ICTR-CAP Type 2 Translational Research

2013 Application Documents: Dissemination & Implementation Research

(Please contact Andrea Dearlove if you have any questions: 608.262.7125 or adearlove@wisc.edu)

TITLE OF PROJECT	
"Stepping On" to Pisando Fuerte: Adapting an evidence-based falls prevention program for Latino Seniors	
PRINCIPAL INVESTIGATOR INFORMATION	
NAME *(Last, first, middle)* Mahoney, Jane E	Amount Requested $ 150,000
POSITION/TITLE Professor	HOME DEPARTMENT Medicine
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GRANT PROGRAM REQUIREMENTS	
ICTR Membership Are you a member or have you applied for membership? ☒Yes ☐No	**HUMAN SUBJECTS** Will you need human subjects approval? ☐No ☒Yes If yes, ☐ Pending Exemption number or IRB approval date: _____

SPECIAL CRITERIA (Please indicate which TWO of the following criteria you have chosen**; briefly outline how you will fulfill the criteria for those chosen**.)

☐ New junior-senior partnership. Please indicate junior PI and senior faculty partner:

☐ Marshfield collaboration. Please indicate who you will be collaborating with:

☐ Interdisciplinary collaboration. Please indicate which schools/colleges are collaborating:

☐ UW-System / UW Extension collaboration. Please indicate which entity/individual you are working with:

☒ ICTR-CAP collaboration. Please indicate which CAP program(s) you are working with: CAARN

☒ Translation of an evidence-based program in /with a minority population:

☐ Dissemination of UW and/or Marshfield Clinic Research Foundation research:

☐ Have all required letters of collaboration/support been included in proposal? ☐No ☒Yes

Key PERSONNEL (UW or Marshfield faculty and staff)			
Name	**eRA Commons User Name**	Organization	Role on Project
Jane Mahoney, MD	**jemahone**	**UW SMPH**	**PI**
Elizabeth Jacobs	**LIZJACOBS**	**UW SMPH**	**Co-I**

STAKEHOLDERS (Community collaborators)		
Name	Organization	Role on Project
Patricia Tellez-Giron	**Latino Health Council (LHC)**	**Collaborator**
Al Castro	**United Community Center (UCC)**	**UCC site project director**
Tony Baez/Carmen Cabrera	**Centro Hispano**	**Centro Hispano site coordinator**
Jim Krueger	**North/Eastside Senior Coalition (NESCO)**	**NESCO site project director**
Sherri Ohly	**JCS Consulting**	**Community Liaison, Fidelity observer**
Valeree Lecey	**Greater Wisconsin Agency on Aging Resources**	**Stepping On Content Expert**
Adalia Jansen	**United Translators**	**Certified Translator and fidelity**

Project/Performance Site: Primary Location			
Organizational Name: United Community Center			
Street: 1028 S 9th Street			
City: Milwaukee	County: Milwaukee	State: WI	Zip:53204
Project/Performance Site: Primary Location (if applicable)			

Organizational Name: North/Eastside Senior Coalition				
Street: 1625 Northport Drive #125				
City: Madison	County: Dane	State: WI	Zip: 53704	
Project/Performance Site:Primary Location (if applicable)				
Organizational Name: Centro Hispano				
Street: 614 W National Ave.				
City: Milwaukee	County: Milwaukee	State: WI	Zip: 53204	

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SCIENTIFIC ABSTRACT

Provide a concise description of the proposed research written for scientific audiences. 500 word maximum. Your scientific abstract must include: (1) Scientific rationale and how your project will uniquely advance understanding of dissemination/implementation of the research base; (2) Research aims and project design; (3) Next steps for this stream of research (including potential funders who have identified your research topic as a health priority).

Scientific Abstract

The population of Hispanic seniors in the US is increasing dramatically, and importantly, their age-adjusted hip fracture rate is climbing, while it is decreasing for non-Hispanic seniors. There are no effective falls prevention programs specifically targeted to Hispanic seniors. There is a vital need to adapt English-language, evidence-based falls programs to culturally relevant, Spanish-language interventions that effectively reduce falls among Hispanic seniors. Stepping On is an evidence-based falls prevention program for community-dwelling older adults. Using principles of self-efficacy, a health professional leader provides 2-hour sessions once a week for 7 weeks and again after 3 months to help older adults explore causes of falls and initiate behavior changes. Developed in Australia, where it reduced falls by 31%, Stepping On was brought to the U.S. in 2006 by the PI. With CDC funding, Dr. Mahoney and community partners adapted and tested the program for national dissemination. In 2012, the PI and Milwaukee's United Community Center (UCC) piloted a linguistic and cultural adaptation of Stepping On for the Latino community. Reviewing the pilot, an advisory board recommended further research to revise and retest the program. Testing is also needed to determine if trained lay leaders, called *promotores*, can lead Pisando Fuerte. *Promotores* are commonly used in Hispanic communities to provide health education. Using *promotores* may make the program more feasible for organizations to implement, but since the program was originally designed to be led by a health professional, it is important to ensure that a *promotor*-led model retains fidelity to key elements and effectively changes behavior. Our Specific Aims are to:

1. Culturally and linguistically adapt Stepping On into Pisando Fuerte, a falls prevention program for Hispanic seniors that will: 1) result in behavior change to reduce falls risk, and 2) be feasible to disseminate across the United States.
2. Implement Pisando Fuerte in Madison's senior Hispanic population with a bilingual RN as leader, and in Milwaukee's Centro Hispano with a trained *promotor* as leader, using the RE-AIM framework [reach, effectiveness, adoption, implementation, and maintenance] to gather preliminary data for future dissemination research study.

We propose to (1) pilot Pisando Fuerte at UCC, make revisions based on that pilot and complete translation into Spanish; and (2) conduct the workshop once more at each of two Latino community sites in Wisconsin, one utilizing a bilingual RN and one lay *promotores* as workshop leaders. We will gather preliminary data on RE-AIM domains through questionnaires, physical performance assessments, and structured interviews of stakeholders (participants, family members, leaders, site administrators). We will assess potential reach among Hispanic seniors at each site, identify barriers and facilitators to site adoption, examine fidelity to and participant uptake of key elements with program implementation, and gather preliminary data on program effectiveness and maintenance. Analysis will be qualitative and quantitative. This information will lead to submission of a proposal for a larger dissemination research study, answering calls from federal funders, for research on health disparities, dissemination, and falls prevention.

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COMMUNITY ABSTRACT

500 word maximum. Try not to use scientific terminology in this abstract but instead tell a story that explains the importance of this research. Your community abstract must include: (1) Magnitude of the health problem; (2) Goal and objectives—explain the knowledge gap that your research addresses; (3) Collaborators/stakeholders involved in your research including who will be engaged and what role they will play; (4) the potential impact of this stream of research on improving health in Wisconsin and (5) the longer-term policy implications of your research.

Community Abstract

The number of older Hispanic Americans is growing dramatically in Wisconsin. One third of seniors fall each year in Wisconsin, resulting in 463,000 hospitalizations. Importantly, while hip-fracture rates are going down for non-Hispanics, they are going up for Hispanics. The Institute of Medicine emphasizes that cultural tailoring of interventions is important to improve ethnic minority health outcomes. While there are effective community-based falls prevention programs for non-Hispanic seniors, none are culturally and linguistically adapted for Hispanics. To remedy this health disparity, we will develop and test fall prevention programs that are adapted to Hispanic culture and language.

Stepping On is a widely disseminated small-group intervention for non-Hispanic seniors that has reduced falls by 31%. We received a small amount of funding from CDC in 2012 to develop and pilot a first draft of Pisando Fuerte, a cultural and linguistic adaptation of Stepping On. Further changes and testing of those changes are needed before dissemination. We also need to evaluate whether Pisando Fuerte can be delivered effectively by a trained lay leader. Stepping On was designed to be delivered by a health professional, but bilingual health professionals are scarce. Hispanic communities effectively utilize lay staff, called *promotores*, for health education, but we don't know if Stepping On would be effective if delivered by *promotores*.

Our primary partners are United Community Center and Centro Hispano in Milwaukee, and North/Eastside Senior Coalition in Dane County. Leaders from these organizations will serve on the Advisory Board, recommend program changes, oversee implementation, assist with evaluation and interpretation of results, and, if Pisando Fuerte is effective, sustain it within their organization, and assist with dissemination. Collaborators from our earlier pilot (Adalia Jansen, professional translator; Sherri Ohly, bilingual liaison; Valeree Lecey, OT, lead trainer for Stepping On) will help develop and test Pisando Fuerte. Dr. Patricia Tellez-Giron, Chair of the Latino Health Council in Madison, will serve on the Advisory Board. Hispanic seniors and their families who participate in Pisando Fuerte will recommend program changes.

Our research goal is to ensure that Pisando Fuerte effectively reduces falls and is feasible to implement in Hispanic communities across Wisconsin and the U.S. We will disseminate Pisando Fuerte working with state and national advocacy, funding, and service organizations including State of Wisconsin Injury Prevention Program and Office on Aging, Greater Wisconsin Agency for Aging Resources, National Council of La Raza and National Hispanic Council on Aging. The Wisconsin Institute for Healthy Aging will oversee dissemination once Pisando Fuerte is tested. Our past dissemination experience and ties to WIHA and state and national organizations give us an effective platform for dissemination and policy change. This pilot will lead to future funding for a dissemination research study to demonstrate effectiveness of Pisando Fuerte in Hispanic communities throughout the state. Ultimately, for the one-third of Wisconsin's Hispanic seniors who fall each year, our research has the potential to decrease falls, reduce morbidity, and improve mobility and quality of life among an underserved group at growing risk for hip fracture.

