Coordinated Care Plan to Prevent Older Adult Falls

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Coordinated Care Plan to Prevent Older Adult Falls

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INTRODUCTION

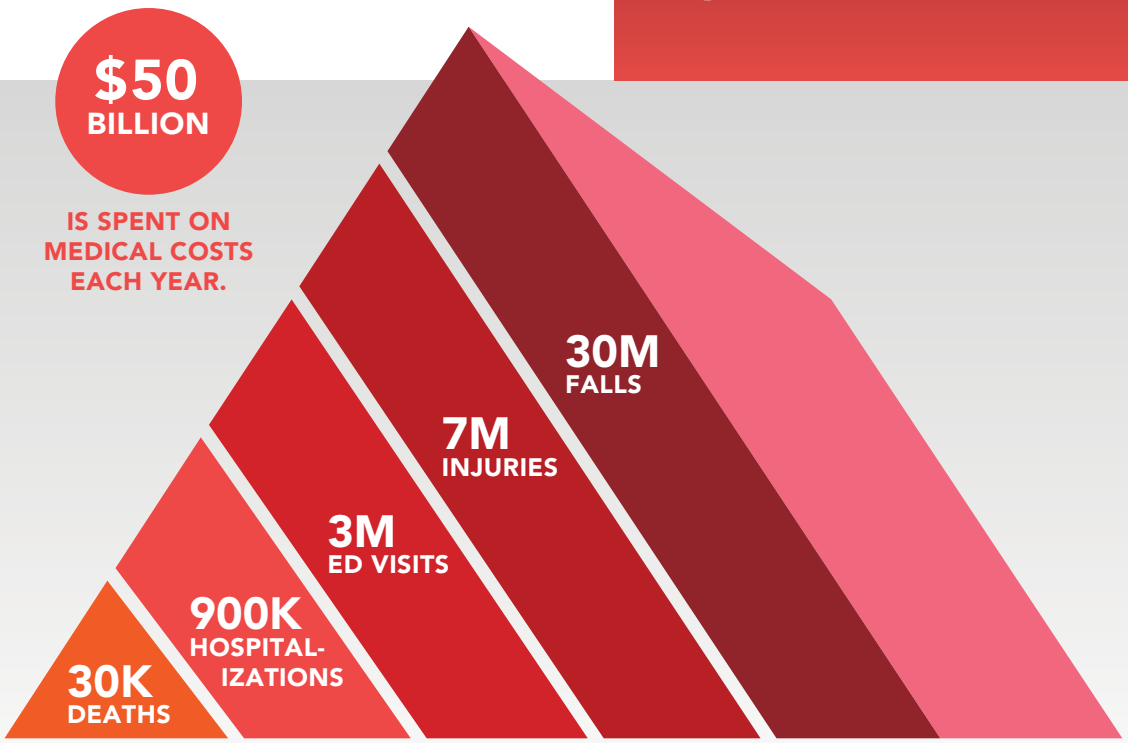
INTRODUCTION:
Why Focus On Falls?

Falls are the leading cause of fatal and nonfatal injuries among adults age 65 and over ("older adults") in the United States, accounting for over 3 million emergency department visits, 962,000 hospitalizations, and approximately 30,000 deaths in 2016.[1, 2] Older adults who have fallen often experience decreased mobility, loss of independence, and fear of falling, which all predispose them to future falls. Worse, between 2007 and 2016, death rates from falls increased by 31%, increasing from 47 to 62/100,000 population.[1, 2] The economic impact of falls and fall deaths is substantial, accounting for nearly $50 billion in direct medical costs each year.[3] Evidence-based interventions to reduce falls among community-dwelling older adults include programs that increase strength and balance (e.g., Tai Chi), reduce medications that increase fall risk, and improve home safety.[4, 5]

In 2010, the American Geriatrics Society and the British Geriatrics Society (AGS/BGS) released a guideline to help primary care practices implement fall prevention.[6] Yet, too few primary care practices systematically identify and address fall risk among their older patients.[7] To address this issue, the Centers for Disease Control and Prevention (CDC) developed a fall prevention initiative called Stopping Elderly Accidents, Deaths, and Injuries (STEADI) that encourages clinical fall prevention.[8]

Falls can be prevented.

Falls among Adults Age 65 and Older are Common and Costly.



Source: Data includes estimates from the Medicare Current Beneficiary Survey, the National Vital Statistics System Mortality Files, the National Electronic Injury Surveillance System -- All Injury Program, and the Behavioral Risk Factor Surveillance System.

The STEADI initiative helps healthcare providers develop a standardized process for screening patients for fall risk, assessing the at-risk patient's modifiable risk factors, and intervening to reduce the identified risk using effective risk factor-specific interventions.[9, 10]

The *Coordinated Care Plan to Prevent Older Adult Falls* offers primary care providers, practices, and healthcare systems a framework for managing their older patients' fall risk. The Plan was developed by fall prevention experts who were early adopters of STEADI.[9, 11-13] Working together, these early adopters and CDC hope to provide other primary care providers and their teams with tips and strategies needed to integrate and evaluate their STEADI-based clinical fall prevention programs. The purpose of this plan is to offer practical suggestions to incorporate and evaluate fall prevention in primary care settings; thereby, reducing falls among community-dwelling older adults. Although the Coordinated Care Plan is developed for primary care, STEADI-based programs can be implemented in different healthcare settings, and steps described in this plan can be adapted accordingly.

This plan compliments the *CDC STEADI: Evaluation Guide for Older Adult Clinical Fall Prevention Programs*. The Evaluation Guide is adapted from CDC's Framework for Program Evaluation in Public Health, and describes key steps to measure and report on the success of implementing a STEADI-based clinical fall prevention program. Evaluating the implementation and use of STEADI-based programs can help providers and organizations increase the quality of care provided to their older patients, and demonstrate program-related successes and areas for improvement.

We recommend using both the Coordinated Care Plan and the Evaluation Guide simultaneously to ensure the team is able to collect the data needed to report on the clinical fall prevention program's overall success.

The Coordinated Care Plan and Evaluation Guide should be used together for maximum impact.

CHAPTER ONE

CHAPTER 1:

Coordinating Fall Prevention Activities In Primary Care

OVERVIEW

Because falls are so frequent in older adults, and older adults receive the majority of their healthcare from primary care providers, it is critical to implement fall prevention initiatives in primary care settings. In this chapter, we outline a series of steps to help primary care practices implement a fall prevention program. These steps include:

1. Assess readiness for practice change around fall prevention
2. Assess current fall prevention activities
3. Identify a champion and create a fall prevention team
4. Obtain leadership support
5. Determine components of the clinical fall prevention program to implement
6. Identify and link with community partners and resources
7. Add fall prevention to the clinic workflow
8. Adapt health record tools (electronic or paper)
9. Identify primary care team members' tasks
10. Train primary care team members
11. Develop an implementation and monitoring plan
12. Identify reimbursement and quality improvement opportunities

STEP 1: Assess readiness for practice change around fall prevention

Reducing falls among older adults at the primary care clinic or health system level requires commitment—by providers, staff, quality teams, and leadership. Systematic changes need to be made to organizational culture to screen older adults, conduct additional assessments to identify fall risk factors, and intervene to reduce fall risk. A fall prevention initiative will not succeed if the practice or institution is not ready to commit to reducing falls.

Motivate Staff

1. Personal connections can motivate staff to screen, assess, and intervene to reduce fall risk.
2. Ask providers and staff whether their own family members have fallen.
3. Share statistics on how common and costly falls are.

The first step is to determine if the practice is ready to commit to a fall prevention initiative.

Strategies:

- **Make it personal.** Ask providers and staff to describe their experiences with falls among their older patients, family members, or friends. Brainstorm how these events may have been prevented.
- **Create a sense of urgency.** Share local and national statistics to reiterate that falls are common and costly.
- **Ask about the current practice.** Ask where the practice currently stands in terms of screening older patients for falls. If available, provide data on the number of older adults screened compared to the number of older adults seen in the past year.
- **Assess interest.** Providers must be interested and willing to adopt new strategies. For additional information regarding team readiness, see the Agency for Healthcare Research and Quality's (AHRQ) TeamSTEPPS readiness assessment.
- **Identify priorities.** Are there institutional priorities and national quality measures (e.g., incentive program quality measures) that a fall prevention program could help meet? If none, keep track of evolving priorities, and reassess readiness every 3-6 months.

STEP 2: Assess current fall prevention activities

Many primary care practices are already doing something in the area of fall prevention. Before introducing a new initiative, find out what individual providers, nursing staff, care managers, quality improvement team members, and others are already doing to address falls among older adults.

Strategies:

- **Conduct an environmental scan.** Determine how many providers in the practice are involved in fall prevention. What they are doing, and in how many patients, if any, are they screening and addressing fall risk?
- **Ask the following questions:**
  - Does your clinic currently collect and report any data on older adult fall risk screening or falls?
  - If yes,
    - What is the burden of falls among your older adult population?
    - Which interventions are being used?
    - Which outcome measures are being collected to quantify fall risk reduction?
  - If no,
    - What burden, intervention, and outcome data are available?
    - Who could gather baseline data?

Which fall prevention activities are you currently doing?

