Falls Prevention in Adults 65 Years and Over: A Call for Increased Use of an Evidenced-Based Falls Prevention Algorithm

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Abstract
Falls in adults 65 years and over have been recognized as an urgent national public health crisis. As a result, the Centers for Disease Control and Prevention responded by creating a national initiative aimed at preventing falls among community-dwelling adults 65 years and over. In this policy statement, we aim to educate health care and public health professionals on the importance of fall screenings, fall risk assessments, and interventions. Also, we aim to promote the inclusion of other members of the health care team (in addition to primary care staff) in employing evidence-based algorithms to prevent falls.

Relationship to Existing APHA Policy Statements
No active existing APHA policy statement addresses this public health problem. However, there are several related policy statements that mention the importance of falls prevention.

- APHA Policy Statement 201514: Building Environments and a Public Health Workforce to Support Physical Activity Among Older Adults.
- APHA Policy Statement 20215: A Call to Improve Patient and Public Health Outcomes of Diabetes through an Enhanced Integrated Care Approach
- APHA Policy Statement 20212: Prevention of Lower Extremity Amputations due to Nontraumatic Loss of Sensation and Loss of Circulation
- APHA Policy Statement 20191: Coordinated Nationwide Approaches to Promote Eye Health and Reduce Vision Impairment
- APHA Policy Statement 20172: Supporting the Updated National Physical Activity Plan
- APHA Policy Statement 202011: Supporting and Sustaining the Home Care Workforce to Meet the Growing Need for Long-Term Care
- APHA Policy Statement 202013: Strengthening the Dementia Care Workforce: A Public Health Priority

Problem Statement
20235 Falls Prevention in Adults Aged 65 and Over: A Call for Increased Use of an Evidence-Based Falls Prevention Algorithm

Falls are the leading cause of injury-related deaths among adults 65 years and over[1] and lead to premature mortality, loss of independence, and placement in assisted-living facilities.[2] According to the Centers for Disease Control and Prevention (CDC), in 2018 27.5% (35.6 million) of adults 65 years and over reported at least one fall in the past year, and 10.2% (8.4 million) reported a fall-related injury.[3,4] Each year falls result in more than 32,000 deaths, with 3 million older adults requiring emergency room treatment. Falls are one of the leading causes of traumatic brain injuries in adults 65 years and older[5], and fall-related hip fractures account for at least 300,000 hospital admissions.[6] In addition to the societal burden of falls, poor outcomes following a fall event disproportionately affect minorities and those who are underinsured/uninsured. As reported in one study, Black and Asian patients are approximately 14% to 39% more likely to die following an injury than White patients.[7] Another study including 35 articles with data on injury outcomes noted that race/ethnicity and insurance status were clearly related to disparate outcomes, with Black patients being 19% more likely to die than White patients and uninsured patients being more than twice as likely to die as patients with private insurance.[8] In 2015, the estimated medical cost for fatal and nonfatal falls was $50 billion.[9] Falling will likely continue to be a public health problem in the years to come in the United States with an aging citizenry, notably “baby boomers.”[10] The financial burden could be lessened with appropriate interventions. The interventions presented in this policy have been estimated to each avert millions of dollars in health care system costs by preventing falls. For example, addressing vision problems can result in a savings of $237–$423 million by mitigating falls in the at-risk population.[11] Addressing mobility and balance issues could save upwards of $315 million, and performing home hazards evaluations could save $442 million.[11]

Given that the causes of falls are multifactorial, every health care interaction involving an adult 65 years and over is an opportunity to reduce fall risk. Some of the more common underlying causes are outlined below and further highlight the need for all health care providers to be involved in mitigating fall risk.

