June 26, 2019

Chairman Susan M. Collins  
Senate Special Committee on Aging  
United States Senate  
413 Dirksen Senate Office Building  
Washington, DC 20510

Ranking Member Robert P. Casey, Jr.  
Senate Special Committee on Aging  
United States Senate  
393 Russell Senate Office Building  
Washington, DC 20510

Dear Senators Collins and Casey:

On behalf of the National Council on Aging, I am pleased to submit the attached recommendations in response to the Senate Special Committee on Aging’s request for input related to older adult falls and falls prevention. We applaud the Senate Special Committee on Aging for dedicating focused attention and raising the visibility of this critical public health problem that impacts millions of older adults each year. We are hopeful that the Senate Aging Committee’s report will lead to policy and regulatory changes that will reduce the personal and public costs associated with falls and injuries among older adults.

NCOA’s input and recommendations address each topic area identified in the Committee’s request letter. Our recommendations are based on the National Falls Prevention Action Plan, the latest research findings, as well as our extensive experience in working with health care providers, as well as states and local communities that have received grants from the Administration for Community Living to implement and sustain evidence-based falls prevention programs. In addition, we strongly recommend that a cross-agency federal effort be established that is modeled after the National Alzheimer’s Project Act (NAPA) that would build upon and leverage HHS programs and other federal efforts to help change the trajectory of falls and injuries among older adults.

We would be happy to answer any questions you may have as the Committee staff develops the falls prevention report. Thank you.

Sincerely,

Howard Bedlin  
Vice President, Policy and Advocacy
Executive Summary
National Council on Aging’s Response to the
U.S. Senate Special Committee on Aging’s Falls Prevention Request

Older adult falls are a common, serious, growing public health problem. Approximately 30% of adults aged 65 and older fall each year, and these falls often result in serious injuries, decreases in mobility, and loss of independence. Only one-third of those who fall seek medical care. In 2015, more than 3 million older adults received treatment in emergency departments for falls and fall-related injuries, with unintentional falls accounting for approximately 30,000 older adult deaths in the United State that same year. The Centers for Disease Control and Prevention recently estimated that fall-related deaths among U.S. adults aged 75 years and older increased and almost tripled from 2000 (8,613) to 2016 (25,189).

With the aging of the “boomer” generation, the growth of the older population in the United States is accelerating. Problems with mobility, balance, and loss of muscle strength contribute to the likelihood of falling. In addition, people are living longer with chronic conditions such as cardiovascular disease, diabetes mellitus, arthritis, and chronic pain. These illnesses, as well as many of the medications used to treat them, all increase fall risk.

Extensive research has been conducted on the scope of the problem, risk factors, and interventions to reduce falls and injury. Effective clinical interventions, evidence-based community programs and clinical–community partnerships have been identified and must scaled and fully supported to realize a significant reduction in falls and related injuries among older adults. Due to the multi-factorial nature of older adult falls, NCOA advocates for a multi-stakeholder approach to this issue. As a national leader in falls prevention and lead for the Administration for Community Living (ACL)-funded National Falls Prevention Resource Center, NCOA supports the National Falls Free® Initiative and state falls prevention coalitions that are now active in 43 states. In 2015, we developed a comprehensive National Falls Prevention Action Plan, in conjunction with the Falls Free Initiative® members and federal agencies.

NCOA’s input and recommendations to the Senate Special Committee on Aging are summarized below. Our recommendations are based on the National Falls Prevention Action Plan, the latest research findings, as well as our extensive experience in working with health care providers, as well as states and local communities that have received grants from the Administration for Community Living to implement and sustain evidence-based falls prevention programs.

Coordinated Federal Efforts
NCOA strongly recommends that a cross-agency federal effort (e.g., ACL, CMS, HRSA, HUD, IHS) be established that is modeled after the National Alzheimer’s Project Act (NAPA) that would build upon and leverage HHS programs and other federal efforts to help change the trajectory of falls and injuries among older adults. The NAPA law calls for a National Plan for Alzheimer’s disease and related disorders with input from a public-private Advisory Council on Alzheimer's Research, Care and Services. The Advisory Council makes recommendations to HHS for priority actions to expand, coordinate, and condense programs in order to improve the health outcomes of people with AD/ADRD and reduce the financial burden of these conditions on those with the diseases, their families, and society. We believe a similar approach is essential to best address the significant public health problem of older adult falls. This effort should include a targeted, national awareness campaign to change knowledge, attitudes, and behaviors towards reducing falls risks, falls and related injuries. The campaign should encompass the tenets of the CDC’s social ecological model, considering the interplay of falls risks that can be addressed by individuals, relationships, communities, and societal factors.
Medicare

- Strengthen the Annual Wellness Visit (AWV) to better address the needs of older adults at risk for falls, specifically:
  - Improve requirements for AWV screenings and referral pathways to falls prevention interventions, including specific protocols, recommended best processes and practices, and use of the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) resources developed by the CDC for falls prevention.
  - Develop standards for the post-visit follow-up to ensure compliance with the prevention plan of care and referrals; and
  - Broaden the permissible circumstances under which AWVs can be conducted in a beneficiary’s home.
- Add evidence-based falls prevention programs as a Medicare-covered preventive services benefit for those at risk. These programs have proven to reduce falls risk factors and falls, improve quality of care, quality of life and can reduce Medicare spending.
- Develop Medicare falls prevention-specific billing codes for screening, assessment and intervention/plan of care.
- Add a second fall as a Hospital Readmissions Reduction Program measure.
- Strengthen Medicare quality standards for falls prevention.
- Increase weight of falls risk screening and addressing falls risk for Medicare Advantage STAR Ratings.
- Through CMMI funding, examine the effects of innovative payment models and care coordination strategies to encourage fall prevention in primary care practices.
- Reimburse for the Fracture Liaison Service, an innovative care coordination strategy for secondary fracture prevention, that has been demonstrated to improve utilization of effective screening and therapies, improve outcomes and reduce costs.

Evidence-based Programs

- Expand the availability of evidence-based falls prevention programs (EBFPP). By increasing funding to the Administration for Community Living (ACL) for EBFPPs to $10 million annually, more older Americans could access these interventions, helping to maintain their safety, health, and independence.
- Expand the falls prevention evidence-based program infrastructure. Specific actions to achieve this recommendation:
  1. Work with program developers and groups such as the Evidence-Based Leadership Collaborative to standardize training and licensure.
  2. Standardize and improve program data collection and data sharing; identify salient data point and tools.
  3. Create a coordinated system for referrals.
  4. Establish evaluation criteria for expanding the falls prevention evidence-based infrastructure, including the implementation of clinical-community connections such as the number of referrals from health care providers to community-based programs.
  5. Evaluate expansion efforts based on the established evaluation criteria.
Polypharmacy

- Increase the numbers of adults who have a medication review at least on an annual basis conducted by a qualified health care provider, e.g., pharmacist, and ensure this review includes an adequate focus on falls and fall-related injury prevention, with the goal of reducing or eliminating medications that increase falls risk, e.g., mandate that Medicare Part D Prescription Drug Plans expand Medication Therapy Management Services to incorporate medication reviews for falls risk reduction.
- Conduct a strategically planned consumer education campaign to increase awareness of falls risks associated with medication use (prescription and nonprescription).
- Develop strategies to empower older adults and family members to play an active role in medication management, e.g., educate consumers on how to more effectively communicate with their health care providers, including a focus on the types of questions they should ask, encourage older adults to identify an individual health care professional to help them manage their medications, distribute consumer-targeted falls risk assessment tools and information through pharmacies.
- Support health care provider efforts in the implementation of periodic medication review and modifications prior to each new prescription that is written for an older adult, e.g., work with electronic health record vendors to develop medication review prompts that guide the provider in optimizing their patients’ medications for overall health and fall risk reduction, improve communication between pharmacists and prescribing healthcare providers, involve home care providers in the front-line assessment of adverse medication affects through the use of simple medication risk assessment tools, increase federal support for the dissemination multifactorial fall risk assessment and management strategies, such as CDC’s STEADI Resources, to health care providers that includes medication review and reduction.

Reporting and Follow-Up

- Strategies to improve reporting include normalizing the language around falls, such as survey questions, awareness and education to reduce stigma and fear, and developing methods to detect falls or falls risk other than self-report, including using digital technologies such as wearable devices.
- Falls are the leading cause of injury-related hospitalization among older adults and a leading diagnosis for hospital readmissions. To avoid penalties and improve care, post-discharge fall prevention protocols should be developed to prevent readmissions.
- Transitional care programs for older adults have been developed and demonstrated to be effective for several chronic conditions. However, little attention has been given to a transitional care program tailored to fall risk and prevention.
- Strategies to improve follow-up after a visit to the emergency room for a fall-related injury includes developing a transitional fall-prevention model that builds on the principles of existing care transition interventions. This transitional falls-prevention model should include using the Geriatric ED Guidelines by emergency hospital staff when evaluating a falls patient to identify the cause of the fall and communicating this etiology with primary care physicians. The model should also include educating patients and families about falls risk and interventions, especially those that are evidence-based, to reduce reoccurrence of falls and reduce falls risk factors.
Tools and Resources for Home Modification and other Modifiable Risk Factors

- Numerous resources that empower individuals to change their home environment or modify risk factors to reduce their falls risk have been developed; increased and coordinated dissemination efforts within health care and the aging and disability communities of these materials are urgently needed. NCOA supports The Senior and Disability Home Modification Assistance Initiative Act of 2019 (S. 702, H.R. 1583) that will require Assistant Secretary for Aging the coordinate federal efforts related to home modifications, as well as produce and disseminate a home modification brochure through the aging and disability networks. It is especially important to provide positive examples of attractive, affordable and culturally appropriate home modifications for a variety of different home settings. We believe this effort would be an important start in addressing this key risk factor for older adult falls.

- Increase collaborative partnerships and coordinated communication among aging, disability, transportation, housing, and other relevant organizations/agencies to better coordinate home safety efforts, the cost savings of which could be used to serve more low-income individuals.

- Increase caregiver awareness and education about modifiable risk factors. Develop caregiver-specific programs, resources, and tools to help caregivers reduce fall risk for both themselves and the person they care for.

- Develop programs and resources for persons with cognitive impairment, in both community-dwelling and institutionalized settings. Older adults with cognitive impairment are four to five times more likely to fall compared to older adults without cognitive impairment. Increase education and awareness among this population about fall risk factors associated with cognitive impairment, and steps that can be taken to reduce fall risk.

- Promote comprehensive annual eye exams and supports for adults with vision impairment. Visual impairment in older adults is significantly correlated with increased fall risk. Recommendations include increasing utilization of annual eye exams to detect common eye diseases that can increase fall risk.
**Reporting and Follow-Up**

To what extent are falls unreported among older Americans? What strategies can be employed to encourage patients to promptly notify their health care provider or caregivers of a fall?

Older adult falls are a common, serious, growing public health problem. Approximately 30% of adults aged 65 and older fall each year, and these falls often result in serious injuries, decreases in mobility, and loss of independence. Only one-third of those who fall seek medical care. In 2015, more than 3 million older adults received treatment in emergency departments for falls and fall-related injuries, with unintentional falls accounting for approximately 30,000 older adult deaths in the United State that same year. Overall, in 2015, falls accounted for approximately 64% of injury-related ED visits and 54% of injury-related deaths among older adults. According to the US Census Bureau, the current population of adults age 65 and older is over 51 million, or about 15.6% of the total population. Considering that 30% of this age group fall, we can estimate that approximately 15.3 million older adults fall each year. This estimate does not include people who fall more than once, whose risk of falling again doubles after the initial fall.

With the aging of the “boomer” generation, the growth of the older population in the United States is accelerating. Problems with mobility, balance, and loss of muscle strength contribute to the likelihood of falling. In addition, people are living longer and living with chronic conditions such as cardiovascular disease, diabetes mellitus, and arthritis. These illnesses, as well as many of the medications used to treat them, can increase fall risk. Falls and falls risk should be recognized as a chronic disease by healthcare, public health, and the public to increase reporting, compliance with recommendations, and reimbursement for prevention and treatment.

To date, self-report is the primary method of identifying falls and fall-related injuries (FRIs) in older adults. Research suggests that older adults modestly underreport falls and FRIs. Research has shown that the accuracy of falls reported was 56% to 87% for falls and 60% for FRIs. Over 90% of older adults visit a healthcare provider annually, yet fewer than 50% of those discuss fall prevention with their provider and only a third of older adults are screened for a fall. This reflects an unmet need for better reporting strategies to accurately capture the extent of falls in older adults as well as standardized protocols for healthcare providers to assess falls and falls risk.

Self-reporting as the sole method of data collection on a biennial basis greatly underestimates actual healthcare delivery for fall injury events, with an overall sensitivity of only 28%. To the extent that individuals fail to identify prior events, prevention opportunities are missed. For an FRI that occurred 1 year before or less, similar to the time period discussed during the Medicare Annual Wellness Visit, fewer than 1 in 4 FRIs are accurately reported, meaning that more than 75% of beneficiaries may leave the visit without fall prevention activities being initiated.

Subtle psychosocial factors may explain poor accuracy. First, the topic of falling can be met with embarrassment, fear, or avoidance. The word “fall” may carry its own stigma because falling implies weakness and frailty. Perceived stigma may also vary according to culture, which may explain observed differences in self-report accuracy according to race and ethnicity.

Second, unreporting may also result from the manner in asking about falls is asked. To normalize the experience of a fall injury, survey questions could be redesigned to say: “Have you fallen or been injured by falling in the past year, even if the cause was accidental or due to tripping over something in your way?”. Surveys might also clearly define falls and FRIs so that respondents are prompted to report minor injuries. Generational and cultural sensitivity is required when gauging fall risk to understand and address stigma and clarity in fall questions to improve prevalence estimates and clinical fall risk assessments for Medicare beneficiaries. FRIs and falls are significantly underreported in older adults. Efforts are needed to improve the
accuracy of survey and Medicare Annual Wellness visit questions for greater accuracy but will need to overcome the stigma of attributing injury to falling.

