



## Falls among Older Adults in New York City

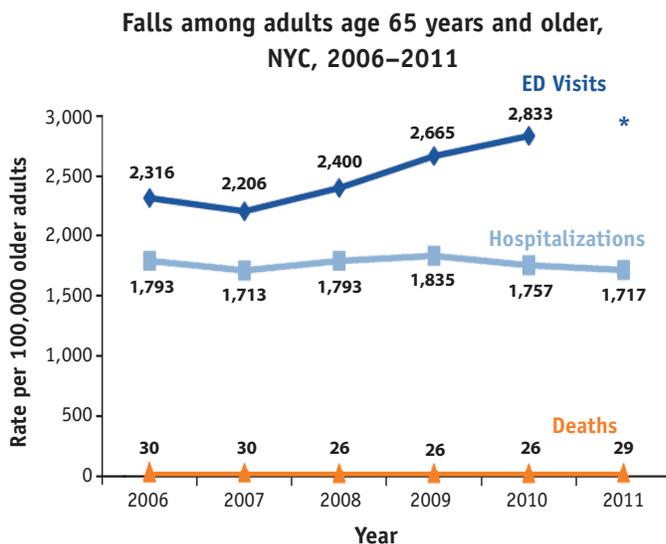
Each year, one in three older adults, age 65 years and older, falls in the United States (U.S.).<sup>1</sup> Falls among this vulnerable population can cause injuries, lead to institutional stays and increase the risk of early death. The older adult population is expected to increase 45% from 2010 to 2030<sup>2</sup> in New York City (NYC), which could dramatically increase the burden of falls and their associated costs. Falls cost the U.S. health care system an estimated \$30 billion in 2010.<sup>3</sup>

Risk factors for falls include previous falls, muscle weakness, gait or balance problems and use of medications that may interact with each other or

cause side effects, such as dizziness or drowsiness. Falls need not be a normal part of aging, and research shows they are largely preventable. The Centers for Disease Control and Prevention (CDC) recommends exercise interventions, home modifications and other interventions that address multiple risks (e.g., poor vision, use of multiple medications).

This report examines trends in unintentional (accidental) falls and related outcomes among older adults in NYC. It also describes the prevalence of factors associated with falls and circumstances of recent falls among a sample of NYC's older adult population.

### The burden of falls among older adults in New York City is high



\*Data not available

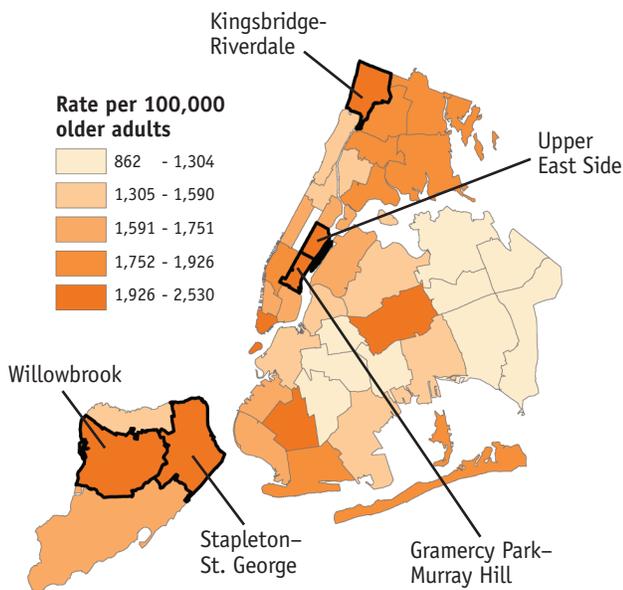
Source: Bureau of Vital Statistics, NYC DOHMH, 2006–2011  
SPARCS, 2006–2011

- Falls are the leading cause of injuries among older adults in NYC. In 2011, falls caused 291 deaths and 17,452 hospitalizations. In 2010, there were 28,527 fall-related emergency department (ED) visits.
- Fall-related ED visit rates among older adults increased by 22% between 2006 and 2010; hospitalization and death rates remained stable during this time.
- In 2011, the hospitalization rate due to falls was 1.4 times higher among women than men (1,938 vs. 1,385 per 100,000). Death rates, however, were 1.4 times higher among men than women (34 vs. 25 per 100,000).
- Risk of fall-related deaths, hospitalizations and ED visits increases with age. Among older adults, those age 85 years and older have the highest rates followed by those age 75 to 84 and 65 to 74 years.

