Stepping On, a Community-Based Falls Prevention Program

17

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Introduction

Stepping On is a group-based fall prevention program for older people living in the community. Developed in Australia, the program now has been implemented successfully in the United States. In this chapter we describe Stepping On, discuss the implementation of the Stepping On model, and outline current initiatives focusing on how this model can be delivered effectively and sustained by organizations into the future.

The Stepping On Model

Background

For older people, a fall can result in injury, a loss of confidence and activity restriction. It is known that approximately 30 % of older people living in the community fall each year. Of these, 20–30 % of people who fall suffer moderate to severe injuries including lacerations, sprains, fractures, or head trauma [1]. In 2012, there were 2.4 million emergency department visits for fall injuries among older adults in the United States [2]. The average Medicare cost for a fall in 2012 ranged from $13,797 to $20,450. In addition to direct costs related to hospitalization, nursing home care, doctor's office visits, rehabilitation, medical equipment, prescription drugs, changes made to the home, and insurance processing, indirect costs include long-term effects such as disability, dependence on others, lost time from work and household duties, and reduced quality of life. By 2020, direct and indirect costs of fall-related injuries are estimated to reach $54.9 billion dollars [3]. The prevention of falls therefore is vital to achieving the health care triple aim of improving population health and patient experience, and decreasing per capita cost.

The Stepping On program offers older people a way of reducing their falls risk and increasing their self-confidence. The program allows older people to identify issues that are personally relevant, to determine their risk of falling and gain knowledge about safety practices. The program uses adult learning principles and is built on a sound conceptual basis to facilitate decision-making, self-efficacy, and behavior change. In the program, participants explore options and strategies to reduce their falls risk. In this way, the older person can take control, explore different coping behaviors, and utilize appropriate strategies in everyday life [4].

Stepping On was developed in Australia and effectiveness has been evaluated in a randomized controlled trial [5]. Compared to a randomized control group, participation in Stepping On led to a 31 % reduction in falls as well as improved self-confidence in mobility and greater use of protective behaviors. The cost-effectiveness of Stepping On is similar to group-based falls prevention exercise programs [6]. Stepping On has been recommended as an effective fall prevention intervention for use in the US [7] and was introduced into the US in 2006. The Centers for Disease Control and Prevention (CDC) have provided funding to develop and test the Stepping On model for US national dissemination.

Setting

Stepping On is conducted in community settings. In the US, the program has been sponsored by aging units,

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health care providers, senior retirement apartment complexes, parks and recreational services, and other community-based organizations. The program is held at places convenient to older people such as community centers, libraries, senior centers, health clinics, and retirement complexes.

Participants

The program is aimed at older people who have fallen or have a fear of falling. Participants must be cognitively intact, live independently in the community, and be able to ambulate without assistance from another person. Use of an assistive device does not preclude participation, but older adults who require a walker for indoor walking are not included as they may be too mobility impaired to participate in the group exercises. These individuals would benefit from an individualized approach instead. While medical clearance is not required, prior to participation, participants are encouraged to talk with their physician about the program and their fall history.

Content and Delivery

The program uses a small-group approach plus individualized follow-up. The ideal group size is 8 to 12. The workshop includes topics such as falls and risk, strength and balance exercises, home hazards, safe footwear, vision and falls, safety in public places, community mobility, coping after a fall and understanding how to initiate medication reviews [4]. The content is delivered over seven weekly sessions. A booster group session is conducted at 3 months to review achievements and provide ongoing support. In the original study, after the workshop, individualized support was provided through a home visit to facilitate follow through of preventive strategies, and through a phone call at 6 months to help sustain gains. In the US, for feasibility of adoption by organizations, the home visit typically does not occur. Instead, leaders cover many of the same concepts by phone call. The workshop is facilitated by a group leader along with invited guest presenters. In the US, group leaders have a range of backgrounds including: occupational therapists, registered nurses, physical therapists, social workers, fitness experts, other gerontology professionals, and health educators. Volunteer guest presenters include a physical therapist, low vision expert, pharmacist, and community safety expert who have knowledge on pedestrian safety. In the US, a peer leader, who has been recruited from previous Stepping On participants, assists the leader to facilitate the workshop.

