



Published in final edited form as:

J Am Geriatr Soc. 2025 July ; 73(7): 2019–2028. doi:10.1111/jgs.19378.

Updating STEADI for Primary Care: Recommendations From the American Geriatrics Society Workgroup

Theodore M. Johnson II^{1,2}, Jennifer L. Vincenzo³, Bryanna De Lima⁴, Colleen M. Casey⁵, Shelly Gray⁶, Siobhan K. McMahon⁷, Elizabeth A. Phelan⁸, Elizabeth Eckstrom⁴

¹Department of Family and Preventive Medicine, Emory University School of Medicine, Atlanta, Georgia, USA

²Division of General Internal Medicine, Emory University School of Medicine, Atlanta, Georgia, USA

³Department of Physical Therapy, University of Arkansas for Medical Sciences, Fayetteville, Arkansas, USA

⁴Division of General Internal Medicine & Geriatrics, Oregon Health & Science University, Portland, Oregon, USA

⁵Senior Health Program, Providence Health & Services, Portland, Oregon, USA

⁶Department of Pharmacy, School of Pharmacy, University of Washington, Seattle, Washington, DC, USA

⁷School of Nursing, University of Minnesota, Minneapolis, Minnesota, USA

⁸Department of Medicine, Division of Gerontology and Geriatric Medicine, University of Washington, Seattle, Washington, DC, USA

Abstract

In 2012, the Centers for Disease Control and Prevention (CDC) released STEADI (Stopping Elderly Accidents, Deaths and Injuries) toolkit which is based on the 2011 American Geriatrics Society/British Geriatrics Society (AGS/BGS) fall prevention guideline. In 2024, the National Network of Public Health Institutes (NNPHI), via a Cooperative Award with the CDC of the Department of Health and Human Services (HHS), invited AGS to recommend updates to STEADI with a focus on falls prevention in primary care. An AGS workgroup reviewed the 2022/2024 publications and held three outreach events with stakeholders (448 participants) to get feedback on current STEADI materials and draft recommendations focused on primary care. Recommendations for improving uptake of STEADI included reframing the *why* (alignment with ambulation goals) and the *how* (engage all available interdisciplinary team members) and addressing time limitations by prioritizing STEADI elements that can be done with available time and completing assessments across multiple visits. Screening recommendations included using the

Correspondence: Theodore M. Johnson II (tmjohns@emory.edu), <http://twitter.com/baldheaded>.

Author Contributions

All authors contributed to the study concept and design and preparation of the manuscript.

Supporting Information

Additional supporting information can be found online in the Supporting Information section.

Three Key Questions first, and only if positive, asking the remaining Stay Independent questions. Assessment recommendations were to limit the scope of some activities (e.g., consider specifically fall risk-increasing drugs) while expanding others (e.g., incorporating hearing and bladder health assessments). Where the choice of intervention is obvious from screening (e.g., referral to a physical therapist if screening questions points to a strength, mobility, or gait problem), an in-office assessment may reasonably be skipped. These recommendations could improve effectiveness and ease of implementation of STEADI in primary care and help primary care teams reframe fall prevention as a chronic condition deserving ongoing engagement, assessment, intervention, and follow-up.

Keywords

accidental falls; mobility; prevention; primary health care; risk factors

1 | Background

Falls are a leading preventable cause of death, injury, and reduced function and independence in adults aged 65 years and older. In 2020, the estimated US healthcare expenditure for nonfatal falls was \$80.0 billion, with the majority paid by Medicare [1]. In 2011 [2], the American Geriatrics Society and British Geriatrics Society (AGS/BGS) updated their 2001 Clinical Practice Guideline for Prevention of Falls in Older Persons and Recommendations [3]. Using the 2011 AGS/BGS guidelines and incorporating input from national fall prevention experts, the Centers for Disease Control and Prevention (CDC) released the Stopping Elderly Accidents, Deaths, and Injuries (STEADI) toolkit in 2012. STEADI program materials have been promoted widely across the United States and include the STEADI algorithm, fall risk assessment tools, clinician training resources, recommendations for clinic implementation, and public education materials [4].

The STEADI approach to fall prevention employs a screen, assess, and intervene framework to prevent falls in community-dwelling older adults. Screening tools include the Stay Independent questionnaire [5], a validated 12-item self-report instrument, yielding scores ranging from 0 (*lowest risk*) to 14 (*highest risk*), with a score > 3 indicating increased risk of falling. This tool has been adopted by multiple health systems as a fall risk screening instrument and is also known as the “Stay Independent Brochure” or “the STEADI questionnaire.” The “Three Key Questions” is three items of the 12-item instrument [6, 7], which is validated and endorsed by the CDC as a stand-alone instrument. These questions each have yes/no responses and are: Have you fallen in the past year?; Are you worried about falling?; and Do you feel unsteady when standing or walking?

In 2022, the World Falls Guidelines (WFG) Task Force published global recommendations for fall risk stratification, assessment, and interventions [8]. AGS convened a group of fall prevention experts to briefly summarize the new WFG, compare them to the AGS/BGS 2011 guideline, and offer suggestions for implementation in the United States. This publication was called the AGS Response to the WFG [9]. In 2024, the National Network of Public Health Institutes (NNPHI), via a Cooperative Award with the CDC of the Department of

Health and Human Services (HHS), invited AGS to recommend updates and changes to the STEADI toolkit with a focus on falls prevention in primary care. The AGS convened a workgroup to develop these updates and changes. This special article in *JAGS* shares the recommendations that the AGS workgroup made to CDC that focus on enhancing the uptake of STEADI by primary care practices, Geriatrics Workforce Enhancement Programs, and others who are integrating fall prevention education and workflows or attention to safe mobility into clinical practice.

