



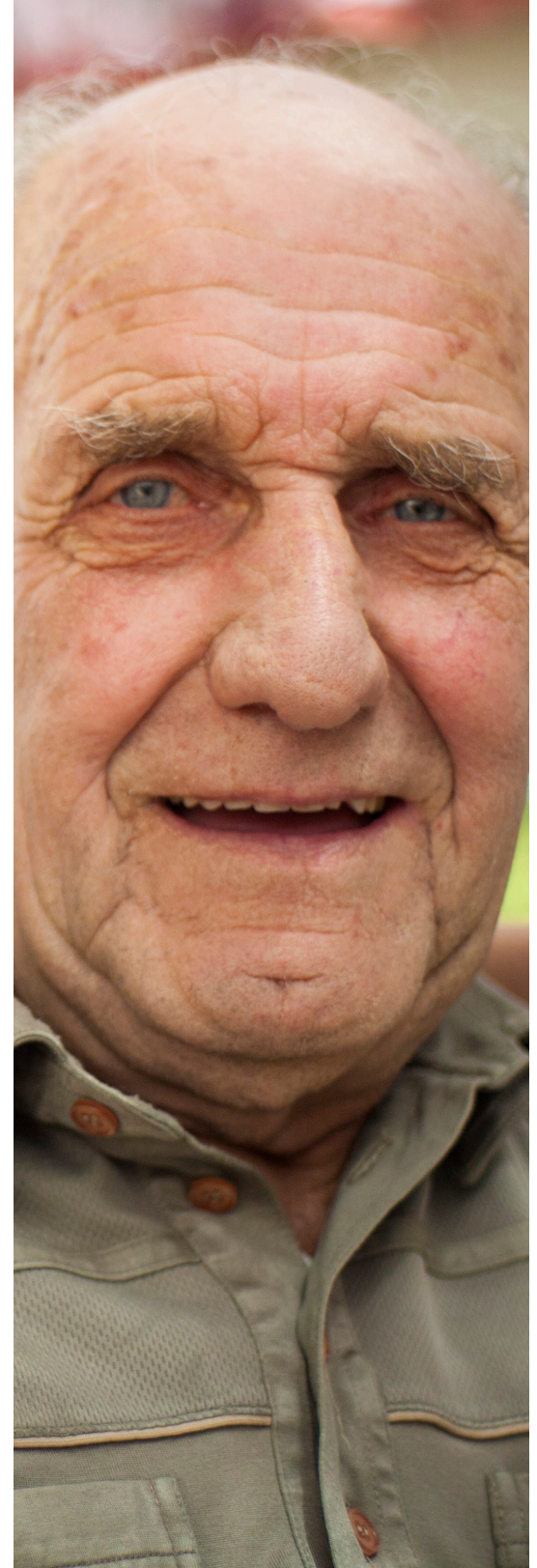
# Falls in Washington's East Region

## Data Center Report

Falls are a major threat to older adults' quality of life, often causing a decline in self-care ability and participation in physical and social activities. Fear of falling can lead to limiting of activity, independent of injury.

Falls can be devastating to the affected individual but are also expensive to manage. In particular, when associated with fracture of the proximal femur, they carry a high morbidity and mortality. This can also have significant economic consequences because of the cost of inpatient care and loss of independence and the cost of residential care. Even lesser falls can lead to loss of self-confidence and reduced quality of life.

Public health and health care providers developed the scope for fall prevention by considering the common conditions and risk factors predisposing the elderly to falls.



## East Region

Washington State has 39 counties. For the purposes of this report, staff more closely examine falls in the east region of the state. The emergency medical services (EMS) system specific to this area is comprised of the following counties: Adams, Asotin, Ferry, Garfield, Lincoln, Pend Oreille, Spokane, Stevens, and Whitman. Spokane County is considered an urban county and the others are rural counties.

