

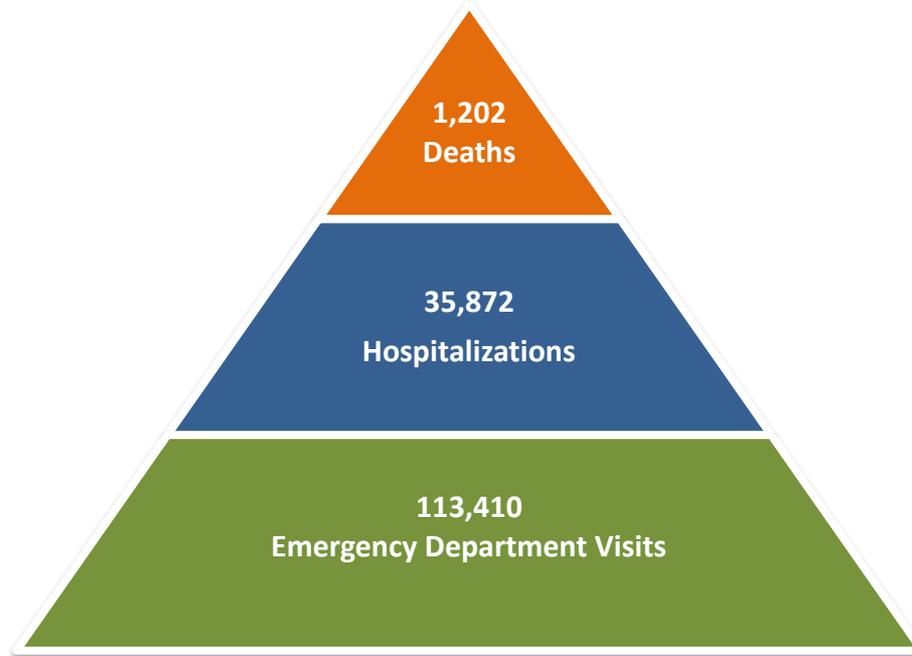


**Department  
of Health**

# **New York State Epidemiology and Evaluation of Older Adult Falls and Fall Prevention Programs**

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**Bureau of Occupational Health and Injury Prevention**

# Burden of Fall Injuries Among Residents Ages 65 and Older, New York State, 2014



# Leading Causes of Injury, Ages 65 and Older

## New York State, 2012-2014

Deaths	Hospitalizations	ED Visits*
Fall $\mu=1,858$	Fall $\mu=52,416$	Fall $\mu=101,704$
Suicide $\mu=275$	Unspecified $\mu=4,610$	Unspecified $\mu=13,238$
Unspecified $\mu=180$	Poisoning $\mu=2,044$	Struck By / Against $\mu=9,387$
Suffocation $\mu=145$	MVT**, Occupant $\mu=1,532$	MVT**, Occupant $\mu=8,046$
MVT**, Pedestrian $\mu=101$	Natural / Environmental $\mu=1,065$	Cut / Pierce $\mu=7,732$

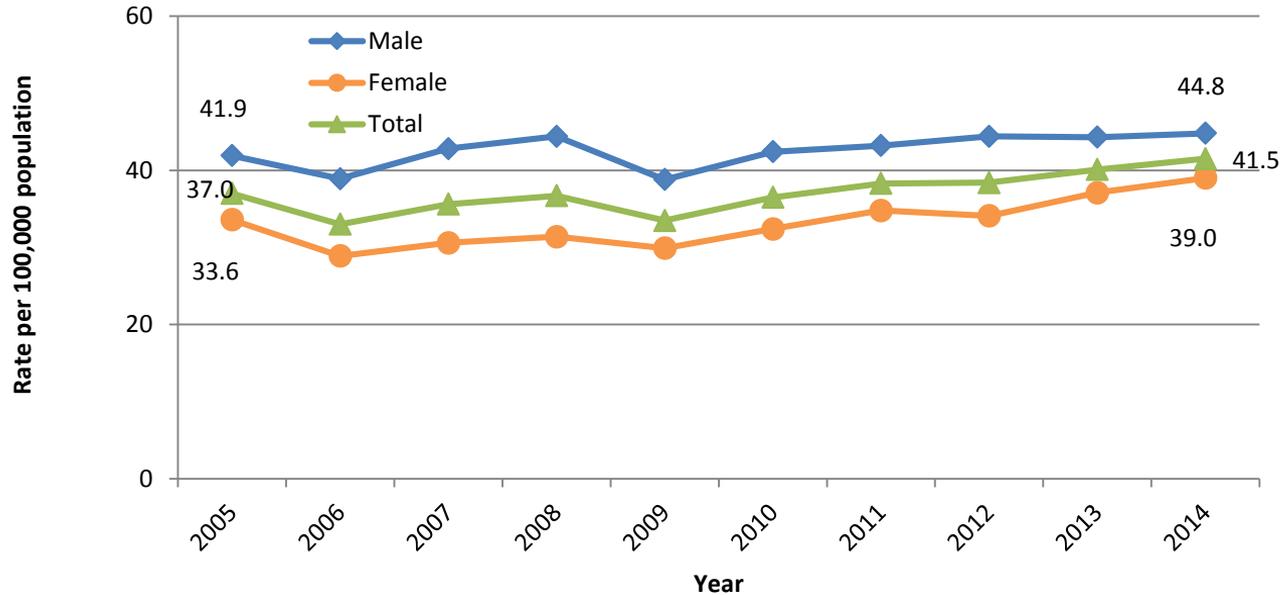
\*Does not include patients admitted into hospital