Falls in adults 65 years and over are recognized by a variety of health care organizations and governmental agencies as an urgent national public health crisis. The problem is so pronounced that the Patient Protection and Affordable Care Act of 2010 mandated that “all marketplace health plans, and many other plans must cover falls prevention measures for adults 65 years and over, living in a community (non-medical) setting.”[12] In addition, Healthy People 2030 aims to decrease the rate of fall-related deaths and reduce emergency department visits due to falls.[13]
Most falls are preventable, but a substantial increase in education (among both patients and providers) is required. The CDC has responded to this need by creating Stopping Elderly Accidents, Deaths & Injuries (STEADI), a national initiative aimed at preventing falls among community-dwelling adults 65 years and over.[14,15] The STEADI algorithm offers solutions for screening for fall risk along with fall assessment tools, diagnostic testing, appropriate referral recommendations, inpatient and outpatient care, educational materials for patients, and training programs for providers. STEADI has received mostly positive endorsements[16]; despite the requirement of a fall risk screening in the Welcome to Medicare visit, however, a thorough fall assessment and subsequent intervention is not required. Currently, the burden of fall risk screening in adults 65 years and over seems to fall on the primary care provider or gerontologist, but these annual wellness visits are largely underutilized in the health care system, with Medicare reporting only an 18.7% use rate in 2016.[17] Education is a critical step toward increasing the usage rate of evidenced-based falls prevention algorithms such as STEADI. In this policy, we aim to educate health care providers on the importance of not only fall screening but also fall risk assessments and interventions in community-dwelling adults. Using an algorithm such as STEADI can avert $94–$442 million in direct medical costs annually.[11] In addition, we aim to promote the inclusion of other members of the health care team in performing appropriate fall screenings, risk assessments, and interventions and employing evidence-based algorithms to prevent falls. This policy statement covers only community-dwelling adults 65 years and over; it does not cover falls prevention among institutionalized adults or those residing in nursing facilities.

Medications related to falls: The American Geriatrics Society updated its guidelines in 2015 citing medications that should be used with caution in the elderly population.[18] In the guidelines, the society identified medications that were associated with an increased risk of falls. The use of psychoactive medications such as anticonvulsants, antidepressants, antipsychotics, benzodiazepines, opioids, and some sedatives-hypnotics was noted to be linked to falls. Other medications including antihistamines, medications affecting blood pressure, and muscle relaxants can cause dizziness, confusion, blurred vision, or orthostatic hypotension, which can also lead to falls.[18,19] The society recommends that these medications be used cautions and that providers avoid using two or more medications from these categories in combination. Despite these recommendations, the percentage of people who received at least one medication linked to an increased fall risk increased from 57% in 1999 to 94% in 2017.[20] Pharmacists can play a vital role in reducing nonessential medications that could contribute to fall risk.[21] Health care providers should be aware of the reasons why the medications were prescribed, specifically in cases of mental health issues. There is a bidirectional relationship between fall risk and the
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Prevalence of mental health issues. Mental health providers can act as an additional entry point to screening for fall risk.

Physical inactivity: Physically inactive adults 65 years and over are more likely to experience falls and be seriously injured than physically active adults.[22] In addition, adults 65 years and over who report difficulties with functional abilities (e.g., vision impairment, difficulty concentrating, walking/climbing stairs, performing errands alone, and dressing/bathing) experience a higher rate of falls.[4] The risk of being a “recurrent faller” (two or more self-reported falls over a period of 36 months) is 39% greater among older adults with lower physical activity levels.[22] Also, as aging occurs, several highly prevalent changes, including decreases in functional performance, increase the risk of frailty and age-related loss of muscle mass and strength (sarcopenia). There is substantial evidence that supports the benefits of physical activity and exercise for the functional performance of older adults. A strong association has been demonstrated between frailty and the structure and function of skeletal muscle.[23] The decline in skeletal muscle, especially that of the lower limbs, greatly impacts mobility and stability.[23] which in turn increases the risk of falls. The association between physical inactivity and falls is also seen in chronic diseases associated with older age, including Parkinson’s disease, where physical inactivity is associated with frequent falls.[22] Physical therapists play an important role in helping people improve their flexibility, balance, physical strength, and gait by implementing exercise intervention programs. Balance programs in particular may reduce the risk of falls by 24%.[23]

Dementia: Cognitive impairment (an impaired ability to remember, think, or make decisions that interferes with doing everyday activities), ranging from mild cognitive impairment to dementia, is a risk factor for falls in older adults.[24,25] One study showed that the prevalence of falls among people with dementia is 50% to 80% within a 12-month period.[25] This risk is further increased if there are additional problems such as vision impairment or mobility issues. Cognitive impairment is associated with gait and balance challenges and an increased fear of falling, all of which lead to a higher risk of falls.[26] Because of the increased prevalence of falls among older adults with cognitive impairment, health care providers should discuss risk of falls and intervention opportunities with older adults and their caregivers at every opportunity.

