

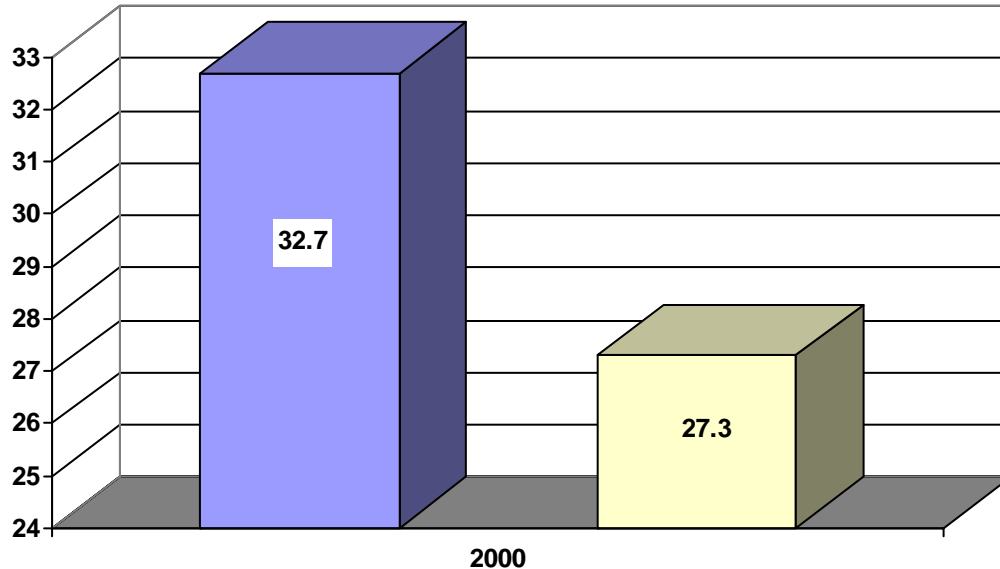
## Falls and Death Rates Among Older Adults

[www.cdc.gov/ncipc/pub-res/toolkit/figures.htm](http://www.cdc.gov/ncipc/pub-res/toolkit/figures.htm)  
[www.cdc.gov/ncipc/factsheets/falls.htm](http://www.cdc.gov/ncipc/factsheets/falls.htm)

### Who is at risk?

- White men have the highest fall-related death rates, followed by white women, black men, and black women (CDC 2004).
- Women sustain about 80% of all hip fractures (Stevens 2000).

**Unintentional Fall Death Rates per 100,000 Population for Men and Women Age 65+, United States, 2000**



National Center for Injury Prevention and Control

## Falls and Hip Fractures Among Older Adults

### How serious is the problem?

- More than one-third of adults ages 65 years and older fall each year (Hornbrook 1994; Hausdorff 2001).
- Among older adults, falls are the leading cause of injury deaths (Murphy 2000) and the most common cause of nonfatal injuries and hospital admissions for trauma (Alexander 1992).

- In 2003 more than 1.8 million seniors age 65 and older were treated in emergency departments for fall-related injuries and more than 421,000 were hospitalized (CDC 2005).

### **What outcomes are linked to falls?**

- In 2002, nearly 13,000 people ages 65 and older died from fall-related injuries (CDC 2004). More than 60% of people who die from falls are 75 and older (Murphy 2000).
- Of those who fall, 20% to 30% suffer moderate to severe injuries such as hip fractures or head traumas that reduce mobility and independence, and increase the risk of premature death (Sterling 2001).
- Among people ages 75 years and older, those who fall are four to five times more likely to be admitted to a long-term care facility for a year or longer (Donald 1999).
- Falls are a leading cause of traumatic brain injuries (Jager 2000).
- Among older adults, the majority of fractures are caused by falls (Bell 2000).
- Approximately 3% to 5% of older adult falls cause fractures (Cooper 1992; Wilkins 1999). Based on the 2000 census, this translates to 360,000 to 480,000 fall-related fractures each year.
- The most common fractures are of the vertebrae, hip, forearm, leg, ankle, pelvis, upper arm, and hand (Scott 1990).
- In 2000, direct medical costs totaled \$179 million dollars for fatal and \$19.3 billion dollars for nonfatal fall injuries (Stevens 2005, in press).

