



# FALLS AMONG OLDER ADULTS IN OHIO

Falls are particularly harmful to older adults. Falls and fall-related injury seriously affect older adults' quality of life and present a substantial burden to the Ohio health-care system. They surpass all other mechanisms of injury as a cause of ER visits, hospitalization and death. The following data provide clear justification of the need for fall prevention efforts.

## Falls among older adults have reached epidemic proportions and rates continue to rise.

- From 2000 to 2008, Ohioans aged 65 and older experienced a 140% increase in the number of fatal falls and 129% increase in the fall death rate (Figure 1).
- On average, 2.4 older Ohioans suffered fatal falls each day in 2008 (Figure 8).
- Older males are at greater risk for suffering a fatal fall (Figure 2), although in general older females have higher non-fatal fall-related injury rates (Figure 8).
- In 2007, there were nearly four (3.7) fall-related ER visits for every 100 Ohio older adults (data not shown) and nearly 11 (10.6) fall-related hospitalizations for every 1,000 Ohio older adults (Figure 3). Fall-related ER visit and hospitalization rates increased 61% and 57% respectively from 2002 to 2007.

Figure 1. Annual number and rate per 100,000 of fatal falls by year, ages 65+, Ohio 2000 to 2008<sup>1</sup>

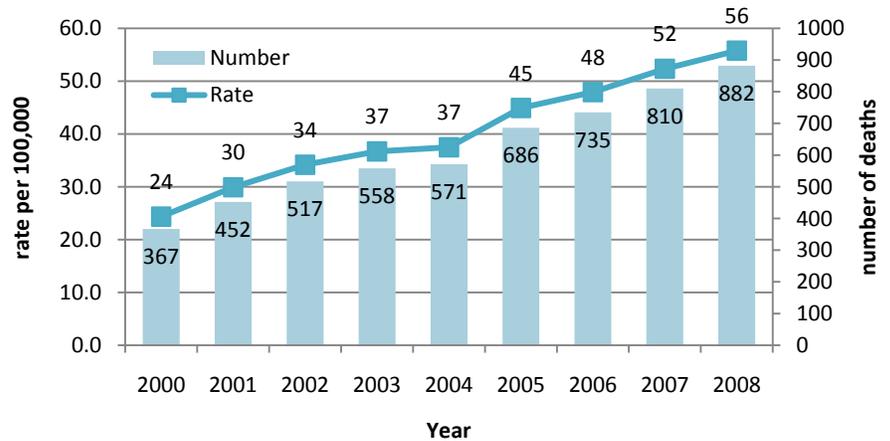


Figure 2. Fall death rate per 100,000, ages 65+, by year, sex, Ohio, 2000-08<sup>1</sup>

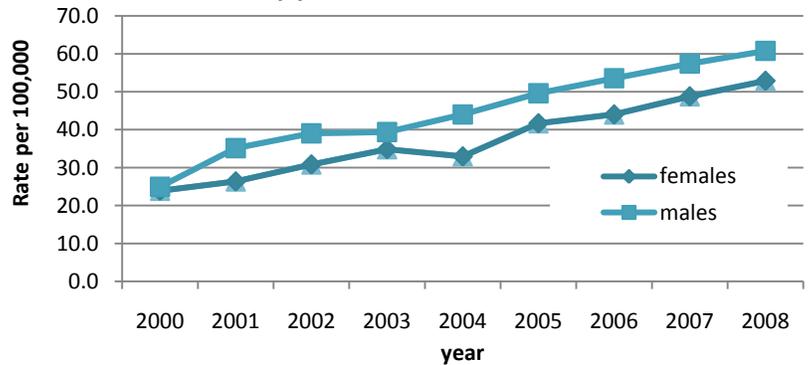
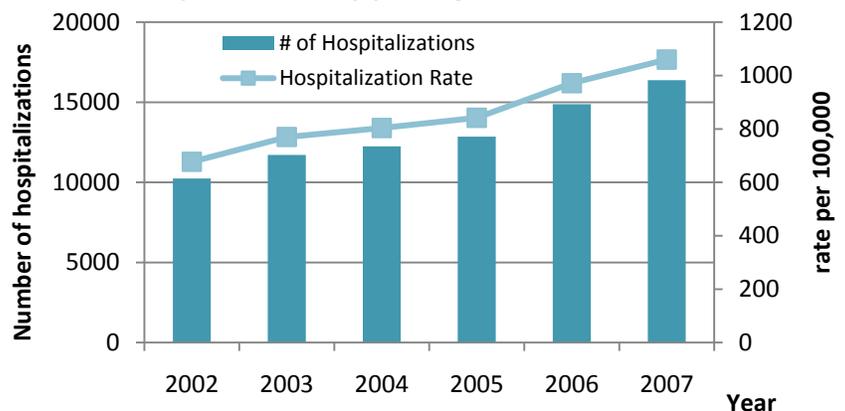