STEP 3: Identify a champion and create a fall prevention team

Champions are needed to support and encourage the implementation of a clinical fall prevention initiative.[11, 12] A champion can be a provider, nurse, front office staff—anyone who is passionate about reducing falls and has the skill to manage the process and follow-up. However, fall prevention requires teamwork. The following section describes how the champion can create the fall prevention team needed for success.

A **fall prevention team** is a small group of people within a practice who can identify barriers to implementing a fall prevention initiative and apply rapid-cycle changes to improve fall prevention activities. Fall prevention teams determine which strategies are feasible within the practice setting. Fall prevention team personnel will vary by practice setting.

Possible fall prevention team members include:

- Physicians (MD/DO)
- Advance Practice Providers (Nurse Practitioners, Physician Assistants)
- Pharmacists
- Occupational and/or Physical Therapists (OT/PT)
- Nurses
- Nurse Care Managers
- Medical Assistants (MA)
- Case Managers/ Social Workers
- Electronic Health Record (EHR) Analysts/Health Information Technology (IT) Specialists

Strategies:

➤ **Choose fall prevention team members carefully.** Assess who in the clinic could support a fall prevention program. Consider the following questions:

- Who in the clinic has an interest in fall prevention?
- Who is passionate about the care of older adults?
- Who is focused on patient safety?
- Is there a physical therapist (PT) who specializes in balance or neurovestibular rehabilitation and is familiar with balance and gait training?
- Is there an occupational therapist (OT) with experience working with older adults?
- Is there a pharmacist with specialty training in geriatrics or an interest in older adults' health?
- Is there a medical assistant with experience working with older adults?
- Are there other staff members who could support the fall prevention team?

➤ **Find that expertise and harness it.** If a geriatrics-trained provider, clinic leader, or quality improvement leader can be included in the team, they could be a valuable resource.

STEP 4: Obtain leadership support

To be successful and sustainable, a fall prevention initiative should align with institutional priorities. It is often possible to find overlap for fall prevention with initiatives that focus on population health or healthcare quality and safety. Take this opportunity to request meetings with institutional leaders who can become your biggest allies.

Engage Leadership

1. Inform institutional leaders about your fall prevention plan.
2. Highlight how the plan aligns with the institution's mission.
3. Keep leaders informed at every stage.

Strategies:

- **Review institutional mission statements and initiatives.** Use wording that aligns with your institution's major goals.
- **Keep up-to-date on existing quality measures.** *Falls: Screening, Risk-Assessment, and Plan of Care to Prevent Future Falls* are National Quality Forum measures. The passing of the Medicare Access and Chip Reauthorization Action (MACRA) of 2015 incentivized providers to conduct fall risk assessments, such as those described by CDC's STEADI initiative. Falls continue to be a priority area for Medicare; check with the Centers for Medicare and Medicaid Services (CMS) to find how you should report your fall screening efforts.
- **Work with your clinic leadership.** Learn which current and prospective quality outcomes are priorities. Identify current gaps in quality measures, and determine how you can fill them.
- **Keep your clinic leadership informed at every stage.** Make sure they are included in recognition of the success of each step of the fall prevention initiative.

STEP 5: Determine components of the clinical fall prevention program to implement

A clinical fall prevention program typically consists of three components: screening, assessment, and intervention. Program components (described in detail in Chapter 2) include:

1. **SCREEN** for fall risk. The purpose of screening is to identify patients at increased risk of falling. Available fall risk screening tools include:
   - The *Stay Independent* brochure[14]
   - Three key questions (Have you fallen in the past year? Do you feel unsteady when standing or walking? Are you worried about falling?)[9]

2. **ASSESS** at-risk individuals to identify their specific fall risk factors and fall history. Common ways to assess fall risk factors are listed below:
   - Gait, strength, and balance tests[15]
   - Identify medications taken that increase fall risk[16]
   - Ask about potential home hazards[17]
   - Measure orthostatic blood pressure[18]
   - Check visual acuity[19]
   - Assess feet and footwear[20]
   - Assess vitamin D intake[21]
   - Identify comorbidities that increase fall risk (e.g., cognitive problems, Parkinson's disease, cardiac issues, depression, incontinence)[6, 22]

Adapt to Your needs

1. **Start small.**
2. **Focus on your clinic's priorities.**
3. **Gradually add more program components.**

3. INTERVENE to address modifiable risk factors using effective strategies:

- Provide referrals to physical therapy or community fall prevention programs for gait and balance exercises (i.e., Tai Chi classes), and/or assessment for a gait aid[23, 24]
- Optimize medications to eliminate or reduce those that may increase fall risk[25-27]
- Provide referrals to occupational therapists to improve home safety[28, 29]
- Address postural hypotension[18, 30]
- Provide referrals to specialists (e.g., ophthalmologists, podiatrists)[19, 20]
- Recommend vitamin D supplements, if deficient[31]
- Assess and manage identified chronic conditions[32-34]
- Talk with older patients about their fall risk, and actively engage them to develop their own personal fall prevention plan[35]
- Ensure each patient has a good follow-up plan to help them succeed in reducing their risk of falls[24, 36]

One of the biggest challenges to implementing a fall prevention program is its complexity. Many older adults have multiple fall risk factors (e.g., limited mobility, medications that increase fall risk, poor vision, home hazards, etc.), require multiple interventions, and close follow-up over a period of time to reduce their fall risk.

Strategies:

- **Focus on priorities.** Include only elements of the fall prevention program that make the most sense for your site. (See Chapter 2 for more details.)
- **Start small.** Start by piloting your program with a sub-set of providers or patients so you can identify and address barriers before expanding.
- **Examine outcomes.** Once your clinic is successful with a few components of fall prevention, it will be less challenging to roll out a more comprehensive program.

STEP 6: Identify and link with community partners and resources

Many fall prevention activities occur in the community. Identify and link with community partners and resources.

Examples of community resources include:

- Fall prevention-specific classes (e.g., Tai Chi or Stepping On)
- Balance and strength training classes
- Medicare Advantage wellness programs that include classes tailored for fall prevention (e.g., "Silver Sneakers" or "Silver and Fit")
- Outpatient physical and occupational therapists
- Community pharmacists who can identify high risk medications and intervene to reduce medication that increase fall risk
- Vision loss resources

Sources of information on community fall prevention resources include:

- Administration for Community Living (ACL)
- Local Area Agencies on Aging (AAA)
- National Council for Aging (NCOA)
- Aging and Disability Resource Centers
- State and local chapters of AARP
- Senior centers
- Senior service providers
- Local YMCAs
- Community centers
- Local health departments
- Physical and occupational therapists' organizations

It is important to identify and link community partners in order to build and strengthen fall prevention resources for your patients.

Strategies:

- **Engage relevant personnel.** A care navigator, care manager, or other team member might be best suited to identify community resources.
- **Maximize use of technology.** If your electronic health record (EHR) system has the capability to do referrals to community-based organizations, that is likely the best way to ensure that patients follow through. (Also see Chapter 3: Follow-up and Care Coordination.)
- **Keep documentation on available local resources.**

For information on implementing a community-based fall prevention program, refer to CDC's *Preventing Falls: A Guide to Implementing Effective Community-Based Fall Prevention Programs.*

STEP 7: Add fall prevention to the clinic workflow

Every clinic operates a little differently. Adjusting the current clinic workflow to incorporate fall prevention tasks is easier than creating a new workflow, and staff buy-in will improve if the initiative is streamlined to fit within the clinic or health system's existing workflow.

Successful fall prevention programs are incorporated into existing clinic workflows.

Strategies:

- **Engage the entire fall prevention team to determine what is feasible.** The front office staff or medical assistants often have great ideas for implementing new programs, and should be included in the fall prevention team.
- **Test the workflow with champion providers.** Pilot before rolling out the fall prevention program more broadly across the practice.
- **Seek feedback.** Gather input from all fall prevention team members (front office staff, medical assistants, etc.) so changes can be made early in the implementation process.

The American Geriatrics Society/British Geriatrics Society (AGS/BGS) published an evidenced-based guideline for fall prevention, which helps make it easy for clinic teams to develop a program. (See Chapter 2 for more details.) They recommend yearly fall screening, but each clinical team may need to personalize the screening interval to make it fit best for their clinic. Based on the AGS/BGS guideline, CDC developed an algorithm to also assist healthcare providers in screening, assessing, and intervening to reduce fall risk.

Determine the optimal timing and frequency for fall screening, assessment, and intervention.

Strategies:

➤ **Annually:**

- Most clinical quality measures for falls require an annual review of fall risk for older adults.
- Older adults not at risk should still be screened annually, as fall risk increases with age, and with changing health status.
- Seek ways to get consistent patient information across the continuum of care.

➤ **Following a medically-treated fall:**

- A patient seeking medical treatment for a fall should be assessed for contributing fall risk factors.
- This is a good opportunity to discuss fall prevention strategies.
- Many people who fall become fearful and limit their activities,[37] leading to decreased functional ability and increased frailty, which increases fall risk. Fall prevention activities can enhance a patient's self-confidence, and reduce their fear of falling.[38, 39]

➤ **At hospital discharge/post-hospitalization follow-up visit:**

- Patients are at increased risk of falling after a hospital stay due to the effect of inactivity on mobility.[40]
- Providing education and specific fall prevention strategies at discharge and during hospital follow-up could reduce readmissions for falls.

Determine when and how fall screening, assessment, and intervention will be incorporated into routine patient care.