## How Falls Occur

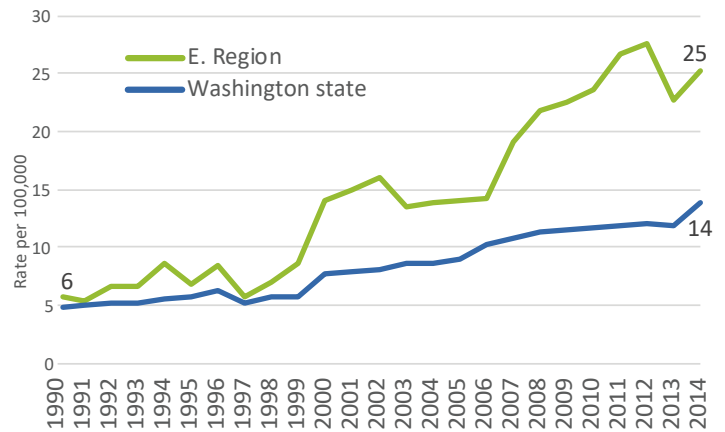
Injuries from a fall can occur in many ways. A person may fall on the same level they are standing on, such as slipping or tripping on something; they may slip on snow or ice; they may fall while skating or skateboarding. A person may fall off of a structure they are on, such as a bed or chair, playground equipment, stairs, a ladder or scaffolding, a building, or a tree. This category also includes falling from a cliff, diving or jumping into water causing injury other than drowning or submersion. Not included are a fall during an assault or from intentional self-harm, from an animal, into fire, or a fall while operating machinery or from a vehicle.

Information in this report about deaths is presented using data about people who die from injuries sustained during a fall. This information comes from death certificates. Non-fatal injuries are described using inpatient hospitalization data. This information provides an understanding of the more severe outcomes when an individual falls. There are more falls where people may be injured, but are treated in an emergency room, urgent care center, or health care provider's office. Information about these types of falls is not available for analysis.

## Fatal Falls

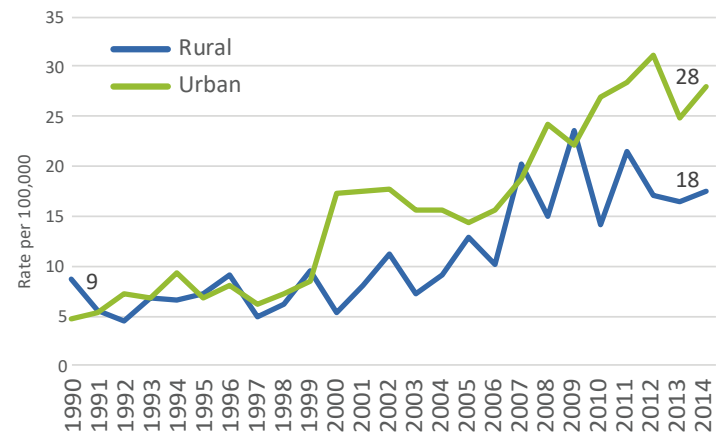
Deaths from fall-related injuries increased over time. In the east region of Washington State—the fall death rate significantly increased from 2004-2011. Statewide, the increase occurred steadily from 1990-2014. In 2000, the east region fall death rate became significantly higher than the state rate. It continued to be higher through 2014.

Fall Mortality Over Time



Over the last 25 years, the pattern of fall deaths in the east region was fairly similar for both rural and urban counties. Recently though, since 2010, the urban fall death rate was higher than the rural rate. Rural counties in the east region were Adams, Asotin, Ferry, Garfield, Lincoln, Pend Oreille, Stevens, and Whitman. Spokane County was the urban county.