Specific Aims.

About one in 3 older adults will fall each year,(1) with the prevalence of falls being similar among Hispanic and non-Hispanics.(2) While the hip fracture rate in non-Hispanics has declined over the past decade, it has increased for Hispanics.(3) Over the next forty years, the US older Hispanic population is projected to increase dramatically. Currently, 7% of the older adult population is Hispanic; this will increase to 20% by 2050.(4)

While there are widely disseminated, effective falls prevention programs available for English speaking seniors in this country, none are available for Spanish speaking older adults. Both the US and Wisconsin public health plans have set overarching goals of decreasing health disparities.(5,6) The Institute of Medicine has emphasized that cultural tailoring of interventions is important to improve health outcomes among ethnic minorities.(7) Thus, there is a need to develop and test culturally and linguistically tailored falls prevention programs for Hispanic seniors.

Stepping On is a seven-week, small-group behavior change intervention originally developed in Australia and found to reduce falls by 31%.(8) The program, based on self-efficacy and adult learning theory, is led by a health professional experienced with working with seniors. Invited experts (physical therapist, pharmacist, low vision expert, community safety officer) provide information on falls prevention, and seniors practice and advance balance and strength exercises over the course of the workshop. Participants use stories and problem-solving to learn fall prevention.

We have conducted dissemination research on Stepping On in Wisconsin and disseminated the program nationally to English-speaking non-Hispanic seniors. In 2010 we received pilot funding from CDC to start culturally and linguistically adapting Stepping On into a Spanish version, Pisando Fuerte. An Advisory Board comprised of Puerto Rican, Peruvian, and Mexican-Americans with expertise in self-management programs and kinesiology, and English speaking content experts worked to adapt Stepping On. We piloted the adaptation at United Community Center in Milwaukee. The Advisory Board then recommended further work to improve older adults' uptake of exercise and falls prevention behaviors, and improve feasibility of implementation. The Board also recommended testing to see if a lay leader rather than a health professional could lead Pisando Fuerte (PF). A lay health educator (called "*promotor de salud*" in Spanish) may make the program more feasible to implement across the US, but this model needs testing for fidelity, safety, and effectiveness.

Our overarching goal is to develop PF for Hispanic seniors, and demonstrate its fidelity, effectiveness, and feasibility with dissemination. The purpose of this pilot research study is to complete the cultural and linguistic adaptation, then pilot PF at two sites to gather preliminary data regarding fidelity and effectiveness using a *promotor* versus a health professional as program leader. The data will then be used to apply for funding for a larger dissemination research study.

Our specific aims are to:

1. Culturally and linguistically adapt Stepping On into Pisando Fuerte, a falls prevention program for Hispanic seniors that will: 1) result in behavior change to reduce falls, and 2) be feasible to disseminate in Wisconsin and across the US.
2. Implement Pisando Fuerte in Madison's senior Hispanic population with a bilingual RN as leader, and in Milwaukee Centro Hispano with a trained *promotor* as leader, using the RE-AIM framework [reach, effectiveness, adoption, implementation, and maintenance] to gather preliminary data to apply for a future dissemination research study.

Our community stakeholders bring substantial experience and a history of collaboration with the PI. The involvement of Stepping On content experts and Drs Mahoney and Jacobs with falls prevention, dissemination, and health disparities research, make for a uniquely qualified team that will ensure the success of testing and future dissemination of Pisando Fuerte.

Investigator. The PI has 20 years experience in falls prevention research and substantial experience in dissemination and implementation of falls prevention programs in community settings. She conducted a randomized trial of a multifactorial intervention to prevent falls which showed a reduction in falls in adults with cognitive impairment who had a caregiver in the home.(9) She conducted a 5 year CDC funded grant "*Dissemination Research in falls prevention: Stepping On in a Wisconsin Community*", to adapt the Australian falls prevention program, Stepping On (SO), for US implementation, and research its dissemination. Dr. Mahoney's group expanded SO to include a training manual for new leaders, a North American edition of the workshop manual, leader and trainer toolkits, and a site implementation guide.(10-12) Thus the PI has substantial experience in dissemination and implementation of falls prevention programs in the community setting. Dr. Liz Jacobs, Co-Investigator, has conducted 17 years of cross-linguistic and cross-cultural research using quantitative and qualitative techniques. She will assist with development of Pisando Fuerte (PF), design of measures, analysis, and manuscript writing.

Environment. The scientific environment for this research is outstanding and unique. Vicki Gobel, research program manager, coordinated our 5-year SO dissemination research study and first PF pilot. R. Smedley, MPH, community program developer with the Community-Academic Aging Research Network (CAARN), will assist with PF program development. Dr. Jacobs will oversee a MD-PhD student, who will conduct quantitative and qualitative analyses.