Metabolic disorders: People with a metabolic syndrome have a higher incidence of falls.[27] Diabetes, a metabolic dysregulation of insulin production and/or insulin receptors, is at epidemic levels in the United States. More than 10% of Americans (34.2 million) have diabetes, and approximately 30% of American adults (88 million) have prediabetes.[28] Also, the prevalence of diabetes increases markedly with age.
Several complications related to the disease are known fall risks, including neuropathy, neuroarthropathy, amputation, and vision impairment. In addition to diabetes, frailty (age-related physiological decline) and sarcopenia (loss of muscle mass and strength) can lead to falls. These conditions increase the risk of falls when deterioration in muscle and nerve function, declining cardiopulmonary reserve, and loss of executive function cause the person to not maintain balance. This effect is heightened among those with diabetes because the lack of insulin, an anabolic hormone in muscle protein synthesis, plays a key role in the progression of frailty and sarcopenia in patients with the disease. As health care providers interact with people with diabetes, identifying, educating, and referring to an appropriate provider for a fall risk evaluation must be incorporated into clinical practice, especially for podiatric evaluations and vision/eye health assessments. Podiatric examinations may aid in early diagnosis of diabetes (e.g., presence of diabetic peripheral neuropathy can be manifested by the loss of plantar sensation, two-point discrimination, or inactive Achilles reflexes). An annual in-person, comprehensive dilated eye examination can detect the earliest signs of diabetes and reduce a person’s risk for severe vision loss from diabetic eye disease by 95%.

Gait disorders and neurological conditions: Gait and balance disorders are common in adults 65 years and over, with a prevalence of 10% between the ages of 60 and 69 years. Peripheral neuropathy, a highly prevalent and morbid condition affecting 2% to 7% of the population, is the most common peripheral neurological condition associated with an increased risk of falling. Patients identified as having a gait disorder should be assessed by a physical therapist to evaluate whether abnormal gait patterns can be improved. Peripheral neuropathy leads to gait instability and also increases a patient’s risk for foot ulceration and amputation, warranting a referral to a podiatric physician.

Foot deformity: It is estimated that 20% to 45% of adults 65 years and over are affected by foot problems. Foot problems causing sensory loss, lower extremity pain, or instability while walking or standing can be associated with decreased balance and unsteady gait, thereby contributing to fall risk. Foot conditions such as bunions, lesser toe deformities, plantar fasciitis, arthritis, and reduced strength/flexibility are common causes of foot pain. In addition, systemic diseases such as rheumatoid arthritis and diabetes are particularly associated with foot joint tenderness, swelling, bunions, bony erosions, flat feet, loss of foot sensation, and increased plantar midfoot pressures, which have all been associated with an increased risk of falls. To lessen pain, individuals typically will shift weight from the deformed area of the foot to an area that is more comfortable. In adults 65 years and over, this simple maneuver can increase instability, thereby leading to an increased risk of falls. Podiatrists can recommend foot orthoses that help improve biomechanics and postural stability or offer surgical...
correction of foot deformities. Referral to a podiatric physician has been recognized as an essential component of falls prevention algorithms.

Lower extremity amputations: Most lower extremity amputations occur in adults 65 years and over and are usually attributable to vascular disease or diabetes.\cite{30} Patients with transtibial lower extremity amputations have among the highest levels of risk of falling. The absence of an ankle joint and the associated musculature can reduce the ability to clear the ground during the swing phase of gait, which increases the risk of stumbling and falling.\cite{37} The STEADI algorithm recommends an evaluation by a podiatric physician who can assess balance and gait abnormalities and provide modified footwear, braces, or orthotics to mitigate these ailments.\cite{14} Referral to physical therapy in the immediate postoperative period for gait, balance, and assistive device training is warranted in patients with a lower extremity amputation.