Figure 3. Number and rate per 100,000 of fall-related hospitalizations by year, ages 65+, Ohio, 2002-07<sup>2</sup>



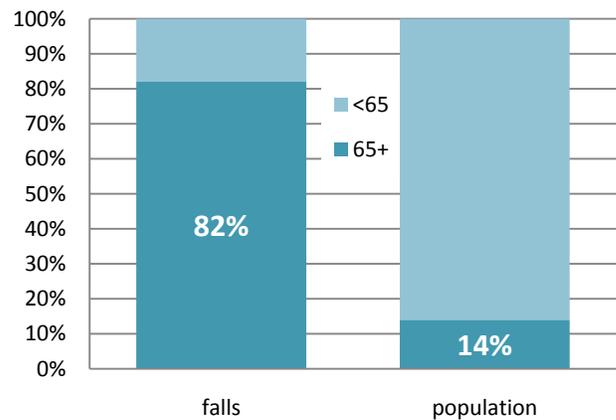
<sup>1</sup>Source: Ohio Department of Health, Office of Vital Statistics, Analysis by Injury Prevention Program

<sup>2</sup>Source: Ohio Hospital Association

### Older adults are disproportionately affected by fall-related injury.

- Falls are the leading cause of injury-related ER visits, hospitalizations and deaths for Ohioans aged 65 and older.<sup>1,2</sup> Fall-related ER visit and hospitalization rates for Ohioans 65 years and older are higher than rates for all other injuries combined.<sup>1</sup>
- Ohioans 65 and older accounted for approximately 82% of fatal falls in 2008; while they represent only 14% of the population (Figure 4.)
- Risk for fatal falls increases dramatically with advancing age. Females 85 years and older account for half of fatal falls, while they account for only 3% of the female population.<sup>1</sup>

**Figure 4. Proportional distribution of fatal falls compared to population by age group, 65+ vs <65, Ohio 2008<sup>1</sup>**



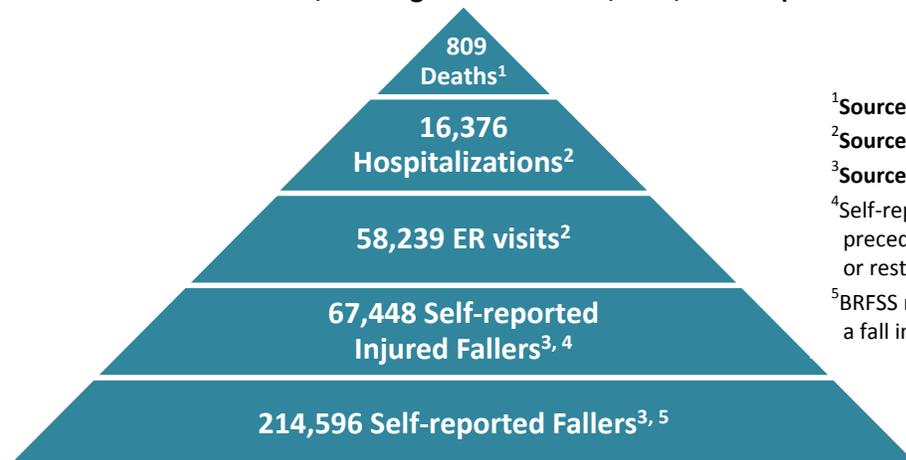
<sup>1</sup>Source: ODH Office of Vital Statistics

<sup>2</sup>Source: Ohio Hospital Association

### Fatal and medically-treated falls represent only a proportion of all falls among older adults. Falls have significant consequences on quality of life.

- As reported in the 2006 Behavioral Risk Factor Surveillance Survey (BRFSS) results, 14.3% of Ohio respondents aged 65 and older indicated that they fell during the previous three months, projecting to a total of approximately 215,000 persons who suffered at least one fall. Nearly one-third of those who fell (31.6%), or an estimated 67,500 older Ohioans, reported sustaining an injury that resulted in a doctor visit or restricted activity.<sup>3</sup>
- The psychological consequences of any fall, whether injury-causing or not, can be severe, resulting in fear and decreased quality of life from self-imposed restriction of activities, social isolation and depressive symptoms. These “near-miss” falls can put someone at risk for future falls as well if they are not adequately assessed and managed by a health care professional.