Our primary community stakeholders are United Community Center (UCC) and Centro Hispano in Milwaukee, and North/Eastside Senior Coalition (NESCO) in Madison. These sites differ in transportation, geographic distance from a PF workshop, and extent of family engagement. UCC will implement PF at its senior center. UCC provides transportation, Hispanics live nearby, and there is good family engagement. Centro Hispano will implement PF in federally-qualified low-income housing. Transportation is not an issue, but family participation may be inconsistent. NESCO will transport Madison seniors to a PF workshop, but distance may limit participant and family engagement.

This study will benefit from outstanding community members on the research team and the Advisory Board. Community members on the research team all assisted with the first PF pilot, bringing expertise in language translation, cultural adaptation, and the SO program. The Advisory Board consists of leaders of UCC, Centro Hispano, and NESCO, the Chair of the Latino Health Council, and the community members on the research team.

Background and Significance. Wisconsin's Hispanic population grew 74% from 2000 to 2010.(13) While Hispanics make up only 1.3% of Wisconsin's older adult population,(14) this percent will increase substantially over the next 4 decades, consistent with national trends.(15) Similar to national demographics, Wisconsin's Hispanic population is poorer and less-educated, with less access to health insurance compared to the non-Hispanic population.(16,17)

About one in 3 older adults will fall each year.(1) The prevalence of falls among Hispanic older adults is similar to that among non-Hispanic Caucasians.(2) But while the hip fracture rate in non-Hispanics has declined over the past decades, it has increased in Hispanics.(3) There are currently no community-based falls prevention programs that are adapted for Hispanic seniors.

Stepping On (SO) is a group-based falls prevention program that reduces falls by 31%.(9) It is built on principles of adult learning and self-efficacy. Older adults share stories of falls, problem-solve how to prevent falls, practice balance and strength exercises, learn from guest experts and do homework. SO is currently available in 63 Wisconsin counties and 13 states, but reach among Hispanic seniors has been poor. In Wisconsin, only 17 of 4,326 Stepping On participants have been Hispanic.(18) In Lake Geneva, WI, we held SO in a church that had 15% Hispanic parishioners. With the parish nurse enrolling participants and serving as leader, we expected to see at least one of eight participants with Hispanic background, however, all were non-Hispanic. Many Hispanic seniors in the church had difficulty speaking English. This is consistent with the 2010 census finding that 58% of Wisconsin's Hispanic population over age 65 had difficulty speaking English. Thus, there is a need for translation of falls prevention programs into Spanish.(19)

The Institute of Medicine emphasizes that culturally appropriate programs are needed to eliminate ethnic health disparities.(7) Previous research has shown that tailoring programs to needs and cultural norms of minorities improves reach and health outcomes.(20-22) Successful tailoring for Hispanics

uses family-based activities, social support, Hispanic cultural values, bilingual and bicultural facilitators, and materials that are literacy-appropriate.(23-26) Many tailored interventions have used community health workers called *promotores*.(27-31) *Promotores* are trusted community members who lack health professional degrees but are trained to provide health programs and services. Building on the knowledge base about tailoring interventions, we propose to develop a cultural and linguistic adaptation of PF for Hispanic seniors.

Approach.

Preliminary studies:

Through CDC funding, we piloted a draft of PF in 2012. An advisory board included Hispanic and non-Hispanic individuals with combined expertise in falls prevention, health promotion programming for Latinos, language translation, and kinesiology. A focus group of seniors from UCC recommended cultural adaptations. Handouts were translated into Spanish by a professional translator and reviewed by the board for clarity. Two bilingual leaders implemented PF at UCC. Observations from the pilot were provided to the board. They recommended further changes, including:

- Evaluate different approaches to incorporating invited experts. It was difficult to find bilingual PT, pharmacist, and low vision experts. A bilingual expert is preferred, but if none is available then a video of a Spanish-speaking expert may suffice, but this needs evaluation.
- Put more emphasis on assigning and rewarding homework. The completion of homework by participants was inconsistent.
- Develop and pilot DVDs in Spanish. Recommended DVDs include videos of invited experts and vignettes on community mobility.
- Further simplify content, tailoring material for low-literacy participants.
- Evaluate participant comprehension and uptake. In Hispanic culture, elders will nod agreement but this may not reflect uptake.
- Evaluate ways to integrate family, given role of familismo in Latino culture.(32-36)
- Further integrate Latino cultural values into sessions, by increasing "fun" and trust, (personalismo, i.e. placing high value on relationships), acknowledging spirituality, providing contexts for machismo and marianismo (traditional male and female roles), and building on fatalism and sympatica (placing high value on kindness) For example, a leader would stress avoiding falls to prevent burdening family, building on sympatica.(32-36)

This study will allow us to incorporate these recommendations then test PF to make sure the recommended changes are feasible and lead to participant uptake.