Evaluation

Quick and simple measures can be used to evaluate program impact. A frequently used evaluation is the program attendance records, where 80 % attendance at five of seven sessions is considered the benchmark. Attendance that falls short of that may indicate the need to evaluate the leader's fidelity to program delivery. Other evaluation measures include the Falls Behavioural Scale [FaB] [8] and the timed Get Up & Go test [9], with measures assessed pre and immediately post workshop. Lastly, self-report of falls in the past 6 months and falls behavioral risk by the FaB can be assessed by questionnaire at baseline and 6 months after the end of the workshop.

Implementing the Stepping On Model

Need for Effective Implementation

The implementation of community-based fall prevention programs is complex and many factors can influence program success [10]. Early experiences in implementing Stepping On in the US were associated with poor program effectiveness outcomes initially. In 2006, five county aging units in Wisconsin trained leaders via a self-study group. Leaders included RNs, other health professionals, and directors of community-based aging services. The self-study group met with Dr. Clemson several times by phone to discuss questions. From 2006 to 2008, 363 older adults participated in Stepping On workshops. There was no reduction in falls from the 6 months prior to the 6 months after the workshop neither in the sample with complete data ($n = 151$), nor in the complete sample using multiple imputation [11]. From 2008 through the first half of 2010, with funding from the Centers for Disease Control and Prevention, we identified key elements of Stepping On using a Delphi Consensus, refined the US version of the Stepping On program package [4], trained one new leader, and monitored fidelity with each session of that leader's first workshop. We identified substantial fidelity lapses. Root cause analysis resulted in the identification of causes and mapping of solutions to improve fidelity of implementation. From these activities, changes were made in how program leaders were selected, trained and coached, how program participants were identified and recruited, how the workshops were implemented, and how organizations were prepared to adopt the program. For example, fidelity tools were developed based on the key elements. Trainers observed fidelity at one session of each new leader's first workshop. Insights from the fidelity observations were recorded on fidelity tools and became a focus for reflection and feedback following the session. As changes to the program package were made, they were disseminated to

existing leaders via new manuals, monthly phone calls, and group emails, and were incorporated into all new leader trainings. Outcomes were evaluated for 2018 participants involved in 253 workshops between 2008 and 2011. Compared to 6 months before the workshop, the rate of falls was reduced 50 % in the first 6 months after the end of the workshop (95 % CI 45–56 %), and 48 % in the second 6 months (95 % CI 41–54 %) [11]. These findings, showing improvement in effectiveness simultaneous with improvements in the program package to maximize fidelity, suggested that elucidation of key elements, and training and support to achieve them are essential for program effectiveness.

Training, Resources, and Support

The Wisconsin Institute for Healthy Aging (WIHA) (www.wihealthyaging.org) provides training and resources to support program implementation in the United States and Canada.

Training

Training is required for all new leaders. To be eligible to be trained as a leader, individuals must be: (1) retired or current health professionals (e.g. physical therapist, registered nurse, occupational therapist) or other professionals who provide services to older adults (e.g., fitness instructor, senior center activity director, social worker); (2) have professional experience working with older adults, (3) have group facilitation experience with adults, (4) have basic falls prevention knowledge, and (5) be affiliated with a sponsoring organization that is covered by a Stepping On license. New leaders must commit to facilitating at least one Stepping On workshop yearly. Leaders view a brief pre-training webinar, attend a 3-day training taught by two certified master trainers, take two quizzes (key elements and falls prevention knowledge) and demonstrate competency in facilitating both small group discussion and exercise practice. Following training, a master trainer monitors fidelity (in person or by video) at one session of a new leader's first workshop, and gives feedback regarding areas for improvement. After having conducted two workshops and received a satisfactory fidelity check, a leader may receive an additional half-day training provided by WIHA's lead trainer to become a Master Trainer.

Resources

Stepping On leaders receive the Stepping On Leader Manual and supporting materials as part of their 3-day training. Supporting materials include: slides, DVDs, handouts for participants, publicity materials, participant registration forms, the list of key elements, a checklist for workshop set-up and more. Master trainers receive a Master Trainer manual and supporting materials including slides, registration forms and publicity materials for Leader trainings, quizzes for new leaders, and fidelity monitoring tools for Stepping On sessions.

