



LEADING CHANGE ▪ CHANGING LIVES

PREVENTION AND REDUCTION OF FALLS AND INJURIES

Two reporters from the Minneapolis *Star Tribune* have been working on an investigative story about falls and fall-related deaths for at least two months. We expect the story to appear in several installments beginning early November – possibly as early as November 3. Aging Services of Minnesota has provided members with several alerts in the past three weeks, and we want to give you with some additional information here at the district meetings.

Why Do Older Adults Fall?

Falls are often the result of many factors related to the individual and his or her environment. Some of these can be changed or improved, but some cannot. Some factors are specific to the individual, and some are related to the individual's 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

Source: *Minnesota Falls Prevention*,
<http://www.mnfallsprevention.org/professional/index.html>

The more risk factors a person has, the more likely the person is to fall. The risk of falling increases dramatically as the number of risk factors increases. Tinetti, Speechley, and Ginter found that the percentage of persons falling increased from 19% for those with one risk factor to 78% for those with four or more risk factors. In addition, they found that some factors were more important than others. Their research suggests that exercise and balance and gait training are very important if they can reduce the risk of falls. However, their research also suggests that risks associated with chronic conditions that cannot be modified significantly means that some people are likely to fall regardless of the interventions.

Risk factor	Mean Relative Risk Ratio or Odds Ratio of Predicting Falls (the higher the number, the more likely a fall)
Muscle weakness	4.4
Prior falls	3.0
Balance deficit	2.9
Gait deficit	2.9
Use of assistive device	2.6
Visual deficit	2.5
Arthritis	2.4
Activities of Daily Living (ADL) deficit	2.3
Depression	2.2
Cognitive deficit	1.8
Age >80 years	1.7

Source: Tinetti, M., Speechley, M., Ginter, S. Risk factors for falls among elderly persons living in the community. New England Journal of Medicine, 1988, 319 (26):1701-7.



Why Do Care Center and Assisted Living Residents Fall More Often?

According to the Centers for Disease Control and Prevention, “Falling can be a sign of other health problems. People in nursing homes are generally frailer than older adults living in the community. They are generally older, have more chronic conditions, and have difficulty walking. They also tend to have problems with thinking or memory, to have difficulty with activities of daily living, and to need help getting around or taking care of themselves. All of these factors are linked to falling.” The same risk factors can be found in frail housing-with-services residents.

Source: CDC Fact Sheet, “Falls in Nursing Homes”

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

What Can Providers Do about Falls and Injuries?

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 residents after a fall to identify and address risk factors and treat the underlying medical conditions.
- Educating staff about fall risk factors and prevention strategies.
- Reviewing prescribed medicines to assess their potential risks and benefits and to minimize use.
- 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.
- Providing residents with hip pads that may prevent a hip fracture if a fall occurs.
- Using devices such as alarms that go off when residents try to get out of bed or move without help.
- 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.

Source: CDC. “Falls in Nursing Homes”

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



Fall Facts for Care Centers

The Minnesota Department of Human Services calculates a risk-adjusted prevalence rate of falls for all care centers on a quarterly basis. The prevalence rates for the last three and a half years have not changed significantly.

Risk-Adjusted Falls Prevalence Rates in all MN Care Centers

Rate for Year Ending on-	Risk-Adjusted Falls Rate
12/31/2005	12.1%
9/30/2006	12.2%
12/31/2006	12.1%
3/31/2007	12.2%
6/30/2007	12.3%
9/30/2007	12.3%
12/31/2007	12.4%
3/31/2008	12.3%
6/30/2008	12.1%
9/30/2008	12.2%
12/31/2008	12.1%
3/31/2009	12.1%
6/30/2009	12.1%

Source: Minnesota Department of Human Resources

The Centers for Medicare and Medicaid Services calculates two rates related to falls in its Quality Measures and Quality Indicators for care centers. The two measures are (1) the incidence of new fractures on a target assessment and (2) the prevalence of falls in the last 30 days. The data are drawn from the Minimum Data Set 2.0 assessments that all certified facilities report.

Quarter & Year	Incidence of New Fractures on Target Assessment		Prevalence of Falls in Last 30 Days		Residents Who Were Physically Restrained	
	MN	USA	MN	USA	MN	USA
Q1 2009	1.7%	1.5%	16.6%	13.2%	1.8%	3.7%
Q1 2005	2.1%	2.0%	16.3%	13.0%	4.0%	6.8%
Q1 2001	1.8%	1.6%	16.8%	13.3%	5.3%	10.3%

The data show that neither measure has changes significantly over the eight years. They also show that Minnesota has higher rates than the nation as a whole.

The table also shows the significant reduction in the use of physical restraints both nationally and in Minnesota. This is important because physical restraints traditionally were an intervention intended to prevent falls, and the reduction in the use of restraints would be expected to result in an increase in the number of falls.