Research Design.

We will use qualitative and quantitative methods to evaluate PF implementation. Our theoretical framework is Chunharas' integrative, interactive model of knowledge translation, which posits that knowledge is translated from research to practice by engaging stakeholders iteratively, working within each stakeholder's problem-solving cycle.(37) Stakeholders include host agencies, PF leaders, seniors, and their families. In Aim 1, we will culturally and linguistically adapt PF, and In Aim 2, we will evaluate implementation of PF in two different situations. Our evaluation will utilize the RE-AIM framework, a widely used metric that evaluates five areas of public health impact: reach (ability to provide intervention to those at risk), effectiveness (benefit of intervention), adoption (ability of organization to take up intervention) implementation (fidelity of program), and maintenance (ability of participants and organizations to keep intervention going).(38-40)

Aim 1 (Phase 1) Culturally and linguistically adapt Stepping On into Pisando Fuerte, a falls prevention program for Hispanic seniors that will result in behavior change to reduce falls risk, and be feasible to disseminate in Wisconsin and across the US. *Hypothesis*: We will culturally and linguistically adapt SO into PF, a falls prevention program that will result in behavior change to reduce falls risk, and that will be feasible to disseminate in Wisconsin and across the US.

1a. Procedure. The Advisory Board will meet once to make recommendations, then the research team will make changes to PF and train two leaders from UCC, one of whom is a public health professional experienced in health education. Leaders will implement PF and two trained observers

(S. Ohly and A Jansen) will attend sessions to evaluate feasibility, fidelity of implementation, and participant uptake of exercise and behavior change. They will interview participants before three sessions and after the final sessions to evaluate uptake. After each session, the research team and PF leaders will meet by phone to review the session. The research team will present findings to the Advisory Board, who will analyze root causes and solutions for program areas with inadequate fidelity or participant uptake.(41) The research team will modify PF again, UCC collaborators will make DVDs of invited experts and develop culturally tailored DVD vignettes about community mobility. A Jansen will translate and the Advisory Board will review all materials.

1b.. Participant enrollment. Inclusion criteria include: Hispanic aged 65 or over, living in a home or apartment, attends senior programming at UCC, has fallen in the past year or wants to improve balance to prevent a fall. Exclusion criteria are acute illness, diagnosis of dementia per UCC records, needing help of another person to ambulate, or using a standard walker to ambulate indoors. The UCC community health research supervisor will recruit participants and obtain informed consent.

1c. Data collection**.** We define a successful PF pilot program as one that 1) has good fidelity to key elements, and 2) results in adequate participants' uptake of exercise and behavior change.

1c1. Fidelity to key elements: In our previous research, we identified key elements of SO and developed a fidelity tool to measure program delivery of key elements. The research team will adapt the SO Fidelity Tool to PF and, with the Advisory Board, add key elements of Hispanic behavior change programs. The tool will quantify fidelity for each item on a scale of excellent, satisfactory, or unsatisfactory. Two observers trained in SO and experienced in observing Latino self-management programs for fidelity, will rate each session. Ratings by the two observers will be compared for the first 2 sessions for training, then we will measure inter-rater reliability for the final six sessions.

1c2. Participants' uptake of exercise and behavior change. Participant uptake is considered an essential ingredient of fidelity, but little attention has been paid to the science of evaluation.(42-45) Knowledge quizzes, self-report of adherence, and leader evaluations of participant uptake have been used, but these methods are limited by low literacy and leader and participant bias. Our uptake assessment method is **innovative** and rigorous, using observations of two independent observers, with comparison to a gold standard. We have experience measuring participant uptake by observation on the SO fidelity tool, and have used open-ended interviews to identify behavior change among SO graduates (manuscript in preparation). The table below summarizes measures of participant uptake.

Participant Uptake Domain	**Measure**	**Who and When**
Knowledge of and practice of balance and strength exercise	Interview of Participants: Can you show me the exercises? Can you tell me what this exercise does? Participants' technique of exercise performance Participants' advancement of exercises	Fidelity observers will interview participants at the end of last 2 sessions Fidelity observers will observe during each session
Falls behavior change elements learned from session	Interview of Participants: What do you remember from last session? What did you do, if anything, from last session? Participants' end-of-session summary of what they learned, and what they'll do at home	Fidelity observers will interview participants before three randomly selected sessions Fidelity observers will observe during each session

1c3. Focus groups. We will conduct two focus groups, one with participants and one with family members, after the workshop. We will ask participants what we should keep, omit, or add to the program, and inquire about family engagement. We will ask family members about their involvement in the program. Focus group transcripts without identifiers will be provided to the Advisory Board to inform further refinement of PF.

1d. Analysis.