Strategies:

➤ **Before office visits**

- Screening can be done over the phone, or by having the patient complete a questionnaire using an online portal. Doing fall screening before an office visit avoids taking time away from other visit priorities.
- Identifying at-risk patients in advance allows the office staff to extend the appointment time, or schedule an additional appointment with the patient.

➤ **During routine office visits**

- Routine office visits provide the opportunity to do fall prevention. Patients can complete fall risk questionnaires in the waiting room, or in the exam room while waiting to see their provider.
- Clinic team members can then assess at-risk patients during their current visit, or schedule a follow-up appointment.
- After the at-risk patient's modifiable risk factors have been identified, clinic team members can intervene to reduce risk by developing a care plan with the patient that outlines ways to reduce fall risk.

➤ **During Welcome to Medicare or Medicare Wellness Visits**

- Both the Welcome to Medicare and Medicare Wellness Visits require fall risk screening and assessments (called a "review of functional ability and level of safety" for both visit types). However, uptake of these visits is still low for many practices. Restricting falls screening and assessment to these specific visits could limit screening throughout the practice.

STEP 8: Adapt health record tools (electronic or paper)

Most primary care practices now have an EHR, but practices using paper-based tools can also implement a fall prevention program. Modifying a practice's health record system to incorporate fall prevention activities can increase uptake of a fall prevention program. It is also recommended that the fall prevention module be added to the primary care team's normal workflow.

Integrate Tools

1. Modifying your EHR to incorporate your fall prevention program is important.
2. Talk with your EHR team to see which fall prevention tools are available in your system.
3. Several EHR platforms already have fall prevention modules available.

Strategies:

- **Use EHR platforms.** Several EHR platforms already have fall prevention modules available to users.
  - Epic® Clinical Program
  - GE Centricity™ Users Group Module
  - Evident® STEADI program

- **Talk with your EHR team to see what fall prevention tools are available in your system.**

If your EHR does not have a fall prevention module, IT team members will need to design EHR tools—screening forms, assessment forms, note templates, order sets—that are tailored to your fall program and your clinic's EHR interface.

Strategies:

- **Develop the EHR tools at the same time that clinic processes are being developed, so that the two components are integrated.**
- **Customize EHR tools for your clinic setting.**
- **Examples of key EHR components and capabilities:**
  - Easy-to-use documentation (e.g., drop down lists and/or templates for notes)
  - Forms for recording fall screening results
  - Forms for recording results of fall assessments (e.g., Timed Up and Go [TUG] scores, orthostatic blood pressure)
  - The capability to review, modify, and update medications
  - The capability to order blood tests and other diagnostic tests
  - The capability to generate referrals to specialists, physical and occupational therapists, and community fall prevention programs
  - Incorporation of decision support and current best practices
  - Incorporation of coding for reimbursement, and to meet quality improvement requirements. [Note: Information collected for patient care should also provide the data needed for quality reporting purposes. Avoid duplicate data collection.]
  - The ability to communicate between providers and others in the healthcare system
  - Inclusion of patient education materials on the electronic patient portal (e.g., STEADI Patient Education Materials)

Provider Experience

The Oregon Health and Science University (OHSU) recognized early in the process that their STEADI-based fall prevention program had to be woven into their existing workflow, and with their EHR. They worked with the EHR IT support team, and they sought feedback from medical assistants, front office staff, and providers. This led to improvements in the workflow and EHR tools.[11]

STEP 9: Identify primary care team members' tasks

Given the complexity of fall prevention, a primary care team approach is needed for implementing clinical fall prevention initiatives. In some cases, multiple team members can perform the same task. The **fall prevention team** can determine which approach best fits their practice.

- Identify fall prevention activities or tasks. Many fall prevention tasks do not need to be performed by a physician.
- Divide tasks among the clinic team based on their roles.
- Identify clinic team members who will be responsible for specific components so that no team member feels overwhelmed.

Use all members of your healthcare team to reduce time and cost.

Table 1A. Suggested tasks for clinic team members

TEAM MEMBER	SUGGESTED TASKS Providers should use their clinical judgement
STEADI champion (from any profession)	• Work with team to develop work flow. • Train team members on specific tasks. • Be available to troubleshoot issues during implementation. • Provide feedback to team members. • Monitor and report results. • Communicate with clinic leadership about the program.
Front office staff	• Distribute fall risk screening questionnaires. • Use EHR to identify patients who are due for fall risk screening. • Raise awareness about falls. • Ensure follow-up for at-risk patients in a timely manner.
Medical assistant (MA)	• Conduct fall risk screening. • Perform vision assessment, such as the Snellen eye chart. • Enter data into the EHR. • Notify a registered nurse (RN) or provider of any concerns related to assessments.

Table 1A. Suggested tasks for clinic team members (CONT.)

TEAM MEMBER	SUGGESTED TASKS Providers should use their clinical judgement
Nurse	• Perform gait testing, such as the Timed Up and Go. • Conduct medication reconciliation. • Check orthostatic blood pressure. • Educate patients about orthostatic hypotension. • Perform vision assessment, such as the Snellen eye chart. • Counsel about using single distance lenses when walking outside. • Assess feet and footwear. • Conduct cognitive assessment, using tools like the Mini-Cog. • Discuss fall prevention strategies, including exercise such as Tai Chi and other lifestyle factors, with patients and caregivers. • After working with patient(s) and family to determine more suitable fall risk strategies, provide appropriate educational materials. • Follow up to ensure patients are making progress as part of their fall risk care plan.
Care coordinator	• Coordinate referrals to specialists and community programs. • Follow through on the fall risk checklist and make sure all the modifiable risk factors are addressed. • Follow up to measure patient receptiveness to the care plan, and address barrier(s).
Physician **Nurse practitioner** **Physician assistant**	• Take a careful fall history, including circumstances of previous falls. • Perform a physical exam, including an observation of gait, to identify medical issues that increase fall risk (e.g., cardiac or neurologic disease). • Review results of fall risk assessments performed by other team members (*Stay Independent*, Timed Up and Go, etc.). • Manage medications that increase fall risk (collaborate with pharmacists in the practice or community). • Order appropriate labs and imaging. • Recommend and provide referrals. • Discuss fall prevention strategies with patients and caregivers. • Actively engage patients and caregivers in developing and implementing their own personal fall prevention plan. • Recommend community exercise or fall prevention programs.

Table 1A. Suggested tasks for clinic team members (CONT.)

TEAM MEMBER	SUGGESTED TASKS Providers should use their clinical judgement
Pharmacists	• Document fall history to identify those at increased risk of falls. • Review medical and medication history. • Optimize both pharmacologic and non-pharmacologic therapy. • Raise awareness about fall risks, and discuss fall prevention strategies with patients and caregivers. • Educate or refer to address other modifiable risk factors.
Physical therapists	• Perform detailed gait and balance testing. • Design a rehabilitation plan or exercise program to improve mobility and balance. • Educate patients about community-based fall prevention programs such as Tai Chi classes.
Occupational therapists	• Perform home safety assessments. • Recommend safety features to reduce environmental hazards (e.g., grab bars, lighting, railings). • Educate patients about behavioral and functional changes to reduce their fall risk.

STEP 10: Train team members

Every practice has a system for training staff. These strategies will guide their training for the fall prevention initiative.

Strategies:

- **Make time for training.** Fit fall prevention training into regularly-scheduled meetings to facilitate scheduling.
- **Get support from team members.** Have a special program launch with team training to help build primary care team support and engagement for the program.
- **Assess training needs.** Decide if the primary care team will be trained together, or if staff members will be trained individually.

Training your fall prevention team must be done periodically.

Plan and implement the training sessions.

Strategies:

- Obtain or develop fall prevention training resources (e.g., Online STEADI training resources; also see Chapter 2).
- Train clinic staff and providers on the importance of fall prevention.
- Train clinic staff and providers on changes to work flow.
- Train clinic staff to screen patients for fall risk.
- Train clinic staff to perform assessments (e.g., Timed Up and Go test, orthostatic blood pressure, feet and footwear evaluation).
- Train providers, nurses, pharmacists to use the EHR fall prevention tools.
- Provide refresher training sessions at regular intervals for everyone in the practice, especially after work flow and/or EHR tools have been modified.

Plan ahead to manage staff turnover.

Strategies:

- Plan and implement ongoing refresher sessions and training for new team members.
- Designate a person who will be responsible for new team members receiving the fall prevention training.

Provider Experience

United Health Services (UHS) in New York was able to screen up to 79% of older patients who sought primary care one year after implementing their fall prevention program. To keep screening rates from falling, new staff training and refresher training sessions were needed on an ongoing basis.[12]

STEP 11: Develop an implementation and monitoring plan

Like any new initiative, fall prevention requires ongoing attention to ensure adherence to and satisfaction with the program, as well as successful outcomes for patients (refer to the STEADI Evaluation Guide for more guidance). A new fall prevention program will be most successful if the implementation team:

1. Sets goals for short term wins, such as "we will screen 100 older adults for fall risk in the first 3 months";
2. Pays attention to development of care plans for those who screen at risk of falls; and
3. Develops a system for patient follow-up.

This section includes suggestions to optimize all of these elements. We can't guarantee success, but it will be more likely if these suggestions are followed.

Use a quality improvement approach to guide program implementation.

If your practice is a Patient-Centered Medical Home (PCMH, a National Committee for Quality Insurance model of care that puts the patient at the center of their healthcare), implementation and monitoring of the fall program can happen similarly to other PCMH quality initiatives.

