

Fall incidence and costs among older adults (ages 65+) in upstate New York

Upstate New York

Average annual number of fall-related hospital discharges 2005-2007: **14,772 (209.2 per 10,000)**
 Average annual fall-related hospitalization costs: **\$370 million**

New York State

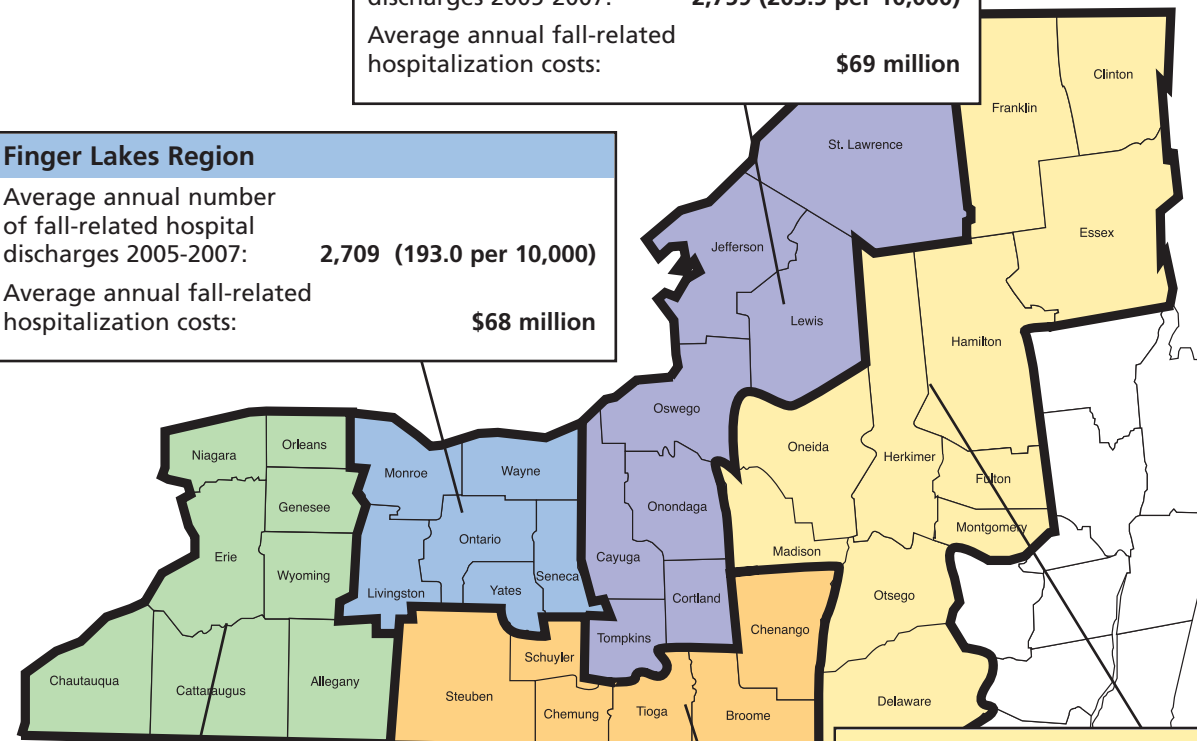
Average annual number of fall-related hospital discharges 2005-2007: **50,021 (198.3 per 10,000)**
 Average annual fall-related hospitalization costs: **\$1.2 billion**

Central New York Region

Average annual number of fall-related hospital discharges 2005-2007: **2,759 (203.5 per 10,000)**
 Average annual fall-related hospitalization costs: **\$69 million**

Finger Lakes Region

Average annual number of fall-related hospital discharges 2005-2007: **2,709 (193.0 per 10,000)**
 Average annual fall-related hospitalization costs: **\$68 million**



Western New York Region

Average annual number of fall-related hospital discharges 2005-2007: **5,088 (215.8 per 10,000)**
 Average annual fall-related hospitalization costs: **\$127 million**

Utica/Rome/North Country Region

Average annual number of fall-related hospital discharges 2005-2007: **2,542 (219.5 per 10,000)**
 Average annual fall-related hospitalization costs: **\$64 million**

Southern Tier Region

Average annual number of fall-related hospital discharges 2005-2007: **1,673 (213.0 per 10,000)**
 Average annual fall-related hospitalization costs: **\$42 million**

Note: Upstate New York refers to the New York counties highlighted in the map above.

