Falls
Prevention Summit
April 30, 2015

#FallsSummit
Why Are We Here? An Overview of Falls among Older Adults

Dorothy Baker, Ph.D., RN, Research Scientist
Internal Medicine, Geriatrics
Director, CT Collaboration for Fall Prevention
Yale University School of Medicine
New Haven, CT
Objectives

Attendees will be expected to:

1. Describe the magnitude of falls and fall related injury among older adults in the US

2. Explain the human and financial costs of falls

3. Envision practical strategies for reducing falls via intervention at the individual, community and legislative levels
Definition

Fall:

Sudden unintentional change in position causing one to land on a lower level

Not included: “near falls,” incidents due to an overwhelming external force, or loss of consciousness.
How big is the problem?

Each year, among those over 65 years of age in:

**Community:**
- 30-40% fall
- 50% of those aged 80+ years
- 50% of fallers will fall 2+ times/year

**Acute care hospitals:**
- 700,000-1 million, tend to be injurious/fatal

**Nursing homes:**
- A 100 bed home typically has 100-200 falls/year
  - Range: 10-20% of patients per quarter

**Home Care:**
- 14% of patients fall in first month after hosp. discharged
- 20% of those who are most ill, & referred to home care
What are the human consequences?

- Fear/Loss of confidence
- Functional decline
- Injury—soft tissue, bone fractures & traumatic brain injury
- Permanent disability especially after hip fx and TBI
- Nursing home placement: 1 fall increases risk X 3
  1 injurious fall increases risk X 10
- Leading cause of fatal injury: ~25,500 in 2013, and rising
- Complications if unable to get up unassisted
  dehydration, skin breakdown, rhabdomyolysis, hypothermia
Fall Prevention Research

✓ 1980’s Falls are a major public health problem
✓ The characteristics of fallers
✓ The human & financial consequences
✓ 1994 Many falls can be prevented
✓ 1996 The most effective methods of prevention
✓ Fall prevention saves money
✓ 2007 Evidence can be moved into practice
   State funding and legislation to support fall prevention
✓ 2014 NIA/PCORI Randomized Controlled Trial: “STRIDE”
### Yale Frailty and Injuries: Cooperative Studies of Intervention Techniques (FICSIT): Results

<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Usual Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>People who fell</td>
<td>35 %</td>
<td>47 %*</td>
</tr>
<tr>
<td>Number of falls</td>
<td>94</td>
<td>164</td>
</tr>
<tr>
<td>n</td>
<td>147</td>
<td>144</td>
</tr>
</tbody>
</table>

Adjusted** Risk Reduction .69; (95% C.I. .52-.90) p=<.05

**adjusted for age, gender, previous falls and number of risk factors

Tinetti, Baker, McAcay et al., 1994 NEJM 331(13)
<table>
<thead>
<tr>
<th></th>
<th>Intervention</th>
<th>Usual Care</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital</td>
<td>$5,430</td>
<td>$7,802</td>
</tr>
<tr>
<td>Nursing Home</td>
<td>212</td>
<td>752</td>
</tr>
<tr>
<td>Outpatient</td>
<td>1,578</td>
<td>1,603</td>
</tr>
<tr>
<td>Home Care</td>
<td>183</td>
<td>282</td>
</tr>
<tr>
<td>Intervention</td>
<td>907</td>
<td>0</td>
</tr>
<tr>
<td>Mean Total Costs</td>
<td>8,310</td>
<td>10,439</td>
</tr>
<tr>
<td>Mean Total Cost</td>
<td>10,500</td>
<td>14,200</td>
</tr>
<tr>
<td></td>
<td>(4+ risks)</td>
<td></td>
</tr>
</tbody>
</table>

Rizzo, Baker, McAvay, Tinetti. 1996. *Med Care* 34;9,954-69
What are the financial consequences?

CDC 2013 estimate:

**Direct medical costs of falls: $34 billion**

Includes hospital and nursing home care, doctors and other professional services, rehabilitation, community-based services, use of medical equipment, prescription drugs, changes made to the home, and insurance processing.
A Longitudinal Analysis of Total 3-Year Healthcare Costs* for Older Adults Who Experience a Fall Requiring Medical Care

Annual costs attributable to falling:
$35,144 if admitted faller
$ 3,408 if nonadmitted

In the quarter immediately after the fall, admitted faller costs were 15.5 times as great as those of nonfallers. (P<.001).

In all periods after the index date, admitted and nonadmitted faller costs were significantly greater than nonfaller costs. (P<.001).

*primary & specialty care office visits (incl. mental health), inpatient hospitalizations, ambulatory surgery, outpatient medications & supplies, long-term care consults, radiology & laboratory tests, home health services, emergency care, and skilled nursing.
CCFP control and intervention areas

- Control area
- Intervention area
- Non-study area
Results:

• Fall-related ED and hospital admissions:
  – 11% lower in the intervention area

• Serious fall injury* ED and hospital admissions:
  – 9% lower in the intervention area

• In 2 years, 1,800 fewer fall-related injury admissions
  – 2007 US average for a fall-related injury adm: $12,000

• Saved $21 million in acute care costs alone.**

* Hip & other fractures, head injuries & joint dislocations

** In CT, over half (53%) of patients hospitalized for falls discharged to a skilled nursing facility

Results (continued):
- The observed annual rates of FR-TBI hospital admissions per 100,000 age eligible person in Intervention vs Usual care area.