Third, individuals may provide inaccurate information because of a lack of insight into the cause of the fall, including those individuals with cognitive impairment who may not recall a fall. Individuals, and often healthcare professionals, often attribute a fall injury to an environmental hazard rather than their own health or behaviors. In reality, falling in response to tripping results from the inability to compensate and prevent the fall from occurring. While an environmental obstacle may have precipitated a fall, the lack of balance, proprioception, and strength of the individual may have been the true cause of the fall. The National Institute on Aging reports that approximately 80% of falls occur in or around the home during routine activities and 30%-50% of falls are due to environmental causes.

By contrast, while older adults tend to attribute falls to external factors such as an obstacle or the weather, health professionals are more likely to attribute it to intrinsic causes such as medications, medical reasons, or muscle strength. Although older people recognize that not reporting a fall is problematic, it may be explained by their perceived attribution of the fall as a one-time occurrence due to external factors or the response of health professionals that tend to attribute the fall to the individual behaviors or factors. As noted, unreporting of falls is problematic for several reasons, including having an opportunity for an individual to identify the etiology of the fall to prevent future occurrences. It is critical that healthcare professionals have accurate information on falls occurrence to develop an individually tailored falls plan of care to reduce falls risk.

Currently, clinicians can use any tool for fall risk screening. It is recommended that standardized tools, such as the Centers for Disease Control and Prevention Stopping Elderly Accidents, Deaths, and Injuries (STEADI) initiative, which includes screening older adults to identify their fall risk, assessing at-risk individuals to identify their modifiable fall risk factors, and intervening by using effective strategies to reduce fall risk factors, be required to create a common language among and across providers and patients. Medicare should also expand its reach of providers for the Welcome to Medicare and Annual Wellness Visits to include both physical therapists and occupational therapists. These professionals have the extensive training and expertise to administer evidence-based screening tools and to make the appropriate referral, including one to a primary care physician, to increase reporting and identify those at risk for falls for preventive care. As of now, Medicare will only cover rehabilitative services for individuals after a fall. Utilizing other appropriate healthcare professionals in the screening process will identify those at high risk for falls and early intervention will reduce healthcare utilization, hospitalizations, and FRIs.

Increased surveillance of falls can also address the need to capture more accurate data about falls. One solution would be to ask older adults more often and outside of the healthcare visit about falls. Section 501(r)(3)(A) requires a hospital organization to conduct a community health needs assessment (CHNA) every three years and to adopt an implementation strategy to meet the community health needs identified through the CHNA. CHNA requirements are broad and don’t include specific health issues to be assessed, only those that represent the broad interests of that community. Considering that falls are a leading cause of morbidity and mortality among older adults, including measures that capture primary and secondary data regarding falls in the CHNA would allow for a more accurate assessment of the occurrence of falls, including those that do not result in a FRI. Using the CHNA to inform falls prevention efforts would provide an alternative strategy to reporting of falls other than self-report.

Enhanced collaboration with Community Paramedicine and Emergency Medical Services to document falls incidents that do not result in transport to emergency services would also serve as a reporting measure other than self-report. This would require communities to have a centralized and coordinated process for documentation of falls and the ability to link individuals to services, such as a physical therapist. A coverage
benefit for a falls assessment referral conducted by a home health provider would enhance early intervention that would reduce hospitalization utilization and injuries from a recurrent fall.

Finally, wearable technology (wearables) have particular utility to identify falls risk and falls outside of the use of healthcare services. Wearables encompass a broad range of devices from research prototypes or commercial products worn anywhere on the body over clothing to those placed directly on or beneath the skin. Utilizing wearables as clinical aids have gained notable momentum since the turn of the century due to the ease of wear, facilitated by advances in electronic component miniaturization. Yet, despite being relatively new to the field, their helpfulness to monitor health and wellness for later life independence and aid rehabilitation is clear. Their potential is amplified by integration into communication infrastructures, for relaying adverse events (e.g., fall) and accumulating longitudinal data in the community to determine other important factors associated with aging well such as social contact and physical activity. The use of wearables and other technologies for fall prevention interventions, risk awareness, impact detection, in older adults has been well-documented. The integrated use of wearables and digital technologies to help independent living is described as ‘enabling aging in place’, a means to safely and comfortably maintain a high quality of life in one’s own home and community and seen as a viable solution to aid in falls detection and monitoring.

KEY POINTS AND STRATEGIES

• Considering that 30% of older adults fall, we can estimate that approximately 15.3 million older adults fall each year. This estimate does not include people who fall more than once, whose risk of falling again doubles after the initial fall.
• Self-report is the primary method of identifying falls and fall-related injuries (FRIs) in older adults. Self-reporting greatly underestimates actual healthcare delivery for fall injury events, with an overall sensitivity of only 28%. To the extent that individuals fail to identify prior events, prevention opportunities are missed.
• Strategies to improve reporting include normalizing the language around falls, such as awareness, education, and to modify survey questions to reduce stigma and fear.
• Strategies to detect falls or falls risk other than self-report, including using standardized clinician fall risk screening tools, such as the CDC STEADI, enhanced surveillance and reporting with community health services such as measures of falls within the CHNA and first responder referrals, and digital technologies such as wearable devices.

How can follow-up with appropriate healthcare providers be improved after a visit to an emergency department for a fall?

Falls among older adults are the leading cause of both injury deaths and emergency department (ED) visits for trauma. Preventive strategies that reduce falls in older adults could lead to a substantial reduction in healthcare spending by reducing the number of emergency department visits in the first place. Evidence-based strategies including medication management and strength and balance exercises (e.g., tai chi), have been associated with reductions in older adult falls. Strength and balance programs usually charge the participant, although some Medicare Advantage plans cover some of these programs. Multifactorial interventions, often conducted in clinical settings, address multiple fall risk factors. These types of interventions have been shown to reduce falls as much as 24%. Screening and assessing for falls risk are one of the minimum requirements for the Medicare Annual Wellness Visit, with no beneficiary charge. Medicare also reimburses medication review by a pharmacist, but most healthcare providers do not routinely screen patients for falls or conduct fall factor risk assessments to identify individuals who would benefit from prevention strategies.
To help healthcare providers implement the American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline for Prevention of Falls in Older Persons and Recommendations, the Centers for Disease Control and Prevention (CDC) Injury Center developed the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) initiative, which includes screening older adults to identify their fall risk, assessing at-risk individuals to identify their modifiable fall risk factors, and intervening by using effective strategies to reduce fall risk factors. Clinical care is an important component of falls prevention. By broadly implementing and scaling up initiatives like STEADI, we can improve health and decrease the future economic burden of older adult falls. It is recommended that standardized tools, such as STEADI, be required to create a common language among and across providers and patients.

Despite effective tools for their prevention, falls remain common and costly among older adults, with recently discharged patients and those with cognitive impairment at greatest risk. Although Medicare incentivizes attention to inpatient safety with both its “never events” and readmission policies, the importance of falls for rehospitalization has not risen as a priority for transitional care planning, including more effective discharge communication. Hospitals are under pressure to increase their focus on fall prevention because of the Hospital-Acquired Conditions program and on care transitions, including the management of patient discharge in the context of preventing readmissions, under the strong incentives of the Hospital Readmissions Reduction Program (HRRP).

In the community, older adults with recurrent falls are more likely to have a significantly higher mortality (death) over a 1- to 3-year period with a marked increase of admissions to long-term care facilities. More than one-third of older adult ED fall patients had an ED revisit or died within 1 year; outcomes increased with age, male sex, and comorbidities. The death rate at 30 days was 4% and 1-year death rate was 15%. A quarter of older adult ED fall patients returned to the ED within 1 year and more than half over a 7 year time period, further supporting the notion that older adults are high-risk patients and that falls are one of the geriatric syndromes that contribute to ED visits and death rates. Between 14%-19% of older adult patients discharged from the ED fall again within approximately 30 days and more than 40% within 6 months.

Falls are the leading cause of injury-related hospitalization among older adults and a leading diagnosis for hospital readmissions. To avoid penalties and improve care, post-discharge fall prevention protocols should be developed to prevent readmissions. To put this in perspective, one avoided readmission can result in savings of ≥ $10,000. However, there are worrisome gaps in evidence-based fall prevention for patients recently discharged from the hospital. Existing research suggests that patients and their caregivers are often unaware of evidence-based best practices when they leave the hospital and that they could benefit from a transitional care protocol addressing falls.

Transitional care programs help safely transition older adults from inpatient settings to home and prevent adverse events during the post-discharge period when vulnerabilities are increased. Transitional care programs for older adults have been developed and demonstrated to be effective for several chronic conditions, such as heart failure, diabetes, and stroke. However, little attention has been given to a transitional care program tailored to fall risk and prevention. A transitional fall-prevention model should build on the principles of existing care transition interventions and leverage both hospital-side and posthospital efforts. First, mobility should be encouraged and measured during the hospital stay. However, because high-risk patients are labeled as fallers on admissions, and Medicare’s “never events” programs penalize hospitals for the occurrence of inpatient fall injuries, patients are often discouraged from getting up and moving. This immobility is associated with an increased risk for falls and qualitative studies have found that avoidance of activity is a common precaution taken by older adults at high risk for falls. Baseline mobility should be assessed via functional measures and documented in an electronic health record (EHR) as part of the Falls Plan of Care (FPOC).

Second, patient and family guidance for managing fall risk and physical activity after discharge should be part of the discharge process. Patients and families should be educated about falls and associated risk factors and
be provided materials to engage in self-monitoring and home hazard assessments. If not immediately known during the ED visit, efforts should be made to improve management of the underlying etiology of the fall to prevent future falls. The Geriatric ED Guidelines can assist emergency physicians in how to evaluate fall patients and to collaborate with geriatricians and primary care physicians to manage older adult fall patients’ fall risks as well as their fall etiology. This may also include the need to screen for home safety evaluations and home services and/or improve communication with PCPs for follow-up and referral to evidence-based community fall programs.

Third, safe mobility and multifactorial (e.g., medication adjustment, physical therapy referrals for home safety checks and strength and balance training) fall prevention interventions should be instituted following discharge. Patients are likely to benefit from improved confidence in their ability to manage fall risks through such support. Evidence-based falls prevention programs have been proven to reduce falls and falls risk factor for older adults at low, moderate, and high risk for falls.

**KEY POINTS AND RECOMMENDATIONS**

- Falls are the leading cause of injury-related hospitalization among older adults and a leading diagnosis for hospital readmissions. To avoid penalties and improve care, post-discharge fall prevention protocols (Falls Plan of Care) should be developed to prevent readmissions.
- Transitional care programs for older adults have been developed and demonstrated to be effective for several chronic conditions. However, little attention has been given to a transitional care program tailored to fall risk and prevention.
- Strategies to improve follow-up after a visit to the emergency room for a fall-related injury includes developing a transitional fall-prevention model that builds on the principles of existing care transition interventions. This model should include using the Geriatric ED Guidelines when evaluating a falls patient to identify the cause of the fall and communicating with primary care physicians via interoperable electronic health record systems. The model should also include educating patients and families about falls risk and interventions, especially those that are evidence-based, to reduce reoccurrence of falls and reduce falls risk factors.
Tools and Resources

What learning tools, resources or techniques can be used to empower older persons to change their home environment or modify risk factors to reduce the risk of falls?

Many older persons want to remain in their homes as they age, yet homes that were once supportive often present problems over time that can lead to falls. Research indicates that falls can be reduced for persons at moderate to high risk through medication management, participation in physical activity to improve gait and balance guided by a physical therapist and community-based, evidence-based exercise and educational programs (e.g., A Matter of Balance, Stepping On, Tai Chi Moving for Better Balance, Otago), and home modification. Home modification should entail an assessment of the setting by an occupational therapist, service/health provider/caregiver and how the resident carries out activities and tasks. Changes can involve removing hazards, identifying better ways for the person to carry out activities, the use of assistive devices, and the addition of supports such as grab bars and handrails. Depending on the extent of the need, actual changes can involve a handy person, remodeler, or contractor. Home modifications can make daily activities easier, reduce accidents, and support independent living.

A major barrier to home modification has been overall inadequate funding with large disparities in different parts of the country and among groups (e.g., homeowners, renters, rural, inner city), different eligibility requirements, and gaps in features that are covered (e.g., major vs. minor) (see Funding for Home Modifications). For example, local Area Agencies on Aging differ considerably in the resources they commit to home modification through Title III and the Family Caregiver Support Program of the Older Americans Act. Likewise, states and local jurisdictions may offer a different array of services and qualifying criteria for participants.

The U.S. Department of Housing and Urban Development (HUD) awards Community Block Development Grants (CBDG) to eligible city and county housing and community development departments to revitalize neighborhoods and improve community facilities and services. Communities develop their own funding priorities. Some choose to cover home modification through CBDG funds.

State Medicaid programs also vary in their approach to covering home modification. Most states offer Home and Community-Based Services (HCBS) through a waiver program that allows for home modifications. The amount of funding available for home modification services varies by state, age, diagnosis, and income. In addition, Medicare beneficiaries who have had a change in functional status may qualify for an occupational therapy evaluation and intervention plan under the Medicare Part B. Part of the services recommended may include home modifications, but traditional fee-for-service (FFS) Medicare will not pay for the changes. However, the Special Supplemental Benefits for the Chronically Ill under Medicare Advantage Plans can be used to support home modifications. NCOA believes that FFS should also be expanded to allow for payment not only for physical and occupational therapy evaluation but also for home modifications recommended by health care providers. These providers should, in turn, should train their patients on the use of home modifications (e.g., grab bars, ramps) and assistive devices (e.g., reachers, walkers).

NCOA’s 2015 National Falls Prevention Action Plan calls for greater Medicare and Medicaid coverage for home assessment and modification services, including approaches such as “Money Follows the Person” that provide consumers with more discretion in the use of Medicaid expenditures for purposes such as home modification, the inclusion of home modification as a benefit under managed care and other new models of service delivery, as well as greater insurance reimbursement of home modifications (e.g., long term care insurance). In addition, the Plan advocates for greater private/public partnerships to fund tool development, dissemination, educational programs, outreach initiatives for home safety efforts. Through its National Home Safety and Home Modification Workgroup, NCOA’s National Falls Prevention Resource Center is currently collaborating with key stakeholder organizations to further disseminate and implement the National Falls Prevention Action Plan’s home safety strategies and action steps.
A barrier to the widespread dissemination of home modification services and programs is consumer lack of awareness of the home environment’s role in compensating for physical limitations. Additionally, with fewer resources geared toward their needs and fewer access points, minorities and individuals with less education and social supports are least likely to have home modifications.

