

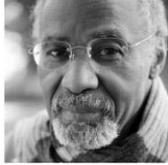
The Stopping Elderly Accidents, Deaths & Injuries (STEADI) Tool Kit for Health Care Providers

Disclaimer: The findings and conclusions in this presentation are those of the author and do not necessarily represent the official position of the Centers for Disease Control and Prevention



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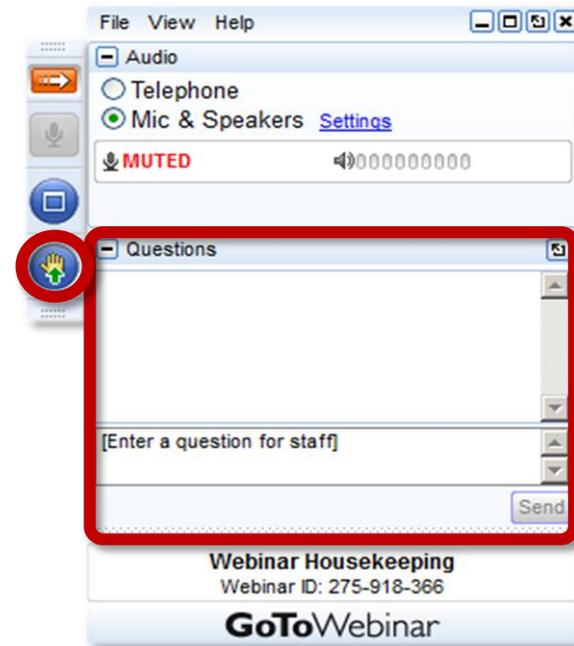


Housekeeping

Note: Today's presentation is being recorded and will be provided within 48 hours.

Two ways to ask questions at the end of the webinar:

1. Submit your text questions and comments using the Questions Panel.
2. Please raise your hand to be unmuted for verbal questions.





General Information

- A copy of the presentation slides will be provided to all participants and posted on the ODH Falls Prevention Web Site.
- A Question & Answer session will follow the presentation





Moderator

Cameron McNamee, MPP

Injury Prevention Policy Specialist

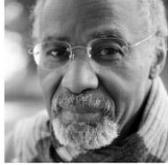
Violence and Injury Prevention Program

Ohio Department of Health



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Faculty Introductions

Presenter



Judy A. Stevens, PhD

Epidemiologist

National Center for Injury Prevention & Control
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Presenter



Richard J. Schuster, MD,

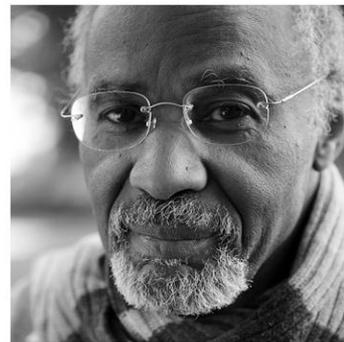
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Falls among Older Adults

The STEADI Tool Kit

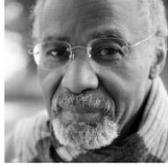
Judy A Stevens, PhD
Centers for Disease Control & Prevention

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Objectives

- Burden & impact of falls
- Development of STEADI
- STEADI tool kit materials





Introduction

- 30-35% of people 65+ fall each year¹
- Those who fall are 2-3 times more likely to fall again²
- 1 in 5 falls causes a serious injury³

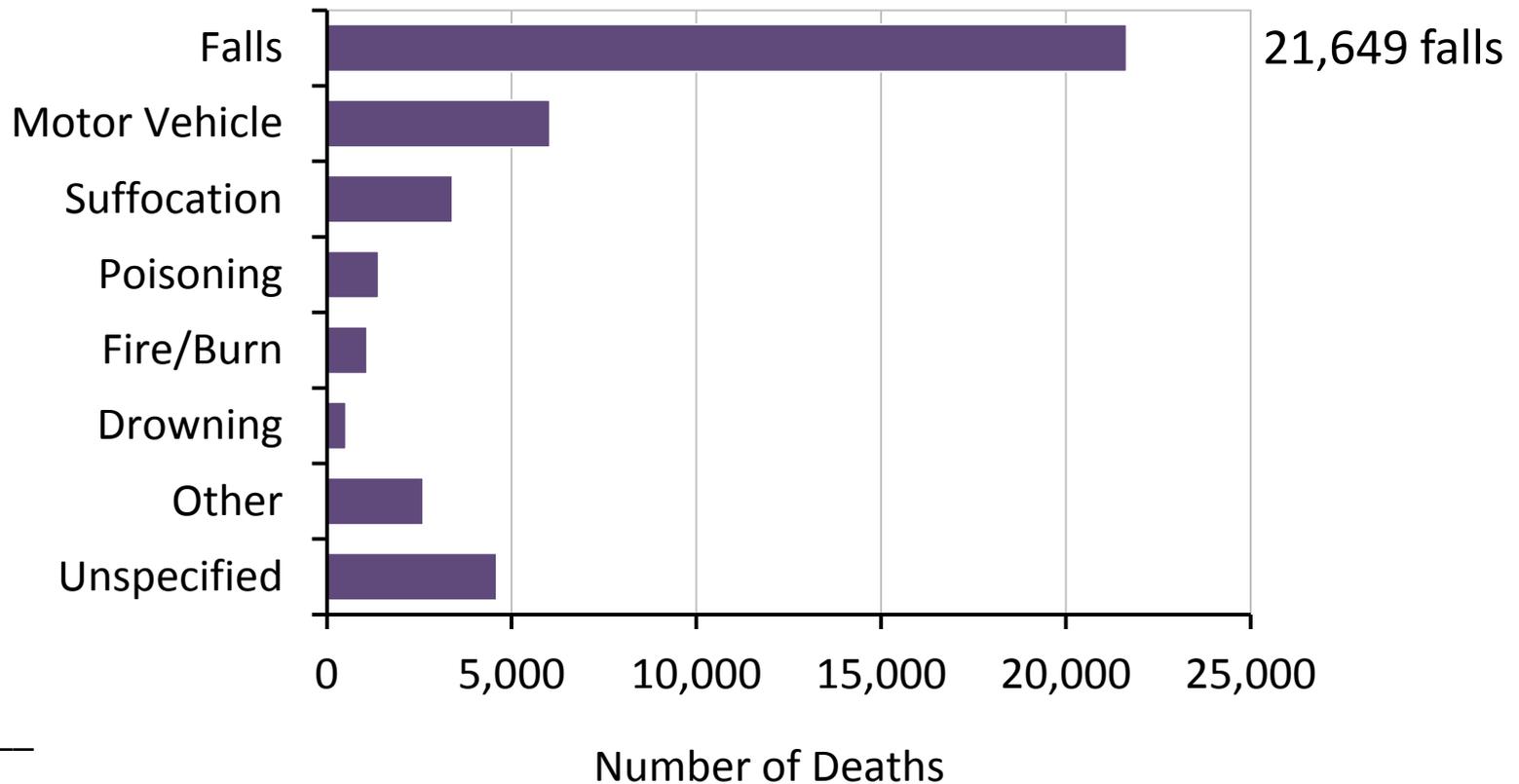
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1. Tromp, *J Clinical Epi*, 2001.
 2. Tinetti, *New Eng J Med*, 1988; Teno, *JAGS*, 1990
 3. Sterling, *J Trauma-Inj Infection & Critical Care*, 2001