2 | Methods

AGS convened a group of nine interprofessional clinicians and researchers with extensive experience in fall prevention to develop practical recommendations for CDC consideration as part of a planned future update to the STEADI suite of fall prevention materials. The AGS workgroup was assembled in January 2024, met virtually in Spring 2024, and convened in-person in June 2024.

The group undertook the following six major activities:

1. Compared the current version of STEADI to the 2022 WFG and the 2024 AGS response to the WFG and identified best-evidence, feasible recommendations for consideration to add, modify, or omit elements of STEADI.
2. Conducted a workshop and a symposium at the 2024 AGS Annual Scientific Meeting to gather feedback on the current version of STEADI and solicit recommendations to increase its use in clinical practice with a focus on primary care settings serving community-dwelling older adults.
3. Created an interview guide and conducted interviews with primary care clinicians to gather feedback on the usability, acceptability, and feasibility of current fall prevention practices in primary care (use of STEADI or other tools) and to understand current drivers of and barriers to implementing STEADI in primary care.
4. During the June 2024 in-person meeting, the AGS workgroup applied findings from activities 1–3 to draft a report to CDC with best practice recommendations to modify the STEADI suite of materials, including updates to CDC's screening, assessment, and intervention approach (Table 1).
5. Solicited feedback from the AGS Executive Committee and leaders of the AGS Clinical Practice & Models of Care Committee, CDC, and NNPHI on the draft report.
6. Incorporated feedback from activities 1–5 and prepared a final report for CDC (this publication is based on that report).

3 | Results

3.1 | WFG, AGS Response, and Recommended Changes to STEADI [9]

The AGS response to the WFG highlighted multiple areas of agreement, including adding recommendations for assessment and intervention for cognition and hearing impairment; assessment and individualized exercises for older adults, including those with cognitive impairment; using a screening tool that focuses on fall risk–increasing drugs (FRIDs), such as STOPPFall (Screening Tool of Older Persons Prescriptions in older adults with high fall risk) [10], to identify and reduce use of high-risk medications and engaging older adults and their care partners in person-centered fall prevention, among others. Areas of notable difference that informed recommendations for STEADI updates include:

1. Continue to recommend annual fall screening for all older adults aged 65 years and older, rather than only those with a history of falls or through case finding, as recommended by the WFG.
2. Recommend clinical judgment to obtain an electrocardiogram among those at risk of falling rather than obtaining one routinely as part of the initial fall risk evaluation.
3. Recommend cognitive screening as part of fall risk evaluation, but the choice of approach and screening tool should be based on availability and feasibility within the clinical setting.

3.2 | AGS Virtual Workshop and Symposium on Safe Mobility

The AGS virtual workshop ($n = 30$ participants) and virtual symposium ($n = 405$ participants) were held in April and May 2024, respectively. Workshop participants had used the STEADI program, or otherwise had knowledge and understanding of STEADI, yet indicated that integration into their clinical workflow was complex. Participants in the virtual symposium saw STEADI case presentations and had the opportunity to respond in a live chat feature as part of the online 2024 AGS National Annual Meeting. Several participants who had adopted STEADI had eliminated components that took too much time or were difficult to perform in their clinical setting (e.g., omitting the Timed Up and Go because of space or equipment requirements). Many participants reported using the Three Key Questions screener, with some using the remainder of the Stay Independent questionnaire only if any of the Three Key Questions were positive.

3.3 | Interviews With Practicing Clinicians in Primary Care Settings

Primary care clinicians participating in a week-long Geriatric Mini-Fellowship (GMF, $n = 6$; from a regional health system that includes ambulatory care and a Program for All-Inclusive Care for the Elderly [PACE] site), physician associates from the American Academy of Physician Associates (AAPA) ($n = 3$), and physical therapists (PTs) from the American Physical Therapy Association (APTA) ($n = 4$) comprised the three interview groups.

The six members of the GMF group utilized the STEADI questionnaire but often skimmed over the responses quickly during 20-min office visits that were not focused on fall risk. Participants from the PACE site reported that they primarily care for frail and functionally

impaired older adults and do not use any formal fall risk assessment, such as STEADI, but refer older adults to physical therapy (PT) and occupational therapy (OT) to perform a fall risk assessment at baseline and at 6-month intervals. The most popular interventions across the GMF participants were optimizing blood pressure medications and referring to PT and OT, with the PACE site also facilitating environmental modifications, optometry referrals, and hearing examinations.

Three members of the AAPA from two clinical sites reported using the Three Key Questions screener at check-in. One site was also participating in an intervention study that flags positive screens within the past year and has a best practice alert in the electronic health record (EHR) to order PT and include home exercise program resources (“safe to stand” and “not safe to stand” versions) in the patient’s after-visit summary. They appreciated that STEADI suggests interventions outside of PT, such as checking footwear and assessing vision, and requested more guidance on nonpharmacologic recommendations for urinary incontinence.

Four PTs from the APTA representing four different practice settings reported that they routinely screen older patients with neurologic diagnoses or balance issues for falls using standardized tools such as STEADI, Berg Balance Scale [11], and Tinetti Performance Oriented Mobility Assessment [12]. One therapist reported not being familiar with STEADI. All four noted that they primarily tailor interventions to balance, strength, and endurance deficits but also educate on home safety, proper lighting, footwear, and use of assistive devices. One suggestion was to add gait speed and memory screening (e.g., the Mini-Cog) [13] to provide the most appropriate individualized recommendations for reducing fall risk in older adults.

3.4 | Recommendations to Update STEADI Suite of Fall Prevention Materials

The AGS workgroup submitted a report to the CDC for its consideration in a planned future update of STEADI with a focus on changes that would lead to broader uptake in primary care. The report recommendations fit into four major categories (Table 1).