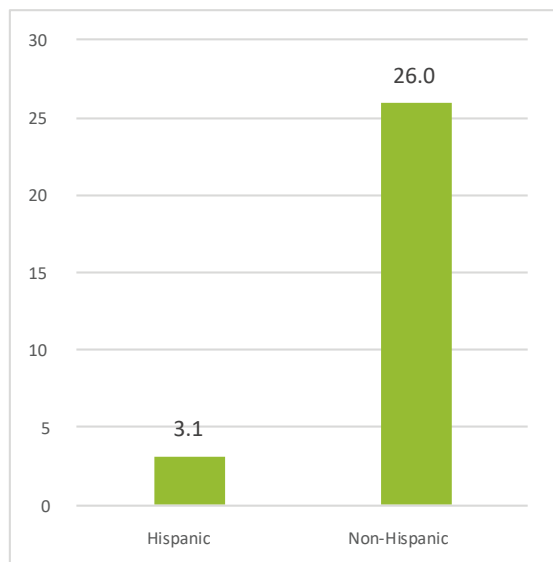
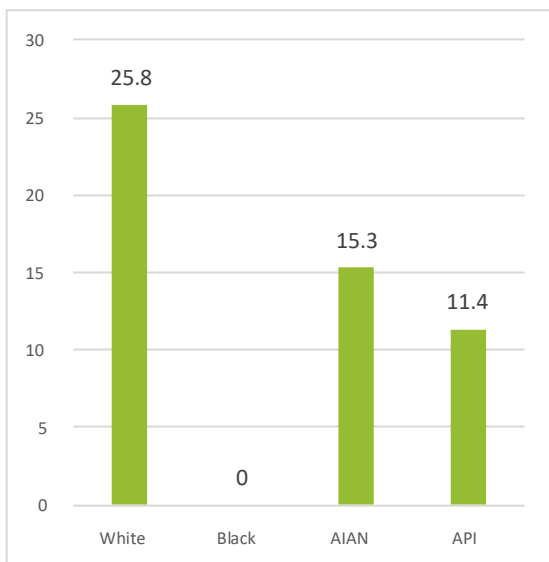
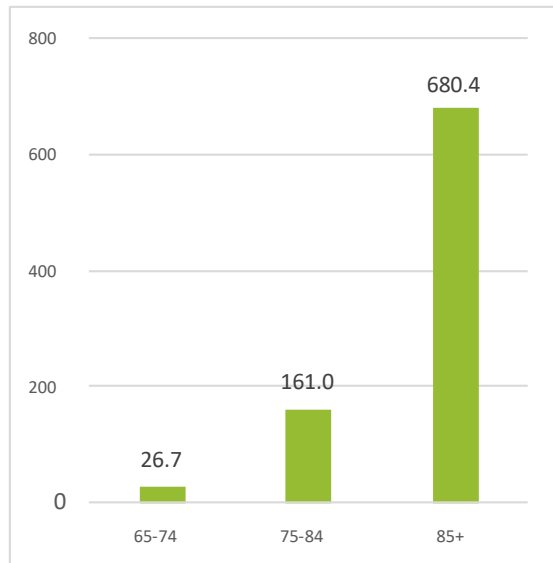
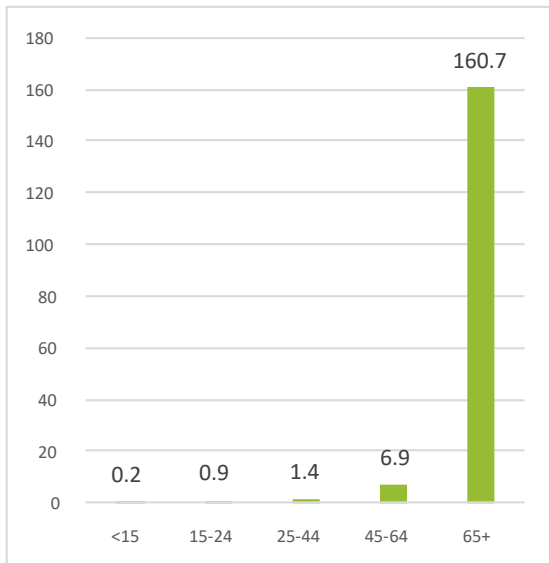
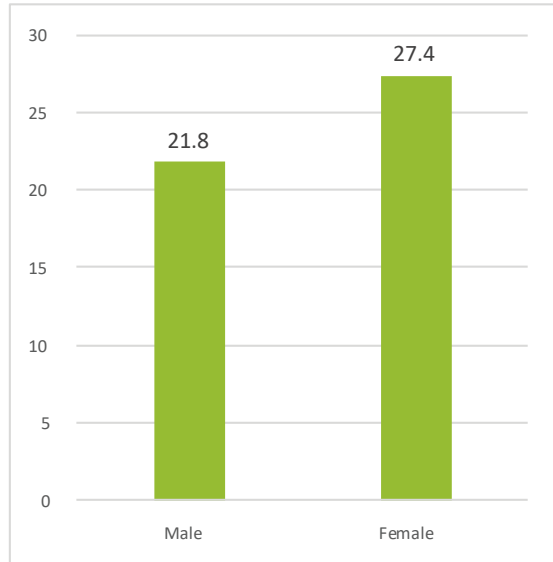
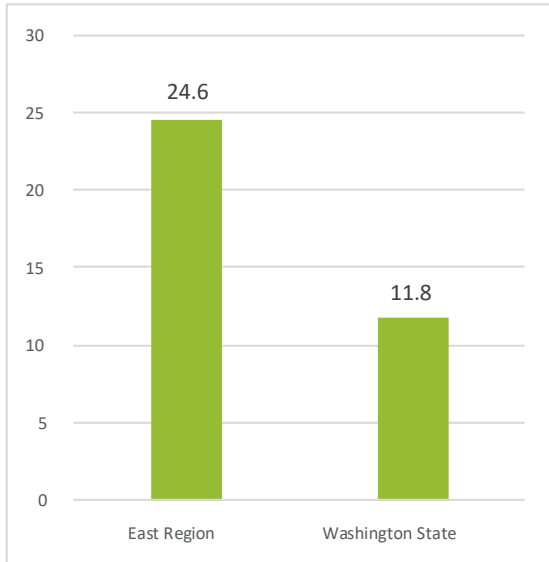
Fall Mortality Over Time, East Region