Leading Causes of Death from Injuries Among People 65+, 2010

Total = 41,300 deaths



NCHS, Vital Records, 2010

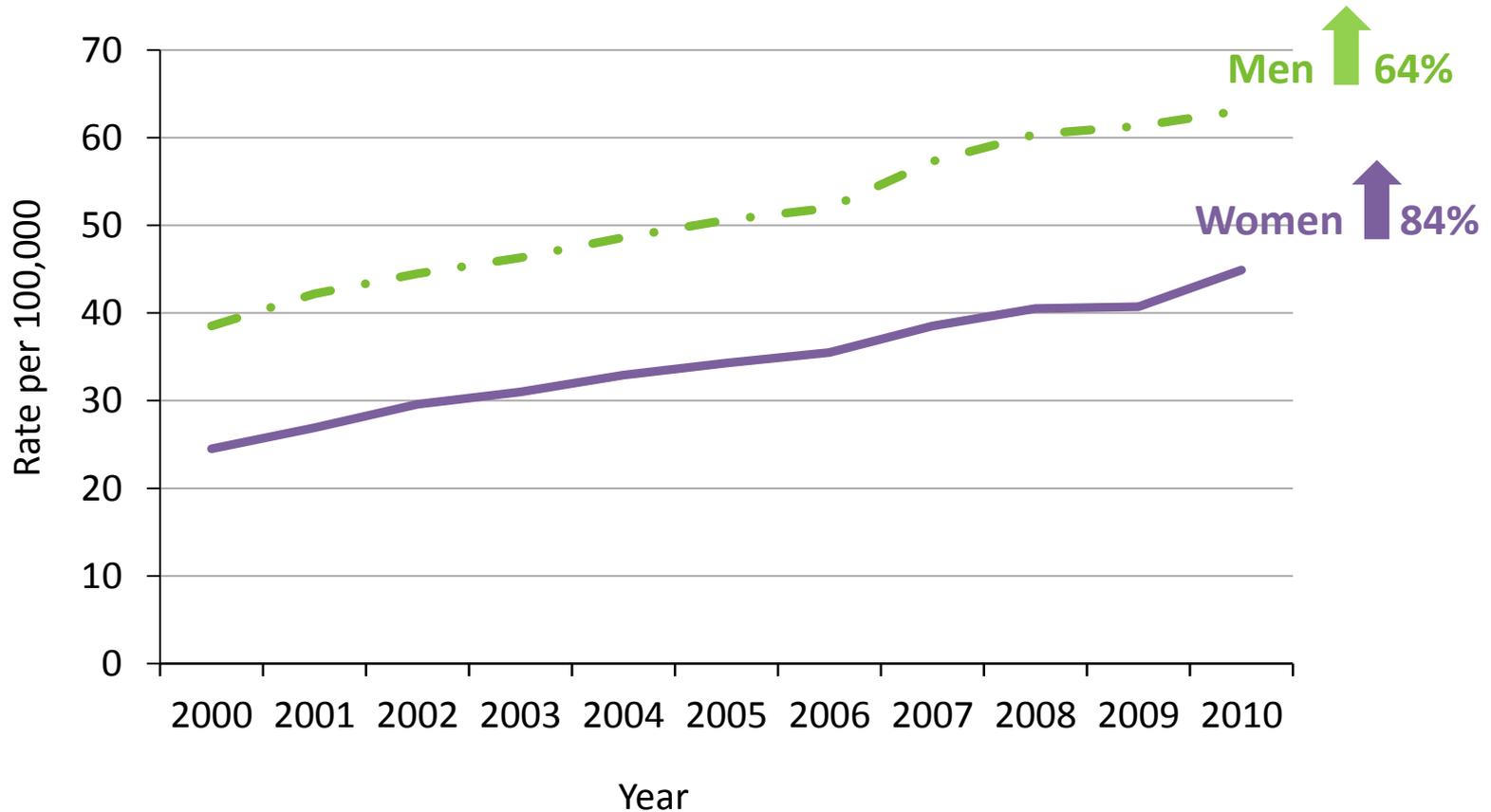


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Trends in Age-Adjusted Fall Death Rates, Men & Women 65+, 2000-2010



NCHS, Vital Records, 2000-2010

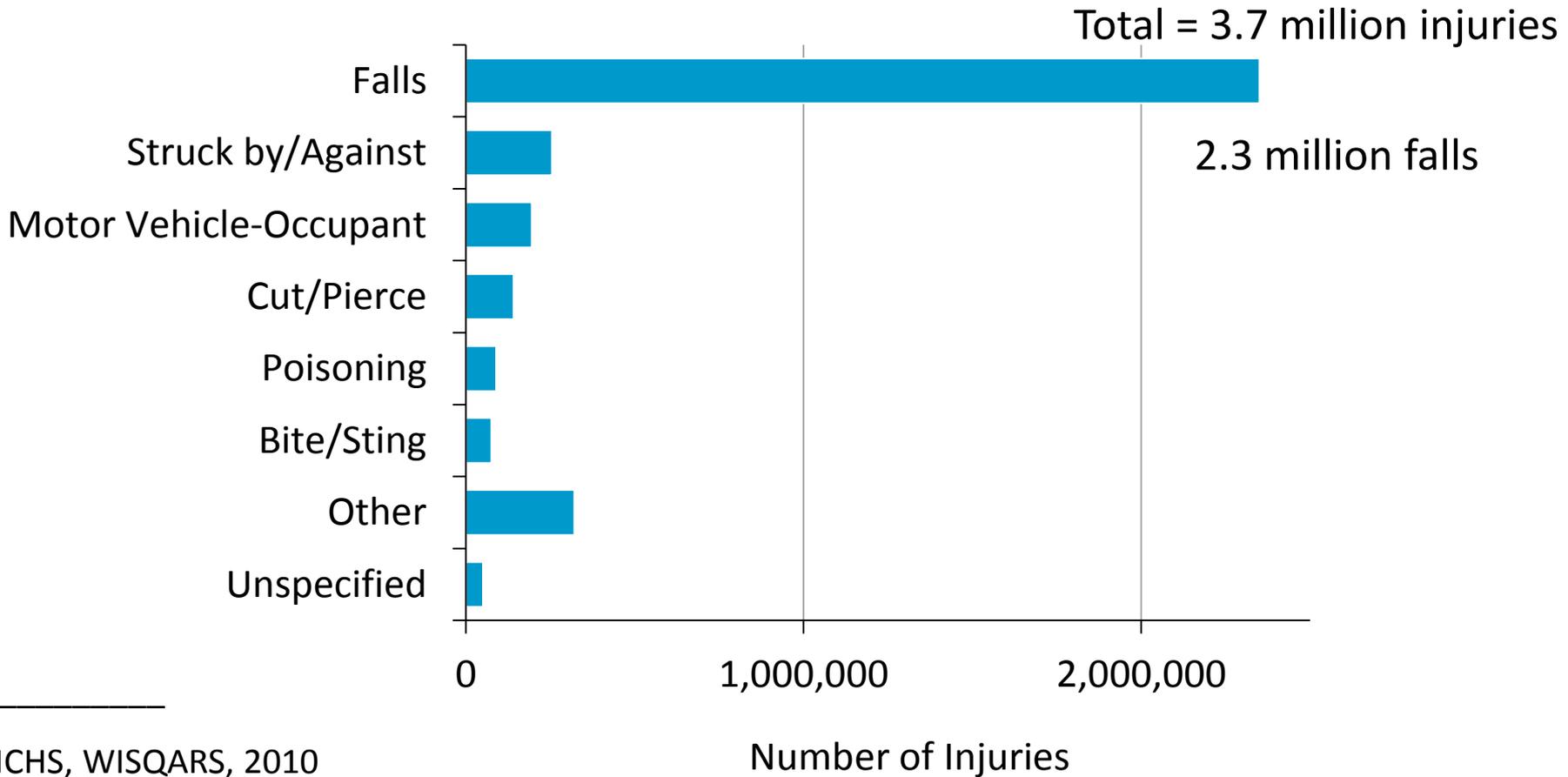


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Leading Causes of Nonfatal Injuries Among People 65+, 2010