3.4.1 | Patient and Team Engagement

- *Communication:* Use “average risk” as opposed to “not at risk” or “low risk” to describe older adults who have not screened as high risk for falls. Frame fall risk as a chronic condition that requires longitudinal management to meet patient goals, improve safe mobility, and reduce falls [14].
- *Concern about falling:* When discussing falling with older adults, use “concern” instead of “worry” or “fear” of falling. In the focus groups conducted by the WFG, “concern” was the preferred term. The AGS workgroup recommends keeping the validated screening tools and language intact, specifically the “I am worried about falling” question that is part of both the Three Key Questions and Stay Independent questionnaire. The AGS workgroup recommends changes in wording when *discussing* the following with older adults: use “concern” as opposed to “worry” when speaking about falls; use language broader than “rush to the bathroom” such that urinary incontinence and nocturia are included; and

expand “medication that makes me feel lightheaded or tired” to include “feel lightheaded or dizzy upon standing.”

- *Goals and priorities:* Elicit patient goals and priorities for daily mobility and safety. Ask a patient what matters most to them, and link responses (e.g., remain independent in my home, help care for grandchildren) to the need for safe mobility/fall prevention strategies.
- *Cocreate plan:* Engage the older adult and, if available, care partner(s) in fall risk management/prevention strategies related to their safe mobility and overall life goals [15].
- *Team approach:* Maximize the involvement of all available members of the clinic team to reduce the burden on primary care clinicians and optimize team function (Figure 1).

3.4.2 | Screening

- *Previsit inquiry:* Collate the STEADI tools that clinic teams could send to patients before their Medicare Annual Wellness Visit (AWV) or other routine visits to increase visit efficiency, either via mail or electronically through the EHR. These tools could include, at a minimum, the Stay Independent questionnaire, the “Check for Safety” home safety checklist, and the “What YOU Can Do to Prevent Falls” pamphlet. Encourage practices to have these tools available and consider using them as part of previsit preparation to increase visit efficiency around fall screening and management.
- *Sequential use of Three Key Questions and Stay Independent questionnaire:* If any of the Three Key Questions are answered positively, the patient should complete the Stay Independent questionnaire before or after the visit to help identify specific fall risk factors and guide actions to address select fall risk factors. Rename these tools STEADI-3 and STEADI-12 to align the sequencing of other care screening tools commonly used in primary care (e.g., PHQ-2 and PHQ-9 for depression) [16].
- *Prioritize additional assessments:* To facilitate a positive fall risk screening leading to recommendations for intervention(s), the AGS workgroup recommends reorganizing the STEADI algorithm into prioritized checklists that could be completed based upon time available within the visit, with a goal for all checklists to be completed with each older adult over time across multiple visits (Figure 2).

3.4.3 | Assessment

- *Skip assessment of formal physical performance measures and proceed directly to intervention in certain circumstances:* Sometimes a positive screen provides all needed data to allow for the appropriate intervention. A patient endorsing certain Key Questions or Stay Independent statements (e.g., *Sometimes I feel unsteady when I am walking, I steady myself by holding onto furniture when walking at home, or I need to push with my hands to stand up from a chair*)

could lead directly to a PT referral for evaluation and management of gait, balance, and strength. If the patient is skeptical about their fall risk or prefers to do community-based or home-based activity rather than seeing PT, a physical performance test could be added to the assessment. Insisting that the PCP take the time to conduct a formal physical performance assessment (Timed Up and Go, gait speed, etc.) [17] in their clinic may result in a delay in making the PT referral. In settings where there are constraints to performing validated physical performance assessments, clinicians should, minimally, watch a patient get up from a chair and ambulate in the exam room. Even this simple assessment can provide valuable information on their balance, gait, strength, and safety for mobility.

- *Focused medication review:* Limit medication review to the FRID list [10] for the purposes of fall prevention. If possible, the EHR should be optimized to easily report on the categories of FRIDs for each individual patient.
- *Orthostatic blood pressure:* Recommend assessing for changes in orthostatic blood pressure in all older adults identified as high risk of falling by checking blood pressure after lying for 5 min and then after standing for 1 min. Some evidence indicates a benefit of checking a third-standing orthostatic reading after at least 3 min to evaluate those at the highest risk of persistent orthostasis, which is more predictive of falls, but clinicians should weigh the feasibility of adding the additional time needed to complete this second-standing reading [18].
- *Hearing:* Recommend asking about hearing trouble or performing a brief hearing assessment, for example, the Whisper test [19]. This question could be part of the previsit inquiry, using such as the World Health Organization's "hearWHO" tool [20].
- *Cognitive function:* Recommend screening for cognitive impairment with the choice of screening tool based on availability and feasibility for a given clinical setting.
- *Bladder health:* Regarding urinary symptoms, the AGS workgroup noted that falls are linked not just to rushing to the bathroom but also to urinary incontinence [21] and nocturia [22].
- *Vitamin D:* Vitamin D is still an area of controversy, but the AGS workgroup recommends older adults get approximately 1000–2000 IU of vitamin D₃ daily (no high dose supplementation and only vitamin D₃ [not vitamin D₂]) from a combination of diet and supplements. A vitamin D level should not be routinely checked unless it is clinically indicated or in patients diagnosed with osteoporosis, especially before starting antiosteoporosis therapy, and in those who have had a fracture. Evidence continues to be mixed as to whether Vitamin D—and at what dose—may or may not be directly related to falls, but low Vitamin D levels should be addressed because it impacts bone health, which is important for injury and fracture reduction in those who do fall [23].

