

MULTI-FACTORIAL FALL RISK ASSESSMENT AND
INTERVENTION FOR COMMUNITY DWELLING
SENIORS: THE ROLE OF HOME HEALTH AGENCIES

Caring Choices

April 2006



**Multi-Factorial Fall Risk Assessment and Intervention for
Community-Dwelling Seniors: The Role of Home Health
Agencies**

Acknowledgements

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies was produced by Caring Choices and funded by The California Endowment.

The report was authored by Patti Yanocho, MPH, and Barbara Hanna, BSN, PHN, CCM, and is based on a research study conducted by Barbara Hanna, BSN, PHN, CCM, President of Caring Choices, and Jennifer Lillibridge, RN, PhD, Associate Professor at California State University, Chico. Julie Lehman, BSN, PHN, Kathy Cawthon, RN, and Lynn Theissen of Home Health Care Management, Inc. also contributed to the development of this report.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

Background

Falls are a major threat to the health and independence of California's aging population. Approximately one-third of older Californians fall each year, resulting in 213,000 visits to the emergency room and more than 60,000 hospital admissions due to fall injuries. (1,2) More than 40% of seniors who are hospitalized with a hip fracture are unable to live independently again and a quarter will die within one year. (3)

Fall injuries are expensive to the government, the community and private insurers, as well as families who often must increase their care duties following a fall. They cost California an estimated \$3.5 billion each year, with the medical costs of each fall-related hospitalization estimated at \$30,000. (4) While payment sources exist for the treatment of fall injuries, few sources of funding are available to *prevent* the enormous emotional, societal and financial cost of falls. Recent research, however, has demonstrated that such preventive efforts for seniors, specifically multi-factorial fall risk assessment and individually tailored interventions, can result in fewer hospitalizations and reduced medical costs. (5)

Multi-factorial Fall Risk Assessment and Intervention: A Best Practice for Fall Prevention

Fall Risk Factors: An Overview

Falls are the result of a complex interaction of risk factors that increase a senior's susceptibility to falling or their risk of being injured in a fall. The more risk factors an individual has, the more likely they are to fall. (6) The number of risk factors tends to increase with age, placing the oldest seniors at very high risk of falls.

It is the interaction between two different types of risk factors, personal risk factors and environmental or extrinsic risk factors, which creates a person's overall risk of falling. (7,8) Personal risk factors vary from individual to individual and can include advanced age, female gender, physical disability and declining functional abilities, or chronic and acute health conditions. Some of these personal risk factors, such as lower-body weakness, gait and balance problems, certain medications and polypharmacy, vision impairment, and some symptoms of chronic disease, can be modified with appropriate interventions. However some, including advanced age and a history of falls, are not modifiable. Risk factors can also be environmental or extrinsic. Such risk factors are often modifiable and include tripping hazards, lack of stair railings or grab bars, slippery surfaces, unstable furniture, and poor lighting. (9)

Certain situations can also place a person at greater risk of falling and provide opportunities for intervention. For example, the risk of falling is substantially increased in the first month after discharge from the hospital, with 15% of all re-hospitalizations for seniors related to falls. (10) Educating hospital discharge planners about fall prevention resources and the need for fall risk assessments and interventions presents an important opportunity to prevent future falls.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

The Value of Individualized Assessment and Intervention

There are a variety of different types of programs, ranging from exercise to home modifications to medication management, that target risk factors to prevent falls among community-dwelling seniors. However, recent research has shown multi-factorial fall risk assessment and intervention programs to be the most effective in preventing falls; with such programs reducing the rate of all types of falls by 40%. (11) In particular, these programs have demonstrated considerable success in their ability to prevent falls among community dwelling adults with a history of falling or other known risk factors. (12)

Multi-factorial fall risk assessment and intervention programs combine individualized fall risk assessment with interventions and treatment plans tailored to the individual's unique assessment results. (13, 14) They are an important way to determine an individual's unique combination of risk factors. While interventions will vary based on individual risk factors, research has found that successful multi-factorial programs include the following components in their interventions:

