

Aging is Inevitable: Falling is Preventable

Research Summary: Falls Among Adults 65 and Older

Disclaimer: The information below was compiled by South Dakota State University Extension. It is for informational purposes only. Falls prevention research is rapidly evolving. Individuals are encouraged to consult with a medical provider regarding a fall prevention plan to fit their unique health status.

The purpose of this document is to provide a quick reference tool on data related to fall prevention research and fall-related injuries, hospitalizations, and deaths in South Dakota as well as the economic impact of falls in the United States. Details are included to connect the reader with expanded information about the cost of falls to the individual, at-risk populations, factors that aggravate/mitigate fall risk, gender differences in fall risk, other risk factors and areas for future research.

South Dakota Fall-related Injuries

1. Leading cause of injury in 2017 and 2018¹
2. 15k fall-related hospitalizations between 2011 and 2018²
3. 117K fall-related injuries between 2011 and 2018²
4. Females fell at higher rates between 2011 and 2018²
5. 9% of 45+ reported an injury from a fall in 2016⁴

South Dakota Fall-related Deaths

1. Falls and motor vehicle collision are the leading cause of death¹
2. Half (51.9%) fall-related deaths are among people 85+²
3. SD 5th in Nation for Deaths from Falls³

Source:

1. 2019 SD Annual Trauma Registry Report (2017 and 2018 data)
2. Injuries in SD Report (2011 to 2018): https://doh.sd.gov/documents/statistics/InjuriesInSD_DataReport_2020.pdf
3. Deaths from falls among persons age 65 or older (2007 to 2016): <https://pubmed.ncbi.nlm.nih.gov/29746456/>
4. SD Behavioral Risk Factor Surveillance System: <https://doh.sd.gov/statistics/2016BRFSS/Falls.pdf>

Economic impact

- Annual cost of falls in the United States is \$50 Billion or \$95,000 per minute for a whole year
 - Medicare and Medicaid: \$38 billion
 - Private and other sources: \$12 billion

Source: <https://www.cdc.gov/features/falls-older-adults/index.html>

Cost to the individual

- Older adults, particularly those age 85 or older, often experience a significant reduction in **quality of life** following a fall (Tricco et al., 2017).
- Fall-related injuries are associated with **significant disability**, as well as **reduced mobility and independence**. (Chang & Do, 2015).
- Falls increase risk of **premature death** (Chang & Do, 2015).
- Adults who experience falls also experience **anxiety and depression** (Tricco et al., 2017).
- Older adults who experience increased anxiety and depression may experience challenges in their cognitive function (Young & Williams, 2015).

- *Cognitive function affects the ability of adults to implement concrete solutions to prevent falls. As a reminder, cognitive impairment is not a normal consequence of the aging process. Most adults who manage their chronic disease will not routinely experience dementia symptoms.*
- When older adults start to experience mobility challenges (balance issues, lower body weakness, etc.) they are likely to develop **fear of Falling (FOF)**. Adults who develop **fear of falling** are at increased risk of experiencing a fall because of the behavioral consequences of this fear (limited time on feet and movement; Young & Williams, 2015).

Population at Risk

- One in four adults age 65+ each year
- Adults age 85 and older more likely to experience a fall-related death

Source:

<https://www.cdc.gov/features/falls-older-adults/index.html>

Injures in SD Report

Factors that increase fall risk in older adults

- The falls prevention research indicates that among older adults that **chronic conditions, female gender, age 85+, gait and balance deficits, medication use, and malnutrition** contribute to increased risk of experiencing a fall. (Chang & Do, 2015; Take A Stand, 2015).
 - For example, diabetes, arthritis, stroke, neurological disorders, chronic pain, depression, and COPD *affect the body in ways that lead to **reduced sensitivity in extremities, walking abnormalities, balance/gait issues, muscle weakness, changes in lung capacity, and medication use.*** (Take A Stand, 2015)
- **Malnutrition** is common among those who experience a fall. (Esquivel, 2017; Torres et al., 2015). One study found that 43% of individuals with a poor nutritional status experience one or more falls in the following year. (Torres et al., 2015).
 - Research also indicates that long-term use of multiple medications can increase *nutrition risk* in older adults because of the way **medications impact on how the body absorbs, metabolizes, and excretes nutrients** (Esquivel, 2017).

Fall risk factors in men

- Overall, **mortality rates** from falls are higher among men.
- Even after controlling for lifestyle and behavior factors, **marital status** remained significantly associated with falls in men, but not women.
 - Other research confirms gender differences in health outcomes and mortality risk and the effect of **marital status, widowhood and divorce.**
 - Spouse provide support for chronic disease self-management.
- Men with **higher levels of education** may be at greater risk of falling (Note: Contradicting research results exist.)
- **Eye disorders** were associated in falls in men only.
 - Vision is an important contributing factor in both genders. For example, declines in visual acuity may make it more difficult for an adult to navigate an unfamiliar or dark environment.
- **Alzheimer's disease/dementia** emerged as an independent correlate of falls in men.

Fall risk factors in women

- Women more likely to fall or suffer from **fall-related injuries.**

- **Higher income** and **financial resources** associated with increased health maintenance behavior and reduced fall risk in women.
- **Drinking alcohol** at least once per week was independently associated with falls in women.
 - *Might be explained by gender differences in alcohol metabolism and the extent to which alcohol impairs cognitive (e.g., reaction time, alertness) and physical functions.*
- While the use of multiple medications is a risk factor for both genders, research indicates the relationship between **polypharmacy and fall risk is greater for women**.
- Falls are associated with **psychoactive drugs**, such as hypnotics and sedatives, in women, but not men.
- Women with **diabetes** are more likely to fall.
 - Research indicates that diabetic women tend to self-manage their chronic disease less effectively than diabetic men.
- Women with **osteoporosis** are more likely to report a fear of falling and experience a fall.
- **Multiple chronic conditions**, which is likely an indication of overall frailty, is more strongly associated with falls in women than in men.
 - *Might be explained by biological and behavioral differences in chronic disease prognosis and management.*

Other risk factors

- **Lower income** is associated with poor living environment, poor health behavior, and barriers to health-care services.
- Greater **levels of physical activity** is associated with reduced fall risk.
- The dose-response relationship observed between the **number of chronic diseases** and fall risk.

Future risk factor research

- Research suggests significant associations between certain combinations of chronic diseases, falls, and gender, which may elevate or mitigate fall risk. **Gender differences in fall risk factors and intervention strategies** are an important area for future research.

Risk Factors Source:

Chang, V. C. & Do, M. T. (2015) Risk factors for falls among seniors; implications of gender. American Journal of Epidemiology, 181(7), 521-531. 10.1093/aje/kwu268. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/25700887>.



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Reference List

The research highlighted in this document is a selected summary of the references provided below. These references are not an exhaustive list of falls research. Contact a local librarian to find the latest falls research available.

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