

## Falls Among Older Adults in New Mexico

An estimated one in three adults ages 65 years and older experience a fall each year. Falls can cause fractures, head trauma and other injuries that lead to hospitalization, disability and premature death. Hip fractures and traumatic brain injuries (TBI) are the most serious fall-related injuries in older adults. Over 90% of hip fractures among older adults are caused by falls,<sup>1</sup> and in 2005, fall-related TBI accounted for 50% of unintentional fatal falls among older adults.<sup>2</sup>

Fall injuries can make it hard for older adults to get around and limit independent living. Falls also have psychological consequences. Many people who fall, even those who are not injured seriously, develop a fear of falling. This fear can result in depression, isolation and reduced mobility, which lead to a decline in physical function and an increased risk for falling.<sup>3</sup>

Fall-related injuries among older adults are costly. In 2000, the total direct cost of all fall injuries for people 65 and older in the U.S. exceeded \$19 billion: \$0.2 billion for fatal falls, and \$19 billion for nonfatal falls.<sup>4</sup> By 2020, the annual direct and indirect cost of fall injuries is expected to reach \$54.9 billion (in 2007 dollars).<sup>5</sup>

In New Mexico, falls are the leading cause of injury-related death and hospitalization among older adults. The fall-related death rate is the highest among all states and is about two and a half times higher than the national rate.<sup>6</sup> This report will address fall-related deaths and hospitalizations in New Mexico.

### Methods

The data on fall deaths were obtained from the NM Bureau of Vital Records and Health Statistics. In 2006 information on place of injury, e.g., home, hospital, etc., was added to the death file, which provides valuable information on the circumstance of the fall.

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The data on fall-related hospitalizations were obtained from the NM Health Policy Commission, which collects hospital discharge data from non-federal hospitals in New Mexico. Fall-related hospitalizations are based on E-codes, which describe the cause, circumstance and intent of the injury. About 75% of the injury-related hospitalizations are e-coded, so there is probably an undercount of fall-related hospitalizations. Hospital data records included in this analysis were limited to those with a principal diagnosis of injury and had an E-code designating a fall.

The number and rate of fall-related injury deaths and hospitalizations were calculated for this report.

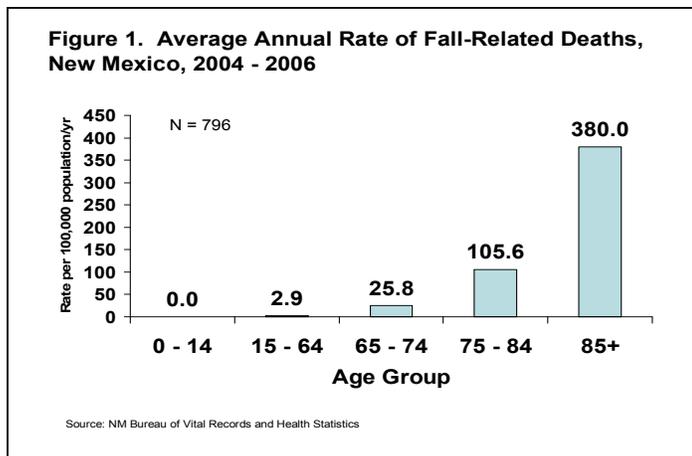
### Results

#### *Deaths*

In New Mexico, from 2004 to 2006, 686 deaths from falls occurred among adults ages 65 and older, accounting for about 68% of all unintentional injury-related deaths in this age group. The fall-related age-adjusted death rate among older adults increased from 59.7/100,000 population in 1999 to 99.8/100,000 population in 2005; an increase of 67.2% during this period. Nationally, from 1999 to 2005, the age-adjusted rate of fatal falls among older adults increased from 29.4/100,000 population to 40.7/100,000 population, an increase of 38.4%.<sup>6</sup> The most common circumstance that led to the fall-related death in New Mexico was "other fall on the same level". In 2006, most of the fall-related injuries that resulted in death (68%) occurred at home.

In New Mexico, 86.2% percent of all fall-related deaths were among persons ages 65 years and older during 2004 to 2006. Fall-related deaths increase with

age and increase dramatically after 65 years of age (Figure 1).



The average annual rate of fall-related death for New Mexicans ages 65 – 74 from 2004 to 2006 was 25.8/100,000 population, for 75 to 84 year olds the average annual rate was 105.6/100,000 population and for 85+ year olds the average annual rate was 380.0/100,000 population. The fall-related death rate increased in each age group from 1999 to 2006: 146.7% for 65 to 74 year olds, 98.4% for 75 to 84 year olds and 46.9% for 85+ year olds (Figure 2, back page).

Between 2004 and 2006, the fall-related death rate among older adult men (average annual rate of 98.1/100,000 population) was similar to the rate for older adult females (average annual rate of 95.8/100,000). Older White-non-Hispanics had a higher fall-related death rate (average annual rate of 107.2/100,000) than Hispanics (80.0/100,000). Between 2002 and 2006, Bernalillo County had the highest average annual fall-related death rate of 115.0/100,000 population. Southwestern NM had the lowest fall-related death rate at an average annual rate of 66.1/100,000 population.