An average of 161 people died each year from injuries incurred from a fall during 2010-2014 in the east region of Washington State. The fall mortality rate was significantly higher in the east region of Washington compared to the state rate. Females had a higher fall mortality rate than males. The fall mortality rate was highest among seniors. Even among seniors, the fall mortality rate increases as age increases. Individuals 85 years or age or older had the highest rate. Compared to whites, Asians/Pacific Islanders (API) had a significantly lower fall mortality rate. The rates for blacks and Native Americans/Alaska Natives (NAAN) were not statistically different from the rate for whites. Hispanics had a significantly lower fall mortality rate than non-Hispanics.

Fall Mortality Rates by Demographics, WA East Region, 2010-2014 (n=782)

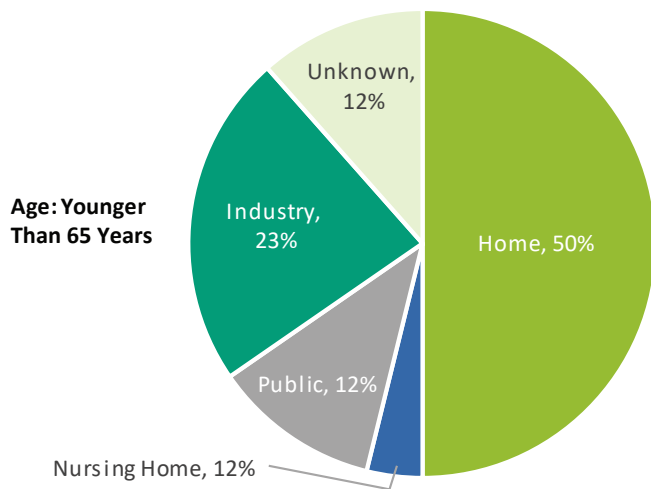
Rate per 100,000



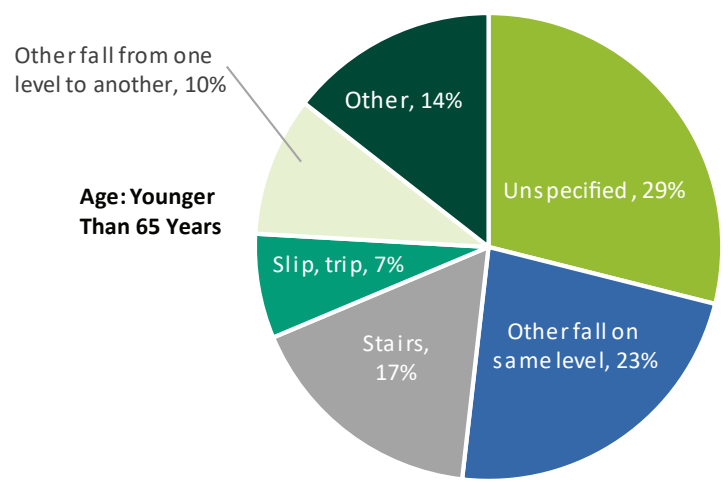
Half of deaths from a fall occurred in the home for both seniors and those younger than 65 years of age<sup>1</sup>. There are differences in other locations where a fatal fall occurred by age group. Thirty-seven percent of fatal falls among seniors occurred in a nursing home. Only 4% of fatal falls occurred in a nursing home among individuals younger than 65 years of age. The younger age group had a higher proportion of fatal falls occur in a public place or at a workplace (industry).

In the majority of east region fatal falls, the type of fall listed on the death certificate was classified as 'unspecified'. The next leading type of fall was 'other fall on same level'. This would include a fall from bumping against an object, falling from or off a toilet, or a fall on the same level that was otherwise not specified. Individuals younger than 65 years of age had a higher proportion of fatal falls due to falling on stairs. The "Other" category included several specified types of falls, but each accounted for less than 3% of the total. Those types included cliff, wheelchair, ice/snow, chair, furniture, ladder, from building, or while being carried.