State Financial Consequences

**First responders/Emergency Care/ ED overcrowding:**
10-15% of ED trips by those 65+ are fall-related
~5% 9-1-1 calls are for “lift assist”
If not transported, over half call 9-1-1 again within 30 days est. cost municipality >$900 each

**Hospital costs:**
October 2008 Medicare non-payment of some fall injury in acute care.
Falls account 42% of reportable serious adverse events in CT hospitals = uncompensated care=state funds.

**Legal costs from falls:**
Fall injuries = 8 of top 10 litigations against nursing homes
Leading reason for ambulance calls to Senior Centers.

**Legal + Long Term Care Implications:**
Only 50% hip fracture patients regain previous function.
Unscheduled hip repair most likely to need “redo”.
Team up with Brain Injury Association of America.
Inouye, Studenski, Tinetti & Kuchel, JAGS 2007; 55:780-791
Percent falling by number of factors

![Bar graph showing the percentage of falling based on the number of risk factors.](image)

- 0 factors: 8% falling (51 subjects)
- 1 factor: 19% falling (106 subjects)
- 2 factors: 32% falling (94 subjects)
- 3 factors: 60% falling (58 subjects)
- 4+ factors: 78% falling (23 subjects)

Tinetti et al, NEJM 1988; 319:1701
behavioral change:

“Have you ever thought you might be at risk of falling?”

Precontemplation: “No”

Contemplation: “..hope that doesn’t happen to me”

Action: “..yes, I am worried; what can I do?”

Maintenance: first 6 months=greatest chance of relapse

J. Prochaska “Changing for Good”
Levels of Prevention (Program Evolution)

- **Primary**:
  - Reduce risks to prevent the first fall
    - Education
    - Early intervention

- **Secondary**:
  - Decrease serious consequences
    - Strong bones & muscles
    - How to get up
    - How to get help

- **Tertiary**:
  - Rehabilitation include fall prevention

AGS/BGS guidelines: education necessary but insufficient to reduce fall rate
Multifactorial Etiology

Fall risk factors

- Sedentary or immobilized → deconditioned → deficits balance, gait and transfers
- Polypharmacy = 4+ scripts on regular basis
- Postural hypotension
- Sensory deficits: vision, hearing, feet, cognitive
- Environmental factors → hazards including inappropriate footwear, unsafe fit, use or repair of assistive device
Risk Factors & Interventions

4 drugs cause 2/3 of emergency med-related hospitalizations of older adults:

- Coumadin 33%
- Aspirin and other antiplatelet meds 14%
- Insulin 13%
- Oral hypoglycemics 11%

Budnitz et.al, NEJM 2011;DOI: 10.1056/NEJMsa1103053
Rest supine 5 minutes. Check BP and 10 second pulse

Stand

Recheck immediately and 2 minutes later. Positive if systole drops 20 mm Hg between supine and either standing read, or drops below 90
Tai Ji Quan: Moving for Better Balance

Slow, relaxed, movements which challenge balance, practice weight shifting & require mental concentration

Can be done progressing from sitting to standing.

Novel: Well received by many older adults.

Effective in reducing falls even among older adults with Parkinson’s.

Li et al. 2012 NEJM 366;6
How to get up from a fall

1. Prepare
   - Getting up quickly or the wrong way could make an injury worse. If you are hurt, call for help using a medical alert service or a telephone.
   - Look around for a sturdy piece of furniture, or the bottom of a staircase. Don’t try and stand up on your own.
   - Roll over onto your side by turning your head in the direction you are trying to roll, then move your shoulders, arm, hips, and finally your leg over.

2. Rise
   - Push your upper body up. Lift your head and pause for a few moments to steady yourself.
   - Slowly get up on your hands and knees and crawl to a sturdy chair.
   - Place your hands on the seat of the chair and slide one foot forward so it is flat on the floor.

3. Sit
   - Keep the other leg bent with the knee on the floor.
   - From this kneeling position, slowly rise and turn your body to sit in the chair.
   - Sit for a few minutes before you try to do anything else.
   - Talk to your primary care provider about having a fall-risk evaluation. The fact that you have fallen once means you have a high risk of falling again.

Philips Lifeline. Sharing your concern for falls safety.

Source: Baker, Dorothy, Ph.D., RNCS, Research Scientist, Yale University School of Medicine New Haven, Connecticut; Connecticut Collaboration for Fall Prevention.
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How We Got Here?

A Celebration of Growth and Accomplishment

(Bonita) Lynn Beattie, MPT, MHA, PT
Consultant
National Council on Aging
The Wisdom of Pogo

“Having lost sight of the objectives, we have re-doubled our efforts”
Falls Free® Initiative

• National Action Plan
• National Falls Free® Coalition
• State Coalitions on Fall Prevention Workgroup
• National Advocacy Workgroup

Premise: Collaboration is key to affecting change

Falls Free® supported by
The Archstone Foundation 2004-2012
Home Safety Council 2004-2008
CDC National Center for Injury Prevention & Control 2007-2011
US Administration on Aging 2007-2008; 2014-current
Humana, Inc. 2011
Falls Free® Initiative

Local, state and national collaboration that brings:

- Broad awareness to the issue – falls are not an inevitable part of aging
- Training and education to providers
- Evidence-based programs, services and resources to older adults targeting prevention through risk reduction – must be accessible to those at most risk
Falls Free® Initiative

**2004**
- National Environmental Scan Conducted
- Literature Review Published
- **National Summit** hosted with 58 leading experts, national organizations, professional associations, and federal agencies represented
- Recognized by the 2005 White House Conference on Aging