- Strength and balance training;
- Home hazard assessment and intervention;
- Vision assessment and referral; and
- Medication review with modification or withdrawal. (15)

One downfall of multi-factorial fall risk assessment and intervention programs is that they can be resource intensive; requiring a multidisciplinary team of providers to implement the needed services identified in the assessment. (16) Evidence suggests that this strategy can be the most cost effective, and demonstrate more evidence for effectiveness, when it targets older adults at high-risk for falling. (17) Community-dwelling seniors are at high-risk for falling if they: experience repeated falls; are prone to fall-related injures; or have just sustained a fall requiring medical attention. (18)

The Role of Home Health Agencies in Community-Based Fall Prevention

Health care providers have an important role to play in implementing multi-factorial fall risk assessment and intervention. Clinical Guidelines put forth by the National Institute for Clinical Excellence (NICE) in London recommend that health care providers give seniors a multi-factorial fall risk assessment if they: present for medical attention because of a fall; report recurrent falls within the past year; or demonstrate abnormalities of gait and/or balance. The guidelines further recommend that fall risk assessment be part of an individualized, multi-factorial intervention for all seniors with recurrent falls or at increased risk of falling. (19)

However, several factors make multi-factorial fall risk assessment challenging to conduct in a clinical setting. First, a critical piece of the assessment for community-dwelling seniors is observing how the individual interacts with their home environment and evaluating home hazards. As such, it is important that the assessments be done in the senior's home. Second, demands on limited time during office visits make such a time-intensive assessment impractical. Physicians and other office-based clinicians are ideally situated, however, to screen for fall risk

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

based on the NICE Guidelines and refer high-risk seniors to another agency for assessment and intervention.

As opposed to a clinical setting, home visits are an ideal way to conduct a multi-factorial fall risk assessment. Home visits allow the assessor to observe activities of daily living, as well as inspect the home for fall hazards. (20) They also provide an opportunity for fall prevention with individuals who normally would not access the system.

The experience of home health agencies makes them a likely choice to conduct individualized, multi-factorial fall risk assessment and intervention. Unlike public health departments or social service agencies, home health agencies have on staff a wide variety of health care professionals including nurses and nurse case managers, physical and occupational therapists, speech therapists, medical social workers, and nutritionists, all critical to effective assessment and intervention. However, of all these professionals, home health nurses are the best suited to perform comprehensive fall risk assessment and intervention. Nurses are generalists who understand the diverse impairments, medication side effects, chronic diseases, and home environment issues that affect fall risk. In addition to those skills, home health nurses have extensive knowledge of community resources necessary for referrals for intervention. These referrals could be to another discipline, such as to physical or occupational therapy, or to a social service or home modification agency. Finally, home health nurses are accustomed to going into senior's homes and observing how an individual interacts with their environment.

Implementing a Community-Based Fall Prevention Program within a Home Health Agency

By utilizing their experienced staff of home health nurses to conduct multi-factorial fall risk assessment and intervention, home health agencies can be a primary source for fall prevention for community dwelling seniors. Several steps are necessary to ensure the success of a home health agency's fall prevention program. These steps include: 1) establishing organizational standards of practice for fall prevention; 2) assigning dedicated staff to conduct the assessments, interventions and follow-up; 3) training staff on multi-factorial risk assessment and intervention; 4) establishing standardized, evidence-based intervention procedures; 5) developing a marketing plan for the program; and 6) evaluating the program. These steps are outlined in Table 1.

