

Indiana

Special Emphasis Report: Fall Injuries among Older Adults 2014

A GROWING CONCERN

Unintentional falls among older adults are a leading cause of fatal and nonfatal injury in the U.S. and Indiana. Hospital costs associated with injuries sustained by falls account for a substantial share of health care dollars spent on injury-related care.

In 2014, 333 Indiana residents ages 65 and older died and over 42,600 fall injuries were treated at hospitals and emergency departments (Figure 1).

This report provides recent data on unintentional fall injuries and deaths among Indiana residents ages 65 and older. It includes information about groups with the highest rates, associated costs and current prevention strategies and activities in Indiana.

FIGURE 1. Burden of Fall Injuries among Residents Ages 65 and Older—Indiana, 2014



QUICK FACTS



Residents ages 65 and older account for **81.2% of all fall deaths** and 72.4% of nonfatal fall hospitalizations in Indiana.



Falls are the **leading cause of traumatic brain injury (TBI)** in Indiana residents ages 65 and older, accounting for 56.7% of TBI deaths and 34.8% of TBI hospitalizations. **37.1% of fall deaths** and hospitalizations among older adults were associated with a TBI.



Projected lifetime costs associated with fall injuries in 2013 among Indiana residents ages 65 and older are estimated to be **\$740 million**.



Each week, there are 672.7 emergency department visits among residents ages 65 and older, 146.8 hospitalizations, **and 6.4 deaths due to fall injuries** in Indiana.



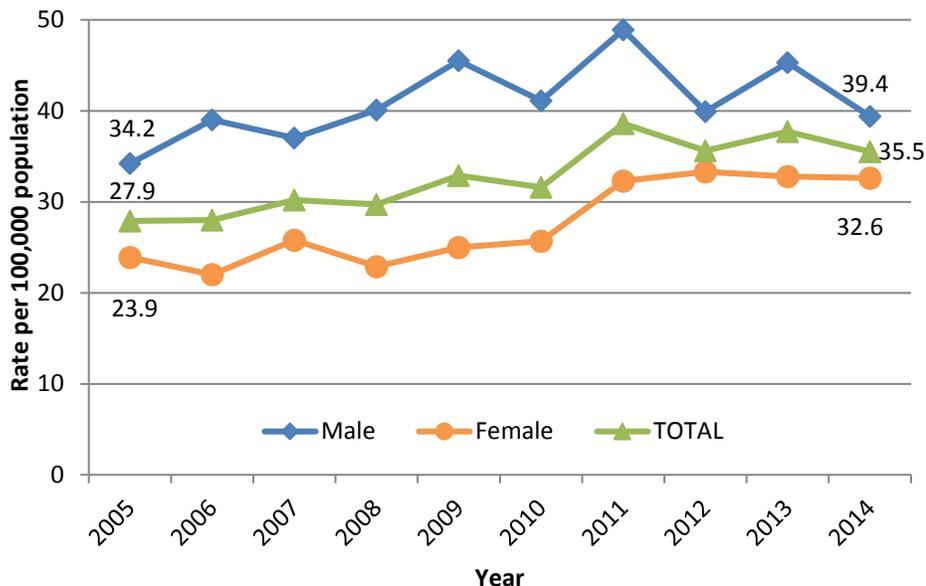
In 2014, 31.5% of fall deaths among this age group **occurred due to slipping, tripping, and stumbling**, while 8.4% occurred due to falling off stairs or steps. This information was unspecified or not known for 58.3% of fall deaths.

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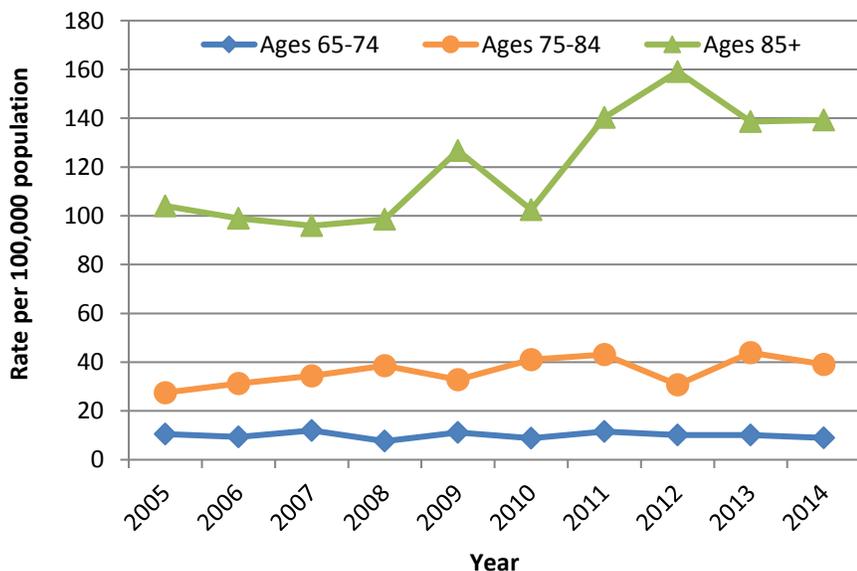
FALL DEATHS