1d1. Fidelity to Key Elements. We define a PF session as having good fidelity if there is a score of satisfactory or excellent by both observers for all key elements.

1d2. Participant Uptake. For knowledge of falls behavior change elements and exercise, we will use basic Content Analysis to code what respondents said. We will define an initial set of codes based on the content we hope to see retained, (i.e. falls behavior change elements), and have 2

independent reviewers review transcripts of the interviews to look for this information. They will also have the opportunity to identify new codes of concepts and issues raised by participants. Coders will meet with Drs. Jacobs and Mahoney and V. Lecey to review codes and after an iterative process of review, a final set of codes will be defined and applied to transcripts by both reviewers. We define good uptake of knowledge of a behavior change element or exercise as the code being identified from the participant's transcript. We define good uptake of exercise skill as participant performance of an exercise being rated satisfactory or excellent by both observers. A workshop will be considered to have led to adequate uptake for a given exercise or knowledge element if 80% of the participants demonstrated good uptake for that item.

1e. Review of findings. Focus group transcripts, and all items having unsatisfactory fidelity or uptake, will be reviewed by the Advisory Board. Dr. Mahoney will facilitate Advisory Board root cause analysis, asking why five times, in order to identify root causes and needed changes.(41)

Aim 2: Implement Pisando Fuerte in Madison's senior Hispanic population with a bilingual RN as leader, and in Milwaukee's Centro Hispano with a trained *promotor* as leader, using the RE-AIM framework [reach, effectiveness, adoption, implementation, and maintenance] to gather preliminary data for application for future dissemination research study. *Hypotheses*: There will be good implementation fidelity with RN and *promotor* leaders. We will identify preliminary findings regarding reach, effectiveness, adoption, and implementation that will be relevant to future research.

2a. Procedure. V. Lecey, S. Ohly, and A. Jansen will train an RN and a lay leader at NESCO and two *promotores* at Centro Hispano. Leaders will implement one PF workshop at each site. Leaders will record age, gender, and inclusion/exclusion criteria for seniors screened. For eligible participants, leaders will record who enrolls and does not, and the reason why or why not. A fidelity observer will observe the same five sessions at each workshop to assess fidelity with key elements and participant uptake of exercise and behavior change. Trained bilingual evaluators will interview participants about falls and falls behavioral risk, and evaluate physical performance at baseline and 6 months post workshop. Participants will provide 6 monthly calendars of falls to corroborate 6-month interview. Fidelity observers and V. Gobel will gather information from leaders and site coordinators regarding time required to implement the program and what worked and did not work. Trained bilingual evaluators will assess participant uptake of exercise and behavior change at the end of workshop and 6 months later by participant interview and observation, and by phone interview of family members. UCC has found phone interviews of family members to be feasible.

2b. Participant Enrollment. At each site, leaders will enroll participants using the same criteria as in Aim 1. At Centro Hispano, participants will be recruited from a senior housing complex. At NESCO, participants will be recruited from Madison Hispanic seniors receiving NESCO's services.

2c. Data measures and analysis are described below for each RE-AIM component:

2c1. Reach = Intended target population; the absolute number, proportion, and representativeness of individuals who participate in a given program. We will assess number of seniors potentially eligible, number recruited, number refusing and why, and number of family members participating, using sites' estimates of numbers of eligible seniors, and leaders' records of recruitment and enrollment. *Analysis*: We will calculate reach as number enrolled divided by number screened, and compare gender of those who enrolled and refused. We will conduct content analysis for reasons for participation and non-participation by participants and family members, and compare reasons between sites to determine whether type of leader affects reach.

2c2.Effectiveness = The impact of intervention on important outcomes, including potential negative effects, quality of life, and costs. We will assess the primary measure of falls, and secondary measures of falls behavioral risk and physical performance at 6 months post PF compared to baseline using the validated Falls Behavioral Risk Scale (FaB) (46) and Short Physical Performance Battery(SPPB).(47) Negative and beneficial effects will be assessed through open-ended interviews of participants and family members at 6 months. *Analysis* will be by Repeated Measures ANOVA to test for significance of change in FaB and SPPB measures, and by negative binomial regression to compare number of falls pre and post. Negative and beneficial effects will be evaluated by content

analysis. Due to small sample size, we do not expect to compare RN vs *promotor* differences in effectiveness, but we will be able to estimate effect size for future study.

2c3. Adoption = Adoption by target settings or institutions; the number, proportion, and representativeness of settings and staff who are willing to offer a program. We will gather data on program leaders' and site coordinators' perceptions of barriers and facilitators to adoption. *Analysis* will be by content analysis, with comparison of barriers and facilitators between sites to see if type of leader affects adoption.