Creating a Structure for Success: Facilitating Community-Based Fall Prevention Programs

The Importance of Community Collaboration

Home health agencies are one piece of a large "pie" of community resources that can be leveraged to create a successful, sustainable fall prevention program for community-dwelling seniors. To increase the success of their program, it is important that home health agencies work with organizations who have regular contact with seniors to educate them on the importance of fall prevention and to build a referral network for individuals at-risk for falls. Community organizations that make likely partners include: medical offices, home modification

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

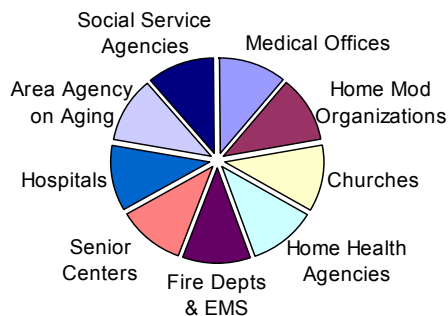
Table 1: Implementation Steps for a Community-Based Fall Prevention Program within a Home Health Agency

Step No.	Description
1	Explore existing fall prevention resources in your community. Determine what your agency is capable of doing and where it fits into the existing community fall prevention structure.
2	Establish clear goals for your fall prevention program and select program staff based on those goals. Staff should include home health nurses for conducting assessments, intervention and follow-up.
3	Establish a system to collect data on the V-code, V15.88 (history of falls or risk of falls), on plans of treatment that will help determine the scope of the problem in your patient population and facilitate future funding for fall prevention services.
4	<p>Adopt organizational policy and practice changes to include evidence-based assessment and intervention procedures. Procedures should include:</p> <ul style="list-style-type: none"> • Creating quality control standards for assessment skills, including initial and ongoing training requirements for staff. Training should be cross-disciplinary, such as training nurse assessors on physical therapy balance and gait assessments. This training will enhance understanding of the role of other disciplines and facilitate appropriate referrals. • Creating a standardized process for intake, assessment, intervention, education, ongoing follow-up and education with seniors, follow-up communication with the referrer, and equipment installation. • Appropriate interventions, such as: <ul style="list-style-type: none"> • Health education based on sound health promotion theory, such as Prochaska’s Stages of Change Theory. • Leaving written information about recommended interventions with the senior; this could take the form of a checklist with simple instructions from the nurse. • The immediate or timely installation of any home modification equipment. • Timely referrals for intervention, which may include referral to physicians, physical or occupational therapy, physical activity programs, or social service agencies. • Follow-up communication procedures, such as: <ul style="list-style-type: none"> • Follow-up phone calls with the senior to ensure they are carrying out the recommended interventions and, if not, providing additional assistance in accomplishing the interventions. • Follow-up with the referrer on the assessment outcome and recommended interventions. • Ongoing evaluation with the fall prevention team to refine the interventions as needed and identify additional training needs.
5	Gather appropriate assessment and intervention tools and train staff on selected tools. Training should include a demonstration of a standardized definition of a fall to ensure all assessors get an accurate and consistent count of the number of falls experienced by the senior.
6	Develop a marketing plan that includes marketing your program to doctor’s offices, hospital discharge planners, social service agencies, senior nutrition sites, and other appropriate venues in your community. Marketing should include educating medical providers and other referrers on the importance of screening and referral for fall prevention, as well as the importance of including fall risk assessment and intervention in the care plan.
7	Develop an evaluation plan for the program to determine what is working and what isn’t, including what changes to the process or additional training may be needed. Remember to include formative, process and outcome evaluations.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

organizations, churches, emergency medical services agencies, fire departments, Area Agencies on Aging, senior centers, social service agencies, elder services coalitions, and a variety of other organizations that will vary from community to community. (See Figure 1)

Figure 1: Collaboration Pie for Fall Prevention



A particularly effective way to build partnerships is through participation on community coalitions and senior service councils with other health and senior-focused organizations. These groups can support fall prevention efforts within home health agencies and serve as a venue to network, disseminate information and learn about community resources.

Policy Changes to Support Community-Based Fall Prevention

An ongoing, stable source of funding for fall risk assessment and intervention remains the major barrier to implementing fall prevention programs on a broad scale, particularly in rural areas. One large review of fall prevention programs by the RAND Corporation found that all of the programs operated through special funding from grants or demonstration projects and that none continued as a regular program after the special funding ended. (21)

Policy changes could create stable funding sources for fall prevention programs within home health agencies and facilitate the establishment of such programs in rural areas. While home health agencies are uniquely positioned to address fall risk among community-dwelling seniors, traditional funding streams have prevented them from seeing patients who are not home-bound.

