Take a Stand to Prevent Falls in Oregon

Lisa Shields
Public Health Division
Injury and Violence Prevention Program

ADRC Webinar
July 15, 2015
Topics covered

- The burden of falls
- Preventing falls
- Oregon program overview
- Resources
- 7 things you can do starting NOW
Falls are Common in Older Individuals

One out of three adults 65+ falls each year but less than half talk to their health care providers about it

HALF of adults 80+ fall each year

Two-thirds of those who fall will do so again within 6 months

Source: CDC Injury Center
Falls in Oregon

In 2013 639 Oregonians died and nearly 8,700 were hospitalized due to a fall

Oregon’s fatal fall rate for adults 65+ is 41% higher than the national average

The rate of death due to falls has increased nearly two-fold (92.3%) since 2000

The rate of fatal falls for those 85+ is 23x greater than those age 65-74

Nearly 60% of seniors in Oregon who are hospitalized for falls are discharged into long-term care

1. Source: Oregon Injury and Fatality Data
The cost of falls

Fall hospitalization charges for Oregon seniors are over $222 million per year.

Unintentional falls are the third most costly hospitalized condition after cancer and heart disease.

The median per patient hospitalization charges for fall-related injury are nearly $33,000.

Source: Oregon Injury and Fatality Data
2013 Oregon fall mortality rate by age

- Rates are much higher for the most elderly
- **Quadrupled** at age 75
- **Quintupled** at age 85

Source: [Oregon Injury and Fatality Data](#)
2009 - 2013 Oregon average annual fall mortality rate by race

- Native Americans had the highest mortality rates from 25-85
- Whites had the highest fall mortality rate 85+
- Hispanic fall mortality rates were lower than Non-Hispanics for every age group except age 65 to 74

Source: Oregon Injury and Fatality Data
Consequences of falling

Activity restriction

Reduced mobility

Isolation

Increased fall risk

Loss of physical fitness

Fear of falling
Falls can be prevented

**Biological**
- Muscle weakness
- Gait and balance problems
- Poor vision
- Cognitive impairment

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

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

Source: Rubenstein, Age and Ageing 2006; ii37-ii41
Community Wide Efforts Can Reduce Falls Substantially

A multifaceted community based falls reduction program involving medical groups and the community reduced fall related injuries by 10% in a target community

This is the model for the CDC State Fall Prevention Program

CDC State Fall Prevention Program
2011-2016

Systems and Policy Change

Tai Chi: Moving for Better Balance

Stepping On Fall Prevention Program

Otago Exercise Program

Changes in clinical care

5-year program
OR, CO, NY

Technical Assistance and Evaluation

Source: CDC Core Violence and Injury Prevention Program
Oregon falls prevention strategies for systems change

**Health systems**: embed activities into existing business models

**Health plans and Medicare-beneficiary fitness programs**: cover activities as member benefit

**Establish community fall prevention programs in sustainable settings**: Tai Chi, Stepping On, Otago

**Increase clinician assessments and referrals (STEADI)**

**Partner with aging services, community health workers, volunteers, professional organizations, first responders**

**Increase public awareness of falls as a preventable issue**
Incentives and Motivators for Health Care and Falls Prevention

**MEDICARE**
Welcome to Medicare visit
Annual Wellness Visit
5-star health plan rating

**Physician Quality Reporting System (PQRS)**

**Patient-centered Primary Care Homes**
480 recognized Oregon clinics

**Coordinated Care Organizations (CCO)**
Serving 90% of Oregon Health Plan (Medicaid) members

**Comprehensive Primary Care initiative**
Oregon is one of 7 national markets
67 clinics

**ABIM and ABFM maintenance of certification credits**
Activities with health system partners

- STEADI toolkit
- Leader training for community fall prevention programs
- Interns
- Participation in outreach events
- Provide opportunities for networking with local and national experts, each other
- Assist with ABIM and ABFM credit requirements
Health plan coverage

- Tai Chi: Moving for Better Balance is approved program for Silver and Fit and Silver Sneakers FLEX™
- Silver and Fit health plans include Providence and Kaiser
- Providence Health Plan covers Stepping On classes
- Portland VA Medical Center waived co-pay requirement for Stepping On classes, reimburses travel expenses
- Kaiser Permanente offers Otago to Complex Medical Home patients
- ATRIO health plans working with OGEC and Salem Clinic, and NWSDS to promote STEADI as best practice
First responders

Trainings for statewide Fire and Life safety educators through Oregon State Fire Marshal

- Home safety assessments
- Safe footwear and clothing
- Home modification resources
- Medication safety
- Vision safety
- Connecting seniors to falls prevention programs
- Distributing STEADI patient education material
Aging services and professional organizations