2c4. Implementation = Consistency of delivery of intervention; costs of implementation. We will assess new leaders regarding knowledge of key elements and falls prevention by quiz after training. Fidelity observers will observe sessions for fidelity to key elements, and measure participant uptake of exercise and behavior change using the same methodology as in Aim 1. We will interview family members at the end of PF and 6 months later about participants' uptake and family support to accomplish changes. PF leaders and site coordinators will track time and costs associated with implementation. *Analysis*: For each workshop, we will determine number of fidelity lapses and percent of participants demonstrating uptake of key elements, using the same methodology as in Aim 1. Content of fidelity lapses will be summarized for each PF session and for the workshop as a whole, then compared descriptively between sites. Percent of participants with good uptake, and content with good uptake will be compared descriptively between sites. Costs will be evaluated by descriptive statistics.

2c5. Maintenance = Extent to which a program becomes integrated into organization; intervention effects over time. We will examine whether sites plan to continue PF, and why or why not, and whether participants continue to practice exercises and safety measures 6 months after the workshop. *Analysis* of participant uptake at 6 months will be as in Aim 1, comparing differences between sites in percent of participants demonstrating good uptake by Fisher Exact Test. We will use content analysis to describe barriers and facilitators to maintenance at each site.

3. Potential problems and alternative strategies: Family attendance at a PF session may be impractical. If so, we will evaluate use of conference calls for family, or one-on-one phone call from the leader. A physical therapist attends sessions 1, 2, and 6 to introduce and advance exercises and lead participants in outdoor mobility practice. Bilingual physical therapists may not be available. We will evaluate use of an English-speaking therapist with the leader as interpreter, but we may need to simplify content for time reasons. Our study will gather estimates regarding cost, in order to decrease stakeholder burden. More definitive cost data will be obtained in subsequent research study.

Stakeholder Plan. Our primary partners are United Community Center (UCC) and Centro Hispano in Milwaukee, and North/Eastside Senior Coalition (NESCO) in Madison. Falls are a meaningful concern to stakeholders. In a 2010 UCC survey of 77 Hispanic seniors, 54% had fallen in the past year, with 21% requiring medical care, and 81% being afraid of falling again.(48)

UCC provides programs to 400-600 seniors annually, and conducted the first pilot of Pisando Fuerte (PF). Centro Hispano provides educational programs to Hispanic seniors at 18 different locations, including 6 low-income housing units for disabled and elderly. They utilize *promotores de salud* (lay health educators), two of whom we will train as PF leaders. NESCO is the only senior organization in Dane County providing programs for Latinos. It offers services to 120 Latino seniors and their families annually. Each site will identify PF leaders, implement PF, recruit participants and family members, and assist with program revisions. Organizations will receive funding for service on the Advisory Board, and for implementation of PF, including snacks, items for display table, leaders' salaries, prizes for homework, and transportation and childcare.

Three additional outstanding community partners are on our research team: Valeree Lecey, OT, lead trainer for Stepping On (SO) nationally, Sherri Ohly, who has adapted and implemented health promotion curricula for Hispanic communities since 1996; and Adalia Jansen, professional translator, who has led evidence-based health promotion programs for Hispanic adults. These partners helped develop our first draft of PF, and A. Jansen led the PF pilot. They will make revisions to PF, serve on the Advisory Board, and train new leaders. V. Lecey will serve as content expert. S. Ohly and A. Jansen will evaluate workshop fidelity and participant uptake. A. Jansen will translate materials, and S. Ohly will serve as liaison to community stakeholders.

Advisory board: Our Advisory Board is uniquely poised to make this project successful. Members include Jim Krueger, Executive Director of NESCO; Al Castro, Program Director of the Health Research Program and Latino Geriatric Center at UCC, Carmen Cabrera, HUD Program Services Coordinator at Centro Hispano, Patricia Tellez-Giron, MD, Chair of the Latino Health Council, and the three community partners on our research team. The Advisory Board will meet four times the first year and twice the second. They will make recommendations regarding program changes, review translated materials, and review study results.

Other stakeholders: Older adults and families who participate in PF at UCC will provide feedback on the workshop through two focus groups. PF leaders from UCC will provide feedback to the research team via phone conference after each session.

Sustainability. Plans for sustainability will vary across sites. At Centro Hispano, if we find that trained *promotores* provide the program with high fidelity, they can continue to implement PF across the 18 locations where they interact with older adults. At NESCO, sustainability is likely to be more challenging. Safe Community Coalition of Dane County provides support from Federal Title IIID funding to implement evidence-based programs for Hispanic seniors. This may support PF workshops. United Way funding may also be used.