Support to Sponsoring Organization

A sponsoring organization is one that ensures that resources can be committed to facilitate successful adoption of the workshops. The sponsoring organization, leader, and other partners divide the work of implementation (e.g. coordination, finding a site, recruiting participants, finding guest experts, and so on). The sponsoring organization typically commits funding to pay the leader, provide an honorarium to an older adult peer leader, and cover snacks and other supplies. WIHA provides a CDC-approved Site Implementation Guide for interested organizations available at https://wihealthyaging.org/stepping-on. WIHA also provides consultation as needed before and during start-up to ensure successful adoption and implementation by new organizations.

Licensing

WIHA issues 3-year licenses to organizations that are implementing Stepping On. The purpose of the license is to protect the fidelity of Stepping On. Licensees may be state, community, or health care organizations. The license may be held by one organization (e.g., health care organization, local community organization), or by an entity that oversees Stepping On implementation by a number of other organizations (e.g., state office on aging or state office of injury prevention). The license covers workshops implemented by the leaders under their umbrella. The first license is included with leader training; subsequently they are renewed for a fee every 3 years. WIHA trains the first set of leaders for a newly licensed organization, but licensees are encouraged to have at least two leaders under their umbrella who become trained as master trainers, so they may continue to train new leaders within the organization.

In summary, comprehensive services have been developed by WIHA to facilitate program implementation and to assist leaders and organizations in addressing any challenges that may arise. These services include coaching for sponsoring organizations, trainings for leaders and master trainers, a website containing support materials, leader listserv, newsletters, leader coaches, and an annual summit for program stakeholders.

Gaining Buy-in from Health System Leaders

Stepping On is implemented in both community and health care settings. Sponsoring organizations may be health care systems or community-based organizations. However, even if community organizations host the workshops, health

system engagement is key to maximize reach. Referral from health care providers is an important avenue for identifying and referring at-risk individuals for the workshops. The CDC STEADI (Stopping Elderly Accidents, Deaths, and Injuries) intervention recommends that older adults at risk for falls be referred to community-based exercise and fall prevention programs [12].

The Affordable Care Act (ACA) offers new incentives to health care providers to focus on preventive health care measures and has as its core the "triple aim" of "Better Health, Better Health Care, and Better Value (i.e., lower costs)." The ACA includes incentives for health care practices to become accredited by the National Committee for Quality Assurance as a "patient-centered medical home," a way of organizing primary care that emphasizes care coordination and communication to transform primary care into "what patients want it to be." Standard 4 for accreditation requires a medical provider to assess patient/family self-management abilities and to work with the patient to develop a self-care plan and provide tools and resources, including community resources. The ACA also includes a provision that allows Medicare to reward health care organizations with a share of the savings that would result from improving care and reducing costs for their Medicare members. Health care organizations that want to participate can apply to Medicare to be designated as Accountable Care Organizations (ACOs). ACOs have strong incentive to implement prevention programs such as Stepping On to reduce fall injuries and costs. Another part of the ACA is the annual wellness visit, which is covered for all patients on Medicare. This visit, with its focus on prevention, can serve as a venue in which to ask about history of falls and refer patients at risk to Stepping On. Medicare has also instituted quality improvement incentives that reward practices for screening older adults for fall risk, and for those at risk, assessing risk factors and developing treatment plans. For those at risk, referral to Stepping On should be an integral part of the treatment plan. The electronic medical record can be configured to facilitate screening and referrals to Stepping On. The CDC is working with several large electronic medical record vendors to develop screening and referral algorithms that include community resources such as Stepping On. However, each health system must identify local community resources and the most efficient path to accessing those.

Apart from providing referrals, health care organizations can support Stepping On directly, either by sponsoring workshops or by reimbursing participants to attend workshops in their communities. Models for such arrangements have been successful with other evidence-based community health programs and are beginning to be developed for Stepping On. WIHA is actively working with several large health care organizations to explore various partnerships to support Stepping On.

Insurers may also have a vested interest in supporting the workshops in order to decrease costs of fall injuries. Stepping On has a 59 % return on investment, meaning a net benefit of $125.27 per participant in prevented fall injury costs [13]. A recent evaluation of 177 participants in Stepping On in Wisconsin supports the potential for decreased costs, with fall-related ER visits decreasing from 4 per 100 participants in the 6 months pre workshop to 0 for the 6 months post workshop ($p=0.046$).