To address this barrier, NCOA, in partnership with the University of Southern California Leonard Davis School of Gerontology, has developed several resources to educate older adults, caregivers, family members, and professionals about the importance of home modifications and help them to take preventive steps instead of waiting until a fall occurs. These resources (see Appendix A) include a catalog of assessment tools, an inventory of innovative home modification programs, and a grid that outlines national, state, and local funding resources to support home modifications, including federal government (e.g., HUD, USDA, ACI). These resources empower older adults to act by enabling them to locate home modification programs in their area, obtain home assessment instruments, understand how to make changes that increase safety and support, and identify funding sources to support home modification activities.

Evidence-Based Fall Prevention Programs that Address Home Safety: Several evidence-based programs empower older adults to take action related to home modification. Home/environmental safety resources for individuals are embedded into the content for these programs.

- **Stepping On** - a multifaceted falls-prevention program for the community-residing elderly with a home modification component.

- **A Matter of Balance** - an 8-week structured group intervention that emphasizes practical strategies to reduce the fear of falling and increase activity levels. With peer to peer learning and support, participants learn to view falls and fear of falling as controllable, set goals to increase activity, change their environment to reduce fall risks, and exercise to increase strength and balance.

- **CAPABLE (Community Aging in Place – Advancing Better Living for Elders) Program** - a 5-month structured program delivered at home to community-dwelling older adults to decrease fall risk, improve safe mobility, and increase the ability to safely accomplish daily functional tasks. CAPABLE is delivered by an occupational therapist, who makes six visits to each participant; a nurse, who makes four visits; and a handyman, who works up to a full day of time—providing home repairs, installing assistive devices, and making home modifications. Participants work with the therapist and nurse to identify three achievable goals per discipline, examine barriers to achieving those goals, and make action plans to achieve the goals, supported by changes to the home environment and medications, and physical activity.

Promote Environmental Safety in the Community: All older adults should have access to community environments that lower the risk of falls and facilitate full participation, mobility, and independent functioning. Public officials such as community and transportation planners, community service providers, and those responsible for maintenance and repairs can actively design, maintain, and promote community environments that lower the risk of falls. The 2015 National Falls Prevention Action Plan recommends key strategies and action steps to promote environmental safety in the community, including:

- **Strategy**: Identify best practice information about effective strategies to reduce falls outside the home.
  - **Action Steps**
    1. Identify existing best practice programs to reduce falls outside the home, and develop processes for the dissemination of information about these programs.
    2. Identify processes and resources to support broader implementation of best practices and evidence-based environmental safety programs.

- **Strategy**: Improve information gathering and comprehensive assessment of community hazards.
  - **Action Steps**:
1. Develop and disseminate tools to help community leaders and others assess and address environmental falls risks.
2. Create pilot projects to identify implementation strategies.
3. Establish hotlines for community reporting and provide a mechanism for individuals to identify significant risks in the community. Include information on how to take corrective action.

- **Strategy:** Increase the awareness among local, state, and federal policymakers and regulatory officials of the scope and nature of the impact of falls, fall-related injuries, and death among older adults.
  - **Action Steps:**
    1. Increase awareness among national and local public officials and transportation and other types of planners about the role the environment plays in falls and falls prevention. Focus on the business case or cost-effectiveness of providing safe environments (e.g., the cost of falls in comparison to the cost of prevention measures).
    2. Educate and build awareness among public officials (e.g., city planners, traffic planners) of their roles and responsibilities regarding the problem of falls and effective prevention strategies, specifically surrounding the built environment.

### KEY POINTS AND RECOMMENDATIONS: HOME AND ENVIRONMENTAL SAFETY

- Numerous resources that empower individuals to change their home environment or modify risk factors to reduce their falls risk have been developed; increased and coordinated dissemination efforts within health care and the aging and disability communities of these materials are urgently needed. NCOA supports *The Senior and Disability Home Modification Assistance Initiative Act of 2019* (S. 702, H.R. 1583) that will require Assistant Secretary for Aging the coordinate federal efforts related to home modifications, as well as produce and disseminate a home modification brochure through the aging and disability networks. It is especially important to provide positive examples of attractive, affordable and culturally appropriate home modifications for a variety of different home settings. We believe this effort would be an important start in addressing this key risk factor for older adult falls.
- Build the capacity of the aging network to increase access to home modifications, as part of the Administration for Community Living-funded three-year project, Promoting Aging in Place by Enhancing Access to Home Modifications, led by the USC Leonard Davis School of Gerontology.
- Provide caregivers and family members with guidance on how to discuss the need for home modifications and where to locate resources for older adults, particularly for high-risk groups such as persons with dementia, visual impairments, and mobility limitations as well as individuals with low income and those living in rural areas.
- Increase collaborative partnerships and coordinated communication among aging, disability, transportation, housing, and other relevant organizations/agencies to better coordinate home safety efforts, the cost savings of which could be used to serve more low-income individuals.
- Expand opportunities to educate and refer older adults to home modification programs and services during the annual National Falls Prevention Awareness Day.
- State and Local Falls Prevention Coalitions develop strategies to address their area’s specific home modification and fall prevention needs.
- Increase fall risk screenings to include home safety, including during the Welcome to Medicare and Annual Medicare Wellness visits.
• Strengthen referral pathways to community-based services and programs.

• Promote Occupational Therapists’ role in-home assessment and recommendation of modifications to reduce fall risk. Occupational Therapists assess the home environment and how the individual interacts within it. A 2018 CDC study concluded that “The interventions with the potential to help the greatest number of older adults were those that provided home modification delivered by an occupational therapist (38.2 million). Addressing home hazards with an Occupational Therapist would prevent the greatest number of medically treated falls (n=45,164) and avert the most in direct medical costs ($442 million).”

• Seek creative partnerships, such as Fire departments/Emergency Medical Services (EMS) personnel, who are often the first to respond to an older adult who has fallen and needs assistance. EMS and fire departments devote increasing percentages of their resources to “lift assists” for older adults who have fallen, often without the ability to take action that could reduce the risk of future falls.

• Identify communities with the greatest need by mapping counties’ fall-related ED visits.

• Motivational interviewing by an Occupational Therapist or other trained professional to help individuals develop goals related to improving their functioning (ability to conduct activities of daily living) including home modification. This approach is used in the CAPABLE (Community Aging in Place – Advancing Better Living for Elders) Program (see above).

• Train professionals in the aging, disability, housing, and health care sectors on the role of home modification in supporting older adults in their homes. Training is needed to educate these professionals on home modifications’ benefits, available services and funding support in their area, and how to connect individuals to local services and supports. Train aging service providers who routinely go into the homes of older adults (e.g., Meals-on-Wheels volunteers, groups such as RSVP, home health nurses, home care workers, emergency medical technicians) to identify home hazards and fall risks and make appropriate referrals to health care providers, such as occupational therapists, for more in-depth and individualized home safety/fall prevention assessments.

• Since 2004, the USC Leonard Davis School of Gerontology has offered a comprehensive online Executive Certificate in Home Modification program for professionals who work directly or indirectly in the field of supportive home environments. Students include remodelers/contractors, planners, personnel of organizations representing the elderly and people with disabilities, Occupational and Physical Therapists, policymakers, and others interested in starting their own home modification business. The courses connect professionals from around the country who learn from each other as well as experts in the field.

• Additional trainings in varying formats and durations include CAPS from the National Association of Home Builders (NAHB), CEAC, CLIPP, and universal design and related topics from the Center for Inclusive Design and Environmental Access (IDEA).

• Develop and promote standards related to product safety, service quality, skill level of home modification providers, and expected outcomes to assist consumers in making informed decisions about home safety.

• Engage manufacturers and contractors in incorporating universal design in new construction, and developing attractive home features designed to reduce the risk of falls.

• Raise awareness of universal design strategies to increase community accessibility and safety, including benefits of ADA requirement compliance for public spaces, and the design of new housing with universal design features (e.g., curbless showers). Commission a white paper about the benefits of universal design and Americans with Disabilities Act (ADA) compliance as they relate to falls prevention.

• Promote environmental safety in the community. Develop and disseminate tools to help community leaders and others assess and address environmental falls risks. Educate and build awareness among public officials (e.g., city planners, traffic planners) of their roles and
Responsibilities regarding the problem of falls and effective prevention strategies, specifically surrounding the built environment.

**Tools, Resources, and Techniques for Other Modifiable Risk Factors**

Caregiver Education: Research has shown that after a care recipient's first fall, caregivers report a significant increase in caregiver burden, fear of falling, and depression. Caregivers most commonly want information about keeping their loved one safe at home (42%) and about managing their own stress (42%). A majority of caregivers help their loved one with at least one activity of daily living (59%), most commonly helping their care recipient get in and out of beds and chairs (43%). Three in five care recipients have a long-term physical condition (59%). Caregivers can play a pivotal role in starting a conversation with the person they are caring for to determine if they are at risk for a fall, and develop a multi-factorial fall prevention action plan for both themselves and the care recipient. Caregiver-specific resources, such as the [Falls Prevention Conversation Guide for Caregivers](#) developed by NCOA and the National Alliance for Caregiving, can empower caregivers and patients to modify risk factors to reduce the risk of falls.

**Dementia:** Older adults with cognitive impairment are four to five times more likely to fall compared to older adults without cognitive impairment. Additionally, the incident of multiple falls is more than double among older adults with cognitive impairment, and mild cognitive impairment is a strong predictor of future falls. Older adults with reduced cognitive function are more likely to have impaired mobility, such as poorer balance and slower walking speed; reduced executive function, attention, and reaction time contribute to increased fall risk. Systematic research reviews have shown that evidence-based fall prevention programs are feasible for community-dwelling older adults with cognitive impairment, and that exercise fall prevention programs (e.g., Tai Chi) that increase strength, balance, and mobility can effectively reduce overall fall risk. However, evidence-based falls prevention programs for persons with cognitive impairment have not been developed to meet dementia-specific needs, which has limited the accessibility and dissemination of effective fall prevention interventions for this population. Patients with cognitive impairment, and their caregivers could greatly benefit from the development of evidence-based falls prevention programs for both community-dwelling and institutionalized settings that address dementia-specific needs. Additionally, new learning tools and resources that educate about modifiable fall risk factors for persons with cognitive impairment, such as installing adequate lighting, providing visual contrast in flooring, and ensuring safe footwear, could significantly help reduce fall risk among this population.

**Vision Loss:** A strong correlation has been found between vision problems and falls among older adults. The 2016 National Health Interview Survey indicated that there are 9.7 million older people 60+ (14.3%) with vision trouble. Research from state-specific data on the annual prevalence of falls among older adults aged 65 years or older found that 46.7% of persons with severe vision impairment and 27.7% of older adults without such impairment reported having fallen during the previous year. As a person ages, less light reaches the retina of the eye, which can make edges, obstacles, and trip hazards more difficult to see. Visual factors associated with falls include poor contrast sensitivity, reduced depth perception, and visual field loss. Other contributors to falls among older people with vision loss are fear of falling, change in gait related to vision loss, and balance issues. The lack of knowledge and communication about the connection between poor eye health and increased fall risk represents a missed opportunity for strengthening preventive health strategies, such as annual eye exams and first cataract surgery. There are many evidence-based programs for older persons that focus on falls prevention. Unfortunately, despite many older persons experiencing vision loss, these evidence-based programs have not yet been adapted for older persons with vision loss to participate along with their sighted peers or for blind instructors to lead the classes. Funding should be made available so that organizations and researchers can learn how to best adapt programs to make them fully accessible for blind older persons and to be led by blind instructors.
KEY POINTS AND RECOMMENDATIONS: OTHER MODIFIABLE RISK FACTORS

- **Increase caregiver awareness and education** about modifiable risk factors. Develop caregiver-specific programs, resources, and tools to help caregivers reduce fall risk for both themselves and the person they care for.

- **Develop programs and resources for persons with cognitive impairment**, in both community-dwelling and institutionalized settings. Older adults with cognitive impairment are four to five times more likely to fall compared to older adults without cognitive impairment. Increase education and awareness among this population about fall risk factors associated with cognitive impairment, and steps that can be taken to reduce fall risk.

- **Promote comprehensive annual eye exams and supports for adults with vision impairment**. Visual impairment in older adults is significantly correlated with increased fall risk. Recommendations include increasing utilization of annual eye exams to detect common eye diseases that can increase fall risk.

What are the opportunities and limitations surrounding assistive technologies?

Electronic fall monitoring devices and systems have gone through rapid evolution and offer a number of opportunities to address falls. The earliest type, pendant-style personal emergency response system (PERS) devices, were worn around the neck and only user activated by pressing a button. PERS utilized landlines and had short-range reach within the home. Now, cellular operation and GPS provide geographic coverage across neighborhoods and communities. A range of device styles including bracelets, wristwatches, or belt clips provide flexibility for users' circumstances. Newer devices provide automatic event activation, often with a built-in accelerometer that triggers when readings change abruptly and/or considerably. Additional opportunities include:

- **Passive activity/safety monitoring systems** have become a major component in the senior-related home/mobile telehealth field. Sensors arrayed around a living space detect pressure, sound, and motion/use. Some may integrate in vital signs monitoring, medication management/reminders, a fall monitoring and/or wander-guard function.

- Expanded functions offer the opportunity to tailor selection to a person's needs and use setting. Some equipment employs ultrasound, which hospitals can use for patient monitoring with remotely managing security, lighting, and smart appliance connections. This can be expected to have a profound impact on aging in community capabilities going forward.

- **Convergence** is taking place with the smart capabilities of home-based artificial intelligence systems like Siri, Alexa, and Echo to incorporate home/mobile telehealth functions. A system at home may send an alert when the refrigerator is out of milk, when there is a burglar or basement water leak, monitor for fire and carbon monoxide, and monitor for falls, track and transmit blood sugar level, and field communications with medical/care providers. Major vendors (e.g., Best Buy) and technology companies are forging partnerships, sometimes coupled with major health insurance companies (e.g., United Health) or service providers (e.g., in home care, home health care).

- **Sensor data gathering, and analysis may predict changes in balance and gait** to enable proactive follow up, as researched by Universities (e.g., Oregon Health and Science).