**Place a Fatal Fall Occurred by Age, WA East Region, 2010-2014**



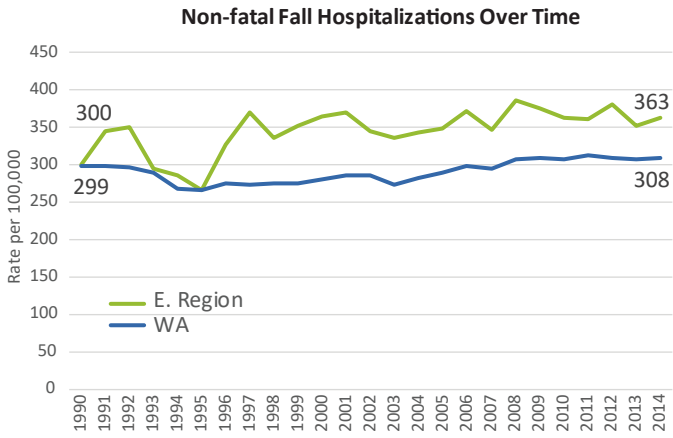
**Type of Fatal Fall by Age, WA East Region, 2010-2014**



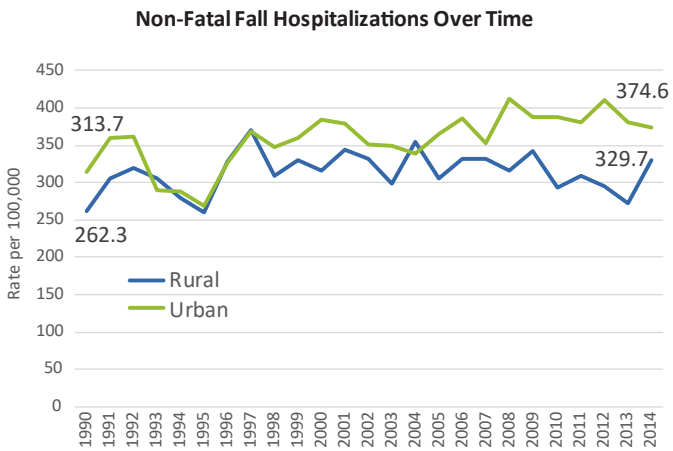
1 Excludes deaths where the place of injury was not documented.

# Non-Fatal Falls

Over the last 25 years, the hospitalization rate for injuries from non-fatal falls significantly increased in the east region of Washington. Statewide, there was a significant decrease from 1990-1995, but then an increase from 1995-2014.