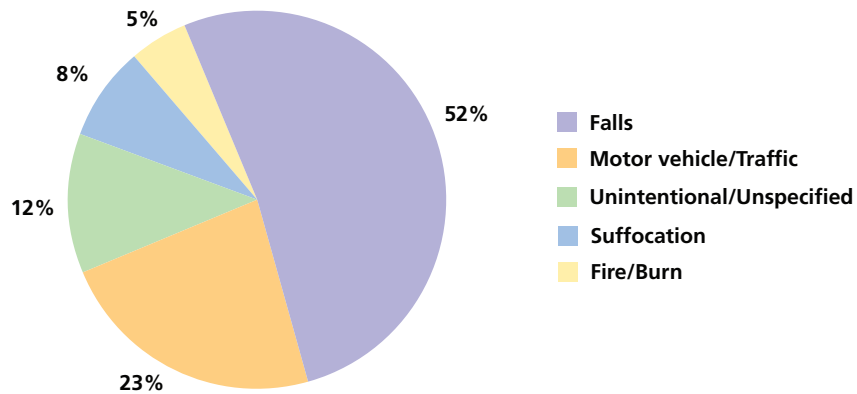
Figures are based on data from the New York State Department of Health's Statewide Planning and Research Cooperative System (SPARCS).

The incidence and cost of falls among upstate New York's older adults (ages 65+)

Falls are a serious and growing problem, particularly among the increasing population of older adults. This problem is expected to be of even greater concern as the baby boomer generation continues to age and strives to maintain independence. The number of people in the 65 and older age group is expected to increase by 16.3 percent by the year 2020 and by 19.6 percent by 2030.¹ For this age group, falls are the leading cause of injury-related death and hospital visits. Avoiding them is one key to maintaining independence. This fact sheet will describe the occurrence and hospitalization costs of falls among upstate New York's older adults (ages 65 and older), the most vulnerable age group:

- An estimated one-third of U.S. adults ages 65 and older fall each year.²
- Older adults are hospitalized five times more frequently for falls relative to being hospitalized for injuries from other causes.³
- Among U.S. older adults in 2007 and 2008, more than 18,000 died from unintentional fall-related injuries, about 2.1 million were treated in emergency departments, and more than 559,000 were hospitalized.⁴ Falls account for 6 percent of all hospitalizations and 10 percent to 15 percent of emergency room visits.⁵
- Falls among older adults have been increasing. From 2001 to 2007, fall-related hospitalizations in New York state rose 15 percent, and fall-related deaths rose 13 percent.⁶
- With the increasing age and frailty of the senior population, fall death rates have risen even faster than fall injury rates.⁷
- 20 percent to 30 percent of older adults who fall suffer moderate to severe injuries, such as bruises; fractures of the hip, spine, arms and legs; and traumatic brain injury. These injuries can limit independent living and increase the risk of early death.⁸
- Of New York adults ages 65 and older who are hospitalized for a fall, 60 percent are subsequently admitted to a rehabilitation center or nursing home.⁹

