Program Description

Fit and Strong! is a multicomponent physical activity and behavior change program for older adults with mild to moderate osteoarthritis in their lower extremities. Licensed physical therapists or certified exercise instructors who have completed the Fit and Strong! instructor training deliver the program through 90-minute sessions that are held three times per week for 8 weeks (24 sessions total). During the first 60 minutes of each session, participants engage in flexibility exercises, fitness walking, and resistance training with elastic exercise bands and ankle cuff weights. Over time, fitness walking increases in duration and complexity and progressively challenges balance. Strengthening exercises for the lower extremities and trunk use a graded task-specific approach (sit to stand and postural stabilization), and resistance is progressively increased over the course of the program by the addition of weight to the ankle cuff weights. All exercises are accompanied by music, and each 60-minute exercise period includes a 10-minute warm-up and a 10-minute cool-down, which incorporate static and dynamic sitting and standing balance exercises. The last 30 minutes of each session include group discussions and educational components to help participants build skills and identify strategies to assist them in continuing physical activity over time. In week 6 of the program, instructors schedule 15- to 30-minute meetings with each participant to develop an individualized physical activity plan, which can include home-based exercise or an ongoing group- or facility-based program; this plan becomes a physical activity maintenance contract. Each participant also receives a participant manual.

Descriptive Information

Areas of Interest	Health and wellness
Outcomes	**Review Date: January 2014** ▸ Self-efficacy for physical activity ▸ Self-efficacy for ongoing exercise adherence ▸ Maintenance of physical activity ▸ Pain ▸ Stiffness
Ages	▸ 61–74 (Older adult) ▸ 75–84 (Older adult) ▸ 85+ (Older adult)
Genders	▸ Female ▸ Male
Races/Ethnicities	▸ Black or African American ▸ Hispanic or Latino ▸ White ▸ Race/ethnicity unspecified
Settings	▸ Senior center ▸ Other community settings

Geographic Locations	Urban
Funding	Partially/fully funded by National Institutes of Health
Adverse Effects	No adverse effects, concerns, or unintended consequences were identified by the developer.
Implementation History	Since 1998, Fit and Strong! has been implemented with over 3,100 participants. More than 160 instructors have been trained to deliver the program in sites across Arizona, Florida, Illinois, Michigan, North Carolina, Oregon, Texas, and West Virginia.
Adaptations	A Spanish-language adaptation of Fit and Strong!, called ¡Fuerte y en Forma!, is available.

Quality of Research

Review Date: January 2014

Documents Reviewed

The documents below were reviewed for Quality of Research. The research point of contact can provide information regarding the studies reviewed and the availability of additional materials, including those from more recent studies that may have been conducted.

Study 1

Hughes, S. L., Seymour, R. B., Campbell, R. T., Huber, G., Pollak, N., Sharma, L., & Desai, P. (2006). Long-term impact of Fit and Strong! on older adults with osteoarthritis. *Gerontologist, 46*(6), 801–814. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/17169935

Supplementary Materials

Bellamy, N., Buchanan, W. W., Goldsmith, C. H., Campbell, J., & Stitt, L. W. (1988). Validation study of WOMAC: A health status instrument for measuring clinically important patient relevant outcomes to antirheumatic drug therapy in patients with osteoarthritis of the hip or knee. *Journal of Rheumatology, 15*(12), 1833–1840. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/3068365

Efficacy Informed Consent Form and Efficacy Proposal

Hughes, S. L., Edelman, P., Chang, R. W., Singer, R. H., & Schuette, P. (1991). The GERI-AIMS. Reliability and validity of the Arthritis Impact Measurement Scales adapted for elderly respondents. *Arthritis and Rheumatism, 34*(7), 856–865. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/2059233

Hughes, S. L., Seymour, R. B., Campbell, R. T., Desai, P., Huber, G., & Chang, H. J. (2010). Fit and Strong!: Bolstering maintenance of physical activity among older adults with lower-extremity osteoarthritis. *American Journal of Health Behavior, 34*(6), 750–763. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/20604699

Lorig, K., Stewart, A., Ritter, P., González, V., Laurent, D., & Lynch, J. (1996). *Outcome measures for health education and other health care interventions* (chap. 2 and appendix A). Thousand Oaks, CA: Sage Publications.