Bringing Stepping On to Scale

The Wisconsin Institute for Health Aging (WIHA) has been established to foster successful dissemination of evidence-based health promotion programs and to facilitate local and national dissemination of Stepping On. Since 2006, Stepping On programs have been implemented in four-fifths of Wisconsin's counties and 19 other states with over 7,000 older adults participating to date. Our experience shows that participants enjoy the workshop, retain falls prevention behaviors up to a year post workshop, and recommend the workshop to their friends. Guest experts, all of whom are volunteers, enjoy the experience and most return to present in subsequent workshops.

Adoption and start-up are the most difficult aspects of implementation. WIHA has evaluated a coaching intervention to help organizations in the first year of start-up. In a randomized, controlled pilot study, eight counties in Wisconsin receiving the coaching intervention had an average increase of 1.38 workshops per year compared to 0.5 per year in the eight wait list control counties ($p=0.056$). The coaching intervention focuses on identifying partner organizations, developing participant referral sources, and identifying committed leaders, peer leaders, and funders.

Future Initiatives

Despite the success of the Stepping On model, some implementation and sustainability challenges remain. Program implementation with older people from African-American, Hispanic tribal and other cultures in the United States has been limited, although the program has been successfully implemented with different cultural groups in Australia [14]. In the latter, there was a preference for program leaders who were health workers or therapists from the participants' cultural group, and often close associations with local cultural organizations provided enriched potential for partnership and support for venues and recruitment. Many of the Stepping On handouts are now available in different languages. Work is currently underway in the US on an adaption of Stepping On, "Pisando Fuerte" for Spanish-speaking older people.

WIHA is currently working with other Wisconsin counties to implement and evaluate a sustainability model that engages triads of community organizations (typically county aging unit), health care partners, and insurers to support Stepping On. Collaborative partnerships between program stakeholders have been identified as a potential strategy to facilitate the sustained implementation of community-based fall prevention programs [15]. Triad stakeholders collaborate to ensure that the tasks of workshop coordination, participant referral, and financial support for leaders can be sustainably accomplished. Such triads can help communities scale up the number of workshops to reach more at-need individuals.

Challenges and Promising Approaches

Financial limitations remain a significant challenge. Title III-D of the Older Americans Act provides minimal funds for the aging network to administer evidence-based health promotion programs. There is no direct reimbursement (yet) through fee-for-service Medicare or Medicaid for the program. Non-physician health care professionals potentially may bill Medicare for reimbursement under group exercise and patient self-management codes, however interpretation of Medicare regulations varies from carrier to carrier, so organizations should check with their Medicare carrier first. Medicare Advantage Plans are one financial model currently being used in some health systems for either fully subsidizing or paying a significant portion of costs involved in Stepping On. In these Plans the insurance carrier receives a lump sum of money to manage an older adult's health, similar to an HMO model. To date there has been little investment from private insurers, though such companies would have financial incentive to reduce downstream fall injury costs by reimbursing patients who enroll in Stepping On. Policy changes are needed to enable at-risk older Americans to benefit from this effective program.

Financial incentive models exist in fee-for-service clinical care for identifying fallers but typically efforts are directed toward screening for those who have fallen and less so for also managing falls [16]. This is despite the fact that the Physician Quality Reporting System (PQRS) and the Meaningful Use Incentive Program include screening and a care plan for falls. Initiatives developed under the Affordable Care Act may offer some solutions to improve falls risk screenings and referrals to Stepping On. Under this Act, "Wellness" visits to older people are covered by Medicare and could be used to identify older people at risk of falls and then refer those appropriate to Stepping On. Accountable Care Organizations (ACOs) created under this Act have a financial quality improvement incentive to accomplish falls screening, but have no financial quality improvement incentive to manage falls once patients are screened. However, given the high cost of falls, ACOs may find it business worthy to pay physical therapists, occupational therapists, health educators, or social workers in their organization to provide the Stepping On program directly.

Better understanding and application of both financial and clinical drivers of practice change are needed [16]. Clinical practices can facilitate referral pathways to Stepping On through use of national falls clinical guidelines or the STEADI tool to guide decisions for falls management. Successful falls management requires links to evidence-based programs like Stepping On. Quality training and support for Stepping On leaders is a key ingredient in widespread adoption and at a leader level the use of fidelity tools can be critical to ensuring key elements of the program are maintained in practice.