NCHS, WISQARS, 2010

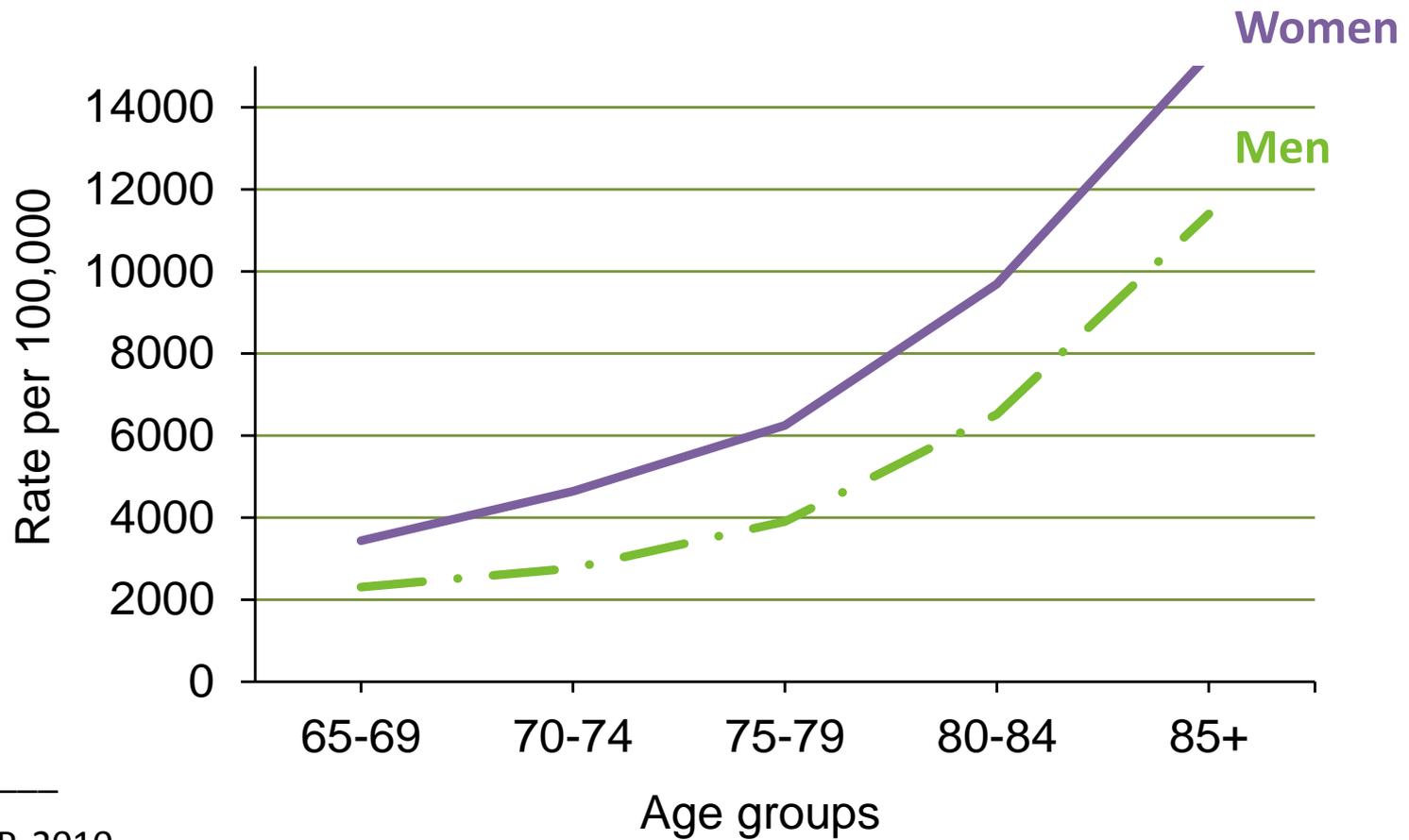


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Nonfatal Fall Injury Rates by Sex & Age, 2010



NEISS-AIP, 2010



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Economic Impact

Cost of fall injuries among people 65+

Adjusted for inflation = \$30 billion

- Fatal falls: \$0.3 billion
- Nonfatal injuries: \$29.9 billion

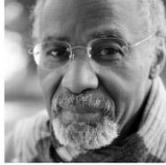


Stevens JA, *Inj Prev*, 2006



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Fall Risk Factors



- Biological
- Behavioral
- Environmental





Modifiable Risk Factors

Biological

- Leg weakness
- Mobility problems
- Problems w balance
- Poor vision

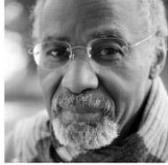
Behavioral

- Psychoactive meds
- 4+ medications
- Risky behaviors
- Inactivity

Environmental

- Clutter & tripping hazards
- No stair railings or grab bars
- Poor lighting





Evidence for Clinical Interventions

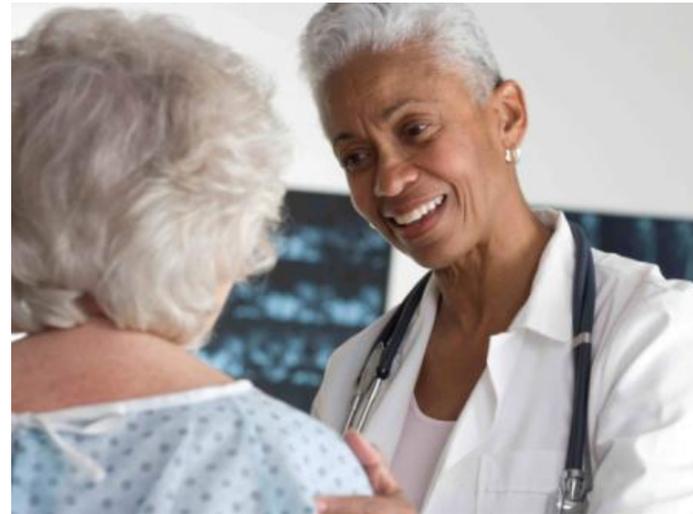
- Chang et al., British Medical Journal, 2004
- Gillespie et al., Cochrane Database of Systematic Reviews, 2012
- Moyer, U.S. Preventive Services Task Force, Annals of Internal Medicine, 2012





Clinical Approach

Clinical Assessment, Treatment, Referral & Follow Up

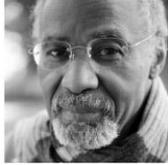


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Literature Review

- Did not identify falls & gait disorder or evaluate patients who reported falling¹
- Only 37% of older adults asked about falls²
- Only 8% of primary care physicians used any clinical guideline on fall prevention³
- Many physicians were interested in learning about fall risk assessment & risk reduction⁴

1. Rubenstein, *J Am Geriatr Soc*, 2004

2. Wenger, *Ann Intern Med*, 2003

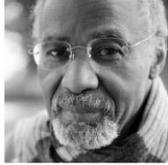
3. Jones, *Acc Anal & Prev*, 2011

4. Robinson, *J Am Geriatr Soc*, 2001



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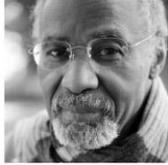
Initial Interviews

90 min interviews with 18 providers

Interview Results

- Recognized falls as a threat for their older patients
- Lacked information on standardized assessment methods & evidence-based prevention strategies
- More reactive than proactive in addressing falls





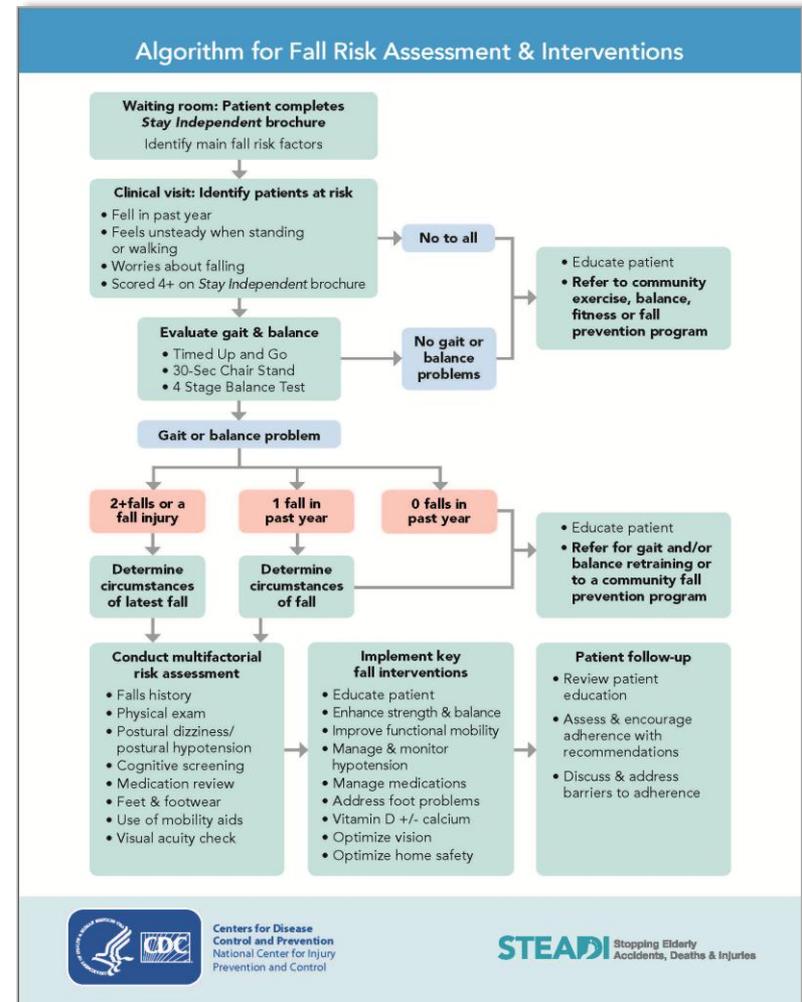
Interview Results (cont)