Vision impairment: Decreased vision is a significant contributor to falls in adults 65 years and over. In fact, the risk of falls doubles if an elderly adult has any level of vision impairment.\cite{38} Mobility is greatly affected by vision loss, whether resulting from changes in visual acuity, visual fields, depth perception, or contrast sensitivity.\cite{38} Even small changes in vision can increase the risk of a fall. This risk is especially concerning because the number of adults with visual impairment and/or age-related eye disease is expected to double in the next 30 years due to the aging of the U.S. population and the increase in diabetes and other chronic diseases.\cite{39} It is estimated that at least 40\% of vision loss in the United States is either preventable or treatable with timely intervention, yet many people are undiagnosed and untreated. The diagnosis and treatment of eye diseases and vision problems can result in improved visual function, decreased risk of falling, and health-related quality of life improvements among adults of all ages.\cite{40}

The CDC (non-STEADI fall prevention guidance) recommends that those at risk for falls have their “eyes checked by an eye doctor at least once a year and be sure to update eyeglasses if needed.”\cite{3} However, in the CDC STEADI algorithm, all health care providers are guided to assess patient visual acuity using a Snellen eye chart.\cite{15} We would suggest that at a minimum, an annual in-person, comprehensive eye examination by a doctor of optometry or ophthalmologist is a priority in adults 65 years and over, regardless of the level of fall risk, and this visit should not be substituted with a Snellen eye test. Unfortunately, the Snellen acuity evaluation fails to identify many visual parameters associated with the most common eye diseases in the adult population 65 years and over (age-related macular degeneration, cataracts, diabetic retinopathy, and glaucoma),\cite{41} which have been strongly and consistently associated
with falls: poor contrast sensitivity, reduced depth perception, and visual field loss.[38] Left untreated, these vision conditions may lead to challenges with medication compliance, keeping track of personal information, driving, and reading, as well as loss of personal independence and decreased quality of life.[42]

Built environment: The built environment includes all of the physical parts of where one lives and works (e.g., homes, buildings, streets, open spaces, and infrastructure).[43] Identifying enablers and barriers for maintaining safe home environments for adults 65 years and over and their caregivers reduces fall risk. Poor lighting and the presence of stairs have been associated with increased falls. Unsafe environmental features include sliding glass doors, tubs, shower curtains, tub seats, and towel bars near the entry.[44] Shower seats, grab bars in the shower and near the toilet, ramps, and ground-floor bedroom and bathroom locations have been found to promote safer homes. Doorways to bedrooms, toilets, and bathrooms in the homes of adults 65 years and over should have enough space for a walker or a wheelchair to turn around.[44] Likewise, toilet seats and washbasins should be adaptable in height. Accessibility is also related to safety for caregivers as narrow working spaces and physical barriers make safe work techniques or assistive devices and equipment difficult to use. Health care providers should be aware of these considerations and educate patients on built environment considerations. Education on the built environment can reduce falls, thereby reducing injury, which in turn can reduce morbidity and possibly mortality.

Nutrition: Nutritional status in adults 65 years and over is a key predictor of both frailty and sarcopenia; thus, optimizing nutrition in this population has the potential for preventing falls. Interventions to prevent falls in this age group include reducing malnutrition and frailty and correcting nutritional deficiencies.[45] Recommendations for nutrition should also take into consideration the individual’s barriers and resources. While food access and dietary intake are cornerstones to achieving this objective, interventions such as food assistance programs, modified diets, and social support should be considered. Dehydration has also been associated with an increased fall risk in adults 65 years and over, and some studies have therefore recommended better ways to assess adults for dehydration as a preventive measure.[46] Inadequate intakes of calcium, vitamin D, and protein may be associated with an increased risk of falls as well. The STEADI algorithm recommends assessing vitamin D intake and subsequently supplementing vitamin D in those who are identified as deficient.[15]