MVT\*\* Motor Vehicle Traffic

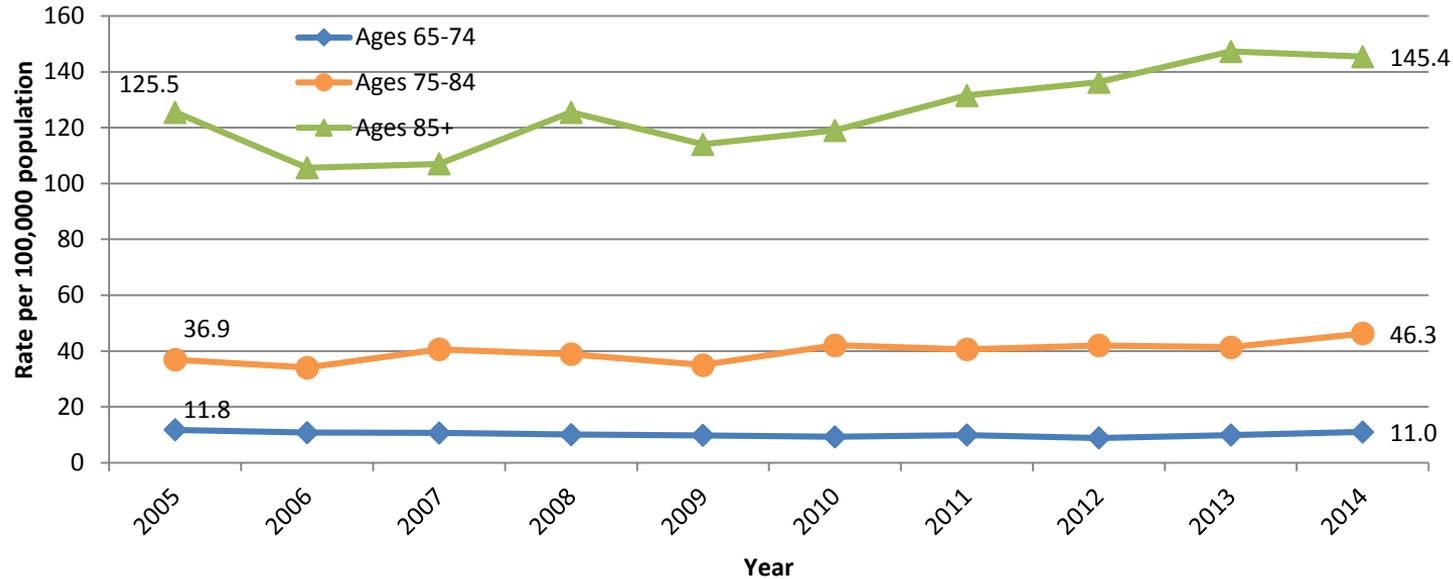


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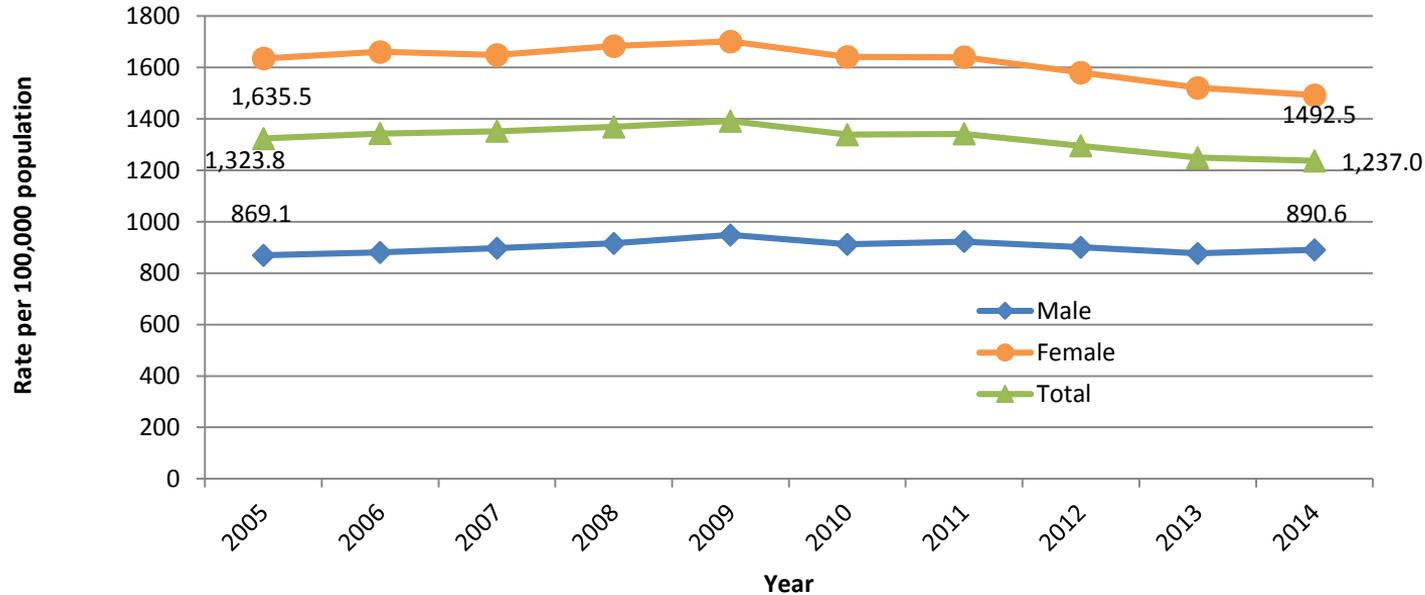
# Age-adjusted Rate of Fall Deaths by Sex Ages 65 and Older, New York State, 2005-2014