**2005**
- **Released National Action Plan**
- Organized Falls Free® Coalition & Created Falls Free® E-News
- Convened Advocacy Work Group
- Increasing Conference Presentations, online training and practice improvement modules within Prof Orgs: APTA, AOTA, ABIM
- AGS/BGS invites select Summit attendees to assist in the Revision of Clinical Guidelines
- V15.88 History of Fall CMS approved

© 2015 National Council on Aging
Falls Free® Initiative

**2006**
- S. Bill 1531
- H. Bill 5608
- S. 845
- State Coalitions join Falls Free® NCOA begins technical assistance to build effective coalitions
- CDC/NCIPC identifies Fall Prevention as a priority
- CDC MMWR calling attention to growing issue
- Maine successfully introduces legislation

**2007**
- National Action Plan Progress Report
- Creative/Best Practice Study in Home Safety
- Workgroups:
  - Home Safety
  - State Coalitions
  - Advocacy
- Legislation reintroduced
- NCIPC – AoA Inter agency agreement facilitating Falls Free Initiative
- WHO invites NCOA to share Falls Free © at International Fall Prevention Meeting
Falls Free® Initiative

2008

- **National Advisory Group** convened to guide future activities – published report; recommendations adopted as guidelines

- **Safety of Seniors Act of 2007**: passed and signed into law April 23, 2008
  - Public Education/Awareness
  - Provider Education Programs
  - Demonstration Projects & Evaluation
  - Cost Effectiveness Evaluation

- Online Resource Tool released

• Build new partnerships and relationships to advance the Falls Free® Initiative

• Develop effective messages to build awareness in a variety of stakeholder groups

• Create compelling business cases for investing in fall prevention

• Enhance data collection and evaluation efforts already underway

• Obtain substantial new funding to take this work to a national scale
# Falls Free® Initiative

## 2009
- Advocate for PL 110-202 appropriations in the economic stimulus package – **increased CDC funding by $1 Million**
- Conduct review of State policy and evaluation needs
- Build National Public Awareness: 1<sup>st</sup> Annual US Senate Proclamation of Fall Prevention Awareness Day 2009: 22 states participated.
- Continue to provide TA to state coalition building efforts 24 states now active

## 2010
- 2nd Annual US Senate Proclamation of Fall Prevention Awareness Day: 34 states participate
- States survey conducted to estimate reach and gather resources and strategies for posting
- Web page built to host state tools & resources [www.ncoa.org/fpad](http://www.ncoa.org/fpad)
- 32 states now active in fall prevention
- With PHI developed **Direct Care Worker (DCW)** education program

Designed and adopted Falls Free® Logo, with copyright.
## Falls Free® Initiative

<table>
<thead>
<tr>
<th><strong>2011</strong></th>
<th><strong>2012</strong></th>
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<tbody>
<tr>
<td>• 40 states active in fall prevention- interactive map developed: <a href="http://www.ncoa.org/fallsmap">www.ncoa.org/fallsmap</a></td>
<td>• In collaboration with Humana, Inc., worked to bring greater awareness of falls risks and promoted practice change to their provider network.</td>
</tr>
<tr>
<td>• 3rd Annual US Senate Proclamation of Fall Prevention Awareness Day: 43 states &amp; DC participated</td>
<td>• Beta tested Evaluation Guidelines</td>
</tr>
<tr>
<td>• Through advocacy maintain CDC funding. Advocate for Public Health and Prevention Funds</td>
<td>• Conducted a national photo contest to capture positive images of falls prevention programs.</td>
</tr>
<tr>
<td>• Evaluation Committee builds Impact Evaluation Guidelines and Nationally recognized Logic Model</td>
<td>• Began work on revising CDC Implementation Guide</td>
</tr>
<tr>
<td>• NCOA develops States Policy Toolkit</td>
<td>• 43 states &amp; DC hosted 2012 Fall Prevention Awareness Day activities</td>
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## Falls Free® Initiative

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<thead>
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<th><strong>2013</strong></th>
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<tbody>
<tr>
<td>• A photo contest sought photos and stories of success</td>
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<tr>
<td>• 47 states &amp; DC hosted Fall Prevention Awareness Day <em>Preventing Falls—One Step at a Time</em></td>
</tr>
<tr>
<td>• Through advocacy Public Health and Prevention Fund included targeted fall prevention funding, DHS appropriated</td>
</tr>
<tr>
<td>• CDC/APTA Advisory Group develops to promote fall prevention in practice</td>
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<tr>
<td>• NCAHEC modified DCW program for online training</td>
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<table>
<thead>
<tr>
<th><strong>2014</strong></th>
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<tr>
<td>• 48 States &amp; DC hosted Fall Prevention Awareness Day <em>Strong Today, Falls Free® Tomorrow,</em></td>
</tr>
<tr>
<td>• Public Health and Prevention Funding awarded to US Administration on Community Living/US Administration on Aging to fund ten states and four tribal grants to further dissemination of evidence-based fall prevention programs.</td>
</tr>
<tr>
<td>• Take Control of Your Health: 6 Steps to Prevent a Fall – translated to Spanish and Portuguese</td>
</tr>
</tbody>
</table>
State Coalitions on Fall Prevention Workgroup

State Coalitions on Fall Prevention: A Compendium of Initiatives (August 2011)
http://www.healthyagingprograms.org/content.asp?sectionid=98&ElementID=746

Interactive Map
http://www.ncoa.org/fallsmap
Falls Free® Initiative

2015

- US Administration on Community Living/US Administration on Aging opens competition for states and tribal grants to further dissemination of evidence-based fall prevention programs.