Ensure Success

Develop an implementation plan to:

- Use a quality improvement approach
- Address potential challenges and barriers
- Encourage feedback

Develop a monitoring plan to:

- Monitor implementation of your prevention program
- Determine patients' satisfaction with the program
- Demonstrate program impact
- Plan for long-term program sustainability and fidelity

Strategies:

➤ **Use a standardized quality improvement approach, such as the Plan-Do-Study-Act (PDSA) method.**[41] PDSA steps include:

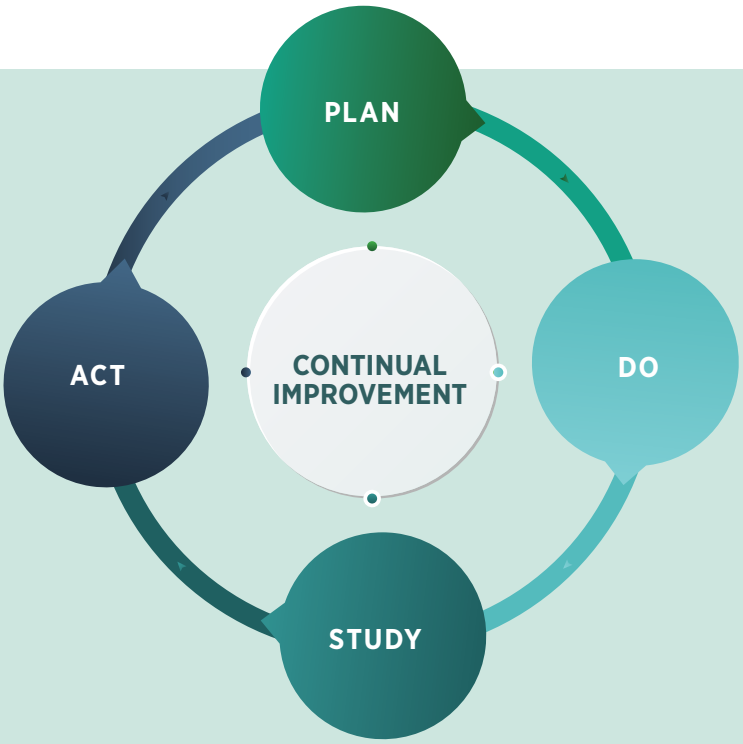
PLAN: Develop a plan for change

DO: Make the change

STUDY: Observe and learn from the results

ACT: Modify the plan to act on results learned

REPEAT: As often as needed



Address potential challenges and barriers to implementing clinical fall prevention.

Strategies:

- **Meet regularly.** Have champions and the fall prevention team meet on a regular basis to identify challenges and offer solutions.
- **Train team members.** Ensure that all team members have adequate knowledge to participate in the program.
- **Engage older adults in the project.** They can provide feedback on new clinical practices, and help primary care team members optimize their effectiveness in promoting fall prevention. Often, the success of a few patients in reducing their fall risk can motivate the team to embrace fall prevention as a priority.

Implement processes to encourage communication and feedback among team members and clinical champions.

Strategies:

- **Develop a communication plan.** Encourage primary care team members to provide feedback about the program.
- **Schedule regular meetings of the fall prevention team and clinical champions.** Discuss recent PDSA (Plan-Do-Study-Act), review feedback, and determine which changes are needed. If multiple clinical locations are involved, consider forming a larger fall risk group with representatives from each location to share and learn from each other.
- **Obtain commitment from the data analysts.** Provide regular feedback.
  - Develop team-friendly tools to provide feedback (such as adding fall measures to an existing quality dashboard).
  - Provide regular feedback to clinic and institutional leadership to ensure ongoing support for the program.
- **Communicate with primary care team members.** Meet in-person, or communicate by email or other electronic methods—on what *is* and is *not* working well.
  - Consider using incentives to increase uptake among team members.
  - Provide information to team members on their successes to build commitment to the program.
  - Report the number of fall screens performed weekly or monthly to keep team members engaged.
  - Encourage team members to participate in continuing education related to fall prevention to enhance knowledge and skills.
  - Seek feedback from team members to improve the program.

Determine how you will monitor implementation of the fall prevention program.

Strategies:

➤ **Examples of annual implementation measures include:**

- Number of patients age 65 and older seen annually
- Number and % of patients age 65 and older who are screened for fall risk
- Number and % of patients who screen at risk for a fall
- Number and % of at-risk patients who receive the TUG test
- Number and % of at-risk patients who score above the TUG cutoff
- Number and % of at-risk patients who are referred to physical therapy
- Number and % of at-risk patients who are referred an evidence-based community program (e.g., Tai Chi)
- Number and % of at-risk patients who are referred to other medical specialists (e.g., occupational therapists, ophthalmologists)
- Number and % of at-risk patients who stopped taking a medication that increased their fall risk
- Number and % of at-risk patients with vitamin D deficiency who were recommended to take vitamin D
- Number and % of at-risk people who have their orthostatic blood pressure changes corrected
- Number of patients who refused a recommended referral

Provider Experience

Oregon Health and Science University (OHSU) conducted a process evaluation of their STEADI-based fall prevention program. After screening nearly two-thirds of their older patients for fall risk, they were able to intervene and treat 85% of older patients with gait impairment, 97% with orthostatic hypotension, 82% with vision impairment, 90% consuming inadequate vitamin D, 75% with foot issues, and 22% on high-risk medications.[9]

Determine primary care team members' and patients' satisfaction with the program.

Strategies:

➤ **Seek feedback.** Survey primary care team members and patients to determine satisfaction with the program.

➤ If available, use the **Patient and Family Advisory Council** to discuss program impact and patient satisfaction.

Provider Experience

At United Health Services in New York, patients screened at risk for a fall who were given a STEADI-based fall prevention care plan to reduce their risk had fewer fall-related hospitalizations compared to older adults who were at risk but who did not receive a fall prevention care plan.[13]

Demonstrate program impact.

Identify and track outcome measures that demonstrate the impact of the fall prevention program.

Strategies:

- **Examples of annual outcome measures include:**
  - Number and % of patients 65 and older who report having fallen in the past year
  - Number and % of patients 65 and older who report seeking medical treatment for a fall in the past year
  - Number and % of patients 65 and older who were hospitalized for a fall-related injury (e.g., fracture, traumatic brain injury) in the past year
- **Use the EHR to record and query outcome measures (e.g., falls in past year, fall-related injury).**

Set targets for improvement that are feasible and measurable, making sure to address each of the core components of STEADI—Screen, Assess, Intervene (and follow-up).

Strategies:

- Example **screening** targets:
  - Increase fall screening for patients over 65 by 30% over the next year.
  - Screen 100 older adults for fall risk over the next quarter (a "short-term win" target).
- Example **assessment** targets:
  - Assess 80% of at-risk patients for orthostatic hypotension.
  - Assess 90% of at-risk patients with a TUG test (target specific to "develop a care plan").
- Example **intervention** and **follow-up** targets:
  - Follow up to ensure that at least 50% of patients with an abnormal TUG test begin physical therapy.
  - Reduce use of sedative/hypnotic medications in at-risk patients by 20%.

Plan for long-term program sustainability and fidelity.

Strategies:

- **Assess training needs.** Create a schedule for training new clinic team members, and for re-training current clinic team members on a regular basis.
- **Evaluate program process.** As the program evolves, ensure there are always clinic champions to keep the effort going, and ensure processes are happening correctly.
- **Aim higher.** When a quality metric has been met for several time periods in a row, pick a new one to follow!
- **Update leadership.** Meet with clinic leadership at least yearly to report on outcomes and confirm ongoing support.

STEP 12: Identify reimbursement and quality improvement opportunities

Identify reimbursable services that can include fall prevention activities. These may include specific visit codes, may be linked to quality measures for Alternative Payment Models (APM) or Merit-Based Incentive Payment Systems (MIPS), and may be part of alternative or approved Patient-Centered Medical Home activities. Possible ways to get reimbursed for fall prevention activities include:

- **Welcome to Medicare Examination**
- **Medicare Annual Wellness Visit**
- **Evaluation and Management (E/M) codes for diagnosis and management of specific fall risk factors**
  - Gait disturbance
  - Vision exam/vision impairment
  - Hypotension and orthostasis
  - Foot problems
  - Cognition and neurologic diseases
  - Cardiac diseases
  - Depression and other mood disorders
  - Incontinence
  - Management of medications that increase fall risk
- **E/M codes for care coordination and appropriate referrals**
- **Transitional Care Management (TCM) codes for evaluation after a hospitalization**

Link fall prevention to existing quality improvement personnel and resources, and determine which quality measures you will report.