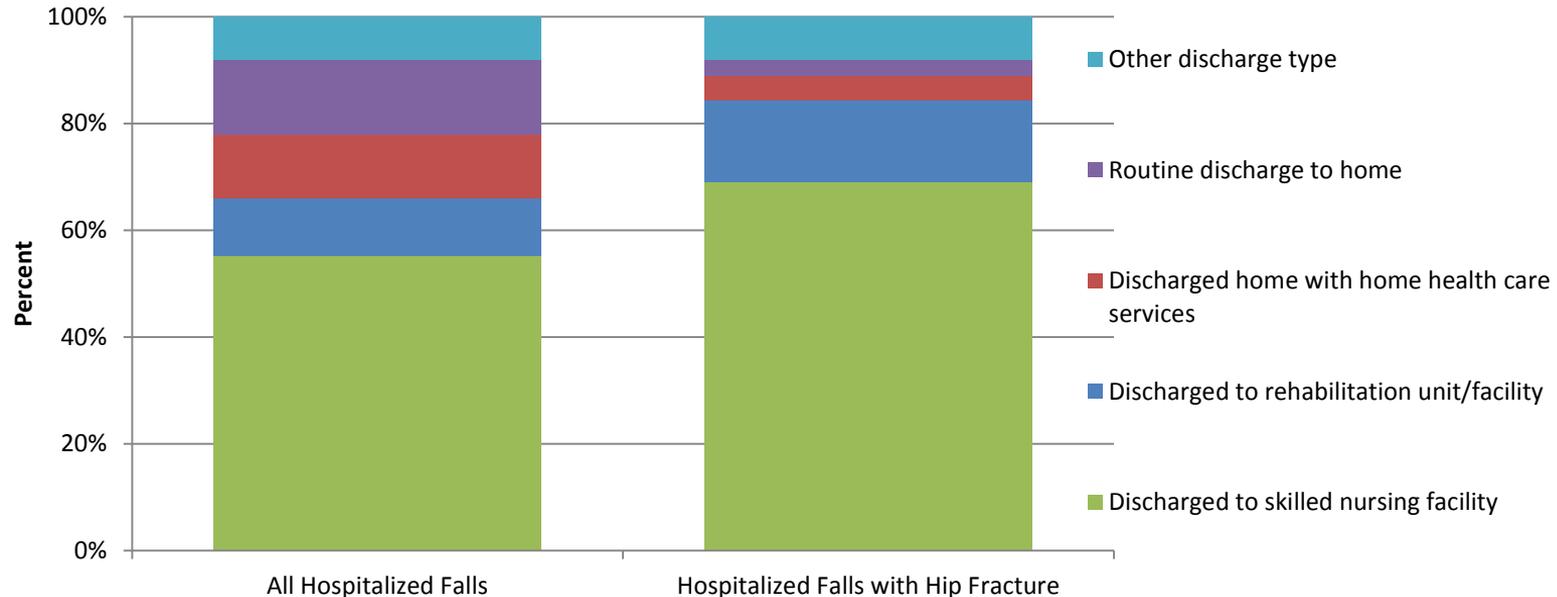
# Age-specific Rate of Fall Deaths by Age Group Ages 65 and Older, New York State, 2005-2014



# Age-adjusted Rate of Fall Hospitalizations by Sex Ages 65 and Older, New York State, 2005-2014



# Percent of Fall Hospitalizations by Discharge Disposition, Ages 65 and Older, New York State, 2014



62.5% of the falls occurred at non-residential homes  
 Only 10.6% occurred in residential institutions

## Number and Rate of Fall Deaths, Hospitalizations and Emergency Department Visits Ages 65 and Older, New York State, 2014

	Fall Deaths		Fall Hospitalizations and Emergency Department Visits			
	Number of Deaths	Death Rate per 100,000 <sup>1</sup>	Number of Hospitalizations	Hospitalization Rate per 100,000 <sup>1</sup>	Number of ED Visits	ED Visit Rate per 100,000 <sup>1</sup>
<b>TOTAL</b>	1,202	5.1	35,872	152.6	113,410	489.0
<b>Race/Ethnicity</b>						
<b>White, NH<sup>2</sup></b>	1,005	44.5	27,421	1,245.2	81,941	3,832.2
<b>Black, NH</b>	73	22.1	1,865	572.1	8,960	2,653.8
<b>Hispanic</b>	64	23.6	2,226	799.3	9,384	3,220.1
<b>Asian/PI<sup>3</sup>, NH</b>	47	31.8	875	576.7	2,299	1,426.3
<b>AI/AN<sup>4</sup>, NH</b>	14	20.2	47	815.0	228	3,726.7
<b>Other/Unknown</b>	9	n/a	3,438	n/a	10,598	n/a

<sup>1</sup>Rates are age-adjusted except for rates by age group.

<sup>2</sup>Non-Hispanic

<sup>3</sup>Pacific Islander

<sup>4</sup>American Indian/Alaskan Native



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## Quick Facts

Residents ages 65 and older account for **82.6% of all fall deaths** and 69.2% of fall hospitalizations in New York.

Falls are the **leading cause of traumatic brain injury (TBI)** in New York residents ages 65 and older, accounting for **70.4%** of TBI deaths and **84.3%** of TBI hospitalizations. **55.7% of fall deaths** and 17.6% hospitalizations among older adults were associated with a TBI.

### ***Projected lifetime costs***

associated with fall injuries in 2014 among New York residents ages 65 and older are estimated to be **\$3.3 billion**.

### ***Each week, there are 2,181***

emergency department visits among residents ages 65 and older, 690 hospitalizations, **and 23 deaths due to fall injuries in New York State**.

In 2014, 8.0% of fall deaths among those 65 and older **occurred in the home**, while 16.0% occurred in a residential facility such as a nursing home.



# New York State Behavioral Risk Factor Surveillance Survey (BRFSS)

- Annual health phone survey established by CDC to non-institutionalized adults (18+)
- Data weighted to the population
- Question types:
  - Core questions
  - Optional questions
  - State-added questions
- Fall questions asked in 2012, 2014, and 2016



**Behavioral Risk Factor Surveillance System  
2016 Questionnaire**

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2016 BRFSS Questionnaire/Draft 2

# 4 Fall Questions

## Section 13: Falls

If respondent is 45 years or older continue, otherwise go to next section.