- Asked for materials that were direct, concise & easy to read
- Preferred checklists, one-pagers & on-line information





Flow Chart Algorithm



Adapted from AGS/BGS Clinical Practice Guidelines, 2010

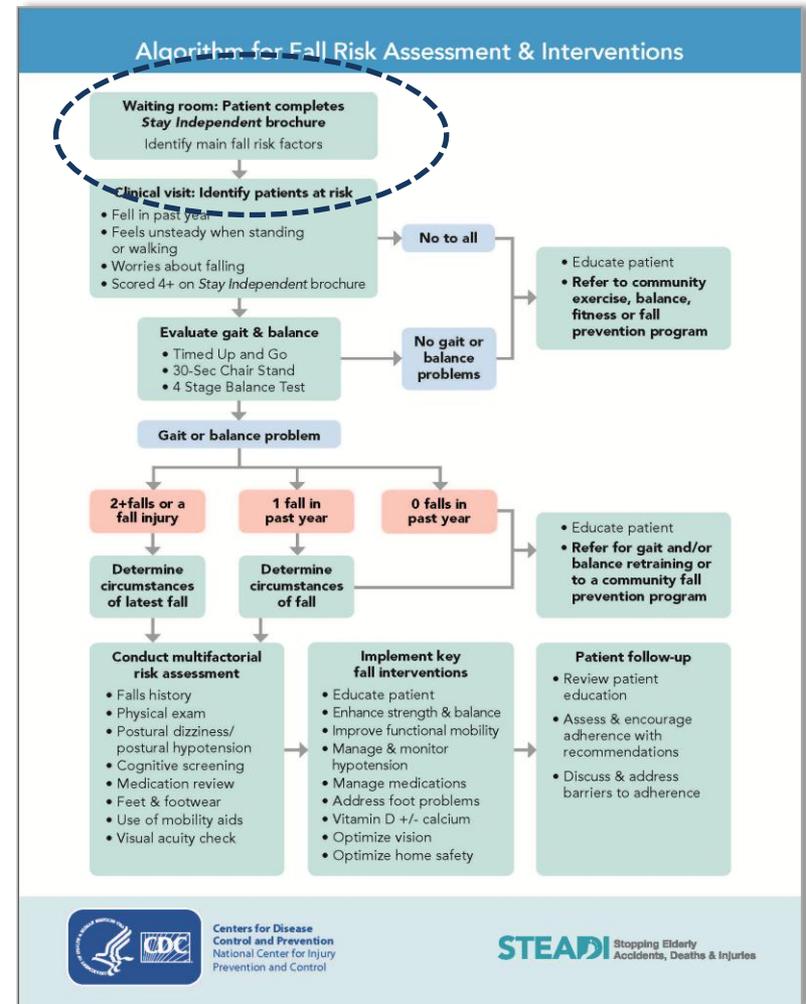


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Flow Chart Algorithm



Adapted from AGS/BGS Clinical Practice Guidelines, 2010



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 **STEADI** Stopping Elderly Accidents, Deaths & Injuries



Stay Independent

A validated self-risk assessment brochure

Check Your Risk for Falling

Please 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.	

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk self-assessment tool (Rubenstein et al. *J Safety Res*; 2011;42(6):493-499). Adapted with permission of the authors.

Your doctor may suggest:

- Having other medical tests
- Changing your medications
- Consulting a specialist
- Seeing a physical therapist
- Attending a fall prevention program



Stay Independent

Falls are the main reason why older people lose their independence.

Are you at risk?

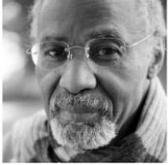


Rubenstein, *J Safety Res*, 2011



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Provider Resources



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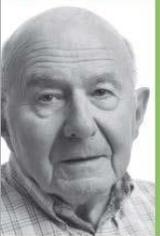
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Fact Sheets

FALLS

Falls are a Major Threat for Your Patients



- One-third of people 65 and older fall each year.
- Less than half of the Medicare beneficiaries who fell the previous year talked to their healthcare provider about the fall.
- Every 29 minutes an older adult dies from a fall.
- 1 out of 5 falls causes a serious injury such as a hip fracture.
- Over 2 million older adults are treated in emergency departments for nonfatal fall injuries each year.
- Direct medical costs for fall injuries total over \$10 billion annually. Hospital costs account for two-thirds of that.

The good news—as a provider, you can prevent many of these injuries!

For more information, go to: www.cdc.gov/Injury/STEADI

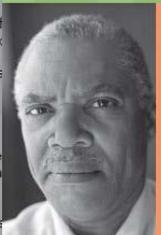


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FALLS

Medications Linked to Falls



Although many medication classes are linked to falls, the evidence is strongest for categories such as psychoactive medications, sedating anticholinergics, and medications with orthostatic hypotension. Medication management, including reviewing for drug interactions and side effects, can help reduce the risk.

Medication management means:

- Eliminating medications if there is no clear benefit.
- Reducing doses of necessary medications to the lowest effective dose.
- Avoiding prescribing medications for which the risk from side effects outweighs the benefit (e.g., muscle relaxants).

The MOST important interventions to prevent or eliminate:

- Psychoactive drugs, especially any benzodiazepines.
- Any medications that have anticholinergic effects.
- Sedating OTCs, specifically Tylenol with codeine and Benadryl.

There is a full searchable list of medications and medication classes linked to falls at www.cdc.gov/Injury/STEADI.

For more information about medications, go to: www.cdc.gov/Injury/STEADI



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FALLS

Risk Factors For Falls



Research has identified many risk factors that contribute to falling—some of these are modifiable.

Most falls are caused by the interaction of multiple risk factors. The more risk factors a person has, the greater their chances of falling. Health care providers can help reduce a person's risk by reducing or minimizing that individual's risk factors.

To prevent falls, providers should focus **FIRST** on these modifiable risk factors:

- Lower body weakness
- Difficulties with gait and balance
- Use of psychoactive medications
- Postural dizziness
- Poor vision
- Problems with feet and/or shoes
- Home hazards

Fall risk factors are categorized as intrinsic or extrinsic.

Intrinsic	Extrinsic
Advanced age	Lack of stair handrails
Previous falls	Poor stair design
Muscle weakness	Lack of bathroom grab bars
Gait & balance problems	Dim lighting or glare
Poor vision	Obstacles & tripping hazards
Postural hypotension	Slippery or uneven surfaces
Chronic conditions including arthritis, diabetes, stroke, Parkinson's, incontinence, dementia	Psychoactive medications
Fear of falling	Improper use of assistive device

For more information, go to: www.cdc.gov/Injury/STEADI



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Three Case Studies

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CASE STUDY 1



Mrs. Booker is a 66 year old woman who lives in her own home. She has come in today for a wellness visit.

History

When asked, Mrs. Booker reports she fell this morning and so didn't seek medical attention. She was with a friend, they were talking and she was going, and she tripped over a crack in the sidewalk.

Mrs. Booker reports that she usually walks in her neighborhood. She feels steady when walking out of doors. She tries to avoid potholes and cracks in the sidewalk so she won't trip. She walks daily. Walking is her only form of exercise.

Medical Problem List

- Seizure disorder
- Schizoaffective disorder
- Chronic kidney disease stage 3
- Hypothyroidism

Medications

1. Depakote 250 mg twice daily
2. Zyprexa 12.5 mg daily
3. Ativan 0.5 mg twice daily
4. Levothyroxine 750 mcg daily
5. Colace 250 mg daily
6. Tylenol 500 mg 4 times daily as needed for pain

Review of Systems

A 14-point review of systems is positive for urinary incontinence, and nocturia >2 times per night.



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CASE STUDY 2



Mr. Ying is an 84 year old Asian male who lives in a house that adjoins his son's house. Mr. Ying had a clinic visit by his son, who assists with his mobility. He was previously outgoing and sociable, but now is limiting his outside activities.

History Of Current Problem

Mr. Ying stated that for the past year he has had falls after sitting or lying down and that he often falls on furniture or walls shortly after standing. His falls happen several times per week.

Mr. Ying cannot identify any recent changes in his routine that would explain the falls. He has no pattern and he experiences dizziness at the time of the fall and evening. He denies experiencing syncope or any other accompanying his dizziness.

Mr. Ying also remarks that, independent of the falls, he feels unsteady on his feet when walking. He has seen his father "teetering." Mr. Ying required a cane but doesn't like to use it.

When asked about previous falls, he says he has had several. He says his elderly neighbor recently fell and he is fearful about falling and becoming a burden.