Next Steps. At the completion of this research project, we will be very well suited to apply for any of the following federal funding opportunities: NIA's "Dissemination and Implementation Research in Health"; NIA's "Translational Research to Help Older Adults Maintain their Health and Independence in the Community"; and PCORI's "Addressing Disparities". The specific research question will depend on findings from this study. If our findings regarding fidelity and participant uptake with a *promotor* as leader suggest inadequate fidelity or uptake, then we would apply for funding for a randomized trial for conclusive testing. If we find that a *promotor* as leader results in good fidelity and participant uptake, then our primary research question for future funding would be to determine if sites can maintain fidelity over repeated workshops using *promotores* and having limited access to health professionals. These questions are very germane to the funding mechanisms mentioned above.

Future considerations–policy implications. Wisconsin Institute for Healthy Aging, which employs V. Lecey and S. Ohly and oversees SO national dissemination, is perfectly situated to disseminate PF. Partners may include National Council of La Raza, with which UCC is affiliated, and National Hispanic Medical Association, with which the Latino Health Council is affiliated. PF may be implemented in federally qualified low-income housing, community centers, federally qualified health centers, and accountable care organizations. WIHA is working with the National Council on Aging and CDC to explore Medicare and Medicaid reimbursement for SO. If successful, this would apply to PF as well. Currently, Title III-D federal funding may be used for SO implementation; we would work with Administration on Aging, which oversees III-D dollars, to ensure this funding can be used for PF too. Thus, we are well suited to leverage existing dissemination channels.

Special Criteria. (1)The PI and research team work will work with CAARN. (2) This proposal meets the special criteria of translation of an evidence-based program in/with a minority population.

Impact Statement. This study's expected impact is a new culturally tailored community health program to reduce falls among Hispanic seniors at high risk for falls and injury.

8. Timeline.

Task	Who	Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Advisory Board meetings	UW, UCC, NESCO, CH, Lecey, Jansen, Ohly, Latino Health Council, Smedley	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
Funding begins after IRB approval																									
Train leaders for Pilot 1 at UCC	Lecey & Ohly	X																							
Identify experts for Pilot 1 at UCC	UCC (Lecey & Ohly consult)	X																							
Run Pilot and make expert DVDs	UCC & Ohly (Lecey consult)			X	X	X																			
Conf calls with leaders and Stepping On experts after each session & booster to review observations of pilot class	UW, Val, Smedley, Sherri, Adalia, UCC (ldrs & Militza)			X	X	X		X																	
Run focus groups: 1 with ppts & 1 with family members	UCC (Militza) & Ohly						X																		
Run pilot booster at UCC	UCC ldrs								X																
Identify leaders for Year 2 workshops–NESCO & CH	NESCO (Krueger) CH (Cabrera)							X	X	X															
Translate script for vignettes after Pilot 1	Jansen & Lecey						X																		
Incorporate new changes from Pilot 1	Lecey, Gobel, Ohly, Smedley						X	X	X																
Make 2 vignette DVDs and hazard slides	UCC & Ohly (Lecey consult)							X	X	X															
Translate format pages of manual	Jansen									X	X	X													

Task	Who	Year 1												Year 2											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
Develop fidelity & evaluation tools	Ohly & UW							X	X																
Translate evaluation tools (including FaB)	Jansen									X	X	X													
Develop new training	Lecey & Ohly						X	X	X																
Train 4 new leaders from Yr 2 sites NESCO & CH	Lecey & Ohly										X	X													
Identify PT and a vision expert or medications expert–same type of expert for both Yr 2 sites	NESCO (Krueger), Latino Health Council & CH (Cabrera) (Lecey consult)							X	X	X		X	X												
Identify assessors for Yr 2 sites	NESCO (Krueger), Latino Health Council & CH (Cabrera)								X	X	X														
Conduct Pisando Fuerte at 2 new sites (NESCO & CH)	NESCO & CH (Lecey consult)														X	X	X								
Fidelity checks at sites	Jansen, Ohly (Lecey consult)														X	X	X								
Booster sessions second sites	NESCO & CH																			X					
Conduct evaluation at Yr 2 sites (baseline, right after & 6 mos after workshop	UW staff & assessors (Ohly consult)													X			X						X		
Analysis at Year 2 sites RE-AIM: reach, adoption, imple-mentation, maintenance, effectiveness RE-AIM: reach, adoption, imple-mentation, maintenance, effectiveness and apply for new funding	UW staff																							X	X

How we will address timeline and deadline issues/potential challenges with your community and faculty collaborators.

Our previous pilot to develop, implement, and evaluate PF required a year. Our community stakeholders are aware of the timeline. The steering committee consists of Dr. Mahoney, V. Gobel, and S. Ohly. We are accustomed to working with diverse community partners, and S. Ohly, in particular, has experience with Hispanic community partners. The steering committee will meet weekly to set and review goals, tasks, and workplans. S. Ohly will communicate with community partners regarding deadlines and strategize with stakeholders and the steering committee regarding delays or challenges, which always arise. We used this method successfully with our previous PF pilot. We are confident this timeline is feasible, based on our previous SO and PF dissemination research.

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