The next questions ask about recent falls. By a fall, we mean when a person unintentionally comes to rest on the ground or another lower level.

13.1 In the past 12 months, how many times have you fallen? (219–220)

__	Number of times	<b>[76 = 76 or more]</b>
8 8	None	<b>[Go to next section]</b>
7 7	Don't know / Not sure	<b>[Go to next section]</b>
9 9	Refused	<b>[Go to next section]</b>

13.2 [Fill in "Did this fall (from Q13.1) cause an injury?"]. If only one fall from Q13.1 and response is "Yes" (caused an injury); code 01. If response is "No," code 88.

How many of these falls caused an injury? By an injury, we mean the fall caused you to limit your regular activities for at least a day or to go see a doctor. (221–222)

__	Number of falls	<b>[76 = 76 or more]</b>
8 8	None	
7 7	Don't know / Not sure	
9 9	Refused	

## NY State-Added Module 5C: Falls

1. In the past 12 months, have you done things to reduce your chance of falling? (911)

1	Yes
2	No
7	Don't know / Not sure
9	Refused

2. In the past 12 months, have you done anything to help an older person reduce his/her chance of falling? (912)

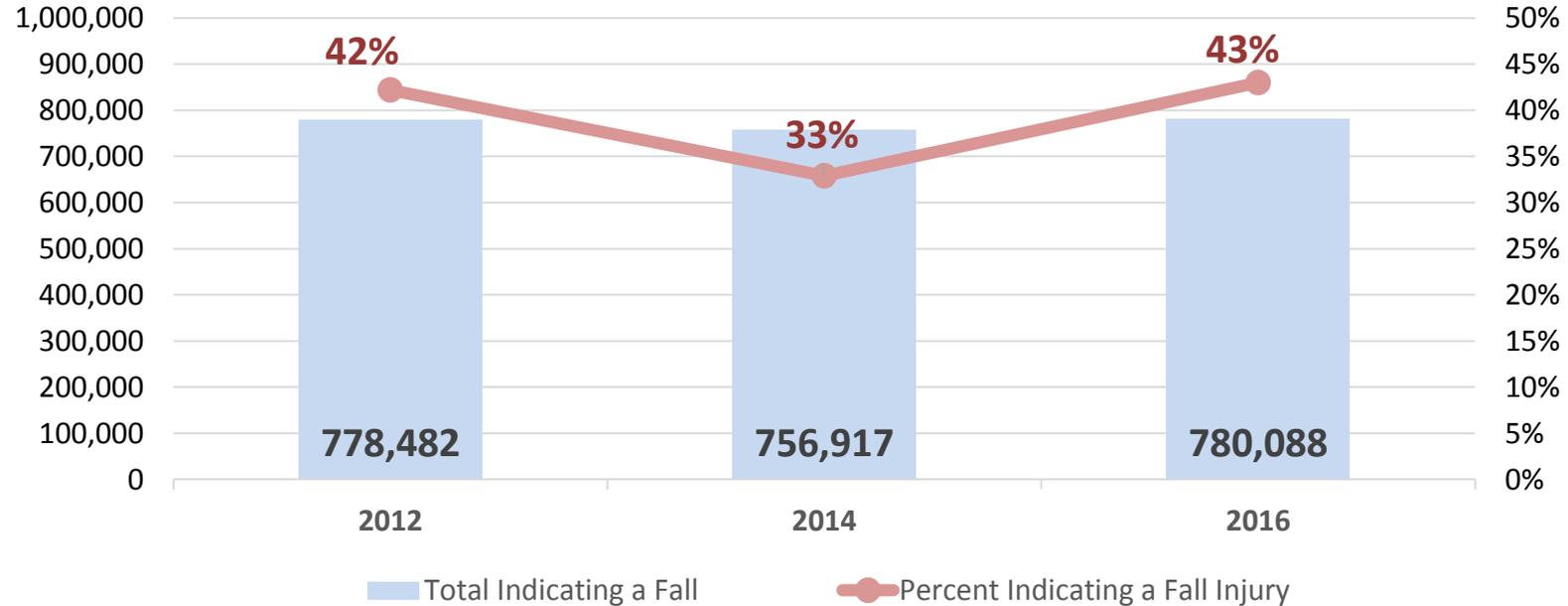
1	Yes
2	No
7	Don't know / Not sure
9	Refused