McAuley, E., Lox, C., & Duncan, T. E. (1993). Long-term maintenance of exercise, self-efficacy, and physiological change in older adults. *Journal of Gerontology, 48*(4), P218–P224. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/8315239

McConnell, S., Kolopack, P., & Davis, A. M. (2001). The Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC): A review of its utility and measurement properties. *Arthritis Care & Research, 45*(5), 453–461.

Outcomes

Outcome 1: Self-Efficacy for Physical Activity	
Description of Measures	Self-efficacy for physical activity was measured by the Efficacy for Exercise subscale of the Lorig Exercise Efficacy Scale. This subscale contains 3 items: ▸ "How confident are you that you can do gentle exercises for muscle strength and flexibility 3 to 4 times/week (range of motion, using weights, etc.)?" ▸ "How confident are you that you can do aerobic exercise such as walking, swimming, or bicycling 3 to 4 times each week?" ▸ "How confident are you that you can exercise without making symptoms worse?" Participants rated each item on a 10-point scale ranging from 1 (not at all confident) to 10 (totally confident). Higher scores indicate greater self-efficacy for physical activity. Participants were assessed at baseline and at 2, 6, and 12 months after baseline.
Key Findings	Older adults with osteoarthritis of the hip or knee were randomized to the intervention group or the control group through a stratified randomized block design, with each block consisting of 30 participants (15 intervention and 15 control) stratified by arthritis severity. Control group participants received a copy of *The Arthritis Helpbook* and a list of exercise programs in the community. They also received a variety of self-care materials and handouts at each follow-up (2, 6, and 12 months after baseline). Participants in the control group also were offered the opportunity to receive the intervention at the conclusion of the study. Participants in the intervention group had an improvement in self-efficacy for physical activity relative to participants in the control group from baseline to the 2-month follow-up (p = .001), from baseline to the 6-month follow-up (p = .005), and from baseline to the 12-month follow-up (p = .006). Specifically, the Efficacy for Exercise subscale scores for participants in the intervention group increased from baseline to the 2-month follow-up and remained slightly higher than baseline levels at the 6- and 12-month follow-ups. In contrast, for participants in the control group, Efficacy for Exercise subscale scores declined steadily across all three time periods.
Studies Measuring Outcome	Study 1

Study Designs	Experimental
Quality of Research Rating (0.0–4.0 scale)	3.6

Outcome 2: Self-Efficacy for Ongoing Exercise Adherence

Description of Measures	Self-efficacy for ongoing exercise adherence was measured by the McAuley "Time" Exercise Adherence Scale, which includes 6 items related to participants' level of self-efficacy to continue participating in regular exercise over 6 months. Participants were assessed at baseline and at 2, 6, and 12 months after baseline.
Key Findings	Older adults with osteoarthritis of the hip or knee were randomized to the intervention group or the control group through a stratified randomized block design, with each block consisting of 30 participants (15 intervention and 15 control) stratified by arthritis severity. Control group participants received a copy of *The Arthritis Helpbook* and a list of exercise programs in the community. They also received a variety of self-care materials and handouts at each follow-up (2, 6, and 12 months after baseline). Participants in the control group also were offered the opportunity to receive the intervention at the conclusion of the study. Participants in the intervention group had an improvement in self-efficacy for ongoing exercise adherence relative to participants in the control group from baseline to the 6-month follow-up ($p = .001$) and from baseline to the 12-month follow-up ($p = .010$). However, there was no significant between-group difference in self-efficacy for ongoing exercise adherence from baseline to the 2-month follow-up.
Studies Measuring Outcome	Study 1
Study Designs	Experimental
Quality of Research Rating (0.0–4.0 scale)	3.6