3.4.4 | Intervention (See Figure 2 for Prioritization Suggestions)

- *Changes in functional gait, balance, or strength:* Based upon either a positive screen to gait and balance questions of the Stay Independent questionnaire (Questions #2–7), or poor results on a physical performance test (Timed Up and Go, gait speed, etc.), patients should be referred to PT. This should include an assessment of strength, balance, and/or gait training and fitting/training on mobility aid (e.g., cane or walker) as indicated. With guidance from PT, they should also be given home-based activities and/or community-based activity resources for long-term sustainability [8].
- *For patients who decline PT:* Appropriate home exercises (e.g., chair rises [24] and standing balance exercises) should be recommended based on the results of the physical performance assessment (Figure 2), or a referral should be provided to an evidence-based, community-based exercise program (e.g., Tai Chi) or, if none are available, a local exercise program. The AGS workgroup encourages CDC to link to its Compendium of Effective Fall Prevention Interventions [25] to highlight potential resources for clinicians seeking to guide patients to a community-based exercise program or other fall prevention workshop/class, as well as guiding clinicians to their state and county fall prevention coalitions.
- *For those with cognitive impairment:* Recommend, at a minimum, a strength and balance exercise program suited to their level of impairment, ideally in partnership with a care partner and supported by a rehabilitation professional [8, 9].
- *For those who report bladder symptoms:* Add nonpharmacologic interventions, including behavioral strategies (see Table S1), to reduce urinary symptoms of urgency, incontinence, and nocturia. If these are not effective, refer for pelvic floor PT or urogynecology consultation if available [26]. Add environmental changes to address “safer ambulation at night,” such as: placing a nightlight in a strategic location [27], ensuring the toilet seat is securely fastened and of an appropriate height and contrasting color, removing bathroom mats, installing a light within the toilet bowl, and ensuring pets are trained to not be underfoot, and so forth [28]. If time constraints preclude this discussion, an AWV, separate nurse visit, or patient education handouts could be utilized.
- *Interprofessional resources:* From the STEADI program, the CDC has developed STEADI-Rx, which has resources specific to pharmacists [29]. CDC could develop additional STEADI resources specific to other health care professionals such as PT, nurses, and social workers, as individuals in these disciplines often assess and intervene across several fall risk domains. These materials could include (1) tips to encourage consistent use and fitting of assistive devices, (2) information on appropriate footwear and eye wear (3) identification of FRIDs if within the scope of practice; and (4) assistance connecting to community resources to support aging in place or home modification.

4 | Discussion

The AGS workgroup deemed many components of STEADI to be important and relevant in the care of older adults. The suggestions offered to CDC and in this paper are focused on how to increase the uptake of STEADI in primary care settings. The AGS workgroup has generated multiple resources for CDC to consider, including editing, modifying, and adding public education and clinician resources. Further, because being identified as having an increased risk of falls can be a sensitive topic for some older adults, the workgroup suggested reframing discussions of fall risk to focus on “improving balance,” “safe mobility,” or “staying independent” as these may be more accepted and relevant. In this context, increased fall risk can be presented as a chronic condition that merits ongoing management so all older adults can remain as independent as possible and maintain quality of life as they age, rather than just as an annual screening [3, 9]. Assessments and interventions can be organized similarly to those for other chronic conditions (e.g., diabetes) [14] with comprehensive team involvement, and regular, longitudinal follow-up. This approach aligns with the Centers for Medicare and Medicaid Services (CMS) Calendar Year 2025 (CY 2025) Medicare Physician Fee Schedule which finalized three codes for payment for advanced primary care management (APCM) services [30]. The new Healthcare Common Procedure Coding System (HCPCS) G-codes (G0556, G0557, G0558) to recognize APCM services stratified by the number of chronic conditions and whether the patient is a Qualified Medicare Beneficiary (QMB). The codes bundle certain management and communication technology-based services (CTBS) provided under an advanced primary care delivery model, which is defined as one where the practitioner is the continuing focal point for all needed health care services and responsible for all primary care services. CMS expects the new codes will simplify billing compared to existing care management and CTBS codes. This new coding recognizes elements that we believe are vital components of primary care, including team-based care and an ongoing, longitudinal relationship with the patient.

One consistent theme in feedback from PCPs with regard to fall prevention was lack of time. Respondents offered that integration of fall prevention into their clinical workflow was complex. Perhaps not surprisingly, several who had adopted STEADI eliminated specific components that were time-consuming or difficult to perform in their clinical setting. In response, the AGS workgroup recommended how to start with the time available and fit the highest priority element into that time. They noted that STEADI elements could then be spread across multiple visits, like other chronic conditions. Also, certain positive screening questions (endorsing feeling “unsteady while walking”) may point to the right intervention (refer to PT) allowing for the PCP office assessment to be skipped. The workgroup's recommendations offer an approach that can help busy primary care teams prioritize fall risk interventions based on time afforded, team member availability, and patient preferences. Creating efficiencies elsewhere would also allow for the inclusion of additional WFG evidence-based elements (e.g., hearing and cognitive screening). The AGS workgroup acknowledged that careful attention to fall prevention may lead to the identification of additional, previously unrecognized age-associated conditions and thereby could potentially increase the workload for already busy primary care teams. This possibility

is mitigated by the new APCM services (as described above) which are designed to support provision of longitudinal, team-based care to Medicare beneficiaries. Clearly stating that this may happen and encouraging clinicians to treat fall prevention as a team effort focused on each patient's needs and health conditions over time can help prioritize the clinical work that follows fall screening and management, as shown in Figure 2 [12]. Longitudinal fall risk management can enhance attention to the Geriatrics 5Ms (what **M**atters, **M**obility, **M**edication, **M**entation, and **M**ulticomplexity, see Figure 3) and aligns with the 4Ms approach to caring for older adults that is at the heart of the Age-Friendly Health Systems Movement [31], and assist primary care practices in identifying older patients most likely to benefit from multifactorial interventions for safer mobility.