Although Mr. Ying has spinal stenosis, a recent MRI showed relieved severe low back pain. Now he suffers from stiffness for several hours in the morning. He also has weakness in his legs.



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CASE STUDY 3



Mrs. White is an outgoing 79 year old white woman who lives in an assisted living facility. She has come in with her son for a routine follow-up visit. Her son reports that she was seen in the hospital emergency room a week ago because she fell when she was getting out of the shower. She fell backwards and bumped the back of her head against the wall.

Her son remarks that in the past year his mother has had "too many falls to count". Mrs. White agrees that she falls a lot but she's fatalistic. "Old people fall, that's just how it is", she says.

Mrs. White has a history of hypertension, hyperlipidemia, diabetes, coronary artery disease, and congestive heart failure.

HISTORY

Mrs. White reports that she used to walk "just fine," but about two years ago she began falling for no apparent reason. Sometimes she'll trip on a carpet, other times she just loses her balance when she's walking or turning. Once she fell off a chair face first into a wall. Another time she rolled out of bed.

Mrs. White usually falls indoors and has fallen during the day and at night. Sometimes she falls at night when she gets up to void. She sleeps deeply but is restless, so for the past eight years has been taking Clonazepam to help her sleep.

For the past two years, she has been using a rollator walker. Before that she had a front-wheeled walker but couldn't get used to it. She used to go to the Silver Sneakers exercise classes at her local gym but stopped going about five years ago when she developed numbness in her feet and knee pain. She used to enjoy walking but reports that she hardly ever goes outside now because she's so afraid of falling and breaking her hip.



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Talking with Patients Based on Stages of Change

Talking about Fall Prevention with Your Patients



Many fall prevention strategies call for patients to change their behaviors by:

- Attending a fall prevention program
- Doing prescribed exercises at home
- Changing their home environment

We know that behavior change is difficult. Traditional advice and patient education often does not work.

The Stages of Change model is used to assess an individual's readiness to act on a new, healthier behavior. Research on the change process depicts patients as always being in one of the five "stages" of change.

Behavior change is seen as a dynamic process involving both cognition and behavior, that moves a patient from being uninterested, unaware or unwilling to make a change (precontemplation); to considering a change (contemplation); to deciding and preparing to make a change (preparation); to changing behavior in the short term (action); and to continuing the new behavior for at least 6 months (maintenance).

The Stages of Change model has been validated and applied to a variety of behaviors including:

- Exercise behavior
- Contraceptive use
- Smoking cessation
- Dietary behavior

Stages of Change model	
Stage of change	Patient cognition and behavior
Precontemplation	Does not think about change, is resigned or fatalistic Does not believe in or downplays personal susceptibility
Contemplation	Weighs benefits vs. costs of proposed behavior change
Preparation	Experiments with small changes
Action	Takes definitive action to change
Maintenance	Maintains new behavior over time

From: Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. *Am J Health Promot* 1997;12(1):38-48.



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When talking with a patient, applying the Stages of Change model can help you match your advice about fall prevention to your patient's stage of readiness.

The following sections give examples of patient-provider exchanges for each of the first four stages and offer possible responses to help move the patient from one stage to another. The maintenance stage is not included because older adults are most often in the early stages of behavior change for fall prevention.

Examples of Conversations about Fall Prevention

Precontemplation stage	Patient says:	Provider says:
<p>The patient doesn't view him or herself as being at risk of falling.</p> <p>Goal: The patient will begin thinking about change.</p> <p>To move the patient to the contemplation stage, provide information and explain the reasons for making changes.</p>	Falls just happen when you get old.	It's true that falling is very common. About a third of all seniors fall each year. But you don't have to fall. There are specific things you can do to reduce your chances of falling.
	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.
	I just slipped. That could have happened to anybody.	Taking steps to prevent yourself from falling sooner rather than later can help you stay independent.
	My 92 year old mother is the one I'm worried about, not myself.	Being careful is always a good idea but it's usually not enough to keep you from falling. There are many things that you can do to reduce your risk of falling.
I was an accident. It won't happen again because I'm being more careful.	Maybe you'd enjoy taking a balance class instead.	
I took a Tai Chi class but it was too hard to remember the forms.		





Gait & Balance Assessment Tools

Patient: _____ Date: _____

The 30-Second Chair Test

Purpose: To test leg strength and endurance.

Equipment:

- A chair with a straight back without armrests.
- A stopwatch.

Instructions to the patient:

1. Sit in the middle of the chair.
2. Place your hands on the opposite shoulders with your arms crossed at the wrists.
3. Keep your feet flat on the floor.
4. Keep your back straight and keep your arms against your chest.
5. On "Go," rise to a full standing position and then sit back down.
6. Repeat this for 30 seconds.

On "Go," begin timing.

If the patient must use his/her arms to hold on to the chair, Record "0" for the number and score.

Count the number of times the patient is in the standing position in 30 seconds.

If the patient is over halfway to a standing position when 30 seconds have elapsed, count it as a standing position.

Record the number of times the patient is in the standing position.

Number: _____ **Score:** _____

A below average score indicates a high risk of falling.

Notes: _____

For relevant articles, go to: www.cdc.gov/injury



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Patient: _____ Date: _____

The 4-Stage Balance Test

Purpose: To assess static balance.

Equipment: A stopwatch.

Directions: There are four progressively more difficult positions. Patients should not use an assistive device (walker) and keep their eyes open.

Describe and demonstrate each position. Stand behind the patient and hold his/her arm and help them assume the correct position.

When the patient is steady, let go, but remain close to the patient if he/she should lose their balance.

If the patient can hold a position for 10 seconds without the use of his/her feet or needing support, go on to the next position. If not, stop the test.

Instructions to the patient: I'm going to show you four positions. Try to stand in each position for 10 seconds. Use your arms out or move your body to help keep you steady. If you don't move your feet. Hold this position until I say "Stop."

For each stage, say "Ready, begin" and begin timing. After 10 seconds, say "Stop."

See back page for detailed patient instructions and illustrations of the four positions.

For relevant articles, go to: www.cdc.gov/injury



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Patient: _____ Date: _____ Time: _____ AM/PM

The Timed Up and Go (TUG) Test

Purpose: To assess mobility.

Equipment: A stopwatch.

Directions: Patients wear their regular footwear and can use a walking aid if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters or 10 feet away on the floor.

Instructions to the patient:

When I say "Go," I want you to:

1. Stand up from the chair
2. Walk to the line on the floor at your normal pace
3. Turn
4. Walk back to the chair at your normal pace
5. Sit down again

On the word "Go" begin timing.

Stop timing after patient has sat back down and record.

Time: _____ seconds

An older adult age <80 who takes >12 seconds or age 80+ who takes >15 seconds to complete the TUG is at high risk for falling.

Observe the patient's postural stability, gait, stride length, and sway.

Circle all that apply: Slow tentative pace ■ Loss of balance ■ Short strides ■ Little or no arm swing ■ Steady self on walls ■ Shuffling ■ En bloc turning ■ Not using assistive device properly

Notes: _____

For relevant articles, go to: www.cdc.gov/injury/STEADI



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Instructions for Measuring Orthostatic Blood Pressure

Patient: _____ Date: _____ Time: _____ AM/PM

Measuring Orthostatic Blood Pressure



1. Have the patient lie down for 5 minutes.
2. Measure blood pressure and pulse rate.
3. Have the patient stand.
4. Repeat blood pressure and pulse rate measurements after standing 1 and 3 minutes.

A drop in bp of ≥ 20 mm Hg, or in diastolic bp of ≥ 10 mm Hg, or experiencing lightheadedness or dizziness is considered abnormal.