Sustainability

Sustainability of the Stepping On program was explored in an Australian implementation study using in-depth interviews over a 3-year period [17]. Sustainability relies on three critical conditions: (1) the program must provide benefits and value; (2) committed, motivated and skilled leaders must be available, and (3) ongoing support for the program that matches the needs of the organization must be received at the time it is needed. Working in partnership and developing networks with others were key strategies used by community organizations to meet these conditions and hence sustain Stepping On over time. The "Wisconsin experience" supports this and has demonstrated how integral planning, training and collaborative partnerships are to sustainability.

Thus "Stepping On Partnerships" may offer a promising approach for sustained program delivery. Collaborations between WIHA, Medicare Advantage, insurers, ACOs, along with state and community stakeholders have the potential to lead to more sustained program co-ordination, referrals and support where costs can be recouped in terms of decreased emergency room visits, hospitalizations, and nursing home stays related to falls and injuries. Re-thinking how service providers, health care services, and insurers can work collaboratively may enable more sustained and effective delivery of Stepping On into the future.

References

1. Sterling DA, O'Connor JA, Bonaides J. Geriatric falls: injury severity is high and disproportionate to mechanism. J Trauma. 2001; 50(1):116–9.
2. Centers for Disease Control and Prevention, N. C. f. I. P. a. C. (2014b). Web-based Injury Statistics Query and Reporting System (WISQARS). Retrieved August 15, 2014.
3. Alexander BH, Rivara FP, Wolf ME. The cost and frequency of hospitalization for fall-related injuries in older adults. Am J Public Health. 1992;82(7):1020–3.

4. Clemson L, Swann M, Mahoney J. Stepping on building confidence and reducing falls. A community-based program for older people. Leader Manual. 3rd ed. Cedar Falls, IA: Freiburg Press; 2011.
5. Clemson L, Cumming R, Kendig H, Swann M, Heard R, Taylor K. The effectiveness of a community-based program for reducing the incidence of falls in the elderly: a randomised trial. J Am Geriatr Soc. 2004;52:1487–94.
6. Church J, Goodall S, Norman R, Hass M. An economic evaluation of community and residential aged care falls prevention strategies in NSW. N S W Public Health Bull. 2011;22(3–4):60–8.
7. National Center for Injury Prevention and Control. Preventing falls what works. A CDC compendium of effective community-based interventions from around the world. Atlanta, GA: Centers for Disease Control and Prevention; 2008.
8. Clemson L, Bundy A, Cumming R, Kay L, Luckett T. Validating the Falls Behavioural (FaB) scale for older people: a Rasch analysis. Disabil Rehabil. 2008;30(7):498–506.
9. Podsiadlo D, Richardson S. The timed "Up & Go": a test of basic functional mobility for frail elderly persons. J Am Geriatr Soc. 1991;39(2):142–8.
10. Child S, Goodwin V, Garside R, Jones-Hughes T, Boddy K, Stein K. Factors influencing the implementation of fall prevention programmes: a systematic review and synthesis of qualitative studies. Implement Sci. 2012;7:91. doi:10.1186/1748-5908-7-91.
11. Mahoney, J., Gangnon, R., Clemson, L., Gobel, V., & Lecey, V. (2012). Evaluation of stepping on implementation across Wisconsin. Paper presented at the Gerontological Association of America 65th Annual Meeting, San Diego, CA.
12. Centers for Disease Control and Prevention, N. C. f. I. P. a. C. (2014a). STEADI (Stopping Elderly Accidents, Deaths & Injuries). Toolkit for Healthcare Providers. Retrieved 7 August, 2014.
13. Carande-Kulis V, Stevens JA, Florence CS, Beattie BL, Arias I. A cost-benefit analysis of three older adult fall prevention interventions. Am J Prev Med. 2015;52:65.
14. Clemson L, Mathews M, Dean C, Lovarini M, Alam M. Translating research into practice: sustainability of a community-based falls prevention program in minority communities. Lidcombe, NSW: The University of Sydney; 2008.
15. Lovarini M, Clemson L, Dean C. Sustainability of community-based fall prevention programs: a systematic review. J Safety Res. 2013;47(4):9–17.
16. Schubert TE, Smith ML, Prizer LP, Ory MG. Complexities of fall prevention in clinical settings: a commentary. Gerontologist. 2014; 54:550–8.
17. Lovarini, M. (2012). Sustainability of a community-based falls prevention program: a grounded theory [Doctoral thesis]. Accessed on 18 November, 2014 from http://ses.library.usyd.edu.au/handle/2123/8044