- **Inertial sensors**: These small devices use accelerometers, which measure the linear acceleration along multiple axes, and gyroscopes, which measure angular velocity and rotation, that help identify where a body is in space. Inertial sensors can be worn on the body throughout normal daily living, providing information outside of a laboratory setting. There have been multiple review papers evaluating the utility of inertial sensors to detect fall-risk based on gait and balance performance among community-dwelling older adults.
• **Force plates** are another type of technology being used as a fall assessment tool among older adults. Force plates have the ability to measure ground reaction forces generated by the body and can help measure postural sway and torso position. Increased postural sway and center of pressure movement (COP) have been shown to be significant factors contributing to fall risk in community-dwelling older adults. Current technology is seeking to capture force plate data using small pressure sensors either in a platform, such as the Nintendo Wii balance board or located in shoe inserts in an attempt to collect more accurate information outside of the lab setting. Force plate data may also have the ability to capture balance measures as predictors of indoor and outdoor falls in the community.

**Limitations:**

• **Difficulty for individuals and caregivers to find up-to-date, comparative information** about products and features currently on the market. Considerable product turnover in the home/mobile telehealth field complicates selection when reliable operation over time is a goal.

• **Cost/reimbursement** for acquiring a unit and subscribing for call center services. Medicare has only recently made changes in telehealth eligibility connected with Advantage plans, and not all states include remote monitoring as eligible in their senior-related Medicaid Home and Community-Based Waiver programs.

• **Possible problems with incompatible reporting bases and analysis** if any of the data connected with devices needs to be stored with other health records for an individual.

• **Potential for different outcomes based on setting**, for example, the use of products in dispersed single-family homes in the community, versus more congregate settings – such as senior apartment buildings - where on-site staff can be readily available for follow-up assistance.

• A chosen product/system may become familiar from a period of use, only for it to disappear due to industry churning where a manufacturer is acquired by a competitor, and the system is dismantled.

• **Inertial sensors**: There is a lack of standardization across different studies using inertial sensors. It is unclear where the device should be located on the body to capture the most accurate information. Adding to this complication, studies measured mobility and function over different time frames (i.e., 3-days, 7-days). If inertial sensors are going to be implemented into fall prevention programming, there will need to be a standard protocol as well as an established gold standard system with strong psychometric properties. Finally, proprietary companies are producing new technology, but the algorithm to compute the data is not always available, making it difficult to reproduce or report on the reliability of results.

Are there any federal policy barriers that make it difficult to offer tools and resources to patients to prevent falls?

**Limited funding:** Limited funding for home modification is often due to state and local governments’ lack of understanding of home modifications’ importance in improving the lives of older and younger disabled persons. Programs that can fund home modifications such as Community Development Block Grants are stretched thin and have many competing uses. Many older adults are not aware of the benefits of home modifications, leading policymakers to erroneously assume the need is limited. Only 6% of older persons have insurance or obtain support from government programs for home modifications; low-income persons can rarely afford them.

**Lack of coverage under Medicare:** Conventional Medicare has not covered home modifications. Recently, however, Medicare Advantage, in which 30% of older persons are enrolled, has allowed programs to cover home and bathroom safety devices and modifications for individuals with chronic illness through the Special Supplemental Benefits for the Chronically Ill (SSBCI). As the program is scheduled to begin in 2020, it is too
early to know how many plans will opt-in to providing home modifications, what features will be covered, and how they will be provided. We believe that SSBCI should also be included in traditional fee-for-service Medicare.

**Lack of coordination among federal, state, and local programs:** Home modification has been a low priority in federal agencies as if each agency considers that responsibility for it lies elsewhere. Home modification is funded and administered at local, state, and national levels by an array of disparate programs in agencies (Housing, Health, Energy, Agriculture, CMS, VA) with different eligibility requirements, caps on expenditures, and types of allowable modifications. Consequences include overlap, difficult access, piecemeal solutions, and inequities across geographic areas and different housing types. The home modification process can involve independent living centers, area agencies on aging, hospitals, city and county housing departments, contractors, health insurance companies, and home health providers. This complexity underscores the need for coordination and information sharing. The Bipartisan Policy Center highlighted this priority in its 2016 report, *Healthy Aging Begins at Home.*

Two current initiatives that aim to improve coordination include:

- **The National Home Safety and Home Modification Work Group**, led by NCOA and USC, including over 20 members from such organizations and agencies as AARP, the American Occupational Therapy Association and American Physical Therapy Association, Bipartisan Policy Center, the Center for Inclusive Design and Environmental Access, Johns Hopkins School of Nursing, Meals on Wheels America, Rebuilding Together, University of Illinois at Chicago, and Washington University School of Medicine.

- The Administration for Community Living-funded three-year project, **Promoting Aging in Place by Enhancing Access to Home Modifications**, led by the USC Leonard Davis School of Gerontology, which includes a project steering committee with over 20 representatives from ACL, HUD, USDA, CMS, ASPE, n4a, NASUAD, and NCOA.

**Opportunities in government subsidized housing:** There are opportunities to address falls in Section 202, public housing and other government subsidized housing where there are economies of scale in both offering evidence-based fall prevention programs (e.g., A Matter of Balance) and making physical adaptations to the environment to help prevent falls. As older persons have aged in these buildings, older complexes are in desperate need of upgrading to improve lighting, install handrails in hallways, grab bars in bathrooms, and improve accessibility.

**Lack of financial incentives for home modification:** Financial incentives promote safety and reduce fall risks in the home are needed in federal legislation. Models to consider include:

- H.R. 1780, introduced in the 115th Congress, which called for a $30,000 tax credit for people over 60 who do home modifications for aging in place.
- Alternate financing mechanisms to reach those with pre-tax retirement savings. For example, allowing the use of 401K, TSP or IRA accounts tax-free and without penalty for early withdrawal would slightly reduce future federal revenues but save significantly in future Medicare costs.
- Tax credit policies and other incentive programs initiated in states and localities including Montgomery County and Howard County Maryland, and the states of Virginia, Maine, Maryland, and Washington.
The annual direct medical cost for fall injuries is $50 billion, up from $38 billion in 2013. Falls account for about 6% of Medicare expenses and 8% of Medicaid expenses or $29 billion in Medicare spending and $8.7 billion in Medicaid spending. The cost of treating falls is projected to increase to over $101 billion by 2030. The CDC estimates that between 9,562 and 45,164 medically treated falls could be prevented annually. The associated annual Medicare savings range from $94 million to $442 million.

A 2013 CMS Evaluation of Community-based Wellness and Prevention Programs analysis found that participation in the Matter of Balance (MOB) falls prevention program was associated with a $938 decrease in total medical costs per year. This finding was driven by a $517 reduction in unplanned hospitalization costs, a $234 reduction in skilled nursing facility costs, and an $81 reduction in home health costs. A Journal of Safety Research report from the Centers for Disease Control and Prevention (CDC) found:

- **The Stepping On Program** had an average cost per participant of $211.38, an average expected benefit of $345.75, and a return on investment (ROI) of 64% for each dollar invested.
- **The Otago Exercise Program** had an average cost per participant of $339.15, an average expected benefit of $768.33 for participants over age 80, and an ROI of 127% for each dollar invested.
- **The Tai Chi: Moving for Better Balance Program** had an average cost per participant of $104.02, an average expected benefit of $633.90, and an ROI of 509% for each dollar invested.

**How can the “Welcome to Medicare” visit or the “Annual Wellness” visits be improved to better assess fall risk and fracture prevention and ensure appropriate referrals?**

The CMS Annual Wellness Visit (AWV) requirements define that healthcare providers refer beneficiaries with fall risk to a community-based fall prevention program. The CDC has defined a range of evidence-based fall prevention programs that can be provided in a community setting by trained health coaches. Unfortunately, there is not a pathway for reimbursement for the delivery of evidence-based fall prevention programs delivered by trained health coaches. As a result, CMS and CDC recommend that beneficiaries attend treatment programs that are not covered by the Medicare program.

Few beneficiaries receive an AWV, and more must be done to improve access and better leverage the potential of this important benefit. NCOA recommends that this provision be strengthened to better address the needs of older adults with multiple chronic conditions and at risk for falls, specifically:

- Improve requirements for screenings and referral protocols to falls prevention interventions, including specific protocols, recommended best processes and practices, and use of the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) tool developed by the CDC for falls prevention. According to the CDC, for every 5,000 health care providers who adopt STEADI, over a 5-year period, savings of $3.5 billion in direct medical costs could be achieved;
- Develop standards for the post-visit follow-up to ensure compliance with the prevention plan and referrals; and
- Broaden the permissible circumstances under which visits can be conducted in a beneficiary’s home.

An evaluation of the AWV would also be helpful, asking questions on whether appropriate referrals are taking place and if they are increasing access to needed community and social services, and whether any evidence exists on the AWV’s impact on improving outcomes or reducing rates of hospitalization. The study might focus on:
• Whether and to what extent personalized prevention plan services and appropriate referrals are taking place for beneficiaries who are at risk of falls;
• Whether referrals are increasing beneficiary access to evidence-based services;
• The impact of the AWV on hospital admissions and readmission and ED visits.

Additionally, recommendations could be crafted regarding:

• Methods to improve consistency for personalized care planning and appropriate referrals for beneficiaries who are at risk of falls;
• Standards for the post-visit follow-up to ensure compliance with the prevention plan and referrals; and
• Whether broadening the permissible circumstances under which AWVs can be conducted in a beneficiary’s home would be desirable.

How can Medicare coverage and reimbursement for falls prevention and fall-related services be improved?

In general, we believe that evidence-based falls prevention programs should be a Medicare-covered preventive services benefit for those at risk. In our view, these programs have proven that they improve quality of care and quality of life and can reduce Medicare spending.

Studies suggest that addressing non-medical needs with appropriate social supports can reduce hospitalizations and overall costs. Policies should focus on achieving better integration of evidence-based fall prevention programs by adjusting Medicare payment rules and regulations related to the MA and Accountable Care Organization (ACO) and Special Needs Plan (SNP) programs. Policies should allow for MA plans and Medicare providers to foster better integration of falls prevention programs into the care models for frail and chronically ill Medicare-only beneficiaries in a manner that does not add new federal costs to the Medicare program.

CMS recently expanded the allowable services that can be provided by Medicare suppliers to include the Medicare Diabetes Prevention Program benefit (MDPP). The MDPP services are provided by trained health coaches that implement a CDC-recognized diabetes prevention program curriculum. In order to allow health coaches to provide Medicare supplier services, CMS established a process to issue unlicensed health coaches individual NPI numbers. In addition, community-based organizations can register as a Medicare Supplier and list their health coaches as the rendering provider of the services with unique NPI numbers on the claims. In the final ruling, CMS noted the following: “Section 45 CRF 160.103 defines “health care” to include, among other things, preventive services. Because MDPP services are considered additional preventive services, we believe MDPP suppliers and coaches who furnish MDPP in the normal course of business are furnishing healthcare and therefore qualify as health care providers that are eligible for NPIs under 45 CFR part 162”

Given the CMS final rule that health coaches that deliver preventive health services are furnishing healthcare services and thus qualify as health care providers and eligible for NPIs, there is an opportunity to utilize this decision to expand the services that health coaches can perform to include the range of CDC-recognized fall prevention programs. This will allow Medicare beneficiaries that screen positive for fall risk to attend a community-based fall prevention program that implements a CDC-recognized curriculum and have it covered by Medicare.

• **Reimbursement for Falls Risk Screening and Referral Management**: Medicare providers need a pathway for reimbursement to complete fall risk screening and referral management to a fall prevention program. CMS currently provides separate reimbursement for screening for depression in the at-risk population. A similar mechanism should be enforced to ensure that
healthcare providers that complete fall risk screening and fall prevention referrals are compensated for the additional workload that this requirement requires. Lastly, the reimbursement for fall risk screening and fall prevention referral management should be treated as an add-on service to an established Medicare evaluation and management service such as transitional care management. CMS could establish this benefit as a HCPCS service with an administrative rule change.

- **Develop Medicare Falls Prevention Billing Codes:** Healthcare providers are more likely to conduct screenings, assessments, and interventions when they are reimbursed for those services. Currently, healthcare providers do not receive direct reimbursement for these services. Medicare providers should be reimbursed for clinical interventions to effectively manage risk factors identified during these visits. If fall risk is identified, the burden is put on the patient to schedule a follow-up visit to discuss how to reduce or manage their fall risk. Currently, there are no direct provider reimbursement options for the clinical management of falls and no Current Procedure Terminology (CPT) code specific to fall risk assessment, management and care planning. Creation of a CPT code to describe this service would facilitate appropriate reporting of this service and assure that all the elements of the service are performed and reimbursed. Current codes inadequately describe these services. A new CPT code will promote quality by requiring the guideline-based elements included in joint AGS and BGS Clinical Practice Guidelines and STEADI tools be used by clinicians. More falls could be prevented if Medicare reimbursed providers for both preventive screening and effective treatment.

- **Add second falls as a Hospital Readmissions Reduction Program measure:** The Hospital Readmissions Reduction Program, mandated by the ACA, requires CMS to reduce Medicare payments to inpatient prospective payment system hospitals with excess readmissions. This program went into effect on October 1, 2012. This is a penalty program that reduces the base diagnosis-related group (DRG) payments for discharges as a result of performance on specific readmission measures. Such measures currently include unplanned 30-day readmissions for acute myocardial infarction, heart failure, pneumonia, chronic obstructive pulmonary disease, elective total hip arthroplasty, and total knee arthroplasty. In 2017, CMS will add a measure for 30-day unplanned readmissions for coronary artery bypass graft surgery. NCOA recommends that a measure be added for readmissions due to a second fall and could include fractures, brain injuries, and other related injuries.

- **Strengthen Medicare Quality Standards for Falls Prevention:** We were disappointed that CMS removed the Medicare Advantage Star Rating measure on “Reducing the Risk of Falling” for 2019 and 2020. While we understand the need to update the measure given the changes in the underlying survey questions, removing the measure altogether for two years was unnecessary and harmful to beneficiaries. It is crucial beneficiaries understand and have access to adequate falls prevention options through their health plans. Replacing this measure holds plans accountable for working towards a reduction in the risk of falls. Without the measure, beneficiaries lack any indication of how much attention falls prevention receives under different plans, and plan incentives to reduce the risk of falls are weakened. NCOA strongly encourages CMS to include the measure in the Star Ratings for 2020 to allow beneficiaries consistent knowledge of how plans perform in falls reduction and continue to hold plans accountable.