Strategies:

- **Are there team members who also play a role in institutional quality projects?**
- **Could fall prevention activities be added to an existing quality dashboard?**
- **Identify applicable incentive programs and measures.**
  - The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) initiated a new Quality Payment Program that most practices will participate in, and provides incentives based on practice size and model. Fall prevention activities fit into all categories of the Quality Payment Program.
    - **Merit-Based Incentive Payment System (MIPS).** This program is for individual clinicians who can earn a payment adjustment based on evidence-based and practice-specific quality data (such as fall prevention). Clinicians show they provided high quality, efficient care supported by technology by sending in information in the categories of quality improvement activities, advancing care information, and cost (this consolidates the older Physician Quality Reporting System and Meaningful Use programs).
    - **Alternative Payment Model (APM).** An APM is a payment approach that gives added incentive payments to provide high-quality and cost-efficient care. APMs can apply to a specific clinical condition, a care episode, or a population.
    - **Advanced APMs.** Advanced APMs are a subset of APMs, and let practices earn more for taking on some risk related to their patients' outcomes. Practices may earn a 5% incentive payment by going further in improving patient care, and taking on risk through an Advanced APM (an example is Comprehensive Primary Care +) .
    - **Meaningful Measure Areas.** Meaningful Measure Areas are the connectors between CMS' Strategic Priorities and individual measures/ initiatives that demonstrate how high quality outcomes for patients are being achieved. They are topics that reflect important issues that are critical in providing high quality care to patients, and are critical in obtaining better health outcomes for patients.
    - **Payers.** Some individual payers also offer quality incentives for fall prevention.

These steps provide the essential elements to designing and implementing a successful fall prevention program at the clinic level. Chapter 2 provides details about specific components of fall prevention programs.

CHAPTER TWO

CHAPTER 2:

Components of a Clinical Fall Prevention Program

Steps to apply the core components of clinical fall prevention:

STEP 1: Screen

STEP 2: Assess

STEP 3: Intervene

OVERVIEW

In Chapter 1, we articulated a series of concrete steps that practices can take to implement a STEADI-based clinical fall prevention program.

This chapter reviews the core components of a successful clinical fall prevention program, including suggestions for screening, conducting assessments for patients who screen at risk, and implementing interventions to reduce falls among those at risk. It also describes strategies for talking with older adults about falls, and tips for documenting an individualized fall prevention care plan for your patient.

To Prevent Falls

- Screen patients for fall risk.
- Assess the at-risk patient's modifiable risk factors.
- Intervene to reduce the identified risk using effective risk factor-specific interventions.
  - Follow-up with patients and families implementing the recommended fall prevention plan.
  - Engage older patients, families, and caregivers throughout the process.

Successful implementation of STEADI-based clinical fall prevention program requires more than just screening for fall risk. It is critical for primary care teams to not only screen regularly, but also to identify specific modifiable risk factors, intervene to address those risk factors, and subsequently follow up with patients to ensure interventions are successful. It is important to re-assess efforts at every level (screening, assessment, intervention, and follow-up), and update interventions as needed.

This figure summarizes the core components of the STEADI initiative.

The STEADI Initiative

A coordinated approach to implementing the AGS/BGS clinical practice guideline for fall prevention that consists of 3 core elements: Screen, Assess, and Intervene

SCREEN

Identify patients at risk for a fall

Screening Tools Include:

- 12-Item *Stay Independent Brochure*
- Three key questions:
  - Fallen
  - Unsteady
  - Worry about falls

ASSESS

Identify modifiable risk factors

Risk Factors Include:

- Vestibular disorder/poor balance
- Vitamin D deficiency
- Medications linked to falls
- Postural hypotension
- Vision impairment
- Foot or ankle disorder
- Home hazards

INTERVENE

Use effective clinical and community strategies

Treatment Strategies Include:

- Strength and balance program (e.g., physical therapy, Tai Chi)
- Vitamin D supplementation
- Medication management
- Corrective eyewear
- Cataract surgery
- Orthotics and exercise
- Home modification led by occupational therapist

STEP 1: Screen for fall risk

One in four people over 65 fall each year, yet less than half of them tell their doctor about it. The AGS/BGS clinical practice guideline for prevention of falls in older adults recommends screening older adults for fall risk annually. Screening identifies older adult patients who have risk factors for falling, and are most likely to benefit from additional follow-up.[6]

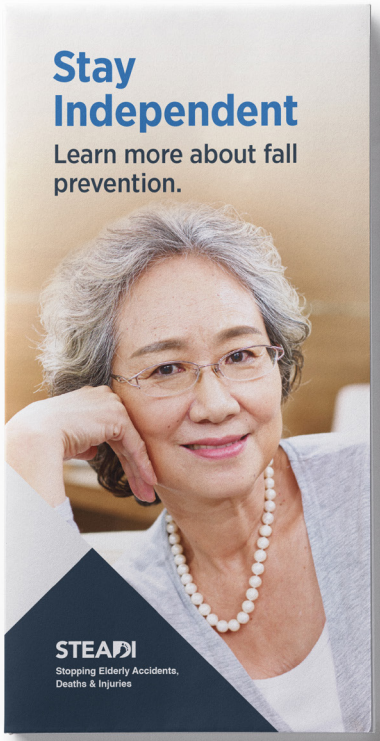
Screening is a simple process that can be implemented in your practice with tools incorporated to fit the normal workflow. It can happen via routinely asking patients about previous falls, or having patients complete a fall risk self-assessment (such as the CDC's *Stay Independent* questionnaire). There is no gold standard screening tool. Therefore, select a screening tool that is most efficient and practical for your practice.

If your patient is 65 or older, screen them at least once a year for fall risk.

Example screening tools:

➤ CDC's *Stay Independent* questionnaire

- This 12-item self-assessment questionnaire asks about multiple fall risk factors, and has been shown to identify fall risk similar to a clinical fall evaluation.[14]
- A score of 4 or more indicates that a patient may be at increased risk of falling.
- The answers can help the primary care team identify and intervene around a patient's specific fall risk factors.
- The questionnaire can be handed out annually to patients over 65 when they check in for appointments, or it can be completed electronically via a secure patient portal within an EHR.



Stay Independent Questionnaire

Circle "Yes" or "No" for each statement below			Why it matters
Yes (2)	No (0)	I have fallen in the past year.	People who have fallen once are likely to fall again.
Yes (2)	No (0)	I use or have been advised to use a cane or walker to get around safely.	People who have been advised to use a cane or walker may already be more likely to fall.
Yes (1)	No (0)	Sometimes I feel unsteady when I am walking.	Unsteadiness or needing support while walking are signs of poor balance.
Yes (1)	No (0)	I steady myself by holding onto furniture when walking at home.	This is also a sign of poor balance.
Yes (1)	No (0)	I am worried about falling.	People who are worried about falling are more likely to fall.
Yes (1)	No (0)	I need to push with my hands to stand up from a chair.	This is a sign of weak leg muscles, a major reason for falling.
Yes (1)	No (0)	I have some trouble stepping up onto a curb.	This is also a sign of weak leg muscles.
Yes (1)	No (0)	I often have to rush to the toilet.	Rushing to the bathroom, especially at night, increases your chance of falling.
Yes (1)	No (0)	I have lost some feeling in my feet.	Numbness in your feet can cause stumbles and lead to falls.
Yes (1)	No (0)	I take medicine that sometimes makes me feel light-headed or more tired than usual.	Side effects from medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I take medicine to help me sleep or improve my mood.	These medicines can sometimes increase your chance of falling.
Yes (1)	No (0)	I often feel sad or depressed.	Symptoms of depression, such as not feeling well or feeling slowed down, are linked to falls.
Total _____		Add up the number of points for each "yes" answer. If you scored 4 points or more, you may be at risk for falling. Discuss this brochure with your doctor.	

➤ Three Key Questions

- A briefer screening tool—the three key questions[9]—is based on a subset of the full *Stay Independent* questionnaire, and can be asked before or during an office visit:
  - Have you fallen in the past year?
  - Do you feel unsteady when standing or walking?
  - Are you worried about falling?
- A "yes" response to any question indicates that a patient may be at increased risk of falling.
- **This is a shorter, therefore faster, screening tool.** However, it will identify more individuals that will require additional follow-up, since a "yes" to any question prompts follow-up. Also, it is not as useful for identifying an individual's specific fall risk factors (such as postural hypotension or medications) as the more extensive tool.[9]

Review the screening tool regularly, and take timely actions to remove any impediments to its functions and use. Additionally, recognize and acknowledge screening successes to encourage ongoing fall prevention efforts.

Three Key Questions

1. Have you fallen in the past year?
2. Do you feel unsteady when standing or walking?
3. Are you worried about falling?

STEP 2: Conduct assessments

For any older adult who screens at risk of falls, it is essential to conduct further assessments to determine what their specific fall risk factors might be. Fall risk reduction will be most successful if each older adult understands their specific risk factors, and has a care plan that includes attention to reducing those risk factors. Appropriate assessments may include:

Assessments help you identify why your patient is at increased risk of falling. Most patients have more than one risk factor.

- Conducting gait, strength, and balance tests, including assessment for use of a gait aid, if warranted
- Identifying medications taken that increase fall risk
- Asking about potential home hazards
- Measuring orthostatic blood pressure
- Checking visual acuity
- Assessing feet and footwear
- Assessing vitamin D intake
- Identifying comorbidities that increase fall risk (e.g., cognitive problems, Parkinson's disease, cardiac issues, depression, incontinence)

To limit the burden on a single provider, assessments can be spread across team members as shown in Table 1A.

Description of assessments (see Table 2B for summary):

➤ Fall History

The fall history includes information on the circumstances of the fall to help identify risk factors and guide further assessments.