- 2015 Journal of Safety Research: A cost–benefit analysis of three older adult fall prevention interventions

- NCOA hosts 2nd national summit

- Frontiers in Public Health issue to Evidence-based programming for older adults
Promote education and awareness

8th Annual US Senate Proclamation: Fall Prevention Awareness Day
September 23, 2015

Take a Stand to Prevent Falls
OLDER ADULT FALLS PREVENTION: Vision and Progress

CDC Perspective

Grant Baldwin, PhD, MPH
Director, Division of Unintentional Injury Prevention

April 30, 2015
Falls: A Public Health Concern

- The leading cause of injury deaths among older adults.
- 25,000 older adults die each year from a fall – 1 every 20 minutes.
- Every 13 seconds, an older adult is treated in an ED for a fall.
- $34 billion is spent on direct medical costs related to falls.
- Among people who fall, less than half talk to their healthcare provider about it.
Modifiable Risk Factors

**Biological**
- Leg weakness
- Mobility problems
- Problems with balance
- Poor vision

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

**Behavioral**
- Psychoactive meds
- 4+ medications
- Risky behaviors
- Inactivity
CDC’s Strategies to Address Older Adult Falls
CDC Strategic Directions

Improve health security at home and around the world

Better prevent the leading causes of illness, injury, disability, and death

Strengthen public health & health care collaboration
About **25,000 older adults** die each year from a fall. That’s one person **every 20 minutes.**

Direct medical costs for falls amount to about **$34 billion each year.**

Using **3 steps** in CDC’s STEADI initiative can help you protect your patients age **65 and older** from falls — **SAVING LIVES AND COSTS.**

1. **ASK**
   - Your patients if they have fallen in the last year, feel unsteady, or worry about falling.

2. **REVIEW**
   - Your patient’s medications & stop, switch, or reduce the dose of prescriptions that increase the risk for falls.

3. **RECOMMEND**
   - Vitamin D supplements for your patients of at least 800 IU/day with calcium.

**CDC’s STEADI** initiative can help your older patients stay **healthy, active, and independent** longer.
Are You Asking Older Adult Patients the Right Questions?

- Have you fallen in the past year?
- Do you feel unsteady when walking?
- Do you worry about falling?

FREE Video
Two Important Clinical Interventions

Vitamin D

Medication Review
Upcoming CDC Releases

Online continuing education courses
to incorporate **STEADI** in clinical practice

Clinical decision support modules
for **Electronic Health Records**
A CDC Compendium of Effective Fall Interventions:
What Works for Community-Dwelling Older Adults
PREVENTING FALLS:
A Guide to Implementing Effective Community-Based Fall Prevention Programs
Older Adult Mobility

CDC is working to:

- Advance the understanding of mobility transitions for older adults (e.g., between driving and non-driving).
- Identify strategies that help older adults remain safe and independent.
Learn more about older adult fall prevention:
www.cdc.gov/Injury/STEADII
Home and Community Safety: Recent Advances and Next Steps

Jon Pynoos, Ph.D.
Fall Prevention Center of Excellence
UPS Foundation Professor of Gerontology, Policy, and Planning
Safe, Accessible & Supportive Environments Can Help Reduce the Risk of Falls

3 Strategies:

1) Modify Existing Homes
2) Build Accessible and Supportive New Housing
3) Develop Age Friendly, Livable Communities
Modify Existing Homes
Where Do People Fall?

Source: National Health Interview Survey, 1997-8 (Kochera, 2002)
The home environment is implicated in 35 - 40% of falls (Josephson, Febacher, & Rubenstein, 1991)

**Environmental Press:**
When Demands of the Setting Exceed the Capability of the Individual (Powell Lawton)
Hazards

• Approximately 80% of homes have at least 1 hazard, and 39% have 5+ hazards (Carter et al., 2000)

• Hazards include:
  – Electrical Cords/Wires
  – Unsecured Throw Rugs/Loose Carpet
  – Inadequate Lighting
  – Slippery Floors
  – Clutter
Lack of Supportive Features in Key Areas

Outdoor Steps  Inside Stairs  Unsafe Bathrooms
What Is Home Modification?

• Includes Assessment, Recommendations, And Environmental Changes

• Assessments Carried Out by the Individual, Family Member, Case Manager, Nurse, Social Worker or OT (the ‘Gold’ Standard’)

• Changes May Require Contractor, Remodeler, or Handyman
Evidence HM Help Reduce Falls

• Home Assessment And Minor HM Reduced Fall Incidence Rate By Almost 60% Among *Healthy Seniors* (Rose et al., 2003)

• Simple HM (Installing Handrails, Edges For Steps, Outside Lighting, Bathroom Grab Bars, Slip Resistant Surfaces) Reduced Falls By 25% for *All Age Groups* (Keale et al. 2014)

• Home Assessment, OT Home Visits And HM Reduced Risk Of Falling By 36% Among Those With *History Of Falls* (Cumming et al., 1999)

Home Safety/HM Included in Many Multi-factorial FP Programs (e.g., *A Matter of Balance*)
Why Don’t People Make Changes To The Home?


- Unable To Do It Oneself: 37%
- Cannot Afford It: 36%
- Do Not Trust Home Contractors: 29%
- Do Not Know How To Make The Changes Or Modifications: 25%
- Do Not Have Anyone To Do It: 23%
- Consider Them Unattractive: 21%
Improve Home Assessments

FLOORS: Look at the floor in each room.