FIGURE 2. Age-adjusted Rate of Fall Deaths by Sex, Ages 65 and Older— Indiana, 2005-2014



- From 2005 to 2014, the age-adjusted rate of fall deaths increased from 27.9 per 100,000 to 35.5 per 100,000.
- Fall death rates increased among both males and females during this time period.
- In 2014, the fall death rate in males was approximately 21% higher than in females.

FIGURE 3. Age-specific Rate of Fall Deaths by Age Group, Ages 65 and Older— Indiana, 2005-2014



- Fall death rates increased among 75- to 84-year-olds and those 85 and older.
- Fall death rates remained consistent for 65- to 74-year-olds.
- The highest increase was among persons ages 85 and older.
- Rates for persons ages 85 and older increased, from 104.0 per 100,000 in 2005 to 139.2 per 100,000 in 2014.

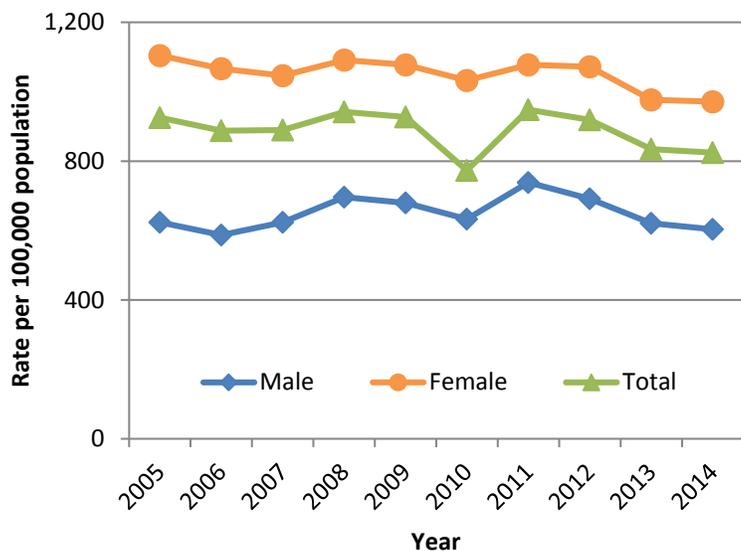


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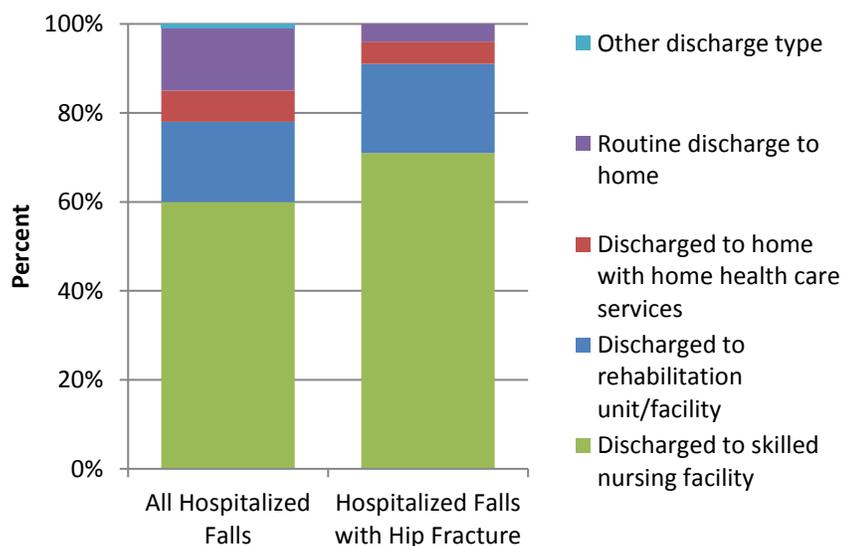
NONFATAL FALL HOSPITALIZATIONS

FIGURE 4. Age-adjusted Rate of Nonfatal Fall Hospitalizations by Sex, Ages 65 and Older— Indiana, 2005-2014



- Nonfatal fall hospitalizations have slightly decreased. From 2005 through 2007, rates increased slightly, then decreased from 2008 through 2010. They have been steadily declining since 2011.
- In 2014, rates among females were approximately 1.6 times that of males.