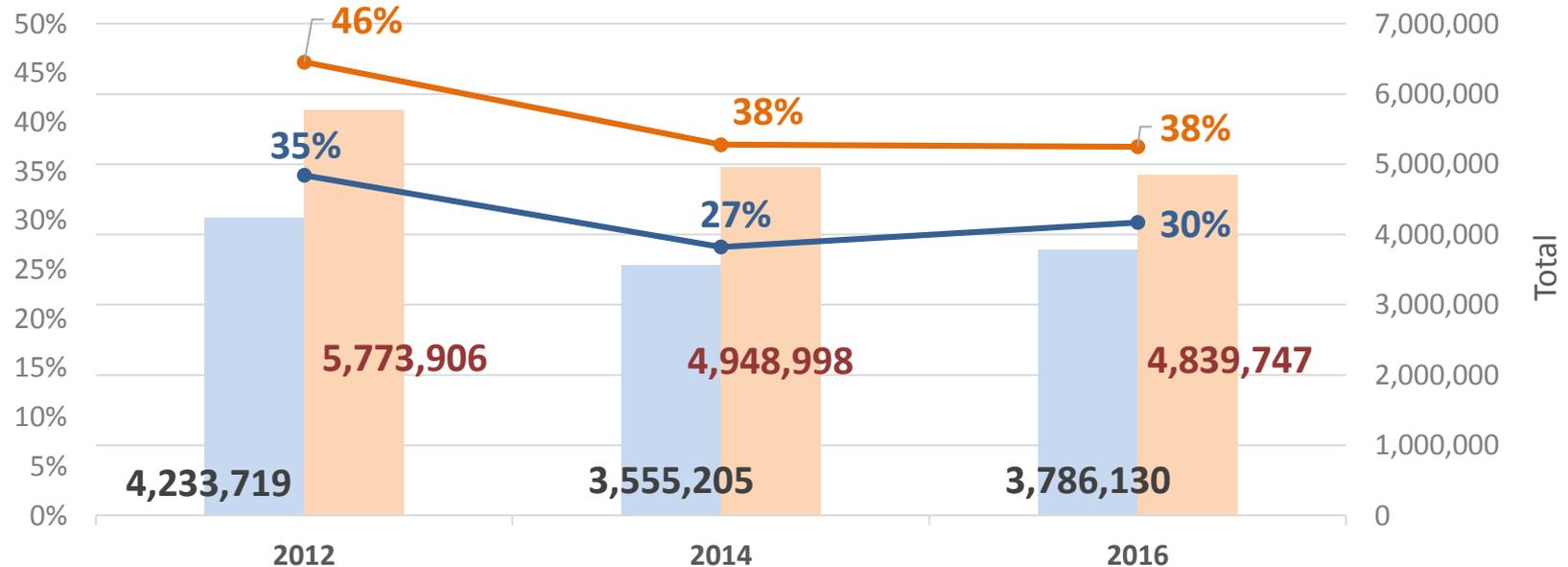
# BRFSS Analysis Limitations

- Sample size and power
- Analysis options
- Self-report and social desirability bias
  - Individual perception of experiences (what is/isn't a fall, or what constitutes an injury)
- Survey questions

# Self-Reported Older Adult (65+) Falls in New York State BRFSS, 2016



## Self-Reported Fall Safety Efforts New York State, Adults Aged 45+, BRFSS, 2016



- Have Done Things to Reduced Own Fall Risk
- Has Done Things to Reduced an Older Adult Fall Risk
- Have Done Things to Reduced Own Fall Risk (Percent)
- Has Done Things to Reduced an Older Adult Fall Risk (Percent)



# The Caregiver Module

People may provide regular care or assistance to a friend or family member who has a health problem or disability.

1. During the past 30 days, did you provide regular care or assistance to a friend or family member who has a health problem or disability? (365)