- Presentations and exhibit tables at events
- Promote STEADI toolkit material
- Participation in Falls Prevention Awareness Day
- Webinars for ADRC series
- TCMBB trainings for senior center staff
- Training and TA for Otago experiment with AAA in Salem
Activities with community health workers and volunteers

- Tai Chi: Moving for Better Balance and Stepping On trainings
- Participation in public awareness events
- Falls prevention seminars for staff and clients
- STEADI patient education material
- CHW online training
STEADI and community programs

Otago Exercise Programme

to prevent falls in older adults
STEADI in Oregon

- Toolkit for health care providers with decision tree, functional assessments, referrals, and patient education material

- STEADI tools developed by Oregon Health & Science University is now part of Epic’s national EHR package. Online training available in August 2015 through CDC

- Oregon Geriatric Education Center trains clinic groups statewide; Oregon Health Authority trains Tai Chi instructors in those areas to accommodate clinician referrals

- Over 2,000 patients screened
Algorithm for Fall Risk Assessment & Interventions

Waiting room: Patient completes Stay Independent brochure
Identify main fall risk factors

Clinical visit: Identify patients at risk
- Fell in past year
- Feels unsteady when standing or walking
- Worries about falling
- Scored ≥4 on Stay Independent brochure

Evaluate gait, strength & balance
- Timed Up and Go
- 30-sec Chair Stand
- 4 Stage Balance Test

No gait, strength or balance problems

Gait, strength or balance problem

≥2 falls or a fall injury
Determine circumstances of latest fall
Conduct multifactorial risk assessment
- Review Stay Independent brochure
- Falls history
- Physical exam
- Postural dizziness/postural hypotension
- Cognitive screening
- Medication review
- Feet & footwear
- Use of mobility aids
- Visual acuity check

1 fall in past year
Determine circumstances of fall
Implement key fall interventions
- Educate patient
- Enhance strength & balance
- Improve functional mobility
- Manage & monitor hypotension
- Manage medications
- Address foot problems
- Vitamin D +/- calcium
- Optimize vision
- Optimize home safety

0 falls in past year
Patient follow-up
- Review patient education
- Assess & encourage adherence with recommendations
- Discuss & address barriers to adherence

No to all
- Educate patient
- Refer to community exercise, balance, fitness or fall prevention program
STEADI algorithm includes community programs

- Educate patient
- Refer to community exercise, balance, fitness or fall prevention program
Class pyramid for STEADI referrals

- Physical Therapy (e.g., Oto, Neuro)
  - Needs one-on-one therapy
  - Moderate to severe balance problems
  - May be homebound, cognitively impaired

- Stepping On / A Matter of Balance
  - Cognitively Intact
  - Mild to moderate balance problems

- Tai Chi programs
  - Cognitively Intact
  - Few balance problems

- Traditional and older adult exercise programs such as standing strength and balance classes, dance, bowling, golf, ping pong, badminton
  - Cognitively Intact
  - Few balance problems

Copyright 2005, Mahoney J, Shea T, with Dane County Falls Prevention Task Force
What is the evidence?

Tai Chi: Moving for Better Balance

- Developed at Oregon Research Institute by Dr. Fuzhong Li
- **Evidence**: Inactive seniors 70+ practiced 3x/week for 26 weeks. Risk of falling decreased 55%
- 500 instructors trained in Oregon
- Over 1,500 participants completed 12-week class

Stepping On

- Developed in Australia by Lindy Clemson; multifactorial intervention
- **Evidence**: Seniors 70+ who had fallen in the past year or were concerned about falling. Fall rate reduced 30% overall. Male fall rate reduced almost 67%
- 29 leaders trained in Oregon
- 210 participants completed 7-week class

Source: [CDC Compendium of Effective Fall Interventions, 2nd Ed.](https://www.cdc.gov/ncipc/falls/CDCCompendium.pdf)
The Otago Exercise Program

- Developed in New Zealand for homebound, high risk, or 80+
- Individually tailored exercise plus home safety and a walking program
- Once a month for 1 year in the home. At least 4 home visits, plus monthly phone calls.
- Reimbursable by Medicare when delivered by a PT
- **Effective way to reach people who need it most: highest risk category**
- Evidence: Participants aged 80+ who had fallen in the previous year showed the greatest benefit
- Fall rate reduced by 35% overall
- 12 PTs trained in Oregon; 25 patients in Portland with traditional model, 75 patients in Salem through NWSDS

Source: CDC Compendium of Effective Fall Interventions, 2nd Ed.
Where are these programs?