Of course, clinical care takes place in a broader context: work in fall prevention touches upon multiple health policy and US health payment issues. From a policy perspective, the AGS workgroup advocates for Medicare coverage for all components of an updated STEADI (e.g., hearing amplification devices, adaptive equipment, reimbursement for PT/OT/community health workers, and other health care team members who offer fall-related interventions). Additionally, the US Preventive Services Task Force (USPSTF) Update on Fall Prevention offered a B recommendation for “exercise interventions”; specifically mentioned were “effective” interventions such as “supervised individual PT and group exercise classes” [32]. This noteworthy inclusion should have broad implications. According to the USPSTF, Section 2713 of the Affordable Care Act (ACA) requires private insurers to cover USPSTF-recommended services that have a Grade of A or B with no cost-sharing (i.e., no deductible and no co-pay) [33]. As well, Section 4106 of the ACA requires Medicaid to cover preventive services recommended by the USPSTF with a Grade of A or B [34]. The USPSTF gives a C recommendation that clinicians individualize the decision to offer multifactorial interventions to prevent falls to community-dwelling adults 65 years or older who are at increased risk for falls because the “net approach to routinely offering multifactorial interventions to prevent falls is small” [32]. Section 4105 of the ACA gives CMS the authorization to expand its coverage of preventive services consistent with USPSTF recommendations of Grade C [35]. Ensuring that the ACA mandates are met and encouraging CMS to exercise its authority to expand coverage to preventive services with USPSTF Grade C recommendation would broaden coverage for community-based exercise classes and other vital components of the STEADI initiative.

In summary, primary care teams are tasked with providing comprehensive, person-centered care to all of us as we age. Helping older adults to optimize fall prevention/safe mobility can be a major step toward meeting their goals for independence, autonomy, and aging in place. Doing so is aligned with the recent launch of a National Institutes of Health Program on Integrating Clinical Research into Primary Care Settings as well as with the Agency for Healthcare Research and Quality's ongoing investment in primary care research.

Given these changes in payment, the timing is right to recognize that falls are a chronic condition that warrants full attention in primary care. The workgroup discussed the current branding of the STEADI toolkit given that terminology has advanced since STEADI was first released and there is specific guidance on avoiding terms describing older adults that can otherize and evoke discrimination and negative stereotypes (e.g., elderly, seniors) [35].

Although we did not address terminology in our report, one option for CDC would be to rebrand the toolkit with more neutral and inclusive language such as “The STEADI Toolkit: Evidence-based approaches for preventing falls in older adults.” This approach offers CDC the opportunity to retain the STEADI brand while adding a tagline that succinctly describes the toolkit.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Acknowledgments

The writing group wishes to thank Timothy W. Farrell, MD, AGSF; Richard Goodman, MD, MPH, JD; Rebecca L. Trotta, PhD, RN; Lynne O'Mara, PA-C, MBA; and Blythe Winchester, MD who provided review and input on the recommendations. Thanks is also given to Anna Kim, Nancy Lundebjerg, Mary Jordan Samuel, and Elvy Ickowicz, who provided review and input on the overall project and this report.

The AGS Executive Committee reviewed and approved the final report in December 2024.

Funding:

This work was supported by National Network of Public Health Institutes (NNPHI) through a Cooperative Award with the Centers for Disease Control and Prevention (CDC) of the Department of Health and Human Services (HHS), as part of a financial assistance award totaling \$119,912 with 100% funded by CDC/HHS. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, the U.S. Government, or the NNPHI.

Conflicts of Interest

Theodore M. Johnson II: Co-Investigator, R44 AG085913 (care. coach), implementing and scaling the STEADI fall prevention algorithm using a conversational relational agent for community-dwelling older adults with and without mild cognitive impairment (MCI); US patent 11,624,755. Gait-pace meter and methods of determining gait speed (2023). Jennifer L. Vincenzo: Principal Investigator, 5 K76 AG074920, developing and testing implementation strategies to support the STEADI for falls risk management in outpatient rehabilitation. Bryanna De Lima, Colleen M. Casey, Shelly Gray, Siobhan K. McMahon, Siobhan K. McMahon, Elizabeth A. Phelan, and Elizabeth Eckstrom declare no conflicts of interest.

References

1. Haddad YK, Miller GF, Kakara R, et al. , “Healthcare Spending for Non-Fatal Falls Among Older Adults, USA,” *Injury Prevention* 30, no. 4 (2024): 272–276, 10.1136/ip-2023-045023. [PubMed: 39029927]
2. Panel on Prevention of Falls in Older Persons AGS and BGS, “Summary of the Updated American Geriatrics Society/British Geriatrics Society Clinical Practice Guideline for Prevention of Falls in Older Persons,” *Journal of the American Geriatrics Society* 59, no. 1 (2011): 148–157, 10.1111/j.1532-5415.2010.03234.x. [PubMed: 21226685]
3. “Guideline for the Prevention of Falls in Older Persons. American Geriatrics Society, British Geriatrics Society, and American Academy of Orthopaedic Surgeons Panel on Falls Prevention,” *Journal of the American Geriatrics Society* 49, no. 5 (2001): 664–672. [PubMed: 11380764]
4. CDC, “STEADI—Older Adult Fall Prevention. STEADI—Older Adult Fall Prevention,” (2024), <https://www.cdc.gov/steadi/index.html>.
5. Rubenstein LZ, Vivrette R, Harker JO, Stevens JA, and Kramer BJ, “Validating an Evidence-Based, Self-Rated Fall Risk Questionnaire (FRQ) for Older Adults,” *Journal of Safety Research* 42, no. 6 (2011): 493–499, 10.1016/j.jsr.2011.08.006. [PubMed: 22152267]
6. Eckstrom E, Parker EM, Lambert GH, Winkler G, Dowler D, and Casey CM, “Implementing STEADI in Academic Primary Care to Address Older Adult Fall Risk. *Innov*,” *Aging* 1, no. 2 (2017): igx028, 10.1093/geroni/igx028.

