



WHITE PAPER: FALLS AND THE ELDERLY POPULATION

October 2009

Recent attention has been given to falls that occur with older adults, particularly when they reside in care centers, and the subsequent health deterioration that resulted from some of these falls. While any fall is unfortunate, it is important to place the discussion into the proper context. The purpose of this paper is to provide background information, comparative analysis, and resource information to help interested stakeholders fully understand the issue.

Minnesota Falls Rate in General

Individuals can fall anywhere—not just in nursing facilities. In the United States, unintentional falls are the most common cause of nonfatal injuries for people older than 65 years. Up to 32 percent of community-dwelling individuals over the age of 65 fall each year, and females fall more frequently than males in this age group. Fall-related injuries are the most common cause of accidental death in those over the age of 65, resulting in approximately 41 fall-related deaths per 100,000 people per year. In general, injury and mortality rates rise dramatically for both males and females across the races after the age of 85, but males older than 85 are more likely to die from a fall than females.

According to the Minnesota Falls Prevention program (<http://www.mnfallsprevention.org/>), Minnesota has the third highest unintentional fall death rate in the country. Falls are the number one cause of all trauma care in Minnesota hospitals. Here are some more data:

- Falls result in lifetime costs of \$18.5 billion among adults ages 45-64 nationally.
- Women age 50 and older are more likely than men to fall.
- Men age 50 and older are more likely to die from a fall.
- Older Minnesotans account for more than 60% of fall-related hospitalizations and 85% of fall deaths.
- Costs for non-fatal falls for Older Minnesotans are high - \$162 million for hospital charges and \$20.4 million for emergency department charges in 2005.

Falls are often the result of many factors related to the individual and his or her environment.

Individual Risk Factors	
Not Modifiable	Modifiable
Older age	Muscle weakness
Female	Gait and balance problems
Chronic diseases	Vision problems
Mentally impaired	Psychoactive medications

Environmental Risk Factors	
Not Modifiable	Modifiable
Cold temperatures	Clutter in walkways
Uneven pavement	No stair railings or grab bars
Poor public space designs	Loose rugs
	Dim lighting

What are some additional causes of falls? *

- The normal changes of aging, like poor eyesight or poor hearing, can make people more likely to fall.
- Illnesses and physical conditions can affect strength and balance.
- Poor lighting or throw rugs in the home can make people more likely to trip or slip.
- The side effects of some medicines can upset balance and make people fall.
- Medicines for depression, sleep problems and high blood pressure often cause falls. Some medicines for diabetes and heart conditions can also make people unsteady on your feet.
- People may be more likely to fall if they are taking four or more medicines. They are also likely to fall if they have changed medicine within the past two weeks.

Minnesota Falls in Care Centers

While falls happen in a variety of locations, it appears that falls in care centers have increased partially because of the changing nature of care delivery and who we care for. Consider :

- Restraint reduction efforts from the 1990's resulted in removal of siderails on beds and restraining devices in chairs. This reduction in the use of

restraints increased autonomy but also increased the risks of falls when unstable residents chose to “get up and going”.

- Increased emphasis on autonomy and independence in care centers has led to greater efforts at self mobility, increasing risks of falls.
- Increased rehabilitative services done in care centers soon after an acute episode can increase the risk of falls

When individuals’ risk factors are not modifiable, the focus shifts from preventing falls to preventing serious injuries from falls. Some common interventions include low beds, pads beside beds, and the use of hip protectors.

Falls Reduction and Prevention Efforts

The issue of falls and older adults is not a new issue. Over a decade ago, there was a concerted effort in Minnesota to reduce the use of restraining devices in care centers. At that time, there was the recognition that increased falls would be a possible consequence. There was a several-prong approach that developed at that time: increased consumer information/choices, increased regulatory oversight, and, most importantly, quality improvement efforts focusing on falls prevention.

Regulatory

In 2002, the Minnesota Department of Health published a bulletin that provided extensive guidance to care centers on falls and the prevention of injuries. Several years later, the Centers for Medicare and Medicaid Services (CMS) issued new Surveyor Guidance regarding F-323 and falls on July 6th, 2007. The state Minnesota Department of Health (MDH) began surveying on the new guidance in October 2007. This new guidance has placed a heightened survey emphasis on the subject of resident falls.

The following data, which comes from June 2009 MDH Office of Health Facility Complaints Report to the Legislature, shows how much care centers (nursing homes) have increased their self-reporting of falls, particularly in light of the new online reporting system implemented in Spring 2008.

	2006	FY 2006	FY 2007	FY 2007	FY 2008	FY 2008
	Consumer-Based Complaints	Facility Self-Reported Incidents	Consumer-Based Complaints	Facility Self-Reported Incidents	Consumer-Based Complaints	Facility Self-Reported Incidents
Falls Reported to MDH from Nursing Facilities in Minnesota	49	766	64	751	59	1,174

Care centers take their reporting obligations seriously. The overwhelming majority of reports of falls come to OHFC from the facilities, not family members or other individuals.

It is important to note that the Office of Health Facility Complaints, after reviewing the reports submitted to them have found “fault” by issuing citations, with the following frequency:

In FY 2008, OHFC issued 10 deficiencies (F323) as a result of the 1,233 OHFC falls reports.

In FY 2007, OHFC issued 12 deficiencies (F323 & F324) as a result of the 815 OHFC falls reports.