Q: When you walk through a room, do you have to walk around furniture?
- Ask someone to move the furniture so your path is clear.

Q: Do you have throw rugs on the floor?
- Remove the rugs or use double-sided tape or a non-slip backing so the rugs won’t slip.

www.cdc.gov/HomeandRecreationalSafety/Falls/pubs.html
Involve, Train, Certify Key Actors in HM

- VISITING NURSES/CAREGIVERS
- CASE MANAGERS
- OCCUPATIONAL THERAPISTS
- FIRST RESPONDERS
- COALITIONS
- HANDYMEN, REMODELERS, CONTRACTORS
  - USC’S EXEC. CERTIFICATE IN HOME MODIFICATION
  - NAHB’S CAPS
Many Potential Sources, Few Funds

- HUD Community Development Block Grants
- Administration Of Community Living Programs
- Rebuilding Together’s Safe at Home Program
- VA Loans and Grants
- LTC Programs (PACE, Cash and Counseling, Medicaid/ Waivers)
- Social Security Act 1915 (k) Plan
- Long Term Care and Other Insurance
- Tax Credits (e.g., Ontario’s Health Homes Renovation Tax Credit, 2012)
Build Accessible and Supportive New Housing
Updating Existing Housing Expensive; New Housing Should Be Accessible

- 5.5 Million Households Have A Resident Aged 50+ With Disability and Stairs at Entrance or Exit
- With Average Ramp at $2,400, Improving Accessibility Would Total $13.2 Billion

(Harvard Joint Center on Housing Studies, 2014)
Building Codes: Limited Impact

- **American National Standards**: Requires Only 5% Fully Accessible Units In Federally Subsidized Housing
- **Fair Housing Amendments Act of 1998**: ‘Accessibility Light’; Applies Only to Buildings of More Than 4 Units
  Leaves Out 70% of Housing
  Does Not Require Supportive Features
Build Better Housing in the First Place: VISITABILITY

- No Step Entry
- Wide Interior Doors
- Ability to Live on Main Floor That Includes a Bathroom

Pima County, AZ Ordinance Added 15,000 Visitable Homes Since 2002
Build Better Housing in the First Place: UNIVERSEAL DESIGN

• Adaptable Housing And Neighborhoods Designed To Be Useable By All Persons To The Greatest Extent Possible

• Distinct From Visitability - Applies To Entire Home
Universal Design Features

**Bathroom**

- Curbless Shower
- Decorative Textured Grab Bars: Better Grip
- Non-Skid Flooring Integrated into Tile Pattern
Develop Age Friendly, Livable Communities
Livable/Elder Friendly Communities

- Roads, Streets, Lighting, Public Buildings, Commercial and Retail Elder Friendly
- Atlanta Regional Comm. - Walkability
Walkability Audits & Advocacy

Audits to identify hazards, areas for improvement:
- Resting spots
- Adequate shade, lighting
- Respite medians

LA to Pay $1.4 Billion In Sidewalk Repairs, Settling ADA Lawsuit
Policy Opportunities and Paradigm Shifts To Improve Safety and Independence

Falls, Aging in Place and the Delivery of Health/LTC in Housing/Community Sites are Catalysts for:

- Modifying Homes
- Accessible and Supportive New Housing
- Creating Livable Communities
UHS Fall Prevention Program
About Us

We are a tax exempt, New York not-for-profit corporation founded in 1981 and comprised of 4 hospitals; 25 hospital extension clinics; a skilled nursing/assisted living/elderly housing comprehensive home health agency; and an affiliated 240 physician/80 APP tax exempt professional P. C.

Our service area is the Southern Tier of New York and Northeastern Pennsylvania.
Broome County Statistics

• In Broome county, almost 17% of the population is over 65

• 51% of the senior population is older than 75

• The fastest growing segment of the Broome County Population is 85 and Older

2012 U.S. Census Bureau Estimates
Broome County Statistics

• Broome County’s community health assessment data revealed concerns in the area of falls related hospitalizations for age 65+ in Broome County

• Broome County’s fall rate of 293.4 per 10,000, is notably higher than NYS at 253.7 per 10,000

• The New York State Prevention Agenda rate is only 155 per 10,000 indicating need for significant attention to falls prevention in Broome County
How to make this work

1. Most appointments aren’t related to the falls or fall risk, e.g.
   - hospital follow up (CVA, CFH, etc.)
   - acutely ill, e.g. pneumonia
   - follow up hypertension, diabetes

2. Adding to large number of screenings
   - pain
   - tobacco use
   - alcohol use
   - drugs of abuse
   - depression
   - domestic abuse

3. Staff clinician acceptance
   - time to get into room
   - potential to add to existing overload/stress
Fall Risk Assessment
STEADI Fall Risk Assessment

Flow
- Patient screened
- Passed & done

Fail
- Tug test
- Referral form on keyboard

Provider
- Addresses fall risk issues
- Develops plan of care to decrease falls
- Make referral to community resources

Care Coordinator Reviews Patients
- Assists with appointment schedule
- Provide home safety checklist
- Update screening template
Broome County Referral for Fall Prevention