Tai Chi: Moving for Better Balance

- Fitness centers, health care, parks and rec, senior centers, living communities
- TCMBB trainings linked with OGEC clinic trainings
- Special populations: Dept. of Corrections, VA Chronic Pain/PTSD program, Oregon State Hospital

Stepping On

- Classes in Portland metro area through Providence, Emanuel, the VA, Lake Oswego adult center, Mirabell retirement

Otago Exercise Program

- Beyond the Clinic Physical Therapy in Portland
- NW Senior and Disability Services in Salem
- Kaiser Permanente NW complex medical home patients in Portland/Vancouver
Where can I find more information?
Healthoregon.org/fallprevention
Oregon class listings map

Falls Prevention Program Map
Oregon/SW Washington

Senior Falls Prevention - OHA
880 NE Oregon St, Ste 720, Portland, OR 97232
www.ohs.oregon.or.us/health/ohs/877-688-1036
Lisa.m.shields@state.or.us M - F: 7:30 am - 4:00 pm

Albany, OR - Albany Senior Center
460 NW Water Ave, Albany, OR www.ohs.oregon.or.us/health/ohs/877-688-1036
Lisa.m.shields@state.or.us M - F: 7:30 am - 4:00 pm

Battle Ground, WA - Battle Ground Baptist Church
1110 NW 6th Ave, Battle Ground, WA 98604-5004
jillross@yahoo.com Tai Chi: Moving for Better Balance N: 9:30 - 11:00 am

Battle Ground, WA - Battle Ground Community Center
912 E Main St, Battle Ground, WA
Enhanced Senior Fitness T, W & F: 8:30 - 9:30 am & 9:45 - 10:45 am

Beaverton, OR - Beaverton Hoop YMCA
9685 SW Harvest Court, Beaverton, OR www.ymca.org/locations/beaverton-beaverton-ymca 503-444-2191 Tai Chi See website or call

Beaverton, OR - Elsie Stuhr Center
5550 SW Hall Blvd, Beaverton, OR www.ohs.oregon.or.us/health/ohs/877-688-1036
Enhanced Senior Fitness T, W & F: 3:00 - 4:00 pm & 4:00 - 5:00 pm

Beaverton, OR - Family Martial Arts Academy
6118 SW Hall Blvd, Beaverton, OR www.familymartialarts.com/beaverton 503-877-3300
Tai Chi: Moving for Better Balance W: 7:00 - 7:15 pm

Beaverton, OR - Nature Park Interpretive Center
15655 SW Millikan Way, Beaverton, OR www.ohs.oregon.or.us/health/ohs/877-688-1036
Enhanced Senior Fitness T, W & F: 8:30 - 9:30 am & 9:45 - 10:45 am

Bend, OR - Active Life Fitness
34 NW Allen Rd, Bend, OR www.taichijenny.com 541-738-7537
Tai Chi: Moving for Better Balance W: 7:00 - 7:15 pm

Sun style Tai Chi: Visit website or contact for more info
How are we measuring success?
Evaluation

Community program data
- Participant attendance, demographics, and outcomes
- Instructor training, class fidelity monitoring

Site data
- Program information
- Description of agency

Clinician data
- Clinic and provider participation
- STEADI clinician 6-month follow-up survey
- Key informant interviews, focus groups
- Claims data

Population data
- Behavioral Risk Factor Surveillance System
- Oregon Trauma Registry
- Hospital discharge data
- Death certificate data

Other data
- Program costs
- Assessment of involvement with health system transformation
- Assessment of community action and policy implementation
Pilot Evaluation Results (OR, CO, and NY)

Data collected pre/post from participant surveys and Timed Up and Go scores; TCMBB and Stepping On group classes

Significant improvements emerged for:
- Self-reported confidence for avoiding falls
- Self-reported satisfaction with physical activity
- Self-reported ability to do specific physical tasks
- Timed Up and Go scores (~1.8 second improvement)

Falls Evaluation & Technical Assistance Team Data Report, Texas A&M Health Science Center
### Otago results comparing NWSDS model vs traditional
Data collected at initial visit and at 8-week follow-up visit

<table>
<thead>
<tr>
<th>Program</th>
<th>Functional Performance</th>
<th>Baseline Mean</th>
<th>8-week Mean</th>
<th>Mean Difference (Effect Size(^\wedge))</th>
</tr>
</thead>
<tbody>
<tr>
<td>OR Pilot (n=31)</td>
<td>Timed Up &amp; Go (TUG) (Faster = better)</td>
<td>29.0</td>
<td>24.3</td>
<td>-4.7** (.34)</td>
</tr>
<tr>
<td>Traditional (n=36)</td>
<td>Timed Up &amp; Go (TUG)</td>
<td>20.8</td>
<td>18.5</td>
<td>-2.3* (.12)</td>
</tr>
<tr>
<td>OR Pilot (n=29)</td>
<td>30 Second Chair Stand (more stands = better)</td>
<td>6.5</td>
<td>7.1</td>
<td>1.7* (.34)</td>
</tr>
<tr>
<td>Traditional (n=29)</td>
<td>30 Second Chair Stand</td>
<td>8.8</td>
<td>10.2</td>
<td>1.4* (.36)</td>
</tr>
</tbody>
</table>