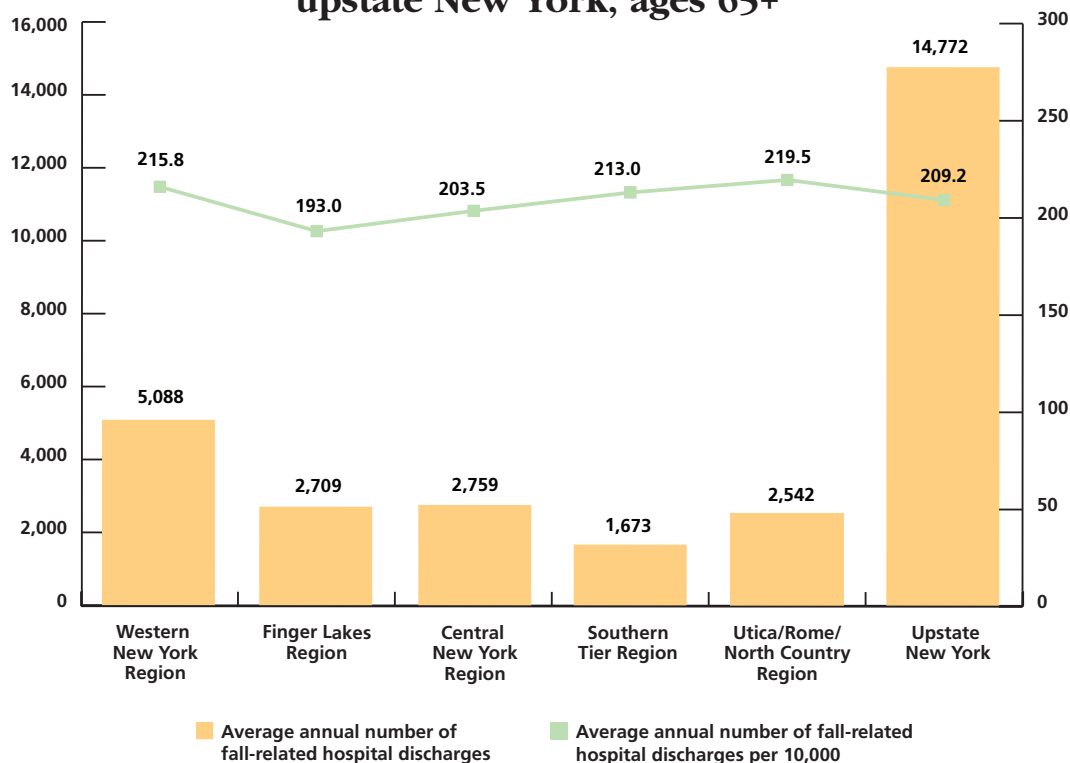
Five leading causes of death due to unintentional injury, New York state, 2006, ages 65+



Source: National Center for Injury Prevention and Control: <http://webappa.cdc.gov/sasweb/ncipc/leadcaus10.html>

- Every day in New York state, two seniors die from injuries sustained in a fall, 136 are hospitalized and another 215 are treated and released from emergency departments;¹⁰
- In part because of the statistics cited above, unintentional injuries are among the 10 items listed on New York state's *Prevention Agenda Toward the Healthiest State*.¹¹

Average annual hospital discharges for falls, 2005-2007, upstate New York, ages 65+



Source: New York's Statewide Planning and Research Cooperative System (SPARCS): <http://www.health.state.ny.us/statistics/sparcs/operations/overview.htm>

- On average from 2005-2007, there were about 14,800 fall-related hospital discharges per year among upstate New York older adults;
- This translates to an average annual fall-related hospitalization rate of 209.2 per 10,000 upstate New York residents in the 65 and older age group;
- During these years, the average annual hospitalization rate in upstate New York varied from 193 per 10,000 in the Finger Lakes Region (2,709 average annual number of fall-related hospital discharges) to 219.5 per 10,000 in the Utica/Rome/North Country region (2,542 average annual number of fall-related hospital discharges).

Hospitalization costs for older adults

Region	Estimated average annual cost of fall hospitalization, 2005-2007 (ages 65+)*
Western New York	\$ 127 million
Finger Lakes Region	\$ 68 million
Central New York	\$ 69 million
Utica/Rome/North Country	\$ 64 million
Southern Tier	\$ 42 million
Upstate New York	\$ 370 million

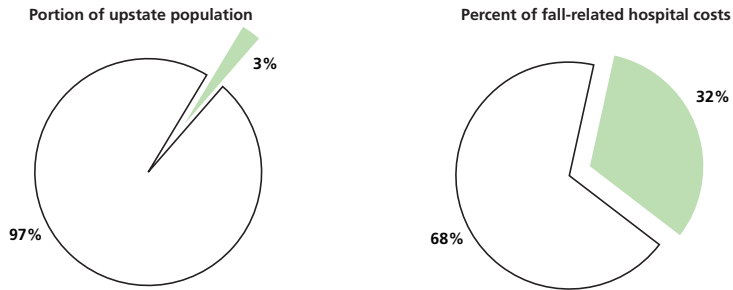
Source: New York's Statewide Planning and Research Cooperative System (SPARCS): <http://www.health.state.ny.us/statistics/sparcs/operations/overview.htm>
*Also see *Data Sources and Methods* section at the end of this report.