Position		Time	BP	Associated Symptoms
Lying Down		5 Minutes	BP ____ / ____ HR _____	
Standing		1 Minutes	BP ____ / ____ HR _____	
Standing		3 Minutes	BP ____ / ____ HR _____	

For relevant articles, go to: www.cdc.gov/injury/STEADI



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Stopping Elderly Accidents, Deaths & Injuries





Fall Risk Checklist

Patient: _____ Date: _____ Time: _____ AM/PM

Fall Risk Factor Identified	Factor Present?	Notes
Falls History		
Any falls in past year?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Worries about falling or feels unsteady when standing or walking?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Medical Conditions		
Problems with heart rate and/or rhythm	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Cognitive impairment	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Incontinence	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Depression	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Foot problems	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other medical conditions (Specify)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Medications		
Any psychoactive medications, medications with anticholinergic side effects, and/or sedating OTCs? (e.g., Benadryl, Tylenol PM)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Gait, Balance & Strength		
Timed Up and Go (TUG) Test >14 seconds	<input type="checkbox"/> Yes <input type="checkbox"/> No	
4-Stage Balance Test Full tandem stance <10 seconds	<input type="checkbox"/> Yes <input type="checkbox"/> No	
30-Second Chair Stand Test Below average score (See table on back)	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Vision		
Acuity <20/40 OR no eye exam in >1 year	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Postural Hypotension		
A decrease in systolic BP \geq 20 mm Hg or a diastolic bp of \geq 10 mm Hg or lightheadedness or dizziness from lying to standing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other Risk Factors (Specify)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	



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Summary of patient's fall risk factors



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Referral Forms

Specialists

Fall Prevention Patient Referral Form

Healthcare Provider Organization
Street
City, State, Zip

Patient:	Referred to:
Sex: DOB:	
Address:	Address:
Phone:	Phone:
Email:	Email:
Diagnosis:	

Type of Referral

Type of specialist (See back of form):

Exercise or fall prevention program (See nurse for options):

Reason for Referral

Gait or mobility problems	Medication review & consultation
Balance difficulties	Inadequate or improper footwear
Lower body weakness	Foot abnormalities
Postural hypotension	Vision <20/40 in R L Both
Suspected neurological condition (e.g., Parkinson's disease, dementia)	Home safety evaluation
Other reason:	
Other relevant information:	
Referrer signature:	Date:

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Fall Prevention Programs

Recommended Fall Prevention Programs

Healthcare Provider Organization
Street
City, State, Zip

Programs	Location	Day & Time	Cost

Notes:

Research shows that to reduce falls, exercises MUST focus on improving balance and strength, be progressive (get more challenging over time) and be practiced for at least 50 hours. This means, for example, taking a 1-hour class 3 times a week for 4 months, or a 1-hour class 2 times a week for 6 months.

The National Institute on Aging has created an exercise guide for healthy older adults to use at home. You can order this free book by going to:
www.nia.nih.gov/HealthInformation/Publications/ExerciseGuide.

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Tri-fold Pocket Guide



Preventing Falls in Older Patients Pocket Guide

Key Facts about Falls:

- 1/3 of older adults (age 65 plus) fall each year.
- Many patients who have fallen do not talk about it.
- Falls cause >19,000 deaths & cost >\$22 billion.

RITUAL:

- Review self-assessment brochure
- Identify risk factors
- Test gait & balance
- Undertake multifactorial assessment
- Apply interventions
- Later, follow-up



Steps for Fall Prevention

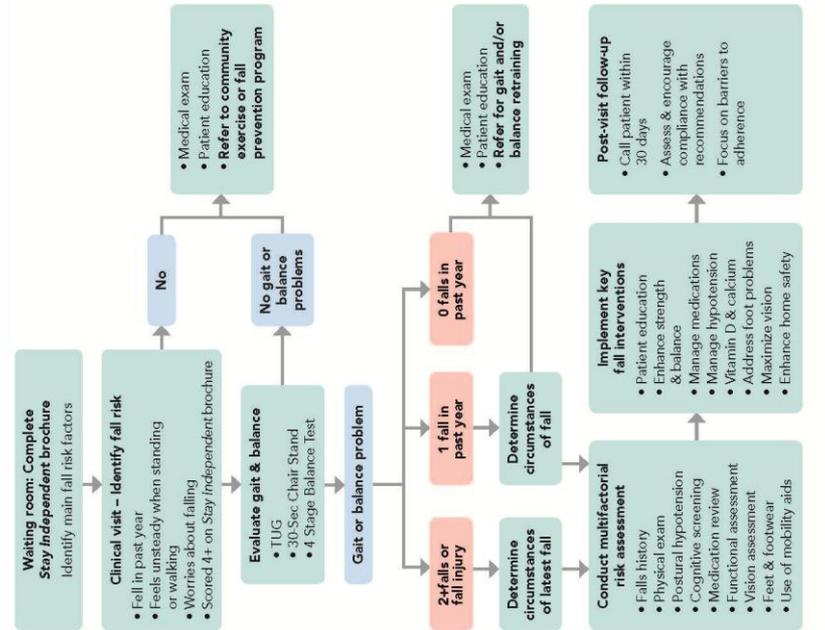
Proactive—ask all patients 65+ if they've fallen in the past year.
 Identify & address fall risk factors:
 • Lower body weakness
 • Gait and balance problems
 • Polypharmacy (proactive medications)
 • Postural dizziness
 • Hearing or vision problems
 • Problems with feet and/or shoes
 • Enhance home safety
 • Refer as needed to specialists or community resources.
 Follow-up with patient within 30 days.

Interventions

- Patient education
- Enhance strength & balance
- Manage medications
- Manage hypotension
- Supplement vitamin D & calcium
- Address foot problems

- Maximize vision
- Enhance home safety

Overview of Falls Risk Assessment & Interventions





Wall Chart

Tailor fall prevention to provider's setting

Integrating Fall Prevention into Practice

Working together, many types of healthcare providers can help identify and manage patients at risk of falling. You can help reduce falls by screening all older persons once a year for previous falls and/or balance problems. For those who screen positive, perform a fall risk assessment and help patients understand and act upon the findings using proven prevention strategies.

Assessments and/or Interventions	Identify who in your practice can do this	What it involves
Screen all older patients for falls		<ul style="list-style-type: none"> Have each patient complete the Stay Independent brochure—help if necessary.
Identify modifiable fall risk factors		<ul style="list-style-type: none"> Review Stay Independent brochure & take a falls history.
Assess gait, balance & lower body strength Address identified deficits		<ul style="list-style-type: none"> Administer one or more gait & balance tests: <ul style="list-style-type: none"> Timed Up & Go Test (Recommended) <ul style="list-style-type: none"> Observe & record patient's postural stability, gait, stride length & sway. 4-Stage Balance Test (Optional) 30-Second Chair Stand Test (Optional) As needed, refer to physical therapist or recommended community exercise or fall prevention program. <ul style="list-style-type: none"> PTs can assess gait & balance, provide one-on-one progressive balance & gait retraining & recommend & teach correct use of assistive devices.
Conduct focused physical exam Address modifiable and/or treatable risk factors		<p>In addition to a customary medical exam:</p> <ul style="list-style-type: none"> Assess muscle tone, look for increased tone, hypertension (cogwheeling). Screen for cognitive impairment & depression. Examine feet & evaluate footwear. Look for structural abnormalities, deficits in sensation & proprioception. If needed, refer to podiatrists or podiatrists. <ul style="list-style-type: none"> These specialists can identify & treat foot problems & can prescribe corrective footwear & orthotics.
Assess for & manage postural hypotension		<ul style="list-style-type: none"> Check supine & standing blood pressure using 1-page protocol on measuring orthostatic bp. Recommend medication changes to reduce hypotension. Monitor patient as he/she makes recommended changes. Provide patient with counseling & the brochure, Postural Hypotension, What It Is and How to Manage It.
Review & manage medications		<ul style="list-style-type: none"> Taper & stop psychoactive medications if there are no clear indications. Try to reduce doses of necessary psychoactive medications. Recommend changes to reduce psychoactive medications. Monitor patient as he/she makes recommended changes.
Increase vitamin D		<ul style="list-style-type: none"> Recommend at least 800 IU vitamin D supplement.
Assess visual acuity & optimize vision		<ul style="list-style-type: none"> Administer brief vision test. Refer to ophthalmologists or optometrists. <ul style="list-style-type: none"> These specialists can identify & treat medical conditions contributing to vision problems & address problems with visual acuity & contrast sensitivity.
Address home safety & how to reduce fall hazards		<ul style="list-style-type: none"> Counsel about reducing fall hazards. Give CDC brochure, Check for Safety. Refer to OT to assess safety & patient's ability to function in the home.
Educate about what causes falls & how to prevent them		<ul style="list-style-type: none"> Provide education about fall prevention strategies. Give CDC brochure, What YOU Can Do to Prevent Falls. Recommend exercise or community fall prevention programs.
Identify community exercise & fall prevention programs		<ul style="list-style-type: none"> Contact senior services providers & community organizations that provide exercise & fall prevention programs for seniors. Compile a resource list of available programs.