- **Increase Weight of Falls Risk Screening and Addressing Falls Risk:** Reporting outcomes for the management of positive fall risk does not have a heavyweight in the scoring methodology for Medicare Advantage (MA) Star ratings. As a result, MA plans spend less time focused on ensuring that enrollees receive interventions to address fall risk according to the CDC recommendations. CMS determines the relative weight of Healthcare Effectiveness Data and Information Set (HEDIS) performance scores on Medicare Advantage Star ratings. CMS can
place greater emphasis and Star rating relative scoring weight on screening and addressing fall risk for MA plan enrollees. If the HEDIS performance for screening and addressing fall risk has a higher weight in determining Star ratings, it will cause MA plans to redirect their teams to ensure that a larger percentage of MA plan enrollees complete screening for fall risk and attending fall prevention programs to address their defined fall risk. Furthermore, adding measures that address falls to the Merit-Based Incentive Program (MIPS) that crosswalk with HEDIS may encourage healthcare providers to increase how often they discuss fall prevention strategies with their older adult patients. Currently, under MIPS, providers can (1) elect to screen for falls, (2) perform a falls assessment, and (3) create a falls care plan. However, MIPS includes for than 250 measures for providers to choose from; only a small proportion of health systems or providers choose to report and be reimbursed for falls.

- **Address the Known Modifiable Risk Factors for Falls.** Older adults who do not get the dental, vision, and hearing services they need or who must delay needed treatment because of cost are at greater risk for avoidable emergency department visits, hospitalizations, skilled nursing facility visits, falls, isolation, depression, and greater dependence on family caregivers. Among Medicare beneficiaries, 75% of people who needed a hearing aid did not have one, 70% of people who had trouble eating because of their teeth did not go to the dentist in the past year, and 43% of people who had trouble seeing did not have an eye exam in the past year. Lack of access and costs are major barriers to these services. Because few people have supplemental insurance covering these additional services, among people who received care, three-fourths of their costs of dental and hearing services and 60% of their costs of vision services were paid out of pocket. For example, the cost of hearing aids can range from $2,000 to as much as $7,000, yet current Medicare Advantage plans may only provide between $400 and $500 per year every three years, which only covers half of the lowest-cost alternative. The impairment caused by cataracts puts adults at an increased risk for a fall. According to the CDC, expediting first eye cataract survey would prevent $423 million annually in direct costs associated with medically treated falls. The Medicare program could offer a basic voluntary, supplemental insurance benefit package for dental, vision, and hearing services offered as a premium-financed voluntary insurance option under Medicare, based on the precedent set by Part D. This would begin to alleviate the unmet need for services and the financial pressure currently experienced by beneficiaries. This approach has the advantage of maximizing Medicare’s purchasing power on behalf of beneficiaries to provide affordable options for these services, specifically hearing aids and vision correction surgery. The approximate total coverage costs would be $1.924 billion per year to insure an estimated 6.4 million Medicare beneficiaries, assuming a $25 per month premium and no federal subsidies. Including the low-income subsidies would cost Medicare an additional $1.052 billion per year and insure an estimated additional 2.4 million beneficiaries. As the population ages, these coverage needs will only continue to grow. If they are not addressed, the overall health of older people will suffer, and the use of costly and avoidable services will increase.

- **Support the Older Individuals who are Blind program under the federal Rehabilitation Services Administration.** Known as the OIB Title 7 Chapter 2 program under the vocational rehabilitation act of 1973 and now part of the Workforce Innovation and Opportunity Act (WIOA), OIB has not received an increase in funding for decades despite the growth of the older population with vision loss as the baby boomers are aging. Many older persons with limited vision are not even aware they are eligible for vision rehabilitation services funded through WIOA to enable them to be safer in the homes and when navigating unfamiliar environments. According to the National Eye Institute only about 3% of people that could benefit from specialized vision rehabilitation training and orientation and mobility training ever receive it.
Attention must be paid to the thousands of older persons with impaired vision that would benefit from orientation and mobility training to navigate and travel more safely in their home and community environment. Medicare and Medicaid do not pay for the specialized training needed by older blind and visually impaired persons and Medicare and Medicaid do not pay for the devices and equipment that can make the difference between safely walking and falls causing bone and hip fractures. Support canes are covered but mobility canes that offer safe movement and prevent social isolation are not covered and are excluded in the Medicare language. When Medicare was passed, mobility canes for blind people were simply for identification. Now there is a professional titled orientation and mobility specialist that teaches blind people of all ages how to use the mobility cane for safe travel.

**How are existing Medicaid waivers being utilized for falls prevention and fall-related services?**

Several state Medicaid programs, including California, Hawaii, Maine, Massachusetts, Vermont and Wisconsin, support reimbursement of evidence-based falls prevention programs delivered by community-based organizations. The primary Medicaid authorities used by states are Section 1915(c) Home and Community-Based Waivers and Section 1115 Demonstration Waivers. Evidence-based program provisions are designed to enable older adults and persons with disabilities to continue living in the community, including their homes, instead of nursing homes. Encouraging states to use Medicaid waiver authorities to enable Medicaid reimbursement of falls prevention programs will increase access to these important programs for persons at high risk for falls and related-injuries, supporting delay or avoidance of placement into institutionally-based care.

- Maine’s Elderly and Adults with Disabilities Medicaid waiver allows Medicaid reimbursement for home modification and fall exercise programs.
- Forty-three states and the District of Columbia have used Medicaid’s Money Follows the Person (MFP) Rebalancing Demonstration grants to reimburse for a number of services to enable residents to be safely discharged from institutions and return to the community including home modifications for fall prevention. Increasing the use of these home and community-based services allows older adults to continue living in their homes instead of nursing homes. Congress this year is expected to extend this program for several more years. The House recently passed a bill extending the program to October 2023.
- Maryland’s MFP Bridge Subsidy Program provides funding for rental subsidies for individuals moving out of long-term care facilities back into their communities and includes reimbursement for accessibility modifications and assistive technology that can prevent falls.

**Are there demonstrations or pilot programs that the Center for Medicare and Medicaid Innovation (CMMI) should consider?**

CMMI could examine the effects of innovative payment models and care coordination strategies to encourage fall prevention in primary care practices. New payment and care delivery models could (1) emphasize prevention, care coordination and quality of care in ways that embrace fall prevention; and (2) encourage providers to deliver care in ways that reduce costs, which should incentivize providers to focus on strategies, such as fall screening and referral to evidence-based programs, that yield healthcare savings.

CMMI should fund a demonstration around strategies to activate communities and bring key stakeholders together to reduce preventable falls. A first step would be to assemble the most effective falls prevention strategies, including clinical interventions, community-based programs, awareness efforts, and home safety...
and environmental approaches into a comprehensive tool chest of innovations. Additional steps could include:

- Developing guidance in conjunction with select state falls prevention coalitions and others to identify how best to activate key members of communities to develop comprehensive, multi-disciplinary and coordinated locally-driven action plans aimed at reducing falls and fall-related injuries.
- Determining data needs, evaluation strategy and evaluation partners to measure impact.
- Use CMMI resources to support pilot programs in five communities, together with a combination of national foundations and geographically-focused health care conversion foundations.
- Design an RFP for a five site-community pilot program to achieve and measure outcomes including a 10% reduction in injurious falls.
- Select five communities that will develop the model communities pilot project to falls prevention.

We also recommend further research and demonstrations on the significant potential for reductions in hospital readmissions through greater use of evidence-based falls prevention programs. A recent study found that: “[P]osthospital Falls Related Injuries (FRIs) were a leading readmission diagnosis, particularly for patients originally admitted with a FRI or cognitive impairment. Targeting at-risk hospitalized older adults, particularly those discharged to home or home health care, is an underexplored, cost-effective mechanism with the potential to reduce readmissions and improve patient care.” These findings suggested “previously unexplored and potentially cost-saving avenues for hospitals and patients to benefit from improved inpatient and transitional fall prevention practices. Further work in this area could examine the costs along with outcomes of care, by post-acute discharge disposition, of high-risk patients who experience a fall-related readmission.”

There are significant opportunities to refine and update the U.S. Preventive Service Task Force recommendation statement on falls prevention interventions for community-dwelling older adults. Currently, the USPTF recommends exercise interventions to prevent falls in community-dwelling adults 65 years or older who are at increased risk for falls and recognizes that exercise interventions have moderate certainty that the net benefit is moderate to substantial. Most evidence-based falls prevention programs, such as Tai Chi, Enhance Fitness, and Stepping On, include exercise interventions that improve balance, strength, flexibility, and gait. There is a strong rationale for these programs to be covered as a Medicare benefit in line with USPTF recommendations.

The USPSTF recommends that clinicians selectively offer multifactorial interventions to prevent falls to community-dwelling adults 65 years or older who are at increased risk for falls. The USPSTF recognizes there is at least moderate certainty that the net benefit small. This recommendation should be reconsidered in light of new evidence related to multi-factorial interventions and the expected positive outcomes from a pragmatic clinical trial conducted by the Patient Centered Outcomes Research institute (PCORI) and National Institute on Aging STRIDE study. The current recommendation for multi-factorial interventions are based on a dearth of causal evidence for programs and practices, mostly due to studies being underpowered. There is a need for efficacy and demonstration projects for falls prevention multi-factorial interventions that meet the USPSTF standards to be considered “strong evidence”. The USPSTF does acknowledge that the evidence is promising, but more specificity into what aspects of the protocols and practices can be linked to reduced falls and falls risk factors needs to be clarified.
Evidence-Based Practices

Are there evidence-based practices that reduce the rate of additional bone fractures among those older Americans who have fallen and broken or fractured bones?

Research has suggested that weight-bearing exercise may have a positive effect on bone health in older adults, including the reduction of falls-related fractures. Exercise is one of the primary modifiable factors that can preserve bone health and prevent bone cell death. However, not all exercise has the same effect. Mild exercise, such as walking and tai chi programs, do not appear to have the same impact as structured strength and conditioning classes which incorporate weights in addition to using the individual's body. Exercise has been shown to effectively reduce the number of falls-related fractures and the rate of falls while increasing overall lower extremity strength. Several evidence-based falls prevention programs include exercise as a main component, including EnhanceFitness and Stay Active and Independent for Life (SAIL). Other programs introduce exercise to participants and encourage continued exercise following the program completion, including A Matter of Balance and Stepping On. These evidence-based programs, which are readily available for community-dwelling older adults, may have a positive impact on preserving bone health and preventing fractures caused by falls.

Evidence-based falls prevention programs (EBFPPs) offer proven ways to decrease falls, fall-related injuries, and fall-related risks among older adults; by reducing falls and falls risk, the programs also help to prevent bone fractures and other catastrophic effects from falls. They are based on rigorous research of the effects or outcomes of specific interventions or model programs and demonstrate reliable changes in reducing fall risks. All programs that have been designated evidence-based have met the following criteria: (a) have demonstrated effectiveness in reducing falls or fall-related risk factors, (b) have been evaluated using a randomized controlled trial or quasi-experimental study with a control group, (c) have research findings published in a peer-reviewed journal, (d) be fully translated into the community setting, and (e) have dissemination material available for facilities to use. By helping to prevent falls, EBFPPs can help increase older adults’ health status, confidence, independence, and quality of life.

Proven model falls prevention programs are translated into practical, effective community-based programs and are packaged with a variety of supportive materials. As a result, a program’s content and fidelity will be consistent in all settings, and it will be easy to deliver. Packages usually include implementation manuals and specialized training. Examples of the most commonly disseminated EBFPPs include:

- **A Matter of Balance (AMOB)**, an 8-week structured group intervention that emphasizes practical strategies to reduce fear of falling and increase activity levels. Participants learn to view falls and fear of falling as controllable, set realistic goals to increase activity, change their environment to reduce fall risk factors, and exercise to increase strength and balance.
- **Stepping On**, a 7-week program that offers older adults living in the community proven strategies to reduce falls and increase self-confidence.
- **Tai Chi for Arthritis/Tai Ji Quan: Moving for Better Balance** are programs that both help to improve all muscular strength, flexibility, balance, stamina, and more.

What are the benefits of Evidence-Based Falls Prevention Programs?
Since EBFPPs are based on rigorous study of interventions and tested with multiple populations in a variety of settings, they are more likely to produce positive changes or outcomes for people who participate.

Benefits to Older Adults:

- Reduced falls, fall-related injuries, or falls risks.
- Improved safety and quality of life.
- Increased self-efficacy in managing falls risks.
- Increased activity/exercise to increase strength and balance.
- Improved environments to reduce fall risk factors.
- Increased or maintained independence, positive health behaviors, or mobility.
- Reduced pain.

**Benefits to Community-Based and Health Care Organizations:**
- Reduced healthcare costs associated with an emergency room, physician, hospital, and rehab visits.
- More efficient use of available resources.
- Facilitation of partnership development and community/clinical linkages.
- Better health outcomes and more positive health care experience.
- Ease of replicating and spreading programs.
- Greater opportunity for varied funding sources, as EBFPPs get proven results.

The Administration for Community Living (ACL) is an operating division within the U.S. Department of Health and Human Services. The mission of ACL is to maximize the independence, well-being, and health of older adults, people with disabilities across the lifespan, and their families and caregivers. Falls can have a widespread and significant impact on health, can be deadly, and often result in high costs, making falls prevention a priority area for ACL. The Administration on Aging (AoA) has a long history of supporting health promotion and disease prevention efforts. Since 2006, AoA has provided grants and Older Americans Act funding that has helped build an infrastructure that supports evidence-based health promotion and disease prevention efforts, including those focused on falls prevention, chronic disease self-management, mental health, medication management, and physical fitness. Between FY2014 and FY2018, ACL/AoA funded 47 grants to states, community-based organizations, and tribal organizations to implement evidence-based falls prevention programs. Since 2014, more than 55,000 individuals have participated in an AoA-supported evidence-based falls prevention program.