Hospital costs comprise the majority of medical costs related to falls in older adults. They do not account for the long-term expenses related to nursing home care, rehabilitation, community-based services, prescription drugs and home modification. Nor do they consider the potentially lasting costs of disability and dependence on others. In upstate New York, those hospitalized from 2005 to 2007 incurred an estimated average annual cost of approximately \$370 million, ranging from \$42 million in the Southern Tier to \$127 million in Western New York.

The effect of age on fall-related hospitalization costs

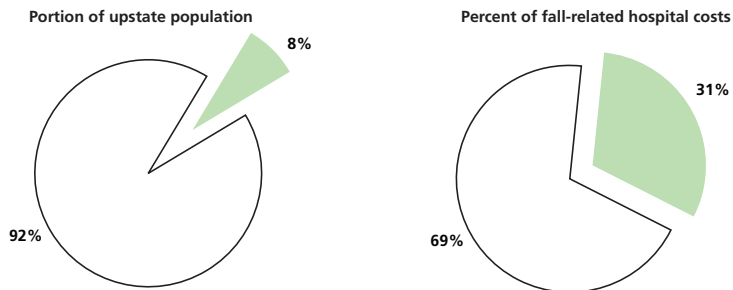
As depicted below, average fall-related hospitalization costs for upstate adults from 2005 through 2007 were disproportionate to age because of the increase in fall rates and injury severity that occurs with advancing years.*

Ages 85+



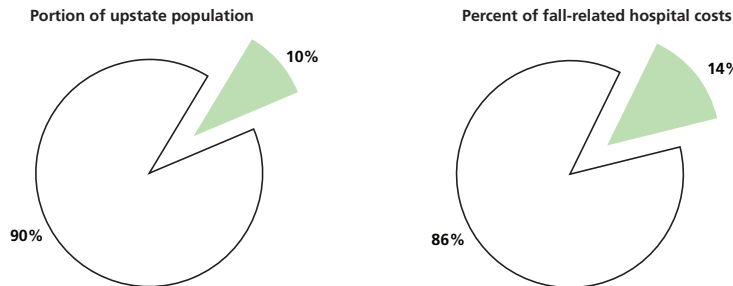
3 percent of the adult population consumed 32 percent of fall-related hospital costs.

Ages 75-84



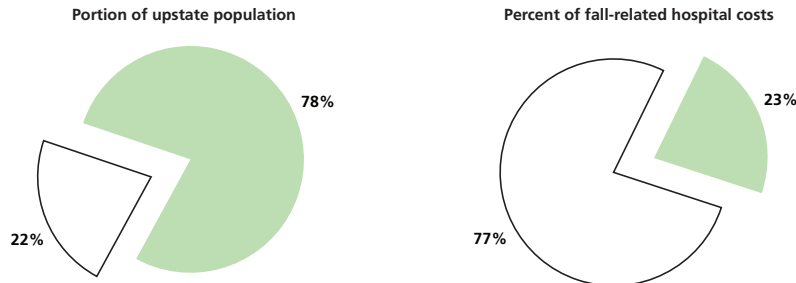
8 percent of the adult population consumed 31 percent of fall-related hospital costs.

Ages 65-74



10 percent of the adult population consumed 14 percent of fall-related hospital costs.

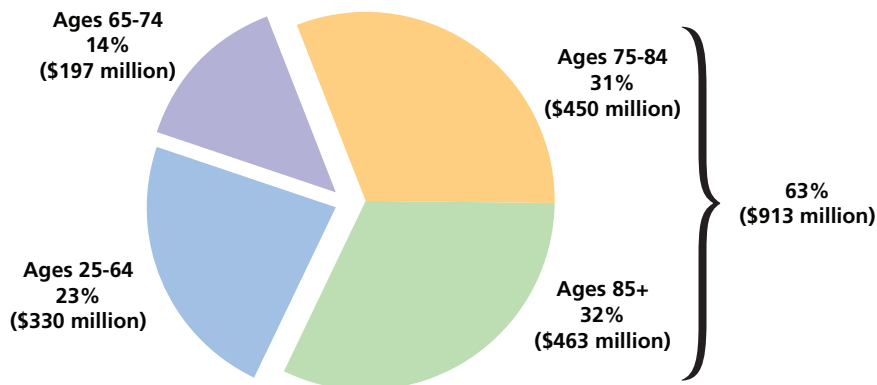
Ages 18-64



78 percent of the adult population consumed 23 percent of fall-related hospital costs.