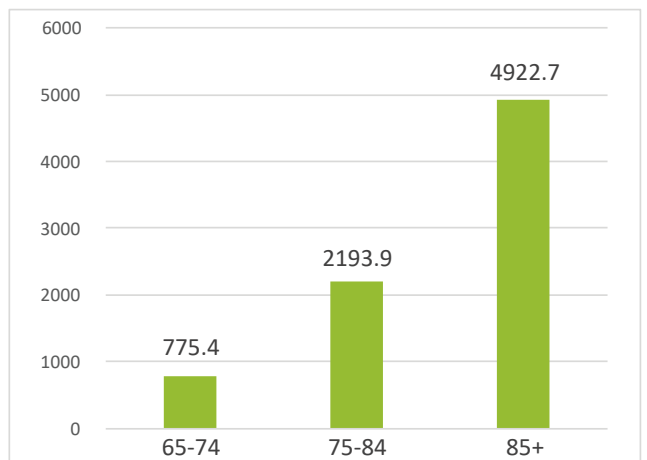
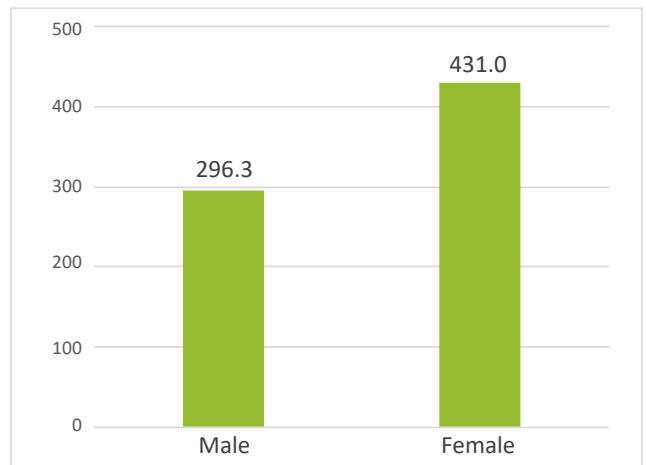
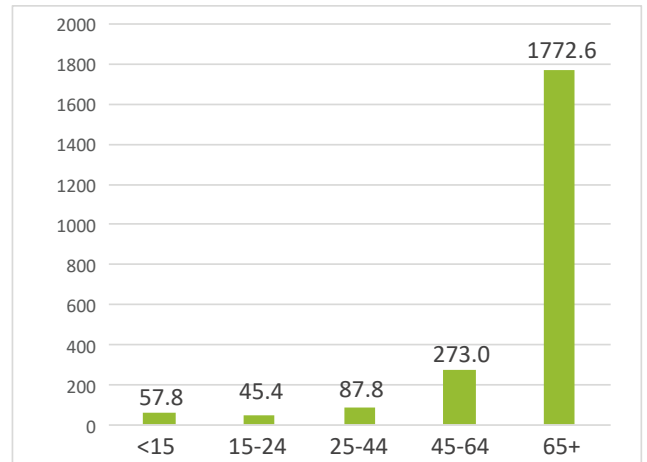
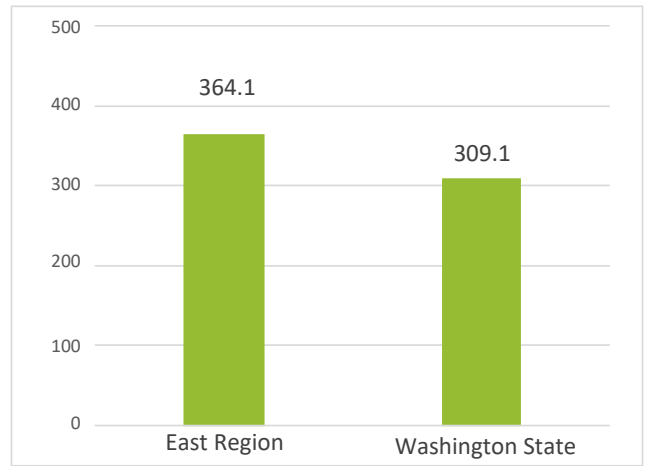


The pattern of non-fatal hospitalizations for fall-related injuries in the east region was fairly similar for both rural and urban counties. Recently though, since 2008, the urban fall hospitalization rate was higher than the rural rate. Spokane County was the urban county. Rural counties in the east region were Adams, Asotin, Ferry, Garfield, Lincoln, Pend Oreille, Stevens, and Whitman.



On average, 2,339 residents in the east region of Washington were hospitalized each year with injuries from a fall. During 2010-2014, the fall-related hospitalization rate was significantly higher for the east region than for Washington State. Females were more likely to be hospitalized due to a fall than were males. Young adults had the lowest fall-related hospitalization rate and seniors had the highest. Among seniors, the rate increased as age increased.

Non-fatal Fall Hospitalization Rates by Demographics, WA East Region, 2010-2014 (n=11,695), Rate per 100,000.

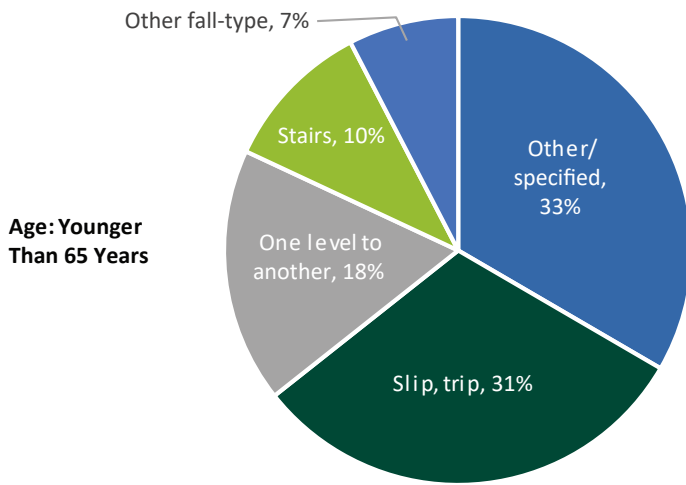


For the majority of non-fatal hospitalizations from a fall-related injury, the hospital record classified the type of fall as unspecified. Approximately one-third of fall-related hospitalizations was from a slip or trip fall, with the proportion a little higher among seniors than among individuals younger than 65 years of age.