FIGURE 5. Percent of Nonfatal Fall Hospitalizations by Discharge Disposition, Ages 65 and Older— Indiana, 2014



- 60% of all fall hospitalizations were discharged to a skilled nursing facility.
- Among falls resulting in a hip fracture, 71% were discharged to a skilled nursing facility and 20% discharged to a rehabilitation facility.¹
- Among those with a hip fracture, only 4% had a routine discharge to home and 5% were discharged home with home health services.

¹Rehabilitation includes inpatient hospital rehab units as well as other outside facilities.

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DEMOGRAPHIC DATA

TABLE 1. Number and Rate of Fall Deaths and Nonfatal Fall Hospitalizations and Emergency Department (ED) Visits, Ages 65 and Older—Indiana, 2014

	Fall Deaths		Nonfatal Fall Hospitalizations and Emergency Department (ED) Visits			
	Number of Deaths	Death Rate per 100,000 ²	Number of Hospitalizations	Nonfatal Hospitalization Rate per 100,000 ²	Number of ED Visits	Nonfatal ED Visit Rate per 100,000 ²
TOTAL	333	35.5	7,632	824.5	34,978	3,759.5
Sex						
Male	141	39.4	2,205	603.9	11,216	2,977.1
Female	192	32.6	5,427	971.5	23,762	4,331.9
Age Group						
Ages 65-74	48	9.0	1,819	339.3	12,242	2,283.5
Ages 75-84	109	39.1	2,695	966.3	11,766	4,218.6
Ages 85+	176	139.2	3,118	2,466.3	10,970	8,677.2

- More females die, are hospitalized and visit EDs for fall-related injury compared to men.
- Males had a higher rate of fall deaths than females (39.4 per 100,000 and 32.6 per 100,000).
- Females had higher rates for nonfatal hospitalizations and ED visits.
- Persons ages 85 and older had the highest rates of fatal and nonfatal fall injuries. This age group had 15.5 times the rate of deaths than those aged 65-74.

HIP FRACTURES

TABLE 2. Number and Rate of Hip Fracture Hospitalizations, Ages 65 and Older—Indiana, 2014

	Number of Hospitalizations	Nonfatal Hospitalization Rate per 100,000 ²
TOTAL	5,734	609.1
Sex		
Male	1,664	405.8
Female	4,070	765.9
Age Group		
Ages 65-74	1,064	198.5
Ages 75-84	2,048	734.3
Ages 85+	2,622	2,074.0

- In 2014, there were 5,734 hip fracture hospitalizations in persons aged 65 years and older.
- Females had a higher rate of hip fracture hospitalizations compared to men (765.9 per 100,000 and 405.8 per 100,000).

²Rates are age-adjusted except for rates by age group.

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PROJECTED LIFETIME COSTS

Lifetime costs³ associated with unintentional fall injuries in 2013 among Indiana residents ages 65 and older are estimated to be over \$740 million. Most of these costs were associated with injuries requiring hospitalizations.

	Number of Injuries	Medical Cost	Work Loss Cost	Combined Cost
Deaths	346	\$8,307,000	\$37,502,000	\$45,809,000
Hospitalizations	7615	\$308,408,000	\$224,676,000	\$533,084,000
ED Visits	35,145	\$112,564,000	\$48,591,000	\$161,156,000
TOTAL	43,106	\$429,279,000	\$310,769,000	\$740,049,000