1. Yes

2. No

**[Go to Question 9]**

7 Don't know/Not sure

**[Go to Question 9]**

8 Caregiving recipient died in past 30 days

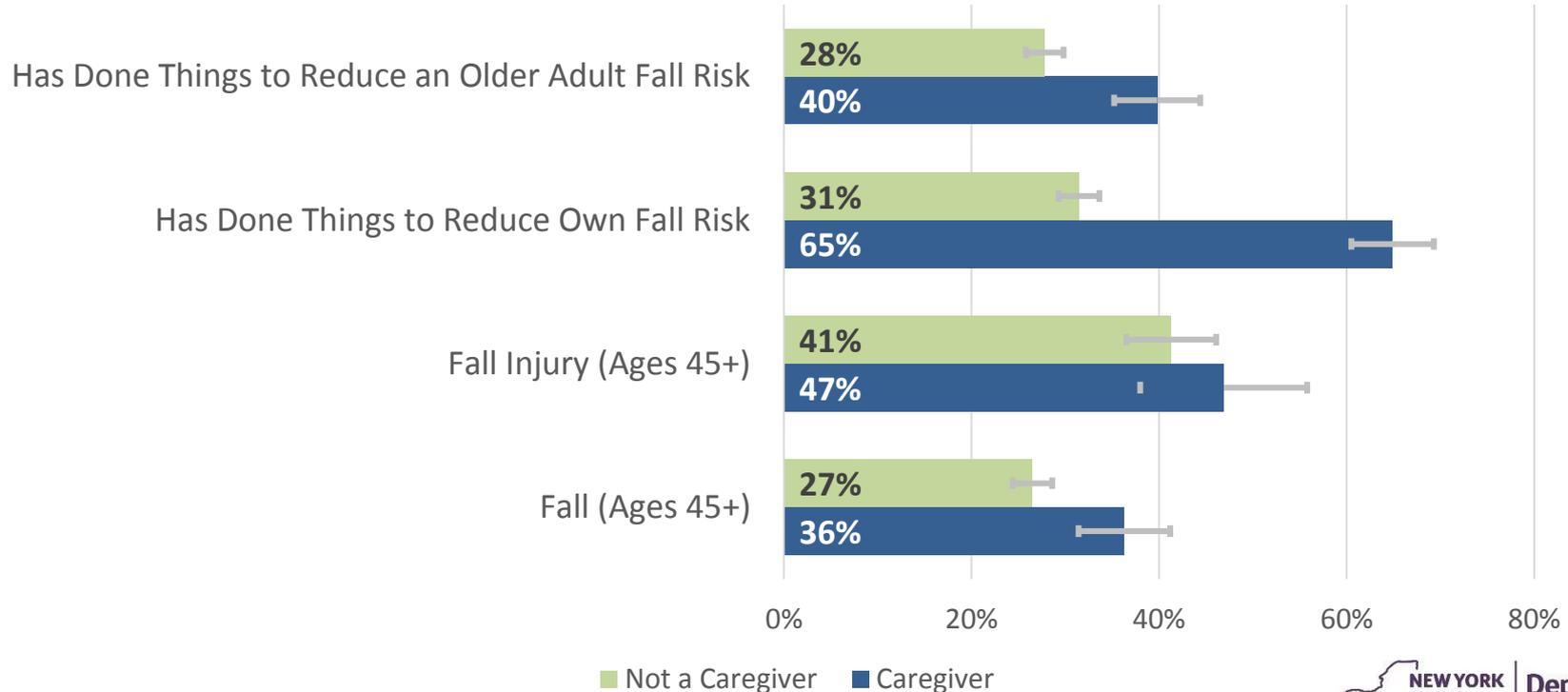
**[Go to next module]**

9 Refused

**[Go to Question 9]**



## Fall Safety Reported Among New York State Residents by Caregiver Status, BRFSS, 2016



# The Caregiver Module

5. What is the main health problem, long-term illness, or disability that the person you care for has?  
(370-371)

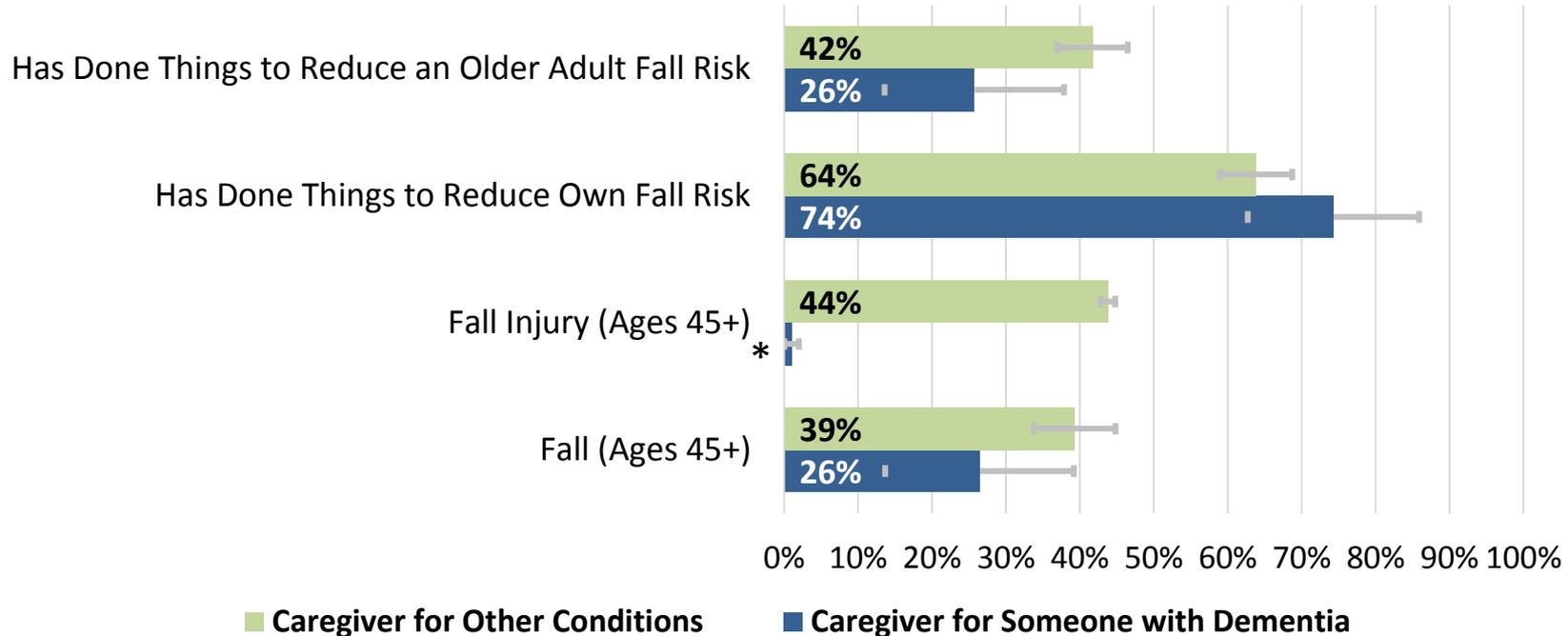
**IF NECESSARY: Please tell me which one of these conditions would you say is the *major* problem?**

**[DO NOT READ: RECORD ONE RESPONSE]**

- 1 Arthritis/Rheumatism
- 2 Asthma
- 3 Cancer
- 4 Chronic respiratory conditions such as Emphysema or COPD
- 5 Dementia or other Cognitive Impairment Disorders
- 6 Developmental Disabilities such as Autism, Down's Syndrome, and Spina Bifida
- 7 Diabetes
- 8 Heart Disease, Hypertension, Stroke
- 9 Human Immunodeficiency Virus Infection (HIV)
- 10 Mental Illnesses, such as Anxiety, Depression, or Schizophrenia
- 11 Other organ failure or diseases such as kidney or liver problems
- 12 Substance Abuse or Addiction Disorders
- 13 Injuries, including broken bones
- 14 Old age/infirmity/frailty
- 15 Other
  
