strategies.

### **Sustainability tools**

Sustainability of ACES is a critical issue. In Section VIII, you can find a description of cost-recovery strategies, program dissemination plans, and a template for funding requests to help replication sites remain viable in the long term.

## Getting, Measuring Outcomes

Retaining participants after they become used to the class and/or grow bored can be a challenge. Providing participants with results of their baseline-to-four-month fitness test results, which nearly always shows a significant improvement in fitness levels, provides a strong short-term motivator, with the effects possibly lasting to the second four-month test. From the first informational session with ACES recruits and throughout the program, it is important that participants receive a clear message that their goal of better health and feeling better depends on maintaining their progress, and that their fitness level will level off at some point.

The instructor is also critical to high retention. That person's skill in connecting personally with the class, enthusiasm and creativity in leading the class, and ability to remain with the class long-term are critical.

Outcome and other performance measures are increasingly important to potential partners and funders. NCI has designed or refined, field-tested, and adopted methods to evaluate ACES and other programs quantitatively and qualitatively that satisfies our major public and private funders. Outcomes measured include improved fitness tests (discussed on pages 7-8), improved health and physical abilities, and satisfaction with the program (both determined via the *EnhanceFitness* questionnaires provided to licensees).

*EnhanceFitness* data comparing ACES sites with all other national sites – over 100 – is also a plus, providing a benchmark for site achievement. NCI has also designed and is testing a database that includes fitness test scores and a wealth of other information – attendance, health and mental health status, satisfaction, etc. – to demonstrate positive results with a high-risk population that is mostly African-American, Hispanic, and Asian.

Participant attendance and retention, although not outcomes, are also monitored for quality control purposes. ACES benchmarks for satisfaction (90% high-to-very high) and attendance (90% with some drop off during the summer when participants often care for school-age grandchildren) are based on our experience since 2004.

Tracking retention has been somewhat challenging since participants sometimes take long breaks for vacation, to care for an ill spouse, or for other reasons, and then return to class. Some also stop coming to the senior center for reasons unrelated to ACES. During the first six months of ACES implementation after the initial shake-down period, up to 24% of participants dropped out for a variety of reasons. Nationally, half of *EnhanceFitness* participants remain in the program for at least one year.

### Performance Measures

The performance measures used in ACES are the same as those used for *EnhanceFitness*,<sup>15</sup> although NCI has added some health indicators. Three fitness outcomes are measured by the class instructor at baseline and four months later:

- **Agility and dynamic balance.** This is measured with the “Eight-foot up-and-go test.” It tracks how long it takes a person to rise from a chair, walk as quickly as possible to and around an object placed eight feet away, then return to the chair and sit down.

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<sup>15</sup> Rikli, Roberta E., Jones, C. Jesse. *Senior Fitness Test Manual*. 2002. Human Kinetics, Champaign, IL. [www.humankinetics.com](http://www.humankinetics.com)

- **Lower-body strength.** This is evaluated with the “chair stand test,” which measures how many times a person can stand up and return to a seated position within a 30-second period.
- **Upper-body strength.** This is measured using the arm curl test, which is the number of arm curls a person completes while sitting down and holding a weight (5 lbs. for women, 8 lbs. for men) within 30 seconds.

These three fitness measures are taken just before or after the start of a new class, then again four months later. Results are sent to Washington University in Seattle for analysis, and once a year the university sends a report back with results and analysis for each ACES site. The report compares the ACES sites with national averages. The charts on pages 7 and 8 in Section I summarize the “all sites” comparative results.

Performance benchmarks are available for the three fitness measures used in ACES and *EnhanceFitness*<sup>16</sup>). However, the study’s authors caution that these are only general guidelines, in part because the 7,183 subjects tested were “fairly active, 89% Caucasian, and fairly well-educated.” The table below shows the normal range of scores for these tests – the middle 50% of each age group, by gender.

NORMAL RANGE OF SCORES ON FITNESS TESTS												
AGE	60-64		65-69		70-74		75-79		80-84		85-89	
SEX	F	M	F	M	F	M	F	M	F	M	F	M
Arm Curl*	13-19	16-22	12-18	15-21	12-17	14-21	11-17	13-19	10-16	13-19	10-15	11-17
Chair Stand*	12-17	14-19	11-16	12-18	10-15	12-17	10-15	11-17	9-14	10-15	8-13	8-14
Up-And-Go**	6.0 -	5.6 -	6.4 -	5.7 -	7.1 -	6.0 -	7.4 -	7.2 -	8.7 -	7.6 -	9.6 -	8.9 -
	4.4	3.8	4.8	4.3	4.9	4.2	5.2	4.6	5.7	5.2	6.2	5.3

\*Number completed in 30 seconds

\*\*Seconds to stand up, walk 8', return and sit back down

<sup>16</sup> Rikli and Jones, 1997-98, 2002.

## VII. Tools and Resources

For samples of the following tools and resources, please see the Web site of NCOA's Center for Healthy Aging ([www.healthyagingprograms.org](http://www.healthyagingprograms.org)).

- i. Individual File Record Format for Local Replication Contacts
- ii. Program Flyer
- iii. Introductory Letter to Prospective ACES Sites
- iv. Cost Recovery Strategies
- v. ACES Instructor Position Description
- vi. Dissemination Plan – *Texas HealthyLifestyles*
- vii. Funding Request – NCI Endowment Proposal