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Patient Educational Materials

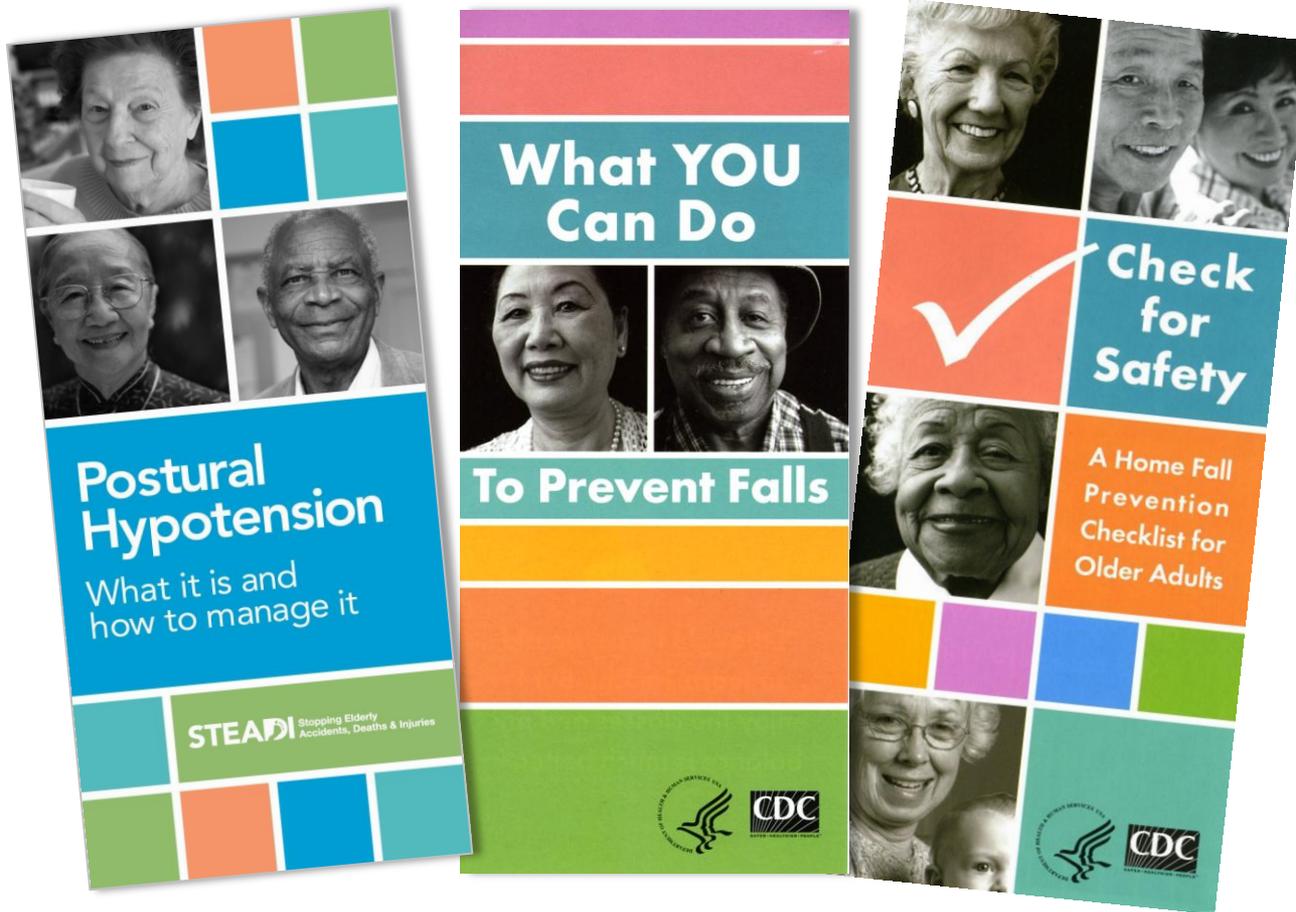


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Patient Brochures

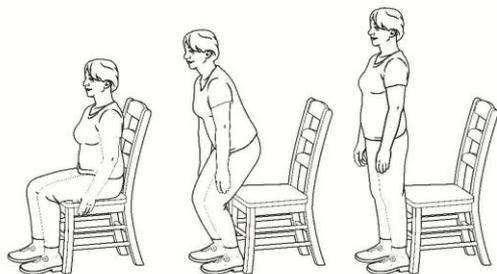


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Handout of simple leg strengthening exercise



Chair Rise Exercise

What it does: Strengthens the muscles in your thighs & buttocks.

Goal: To do this exercise without using your hands as you become stronger.

How to do it:

1. Sit toward the front of a sturdy chair with your knees bent & feet flat on the floor, shoulder-width apart.
2. Rest your hands lightly on the seat on either side of you, keeping your back & neck straight & chest slightly forward.
3. Breathe in slowly. Lean forward & feel your weight on the front of your feet.
4. Breathe out & slowly stand up, using your hands as little as possible.
5. Pause for a full breath in & out.
6. Breathe in as you slowly sit down. Do not let yourself collapse back down into the chair. Rather, control your lowering as much as possible.
7. Breathe out.

Repeat 10–15 times. If this number is too hard for you when you first start practicing this exercise, begin with fewer & work up to this number.

Rest for a minute & then do a final set of 10–15.



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Use **STEADI** to Link Clinical Practice with Community Programs





More Information

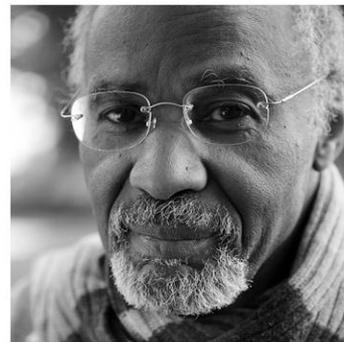
- All STEADI Tool Kit materials are available to view, download & print on the CDC STEADI website:

www.cdc.gov/injury/STEADI



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STEADI – Fall Prevention Clinician Engagement & Education Session

Richard J Schuster, MD, MMM, FACP
University of Georgia

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Falls are Common in Older Individuals

- 1/3 of Medicare patients fall each year;
 - How many tell their doctor?
 - How many are *afraid* to tell the doctor?



Hornbrook, 1994 and Hausdorff, 2001



Falls can be Prevented

Biological

- Leg weakness
- Mobility problems

- **Vitamin D Supplementation**
Age 65+: 800-1,000 units/day
Men & Women at Risk
- **Exercise**
- **Physical Therapy**

AGS/BGS, 2010



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Get Clinicians to Commit to Changing Their Practice

- Actively decide to change the approach to falls prevention
- Plan to adopt some or all of the STEADI Tool Kit
- Identify a group champion and have them recruit their partners



STEADI Tool Kit: A Few Key Things



Key Features for Fall Prevention in Clinical Practice

1. Simple screening annually age ≥ 65
2. Ask
 - A. 2 or more falls
 - B. 1 fall

} In 1 year

 - i. With injury
 - ii. Combined with gait or balance problems
3. Gait or balance problems
4. Present with acute fall
5. Simple Timed Up & Go (TUG) Screening Test
6. Patient Self-Risk Assessment

USPSTF, 2012



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Patient Self-Risk Assessment

Check Your Risk for Falling

Please 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.

This checklist was developed by the Greater Los Angeles VA Geriatric Research Education Clinical Center and affiliates and is a validated fall risk assessment tool (Rubenstein et al. J Safety Res; 2011;42(6)493-499). Adapted with permission of the authors.

Stay Independent

Falls are the main reason why older people lose their independence.

Are you at risk?



Yo
•
•
•
•
•



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Gait & Balance Assessment Tools

Key test for patients at risk

Patient: _____ Date: _____ Time: _____ AM/PM

The Timed Up and Go (TUG) Test

Purpose: To assess mobility

Equipment: A stopwatch

Directions: Patients wear their regular footwear and can use a walking aid if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters or 10 feet away on the floor.



Instructions to the patient:

When I say "Go," I want you to:

1. Stand up from the chair
2. Walk to the line on the floor at your normal pace
3. Turn
4. Walk back to the chair at your normal pace
5. Sit down again

On the word "Go" begin timing.

Stop timing after patient has sat back down and record.

Time: _____ seconds

An older adult who takes ≥ 12 seconds to complete the TUG is at high risk for falling.

Observe the patient's postural stability, gait, stride length, and sway.

Circle all that apply: Slow tentative pace Loss of balance
Short strides Little or no arm swing Steadying self on walls
Shuffling En bloc turning Not using assistive device properly

Notes:

For relevant articles, go to: www.cdc.gov/injury/STEADI



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Talking about Fall Prevention with Your Patients

Talking with patients using Stages of Change model



Talking about Fall Prevention with Your Patients

Many fall prevention strategies call for patients to change their behaviors by:

- Attending a fall prevention program
- Doing prescribed exercises at home
- Changing their home environment

We know that behavior change is difficult. Traditional advice and patient education often does not work.