- 77 Don't know/Not sure
- 99 Refused



## Fall Safety Reported Among New York State Residents Reported Being a Caregiver, by Caregiver Type, BRFSS, 2016



\* Data did not meet reporting requirements

# The Cognitive Decline Module

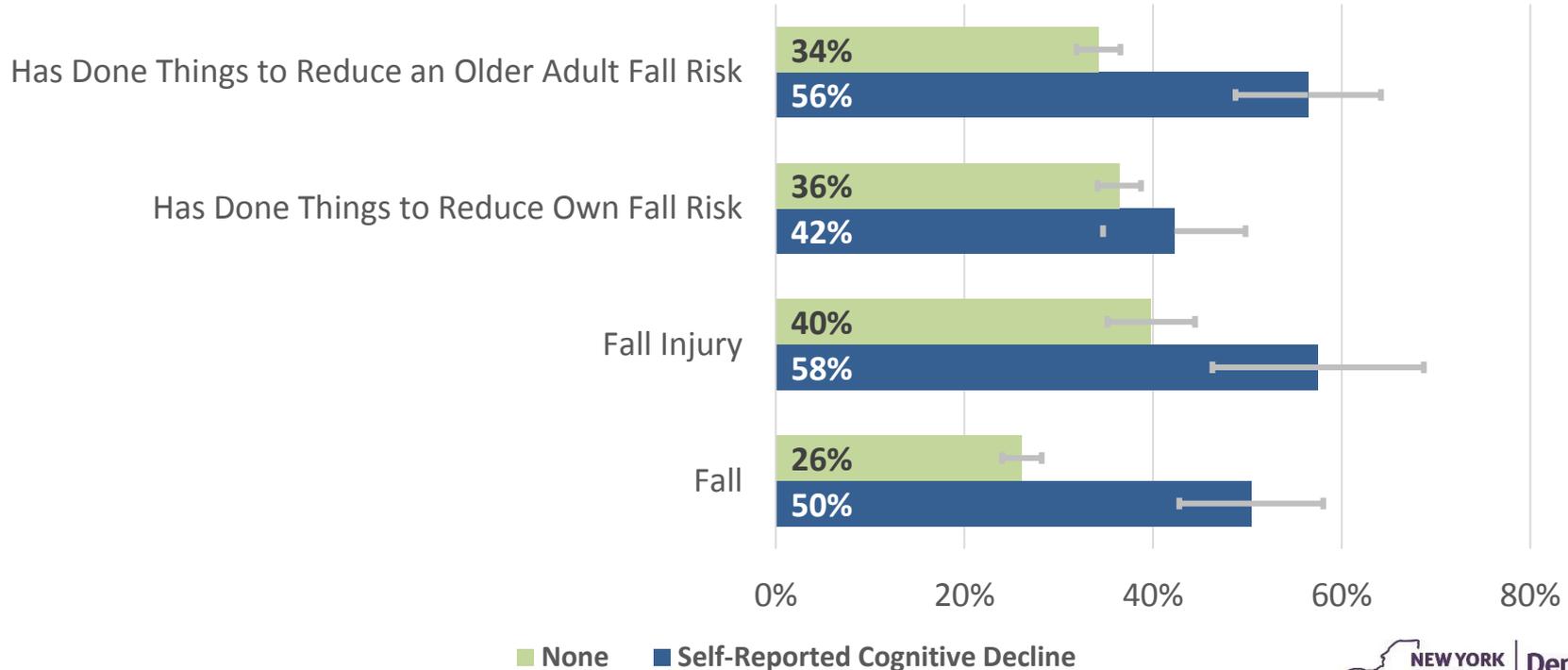
## Asked to Adults Ages 45+

**Introduction:** The next few questions ask about difficulties in thinking or remembering that can make a big difference in everyday activities. This does not refer to occasionally forgetting your keys or the name of someone you recently met, which is normal. This refers to confusion or memory loss that is happening more often or getting worse, such as forgetting how to do things you've always done or forgetting things that you would normally know. We want to know how these difficulties impact you.

1. During the past 12 months, have you experienced confusion or memory loss that is happening more often or is getting worse? (376)
- |   |            |                     |
|---|------------|---------------------|
| 1 | Yes        |                     |
| 2 | No         | [Go to next module] |
| 7 | Don't know | [Go to Q2]          |
| 9 | Refused    | [Go to next module] |