- Ask where, when, and the circumstances of previous falls (e.g., at home vs. outside, location within home, day vs. night, activity at the time of fall).[6, 16, 24]

➤ Gait, strength, and balance tests

Gait disturbance is a common complaint and clinical finding in older adults that increases risk for falling and fear of falls, while decreasing mobility and independence.[15] Effective assessments for gait disturbance include the TUG, 30-Second Chair Stand, and 4-Stage Balance Tests. In addition to test scores, the provider should observe the patient's gait and balance during the tests.

- **Timed Up and Go (TUG) Test**
  The Timed Up and Go Test is a mobility assessment that can be administered by medical assistants or other team members. It is the preferred functional test for identifying problems with gait and balance.
  - The patient is asked to sit in a chair, stand up, walk 10 feet, turn around, walk back to the chair, and sit down.
  - A time of 12 seconds or greater indicates an increased risk of falls.
  - Click to link to an instructional video.
- **30-Second Chair Stand Test**
  This test assesses leg strength and endurance.
  - The patient sits in a chair, crosses their arms, and stands up and sits down as many times as possible in 30 seconds.
  - See instructions for age-appropriate scoring.
  - Click to link to an instructional video.
- **4-Stage Balance Test**
  This test assesses balance in successively more difficult standing positions.
  - The patient begins by standing with their feet side by side and holds that position for 10 seconds.
  - Each stage is progressively harder.
  - If the patient cannot hold the tandem stance for 10 seconds, they are considered at increased risk of falls.
  - Click to link to an instructional video.

➤ Identify medications taken that increase fall risk

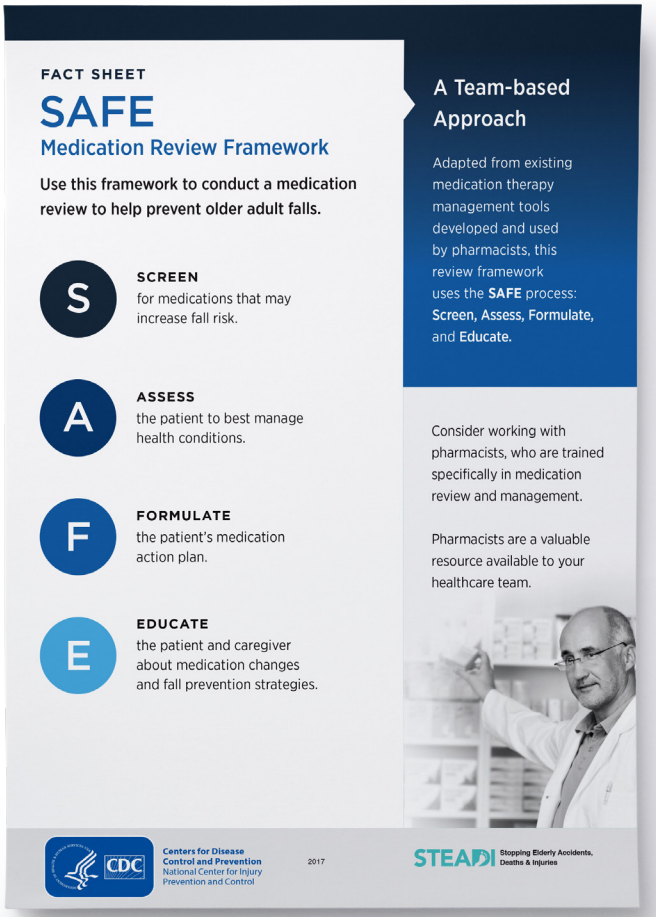
Medications that increase fall risk include medications that affect the central nervous system (CNS-active), those that cause sedation or confusion, and those that can cause hypotension. The American Geriatrics Society's Updated Beers Criteria lists specific medications that increase fall risk. Working closely with a pharmacist will help identify ways to target medications that increase fall risk, and ensure appropriate patients are referred for a PharmD evaluation. In general,

- Taking psychoactive medicines can increase fall risk.[42]
- Polypharmacy (taking 4 or more of any medication) can also increase fall risk.[16]
- Refer to the *Medications Linked to Falls* fact sheet for additional examples.
- Use the *SAFE Medication Review Framework* to standardize the way your practice conducts medication reviews.
  - **S**creen for medications that may increase fall risk.
  - **A**ssess the patient to best manage health conditions.
  - **F**ormulate the patient's medication action plan.
  - **E**ducate the patient and caregiver about medication changes and fall prevention strategies.

➤ Ask about potential home hazards

Environmental hazards are a common risk factor for falling. Throw rugs, loose extension cords, dark hallways, tubs without non-skid surfacing, and many other items can increase risk of falls.[17]

- Ask patient to review and complete the CDC *Check for Safety Checklist* for Older Adults.
- Provide educational materials to family members and caregivers, such as the CDC brochure, *Family Caregivers: Protect Your Loved Ones from Falling*.



FACT SHEET

SAFE

Medication Review Framework

Use this framework to conduct a medication review to help prevent older adult falls.

S — SCREEN for medications that may increase fall risk.

A — ASSESS the patient to best manage health conditions.

F — FORMULATE the patient's medication action plan.

E — EDUCATE the patient and caregiver about medication changes and fall prevention strategies.

A Team-based Approach

Adapted from existing medication therapy management tools developed and used by pharmacists, this review framework uses the **SAFE** process: **Screen, Assess, Formulate,** and **Educate.**

Consider working with pharmacists, who are trained specifically in medication review and management.

Pharmacists are a valuable resource available to your healthcare team.

Centers for Disease Control and Prevention
National Center for Injury Prevention and Control

2017

STEADI Stopping Elderly Accidents, Deaths & Injuries

➤ Measure orthostatic hypotension

Orthostatic hypotension is a risk factor for falls. It is defined as a drop in systolic blood pressure of ≥20 mm Hg, a diastolic blood pressure of ≥10 mm Hg, or experiencing lightheadedness or dizziness on changing positions: supine to sitting and/or sitting to standing.[18,30]

To assess for orthostatic hypotension,

- Have the patient lie down for 5 minutes, then check blood pressure.
- Then, have the patient stand up for one minute, and repeat the blood pressure check.
- After the patient stands for 3 minutes, repeat the blood pressure check.

➤ Check visual acuity

Visual impairment increases risk of falls. Additionally, for older adults who walk outside the home, switching from bifocal lenses to single distance lenses reduces risk of falling.[19]

- Conduct a brief vision assessment using an appropriate tool, such as the Snellen eye chart. A score of 20/40 or higher indicates visual impairment.
- For patients who walk outside the home, ask if they are wearing bifocal glasses when they walk. If so, this may increase fall risk.
- Ask if they regularly clean their glasses.

➤ Assess feet and footwear

Foot problems (e.g., decreased sensation from diabetes, foot deformities such as hammertoe) can increase risk of falls. Also, footwear without good arch support, heel support, and sturdy soles with good grip can increase risk for falls.[20]

- Examine feet and footwear.
- Assess feet for decreased sensation and deformities that might affect gait and balance, especially if the patient has diabetic neuropathy.

➤ Assess vitamin D intake

Low levels of vitamin D are associated with an increased risk of falls, yet data show that many older adults don't get enough vitamin D.[43, 44] Supplements of vitamin D can be recommended without testing vitamin D levels in most patients. Patients who may need further evaluation include those with osteoporosis, kidney stones, advanced renal disease, certain malignancies, or sarcoidosis that can result in hypercalcemia.[31] There is evidence that large bolus doses of vitamin D increase fall risk, and should be avoided.[21]

- Ask if the patient has adequate vitamin D intake (e.g., drinks 3 glasses of milk daily or takes a vitamin D supplement).

➤ Identify comorbidities that increase fall risk

Several health conditions that are common in older adults can increase risk of falls. Neurologic conditions, such as Parkinson's and dementia, can lead to gait abnormalities.[45] Cardiac conditions can cause syncope, dizziness, and impaired consciousness.[6] Depression can lead to decreased mobility, and can increase fall risk.[22] Incontinence can cause people to rush to the bathroom.[32] If a patient has any of these conditions, they should receive further assessment.

Cognition Problems

- Patients with dementia fall at eight times the rate of patients without dementia.[46]
- Consider using an appropriate tool to test cognition, such as:
  - Mini-Cog, a quick screening tool to identify cognitive impairment
  - Montreal Cognitive Assessment (MoCA) to get a more detailed assessment of a patient's cognition

Parkinson's Disease

- Assess for tremor, rigidity, impaired gait, or other movement disorder features.[45]

Cardiac Issues

- Determine the presence of heart block or other cardiac issues.[6]

Depression

- Use the Patient Health Questionnaire (PHQ-2 or PHQ-9), which are validated depression screening tools for use in primary care.[47, 48]

Incontinence

- Ask if the patient has leaked urine—even a small amount—in the past 3 months.[32]

STEP 3: Intervene to reduce the risk of falls

After identifying the risk factors, the next step is to intervene to address the modifiable risk factors and reduce fall risk. Suggested interventions for each risk factor are listed below:

➤ Gait, strength, and balance

- Interventions include referral to physical therapy for an evaluation and tailored exercises, and referral to a community exercise or fall prevention program (such as Tai Chi: Moving for Better Balance).[23]
- If the patient needs a mobility aid, or is using one incorrectly, refer the patient to a physical therapist for instruction on using the aid.[24]
- If the patient has functional impairments that are putting them at risk for a fall, refer them to an occupational therapist.