Outcome 3: Maintenance of Physical Activity

Description of Measures	Maintenance of physical activity was measured by the Lorig Exercise Behaviors Scale, a 6-item measure that includes type of exercise (e.g., walking, swimming, biking), duration, and frequency. The total number of minutes of exercise per week was calculated for each participant. Participants were assessed at baseline and at 2, 6, and 12 months after baseline.
Key Findings	Older adults with osteoarthritis of the hip or knee were randomized to the intervention group or the control group through a stratified randomized block design, with each block consisting of 30 participants (15 intervention and 15 control) stratified by arthritis severity. Control group participants received a copy of *The Arthritis Helpbook* and a list of exercise programs in the community. They also received a variety of self-care materials and handouts at each follow-up (2, 6, and 12 months after

	baseline). Participants in the control group also were offered the opportunity to receive the intervention at the conclusion of the study. Participants in the intervention group exercised more each week relative to participants in the control group from baseline to the 2-month follow-up ($p < .001$), from baseline to the 6-month follow-up ($p = .001$), and from baseline to the 12-month follow-up ($p = .001$). A comparison of data from baseline and the follow-ups indicated that participants in the intervention group had an 83.9% increase in minutes of exercise per week from baseline to the 2-month follow-up, a 58.5% increase in minutes from baseline to the 6-month follow-up, and a 55.6% increase in minutes from baseline to the 12-month follow-up. Although the minutes of exercise per week reported by participants in the intervention group at the 12-month follow-up were slightly less than the minutes reported at the 2-month follow-up, the levels of exercise continued to be above the goal of 90 minutes per week (i.e., 30 minutes of exercise at least three times per week).
Studies Measuring Outcome	Study 1
Study Designs	Experimental
Quality of Research Rating (0.0–4.0 scale)	3.5

Outcome 4: Pain	
Description of Measures	Pain was measured by two scales: ▸ The 5-item Pain subscale of the Western Ontario and McMaster Universities Osteoarthritis Index (WOMAC), which measures pain experienced in lower extremities during walking, climbing stairs, sleeping in bed, resting (i.e., sitting or lying), and standing. ▸ The 4-item Geri-AIMS Pain Scale, which assesses usual level of arthritis pain, frequency of severe arthritis-related pain, duration of morning stiffness from waking, and frequency of pain in two or more joints at the same time. Ratings are provided for the past month.
Key Findings	Older adults with osteoarthritis of the hip or knee were randomized to the intervention group or the control group through a stratified randomized block design, with each block consisting of 30 participants (15 intervention and 15 control) stratified by arthritis severity. Control group participants received a copy of *The Arthritis Helpbook* and a list of exercise programs in the community. They also received a variety of self-care materials and handouts at each follow-up (2, 6, and 12 months after baseline). Participants in the control group also were offered the opportunity to receive the intervention at the conclusion of the study. From baseline to the 6-month follow-up, participants in the intervention group had a decrease in pain relative to those in the control group (WOMAC, $p = .040$; Geri-AIMS, $p = .039$). There were no significant between-group differences in pain from baseline to the 2- and 12-month follow-ups.

Studies Measuring Outcome	Study 1
Study Designs	Experimental
Quality of Research Rating (0.0–4.0 scale)	3.6

Outcome 5: Stiffness	
Description of Measures	Stiffness was rated by the 2-item Stiffness subscale of the WOMAC, which measures stiffness after first waking and later in the day.
Key Findings	Older adults with osteoarthritis of the hip or knee were randomized to the intervention group or the control group through a stratified randomized block design, with each block consisting of 30 participants (15 intervention and 15 control) stratified by arthritis severity. Control group participants received a copy of *The Arthritis Helpbook* and a list of exercise programs in the community. They also received a variety of self-care materials and handouts at each follow-up (2, 6, and 12 months after baseline). Participants in the control group also were offered the opportunity to receive the intervention at the conclusion of the study. Participants in the intervention group had a decrease in stiffness relative to those in the control group from baseline to the 2-month follow-up ($p = .018$) and from baseline to the 6-month follow-up ($p = .032$). However, there was no significant between-group difference in stiffness from baseline to the 12-month follow-up.
Studies Measuring Outcome	Study 1
Study Designs	Experimental
Quality of Research Rating (0.0–4.0 scale)	3.6

Study Populations

The following populations were identified in the studies reviewed for Quality of Research.