The Affordable Care Act (ACA) established the Prevention and Public Health Fund (PPHF) to provide expanded and sustained national investments in prevention public health, to improve health outcomes, and to enhance health care quality. The PPHF is intended to ensure a coordinated, comprehensive, sustainable, and accountable approach to improving our country’s health outcomes through the most effective prevention and public health programs. PPHF is allocated within the U.S. Department of Health and Human Services (HHS), and to date, six HHS agencies or offices have received or have requested to receive PPHF dollars, including the Centers for Disease Control and Prevention (CDC) and the Administration for Community Living (ACL).

The CDC provides support for falls and injury prevention via development and support for surveillance and provider education programs, including the CDC STEADI Initiative. The ACL develops the home and community-based services that help elderly individuals maintain their health and independence in their homes and communities. The CDC supports the clinical aspects of healthcare whereas the ACL supports programs and services in the community. Together, these two agencies complement each other in falls prevention efforts. There is not a Healthy Aging unit at the CDC, leaving federal programs that address older adult health to continue to be siloed and under-resourced. The ACL fills this gap by partnering with states and localities to enhance age-friendly communities, including access to evidence-based falls prevention programs and services. Since its creation, the PPHF has been instrumental in maintaining and increasing support for evidence-based public health and prevention programs. Despite funding critical work, the PPHF has already been cut by $11.85 billion dollars from FY2013 through 2027. Since the initial $5 million in funding per year investment in falls prevention from the PPFH in 2014, the funding for falls prevention efforts have remained stagnant. (See Figure 1) The nation spending $5 million on a $50 billion/year health issue will not move the needle on improving aging and reducing falls.
Recently, U.S. Senator Richard Blumenthal (D-CT) and U.S. Representative Doris Matsui (D-CA) announced the introduction of bicameral legislation to authorize and appropriate $2 billion in Fiscal Year 2020 and each subsequent fiscal year to fully restore the Prevention and Public Health Fund (PPHF). Under the ACA, funding for the PPHF was supposed to increase over time and reach $2 billion in Fiscal Year 2015. However, the PPHF has been repeatedly cut in lieu of other legislative priorities and has never reached the $2 billion funding level. The lack of appropriated funds has prevented core public health programs from expanding and prevented the development of new, innovative programs to respond to unique public health threats that continue to arise. Supported by more than 180 public health groups, the Public Health Funding Restoration Act would fund the development and expansion of public health programs, including evidence-based falls prevention programs and innovative falls prevention programs that could be brought to scale.

Currently, the Administration for Community Living (ACL) is providing $5 million in funding per year through the PPHF to implement and improve access to evidence-based falls prevention programs in local communities; since 2014, these programs have reached nearly 100,000 older adult participants in 30 states across the country. The programs have been implemented in a wide range of community sites, including faith-based organizations, health care organizations, libraries, and senior centers. Approximately 10,700 participants have received a health care referral to EBFPPs. Additionally, the programs have reached a diverse population of community-dwelling older adults such as individuals living with a disability, racial minorities, rural communities, and individuals who live alone.

Participants have shown a statistically significant reduction in the number of falls experienced as well as a decrease in known falls risk factors, such as fear of falling, following participation in EBFPPs. Other statistically significant outcomes include a reduction in activity restriction due to the concern of falling and improvement in ability to manage fall risks. Participants report greater confidence in the ability to improve
balance, ability to reduce the occurrence of falls, and the ability to protect themselves during a fall. Although impressive, the number needs to be dramatically increased to affect the 2.8 million falls treated each year in emergency departments.

Listed below are select recommendations and action steps from the National Action Plan to address the expansion of evidence-based falls prevention programs and program infrastructure.

**KEY POINTS AND RECOMMENDATIONS**

- **Expand the availability of evidence-based falls prevention programs.** By increasing funding to ACL for EBFPPs to $10 million annually, more older Americans could access these interventions, helping to maintain their safety, health, and independence. Specific actions to achieve this recommendation include the following:
  1. Create new payment models for services delivery; diversify funding streams.
  2. Develop communities of practice, including researchers and practitioners, to meet regularly, share resources and experiences, and reflect on what is working and not working.
  3. Identify new partners (e.g., caregivers, certified nursing assistants, gyms/fitness centers, and organizations and agencies such as the Centers for Medicare and Medicaid Services) and what they may be able to offer in terms of data, personnel or other resources.
  4. Integrate evidence-based program training into inter-professional education of health care professionals.

- **Expand the falls prevention evidence-based program infrastructure.** Specific actions to achieve this recommendation:
  1. Work with program developers and groups such as the Evidence-Based Leadership Collaborative to standardize training and licensure.
  2. Standardize and improve program data collection and data sharing; identify salient data point and tools.
  3. Create a coordinated system for referrals.
  4. Develop a national evidence-based program locator to help older adults, caregivers, health care providers, and other professionals identify where the programs are available in their communities.
  5. Expand the falls prevention evidence-based program provider base to include more instructors/trainers, training opportunities, and program availability in underserved areas.
  6. Link resources on national association websites to local/state agencies.
  7. Identify sources to provide expert technical assistance and synthesize current processes to broaden the base, e.g., practitioners, researchers, and other stakeholders to discuss issues such as recruitment, retention, partnership development, and other issues.
  8. Identify data points and standardized tools as common measures across programs to generate compelling evidence for a “business case” to continue the programs and generate new partners.
  9. Identify sources of support for additional demonstration projects and to translate research into practice.
  10. Establish evaluation criteria for expanding the falls prevention evidence-based infrastructure, including the implementation of clinical-community connections such as the number of referrals from health care providers to community-based programs.
  11. Evaluate expansion efforts based on the established evaluation criteria.
Are there regional differences in the utilization of these services, evaluations, or screenings?

The map below shows the participant distribution where evidence-based falls prevention programs were delivered in the United States between 2014-2019, through Administration for Community Living falls prevention grants. Regional differences align with grant funding. States that have received multiple grants with a population have greater utilization of services (e.g., CA, FL, TX) compared to states with a smaller population (e.g., AR, ND, WY).

Additional regional differences in service utilization have been observed among racial/ethnic minority (African American, American Indian/Alaska Native, Asian, Native Hawaiian/Pacific Islander, Multiracial) populations. Research has shown that minority participants are significantly more likely to attend EBFPPs offered in the South and significantly less likely to attend programs in the Midwest. Additional differences have been observed among implementation site type by minority status. Minority older adults are more likely to attend programs offered in faith-based organizations and residential facilities compared to non-Minority older adults. And despite having a significantly greater number of referrals from health care professionals to EBFPPs (23% Minority vs. 16% White), minority older adults are less likely to attend programs offered at health care organizations. There is a need to increase the diversity of participants utilizing these services across the county to reach all older adult populations. Widespread availability of the programs is needed, particularly in rural, underserved areas of the country.

Figure 2. Participant Distribution in Evidence-Based Falls Prevention Program Delivery by Administration for Community Living Falls Prevention Grantees, 2014-2019.

Are there models (such as the Million Hearts Campaign) for other health conditions that have applicability to reducing the overall rate and impact of falls among the elderly?

NCOA strongly recommends that a cross-agency federal effort be established that is modeled after the National Alzheimer’s Project Act (NAPA) that would build upon and leverage HHS programs and other federal efforts to help change the trajectory of falls and injuries among older adults. The NAPA law calls for a National Plan for Alzheimer’s disease and related disorders with input from a public-private Advisory Council on Alzheimer’s Research, Care and Services. The Advisory Council makes recommendations to HHS for
priority actions to expand, coordinate, and condense programs to improve the health outcomes of people with AD/ADRD and reduce the financial burden of these conditions on those with the diseases, their families, and society. We believe a similar approach is essential to best address the significant public health problem of older adult falls.

NCOA also strongly supports a National Falls Prevention Awareness Campaign. Falls are not an inevitable part of aging, but many older adults, caregivers, health care professionals, and others are not aware of the many ways that fall risks can be reduced. National Falls Prevention Awareness Day (FPAD), observed on the first day of fall each year since 2008, certainly has contributed to raising awareness of how to prevent falls. However, FPAD is focused on a specific timeframe, and falls happen every day throughout the year.

A targeted, national awareness campaign is needed to change knowledge, attitudes, and behaviors towards reducing falls risks. The campaign should encompass the tenets of the CDC’s social ecological model, considering the interplay of falls risks that can be addressed by individuals, relationships, communities, and societal factors. In 2009, the Advisory Council had expressed sincere interest in working with federal and private partners to create a falls prevention campaign, but funding for the effort fell through due to economic turmoil at that time. Efforts should be revived to garner support from federal and other partners to fund a national falls prevention awareness campaign.
Polypharmacy

What recommendations do you have to ensure prescribers take into account the relationship between polypharmacy and falls risk when making both initial and follow-up clinical decisions for high-risk patients?

Numerous factors are associated with an increased risk of falling and fall-related injuries, but none is as potentially preventable or reversible as medication use. At least one prescription medication is used by 87 percent of those over the age of 65. Five or more prescription medications are taken by 36 percent of older adults, and 38 percent used over-the-counter medications. In a sample of Medicare beneficiaries discharged from acute hospitalization to a skilled nursing facility, patients were prescribed an average of 14 medications, including over one-third with side effects that could exacerbate underlying geriatric syndromes, including falls.

The risk of falling has been shown to increase with the number of prescription and over-the-counter medications taken or polypharmacy. Older adults taking more than three or more medications are at increased risk for falls and recurrent falls. In addition, numerous epidemiological studies have identified specific therapeutic categories of medications that increase the risk that an older person will fall. These therapeutic categories of medications are problematic because they often cause side effects and adverse effects that predispose older persons to falls. The most common side effects or adverse effects leading to falls include orthostatic hypotension causing dizziness, lightheadedness, and balance impairment; sedation, decreased alertness, confusion and delirium, blurred or impaired vision, compromised neuromuscular function, and anxiety. Fortunately, these effects are reversible with a clinical review of cause and subsequent modification of the medication regimen, such as lowering the medication dose, discontinuation, or switching to a safer alternative medication.

A recent study published by the CDC indicated that the use of certain psychoactive medication classes has increased significantly between 1996 and 2013. This study found that more than half of adults age 65 and older used one or more psychoactive medications in 2013. Between 1996 and 2013, opioid use in older adults increased by 140%, benzodiazepine use increased by 50%, selective serotonin reuptake inhibitors use increased by 300%, and anticonvulsant use increased by 450%. Women were more likely than men to use psychoactive medications. As indicated from the results of this study on the increased use of psychoactive medications since 1996, more training of prescribers and other clinicians about the risks and benefits of psychoactive medication use as well as patient and caregiver education are imperative.

Older persons are susceptible to the adverse effects of medications for many reasons, including having to take multiple medications due to multiple chronic conditions, increased sensitivity to medications to physiological changes with aging, and the types of medications that are commonly prescribed to older adults. Numerous studies have shown that the incidence of adverse drug reactions increases with the number of medications taken by older people living at home, as well as older patients in hospitals and nursing homes. The incidence of adverse drug reactions increases exponentially rather than linearly with the number of medications prescribed to older adults. This exponential increase can be associated with the severity of illness and older persons who take many medications are often severely ill and therefore predisposed to adverse effects that lead to falls.

Drug interactions may also play a role in the high incidence of adverse drug reactions among older persons. Further, the use of additional medications to treat adverse reactions can further contribute to high rates of adverse drug reactions in older persons. Due to individual variability, not every older adult who takes these medications together will experience an adverse reaction. However, these combinations have the potential to produce harmful effects. Diseases can alter medication disposition by increasing steady-state concentration or
prolonging the half-life of a medication. Therefore, severe morbidity may make an older person more susceptible to adverse drug reactions and therefore, increased risk of falls.

Pharmacokinetic changes with aging, especially distribution, metabolism, and elimination of medications, include decreased lean body mass and increased body fat that cause fat-soluble medications to be more extensively distributed and to remain longer in the body of an older person than in a younger person. Declining kidney function can result in accumulation of medications that are eliminated by the kidney, leading to possible toxic drug levels. By age 65, the filtering ability of the kidneys has decreased by 30 percent. Declining liver function can decrease the metabolism of certain medications and also lead to medication levels that could possibly be toxic in many older adults. An excellent example of a medication that is affected by pharmacokinetic changes is diazepam that is has a longer life in older person due to the increased volume of distribution and more slowly excreted by the kidneys of an older person compared to a younger person. These changes cause diazepam—even one dose of the medication—to remain in an older body for very long periods of time, producing a highly sedative effect, confusion, and delirium.

The pharmacodynamics of medications are also altered with age. Pharmacodynamic changes increase an older person’s sensitivity to potential adverse effects. In some cases, the change is increased while in others the response is decreased. Central nervous system active medications, such as benzodiazepines, antidepressants, analgesics, and medications with anticholinergic effects, result in increased pharmacodynamic response and dosages must be decreased accordingly.

Homeostatic mechanisms also become less effective with advancing age. For example, baroreflex activity has been shown to decline with age. This decline can contribute to a greater risk of postural hypotension—a sudden drop in blood pressure—upon standing in older persons taking certain antihypertensives.

Certain medications, particularly psychoactive medications, are more likely to cause adverse effects than others in older adults. Unfortunately, medications most commonly implicated in adverse effects are often prescribed to older adults. To address this problem, the Beers list, sometimes referred to as the Beers criteria for potentially inappropriate medication use by the elderly, was developed by a group of 12 clinicians with expertise in geriatrics and led by Mark Beers, MD. First released in 1991, the Beers list was initially created to help clinicians determine which medications should be avoided in nursing home patients since older adults in nursing homes are particularly at risk for suffering medication-related problems.

Since then, the Beers list has been updated several times with the latest revision published by the American Geriatrics Society in 2019. The list has been broadened to encompass potentially inappropriate medications for the older adults regardless of where they reside or receive care. The list has been divided into two primary groups: a list of medications considered potentially inappropriate independent of diseases/conditions and a list of medications considered potentially inappropriate when used in seniors with certain diseases or conditions. Many medications on this list are problematic because they cause side effects and adverse effects that can lead to falls. In addition, a list of alternative medications is now included in the Beers list.

This list has proven to have far-reaching applications and has been used by health care professionals, regulators, and researchers internationally. The list should serve as a guideline for physicians, pharmacists, and other clinicians, no matter what practice setting, to identify medications that are potentially inappropriate for use by older adults, as well as those that can increase the risk of falling. The list also provides assistance in identifying safer alternative medications that pose less risk for falling. All clinicians working with older adults should be trained in the use of the Beers list and apply it in clinical practice when initially prescribing new medications and in follow-up decision making.