7. Burns ER, Lee R, Hodge SE, Pineau VJ, Welch B, and Zhu M, "Validation and Comparison of Fall Screening Tools for Predicting Future Falls Among Older Adults," *Archives of Gerontology and Geriatrics* 101 (2022): 104713, 10.1016/j.archger.2022.104713. [PubMed: 35526339]
8. Montero-Odasso M, van der Velde N, Martin FC, et al. , "World Guidelines for Falls Prevention and Management for Older Adults: A Global Initiative," *Age and Ageing* 51, no. 9 (2022): afac205, 10.1093/ageing/afac205. [PubMed: 36178003]
9. Eckstrom E, Vincenzo JL, Casey CM, et al. , "American Geriatrics Society Response to the World Falls Guidelines," *Journal of the American Geriatrics Society* 72, no. 6 (2024): 1669–1686, 10.1111/jgs.18734. [PubMed: 38131656]
10. Seppala LJ, Petrovic M, Ryg J, et al. , "STOPPFall (Screening Tool of Older Persons Prescriptions in Older Adults With High Fall Risk): A Delphi Study by the EuGMS Task and Finish Group on Fall-Risk-Increasing Drugs," *Age and Ageing* 50, no. 4 (2021): 1189–1199, 10.1093/ageing/afaa249. [PubMed: 33349863]
11. Miranda N and Tiu TK, *Berg Balance Testing* (Treasure Island (FL): StatPearls Publishing, 2024), <http://www.ncbi.nlm.nih.gov/books/NBK574518/>.
12. Tinetti ME, "Performance-Oriented Assessment of Mobility Problems in Elderly Patients," *Journal of the American Geriatrics Society* 34, no. 2 (1986): 119–126, 10.1111/j.1532-5415.1986.tb05480.x. [PubMed: 3944402]
13. Borson S, Scanlan J, Brush M, Vitaliano P, and Dokmak A, "The Mini-Cog: A Cognitive 'Vital Signs' Measure for Dementia Screening in Multi-Lingual Elderly," *International Journal of Geriatric Psychiatry* 15, no. 11 (2000): 1021–1027, 10.1002/1099-1166(200011)15:11<1021::aid-gps234>3.0.co;2-6. [PubMed: 11113982]
14. Vincenzo JL, Bergen G, Casey CM, and Eckstrom E, "Reframing Fall Prevention and Risk Management as a Chronic Condition Through the Lens of the Expanded Chronic Care Model: Will Integrating Clinical Care and Public Health Improve Outcomes?," *Gerontologist* 64, no. 6 (2024): gnae035, 10.1093/geront/gnae035. [PubMed: 38666718]
15. Tinetti ME, Naik AD, Dindo L, et al. , "Association of Patient Priorities-Aligned Decision-Making With Patient Outcomes and Ambulatory Health Care Burden Among Older Adults With Multiple Chronic Conditions: A Nonrandomized Clinical Trial," *JAMA Internal Medicine* 179, no. 12 (2019): 1688–1697, 10.1001/jamainternmed.2019.4235. [PubMed: 31589281]
16. Kroenke K, Spitzer RL, and Williams JBW, "The PHQ-9: Validity of a Brief Depression Severity Measure," *Journal of General Internal Medicine* 16, no. 9 (2001): 606–613, 10.1046/j.1525-1497.2001.016009606.x. [PubMed: 11556941]
17. Ritchey K, Olney A, Chen S, and Phelan EA, "STEADI Self-Report Measures Independently Predict Fall Risk," *Gerontology and Geriatric Medicine* 8 (2022): 23337214221079222, 10.1177/23337214221079222. [PubMed: 35647219]
18. Petriceks AH, Appel LJ, Miller ER, et al. , "Timing of Orthostatic Hypotension and Its Relationship With Falls in Older Adults," *Journal of the American Geriatrics Society* 71, no. 12 (2023): 3711–3720, 10.1111/jgs.18573. [PubMed: 37668347]
19. Ting HC and Huang YY, "Sensitivity and Specificity of Hearing Tests for Screening Hearing Loss in Older Adults," *Journal of Otology* 18, no. 1 (2023): 1–6, 10.1016/j.joto.2022.11.003. [PubMed: 36820159]
20. hearWHO, "Check Your Hearing," accessed October 27, 2024, <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/hearwho>.
21. Moon S, Chung HS, Kim YJ, et al. , "The Impact of Urinary Incontinence on Falls: A Systematic Review and Meta-Analysis," *PLoS One* 16, no. 5 (2021): e0251711, 10.1371/journal.pone.0251711. [PubMed: 34010311]
22. Pesonen JS, Vernooij RWM, Cartwright R, et al. , "The Impact of Nocturia on Falls and Fractures: A Systematic Review and Meta-Analysis," *Journal of Urology* 203, no. 4 (2020): 674–683, 10.1097/JU.000000000000459. [PubMed: 31347956]
23. Tan L, He R, and Zheng X, "Effect of Vitamin D, Calcium, or Combined Supplementation on Fall Prevention: A Systematic Review and Updated Network Meta-Analysis," *BMC Geriatrics* 24, no. 1 (2024): 390, 10.1186/s12877-024-05009-x. [PubMed: 38698349]