Study	Age	Gender	Race/Ethnicity
Study 1	▸ 61–74 (Older adult) ▸ 75–84 (Older adult) ▸ 85+ (Older adult)	▸ 83.3% Female ▸ 16.7% Male	▸ 22.4% Black or African American ▸ 2.6% Hispanic or Latino ▸ 72.0% White ▸ 3.0% Race/ethnicity unspecified

Quality of Research Ratings by Criteria (0.0–4.0 scale)

Criterion	Ratings				
	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
Reliability of Measures	4.0	4.0	3.4	3.9	3.6
Validity of Measures	4.0	3.9	4.0	4.0	4.0
Intervention Fidelity	3.5	3.5	3.5	3.5	3.5
Missing Data and Attrition	2.9	2.9	2.9	2.9	2.9
Potential Confounding Variables	3.8	3.8	3.8	3.8	3.8
Appropriateness of Analysis	4.0	4.0	4.0	4.0	4.0
Overall Rating	**3.7**	**3.7**	**3.6**	**3.7**	**3.6**

Study Strengths

The measures used to assess the outcomes had adequate to high internal consistency in the study, as well as in research by independent investigators. Adequate to high test-retest reliability estimates also were demonstrated by independent investigators. Most of the measures have support for multiple forms of validity, including convergent, discriminant, and construct validity. Intervention fidelity was addressed in several ways. All sessions were led by one of three trained physical therapists who shared responsibility for each 8-week program iteration. Instructor and participant manuals were developed and used during all iterations. The instructors maintained detailed notes on each session and shared the notes with each other and with the researchers so that treatment fidelity could be regularly monitored. Further, direct observation of sessions throughout each iteration was conducted by the researchers, who concluded that there was a high degree of consistency across sessions and instructors. The instructors and researchers had regular contact, including a debriefing period after each iteration of the program. Analyses were conducted to determine whether differential attrition occurred over time by group. These analyses demonstrated no baseline differences, on any of the outcome measures, between individuals who remained in the study for the 12-month period and those who dropped out. Following selection into the study, individuals were randomized into intervention or control groups, stratified by degree of arthritis severity. Random effects modeling was used, which controls for baseline levels of the outcomes of interest, is particularly appropriate for studies with longitudinal data and multiple measures on the same individuals over time, and has more flexible assumptions about missing data than other approaches.

Study Weaknesses

A psychometrically tested fidelity instrument was not used to monitor intervention fidelity. By the 12-month follow-up, there was substantial attrition. The sample size was small.

Readiness for Dissemination

Review Date: January 2014

Materials Reviewed

The materials below were reviewed for Readiness for Dissemination. The implementation point of contact can provide information regarding implementation of the program and the availability of additional, updated, or new materials.

Hughes, S., Huber, G., Shah, A., Smith-Ray, R., & Montoya, L. (n.d.). *Fit & Strong instructor training—Day 1* [PowerPoint slides]. Chicago: University of Illinois at Chicago.

Hughes, S., Huber, G., Shah, A., Smith-Ray, R., & Montoya, L. (n.d.). *Fit & Strong instructor training—Day 2* [PowerPoint slides]. Chicago: University of Illinois at Chicago.

Hughes, S., Huber, G., Smith-Ray, R., Shah, A., & Montoya, L. (n.d.). *Fit & Strong master trainer training* [PowerPoint slides]. Chicago: University of Illinois at Chicago.