Take Action

- **Intervening to reduce fall risk is the most important step.**
- **Work with your patient to determine which risk factors they are willing to reduce.**

➤ Medications

- Optimizing drug therapy can improve patient safety.
- Attempt to **stop**, **switch**, or **reduce** medications that increase fall risk.
- Consider medications without a current indication. Look for duplicate prescriptions, identify any medication with risks that outweigh benefits, then prioritize medications for discontinuation.[27]
- Some medications, such as benzodiazepines, *require* tapering to safely discontinue use. Tapering is *recommended* for medications like antidepressants and opioids, where gradually reducing the dose is better tolerated. When tapering, working with the patient is key to success.[25, 26, 49]
- For medications with potentially harmful side effects, consider switching to an alternative with a better safety profile. Some suggested alternatives for common conditions are presented in the supplement to the Beers Criteria.
- When optimizing therapy, maximize non-pharmacologic recommendations to manage symptoms for conditions like sleep problems, pain, and anxiety.
- Finally, for any needed medication, periodically consider reducing the dose to find the lowest effective dosage. Dosage reduction is important because as patients age, pharmacokinetics and pharmacodynamics can change, putting them at higher risk for side effects.
- Resources to help with medication review are here: STEADI Medication Review.

➤ Home hazards

- Review the CDC brochure, *Check for Safety*, with your patient.
- After discussing home hazards with the patient, consider a referral to an occupational therapist (OT) for a home safety evaluation.[4]

➤ Orthostatic blood pressure

- If the patient exhibits orthostatic hypotension, reduce medications that can affect blood pressure. If medications are clinically necessary, switch medication to one with a lower risk of orthostasis.
- Review the brochure, *Postural Hypotension: What it is and How to Manage It*, with your patient. Identify and discuss the appropriate recommendations.
- Educate about importance of exercise such as foot pumping (heel to toe) 20 times before standing.
- Encourage adequate hydration (~50 oz. daily).
- Recommend the patient stand slowly and doesn't start walking for a minute or two.[30]
- Consider compression stockings.

➤ Vision

- If a patient has reduced visual acuity, refer to an eye specialist with a note that the patient is at increased risk of falls. If the reduced vision is found to be due to a cataract, cataract surgery may reduce risk of falls.[50]
- If the patient wears bifocals and is fairly active, suggest they get single distance lenses to wear outside to reduce their fall risk.[19]

➤ Feet and footwear

- Patients should be encouraged to always wear supportive shoes both inside and outside of the house. Supportive shoes have soles with traction, cushioning, and low heels.[51]
- Advise the patient that going barefoot or only wearing socks increases their chances of falling.[52]
- If foot problems are evident, refer the patient to a podiatrist.[20]

➤ Vitamin D

- Patients who are at increased risk of falls should take vitamin D supplements if they are not getting adequate vitamin D in their diet, or if their vitamin D level is deficient.[21]

➤ Comorbidities

Cognition

- Although it is challenging to implement fall prevention strategies with patients who are cognitively impaired, it is important to reduce risk factors as much as possible, and address as early in the disease as possible.
- Engage and educate family members and caregivers on risk factors and interventions. Consider sharing the CDC brochure, *Family Caregivers: Protect Your Loved Ones from Falling*.

Parkinson's Disease

- Physical therapists with expertise in movement disorders can be very helpful.
- Consider a home safety evaluation by an occupational therapist (OT).
- Consider a referral to Tai Chi.[33]

Cardiac Issues

- Manage cardiac issues, such as a heart block.
- Find the lowest effective dosage for all cardiac medications to minimize risk of side effects, such as orthostatic hypotension.

Depression

- Treatment of depression—including medications, psychotherapy, or both—can help reduce fall risks through reduced depressive symptoms and improved mobility. However, antidepressants also carry some risk of falls.[34] When using these medications, counsel about possible side effects, use the lowest effective doses, and reassess frequently during treatment.

Incontinence

- Recommend timed voiding and/or pelvic floor exercises.
- Refer to a physical therapist (pelvic floor therapist), or gynecologist who specializes in incontinence to reduce fall risk.[32]

Table 2A. Summary of fall risk screening approaches

SCREENING TOOLS	CRITERIA FOR A POSITIVE SCREEN
Stay Independent **patient self-assessment of fall risk factors**	Score of 4 or more If score < 4, but patient fell in the past year → at risk
Three key questions: – Have you fallen in the past year? – Do you feel unsteady when standing or walking? – Are you worried about falling?	"Yes" response to at least one question

Table 2B. Summary of risk factors, assessment tools, and intervention strategies

FALL RISK FACTOR	ASSESSMENT TOOL	INTERVENTION STRATEGIES
History of falling	Ask where, when, and the circumstances of previous falls (e.g., at home vs. outside, location within home, day vs. night, activity at the time of fall)	If one fall with injury in the last year, or 2 or more falls in the last year → use circumstances of fall to guide further assessments and interventions
Gait, strength, and balance	Timed Up and Go (TUG), 30-Second Chair Stand, or 4-Stage Balance Test	If fail → refer to physical therapy for further evaluation If pass → refer to community fall prevention or exercise program if available (i.e. Tai Chi, Stepping On)
Medications that increase fall risk	Conduct a comprehensive medication review to look for presence of central nervous system (CNS) - active or psychoactive medication, presence of any medication that can cause dizziness, sedation, orthostatic hypotension, blurred vision, or confusion, or use of 4 or more medications	If yes to any → evaluate the appropriateness of all therapy and attempt to **stop, switch**, or **reduce** medications linked to falls when possible Aim to reduce medications linked to falls and to reduce total number of medications
Home hazards	Completion of home safety checklist or occupational therapist (OT) home safety assessment	Recommend interventions to improve home safety (e.g., remove loose cords and throw rugs, improve lighting, etc.) Refer to OT to evaluate home safety

Table 2B. Summary of risk factors, assessment tools, and intervention strategies

FALL RISK FACTOR	ASSESSMENT TOOL	INTERVENTION STRATEGIES
Orthostatic hypotension	Assess for drop of 20 or more points on measurement of systolic blood pressure when taken after lying 5 minutes, and then standing one minute and 3 minutes	Consider changing to an antihypertensive with less potential for orthostasis, or reduce dosage of antihypertensive when possible Recommend foot pumping (heel to toe) 20 times before standing Encourage adequate fluid intake (~50 oz daily) Recommend standing slowly and waiting to walk for a minute or two Consider compression stockings Recommend physical therapy if other strategies are ineffective Educate patient using CDC's *Postural Hypotension* brochure
Visual impairment	Snellen eye chart, assess for use of bifocals when outside of home	If Snellen 20/40 or worse or uses bifocals when walking outdoors: • Refer to eye specialist (optometrist or ophthalmology) for vision exam. Add that the patient is at increased risk of falls. • Recommend single distance lenses for walking outside • Consider benefits of cataract surgery • **Stop, switch**, or **reduce** the dose of medication affecting vision
Feet and footwear issues	Assess for decreased sensation, foot deformities, inappropriate footwear (use of flip flops or slippers, walking barefoot or in stocking foot)	Counsel to use footwear that fits securely around the feet, and adds traction; consider insoles and heel height Refer to podiatrist, if indicated

Table 2B. Summary of risk factors, assessment tools, and intervention strategies

FALL RISK FACTOR	ASSESSMENT TOOL	INTERVENTION STRATEGIES
Vitamin D deficiency	Assess patient's vitamin D intake	If vitamin D deficient, add or increase supplementation If osteoporosis → conduct further evaluation to determine if higher doses may be needed
Comorbidities that increase fall risk	Review medical history, physical exam to diagnose cognitive impairment, Parkinson's or other movement disorder, cardiac disorder, depression, incontinence	Optimize management of comorbidities

Talking with older adult patients about falls

Older adults often do not acknowledge or recognize their fall risk. Many older adults and their family members and caregivers see falls as an unavoidable consequence of aging, and think they just need to "be careful".[35, 53] A patient who believes that an intervention will reduce their fall risk or the severity of a fall will be more likely to follow through with that intervention. Healthcare practitioners who understand this value can be influential in encouraging patients, families/caregivers, and other health practitioners to recommend and adopt effective fall prevention strategies. For example, healthcare practitioners can help patients understand that they can increase strength and balance via physical therapy and/or exercise classes, and can prescribe alternative medications, or non-pharmacological therapies to reduce the use of medications (e.g., sleeping pills) that increase fall risk.[24]

Older adults and their families/caregivers should be encouraged to be active participants in developing a fall prevention plan.

Strategies:

- Help patients understand and acknowledge their fall risk.
- Emphasize the positive benefits of fall prevention, such as remaining independent.
- Ensure that the patient understands how the strategy will reduce their fall risk.
- Take into account older peoples' views and their desire for autonomy.
- Work with the patient and caregiver to develop a fall prevention plan that works for them.
- Empower them to ask questions of their primary care team, and provide them with the resources to answer their questions.
- Discuss with patients what behaviors they are willing to modify to reduce their fall risk.
- Suggest fall prevention strategies that are culturally appropriate.
- Ask the patient which fall prevention strategies they might be willing to do, and how following through with the strategy could reduce their fall risk.
- Use the STEADI resource, *Talking about Fall Prevention with Your Patients*, to apply the Stages of Change model to assess a patient's readiness to adopt healthier behaviors.