**Figure 5. Number of fall-related deaths,<sup>1</sup> HIDs<sup>2</sup> and ER visits,<sup>2</sup> and self-reported injured fallers<sup>3,4</sup> and fallers,<sup>3,5</sup> for ages 65 and older, Ohio, 2007<sup>1,2</sup> (2006 BRFSS<sup>3,4,5</sup>)**



<sup>1</sup>Source: ODH Office of Vital Statistics, 2007 data

<sup>2</sup>Source: Ohio Hospital Association, 2007 data

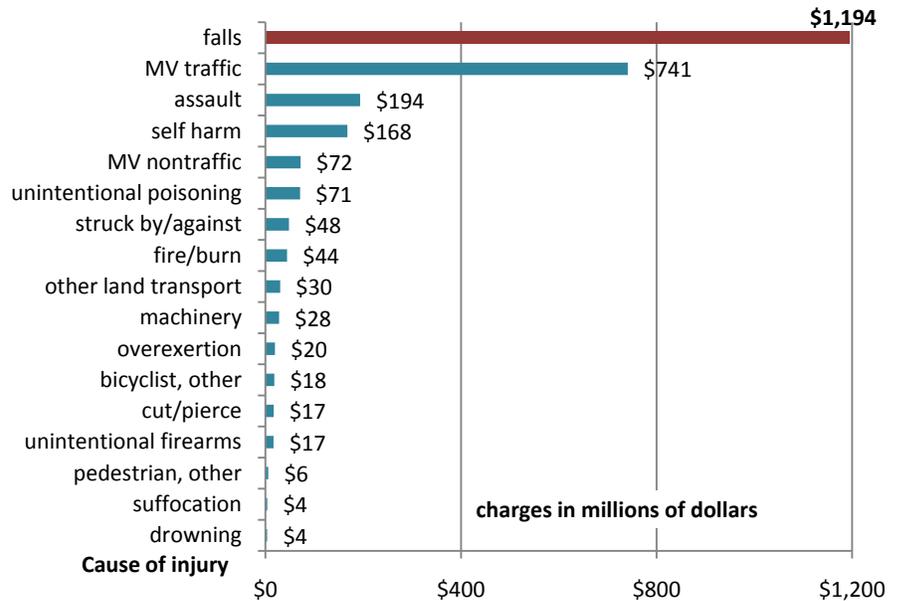
<sup>3</sup>Source: BRFSS Survey, 2006

<sup>4</sup>Self-reported fallers (estimated) whose fall in preceding 3 months resulted in a doctor's visit or restricted activities for at least one day

<sup>5</sup>BRFSS respondents who reported experiencing a fall in the preceding 3 months

## COSTS ASSOCIATED WITH FALL-RELATED INJURY IN OHIO

**Figure 6. Total charges (in millions) for inpatient treatment of leading causes of injury, by type of injury, Ohio, 2002-05<sup>1</sup>**



<sup>1</sup>Source: Ohio Hospital Association

**Falls are Costly!**

- On average annually in Ohio, direct treatment charges for fall-related hospitalizations total \$298.5 million. These charges represent nearly half (45%) of the \$650 million in charges for all leading causes of injury combined (Figure 4.)
- Direct medical costs represent only a fraction (8%) of the total cost of falls among older adults in Ohio - **\$4.2 billion** in 2003 (Table 1).

**Table 1. Average Annual Cost of Non-fatal, Hospital-admitted Falls Among Older Adults, Ages 65+ Ohio, 2003<sup>1</sup>**

	65+ yrs Total	Percent of All	Percent of Ohio population
<b>Incidence of Fall-related Hospital Admissions</b>	<b>19,137<sup>2</sup></b>	<b>71%</b>	<b>13%</b>
<b>Medical</b>	<b>\$ 327,366,900</b>	<b>67%</b>	
<b>Work-Loss</b>	<b>\$ 116,513,800</b>	<b>22%</b>	
<b>Quality-of-Life</b>	<b>\$ 3,728,623,600</b>	<b>72%</b>	
<b>Total Costs</b>	<b>\$ 4.2 billion</b>	<b>68%</b>	

<sup>1</sup>Source: Children’s Safety Network Economics & Data Analysis Resource Center, <sup>2</sup>incidence based on HCUP survey data

**The likelihood of falling and the severity of fall-related injury increases with age, and therefore the risk for hospitalization and death.**