Hughes, S., Seymour, R., Huber, G., Desai, P., Der Ananian, C., & Kunkel, C. (2009). *Fit & Strong! instructor manual.* Chicago: University of Illinois at Chicago.

Hughes, S., Seymour, R., Huber, G., Desai, P., Der Ananian, C., & Kunkel, C. (2009). *Fit & Strong! participant manual.* Chicago: University of Illinois at Chicago.

Program Web site, http://www.fitandstrong.org

University of Illinois at Chicago. (n.d.). *Fit and Strong! instructor training* [Binder]. Chicago, IL: Author.

University of Illinois at Chicago & Roybal Successful Aging Resource Center. (2013). *Fit & Strong! guide to successful program implementation.* Chicago, IL: Author.

Additional implementation materials:

- Attachment A: Fee Structure Document for Fit and Strong! License
- EXERCISE…Designed for YOU! [Flyer]
- Fit & Strong! [Brochure]
- Fit and Strong! An Evidence-Based Exercise Program for Older Adults With Lower-Extremity Osteoarthritis (Overview Document)

- Fit & Strong! Attendance Sheet
- Fit and Strong! Consent
- Fit and Strong! Innovation Readiness Assessment
- Fit and Strong! Master License and Services Agreement
- Resource Requirements

Additional training and support materials:

- Fit & Strong! Instructor Training Agenda (Day 1)
- Fit & Strong! Instructor Training Agenda (Day 2)
- Fit & Strong! Master Trainer Training Agenda
- Fit & Strong! Network Quarterly Call Agenda
- Instructor Training Certificate
- Negotiated Adherence Contract

Quality assurance materials:

- Adopter Interview Guide
- Fit & Strong! Implementation Fidelity Checklist
- Fit and Strong! Instructor Program Evaluation
- Fit and Strong! Instructor Training Evaluation
- Fit and Strong! Participant Baseline/Outcomes Assessment
- Fit and Strong! Participant Program Evaluation
- Fit & Strong! Targeted Maintainers Tracking Table

Readiness for Dissemination Ratings by Criteria (0.0–4.0 scale)

Criterion	Rating
Implementation Materials	4.0
Training and Support	4.0
Quality Assurance	3.9
Overall Rating	**3.9**

Dissemination Strengths

Program materials—including a succinct and well-organized implementation guide, a clear and detailed instructor manual and separate participant manual, a site readiness assessment, and related implementation forms—clearly define all roles, responsibilities, and steps for successful implementation. High-quality training is provided to all new instructors, accompanied by supervision by a master trainer to further develop proficiency following the initial training. A training of master trainers is available to support sustainability at new sites. Program developers provide additional phone support to implementation sites on an ongoing basis. Multiple instruments are available to support

the collection of outcome, fidelity, and implementation quality data. Sites also may choose to enter outcome data online and receive analysis reports from the developer.

Dissemination Weaknesses
Although program materials are available in Spanish, it is unclear how new implementers learn about and access these translated materials. Standardized resources are not available in easily accessible formats (e.g., exercise or lesson videos, online instructor materials, frequently asked questions) to support existing instructors who have time, language, or resource barriers to receiving support via phone. Aside from an initial fidelity assessment conducted with new sites, there is no robust and structured approach for monitoring ongoing quality and using associated data to improve program implementation.

Costs

The cost information below was provided by the developer. Although this cost information may have been updated by the developer since the time of review, it may not reflect the current costs or availability of items (including newly developed or discontinued items). The implementation point of contact can provide current information and discuss implementation requirements.