One in ten fall-related hospitalizations among seniors was from a fall from one level to another. Nearly one

in five fall-related hospitalizations among individuals younger than 65 years of age were from a fall from one level to another. Nearly all falls from one level to another among seniors was from falling from furniture—bed, wheelchair, chair, toilet. Falls from specified furniture among individuals younger than 65 years of age accounted for 28% of fall-related injury hospitalizations.

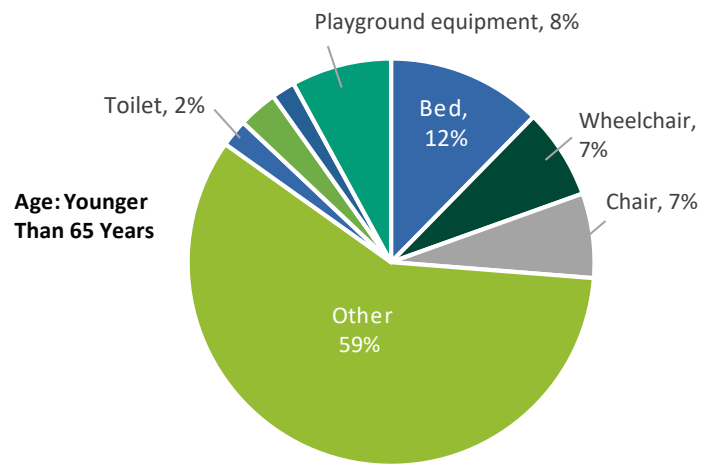
**Type of Non-fatal Fall Hospitalizations by Age, WA East Region, 2010-2014**



Age: Younger Than 65 Years

Age: 65+ Years

**Falls from One Level to Another WA East Region, 2010-2014**



Age: Younger Than 65 Years


Age: 65+ Years







For residents of all ages, many counties in Washington's east region had zip codes with high rates of non-fatal hospitalizations due to injuries from a fall. Counties that did not have a high rate were Asotin, Garfield, and Pend Oreille.

**Non-Fatal Fall Hospitalization Rate by Zip Code.**  
**Washington East Region.**  
**Rate per 100,000.**  
**2010-2014.**