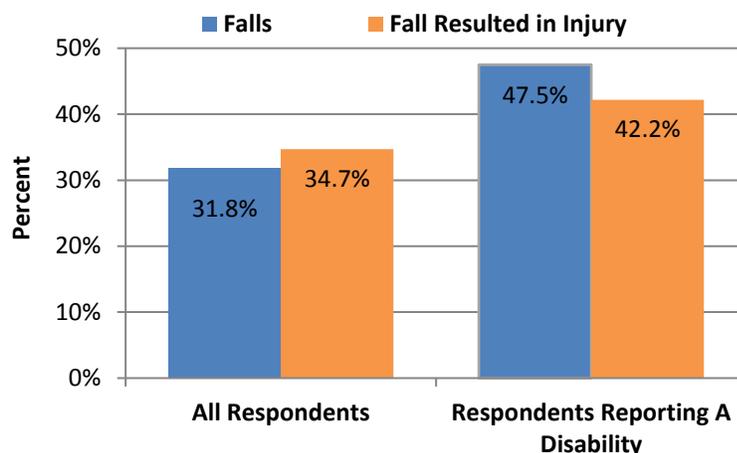
SURVEY DATA

- The Behavioral Risk Factor Surveillance Survey (BRFSS) is a statewide phone survey of community dwelling (i.e. non-institutionalized) Indiana adults. It provides self-reported data on a variety of topics, including falls, fall-related injuries, and medical conditions.
- In 2014, an estimated 31.8% of Indiana adults ages 65 and older reported having fallen and 34.7% of them reported that the fall caused an injury in the past 12 months.
- Older Hoosier adults who reported the following conditions were significantly *more likely*⁴ to report falls and fall-related injuries in the past 12 months:

- asthma
- coronary artery disease (CAD)
- disability⁵
- obesity
- stroke
- chronic obstructive pulmonary disease (COPD)
- diabetes
- no exercise
- poor mental health/depression

- Older adults who reported a physical, cognitive and/or emotional disability⁵ had particularly high fall rates, with an estimated 47.5% reporting having fallen and 42.2% reporting that the fall(s) caused an injury or injuries in the past 12 months.

FIGURE 6. Self-Reported Falls and Fall Injuries in the Past 12 Months, Ages 65 and Older—Indiana, 2014



³Costs were calculated using the CDC's WISQARS Cost Module application which provides cost estimates for medical and work loss for injury-related deaths, hospitalizations, and emergency department visits. <http://www.cdc.gov/injury/wisqars/>.

⁴These conditions are statistically significant at the (P<.05 level). However, causality shouldn't be assumed. Selected chronic health conditions: respondents reported "Yes" to **EVER** having been diagnosed with: Diabetes; Asthma; Stroke; Cancer; Depression; Chronic obstructive pulmonary disease (COPD); Coronary artery disease (CAD)/Angina or with Myocardial infarction. Poor mental health includes persons who reported experiencing 14+ days of poor mental health in the past month. Respondents are asked their height and weight to calculate BMI. Obesity is defined as a BMI greater than or equal to 30.0. Exercise is defined as respondents reporting "No" to **ANY** leisure-time physical activity.

⁵Disability is defined as having one or more of the following conditions; (1) limited in any way in any activities because of physical, mental or emotional problems, (2) health problem that requires the use of special equipment.

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FALL PREVENTION RESOURCES

STEADI (Stopping Elderly Accidents Deaths & Injuries): The Centers for Disease Control and Prevention (CDC) is working to make fall prevention a routine part of clinical care. STEADI uses established clinical guidelines and effective strategies to help primary care providers address their older patients' fall risk and identify modifiable risk factors:

www.cdc.gov/steadi.

PREVENTION ACTIVITIES IN INDIANA

ISDH Division of Trauma and Injury Prevention Mission: To develop, implement and provide oversight of a statewide comprehensive trauma care system that:

- Prevents injuries.
- Saves lives.
- Improves the care and outcomes of trauma patients.

Vision: Prevent injuries in Indiana

The ISDH Division of Trauma and Injury Prevention has identified older adult fall prevention as a priority area for intervention strategies. The STEADI toolkit is a CDC educational material that helps identify patients' risk of falling and intervention strategies for primary care physicians at a wellness visit. Currently the division works with two pilot counties to develop applications outside of the primary care system for the STEADI toolkit. The goal is to find the best environment for fall prevention strategies highlighted in the toolkit so that more individuals can be screened and directed to the appropriate channels.

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DATA SOURCES and DEFINITIONS

Data Notes: All data in this report are based on the CDC injury definition, whereby injury cases are based on ICD-10 underlying cause codes (deaths), ICD-9-CM primary diagnosis codes (hospitalizations), or either an ICD-9-CM primary diagnosis code or an external cause of injury code (E-codes) (ED visits). All data in this report are based on calendar years. All injuries are considered unintentional unless otherwise specified. Reference to any commercial entity or product or service on this page should not be construed as an endorsement.

Report prepared according to:

Hume BC, Johnson RL, Thomas KE. State Special Emphasis Report: Instructions for Data on Fall Injuries among Older Adults. Atlanta (GA): Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2015.

Data Sources: Indiana State Department of Health, Epidemiology Resource Team Data Analysis Team. Document prepared by ISDH Division of Trauma and Injury Prevention.