Implementation Materials

Item Description	Cost	Required by Developer
Site license (includes one 2-day, on-site instructor training per site, instructor manual, and instructor training binder)	▸ Year 1 fee: $2,000 per system, $1,000 per stand-alone site, and $400 per system-associated site, plus all travel expenses ▸ Annual renewal fee: $200 per system, $200 per stand-alone site, and $100 per system-associated site	Yes
Ankle cuff weights, elastic exercise bands, and floor mat for each participant	Varies depending on place of purchase and number of participants	Yes
Participant manual	$35 each	Yes
Additional instructor manuals	$35 each	No
Additional instructor training binders	$5 each	No
1-day Master Trainer Training	$1,000 per site, plus travel expenses	No

Item Description	Cost	Required by Developer
Technical assistance via Web site and hotline	Free	Yes
On-site fidelity check	Varies depending on site needs and travel expenses	Yes

Additional Information

Additional instructor trainings after the initial site training are available.

Translational Work

The Center for Research on Health and Aging (CRHA) at the University of Illinois at Chicago developed Fit and Strong! primarily for use with older adults who have osteoarthritis in their lower extremities. The developers at CRHA intended to provide a research-based approach to help these older adults better manage their arthritis, lead a healthier lifestyle, and engage regularly in safe and effective exercise.

A pilot study of Fit and Strong! began in 1996 at the Levy Center in Evanston, Illinois, and was supported by a grant from the Chicago Arthritis Foundation. With support from subsequent research grants from the National Institutes of Health, Fit and Strong! was tested for efficacy and effectiveness across multiple community-based organizations in Chicago. Dissemination into several area agencies on aging was facilitated by a grant from the Centers for Disease Control and Prevention (CDC), which enabled the development of tools needed for expansion in Illinois and nationally in multiple states, including North Carolina. Fit and Strong! has been recognized through awards from the American Society on Aging, the Archstone Foundation, and the American Public Health Association, and the program is also recognized by CDC as well as the Administration on Aging of the Administration for Community Living. Current partners include individuals, hospitals, universities, and national associations (e.g., the National Council on Aging, the National Association of Area Agencies on Aging).

One community site (in Brazos, Texas) chose to implement Fit and Strong! because of a growing interest in and need for physical activity opportunities for older adults. Fit and Strong!, as an evidence-based physical activity and behavioral change program, was selected to broaden and complement the existing repertoire of health self-management, evidence-based programs currently offered by that site. Two community-based centers (in Chicago, Illinois, and Phoenix, Arizona) serving Latinos implemented the Spanish-language adaptation of Fit and Strong! (¡Fuerte y en Forma!), since Fit and Strong! is currently one of the few culturally relevant exercise programs available in Spanish for older adult Latinos with arthritis.

Participants are recruited through informational sessions, such as presentations to local senior groups, and the distribution of print materials (e.g., flyers, brochures, newspaper articles). Fit and Strong! also is promoted through the program Web site, quarterly calls, and monthly emails. Participants noted that they were recruited through community resources such as Gold Medallion Club, Senior Circle, and the Senior Expo. Health care providers/settings served as a referral source for only a small number of participants, as did instructor referrals.

Fit and Strong! classes are held in community settings, including community centers and senior housing facilities. Most sites have implemented Fit and Strong! with fidelity and offer three iterations of Fit and Strong! per calendar year, on average. Some sites make small adaptations to the program. For example, some Chicago Department of Senior Services sites offer the program twice a week instead of three times a week, but they offer it for 12 weeks (as opposed to 8 weeks) and complete all 24 sessions. In two community-based centers serving Latinos, a bilingual, bicultural certified exercise instructor implemented the Spanish-language adaptation of Fit and Strong! (¡Fuerte y en Forma!).