As noted above, the causes of falls are multifactorial. Every health care interaction with an adult 65 years and over is an opportunity to reduce fall risk. Some of the more common underlying causes among adults...
Evidence-Based Strategies to Address the Problem
More than 90% of adults 65 years and over report seeing at least one medical provider annually, affording the opportunity for all health care providers to play a crucial role in fall prevention.[47] All health care providers can have an impact on those with an increased fall risk by encouraging and educating patients to incorporate evidence-based falls prevention strategies. All providers should be aware of the multiple causes of falls and should be prepared to engage and refer patients to an appropriate specialist to address the identified fall risk. Health care professionals such as (but not limited to) podiatric physicians, eye doctors (doctors of optometry or ophthalmologists), pharmacists, nutritionists, physical therapists, chiropractors, occupational therapists, nurses, and primary care physicians/gerontologists are integral to reducing falls. The CDC’s STEADI algorithm provides a framework for providers to quickly screen community-dwelling adults 65 years and older for fall risk, perform a fall risk assessment, and provide recommendations for interventions if a patient is deemed at risk.[15] Other tools categorized as “falls prevention” tools focus solely on screening or performing a falls assessment. Examples include the Schmid Fall Risk and the Morse Fall Scale Assessment (STRATIFY). STEADI provides a comprehensive algorithm addressing three aspects of falls prevention (screening, assessment, and intervention). Some falls prevention tools include an aspect of screening and early assessment within one tool, but to our knowledge STEADI is the only tool with three aspects of prevention included. STEADI recommends screening annually using a simple three-question survey or the STEADI 12-question Stay Independent Survey.[15] If patients are deemed “at risk,” a fall risk assessment should then be performed. Due to the range of conditions that can contribute to falls, STEADI recommends evaluating multiple risk factors (e.g., gait/balance, vision, medications, home hazards, footwear, comorbidities) to identify where the highest risk resides using evidenced-based tools where applicable. For example, to assess gait/balance risk, STEADI recommends the Timed Up & Go (TUG) Test, the 4-Stage Balance Test, or the 30-Second Chair Stand.[15] Finally, after a specific risk factor has been identified, STEADI recommends interventions based on the patient’s modifiable risk factors such as a physical therapy referral for gait/balance training, a home hazards assessment by an occupational therapist, an optometry/ophthalmology referral for a comprehensive eye exam, or a referral to a podiatric physician for foot pain/deformities or footwear problems.

STEADI has been evaluated in several studies to show its effectiveness. A study evaluating STEADI’s strengths and weaknesses showed that the algorithm has a 73% to 80% sensitivity in predicting future
falls among community dwellers (the target population).[48] Another study revealed that STEADI was able to predict future falls in people who were categorized as at low, moderate, or high risk for falls.[49] STEADI has been successfully integrated in some primary care practices and large health systems such as in New York (in 17 primary care clinics)[50] and Oregon,[51] but overall STEADI is underused, and little has been done to incorporate this algorithm by other health care providers (e.g., specialists and allied health providers). The Centers for Medicare & Medicaid Services (CMS) reported an 18.7% usage rate of an annual wellness exam among beneficiaries, the exam where a fall risk screening is required.[17] The education and inclusion of other health care team members in falls prevention has the potential to increase utilization of valuable fall prevention tools and lessen the burden of falls. Once a patient has been screened and deemed a fall risk, prevention strategies can be incorporated based on the patient’s modifiable risk factors. Given the known disparities with death rates associated with race and insurance status following an injury,[7,8] there is reason to believe that prevention of a fall event could, in turn, decrease the overall rate of death that occurs after an injury in the United States. Current literature criticizes the lack of primary prevention strategies and policies aimed toward reducing injury outcome disparities.[52] Widespread implementation of a multifactorial falls prevention algorithm such as STEADI could serve as a major step toward reducing poor outcomes following injury by preventing the initial injury from occurring in at-risk groups.