As a companion to the Center for Disease Control and Prevention’s Stopping Elderly Accidents Deaths and Injuries (STEADI) Resources, the American Society of Consultant Pharmacists in partnership with the
National Council on Aging developed a toolkit for clinicians to mitigate the risk associated with medications. Once a person has been identified at risk for falls, this tool kit, known as the ASCP/NCOA Falls Risk Reduction Toolkit, guides clinicians through a checklist to identify specific risk factors. The checklist was developed from published evidence regarding patient factors, medical conditions, medication use principles, and specific medications that are associated with falls risk. The toolkit includes a bibliography that quickly and efficiently points practitioners to the specific literature to guide clinical decision making. The toolkit is the focal point for an interdisciplinary certificate program that uniquely partners pharmacists, occupational therapists, physical therapists, and other clinicians as key members of the healthcare team to collaborate to minimize all of the identified fall risk factors.

Medication reviews are an effective but underutilized intervention to prevent older adults falls. A 2018 CDC study concluded that medication reviews and modification to address medications potentially linked to falls could avert $418 million of annual direct medical costs attributed to falls, and prevent an estimated 113,960 falls.

As part of the 2015 White House Conference on Aging, the National Council on Aging hosted a Falls Prevention Summit. The primary out of this Summit was a National Falls Prevention Action Plan. Listed below are select strategies and action steps from the Action Plan related to reducing the impact that medication has as a risk factor for older adult falls.

**KEY POINTS AND RECOMMENDATIONS**

**Recommendation 1:** Increase the numbers of adults who have a medication review at least on an annual basis conducted by a qualified health care provider, e.g., pharmacist, and ensure this review includes an adequate focus on falls and fall-related injury prevention, with the goal of reducing or eliminating medications that increase falls risk.

**Action Steps**

1. Through Centers for Medicaid and Medicare Services (CMS), mandate that Medicare Part D Prescription Drug Plans expand Medication Therapy Management Services to incorporate medication reviews for falls risk reduction.
2. Work in partnership with CMS and physician associations to promote increased utilization of the Medicare Wellness Annual Visit and develop better guidance on best approaches to medication reviews as part of the Wellness Visit with a focus on falls risk inducing medications, e.g., use of the Beers List.
3. Identify best practices regarding pharmacist medication reconciliation at points of care transitions and disseminate best practices to health care systems for replication.

**Recommendation 2:** Conduct a strategically planned consumer education campaign to increase awareness of falls risks associated with medication use (prescription and nonprescription).

**Action Steps**

1. Use the campaign to inform older adults and caregivers about the risk of side effects from medications and the need for an annual review and modification of medications by qualified health care providers.
2. Utilize appropriate media channels to communicate the falls risk of medications to consumers.
3. Provide support to older adults to reduce or eliminate the use of medications that are related to falls, including providing them with information on alternatives to medications that are associated with falls risk.
4. Involve pharmacists, nurses, physicians and older consumers in market research to identify effective messaging and to discern what would help older adults take medications appropriately.
5. Utilize interaction with pharmacists to provide consumers with information on falls risk associated with medication, as well as potential benefits of some medications in reducing fall-related injury risk.

6. Develop and implement a pharmacy-based “sticker” program to identify falls risk associated with medications.

**Recommendation 3:** Develop strategies to empower older adults and family members to take responsibility for medications management.

**Action Steps**

1. Educate consumers on how to more effectively communicate with their health care providers, including a focus on the types of questions they should ask.

2. Encourage older adults to identify an individual health care professional to help them manage their medications.

3. Educate older adults about postural hypotension and its association with falls and develop strategies for empowering older adults to request postural hypotension assessments from their health care providers.

4. Incorporate information related to evaluation of medications and falls risk on health care organizations’ consumer websites.

5. Disseminate existing self-assessment tools related to medications that older adults can complete and take to their health care providers.

6. Provide support and tools to family caregivers so they better understand medication management related to falls and fall-related injuries.

7. Distribute consumer-targeted falls risk assessment tools and information through pharmacies.

**Recommendation 4:** Support health care provider efforts in the implementation of periodic medication review and modifications prior to each new prescription that is written for an older adult.

**Action Steps**

1. Work with electronic health record vendors to develop medication review prompts that guide the provider in optimizing their patients’ medications for overall health and fall risk reduction.

2. Improve communication between pharmacists and prescribing healthcare providers.

3. Review current tools and existing efforts for health care provider medication review and modification and identify best practices.

4. Assess the emphasis on falls and make adaptations as appropriate.

5. Involve home care providers in the front-line assessment of adverse medication affects through the use of simple medication risk assessment tools.

6. Develop demonstration projects for the management of postural hypotension and insomnia.

7. Increase federal support for the dissemination multifactorial fall risk assessment and management strategies, such as CDC’s STEADI Resources, to health care providers that includes medication review and reduction.
Is there a need for increased research on the link between polypharmacy and falls-related deaths and/or injuries?

Yes. More research is needed on associations between medication use, medication-related interventions and fall injuries and death. Key areas in need of research include:

- Understanding the relationship between certain medication classes (e.g. anticoagulants) and the severity of fall injuries.
- Understanding the relationship between specific drug combinations and fall risk in older adults (e.g. opioid and gabapentinoids, opioids and benzodiazepines, 3+ psychoactive medications, psychoactive medications and alcohol).
- Understanding the relationship between polypharmacy, or the use of multiple medications taken concurrently, and fall risk (e.g., number of daily medications and link to falls and fall injury severity).
- Impact of regular medication reviews by pharmacists and other health care professionals on reducing falls and fall-related injuries.
- Pharmacy-specific strategies on reducing medication-related falls, e.g., education about fall risk with each new prescription that has been shown to increase falls risk for people over the age 65, special prescription labeling, impact of medication reconciliation during transitions of care with emphasis on falls-risk inducing medications.
Transitions of Care

How can the transitional period from a hospital or skilled nursing facility to the home be improved in assessing the home for falls risk?

Falls remain common and costly among older adults, with recently discharged patients and those with cognitive impairment at greatest risk. Falls are the second most frequently occurring adverse event for older adults in the post-discharge period. Older adults with recurrent falls requiring medical treatment are more likely to have significantly higher mortality over a 1- to 3-year period with a marked increase of admissions to long-term care facilities. As mentioned in previous sections, there are worrisome gaps in the transitional care planning for falls patients recently discharged from the hospital.

At a time of increasing pressure to deliver efficient healthcare to an aging population that often requires greater services, opportunities to improve quality of care and reduce use are needed. With more than one-third of U.S. outpatient care delivered in the acute care setting, the emergency department (ED) is a significant place for medical decision making, conduit for inpatient admissions, and setting not only where safety net care is delivered, but also where care transition programs can be integrated.

An ED visit is often described as a sentinel event signifying a breakdown in care coordination for older adults. With the ED at the intersection of multiple healthcare settings, it has been described as a portal of entry to inpatient care. The transitional period between discharge from an ED, hospital, or skilled nursing facility to home carry significant risks for older adults, including a high risk of adverse events such as a fall, functional and cognitive decline, and loss of independence. More than 30% of older adults develop a hospitalization-associated disability and many do not return to their previous functional state. This highlights the significant role a falls prevention transitional care plan may play in changing the trajectory and impact of adverse events and sequelae of hospitalization on older adults.

A transitional fall-prevention model should build on the principles of existing care transition interventions and leverage both hospital-side and posthospital efforts. Existing research suggests that patients and their caregivers are often unaware of evidence-based best practices when they leave the hospital and that they could benefit from a transitional Falls Plan Of Care (FPOC) to coordinate continuity of care. Transitional care programs help safely transition older adults from inpatient settings to home and prevent adverse events during the post-discharge period, when vulnerabilities are increased.

Transferring a patient from one care setting (e.g., a hospital, nursing facility, primary care physician, long-term care, home health care, or specialist care) to another is termed “transition of care” by the Centers for Medicare and Medicaid Services (CMS). The coordination of care across the health care continuum is crucial to the implementation, management, and evaluation of a patient’s transitional care plan and FPOC. The transfer and receipt of patient information between different levels of care and locations ensure continuity and promote successful treatment. Unfortunately, breakdowns in these processes, as well as the ineffective handoff of information between care providers, can lead to poor transitions and miscommunication among providers. This, in turn, can cause confusion regarding treatment plans, duplicative testing, discrepancies in medications, and missed physician follow-up, ultimately leading to fragmented care and patient dissatisfaction. Moreover, hospital readmissions may result from failures in communication as well as from poor coordination of services, incomplete treatment, incomplete discharge planning, and/or inadequate access to care.

A major challenge in ensuring continuity of care across health care settings is the effective communication of information between care providers. This includes reconciling the patient’s medications upon discharge, ensuring that the patient has access to medications and medical supplies at home, using health information technology (HIT) to ensure that providers have access to complete care plans, and providing adequate patient education. Failures in these key areas can lead to negative outcomes.
Direct provider communication is essential for a patient’s smooth transition between health care settings, including discharge to the home. Incomplete health information and the lack of a universally accessible electronic health record (EHR) limit the acute care provider’s ability to access records from the ambulatory care and community pharmacy records, particularly if the inpatient provider is someone other than the primary care provider. Miscommunication may be perpetuated after discharge from the acute care setting because the primary care provider may not receive complete documentation of the patient’s diagnostic tests, procedures, and medication changes during hospitalization. Hospital discharge summaries have been recognized as primary sources of communication errors. A meta-analysis found that only 12% to 34% of discharge summaries had reached outpatient care teams by the time the patient saw their primary care physician.

Without adequate information during transfers, it is difficult to maintain continuity of care. The National Transitions of Care Coalition (NTOCC) has recognized the barriers to direct communication between health care providers during patient transitions and supports the use of a universal transfer tool to facilitate the movement of patients between care settings. Since it may be difficult and time-consuming for a home caregiver or rehabilitation facility staff member to contact an acute care provider for information after a patient has been discharged, the use of standardized forms ensures that important data are relayed to other members of the patient care team. The Continuity Assessment Records and Evaluation (CARE) item set, developed by the CMS, is as an example of such a tool. CARE is intended to provide up-to-date and accurate information at the time of hospital discharge, during the post-acute care admission, and during discharge after post-acute care. The tool includes a standardized assessment of the patient’s medical, functional, cognitive, and social support status across care settings, with the ultimate goal of improving the quality of care that the patient receives. The Society for Post-Acute and Long-Term Care Medicine (AMDA) has also developed a Universal Transfer Form to facilitate the transmission of necessary patient information from one care setting to another. The use of these standardized forms could potentially reduce treatment errors stemming from inaccurate or incomplete information.

Using Health Information Technology (HIT) may provide a more timely and seamless transfer of information between providers and health care settings compared with traditional paper forms. The use of EHRs can increase providers’ access to health information; reduce redundancies in diagnostics and in patients’ health histories; and improve provider-to-provider communications. However, gaps in the HIT infrastructure may contribute to miscommunication and result in delays in information sharing. Current limitations to the use of HIT include a lack of interoperability among systems; the creation of information “silos” that result in fragmented information sharing; the lack of shared responsibility for the goals of care (among providers) and for constructing interoperable systems (among HIT vendors); and concerns regarding data breaches and the security of protected health information. Despite these limitations, HIT can play a central role in transitions of care, and its use has the potential to reduce hospital readmission rates, including those due to falls.

The National Quality Forum has developed a quality data model (QDM)—adopted and supported by the CMS—that describes a standardized platform Transitional Care: Strategies for Improving Communication and Reducing Readmissions for the electronic management of clinical outcomes. The QDM facilitates quality measurement and evaluates clinical outcomes based on structured data captured from the patient’s EHR, from personal health records, and from other electronic sources. The incorporation of HIT into practice settings may vary, however. Long-term and post-acute care facilities, for example, have been slower to adopt EHRs compared with acute care practices. In 2012, Wolf and colleagues found that only 6% of long-term acute care hospitals and 4% of rehabilitation hospitals had a basic EHR system. To address these gaps, several states are participating in the Health Information Exchange Challenge Grant Program, sponsored by the Office of the National Coordinator for Health Information Technology, which asks the states to suggest innovative methods to improve connectivity among health information exchanges and interoperability among providers. This has resulted in numerous states developing transitions of care programs that include and evidence-based care transition tool, digital nursing documentation that linked nursing home health...
information to hospital emergency-department care providers, and the adoption of a universal transfer
document, which accompanied patients to post-acute care facilities after hospital discharge. Several other
programs encourage novel uses of current HIT to improve information sharing across transitions of care.
Nevertheless, until a universal electronic health care language is invented, the communication of care plans
and the exchange of information at transitions of care will likely remain fragmented.

The communication of health care information to patients and their families may be limited by physical
deficits, such as hearing, vision, or cognitive impairments, and by poor health literacy. Only about 12% of
Americans have a proficient level of health literacy, and more than one-third of U.S. adults have difficulty in
completing common health tasks, such as following the directions on the label of a prescription drug.
Individuals with poor health literacy or cognitive impairments may be unable to read and understand written
health information, which can contribute to nonadherence with discharge instructions and medications and to
the failure to follow up with care providers after discharge. In order to improve communication with patients
with low health literacy or cognitive deficits, health care providers need to be given sufficient time to interact
with patients to identify these barriers and to find ways to overcome them.

The American Geriatric Society and British Geriatric Society’s Clinical Practice Guideline recommends a
multi-factorial approach to fall prevention including having the health care provider ask older adult patients
about falls, assess for modifiable risk factors such as gait, balance, and medications, and prescribe
interventions such as strength and balance exercises or medication adjustments. Despite the availability of
these guidelines, most providers fail to use them. In response to this lack of uptake, the CDC National Center
for Injury Prevention and Control developed the Stopping Elderly Accidents, Deaths, and Injuries (STEADI)
initiative to offer providers a conceptual framework for older adult falls prevention. Using the STEADI is the
first step in developing a Falls Plan Of Care (FPOC).