Data sources: Deaths, hospitalizations, and emergency department (ED) visits occurring in NYC are presented here for adults age 65 years and older. Death data are from the NYC Department of Health and Mental Hygiene (DOHMH) Bureau of Vital Statistics. Hospitalization and ED visit rates, billed costs and discharge status data are from New York State Department of Health's Statewide Planning and Research Cooperative System (SPARCS), updated January 2013. Reported hospitalizations include live discharges only. Population denominators used for age-specific rate calculations were produced by NYC DOHMH based on the US Census Bureau Population Estimate Program and housing unit data from the NYC Department of City Planning. Neighborhoods are classified into the NYC 42 United Hospital Fund neighborhoods based on zip code aggregates. Neighborhood poverty (based on UHF neighborhood) is defined as percent of residents with incomes below 100% of the Federal Poverty Level. Results from a recent survey of NYC adults attending Senior Centers conducted by NYC DOHMH are also presented; methods are described in detail on page 3.

## Falls risk among older adults varies by New York City neighborhood

### Fall-related hospitalization rates among adults age 65 years and older by NYC neighborhood, 2011

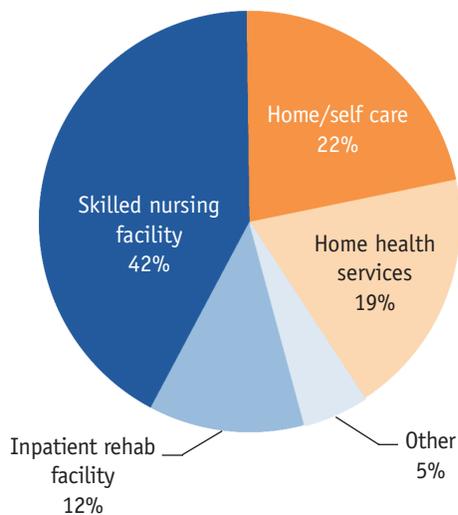


Source: SPARCS, 2011

- In 2011, the five NYC neighborhoods with the highest hospitalization rates due to falls among older adults were in Staten Island, east Manhattan and northwest Bronx.
- Neighborhoods with the highest fall-related hospitalization rates had a greater proportion of white residents compared with NYC as a whole (65% vs. 33%) and lower poverty compared with NYC as a whole (10% vs. 19% of residents below poverty).
- Some neighborhoods (e.g., West Queens and Flushing-Clearview, Queens) had a high number of hospitalizations due to older adult falls, but the rates were not high because these neighborhoods have large populations of older adults.

## Falls cause serious injuries requiring follow-up care among older adults

### Discharge status from fall-related hospitalizations among adults age 65 years and older in NYC, 2011

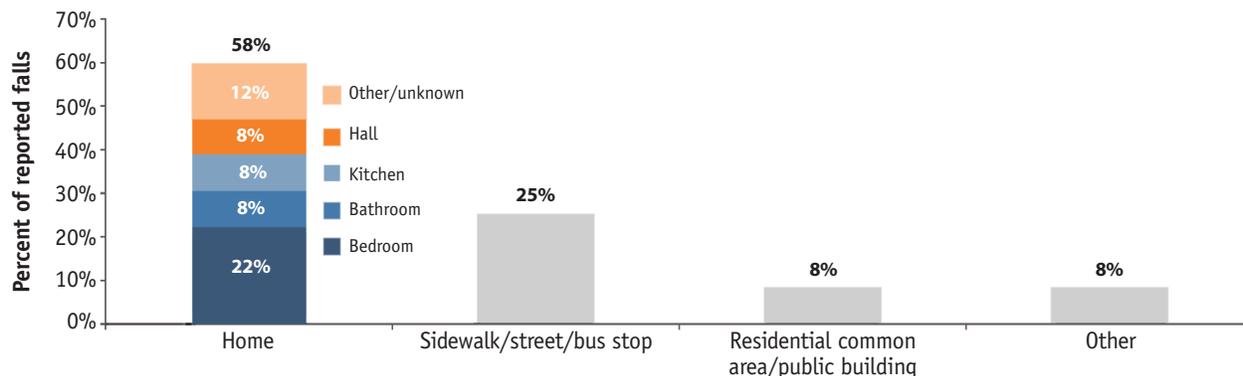


Source: SPARCS, 2011

- In 2011, the majority (78%, n=13,695) of older adults hospitalized for falls required further care upon discharge; only 22% were released to home under their own care.
- Few (3%) older adults hospitalized for a fall came directly from a skilled nursing facility, but 42% were discharged to a skilled nursing facility. The average cost of a semi-private room in an NYC skilled nursing facility is \$388 daily per patient.<sup>4</sup>
- Older adults hospitalized for a fall were likely to be diagnosed with serious injuries, with almost half (48%) being diagnosed with fractures. More than 1 in 10 (13%) were diagnosed with traumatic brain injuries, which can result in long-term cognitive and functional impairments.
- In 2011, fall-related hospitalizations accounted for 64% of all injury-related hospitalization costs among older adults in NYC. The cost of fall-related hospitalizations among older adults totaled approximately \$771 million in NYC.