According to the U.S. Department of Health and Human Services Physical Activity Guidelines for Americans, adults 65 years and over should engage in at least 150 minutes of moderate intensity exercise weekly.[53] Adults who cannot engage in moderate intensity exercise because of chronic conditions should aim to be as active as their abilities allow, including sitting less throughout the day, using a stationary bike, or walking with assistance. Multicomponent group or home exercise regimens that incorporate balance and strength training reduce the rate of falls by 29% to 32% and the risk of falling by 15%.[54] This positive effect is seen in people across the fall risk spectrum, making exercise one of the most worthwhile interventions to benefit the greatest number of people. It is recommended that exercise classes incorporate two or more types of exercise to achieve the greatest benefit.[54] Classes that include aerobic, muscle strengthening, gait, balance, flexibility, and functional training demonstrate a significant reduction in fall risk. Many physical activities, such as tai chi, have been shown to reduce fall risk and risk of fracture in those considered at low risk for falling.[54] The American College of Rheumatology and Arthritis Foundation have strongly recommended tai chi to manage osteoarthritic pain in adults, which subsequently can encourage more normalized gait patterns.[55] A recent synthesis of high-quality medical literature concluded that tai chi is an effective intervention toward reducing falls among community-dwelling adults and may offer superior results relative to other exercise modalities.[56]
Certain medications (as described above) have been noted to increase the risk of falls in older adults; however, despite this risk, these medications are routinely prescribed. The American Geriatrics Society recently updated Beer’s criteria, which are used during medication reviews to avoid potentially harmful medications in older adults (including those that may contribute to falls).[57] A medication review as a stand-alone assessment has been shown to reduce falls in community-dwelling adults by approximately 6%[58] and may reduce all-cause mortality by 5% to 42%.[59]

Home safety assessments to improve the built environment have been shown to be effective in reducing rates of falls and the risk of falling.[54] With more than 70 known fall hazards identified inside and outside the home, safety assessments can be streamlined by using checklists of potential risks such as poor lighting, floor mats/rugs, clutter, uneven floor surfaces, and medications. These assessments should include recommendations for interventions such as referrals for equipment (e.g., grab bars, ramps, and lighting) and should offer repair or removal of hazards when possible. Rates of falls and risk of falling decrease by 21% to 31% when an occupational therapist (OT) performs the home safety assessment rather than a non-OT.[54] Although OTs are a limited resource and more expensive, trained nonprofessionals are not as effective as OTs in producing fall-rate reductions.[60] Therefore, it is recommended that home safety assessments and interventions be performed by an OT. Even more “upstream” than a home assessment is the utilization of design guidelines to reduce falls when new buildings are being constructed.[61] Guidelines have recommended simple aides such as matte finishes on the floor and walls, an accent wall to assist in wayfinding, and rounded corners on furniture, all of which can be easily incorporated into building construction.[61]

The American Geriatrics Society, the British Geriatrics Society, and the Commonwealth of Australia all recommend a foot examination with a referral to a podiatric physician as a valuable component of the fall prevention algorithm.[62] A podiatric physician can offer an assessment of footwear, gait analysis, strength and range-of-motion assessment, identification and treatment of foot deformities, assessment and treatment of lower extremity neurological conditions (e.g., peripheral neuropathy), treatment of pain in the lower extremity, and even surgical intervention when warranted. Adults receiving care from a podiatric physician (including footwear advice, education, and foot orthotics) can expect a 36% reduction in falls.[63]

In addition, eye doctors play a vital role in preventing falls. The STEADI algorithm currently recommends that health care providers use a Snellen eye chart to assess visual acuity; however, efforts are
better allocated toward ensuring that patients at risk for falls receive annual in-person, comprehensive eye examinations. The four most common causes of blindness (diabetes, glaucoma, cataracts, and age-related macular degeneration) have the highest prevalence in this demographic. These conditions can be treated to slow the progression of vision loss if detected early. The value of ensuring that adults 65 years and over receive annual comprehensive eye care is essential and is supported by the CMS. In 2019, the CMS made an important decision to create a new Merit-Based Incentive Payment System (MIPS) Improvement Activity related to educating patients on the value of comprehensive eye exams.[64] The agency highlighted that “comprehensive eye exams are relatively low-cost interventions and early detection of conditions that can be identified through an eye exam may likely reduce more costly treatment later.”[65] The agency also indicated that the improvement activity will have a positive impact on patient care and promote health equity. All Medicare physicians can earn MIPS credit by educating patients on the need for annual comprehensive eye examinations. For those people who are at risk of falling, a comprehensive eye examination could be lifesaving.