Sources: Hospitalization data: New York's Statewide Planning and Research Cooperative System (SPARCS): <http://www.health.state.ny.us/statistics/sparcs/operations/overview.htm>
Population data: The U.S. Census Bureau.
*Totals may not add to 100% due to rounding.

Estimated average annual cost distribution of hospitalizations for falls by age group, New York state, 2005-2007



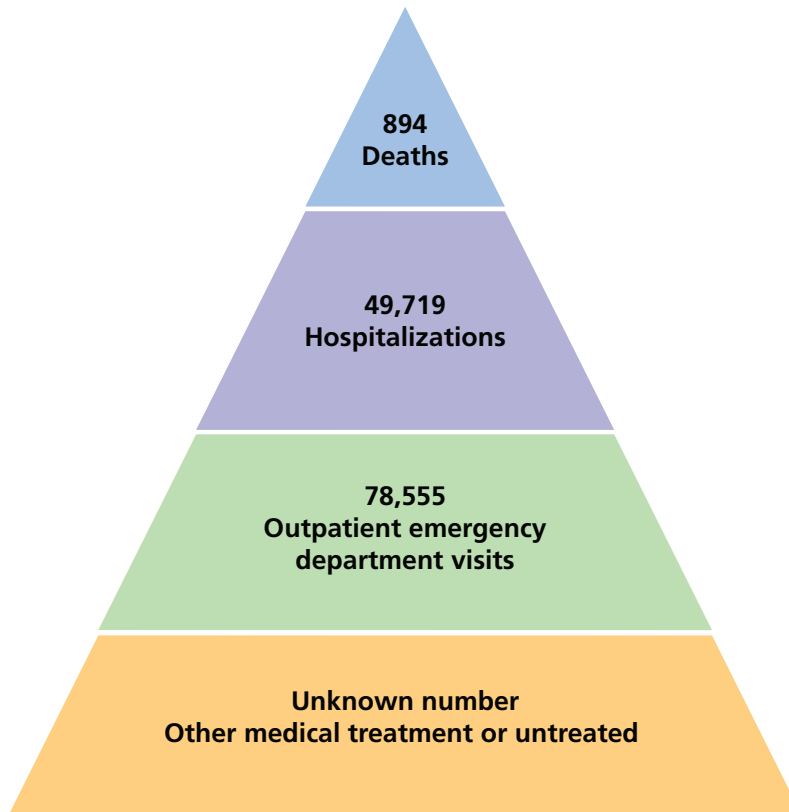
Sources: New York's Statewide Planning and Research Cooperative System (SPARCS): <http://www.health.state.ny.us/statistics/sparcs/operations/overview.htm>
The U.S. Census Bureau. (Also see *Data Sources and Methods* section at the end of this report.)

Falls among seniors in the home and community

More than 50 percent of fall-related hospitalizations among older adults are from falls that occurred in the home.¹² Home hazards include:

- Clutter in walkways and on stairs;
- Slippery or inconsistent floor surfaces;
- Unstable furniture;
- Poor/inadequate lighting;
- Pets and pet-related objects;
- Lack of stair railings or grab bars;
- Lack of easy access to bathrooms.¹³

Breakdown of outcomes from average annual number of falls, New York state residents (ages 65+), 2005-2007