24. Centers for Disease Control and Prevention, "Chair Rise Exercise," (2017), <https://www.cdc.gov/steady/pdf/STADI-Brochure-ChairRiseEx-508.pdf>.
25. CDC. Falls Compendium, "Older Adult Fall Prevention," (2024), <https://www.cdc.gov/falls/interventions/falls-compendium.html>.
26. Sexton L and Vincenzo JL, "How Physical Therapy Can Improve Bladder Control and Reduce Falls Risk," (2023), <https://www.ncoa.org/article/how-physical-therapy-can-improve-bladder-control-and-reduce-falls-risk/>.
27. Thölking TW, Lamers ECT, and Olde Rikkert MGM, "A Guiding Nightlight Decreases Fear of Falling and Increases Sleep Quality of Community-Dwelling Older People: A Quantitative and Qualitative Evaluation," *Gerontology* 66, no. 3 (2020): 295–303, 10.1159/000504883. [PubMed: 31914450]
28. Stevens JA, Teh SL, and Haileyesus T, "Dogs and Cats as Environmental Fall Hazards," *Journal of Safety Research* 41, no. 1 (2010): 69–73, 10.1016/j.jsr.2010.01.001. [PubMed: 20226954]
29. CDC, "Pharmacy Care (STEADI-Rx). STEADI–Older Adult Fall Prevention," (2024), <https://www.cdc.gov/steady/hcp/clinical-resources/pharmacy-care.html>.
30. "Medicare and Medicaid Programs; CY 2025 Payment Policies Under the Physician Fee Schedule and Other Changes to Part B Payment and Coverage Policies; Medicare Shared Savings Program Requirements; Medicare Prescription Drug Inflation Rebate Program; and Medicare Overpayments," accessed November 18, 2024, 2024–25382.pdf, <https://public-inspection.federalregister.gov/2024-25382.pdf>.
31. Institute for Healthcare Improvement, "Age-Friendly Health Systems," accessed October 27, 2024, <https://www.ihl.org/networks/initiatives/age-friendly-health-systems>.
32. US Preventive Services Task Force, Nicholson WK, Silverstein M, et al. , "Interventions to Prevent Falls in Community-Dwelling Older Adults: US Preventive Services Task Force Recommendation Statement," *Journal of the American Medical Association* 332, no. 1 (2024): 51, 10.1001/jama.2024.8481. [PubMed: 38833246]
33. Federal Register, "Coverage of Certain Preventive Services Under the Affordable Care Act," (2015), <https://www.federalregister.gov/documents/2015/07/14/2015-17076/coverage-of-certain-preventive-services-under-the-affordable-care-act>.
34. Medicaid.gov., "Frequently Asked Questions," accessed October 29, 2024, https://www.medicaid.gov/faq/index.html?f%5B0%5D=topic_faq_library_facet%3A2181&f%5B1%5D=topic_faq_library_facet%3A2306&f%5B2%5D=topic_faq_library_facet%3A8471&f%5B3%5D=topic_faq_library_facet%3A8556&page=2#content.
35. United States Preventive Services Taskforce, "Procedure Manual Appendix I. Congressional Mandate Establishing the U.S. Preventive Services Task Force," accessed October 27, 2024, <https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/procedure-manual/procedure-manual-appendix-i>.

Summary

- Key points
 - The AGS workgroup developed recommendations for updating the Centers for Disease Control and Prevention (CDC) Stopping Elderly Accidents, Deaths, and Injuries (STEADI) program materials based on the 2022 World Falls Guidelines recommendations, the 2024 AGS Response to the World Falls Guideline, and input from key informants (listening sessions with physician assistants (PAs), physical therapists (PTs), and primary care providers (PCPs), AGS Committees (Executive, Clinical Practice and Models of Care)), the CDC, and the National Network of Public Health Institutes.
 - The AGS workgroup recommended several framing elements to improve engagement and reduce patient stigma including framing fall risk as a chronic condition, discussing with patients their mobility goals—not just fall reduction, and switching from “fear” or “worry” of falling to “concern.”
 - The AGS workgroup offered suggestions to address multiple concerns about the STEADI program being very long and difficult to integrate into primary care workflow by recommending: sequential use of the Three Key Questions and the Stay Independent Screener (rebranded as STEADI-3, and then STEADI-12 only if STEADI-3 is positive); abbreviating the screen-assess-intervene (to screen-intervene) when getting patients to physical therapy for gait, balance and strength training; and prioritizing specific STEADI elements based upon available time.
- Why does this paper matter?
 - These suggested updates would ensure that fall prevention strategies are regularly and easily implemented in primary care settings and are anchored in the most current and relevant evidence, improving their effectiveness for providers, patients, and family members.
 - A person-centered, team-based approach can increase patient engagement and adherence to fall prevention measures, leading to better outcomes.
 - The proposed additional assessments address the multifactorial nature of falls, allowing clinicians to identify and address more risk factors, ultimately enhancing fall prevention efforts.



FIGURE 1 I.
Leveraging the interprofessional team to enhance efficiency and alleviate primary care provider overload.