- Vitamin D 800-1000 units daily
- Outpatient Physical Therapy
- Obtain and using cane, walker or other assistive device as directed by provider
- **Tai Chi: Moving for Better Balance**
  - Community Dwelling older adults
  - Able to walk with ease with/without an assistive device
  - 12 week program – 1 hour twice a week & home exercises
  - Held at YMCA & in community at no cost
  - Contact: Sue Stella at 770-9622 ext 130
- **Stepping On**
  - Lives in community setting
  - Age 60+
  - At risk for falling/has had a fall/or is fearful of falling
  - Be cognitively aware & able to retain information
  - 7 week program in community – 2 hours once a week, $20 cost
  - Contact: Diane LeFever at 757-0750 or Donna Gavula at 648-9420
UHS in Balance Program
- Review previous fall history, physical and functional abilities and limitations, medication use, as well as your physical environment and medical history
- Physical therapist will develop a customized approach to help you reach your goals
- Any adult with a history of falls or at high risk of falling
- Anyone who may have fallen or nearly fell within the last 3 months
- Those who experience fatigue, dizziness or unsteadiness
- Those having difficulty transferring or walking
- Are taking medications that cause weakness or dizziness
- Those who have had a stroke
- Adults who have been diagnosed with a progressive neurological disease
- Have arthritis, joint disease or other problems with your legs
- Contact: UHS at 763-5600
Results

- 20,598 fall risk assessment done since inception of program to 10/22/14

- 70% of patients needing screening were screened from 7/1/14 to 4/1/15

- Broome County hospitalization rate due to falls for patients age 65+ is down from 293.4 to 221.06 on most recent data!!!
1. Isolated issues of clinician acceptance
   - performance monitoring by site and clinician
2. PQRS/EHR issues
   - customized templates
   - converting templates to include exact question from NextGen
3. Gap in care
   - not reaching those who lack transportation but are not home bound by CMS rules
4. Non-existing resources in rural areas
   - Tai Chi established in Tioga County
   - Health Department engaging other counties to establish resources
5. Capturing treatment plans in monitoring systems
6. Screening fatigue
## Fall Risk

### Fall Risk Assessment

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two or more falls in past 12 months?</td>
<td></td>
</tr>
<tr>
<td>One fall in past 12 months with injury?</td>
<td></td>
</tr>
<tr>
<td>One fall in past 12 months and gait / balance problems?</td>
<td></td>
</tr>
<tr>
<td>Gait or balance problems?</td>
<td></td>
</tr>
<tr>
<td>Presenting with acute fall?</td>
<td></td>
</tr>
</tbody>
</table>

### Fall Risk

**Fall Risk/Plan of Care:**
- [ ] Exclusions

- Falls in the last year? 
  - [ ] No
  - [ ] Yes

- Number of falls:

- Did the fall(s) result in injury? 
  - [ ] No
  - [ ] Yes

**Details:**

**Follow-up plan of care:**

- Assistive devices:

- Balance, strength, and gait training:

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  Characters left: 300
  ```
Thank You!
It Takes a Village . . .
A Thriving, Integrated Approach to Falls

Dave Griffin, DPM
Co-Lead, Fall Risk Assessment Team (FRAT)
Kaiser Permanente Northwest
Falls Prevention Summit  |  April 30, 2015
Why a Podiatrist
KAISER PERMANENTE
Nation’s largest not-for-profit health plan

- Northwest
- Northern California
- Southern California
- Hawaii
- Colorado
- Georgia

- Integrated
  - 9.3 million members
  - 17,000+ physicians
  - 49,000+ nurses
  - 192,000+ employees
  - 8 states + District of Columbia
  - 38 hospitals
  - 600+ medical offices
  - $53 billion operating revenue
Who we care for…

- Small and large employers, individuals, and Medicare and Medicaid members
- 522,000 medical members
- 240,000 dental members

Who delivers care…

- 11,000 employees
- 140 dentists
- 1,033 physicians
- 57 optometrists

Where we deliver care…

- 2 KP owned hospitals and 4 contract hospitals
- 33 KP medical offices and 11 contract medical offices
- 17 dental offices

KAISER PERMANENTE NORTHWEST
Serving Oregon and Southwest Washington
Not all falls are bad
What are we doing?
Fall Risk Assessment Team (FRAT)
STEADI

Fall Prevention Health Fair
Pre-Screening MTHA Complex Care Patients
Free Physical Therapy Fall Prevention Class Expansion
Partnership with Oregon Health Authority

Physical Therapy Class

Pre-screening MTHA

NOWA

STEADI

Partnership with Oregon Health Authority
Why?
88% Concerned
Higher hip Fracture rates
• Fall = $30,000 (Oregon)
• Hip Fracture Care = $55,000 (Medicare)
Leadership

• High & Mid-level
• Northwest Permanente Medical Group Medical Director
• Health Plan Operations
Engaging Continuum of Care Leadership

- Emergency Department
- Hospital
- SNF
- Home Health
- PCP
Exercise as a Vital Sign
Priorities

- STEADI communications
- Community Resources
- Motivational Interviewing
Opportunities and Recommendations
Future
EMR

Internal ← → External

KAISER PERMANENTE®
Falls are not normal
Moving forward
It Takes a Village

Motivated Patient

- Families
- Social Groups
- Community Partners
- Providers
- Educators
- Government
- Nonprofits
- Faith Based Groups
- Health Plans

Kaiser Permanente
thrive
A Randomized Trial of an Individually-Tailored, Multi-factorial Fall Injury Prevention Strategy: The STRIDE Study

Nancy Latham PhD PT

Brigham and Women’s Hospital,
Harvard Medical School and
Boston University
Primary Aim

• To conduct a multi-site cluster randomized clinical effectiveness (pragmatic) trial (RCT) to determine the effectiveness of an evidence-based, multifactorial individually-tailored intervention to reduce the risk of serious fall injuries among non-institutionalized older persons
The Research Question

Can a quality improvement intervention that provides evidence-based care based on individual risk assessment and implemented using the co-management model and CDC and AGS guidelines reduce serious falls-related injuries and improve other health outcomes?
Joint Leadership Structure

- Three Joint Principal Investigators
  - Shalender Bhasin (Communicating PI)
  - David Reuben
  - Thomas Gill
- Study Director: Nancy Latham, Ph.D., PT
- Funding Agencies:
  - NIA and PCORI
- Applicant Organization
  - Brigham and Women’s Hospital, Boston, MA
Key features of the Trial’s Design

• A pragmatic clinical effectiveness trial implemented in the context of clinical practice
• Cluster randomized: Unit of randomization - a practice
• Patient-centered intervention that combines elements of:
  – A multifactorial, individually-tailored, risk factor-based intervention
  – Practice guidelines offered by the CDC's "STEADI" toolbox and the joint AGS/ BGS guidelines
  – Utilizing existing evidence based fall prevention community and health care services
Study Population

Inclusion Criteria

• The patient is at least 75 years of age.
• The patient must answer ‘yes’ to one or more of the following questions:
  – Have you fallen and hurt yourself in the past year?
  – Have you fallen 2 or more times in the past year?
  – Are you afraid that you might fall because of balance or walking problems?

Exclusion Criteria

– The patient is enrolled in hospice.
– The patient resides in a nursing home.
– The patient is not capable of providing informed consent (or assent), and a proxy is not available.
– The patient does not speak English or Spanish
Sample Size and Power

• Sample size: 6,000 participants
• Power 90% to detect a 20% reduction in serious fall injuries for intervention relative to control
• Assumptions:
  – type I error = 5% (2-sided)
  – uniform accrual
  – No adjustment for non-adherence to intervention
  – 7% annual death rate (i.e., competing risk)
  – 3% annual loss to follow-up
  – 3% inflation for interim monitoring for efficacy and futility;
86 Primary Care Practices in Ten Diverse Health Care Systems

Key Sites: Clinical Trial of a Fall-Related Injury Prevention Strategy in Older Adults
Enrollment and Follow-Up Periods

- Enrollment period: 1.5 years (June 1, 2015 – December 1, 2016)
- Maximum follow-up period: 3 years
- Average follow-up time: 2.25 years
Outcome Measures

• Primary Outcome
  – Serious fall injuries operationalized as those leading to medical attention, including non-vertebral fractures, joint dislocation, head injury, lacerations, and other major sequelae

• Secondary
  – All injurious falls, all falls regardless of injury, well-being (fall efficacy, anxiety, depressive symptoms), physical function and disability
Co-management Model

- RN Falls care manager (FCM)
- Roles
  - Conduct risk assessment
  - Engage patient in self-management
  - With patient, develop fall-injury prevention plan
  - Obtain care plan approval from PCP
  - Directly implement some recommendations
  - Make referrals to existing community and health services
  - Communicate additional recs to PCP
  - Monitor and support patient’s progress
- Involvement of National and Local Patient and Stakeholder Committees
Patient Engagement in Self-management

- Begins with the first mailing and continues throughout the intervention and includes:
  - Collaborative goal-setting for fall-injury prevention
  - Review of risk assessment findings
  - Discussion of potential interventions, patient readiness
  - Prioritization of interventions
  - Facilitation of patients’ decision-making and behaviors to reduce their risk factors
Risk factors

• Medication risks
• Postural hypotension
• Visual impairment
• Feet and footwear problems
• Inadequate Vitamin D intake
• Osteoporosis
• Strength, gait, and balance disorders
• Home safety risks
Approaches to Ensuring Fidelity

• Through training
  – FCMs and PCPs
  – PT, OT, and other providers

• Through implementation
  – Software
  – Review of notes
  – Fidelity Working Groups part of Local Patient and Stakeholder Committees
Features of the study:

• An Unprecedented Experiment using a new Model of Trial Implementation in the Setting of Clinical Practice
  – Central IRB, establishing reliance agreements with 25 academic institutions
  – Getting the pilot study protocol developed, IRB-approved and study started in 4 months; completed in 4 months
  – Main study protocol developed and approved by trial’s DSMB within 4 weeks of the pilot study completion
  – Main trial start on June 1, 2015
  – Accrual of 6000 in 18 months
  – Setting up enduring materials for sustainability
This study builds on the many years of development of fall prevention research and resources.