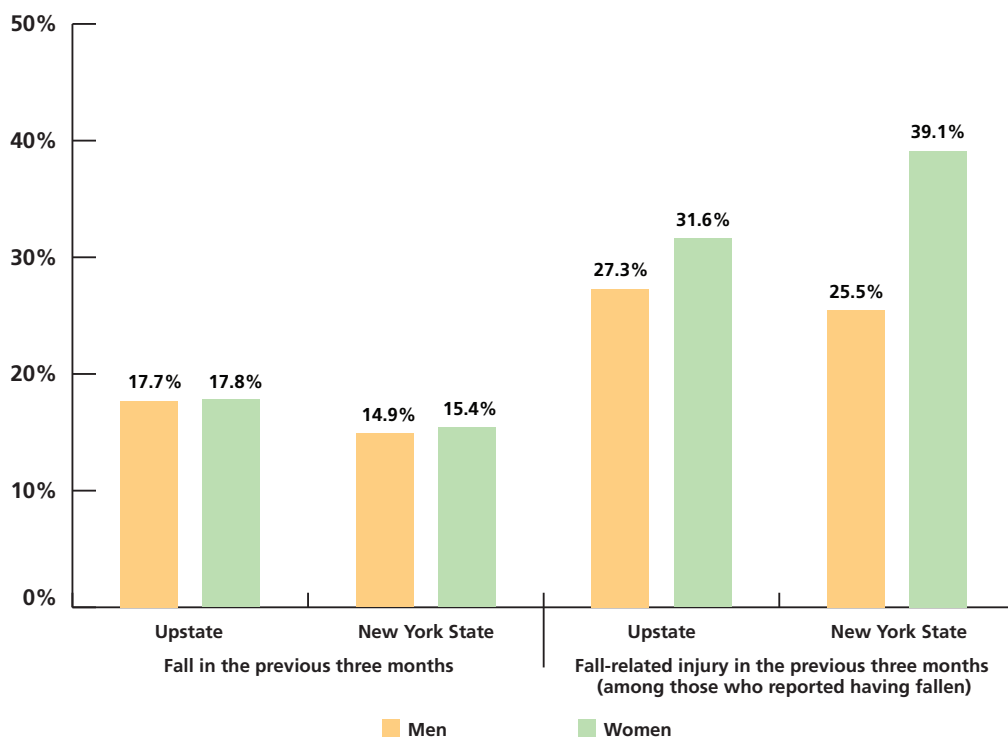
Source: New York State Department of Health. "Falls in Older Adults, New York State."
http://www.health.state.ny.us/prevention/injury_prevention/falls_in_older_adults_nys.htm

More than half of falls among New York's older adults who are hospitalized have occurred in the home:

- An unknown number of all falls among upstate's older adults go untreated or are treated outside of the hospital;
- About 78,500 falls result in an emergency department visit, almost 50,000 of these case are hospitalized, and nearly 900 are fatal.
- These facts, illustrated in the triangle above, show that hospital discharge rates tell only part of the story.¹⁴

In an upstate New York telephone survey (see *Data Sources and Methods* at the end of this report), adults were asked whether or not they had fallen (unintentionally came to rest on the ground or another lower level) within the three months prior to the survey. Those who reported having fallen were then asked whether they were injured in a fall during the previous three months. An injurious fall was defined as one causing a person to limit their activities for at least a day or to visit a doctor.

Self-reported falls and fall injuries by gender: Upstate New York and New York state, 2008, ages 65+



Source: Obtained from the New York State Department of Health's Behavioral Risk Factor Surveillance System, 2007.
To request access: <http://www.health.state.ny.us/nysdoh/brfss/>
(Also see *Data Sources and Methods* section at the end of this report).

The 2008 survey found that more than 134,000 upstate New York older adults (ages 65+) reported having fallen within the previous three months. It also showed that:

- Gender differences in self-reported falls were negligible in upstate New York. In fact, fall rates among men aged 65 and older (17.7 percent) almost equaled those among their female counterparts (17.8) percent.
- Upstate New York women who fall are significantly more likely to report having had a fall-related injury (31.6 percent), compared to men (27.3 percent).
- Similar gender patterns in self-reported falls occurred statewide (14.9 percent incidence among men versus 15.4 among women), but injury rate disparities by gender statewide were greater than for upstate. In New York state, fall-related injuries were reported by 39.1 percent of women versus 25.5 percent of men who reported having fallen.

Reducing fall risk

Here are some ways to reduce fall risk:

- Communicate with your doctor and pharmacist regarding medications and potential adverse reactions;
- Have health professionals review your personal/medical history and total environment with respect to fall risk, especially if you have a history of falling;
- Have an annual eye exam and make corrective adjustments as needed;
- Wear sensible, properly fitting shoes;
- Participate in regular physical activity to maximize strength and balance;
- Remove home hazards with:
 - Adequate lighting
 - Non-slip carpets and bath/shower mats
 - Floor maintenance
 - Clutter reduction to define/clear walkways
 - Modifications (e.g., handrails) as appropriate.
- Install home assistive measures, such as grab bars in the tub or shower and non-slip treads on wooden floors.