### **Who is at risk?**

- White men have the highest fall-related death rates, followed by white women, black men, and black women (CDC 2004).
- Women sustain about 80% of all hip fractures (Stevens 2000).
- Among both sexes, hip fracture rates increase exponentially with age (Samelson 2002). People ages 85 years and older are 10 to 15 times more likely to sustain hip fractures than are people ages 60 to 65. (Scott 1990).

### **What is the effect of hip fractures?**

- Of all fall-related fractures, hip fractures cause the greatest number of deaths and lead to the most severe health problems and reduced quality of life (Wolinsky 1997; Hall 2000).
- In 1999 in the United States, hip fractures resulted in approximately 338,000 hospital admissions (Popovic 2001).
- Most patients with hip fractures are hospitalized for about one week (Popovic 2001). Up to 25% of community-dwelling older adults who sustain hip fractures remain institutionalized for at least a year (Magaziner 2000).
- In 1991, Medicare costs for hip fractures were estimated to be \$2.9 billion (CDC 1996).
- From 2000 to 2040, the number of people age 65 or older is projected to increase from 34.8 million to 77.2 million. For people over 85, the relative growth

rate is even faster (U.S. Bureau of the Census 1998). Given our aging population, by the year 2040, the number of hip fractures is expected to exceed 500,000 (Cummings 1990).

### **How can seniors reduce their risk of falling?**

Through careful scientific studies, researchers have identified a number of modifiable risk factors:

- Lower body weakness (Graafmans 1996)
- Problems with walking and balance (Graafmans 1996; AGS 2001)
- Taking four or more medications or any psychoactive medications (Tinetti 1989; Ray 1990; Lord 1993; Cumming 1998).

### **Seniors can modify these risk factors by:**

- Increasing lower body strength and improving balance through regular physical activity (Judge 1993; Lord 1993; Campbell 1999). Tai Chi is one type of exercise program that has been shown to be very effective (Wolf 1996; Li 2005).
- Asking their doctor or pharmacist to review all their medicines (both prescription and over-the-counter) to reduce side effects and interactions. It may be possible to reduce the number of medications used, particularly tranquilizers, sleeping pills, and anti-anxiety drugs (Ray 1990).

Strong studies have shown that some other important fall risk factors are Parkinson's Disease, history of stroke, arthritis (Dolinis 1997), cognitive impairment (Tromp 2001), and visual impairments (Dolinis 1997; Ivers 1998; Lord 2001). To reduce these risks, seniors should see a health care provider regularly for chronic conditions and have an eye doctor check their vision at least once a year.

### **What other things may help reduce fall risk?**

Because seniors spend most of their time at home, one-half to two-thirds of all falls occur in or around the home (Nevitt 1989; Wilkins 1999). Most fall injuries are caused by falls on the same level (not from falling down stairs) and from a standing height (for example, by tripping while walking) (Ellis 2001). Therefore, it makes sense to reduce home hazards and make living areas safer.

- Researchers have found that simply modifying the home does not reduce falls. However, environmental risk factors may contribute to about half of all home falls (Nevitt 1989).
- Common environmental fall hazards include tripping hazards, lack of stair railings or grab bars, slippery surfaces, unstable furniture, and poor lighting (Northridge 1995; Connell 1996; Gill 1999).

To make living areas safer, seniors should:

- Remove tripping hazards such as throw rugs and clutter in walkways;
- Use non-slip mats in the bathtub and on shower floors;
- Have grab bars put in next to the toilet and in the tub or shower;
- Have handrails put in on both sides of stairways;
- Improve lighting throughout the home.

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