Research has demonstrated that the implementation of the STEADI initiative into the workflow of primary
care settings was associated with a reduced number of fall-related hospitalizations for older adults who had a
FPOC and had a 40% decreased risk of falling compared to those who had not been screened using
STEADI. However, screening alone is not sufficient to prevent a fall. Establishing a FPOC requires the
implementation of strategies to address falls risk factors, such as a referral to a physical therapist or
participation in an evidence-based falls prevention program. These strategies can include referrals to
providers and programs to assess the home for falls risk hazards and recommend modifications to increase
functionality and quality of life.

An example of an evidence-based falls prevention program for high risk older adults is the CAPABLE
program. CAPABLE (Community Aging in Place – Advancing Better Living for Elders) is a five-month
structured program delivered at home to community-dwelling older adults to decrease fall risk, improve safe
mobility, and improve the ability to safely accomplish daily functional tasks. CAPABLE is delivered by an
occupational therapist, who makes six visits to each participant; a nurse, who makes four visits; and a
handyman, who contributes up to a full day’s work—providing home repairs, installing assistive devices, and
making home modifications. Participants work with the therapist and nurse to identify three achievable goals
per discipline, examine the barriers to achieving those goals, and make action plans, supported by changes to
the home and medication environment, to achieve those goals. CAPABLE is associated with a lower
likelihood of hospitalization and long-term service use due to falls and demonstrates decreases in disability in
activities of daily living (ADLs) and increases patient activation, physical functioning, and quality of life.

Another promising example of a strategy to reduce falls in the home as part of the transitional period and as
part of the FPOC is the use of nurse Falls Care Managers. In 2013, the Patient-Centered Outcomes Research
Institute (PCORI) and the National Institute on Aging (NIA) awarded a 5-year cooperative agreement to
conduct a large-scale research study to determine the effectiveness of a patient-centered intervention that
combines elements of practice redesign and an evidence-based, multifactorial, individually-tailored
intervention implemented by nurse Falls Care Managers (FCM). In this study, FCM work with each patient
and their primary care doctor to create a plan to reduce the patient’s chance of falling and includes treatment for other health problems as needed. This strategy directly aligns with the described need for a FPOC. This study will conclude in November 2019 and may inform a best practice that could be embedded as part of the routine plan of care for older adults, especially those who are in a transition period between the hospital or skilled nursing setting to the home.

The provision of effective transitional care services is central to improving outcomes-based patient care delivery to reduce falls and falls-related injuries, reduce hospital readmissions, and to reduce overall costs to the health care system. Clear and comprehensive provider-patient communication is the key to achieving optimal transition of care. This includes the use of effective screening tools such as the STEADI initiative, the development of a transitional FPOC, the use of FCM to facilitate the implementation of the FPOC, and the use of evidence-based programs that reduce falls in the home.

**What more could be done by government agencies to support fall risk assessments and the implementation of protocols that could be used to prevent falls in the home care population?**

In the United States, the population of older adults aged ≥85 years are the fastest-growing age group among U.S. residents and will reach approximately 8.9 million in 2030. Although the rate of deaths from falls is increasing among all persons aged ≥65 years, it is increasing fastest among those aged ≥85 years (3.9% per year). Considering that 36.5% of older adults aged ≥85 years report falling at least once and 13.5% of older adults aged ≥85 years are injured from a fall, this high-risk population should be targeted for improved falls assessment and intervention, especially amongst those in the home care population.

Health care providers should be aware that deaths from falls are increasing nationally among older adults but that falls are preventable. While over 90% of older adults visit a healthcare provider annually, fewer than 50% of those who fall discuss fall prevention with their provider and only a third of older adults are screened for a fall. This reflects an unmet need for prevention strategies that are cost-effective and effective at reducing fall risk.

The rising number of deaths from falls in the high-risk home care population can be addressed by thoroughly screening for fall risk and intervening to address modifiable risk factors such as polypharmacy or gait, strength, and balance issues. Falls and fall prevention should be discussed during annual wellness visits, when health care providers can assess fall risk, educate patients about falls, and select appropriate interventions. Using evidence-based initiatives, such as CDC’s STEADI can assist health care providers in assessing fall risk, educating patients, and selecting appropriate interventions to address the underlying causes of a fall. Every older adult in the home care population should have a Falls Plan of Care (FPOC) that reflects a comprehensive assessment of falls risk and recommendations to address these risks.

Falls and injuries from falls are often a starting point for older adults consuming substantial health services like home care. Home care refers to care given by professional health workers at home, covering a range of activities from short-term rehabilitation to long-term assistance with daily activities, which are important to enable older adults to remain at home. Characteristics of home care recipients are older age, high incidence of falls, low level of falls self-efficacy, poor physical function, medical instability, and low level of quality of life.

In the US, nearly two-thirds of older Medicare beneficiaries living in the community rely on some level of long-term services and supports (LTSS), and six in 10 use assistive devices. Almost 30% Medicare beneficiaries age 85 and older receive LTSS and most use assistive devices for at least two activities of daily living (ADLs), such as toileting and bathing. Despite the relatively high levels of assistive device use, many Medicare beneficiaries with LTSS say they have faced adverse consequences because no one was available to help with an activity or it was too difficult to do on their own. Dual-eligible beneficiaries who had difficulty or no help with certain activities consistently had the highest percentages of adverse consequences. Compared
with high-income Medicare beneficiaries, dual eligibles were more than four times to experience an adverse event such as a fall.

Protecting the home care population, especially those most vulnerable, should be a national priority. By targeting these high-risk older adults with quality care and services, including implementing evidence-based practices and programs to prevent falls, significant reductions in health care utilization, improvements in functional ability and quality of life, postponement or prevention institutionalization, and reduction the tremendous economic costs of long term care can be attained.

The needs of older adults have changed since Medicare’s enactment in 1965. Because traditional Medicare does not cover most LTSS, individuals and their families bear most of the costs for this assistance. Medicare may only cover certain assistive devices, such as canes and wheelchairs, while omitting coverage for others, such as grab bars for the shower or other changes to the home that would improve function and reduce risk of falls. Moreover, Medicaid covers only a portion of LTSS costs once dual-eligibles meet “nursing home level of care” criteria. The Bipartisan Budget Act of 2018 gives Medicare Advantage plans greater flexibility to tailor benefits to the needs of their beneficiaries, few have expanded coverage for falls-risk assessments and evidence-based falls prevention programs.

Several actions can be taken by government agencies to protect the most vulnerable home care populations. First, expanding Medicare coverage to include an array of LTSS benefits could help older Medicare beneficiaries while achieving greater efficiencies and value of spending for this population. In 2015, the average annual Medicare spending for beneficiaries with functional or cognitive impairment was twice as high as for those without impairment. While the BBA may offer one pathway to expand LTSS benefits vis-à-vis Medicare Advantage plans, limitations exist regarding the generosity of benefits that reduce fall risk factors.

Second, a comprehensive falls risk assessment should be compulsory as part of the Annual Wellness Visit in order to establish an individually tailored and effective Falls Plan of Care (FPOC). Evidence has shown that individuals with a FPOC have fewer falls than those who do not and are effective at addressing the modifiable risk factors for falls.

Third, measures should be embedded as part of all transitional care plans for falls-related injuries and other injuries that increase the risk of falls to ensure continuity of care across health care settings. This includes effective communication of information between care providers that address the patient’s medications upon discharge, ensuring that the patient has access to medications and medical supplies at home, using interoperable health information technology (HIT) that incorporates universal electronic health care language to ensure that providers have access to complete care plans, and providing adequate patient education. The use of nurse Falls Care Managers is a promising practice that may facilitate the implementation of these measures. Health care providers have cited several barriers to incorporating preventive services, such as those proposed by STEADI and AGS/BGS, and the development of FPOC. These barriers include a lack of time and the associated costs.

While, the Centers for Medicare & Medicaid Services (CMS) now provides incentives for health care providers to conduct fall prevention activities through payment and delivery reforms (e.g., Welcome to Medicare Visit, Medicare Annual Wellness Visit, etc.), research finds that only about half of primary care practices are currently offering annual wellness visits and less than 20% of eligible Medicare beneficiaries are receiving them. Further disparities exist as non-white patients with higher medical risk and dual eligibles are the least likely to receive an annual wellness visit. Furthermore, while CMS also links health care provider incentives to fall prevention quality measures through the Physician Quality Reporting System (PQRS) in the Merit-Based Incentive Program, these efforts are undermined by clinicians’ ability to choose the measures and activities they are evaluated on. Because falls in older adults are a $50 billion a year economic burden to our health care system and pose such a high risk for older adults, requiring two quality measures for falls, Falls
Risk Assessment and Falls Plan of Care, as part of the PQRS could make fall prevention a routine part of clinical practice and reduce the barriers to providing services that can prevent falls among older adults.

Fourth, the traditional Medicare program should promote the development of integrated care organizations that would operate much like accountable care organizations but cover a broad range of LTSS needs. This would open the door for innovative models of care such as the CAPABLE program, described in the previous section. In a demonstration project funded by the Centers for Medicare and Medicaid Services (CMS), Medicare saved $2,765 per quarter per CAPABLE participant. Furthermore, ADL limitations decreased from 3.9 to 2.0 after five months in the CAPABLE program.

The Otago Exercise Program is another evidence-based falls prevention program developed for high-risk older adults. This program consists of individually tailored muscle-strengthening and balance re-training exercises of increasing difficulty combined with a walking program. This program can be delivered by a physical therapist or specially trained nurse or other healthcare professional in the home or virtual setting. The results of participation in this program have demonstrated a reduction in fall rate of 35% and improved physical function and balance. This program also demonstrated economic savings. Among persons aged 80 and older, the average expected benefit was estimated to be $768.33, the net benefit was $429.18, and the return on investment was 127% for each dollar invested. Because it may be reasonable that a fall injury among persons aged 80 years and older would be more severe and more costly than for younger persons, the return on investment could be as high as 240%.
Post-Fracture Care

What can be done to create a care pathway for patients post-fracture to ensure proper follow up care and prevention of future fractures? Are there best practice models that can provide implementation opportunities? Are there any federal policy barriers to implementing best practices in post-fracture care?

There are several policy changes that could be made to create a care pathway to better ensure proper follow up care for those who suffer bone fractures and help them prevent additional fractures. Medicare payment for improved coordination of care and the development and implementation of improved quality measures are two effective steps that would greatly improve outcomes.

Fraction Liaison Service. As noted above, Medicare does not pay for an innovative care coordination strategy known as Fracture Liaison Service (FLS) that has been demonstrated to improve utilization of effective screening and therapies and therefore improve outcomes and reduce costs. The Fracture Liaison Service (FLS) secondary fracture prevention program model of care has been in operation for more than 15 years in leading health systems in the U.S. and in countries around the world. FLS ensures that patients suffering fractures caused by osteoporosis undergo a fracture risk assessment to prevent further fractures by treatment of osteoporosis and falls prevention strategies, delivering highly effective care while significantly reducing the costs associated with secondary fractures. FLS operates under the supervision of osteoporosis specialists and collaborates with the patient’s primary care physician. Usually led by nurse practitioners or other allied health professionals, it ensures older adult fracture patients receive appropriate diagnosis and treatment of their likely osteoporosis. The program creates a population registry of fracture patients and establishes a process and timeline for patient assessment and follow-up care. In addition to managing osteoporosis, where appropriate, FLS programs will refer patients to falls prevention services.

Numerous studies have demonstrated the effectiveness of FLS. For example, Kaiser Permanente has found that its FLS program has reduced the hip fracture rate expected by over 40% (since 1998). If implemented nationally, Kaiser estimates a similar effort could reduce the number of hip fractures by over 100,000 and save over $5 billion/year. A recent meta-analysis of 159 publications evaluating the impact of FLS found that compared with patients receiving usual care (or those in the control arm), patients receiving care from an FLS program had higher rates of bone density testing (48.0% vs 23.5%), treatment initiation (38.0% vs 17.2%) and greater adherence to treatment (57.0% vs 34.1%). Geisinger Health System reports that it achieved $7.8 million in cost savings from 1996-2000 from its implementation of FLS. The soon to be released Milliman report for the National Osteoporosis Foundation finds that if Medicare were to provide all Medicare beneficiaries who have suffered a fracture access to FLS, savings to the Medicare program from $281 million to $1.1 billion a year could be realized.

Quality Measures. A recent seminal analysis by noted experts found that policy-driven expansion of case finding and treatment of at-risk women could substantially lower the toll imposed by broken bones due to osteoporosis. It found that policy changes could prevent 6.1 million fractures over the next 22 years while reducing payer costs by $29 billion and societal costs by $55 billion. One such policy change noted by these experts is the implementation of quality measures linking higher reimbursement for increased use of beneficial interventions. There has been discussion of creation and adoption of quality metrics in osteoporosis to encourage use of DXA and treatment in patients at higher risk, such as those who have experienced a prior fracture, those with other clinical risk factors, and those with low BMD.
Appendix A

Home and Environmental Safety Resource

NCOA/USC Home and Environmental Safety Resources for Individuals and Families

- Home Modification Funding Sources
- Evidence-Based Programs and Best Practices in Home Assessment and Modification
- Assessment Tools for Individuals & Families
- Making Your Home Falls Free video: Simple steps to make your home safer
- Falls Prevention in the Community: A 5-Point Checklist for Navigating Your Neighborhood Blog Post and video on steps to overcome common falls risks in the community
- USC National Directory of Home Modification and Repair Resources

NCOA/USC Home and Environmental Safety Resources for Professionals

The resources below were developed by the National Council on Aging and the University of Southern California Leonard Davis School of Gerontology to enable professionals to search for home modification programs in their area, obtain assessments to examine clients’ homes and make changes to increase safety and support, and identify funding sources to pay for home modifications.

- Evidence-Based Programs and Best Practices in Home Assessment and Modification
- Assessment Tools for Professionals
- Home Modification Funding Sources
- USC National Directory of Home Modification and Repair Resources

The Centers for Disease Control and Prevention (CDC) and AARP have also developed resources for older adults and their families, as well as professionals, including:

- A Home Fall Prevention Checklist for Older Adults: a brochure that helps older adults identify and eliminate fall hazards in the home
- MyMobility Plan: Stay Safe, Mobile, and Independent: a tool that provides older adults with information, guidance, and tips on how to manage health to maintain mobility, make the home safe to prevent falls, and create a plan to safely navigate in the community
- AARP Home Fit Guide
- STEADI Toolkit developed for health professionals to address the fall risks of patients

REFERENCES AVAILABLE UPON REQUEST