As a first step to receiving reimbursement and funding for fall risk assessment and intervention services, home health agencies need to demonstrate that they are frequently seeing patients at high-risk for falls and fall injuries. To facilitate this data collection, the California Office of Statewide Health Planning and Development should include a specific section for the V-code, V15.88 (history of falls or risk of falls), on their Annual Utilization Report of Home Health Agencies and Hospices. By adding this V-code to reporting forms, home health agencies could collect data on the number of patients seen who are at risk for falls or have a history of falls, as well as the total number of home visits made for that purpose. The addition of this V-code would demonstrate the need for fall prevention services within home health agencies. Home health agencies could also begin collecting this V-code data internally, adding the V-code to the plan of treatment and setting the stage for grant funding for fall prevention services.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

Given its significant potential to prevent costly fall injuries and subsequent hospitalizations, Medi-Cal and Medicare should cover preventive assessments that have the intent of reducing falls and fall-related injuries. To assist in this process, doctors should regularly screen older patients for falls and refer them to home health agencies with “fall assessment and prevention” indicated in the care plan. This would enable home health agencies to be reimbursed for fall assessment and intervention services, and will increase the number of home health agencies capable of providing this service in a community. In addition to the assessment, it is also important that Medi-Cal and Medicare cover the purchase and installation of durable medical equipment recommended in the fall risk assessment. If such home modification equipment is not installed for the senior, experience has demonstrated that it is unlikely seniors will install the equipment themselves. Funding the purchase, as well as the installation, of such equipment will make it much more likely that needed home modifications will be available to the senior.

Finally, due to the high fall risk following discharge from the hospital, it is vital that hospital discharge planners screen for fall risk and refer all high-risk seniors for fall prevention assessment and intervention. This will not only require more community-based fall prevention programs to accept the referrals, but also targeted education for discharge planners on resources and referral options, a validated and reliable screening tool, and regular evaluation and follow-up to ensure referrals are occurring.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: Summary of Recommendations

For home health agencies to create successful fall prevention programs, the following should be undertaken:

- Home health agencies should receive training on their critical role in fall prevention and on how to establish a fall risk assessment and intervention program.
- Physicians should regularly screen seniors for fall risk and refer to home health agencies with “fall assessment and prevention” included in the care plan.
- Hospital discharge planners should be educated on resource and referral options, including referral to home health agencies for multi-factorial fall risk assessment and intervention.
- The California Office of Statewide Health Planning and Development should include a specific section for the V-code, V15.88, on their Annual Utilization Report of Home Health Agencies and Hospices.
- Medi-Cal and Medicare should cover preventive assessments by home health agencies that have the intent of reducing falls and fall-related injuries among home-bound and non-home-bound seniors.
- Medi-Cal and Medicare should cover the purchase, as well as the installation, of durable medical equipment that is recommended by a fall risk assessment.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

Conclusion

This report has detailed several ways to increase success when a home health agency conducts multi-factorial fall risk assessment and intervention in a community setting. However, much research remains to be done to establish tried and true best practices for fall prevention within home health agencies.

What is clear, however, is the crucial role home health agencies have in community-based fall prevention. By following the organizational practice guidelines outlined in this paper, home health agencies can be a successful, and stable, fall prevention referral source for clinicians and social service agencies. To facilitate the implementation of such programs on a broad scale, particularly in underserved rural areas, home health agencies should begin collecting patient falls data as a first step to receiving reimbursement for fall prevention services.