Among adults 65 years of age and older, hip fractures accounted for about 38% of fall-related deaths and traumatic brain injuries (TBIs) accounted for 24% of fall-related deaths. However, for the 65 to 74 year age group it was found that TBI accounted for 36% of fall-related deaths and hip fractures accounted for 18% of fall-related deaths. Falls accounted for 46% of traumatic brain injury deaths among older adults between 2004 and 2006.

### *Hospitalizations*

In New Mexico, over 4,300 fall-related hospitalizations occurred among adults ages 65 years and older from 2004 to 2006, accounting for at least 65% of all unintentional injury-related hospitalizations in this age group. As with fall-related deaths, the rate of hospitalization for fall-related injuries is highest in the oldest age groups and the fall-related hospitalization rate rapidly increases beginning at age 65 years. Persons ages 85 and older had the highest average annual fall-related hospitalization rate at 1,797.1/100,000 population. The average annual rate of fall-related hospitalizations for ages 65 – 74 was 233.0/100,000 population and for 75 to 84 year olds the average annual rate was 768.4/100,000 population.

The 2004-2006 fall-related hospitalization rate was 2.3 times higher for older females (average annual rate of 812.9/100,000 population) than for older males (average annual rate of 350.5/100,000 population). In this same time period, northeastern NM had the highest fall-related hospitalization rate (average annual rate of 894.0/100,000 population), while northwestern NM had the lowest fall-related hospitalization rate (439.2/100,000 population).

“Other and unspecified” falls accounted for 47.1% of fall-related hospitalizations among older adults and 39.3% of the fall-related hospitalizations were a fall on the same level from slipping, tripping and stumbling. The admission source for about 72% of the hospital admissions for falls among older adults was the emergency department. About 49% of the hospitalizations for falls were discharged to either a skilled nursing facility or an intermediate care facility.

In New Mexico for 2004-2006, hip fractures accounted for 50.8% of fall-related hospitalizations, other lower extremity fractures accounted for 11.3%, upper extremity fractures accounted for 8.2% and TBIs accounted for 7.1%. Hip fracture hospitalizations among older adults followed the same age trend pattern as fall-related hospitalizations. Persons ages 85 and older had the highest hip fracture related hospitalization rate from 2004 to 2006 (average annual rate of 2,161.0/100,000 population). The 2004-2006 hip fracture related hospitalization rate for persons 65 years of age and older was 2.3 times higher for females (average annual rate of 870.4/100,000 population) than for males (average annual rate of 386.5/100,000 popu-

lation). When hip fracture hospitalizations were analyzed by cause using E-codes, it was found that 47.5% of the hip fractures were caused by falls, 18.9% were caused by other causes, mostly transportation related, and the cause was unknown because of a lack of E-coding for 33.6%.

Falls were the cause of TBI for 40% of TBI hospitalizations among older adults between 2004 and 2006. The cause was unknown (no E-code) for 34% of the TBI hospitalizations in this age group.

### Discussion

The higher fall-related death and hospitalization rates among older adults are due to several factors including impaired gait and balance, muscle weakness, limitations of daily living activities, reduced visual acuity and depth perception, mental confusion and the effects of using prescription drugs. It is expected that adults ages 85 and older would have the highest fall-related death rate. What was not expected was that the fall-related death rate for people ages 85 and older would have increased 47% from 1999 through 2006. The biggest increase in the fall-related death rate in this age group occurred between 2003 and 2005, during which the fall-related death rate increased 29%. The fall-related death rate for older adults ages 65 to 74 and older adults ages 75 to 84 also increased dramatically from 1999 to 2006. The reason for this increase is unknown and is an area for further exploration.

In response to the increase in fall-related deaths, the Epidemiology and Response Division (ERD) of the New Mexico Department of Health has designated falls prevention as one of its priorities. The ERD's Office of Injury Prevention coordinates the statewide New Mexico Adult Falls Prevention Coalition. The Coalition has formed the following work groups to address falls in NM; home safety, physical activity, medication safety, and environmental safety in the community. These work groups are based upon the goals and strategies of the "Falls Free: Promoting a National Falls Prevention Action Plan",<sup>7</sup> spearheaded by the National Council on Aging (NCOA). In reducing the burden of falls, prevention strategies are most effective when multi-component strategies are implemented such as tailored exercise or physical therapy to improve gait, balance, and strength; environmental modification; medication management; education about fall risks, treatment of chronic conditions that

may contribute to fall risk and vision assessment and correction.<sup>8</sup> Effective falls prevention programs can reduce unintentional injury due to falls, thereby reducing the burden of falls and improving quality of life for older adults.

For more information about the Coalition contact Frieda Gonzales at 505.827.2589 or e-mail at [bernfrieda.brady@state.nm.us](mailto:bernfrieda.brady@state.nm.us)

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**Figure 2. Fall-Related Death Rates Among Older Adults by Age Group, New Mexico, 1999-2006**