The Stages of Change model is used to assess an individual's readiness to act on a new, healthier behavior. Research on the change process depicts patients as always being in one of the five "stages" of change.

Behavior change is seen as a dynamic process involving both cognition and behavior, that moves a patient from being uninterested, unaware, or unwilling to make a change (precontemplation); to considering a change (contemplation); to deciding and preparing to make a change (preparation); to changing behavior in the short term (action); and to continuing the new behavior for at least 6 months (maintenance).

The Stages of Change model has been validated and applied to a variety of behaviors including:

- Exercise behavior
- Contraceptive use
- Smoking cessation
- Dietary behavior

Stages of Change model	
Stage of change	Patient cognition and behavior
Precontemplation	Does not think about change, is resigned or fatalistic Does not believe in or downplays personal susceptibility
Contemplation	Weighs benefits vs. costs of proposed behavior change
Preparation	Experiments with small changes
Action	Takes definitive action to change
Maintenance	Maintains new behavior over time

From: Prochaska JO, Velicer WF. The transtheoretical model of health behavior change. *Am J Health Promot* 1997;12(1):38-48.



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Summary of patient's fall risk factors

Fall Risk Checklist

Patient: _____ Date: _____ Time: _____ AM/PM

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Depression	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Foot problems	<input type="checkbox"/> Yes <input type="checkbox"/> No	
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A decrease in systolic BP \geq 20 mm Hg or a diastolic bp of \geq 10 mm Hg or lightheadedness or dizziness from lying to standing?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Other Risk Factors (Specify)		
	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	<input type="checkbox"/> Yes <input type="checkbox"/> No	



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**Make a Systems Innovation in the
Clinical Practice**



Steps to STEADI Implementation

- Engage the staff
- Change practice regarding falls
- Measure clinical outcomes
 - At baseline before you start making changes
 - Periodically afterwards
 - 6 months
 - 12 months
 - 36 months
 - 48 months

Some groups are “natural” doing this, to others it’s foreign

It’s important to demonstrate a SUSTAINED effect





STEADI Implementation

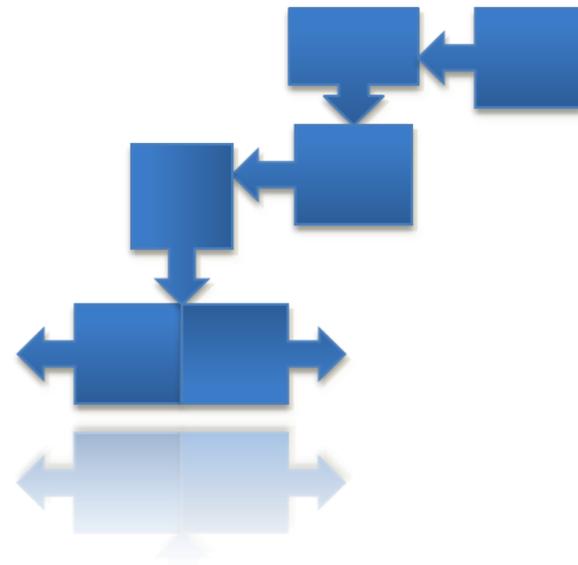
- Things to emphasize
 - Assess risk
 - Develop a Plan of Care for falls prevention
 - Provide referral to community programs to reduce falls
 - Exercise programs (tai chi)
 - Physical therapy programs





STEADI Implementation

- Make a **microsystem change** to the group practice to incorporate STEADI into the practice of medicine





Examples of How to Change a Practice

- Include fall risk assessment routinely in Medicare annual wellness visit
- Ask every older patient if they fell in the last 12 months
- Adapt electronic medical record (EMR) to record fall risk factors
- Self-Risk Assessment tool (“Stay Independent” brochure)
 - Put in waiting room
 - Provider hands out to each older patient
- Assign new roles for health care team members





What Systems Innovation Will YOU Adopt in Your Practice?

Encourage the group to commit to a systems innovation within a couple of weeks of the clinical session.





STEADI Implementation

- Clinician measures outcomes in older patients following falls risk assessment and treatment



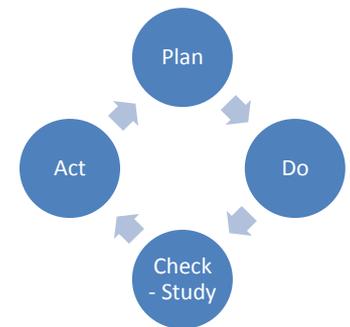


STEADI Implementation

Features of the systems innovation (measure, re-measure, and new innovation) are key to the Quality Improvement Process^{1,2}, often called the:

- **Plan, Do, Check, Act (PDCA)**
- **Plan, Do, Study, Act (PDSA)**

} **Cycle**



-
1. Crossing the Quality Chasm
 2. Nash

**Consider engaging the whole group
in this process**



STEADI Implementation

- Champion conducts Clinician Engagement and Education Session (CEES)
 - Engage clinicians
 - Educate clinicians
 - Introduce STEADI Tool Kit
 - Change practice regarding falls
 - Measure clinical outcomes
 - Follow-up periodically

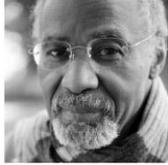




STEADI Implementation

- Champion conducts Clinician Engagement and Education Session (CEES)
 - Educate clinicians
 - Prevalence, morbidity & mortality of falls
 - In office approaches to identify falls risk
 - Financial advantages to practice in implementing this program
 - Developing a Plan of Care in falls prevention
 - Referral to community programs to reduce falls





STEADI Implementation

- Champion helps the group to identify microsystem changes they can make in order to incorporate STEADI into their practice



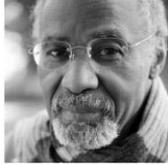


STEADI Implementation

- Group measures outcomes in older patients following fall risk assessment & treatment



Measurement



Use the EMR to Measure Outcomes

- Can you identify patients to assess?
- Are you doing a falls risk assessment?
- Are you reviewing medical causes of falls – such as psychoactive medication use?
- Are you prescribing Vitamin D?
- Are you referring your patients to community services?





Centers for Medicare & Medicaid Services Physician Quality Reporting System (PQRS)

- **Falls: Risk Assessment (CPT 2 Code 3288F) [PQRS #154]**

- Falls occurring?

- No or 1 fall without injury: (Code 1101F)
- Yes*: 2 or more / 1 fall with injury (Code 1100F)

* If Yes, you need to document that you have done a Falls Risk Assessment.

- Work with your group and EMR vendor on details of that documentation
- The CME – PQRS program may have specific expectations for this documentation; they may vary by region / CMS intermediary





- **Falls: Plan of Care *** (CPT 2 Code 0518F) [PQRS #155]

- Referral

- PT / OT
- Medical specialist
- Community physical activity program
- Home safety evaluation

- Evaluate need for assistive device

* You need to document that you have done a Falls Risk Assessment.

- Work with your group and EMR vendor on details of that documentation
- The CME – PQRS program may have specific expectations for this documentation; they may vary by region / CMS intermediary

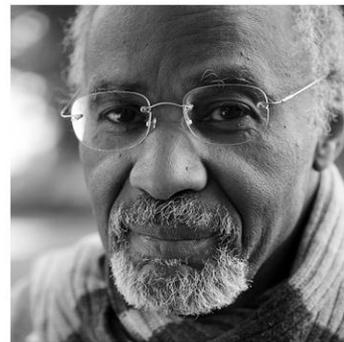


Advantages of incorporating falls prevention into a practice



- **Financial**
 - Meaningful Use
 - PQRS – Medicare
 - CMS Annual Wellness Visit
 - Advantage to ACO's and other insurers
- **Clinical**
 - Improved efficiency of care
 - Improved outcomes
- **Professional**
 - CDC CME Program being developed
 - Potential use for Board Recertification (ABIM / ABFM)
 - Demonstrate Leadership in a Community Wide Effort





STEADI – Fall Prevention Clinician Engagement & Education Session

Richard J Schuster, MD, MMM, FACP
University of Georgia

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Questions?

- **Moderator:** Cameron McNamee, MPP
- **Presenter:** Judy A. Stevens, PhD
- **Presenter:** Richard J. Schuster, MD, MMM, FACP