*Paired Samples t-test p<.05  **Paired Samples t-test p<.01
\(\dagger\) Data provided courtesy of University of North Carolina at Chapel Hill
\(^\wedge\) Effect Size = mean difference / mean standard deviation

**Significant improvements emerged across both delivery models for:**
- Timed Up and Go scores
- 30-second chair stand
- 4-stage balance test
Resources

7 things we can do NOW to prevent falls
1. Promote the top four ways to prevent falls

- Evidence-based exercise
- Medication review
- Vision checks

Home safety

Source: CDC Home and Recreational Safety
2. Distribute handouts
Free download on CDC website

Risk assessment:
review results with your
doctor

Includes
recommendations for
exercise, medications,
vision, home safety

http://www.cdc.gov/homeandrecreational­safety/Falls/steadi/patients.html
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.

• Strengthens your legs
• Try doing it several times a day
3. Help make homes safer

- 8-page brochure with room-by-room recommendations enables anyone to conduct a home safety check
  
  http://www.cdc.gov/homeandrecreationalandsafety/falls/checklistforsafety.html

- Connect to home modification resources at adrcoforegon.org
4. Recommend safe footwear and clothing

- Seniors who go barefoot or just in stockings in the home are at higher risk for falls
- Wear shoes both inside and outside the house
- Avoid backless shoes or high heels
- If you wear slippers, make sure they have traction
Safe slippers

• Can be worn indoors or outdoors
• Nonslip soles that grip like sneakers
Safe shoes

• Avoid smooth leather or plastic soles
• Try athletic shoes with good traction and support, without heavy soles
Safe shoes can be stylish!
Safe robes

• Wrap loose robes around body and fasten loose belts and ties
• No wide or open pockets that stick out and catch doorknobs or furniture
• Sleeves are not too long, too open, or too wide
• Hems are not too long
5. Connect people to evidence-based falls prevention classes

Healthoregon.org/fallprevention or adrcoforegon.org

---

**Falls Prevention for Older Adults**

In Oregon, falls are the leading cause of fatal and nonfatal injuries for adults 65 and older. One in three older adults falls each year, and 20 to 30 percent of people who fall suffer moderate to severe injuries, such as bruises, hip fractures, and head traumas.

While falling is common to people of all ages, the severity of injury for older adults can result in reduced independence. However, many falls are preventable; there are proven interventions that can lower their risk of falling and live longer, healthier lives.

**Classes for Seniors**

You can also email lisa.m.shields@state.or.us if you need assistance finding a class near you.

- View the map of Senior Fitness Classes in Oregon / SW Washington (includes Tai Chi for Arthritis website).
- Call 503-754-8610 for other classes.

---

[Logo: Oregon Health Authority]
6. Take advantage of educational opportunities

Free online courses through Carolina Geriatric Education Center

1. Falls prevention for Community Health Workers and Promotores
2. Falls prevention for Home Health aides
3. Falls prevention for Home Health nurses
4. Otago Exercise Program: email Lisa Shields for code to waive $25 fee

http://www.aheconnect.com/cgec/courses.asp
How can I be trained as a program instructor?

**Tai Chi: Moving for Better Balance**
- 2-day training (free)
- 4 trainings for 2015-2016 in various locations

**Stepping On**
- 3-day training
- OHA not planning to sponsor any new trainings with this grant
- Providence, Legacy, the VA and the NW Indian Health Board may sponsor future trainings

**Otago Exercise Program**
- Online training you may start and stop at your own pace
- Fee waived with special code

Email Lisa Shields if you are interested in these trainings
Lisa.m.shields@state.or.us
7. Increase public awareness that falls aren’t an inevitable part of aging: Participate in Falls Prevention Awareness Day

2014 events
• Governor proclaimed Falls Prevention Awareness Day
• Multnomah County Commissioners proclaimed Falls Prevention Awareness and Senior Center Month
• Tai Chi demonstration at YMCA Beaverton Hoops
• STEADI health fair at Kaiser Permanente NW in Portland
• Falls prevention fair at PeaceHealth in Springfield
• Tai chi flash mob in downtown Portland
Join us for national Falls Prevention Awareness Day 9/23/2015: Take a Stand to Prevent Falls®

Ideas for hosting your own event

• Tai chi demonstration or flash mob
• Falls prevention health fair
• Celebrate it along with Senior Center Month
• Press release
• Social media alerts
• Partner with local health care professionals: fall risk screenings
• Local government proclamation

More resources: https://www.ncoa.org/healthy-aging/falls-prevention/falls-prevention-awareness-day/
Tai Chi with County Commissioners

Tai Chi flash mob

Kaiser STEADI Fair

Falls Prevention Awareness Day
Contact Information

Lisa Shields
Lisa.m.shields@state.or.us