	Minutes	Screening	Positive Screen Actions	Follow-Up/Team Interventions
Initial Encounter	2-5	Three Key Questions (STEADI-3)	<ul style="list-style-type: none"> Take a brief fall history and prioritize clinical concerns Refer to PT, if appropriate Refer to pharmacist, if appropriate Assess patient goals and values that may align with fall risk management 	<ul style="list-style-type: none"> Ask patient to complete STEADI-12 Include brief patient education Instruct patient to schedule follow-up visit for additional fall risk-focused care within 30-90 days Document fall risk on problem list and describe plan for future visit/needs
Follow-Up Visit	5-10	Stay Independent STEADI questionnaire (STEADI-12)	<p><i>Any items not done above plus:</i></p> <ul style="list-style-type: none"> Complete orthostatic blood pressure, especially if dizziness reported Review STEADI-12 responses to tailor interventions Review medication list for FRIDs, especially new prescriptions Introduce multimodal exercise interventions (aerobic, strength, and balance) to gauge exercise and PT options 	<p><i>Any items not done above plus:</i></p> <ul style="list-style-type: none"> If on FRID, educate patient on gradual dose reduction and refer to pharmacist as available/appropriate. Address if orthostatic/hypotensive Recommend local community exercises (e.g. tai chi classes) and/or provide home exercise education If patient answers yes to STEADI questions #1-7, use clinical judgment to refer to PT vs community-based fall prevention programs Provide patient with home safety checklist
Follow-Up/Annual Wellness Visit	10+	Stay Independent STEADI questionnaire (STEADI-12)	<p><i>Any items not done above plus:</i></p> <ul style="list-style-type: none"> Screen for cognition Screen for hearing issues Recommend single distance glasses outside the home; refer to ophthalmology if not seen in >1 year Address home safety concerns, foot/footwear, incontinence, vitamin D intake, osteoporosis status, and concern for falling 	<p><i>Any items not done above plus:</i></p> <ul style="list-style-type: none"> Follow-up on prior interventions Provide patient education on additional relevant fall risk interventions Offer referral to A Matter of Balance or mental health professional offering cognitive-behavioral therapy, if concern for falling is positive Provide further referrals/interventions based on results of other assessments (e.g., referral to optometry)

FIGURE 2 I.

Fitting needed work in the available time: prioritizing the fall prevention screening, evaluation, and intervention in primary care.

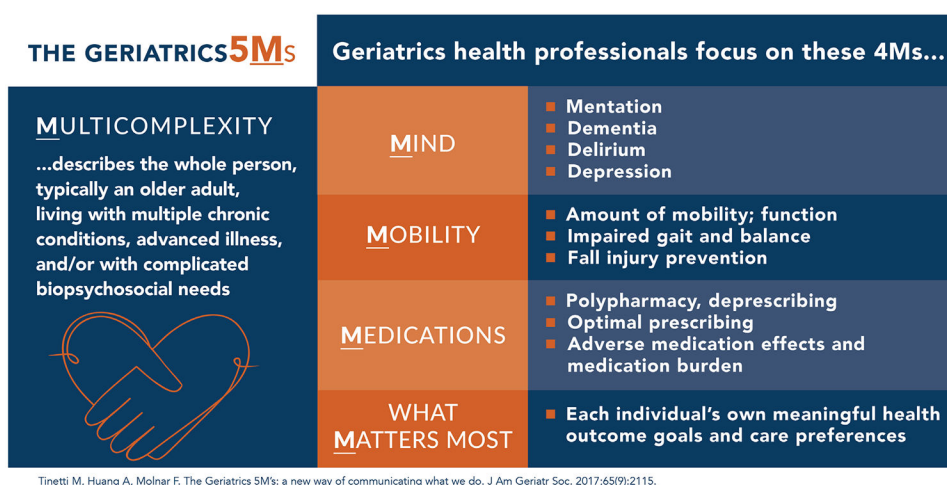


FIGURE 3 |
Longitudinal fall risk management supports safer mobility in older adults and aligns with Geriatrics 5Ms and age-friendly care brief descriptive title for supplemental material.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

2024 AGS workgroup for fall prevention recommendations to update CDC STEADI materials.

TABLE 1 |

Domain	Recommendations
Patient and team engagement	<ul style="list-style-type: none">• Frame fall risk management as a chronic condition using “concern” about falling instead of “fear.”• Identify patient-specific goals for safe mobility based on what matters most to them.• Identify available team members and maximize their involvement (see Figure 1).<ul style="list-style-type: none">• Tailor the toolkit for success.◦ Reorganize the STEADI algorithm into prioritized checklists for different timeframes or risk factors (see Figure 2).◦ A positive screen for fall risk should always lead to an intervention. If needed, focus on screening, simple assessment by observing patient mobility, and intervene with physical therapy, occupational therapy, or exercise program recommendation (see Figure 2).
Screening	<ul style="list-style-type: none">• Develop and use pre-visit tools such as questionnaires and safety checklists to improve efficiency in fall risk assessment.• Use STEADI-3 (“Three Key Questions”) always and STEADI-12 (“Stay Independent Screener”) for comprehensive assessment when STEADI-3 is positive.
Assessment	<ul style="list-style-type: none">• Assess changes in orthostatic blood pressure if high-risk.<ul style="list-style-type: none">• Add hearing screening to fall risk assessments.• Add cognitive screening to fall risk assessments.• Focus medication review on fall risk-increasing drugs (FRIDs) for targeted management.
Intervention	<ul style="list-style-type: none">• Address urinary symptoms emphasizing nonpharmacologic interventions and promote environmental modification for safer nighttime mobility.<ul style="list-style-type: none">• Ensure older adults get 1000–2000 IU vitamin D₃ daily, considering bone health and fall-related injury risk.• Recommend appropriate interventions (e.g., cognitive-behavioral therapy, evidence-based fall prevention classes) to address concerns about falling.• Develop STEADI resources for additional, interprofessional team members to ensure comprehensive fall risk assessment and intervention across roles and different primary care settings.

Abbreviations: FRIDs, fall risk increasing drugs; STEADI, Stopping Elderly Accidents, Deaths and Injuries.