# Fall Safety Reported Among New York State Residents Self-Reported Having Cognitive Declines, Ages 45+, BRFSS, 2016



# The Cognitive Decline Module

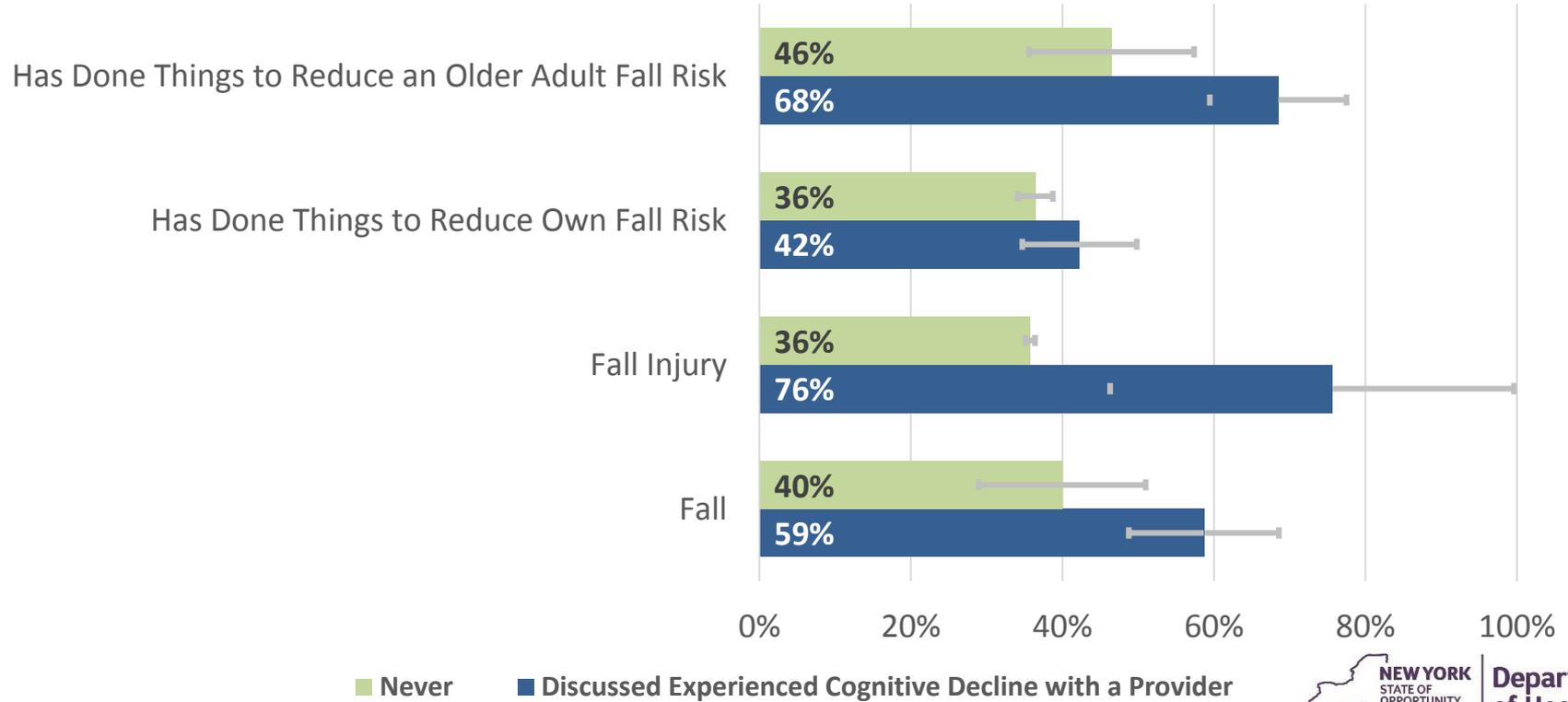
## Asked to Adults Ages 45+

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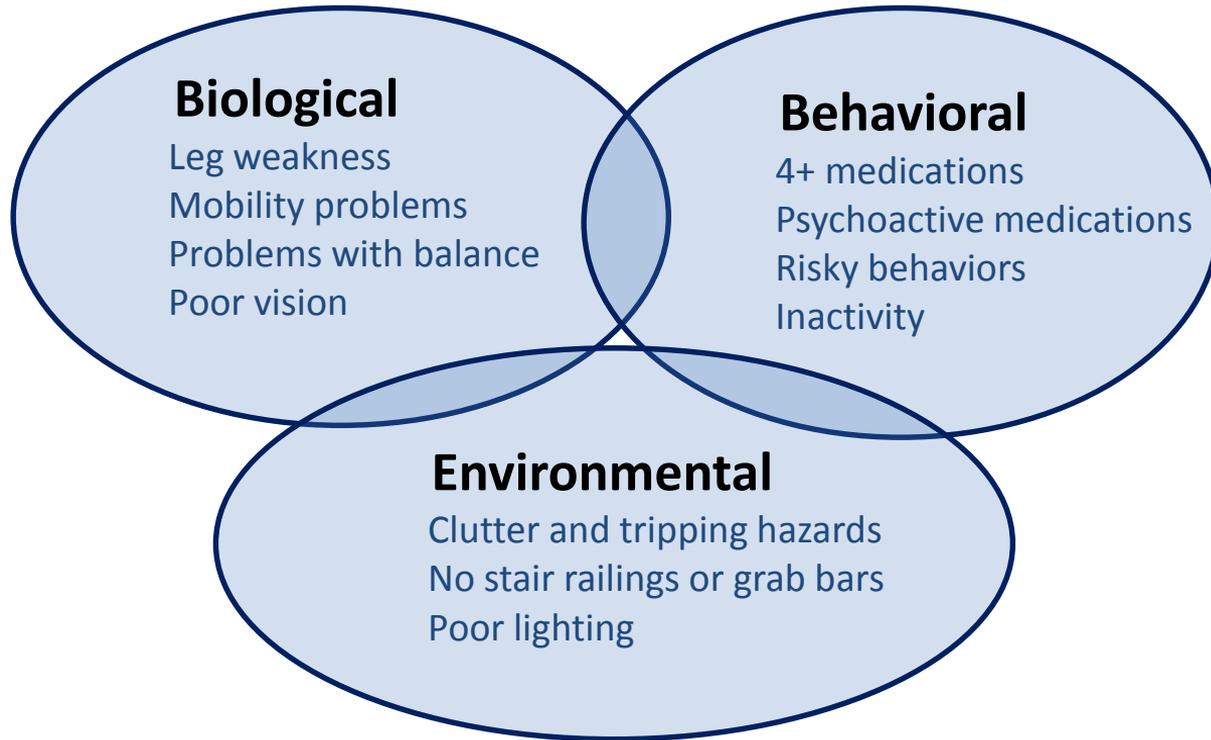
6. Have you or anyone else discussed your confusion or memory loss with a health care professional? (381)
- 1 Yes
  - 2 No
  - 7 Don't know
  - 9 Refused



## Fall Safety Reported Among New York State Residents Reported Cognitive Declines to a Clinician, Ages 45+, BRFSS, 2016



# Modifiable Risk Factors



# What Can be Done?

- Evidence-Based Fall Prevention Community Programs
  - Tai Chi
    - 55% reduction in falls rate
    - \$530 net benefit per participant
    - 509% return on investment
  - A Matter of Balance
    - 97% of the participants feel more comfortable talking about their fear of falling
    - 99% of participants plan to continue to exercise
    - \$938 savings in unplanned medical costs per Medicare beneficiary
  - Stepping On
    - 30% reduction in the rate of falls
    - \$134 net benefit per participant
    - Return on Investment of 64%
- Clinical Engagement
  - Stopping Elderly Accidents Deaths & Injuries (STEADI)



## STEADI

The 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/steady](http://www.cdc.gov/steady).

# STEADI Outcome Evaluation

**Implementation of the Stopping Elderly Accidents, Deaths, and Injuries Initiative in Primary Care: An Outcome Evaluation**, *The Gerontologist*, gny101, Yvonne A Johnston, Gwen Bergen, Michael Bauer, Erin M Parker, Leah Wentworth, Mary McFadden, Chelsea Reome, Matthew Garnett

<https://doi.org/10.1093/geront/gny101>

# Contact Information

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Resources:

[https://www.health.ny.gov/prevention/injury\\_prevention/falls.htm](https://www.health.ny.gov/prevention/injury_prevention/falls.htm)