All licensed health care providers require continuing education for maintenance of certification licensure. Not only should providers be continuously reeducated on fall prevention during their relicensure period, but the CDC should also make available through its training and continuing education online portal a course titled “STEADI: Empowering Health Care Providers to Reduce Fall Risk.” The purpose of this course would be to educate health care providers about falls among older adults and about steps that providers can take to prevent falls. The ultimate goal is to reduce falls among those 65 years and over and promote their health and independence.[14]

Opposing Arguments/Evidence

This cohort presents many challenges to the prescribed recommendations. Some challenges include but are not limited to access to care, ability to perform testing, and willingness to obtain care. In a study evaluating adherence to STEADI recommendations, 32% of adults did not recall any of the recommendations given to them.[66] The authors found that the most common recommendation adhered to was exercise and noted that no patients adhered to recommendations to have an eye exam, visit a podiatrist, participate in physical therapy, or review their medications with a pharmacist.[66] The authors noted that older adults were more willing to engage in recommendations when they felt they were assisting in research efforts and working with students. Given that there is no shortage in the need for research, this could be an opportunity to engage patients in adhering to recommendations as well as to engage students.[66] Time constraints can be a major challenge to performing the full STEADI evaluation. For instance, evaluating patients with dementia can be time consuming; these patients cannot
easily complete the self-assessment form or follow directions. Instead of the 12-question screening tool provided by the STEADI initiative, some clinics have adopted a modified version consisting of the following five questions asking whether the patient had (1) two or more falls in the past 12 months, (2) one fall in the past 12 months with an injury, (3) one fall in the past 12 months along with gait and balance problems, (4) any gait or balance problems, and/or (5) presented with an acute fall.[16]

Alternatively, the STEADI initiative recommends three key questions for fall risk screening: (1) Have you fallen in the last year? (2) Do you feel unsteady when standing or walking? and (3) do you worry about falling?[62] For a patient with dementia, addressing these questions with a caregiver who is knowledgeable about the patient’s health history may be warranted to ensure accuracy. Other challenges include ineffective communication with clinic staff and workflow barriers such as cost, time, staffing, and resources. In a study screening more than 300 patients in a primary care setting using the STEADI algorithm, the authors decided to exclude patients with dementia because they noted that it was extremely time consuming for the patients to complete the assessments.[51] Adults with dementia may be better assessed by a neurologist or specialty care clinic, further supporting the ideal that falls prevention should be a team effort by multiple providers when patients have multiple risk factors. Despite initial workflow barriers such as time and staffing, the authors were able to successfully adapt STEADI into the clinical setting and expand its use into multiple clinics, ultimately screening more than 800 patients in the initial rollout.[51]

Further revision of electronic health record templates is required to optimize uptake and enable collection and analysis of data for reimbursement and for reporting quality measures. Reimbursement and other incentives are necessary for building a business case and achieving buy-in from health care system leadership. If a patient referral is necessary, consideration of increased costs must be addressed, as this population may have limited disposable income or limited access to covered providers. In addition, if multiple risk factors are identified, incorporating a multispecialty team to prevent falls will increase Medicare costs in cases in which patients may need multiple visits to providers to successfully mitigate risk. If patients require a physical therapy program for balance or gait ailments, this may result in 10 or more visits. The cost-effectiveness of multispecialty teams has been evaluated for other medical conditions such as preventing amputations among adults with diabetes. These teams have been seen to increase costs, and health systems in other countries have noted that they may not be cost-effective.[67] Nonetheless, for complicated, multifactorial problems, a multispecialty team is considered the optimal approach. Some authors have questioned the 65 and older threshold as being an arbitrary cutoff for when fall screening should take place and instead call for fall risk screening to take place at younger ages.
Studies have noted that the incidence of falls may actually increase at the age of 45 years. Although STEADI has been almost exclusively studied in the 65 and older age group, there is reason to believe that screening at an earlier age may offer more preventive benefits.