Sources: MayoClinic.com "Fall Prevention" 6 Tips to Prevent Falls." <http://www.mayoclinic.com/health/fall-prevention/HQ00657>
Centers for Disease Control and Prevention. "Falls Among Older Adults: An Overview." <http://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>

Data Sources and Methods

The number of fall-related hospital discharges was obtained from the Statewide Planning and Research Cooperative System (SPARCS), a comprehensive data reporting system that collects patient-level detail on characteristics, diagnoses and treatments, services, and charges for every hospital discharge, ambulatory surgery patient, and emergency department admission in New York state (<http://www.health.state.ny.us/statistics/sparcs/operations/overview.htm>). Those treated and released from the emergency department are excluded from the upstate figures reported here.

The average cost of a fall-related hospitalization was that reported in a national study of acute medical care costs among older adults.¹⁵ The figure was then adjusted to the appropriate year(s) using the consumer price index for hospital services, available from the U.S. Department of Labor, Bureau of Labor Statistics (<http://www.bls.gov/data/>). This adjusted cost of fall-related hospitalizations was then multiplied by the average number of falls to obtain cost estimates.

To obtain self-reported home/community-based fall information, the authors of this report analyzed 2008 data from the Behavioral Risk Factor Surveillance System Survey (BRFSS). The BRFSS is an ongoing, state-based, random telephone survey of the non-institutionalized civilian adult population ages 18 and older. State and national data are compiled and reported by the Centers for Disease Control and Prevention. To request access: <http://www.health.state.ny.us/nysdoh/brfss/>

Population figures, used as denominators to calculate self-reported falls and hospital discharge rates, were obtained from the U.S. Census Bureau: <http://www.census.gov/popest/counties/>

Endnotes

- ¹ New York State Department of Health. "Preventing Falls as People Age a Key to Remaining Independent." *Community Health Update*. Vol. 7, No. 1, October 2009. http://www.tioga-county-ny.com/pdfs/departments/hth/community_health_update_oct09.pdf
- ² Centers for Disease Control and Prevention. "Self-Reported Falls and Fall-Related Injuries Among Persons Aged \geq 65 Years – United States, 2006." *Morbidity and Mortality Weekly Report*. Vol. 57, No. 9, March 7, 2008. www.cdc.gov/mmwr/preview/mmwrhtml/mm5709a1.htm
- ³ Centers for Disease Control and Prevention. "Costs of Falls Among Older Adults." August 28, 2008. <http://www.cdc.gov/ncipc/factsheets/fallcost.htm>
- ⁴ Centers for Disease Control and Prevention. "Falls Among Older Adults: An Overview." September 13, 2010. <http://www.cdc.gov/homeandrecreationalafety/falls/adultfalls.html>
- ⁵ Roudsari BS, Ebel BE, Corso PS, Molinari NA, Koepsell TD. "The Acute Medical Care Costs of Fall-Related Injuries Among the U.S. Older Adults." *Injury*. Vol. 36, Issue 11, November 2005. Page 1317. <http://download.journals.elsevierhealth.com/pdfs/journals/0020-1383/PIIS0020138305001749.pdf>
- ⁶ New York State Department of Health. "Falls in Older Adults, New York State." October 30, 2009. http://www.health.state.ny.us/prevention/injury_prevention/docs/falls_in_older_adults_nys.pdf
- ⁷ Senior Journal.com. "Falls Have Become the Leading Cause of Injury Deaths for Senior Citizens." November 16, 2006. <http://seniorjournal.com/NEWS/Aging/6-11-16-FallsHaveBecome.htm>
- ⁸ Centers for Disease Control and Prevention. "Costs of Falls Among Older Adults."
- ⁹ New York State Department of Health. "Falls in Older Adults."
- ¹⁰ New York State Department of Health. "Preventing Falls as People Age a Key to Remaining Independent."
- ¹¹ New York State Department of Health. "Prevention Agenda Toward the Healthiest State." http://www.health.state.ny.us/prevention/prevention_agenda/
- ¹² New York State Department of Health. "Falls in Older Adults."
- ¹³ Ibid.
- ¹⁴ Ibid.
- ¹⁵ Roudsari BS, et. al., 2005.