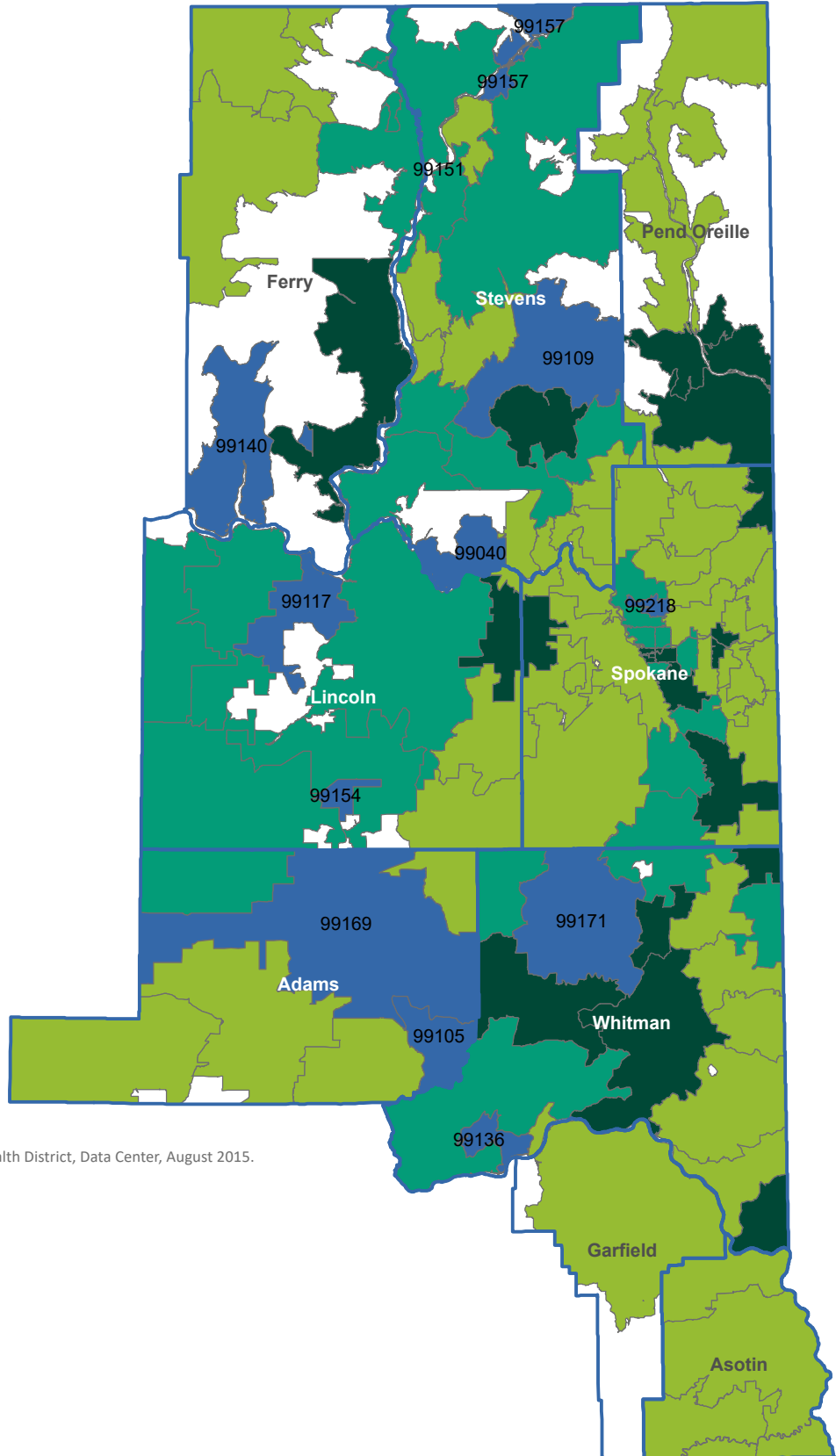
**Legend**

 East Region Counties

**Fall Hospitalization**

 0 - 350  
 351 - 450  
 451 - 550  
 >550

Note: White areas are zip codes with zero population.



Created by Spokane Regional Health District, Data Center, August 2015.

# Prevention

There are many effective interventions for preventing injuries from a fall among older adults living in the community.<sup>1</sup> Some interventions have a singular focus and others are multi-faceted. Single interventions fall into one of three categories; exercise, home modification, and clinical.

## Physical Activity

Seniors who exercise or participate in a fitness class decrease their risk of falling and sustaining an injury. The type of exercise varies, but could include group sessions and exercises performed at home. The exercise content includes balance and coordination exercises, strengthening exercises, and aerobic exercises. Centers for Disease Control and Prevention recommends that older adults include leg strengthening and balance exercise. Spokane County and several other counties offer a Stay Active and Independent for Life (SAIL) program that includes this content with a goal to prevent falls among older adults.

## Home Modifications

Home modifications include looking for fall hazards in the home and assessing behaviors that increase the risk of a fall. Effective interventions generally utilize an occupational therapist to conduct the home assessment. Standardized assessment forms are used to identify hazards and needed safety aids. Unsafe behaviors are also identified, such as wearing loose shoes or having clutter in walk areas. A plan to address the hazards is developed and the occupational therapist evaluates success in implementing the plan at a follow up visit to the home.

## Clinical Interventions

Clinical interventions are when health care providers alter the current medical care of an individual to decrease their risk for falling. This type of clinical change includes having the individual take vitamin D supplements, having cataract surgery, having a health care provider review all medication, withdrawal of psychotropic medication, and podiatrist evaluation of footwear.

Multi-faceted interventions incorporate a combination of exercise, home modifications, and clinical treatment.

Infants and children have different effective prevention strategies than older adults.<sup>2, 3</sup> To prevent young children from falling, stairs in the home should be fitted with a safety gate at the top and bottom, and windows should have guards. Playground equipment should have safe and soft material underneath. This will decrease the severity of injury should a child fall. When youth participate in sports, ensure protective gear is worn to limit injury if the child falls.

1. Stevens JA, Burns ER. A CDC Compendium of Effective Fall Interventions: What Works for Community-Dwelling Older Adults. 2nd ed. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control. 2015.
2. Centers for Disease Control and Prevention. Child Safety and Injury Prevention. <http://www.cdc.gov/SafeChild/Falls/>
3. The Children's Safety Network. Child Safety Collaborative Innovation and Improvement Network. Evidence Based Strategies and Readings for Child Safety COIIN.

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