Action Steps

- APHA calls on all professional societies to educate their members and promote use of an evidenced-based algorithm such as STEADI that includes fall screening, assessment, and interventions in their patients 65 years and over.

- APHA urges all accredited continuing education organizations to make STEADI-related education available for continuing education credits.

- APHA urges all state licensing organizations (e.g., the Accreditation Council for Continuing Medical Education, the American Osteopathic Association, the Commission for Continuing Education Provider Recognition, the American Academy of Family Physicians, the American Podiatric Medical Association, the American Optometric Association, state boards of pharmacy) to include STEADI and other falls prevention education mandatory requirements for initial licensing and recertification.

- APHA urges the American Optometric Association and the American Academy of Ophthalmology to advocate for annual in-person, comprehensive eye examinations for all adults 65 years and over.

- APHA urges the CDC to change the STEADI algorithm to mirror the recommendation of the CDC falls prevention webpage (“have your eyes checked by an eye doctor at least once a year and be sure to update your eyeglasses if needed”) instead of using a Snellen eye chart for screening.

- APHA recommends that Medicare, Medicaid, and private insurers include coverage with no or low-fee cost sharing and reimbursement to providers for fall prevention exercise programs for adults 65 years and over, including gait, balance, and functional training.

- APHA urges emergency departments and health care facilities that treat patients after an acute fall to provide discharge instructions to obtain a comprehensive eye examination, a physical therapy assessment, and a podiatric assessment to reduce the risk of future falls.

- APHA recommends that all health care providers educate patients with diabetes about the multifactorial increased risk of falls among adults 65 years and over.

- APHA calls on all relevant member sections to work together to foster an integrated fall prevention algorithm (i.e., STEADI) that incorporates multispecialty providers earlier in the fall
assessment and intervention phases of the algorithm to ensure comprehensive assessment and
subsequent treatment of fall risks.

- APHA calls on all relevant member sections providing care and services to adults 65 years and
over to promote physical exercise programs focusing on strength, endurance, and cardiovascular
health. Outreach and education directed toward health promotion among adults 65 years and over
must include increased attention to physical activity and strength training.

- APHA urges the American Podiatric Medical Association to advocate for all individuals 65 years
and over to have a podiatric screening using the STEADI risk screening questionnaire and
perform subsequent fall assessments/interventions based on modifiable risk factors.

- APHA urges all insurers (e.g., Medicare, Medicaid, private insurers) to educate their covered
individuals 65 years and over regarding the Patient Protection and Affordable Care Act mandate
that all marketplace health plans and many other plans must cover fall prevention (with exercise
or physical therapy and vitamin D use) for those living in a community setting.

- APHA recommends that the CDC regularly review and improve the current STEADI algorithm to
keep pace with changes and improvements in health care technology.

- APHA recommends that the U.S. Food and Drug Administration and the National Institutes of
Health continue to assess the potential impacts of polypharmacy; relationships between
medications and falls, specifically medication classes (e.g., anticoagulants) or specific drug
combinations (e.g., opioids and benzodiazepines); and how to ensure that adults 65 years and
over are included in clinical trials for drugs in which they will constitute the intended population.

- APHA encourages standardized building codes to ensure that homes are safe for people of all
ages, including seniors.

- APHA urges universal design in all federally subsidized and state-subsidized housing to ensure
that housing units can be readily adapted to meet changing demographics.

- APHA recommends collaboration with interest groups such as AARP to develop educational
programs supporting older adults in their use of the health care system to decrease their fall risk.

References
3. Centers for Disease Control and Prevention. Facts about falls. Available at:
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