## Most falls happen in the home

Location of most recent fall among adults age 65 years and older surveyed in NYC



\*Percentages do not sum to 100% due to rounding.  
 Source: Senior Center Survey, NYC DOHMH, 2012–2013

- More than one-third (38%, n=36) of surveyed older adults reported at least one fall in the previous year.
- Among those surveyed, most (58%) older adults reported falling at home. Similarly, NYC hospitalization records indicate 56% of older adults that were admitted for a fall, fell at home in 2011.
- Among those surveyed who fell in the home, more fell in the bedroom than in any other room.
- Among those surveyed that fell, tripping (42%) was the most common cause cited; other causes included getting out of bed (13%) and slipping (8%).

## Trip hazards and prescription medications are common risks

Prevalence of factors related to falls among adults age 65 years and older surveyed in NYC

Risk Factors*	Total (n=96)
Throw rugs in home	52%
Take four or more prescriptions	48%
Clutter present in home	31%
Protective Factors*	Total (n=96)
Exercise to improve balance and strength	57%
Use a night light	46%
Grab bars in shower	41%
Grab bars near toilet	16%

\*Factors are not mutually exclusive.  
 Source: Senior Center Survey, NYC DOHMH, 2012–2013

- Trip hazards were prevalent among older adults surveyed; 69% reported throw rugs or some degree of clutter in their home.
- Almost half (48%) reported regular use of four or more prescription medications, which is known to increase risk of falls.
- Regular exercise has many health benefits, including reducing risk of falls; 57% of those surveyed reported exercising at least sometimes.
- Few older adults reported having grab bars (in shower, 41%; near toilet, 16%). Almost half (46%) reported using a night light.
- Only 9% of those surveyed, including those that had fallen, reported ever having a health care provider talk with them about falls prevention.

Senior Center Survey methods: The Injury and Violence Prevention Program at the NYC DOHMH recruited community-dwelling, ambulatory adults age 65 years and older from two senior centers in NYC (n=96). The centers were located in the Coney Island-Sheepshead Bay neighborhood in Brooklyn and the Pelham-Throgs Neck neighborhood in the Bronx. Data presented are all self-report from an interviewer-led questionnaire and were collected during July–August of 2012 and January–February of 2013. The majority of respondents were women (78%) and white (92%); mean age of respondents was 80 years (standard deviation = 8 years). Although the selection of the sample was convenience-based, expected falls prevalence for a population of older adults was observed.<sup>1</sup>

# Recommendations

## New Yorkers age 65 years and older should:

- Be physically active. Exercise strengthens muscles and improves balance.
- Remove slip and trip hazards at home including throw rugs and clutter.
- Talk with their doctors about previous falls and how to prevent future falls.
- Ask their doctor, nurse or pharmacist to review all medicines, and discontinue those that are unnecessary.

## Health and social service providers should:

- Assess older adults for falls risks, and discuss ways to lower their risk as described in the [CDC's STEADI Tool Kit](#) and [the Health Department's provider guide](#).
- Review medicines taken by older adults to identify potential side effects or interactions, such as dizziness or drowsiness. Discontinue medications that are not absolutely necessary.
- Recommend physical activity, such as balance and strength training, for older adults to help prevent falls. Guidance on appropriate physical activity can be found on [the Health Department's web page](#).
- Recommend at least 800 IU vitamin D daily to patients with known vitamin D deficiency. Consider vitamin D supplementation for all patients who are at higher risk for falls.
- During home visits, use the [Brief Home Safety Checklist](#) to find and fix fall hazards.

## Building owners and property managers should:

- Offer to install grab bars in the shower and around the toilet in units occupied by older adults and offer night lights to older adult residents.
- Keep common areas and stairwells well-lit and clear of slip and trip hazards.

## All New Yorkers should:

- Encourage older adults to follow the recommendations above to prevent falls.
- Learn more about how to prevent falls. Visit [nyc.gov/health](http://nyc.gov/health) and search: Prevent Falls.

## REFERENCES

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