The effectiveness of multi-factorial fall risk assessment and intervention in reducing fall injuries and related hospitalization is clear and should warrant its widespread implementation in communities. By working collaboratively and advocating for policy change, home health agencies and their partners will be successful in reducing falls among seniors and in reducing the heavy financial and emotional toll falls take on seniors, their families and society at large. Perhaps most importantly, such fall prevention efforts will assist seniors in remaining active, independent members of their community.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

References

- (1) Archstone Foundation. Preventing Falls in Older Californians: State of the Art. Long Beach, CA: January 2003, revised October 2004.
- (2) California Department of Health Services, Epidemiology and Prevention for Injury Control Branch
- (3) Archstone Foundation. Preventing Falls in Older Californians: State of the Art. Long Beach, CA: January 2003, revised October 2004.
- (4) Archstone Foundation. Preventing Falls in Older Californians: State of the Art. Long Beach, CA: January 2003, revised October 2004.
- (5) RAND Report. Falls Prevention Interventions in the Medicare Population. Contract number: 500-98-0281.
- (6) Stevens JA, Rose DJ, Cameron, KA, et al. Falls Free: Promoting a National Falls Prevention Action Plan, Research Review Papers. Washington DC: National Council on Aging Falls Free Initiative: 2005.
- (7) RAND Report. Falls Prevention Interventions in the Medicare Population. Contract number: 500-98-0281.
- (8) Archstone Foundation. Preventing Falls in Older Californians: State of the Art. Long Beach, CA: January 2003, revised October 2004.
- (9) Stevens JA, Rose DJ, Cameron, KA, et al. Falls Free: Promoting a National Falls Prevention Action Plan, Research Review Papers. Washington DC: National Council on Aging Falls Free Initiative: 2005.
- (10) Mahoney JE, Palta M, Johnson J, et al. Temporal association between hospitalization and rate of falls after discharge. Archives of Internal Medicine 2000 Oct 9; 160(18): 2788-95.
- (11) RAND Report. Falls Prevention Interventions in the Medicare Population. Contract number: 500-98-0281.
- (12) Gillespie, LD, Gillespie, WJ, Robertson, MC, et al. Interventions for Preventing Falls in Elderly People (Cochrane Review) In: The Cochrane Library, Issue 3, 2003. Oxford: Update Software.
- (13) Archstone Foundation. Preventing Falls in Older Californians: State of the Art. Long Beach, CA: January 2003, revised October 2004.
- (14) RAND Report. Falls Prevention Interventions in the Medicare Population. Contract number: 500-98-0281.
- (15) National Institute for Clinical Excellence. Clinical Guideline 21: The assessment and prevention of falls in older people. London, England: November 2004.
- (16) Stevens JA, Rose DJ, Cameron, KA, et al. Falls Free: Promoting a National Falls Prevention Action Plan, Research Review Papers. Washington DC: National Council on Aging Falls Free Initiative: 2005.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies

- (17) Stevens JA, Rose DJ, Cameron, KA, et al. Falls Free: Promoting a National Falls Prevention Action Plan, Research Review Papers. Washington DC: National Council on Aging Falls Free Initiative: 2005.
- (18) American Geriatrics Society, British Geriatrics Society, American Academy of Orthopedic Surgeons. Guideline for the prevention of falls in older persons. *Journal of the American Geriatrics Society* 2001; 49: 664-72.
- (19) National Institute for Clinical Excellence. Clinical Guideline 21: The assessment and prevention of falls in older people. London, England: November 2004.
- (20) Fabacher, D, Josephson, K, Pietruszka F, et al. An In-home preventive assessment program for independent older adults: a randomized controlled trial. *Journal of the American Geriatrics Society* 1994 Jun; 42(6):630-8.
- (21) RAND Report. Falls Prevention Interventions in the Medicare Population. Contract number: 500-98-0281.

Multi-Factorial Fall Risk Assessment and Intervention for Community-Dwelling Seniors: The Role of Home Health Agencies



Caring Choices

Working to promote the health and welfare of residents of Northern California by providing services currently non-existent or limited in availability and accessibility.

For More Information:

Barbara Hanna, BSN, PHN, CCM
Caring Choices
1398 Ridgewood Drive
Chico, California 95973
Phone: 530-899-3873
Fax: 530-899-3749
bhanna@sbcglobal.net