In FY 2006, OHFC issued 11 deficiencies (F323 & 324) as a result of the 815 OHFC falls reports.

Quality Improvement

The Centers for Disease Control and Prevention has identified the principal approaches that facilities have taken to decrease the frequency of falls and injuries from falls.***

Fall prevention takes a combination of medical treatment, rehabilitation, and environmental changes. The most effective interventions address multiple factors. Interventions include:

- Assessing patients after a fall to identify and address risk factors and treat the underlying medical conditions.⁵
- Educating staff about fall risk factors and prevention strategies.¹⁰
- Reviewing prescribed medicines to assess their potential risks and benefits and to minimize use.^{14, 15}
- Making changes in the nursing home environment to make it easier for residents to move around safely. Such changes include putting in grab bars, adding raised toilet seats, lowering bed heights, and installing handrails in the hallways.¹⁰
- *Providing patients with hip pads that may prevent a hip fracture if a fall occurs.*^{16***}
- Using devices such as alarms that go off when patients try to get out of bed or move without help.²

Exercise programs can improve balance, strength, walking ability, and physical functioning among nursing home residents. However, it is unclear whether such programs can reduce falls.^{17, 18}

²Rubenstein LZ, Josephson KR, Robbins AS. Falls in the nursing home. *Annals of Internal Medicine* 1994;121:442–51.

⁵Rubenstein LZ, Robbins AS, Josephson KR, Schulman BL, Osterweil D. The value of assessing falls in an elderly population. A randomized clinical trial. *Annals of Internal Medicine* 1990;113(4):308–16.

¹⁰Ray WA, Taylor JA, Meador KG, Thapa PB, Brown AK, Kajihara HK, et al. A randomized trial of consultation service to reduce falls in nursing homes. *Journal of the American Medical Association* 1997;278(7):557–62.

¹⁴Cooper JW. Consultant pharmacist fall risk assessment and reduction within the nursing facility. *Consulting Pharmacist* 1997;12:1294–1304.

¹⁵Cooper JW. Falls and fractures in nursing home residents receiving psychotropic drugs. *International Journal of Geriatric Psychology* 1994;9:975–80.

¹⁶Kannus P, Parkkari J, Niem S, Pasanen M, Palvanen M, Jarvinen M, Vuori I. Prevention of hip fractures in elderly people with use of a hip protector. *New England Journal of Medicine* 2000;343(21):1506–13.

¹⁷Nowalk MP, Prendergast JM, Bayles CM, D'Amico MJ, Colvin GC. A randomized trial of exercise programs among older individuals living in two long-term care facilities: the FallsFREE program. *Journal of the American Geriatrics Society* 2001;49:859–65.

¹⁸Vu MQ, Weintraub N, Rubenstein LZ. Falls in the nursing home: are they preventable? *Journal of the American Medical Directors Association* 2005;6:S82–7.

*****NOTE: since publication of these interventions by the CDC, there have been several studies done on the efficacy of hip protectors** with results showing no reduction in hip fracture incidence with provision of hip protectors. No evidence was found of any significant effect of hip protectors on incidence of pelvic or other fractures. Current data/research on use of hip protectors can be found in the following documents:
<http://www.bmj.com/cgi/content/abstract/332/7541/571>
<http://www.medscape.com/viewarticle/538072>
<http://www.healthandage.com/Hip-Protectors-Dont-Work-As-Intended>
<http://www.healthcentral.com/alzheimers/news-151590-29.html>

Minnesota Efforts.

The Minnesota Department of Human Services has funded several falls prevention programs in care centers through the Performance Incentive Payments. A competitive grant program, PIP rewards facilities for accomplishing their goals in any of several areas of quality improvement.

Empira, a network of several care centers in the Twin Cities area, has members actively implementing falls prevention programs. The early results show a decline of 7 percent in the frequency of falls between the six months ending March 31, 2009, and the baseline rate for the year ending June 30, 2007. If these data continue, the conclusion of Empira's study may provide useful information about the efficacy of various approaches when it finishes.

Resources

-*American Academy of Family Physicians 2000 Falls Prevention and Facts

-**Patient Safety and Quality: An Evidence-Based Handbook for Nurses

http://www.ahrq.gov/qual/nursesfdbk/docs/CurrieL_FIP.pdf

-UCSF Division of Geriatrics Primary Care Lecture Series May 2001

Minnesota Department of Health "Best Practices to Prevent Falls"

<http://www.health.state.mn.us/injury/best/best.cfm?gcBest=fall>

- <http://www.mnfallsprevention.org>

-Centers for Disease Control and Prevention. "Preventing Falls: What Works. A Compendium of Effective Community-Based Fall Prevention Programs for Older Adults", available at

http://www.cdc.gov/ncipc/preventingfalls/CDCCompendium_030508.pdf.

The document at the link below from the Centers for Disease Control and Prevention (CDC) is a good, relatively brief and concise summary of the problem of falls and the preventive interventions in care centers.***CDC. "Falls in Nursing Homes."

<http://www.cdc.gov/ncipc/factsheets/nursing.htm>

This is another CDC document on falls in care centers.

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/nursing.html>

This CDC document examines falls and falls prevention in the broader community, not focusing on care centers.

<http://www.cdc.gov/HomeandRecreationalSafety/Falls/adultfalls.html>