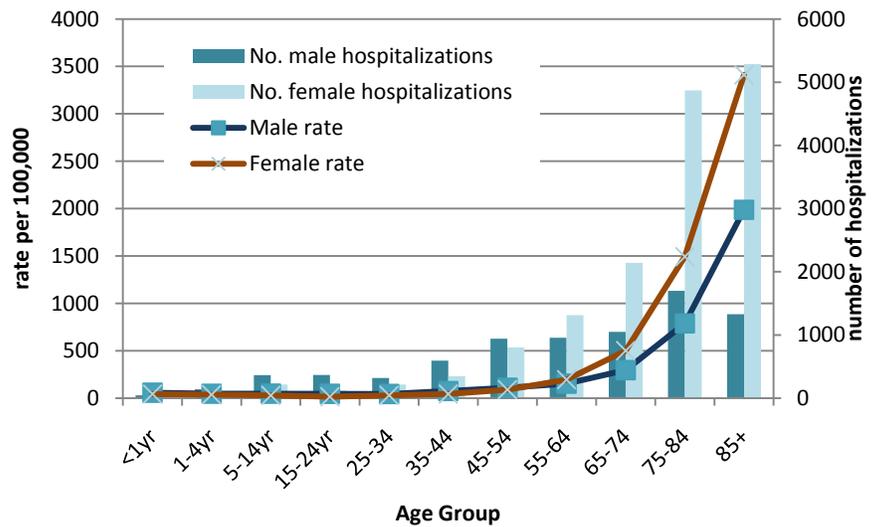
- Mean age increases when comparing fall-related ER visits (37.5 years), inpatient hospitalizations (70.1 years) and deaths (76.2 years). Younger Ohioans are more likely to be treated in an ER for fall-related injuries and not to require an overnight stay in the hospital.<sup>1</sup>
- Mean length of stay in days also increases with age.<sup>1</sup>
- More than 90 percent of fall-related hip fractures occur among those 65 years and older, and nearly half (48.7 percent) of fall-related inpatient hospitalizations among those 65 and older had a hip fracture.<sup>1</sup>

<sup>1</sup>Source: Ohio Hospital Association

## Older females have higher risk for non-fatal fall-related injury.

- In 2007 hospitalization rates ranged from lows of 15.5 per 100,000 for females aged 15-24 to highs of 3,411.2 per 100,000 for females 85 and older (Figure 7).
- From ages 65 and older, female risk for fall-related injury skyrockets, with the disparity between male and female rates widening with advancing age. In terms of actual numbers of fall-related hospitalizations, there were two women treated for every man among 65-74-year-olds and there was a 4:1 female/male fall-related treatment ratio for those aged 85 years and older (Figure 7).

**Figure 7. Average annual fall-related inpatient hospitalization rates, by age group, sex, Ohio, 2007<sup>1</sup>**

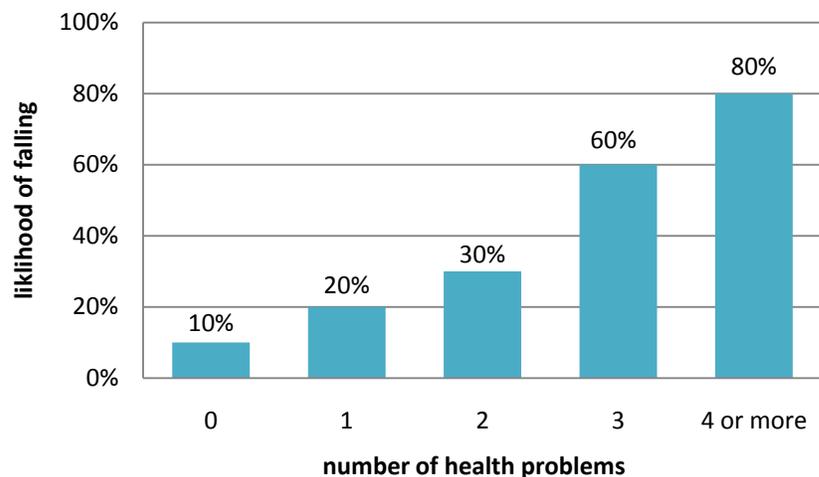


<sup>1</sup>Source: Ohio Hospital Association

## Older adults with poor health status and those who are isolated are at greater risk for falling.

- The number of health problems and the risk of falling increase proportionately (Figure 8).
- BRFSS respondents with diabetes, eye disease, obesity, heart disease or stroke had a higher prevalence of falls in the past three months than those without (Ohio BRFSS Survey 2006).
- Social isolation is a risk factor for fatal falls. Married elders are significantly less likely to die from a fall than the unmarried (ODH Office of Vital Statistics).

**Figure 8. Number of health problems and risk for falling among adults age 65 and older<sup>1</sup>**



<sup>1</sup>Source: Tinetti et al., 1988

## Additional resources for prevention of falls among older adults are needed.

Due to the large and growing burden of fall-related injury in Ohio, especially among older Ohioans over 65 years, additional resources are needed at both the state and local level to implement evidence-based prevention initiatives.

**Falls are not a normal part of aging.** There are simple steps that older adults can take to reduce their risk for a fall. Additional resources including checklists and brochures are available from the CDC at:

<http://www.cdc.gov/ncipc/duip/preventadultfalls.htm>

Produced by Ohio Department of Health, Office of Healthy Ohio, Violence and Injury Prevention Program

<http://www.odh.ohio.gov/odhprograms/hpr/injprev/ovipp.aspx>