Fit and Strong! has demonstrated significant benefits on participants' physical functioning, including improvements in lower-extremity strength, stiffness, and pain; gait speed; self-efficacy for arthritis symptom management and for adherence to exercise in the presence of barriers; participation in exercise activities; exercise capacity; body weight; self-rated health; and depression, anxiety, and fatigue. Participants enrolled in the program have been very enthusiastic, promoting additional participation among their family and friends through word of mouth. Participants have reported feeling healthier, having more energy, having better movement in their joints with less pain, and enjoying facility-based exercise. One study compared outcomes for iterations implemented by certified exercise instructors with those implemented by licensed physical therapists. There were no significant differences in outcomes for lower-extremity strength, pain, and stiffness; aerobic capacity; and physical function. Significant differences favoring the physical therapist–led classes were seen for two mediators: self-efficacy for exercise and barriers adherence self-efficacy. Participant evaluations rated both types of instructors equally highly, and attendance was identical in each group. In another study, participants who completed Fit and Strong! were randomized to one of two groups: the negotiated maintenance group or the mainstreamed group. Participants in the negotiated maintenance group developed the customary Fit and Strong! individualized physical activity maintenance contract, which reflected their preferences for an exercise plan after the program. Participants in the mainstreamed group were asked to enroll, as a follow-up, in a best-practice group- or facility-based multicomponent program offered at the same facility. Half of the participants in both groups were then randomly assigned to receive telephone reinforcement that tapered off over time. Analyses by follow-up condition indicated that participants in the negotiated maintenance group with telephone reinforcement maintained the greatest improvement in caloric expenditure for all physical activity, with lesser benefits seen in the negotiated maintenance group without telephone reinforcement and the mainstreamed groups with and without telephone reinforcement. An increased dose of telephone reinforcement had significant benefits for participants' lower-extremity joint stiffness, pain, and function, as well as anxiety and depression.

Currently, the developers of Fit and Strong! are assessing the feasibility of bundling evidence-based programs to maximize the impact of participation for older adults. Specifically, they are assessing the use of Fit and Strong! with Matter of Balance (in Illinois) and the Chronic Disease Self-Management Program (in Texas). Area agencies on aging have adopted and embedded Fit and Strong! in Illinois, Michigan, North Carolina, and Texas. Instructors who have been trained as a master trainer can provide training to new instructors. Once equipment and other participant materials have been purchased, they can be used in subsequent implementations. Partnerships and collaborations are key to the program's success, including keeping partners aware of new enhancements to the program. To maintain the program, sites may seek new grant funds, charge participant fees, and/or secure donations from other agencies.

Site With Translational Work	References Describing Site's Translational Work, by Category					
	Planning/ Partners	Adoption	Reach/ Recruitment	Implementation	Effectiveness	Maintenance
Seven senior centers in Chicago, IL	References 1 and 2	—	References 1 and 2	References 1 and 2	References 1 and 2	—
Two community sites in Chicago, IL, and Phoenix, AZ	—	Reference 3	—	Reference 3	Reference 3	Reference 3
Brazos Valley, TX	Reference 4	Reference 4	—	Reference 4	Reference 4	Reference 4

Reference Number	Reference
1	Seymour, R. B., Hughes, S. L., Campbell, R. T., Huber, G. M., & Desai, P. (2009). Comparison of two methods of conducting the Fit and Strong! program. *Arthritis & Rheumatism (Arthritis Care & Research), 61*(7), 876–884. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/19565560
2	Hughes, S. L., Seymour, R. B., Campbell, R. T., Desai, P., Huber, G., & Chang, H. J. (2010). Fit and Strong!: Bolstering maintenance of physical activity among older adults with lower-extremity osteoarthritis. *American Journal of Health Behavior, 34*(6), 750–763. PubMed abstract available at http://www.ncbi.nlm.nih.gov/pubmed/20604699
3	Der Ananian, C., Hughes, S. L., Miller, A., & Shah, A. (2014). *Six-month outcomes of ¡Fuerte y en Forma! in Latinos with arthritis.* Abstract submitted for the 67th Annual Scientific Meeting of the Gerontological Society of America.
4	Program on Healthy Aging, Texas A&M School of Rural Public Health. (2013, September). *Fit & Strong! in the Brazos Valley: Community report.* College Station, TX: Author.

Contacts

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Additional program information can be obtained through the following Web site:

http://www.fitandstrong.org