The Stages of Change model[54] is a useful tool to assist patients in successfully making behavior changes. The model has 5 stages:[54]

1. **Precontemplation**—not considering behavior change
2. **Contemplation**—considering behavior change
3. **Preparation**—has taken some initial steps toward behavior change
4. **Action**—actively working on behavior change
5. **Maintenance**—working to maintain good behavior changes

Adapting this model for fall prevention looks like this:

- **Precontemplation:** The patient does not recognize that they are at increased risk for falling, and has no plans to implement strategies to reduce their risk of falls. As a provider, you might tell them that more than 1 in 4 people over 65 fall each year, point out some of the consequences of falling (such as hip fracture), and ask the patient to consider consequences for themselves if they had a fall injury.
- **Contemplation:** The patient recognizes they are at risk of falling (or possibly they had a friend fall and break a hip). They might consider taking measures to reduce their fall risk, but they have not done anything to reduce their fall risk. They may not know that there are effective strategies to reduce fall risk. This is a good opportunity to perform further assessments, educate patients on how effective strategies for their risk factors can prevent falls, and use motivational interviewing techniques to help the patient determine what their first steps might be.
- **Preparation:** The patient recognizes they are at risk of falling, and has taken some initial steps to reduce fall risk (such as signing up for a Tai Chi class, or making an appointment with their eye doctor to get single focal lenses for walking outside). The patient may be facing some barriers, or may be uncertain about their ability to follow through with the strategy. Your role at this point is to encourage follow through on these early efforts, give them ideas for addressing barriers, and help them establish some concrete successes that the patient can watch for (such as feeling steadier with walking).
- **Action:** The patient is actively reducing their risk of falling—drinking more fluids if they have orthostatic hypotension, attending a Tai Chi class, and agreeing to taper medication such as a benzodiazepine. You can encourage the good behavior change, point out successes, help them address any barriers to continuing, and discuss ways to keep up the good behaviors.
- **Maintenance:** Ideally the patient will stay in this stage for the rest of their life. Your continued encouragement and objective evidence for reduced fall risk (such as an improved Timed Up and Go Test time) will reinforce continued behavior change.

Table 2C provides some examples of how to communicate with your patients at each stage of the change process.

Table 2C. Communicating with your patients using the Fall Prevention Stages of Change model

IF YOU HEAR:	YOU CAN SAY:
Precontemplation Stage	
Falling is just a matter of bad luck.	As we age, falls are more likely for many reasons, including changes in our balance, and how we walk.
Contemplation Stage	
My friend down the street fell and ended up in a nursing home.	Preventing falls can prevent broken hips, and help you stay independent.
Preparation Stage	
I'm worried about falling. Do you think there's anything I can do to keep from falling?	Let's look at some factors that may make you likely to fall, and talk about what you could do about one or two of them.
Action Stage	
I know a fall can be serious. What can I do to keep from falling and stay independent?	I'm going to fill out a referral form for a specialist who can help you improve your balance.

Documenting the individualized care plan for your patient

Once you and your primary care team have developed a care plan that is feasible for an individual patient, it is important to document the plan so that all participants (healthcare team, patient, and family) can successfully implement each element. It is also important that the team and the patient understand that reducing fall risk often takes several weeks to months, and should be approached similarly as managing a chronic disease like diabetes or hypertension.

Documenting the care plan might help you realize that it is too complex for your patient and needs to be re-prioritized and spread out over more time. As you document, it is important to discuss the interventions your patient is willing or able to adopt (see *Talking about Fall Prevention with Your Patients* for guidance), and tailor the plan to ensure feasibility.

Document the care plan so that all participants (healthcare team, patient, and family) can successfully implement each element, measure outcomes, and get reimbursed.

Strategies:

- **Establishing patient goals for reducing risk of falling. List the patient's and family's priorities for fall risk reduction so that they can remember why they are engaging in all these activities (e.g., ability to walk the dog, continue to babysit grandchildren, live independently).**
- **Checklist of recommended interventions, including reason for the intervention (e.g., gait disturbance, low vision) and phone numbers for referrals.**
- **Follow-up plans (e.g., phone calls from nurses, pharmacist appointments, primary care provider (PCP) appointments).**
- **Identifying red flags that should be shared with the primary care team, or when to notify the primary care team (e.g., pain with exercise, dizziness, adverse symptoms due to medication reduction).**
- **Use of the EHR problem list to briefly summarize the patient's fall risk and recommended interventions, which can be viewed across specialists and settings.**

This chapter described the core components of a clinic-based fall prevention program: screen, assess, and intervene. Chapter 3 provides strategies to follow-up with patients and families implementing the recommended fall prevention plan.

CHAPTER THREE

CHAPTER 3:

Follow-Up and Care Coordination

OVERVIEW

Fall prevention is often multifaceted, and requires team-based, coordinated care for success. Fall prevention plan elements may include referrals (e.g., podiatry, physical therapy, optometry), exercise programs (e.g., community Tai Chi classes), other behavior changes (e.g., ensuring adequate fluid intake, pumping feet before standing), medication changes, and other new tasks. This chapter outlines possible steps to ensure adequate follow-up and care coordination with patients and families.
Steps include:

STEP 1 **Decide who among the primary care team will follow-up with the patient.**

STEP 2 **Determine feasible options for follow-up with patients and families.**

STEP 3 **Identify challenges and strategize regularly with your team to overcome them.**

Your patients may need encouragement. Decide who among your team will follow-up with the patient.

STEP 1: Decide who among the primary care team will follow-up with the patient

As noted above, it can be overwhelming to try to implement everything at once, and the primary care team, patient, and family should work together to set priorities and identify feasible changes to begin adopting. Follow up and care coordination are essential to assist patients in adopting fall prevention strategies. Often, the entire primary care team needs to be engaged to help patients succeed in fall risk reduction.

Primary care team members can participate in fall prevention trainings along with providers to ensure they have the skills needed to succeed in their roles. Table 3A lists recommendations for utilizing the primary care team to assist in these tasks.

Table 3A. Recommendations for primary care team follow-up and care coordination tasks

Care manager and nurses or medical assistants working under the direction of an RN	• Follow up on physical therapist (PT) appointments, referrals to community Tai Chi, vitamin D recommendations • Follow up on symptom management after medication adjustment • Help to reduce adverse outcomes from their underlying medical issues (e.g., managing orthostasis or improving gait and balance in Parkinson's disease patients) • Manage coordination of other fall prevention tasks • Assist with counseling about community exercise classes • Conduct a thorough medication reconciliation, including vitamin D supplementation • Counsel about fluid intake and optimal footwear
Pharmacists	• Optimize medication management of hypertension, Parkinson's disease, depression, incontinence, and other comorbidities • Recommend tapering plans for medications that increase fall risk • Provide education about orthostatic hypotension, vitamin D • Encourage patients to participate in home- or community-based exercise, especially those that focus on improving gait, strength, and balance like Tai Chi • Help identify issues, and refer patients back to their primary care team to address gait, strength, and balance concerns, vision issues, and foot problems
Panel coordinators or other Patient-Centered Medical Home team members	• Help patients schedule appointments • Identify needed community resources • Arrange transportation to specialists • Coordinate follow-up with the primary care team • Be "fall prevention champions" for the practice and help ensure success

Primary care team members can engage with community partners and local health departments to identify local community exercise and fall prevention programs. The resource guide for community organizations, *Preventing Falls: A Guide to Implementing Effective Community-Based Fall Prevention Programs*, may be helpful.

STEP 2: Determine feasible options for follow-up with patients and families

Every practice has its own unique approach to patient follow-up. Some practices have care managers who can do phone calls or in-person follow-up visits with patients, while others rely heavily on in-person follow-up with the primary care provider. Here are some suggestions for utilizing the primary care team and EHR to provide follow-up for fall care plans:

- If your practice has an EHR that allows customized alerts, set up specific alerts to follow up on the fall care plan, such as 3-month return PCP visit, care manager calls to follow up on physical therapist (PT) referrals, medical assistant calls to follow up on community referrals to Tai Chi, etc. By putting a diagnosis such as "At Risk for Falling" on the problem list, the recommended referrals and current status can be documented and briefly summarized in a central location.
- Create EHR tools that can be quickly used for follow-up to make it easy for providers to request follow-up visits.
- If there is a pharmacist in the practice, utilize them for follow-up to reduce medications that increase fall risk. For each of the other interventions, designate a "champion" who can provide follow-up, or who can lead the follow-up efforts.
- Talk with physical therapist (PT), occupational therapist (OT), vision, and other referral providers to ensure good communication between your office and theirs so that your primary care team knows when referrals have been completed, and what the recommendations are.

STEP 3: Identify challenges and strategize regularly to overcome them

Many patients have multiple fall risk factors, and require several interventions to reduce their fall risk. It is important to discuss with your patient which interventions they are willing or able to adopt. (See Chapter 2, *Talking with Older Adult Patients about Falls*, for guidance.) Similarly, primary care teams may find that following up on all of the fall care plan recommendations for each patient is an overwhelming burden to the practice. It is important to meet with the primary care team regularly to identify challenges, and brainstorm ways to overcome them.

Every practice is unique, and there is no right way to design and implement a fall prevention program. If your practice brings the right fall prevention team together, develops a clinic workflow, utilizes the EHR, trains all primary care team members, communicates well with older adults about fall prevention, and builds a structure for follow-up and care coordination, you can impact quality of life, reduce falls, and enhance the independence of your older patients.

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