Will provide the most reliable evidence to date of the effectiveness of a multifactorial risk factor reduction approach to prevent serious fall related injuries in primary care.
Summary of NCOA’s Pre-Summit Survey Findings and Overview of the Breakout Session Process

Kathleen Cameron
Senior Director
National Falls Prevention Resource Center
National Council on Aging
Pre-Falls Prevention Summit Survey

- Accomplishments
- Gaps
- Barriers
- Opportunities
- Priorities
- Roles that organizations, agencies, institutions, corporations can play in falls prevention efforts
Accomplishments

- Implementation and scaling of evidence-based falls prevention programs (26%)
- Funding of evidence-based falls prevention programs, including ACL and CDC funding (17%)
- Falls prevention coalitions (14%)
- Falls Prevention Awareness Day (14%)
- Falls Free® Initiative (7%)
- CDC’s STEADI Tool Kit (5%)
- Public Health and Prevention Fund recognition of the importance of falls prevention (5%)
Gaps

- Funding and reimbursement for falls prevention programs (30%)
- Clinical and community connections/collaboration (20%)
- Awareness and knowledge about falls, falls risk factors and falls prevention strategies among older adults (16%)
- Evidence-based program dissemination and participation (11%)
- Education of health care providers (10%)
- Falls prevention for special populations (homebound elders, reaching rural elders, adults with I/DD, adults with cognitive impairment) (9%)
Barriers

- Funding
- Clinical community-connections
- Evidence-based program dissemination, scaling and participation is low
- Public awareness and education
Opportunities

- **Affordable Care Act**
  - Transition to value based payment system provides incentives for falls prevention
  - Welcome to Medicare visit and the Annual Wellness visit
  - Reducing hospital readmissions
  - Accountable Care Organizations, Independence at Home and other new models

- **Technology**
- **Collaboration/Partnerships/Interdisciplinary Care**
- **Expansion of evidence-based falls prevention programs**
- **Medicare Part D Medication Therapy Management Services**
- **Reaching caregivers and Baby Boomers**
- **Educational opportunities for falls prevention**
Priorities

- Funding and reimbursement (26%)
- Cross collaboration and engaging new stakeholders such as housing, transportation/transit, Electronic Health Records vendors (18%)
- Evidence-based fall prevention program development and expansion (18%)
- Consumer and professional education (15%)
- Public education campaign (12%)
Other Priorities

- Research: More clinical data and focus on putting science into practice
- Develop guidelines and quality measures for all levels of prevention
- Community Paramedicine
- Medication reviews
- Vitamin D supplementation
- Expand use of STEADI to the entire medical community in the U.S.
- Collective view from National priorities with CDC/AoA/ACL/NCOA
- Mandating that manufacturers of flooring, floor finishes and cleaners label their products per the uniform product “Traction” labeling standard.
- Travel training - teaching older adults/persons with disabilities to use public transit in a safe/learning environment which can also teach fall prevention techniques
Roles for My Organization/Agency/Institution/Company

1. Awareness and Outreach (30%)
2. Collaboration and resource sharing (27%)
3. Education (23%)
4. Research, implementation and/or evaluation of evidence-based programs and initiatives (16%)
5. Policy and Advocacy (14%)
6. Support to coalitions (11%)
7. Funding (9%)
8. Evidence-based program training (7%)
   Home assessments and modifications (7%)
   Clinical Falls Prevention (7%)
Vision and Goals for the 2005 National Action Plan

Vision:
Older adults will have fewer falls and fall-related injuries, maximizing their independence and quality of life.

Goal:
To launch a National Action Plan with specific goals and strategies to effect sustained initiatives that reduce falls among older adults.
Vision: Older adults will have fewer falls and fall-related injuries, maximizing their independence and quality of life.

Goal: To update the 2005 National Action Plan with updated recommendations and action steps that builds on what has been accomplished since 2005 and addresses current gaps, opportunities, and priorities.
Physical Mobility Goals

Goal A:
- All older adults will have knowledge of, and access to, effective programs and services that preserve or improve their physical mobility and lower the risk of falls.

Goal B:
- Health care and other service providers will be more aware of, and actively promote, strategies and community resources/programs designed to improve older adult physical mobility and lower the risk of falls.
Medications Management Goals

Goal A:
- All older adults will become aware that falling is a common adverse effect of some prescription and nonprescription medications and discuss these effects with their health care provider.

Goal B:
- Health care providers will be aware that falling is a common adverse effect of some prescription and nonprescription medications, and therefore will adopt a standard of care that balances the benefits and harms of older adult medication use.
Home Safety

Goal A:

- All older adults will have knowledge of and access to home safety measures (including information, assessments and home modification) that reduce home hazards, improve independent functioning, and lower the risk of falls.

Goal B:

- Health care, housing, and other service providers will become more aware of, and promote, home safety measures (including information, assessments, and adaptive equipment) that reduce home hazards, improve independent functioning, and lower the risk of falls.
Environmental Safety in the Community

Goal A:

- All older adults will have access to community environments that lower the risk of falls, and facilitate full participation, mobility, and independent functioning.

Goal B:

- Public officials such as community and transportation planners, community service providers, and those responsible for maintenance and repairs, will be aware of, and actively promote, community environments that lower the risk of falls.
Cross Cutting Goals

- Effectively move the agenda/action plan forward related to:
  - Linking the community/aging service network and health care systems,
  - Integrating interdisciplinary activities such as risk assessments and interventions,
  - Communications and marketing
  - Policy and advocacy
BREAKOUT SESSIONS
Breakout Sessions – Seven Topics

- Clinical Care, including Medications Management and Clinical-Community Linkages
- Environmental Safety in the Community
- Expansion of Falls Prevention Initiatives and Evidence-Based Programs*
- Funding and Reimbursement of Evidence-Based Falls Prevention Programs, including opportunities as a result of the Affordable Care Act*
- Home Safety
- Physical Mobility
- Public Awareness and Education
Breakout Sessions

- **Breakout Session One – 1:00 – 2:00pm**
  - Gaps related to the topic area
  - Opportunities to address gaps in the next 5 years

- **Breakout Session Two – 2:15 – 3:15pm**
  - Prioritize Opportunities
  - Recommendations
  - Action Steps

Please do not switch breakout session topics.
Breakout Sessions

- Each Session will have:
  - One to two facilitators
    - Facilitator will report out at the end of the day
  - Notetaker/Recorder
  - Flip chart writer
    - Need volunteer for each breakout session
National Action Plan Development

- Today is the first step!

- We will be back in touch with you over the next several weeks

- It takes a village!
Thank You!